Inequality, Redistribution and the Labour Market

Bank of Portugal Conference

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Motivating theme: Can't address all the concerns about low wages and earnings inequality through the tax and welfare system alone.

Key challenge: How do we balance tax/benefit policy with other policies: min wages, human capital policies, competition policy, etc?

COVID-19: => exacerbated existing inequalities and created new ones.

First, a little background on:

The IFS-Deaton Review: Inequalities in the 21st Century

https://www.ifs.org.uk/inequality/

A 5-year study (Jan 2019), bringing together the best available evidence from across the social sciences to answer the big questions:

- Which inequalities matter most?
- How are different kinds of inequality related?
- What are the underlying forces that come together to create them?
- What is the right mix of policies to tackle adverse inequalities?
- For developed economies with the UK as the running example, but comparative in nature….

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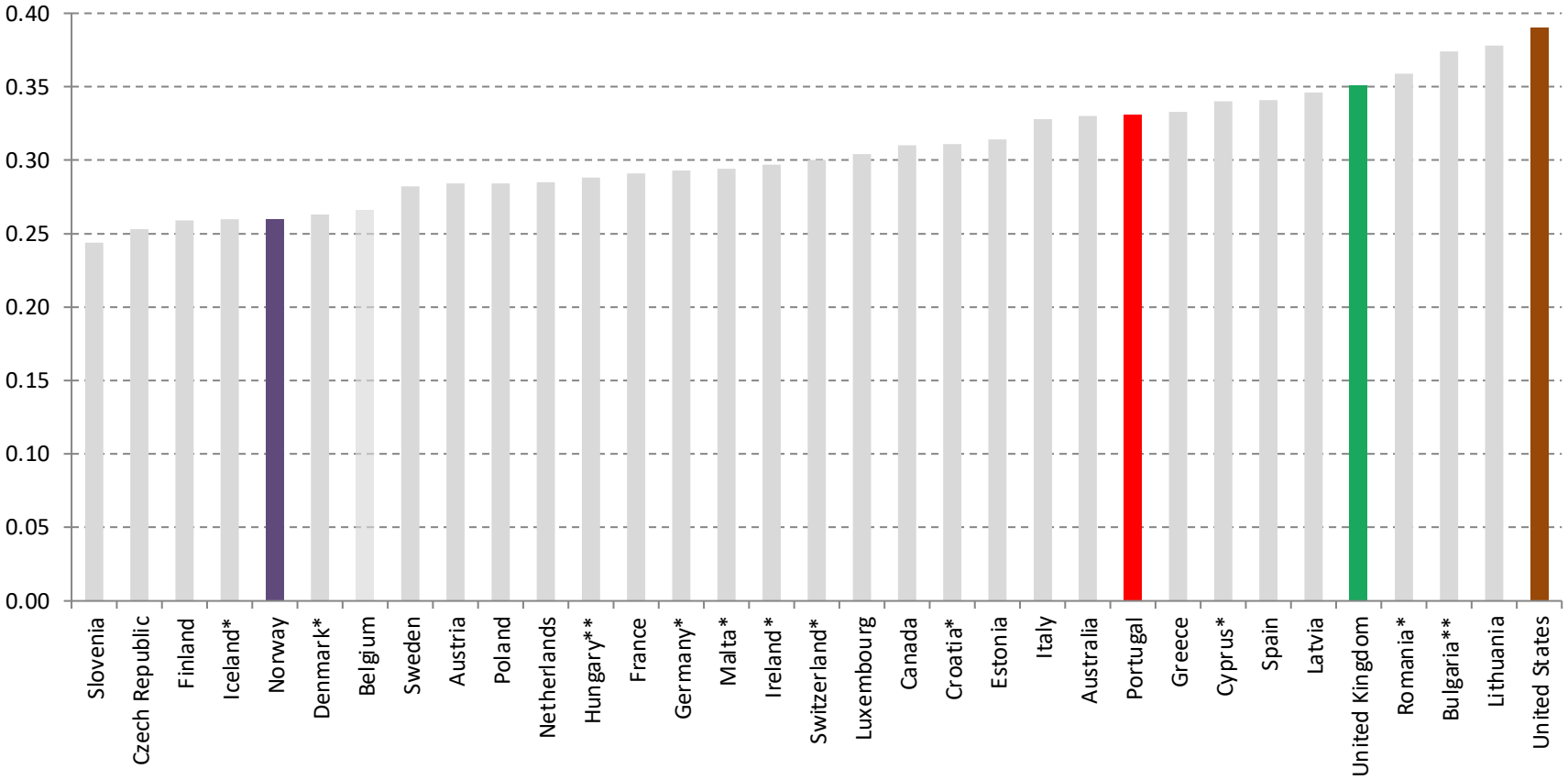
Measured by the Gini, the UK is unequal by European standards

Gini coefficient of equivalised net household incomes in selected countries, 2016



Figures from 2015 are marked with an asterisk (*). Figures from 2014 are marked with two asterisks (**).
Note: Data on EU states that joined in or before 2004 are from the OECD. Data on other countries are from the World Bank.
Source: Joyce and Xu, IFS, 2019

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Inequality is not just about income

- Income inequality is important, but so are inequalities in
  - wages, wealth, consumption, health, political voice, …..
- Need to look at inequalities between groups as well as individuals
  - gender, ethnicity, generations, geography, ……
- The focus of the Review is on understanding the *drivers* of these inequalities and the *best policy mix* to mitigate their adverse impacts.
- A comparative and interdisciplinary project….

The IFS Deaton Review: An International Panel

Inequality

The IFS Deaton Review

Chair

Angus Deaton
Princeton University

Panel

Orazio Attanasio
IFS & Yale

James Banks
IFS & Manchester University

Lisa Berkman
Harvard University

Tim Besley
London School of Economics

Richard Blundell
IFS & UCL

Pinelopi Goldberg
Yale University & World Bank

Paul Johnson
IFS & UCL

Robert Joyce
IFS

Kathleen Kiernan
University of York

Lucinda Platt
London School of Economics

Imran Rasul
IUCL & IFS

Debra Satz
Stanford University

Jean Tirole
Toulouse School of Economics

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Format of the Review

Much like the *IFS Mirrlees Review*, this Review will be published in several volumes:

I. A volume of commissioned studies and commentaries
- detailed studies on different aspects of inequality, with commentaries that offer complementary perspectives or alternative views.

II. A book written by the panel, aimed at the general public
- sets out what has happened to inequality, why, and what can be done.

III. Country studies across Europe and North America
- including a team from Banco de Portugal…

- -> and implications from the covid pandemic….

Commissioned studies and areas - with commentaries and interactions…

Inequality
The IFS Deaton Review

1. Why inequality, what inequality?
2. Political economy and political polarisation
3. Attitudes to inequality
4. Gender
5. Immigration
6. Health
7. Race and criminal justice
8. Geographical (im)mobility and spatial inequality
9. Family dynamics and social mobility
10. Early child development
11. Education systems and access
12. Labour markets
13. Firms and market power
14. Trade and globalisation
15. Corporate, capital and top taxes
16. Transfers, tax and tax credits at the bottom

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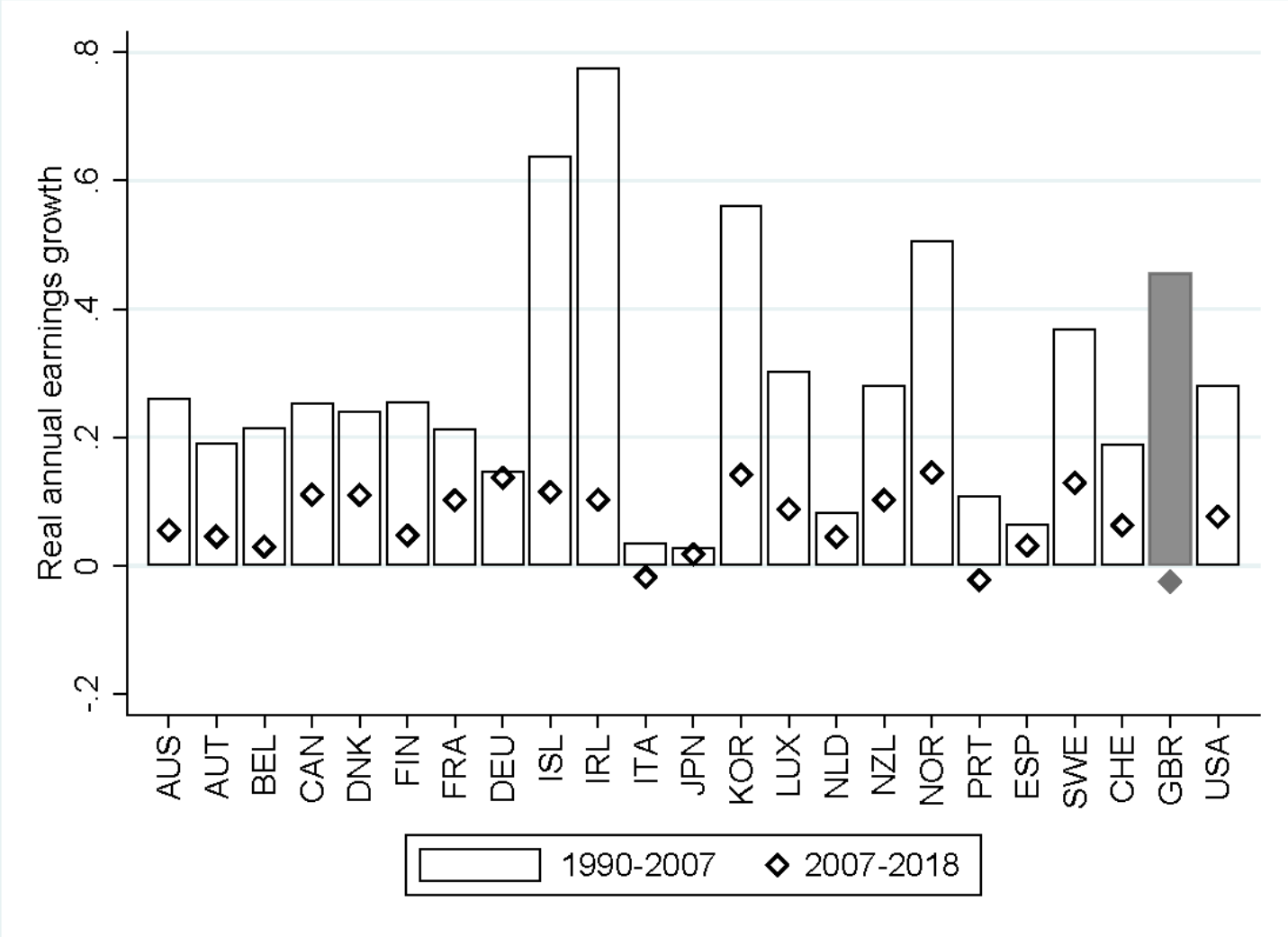
Focus in this Lecture on:

Inequality, Redistribution and the Labour Market

- The challenge of labour market inequality
  - how should we balance tax and welfare-benefit policies with min wages, human capital policies, etc?
- The structure of work and of families has changed over the last three decades and continues to change apace,
  - growing earnings inequality for men and women, with adverse labour market 'shocks' for the low educated, especially men.
- When we put people in families with childcare, savings and human capital decisions, we get a different take on key policy questions.
- Let's turn to some facts

Real earnings growth across countries

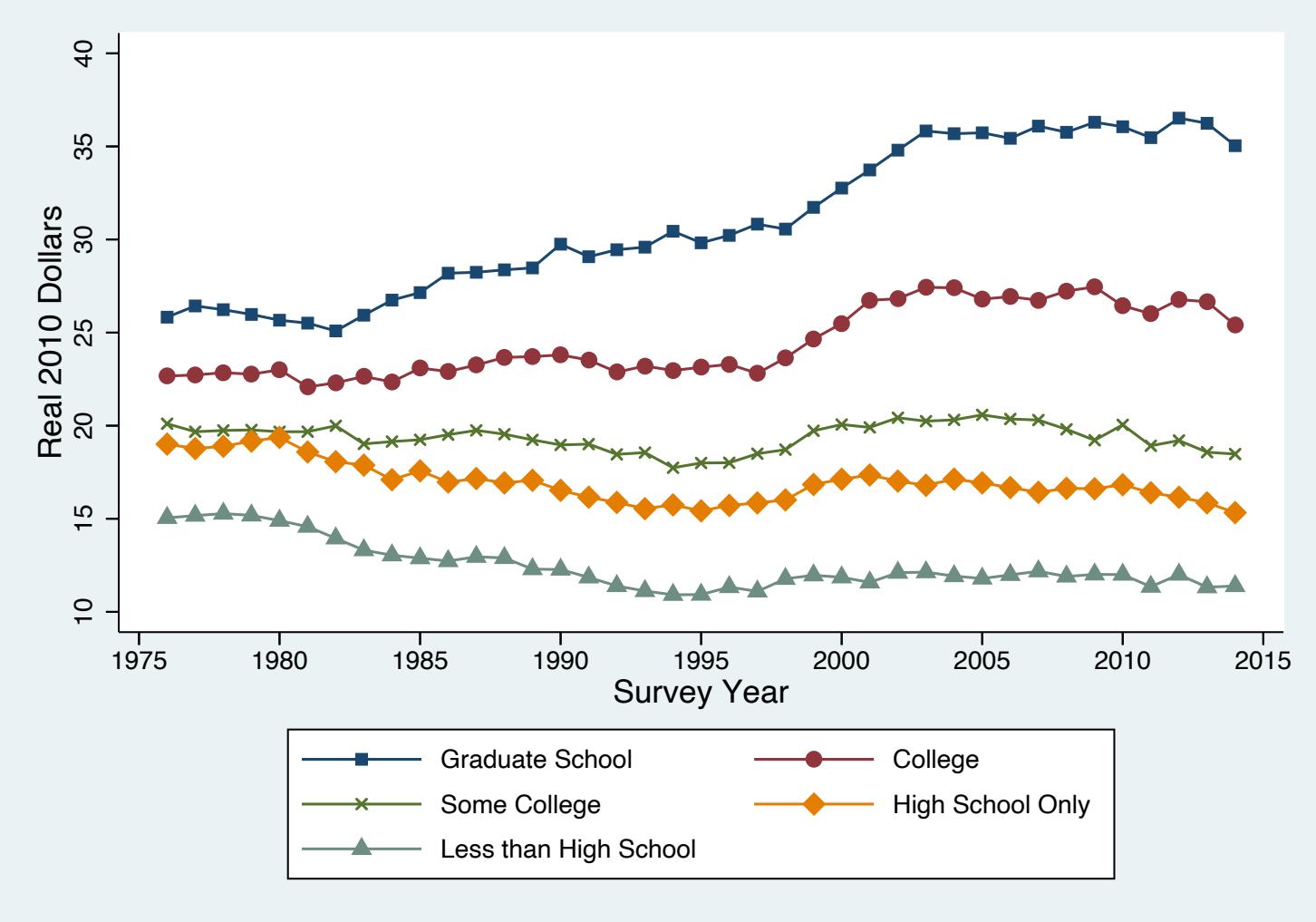


Note: OECD. Data for Germany start in 1991.

Source: Giupponi and Machin (Deaton Review, IFS, 2020).

Earnings inequality

Growth in median male wages in the US by education group: US 1974/5 to 2015/6



Notes: CPS, Includes self employment income and self-employed households.
Source: Blundell, Joyce, Norris Keiller and Ziliak (2018)

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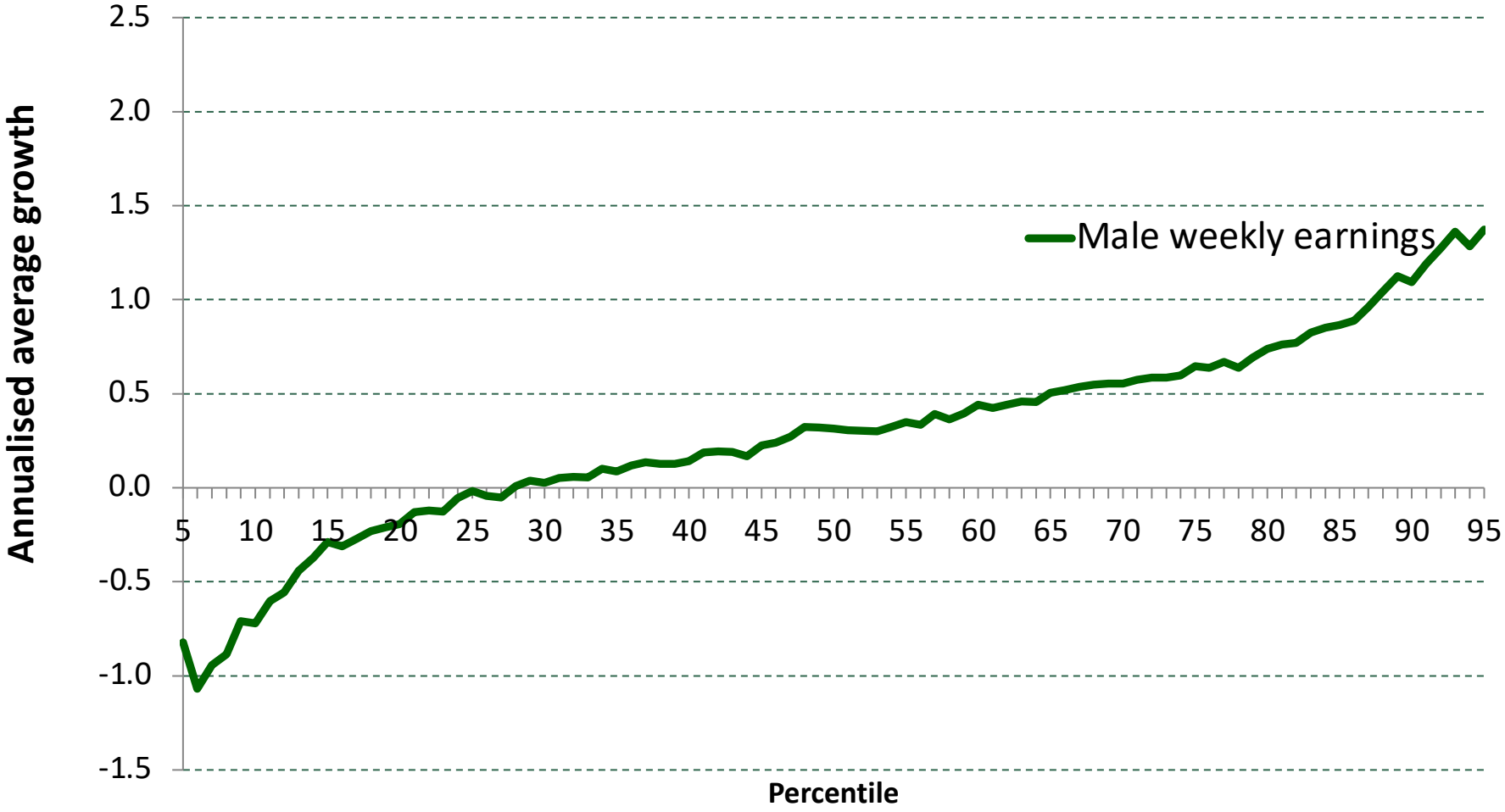
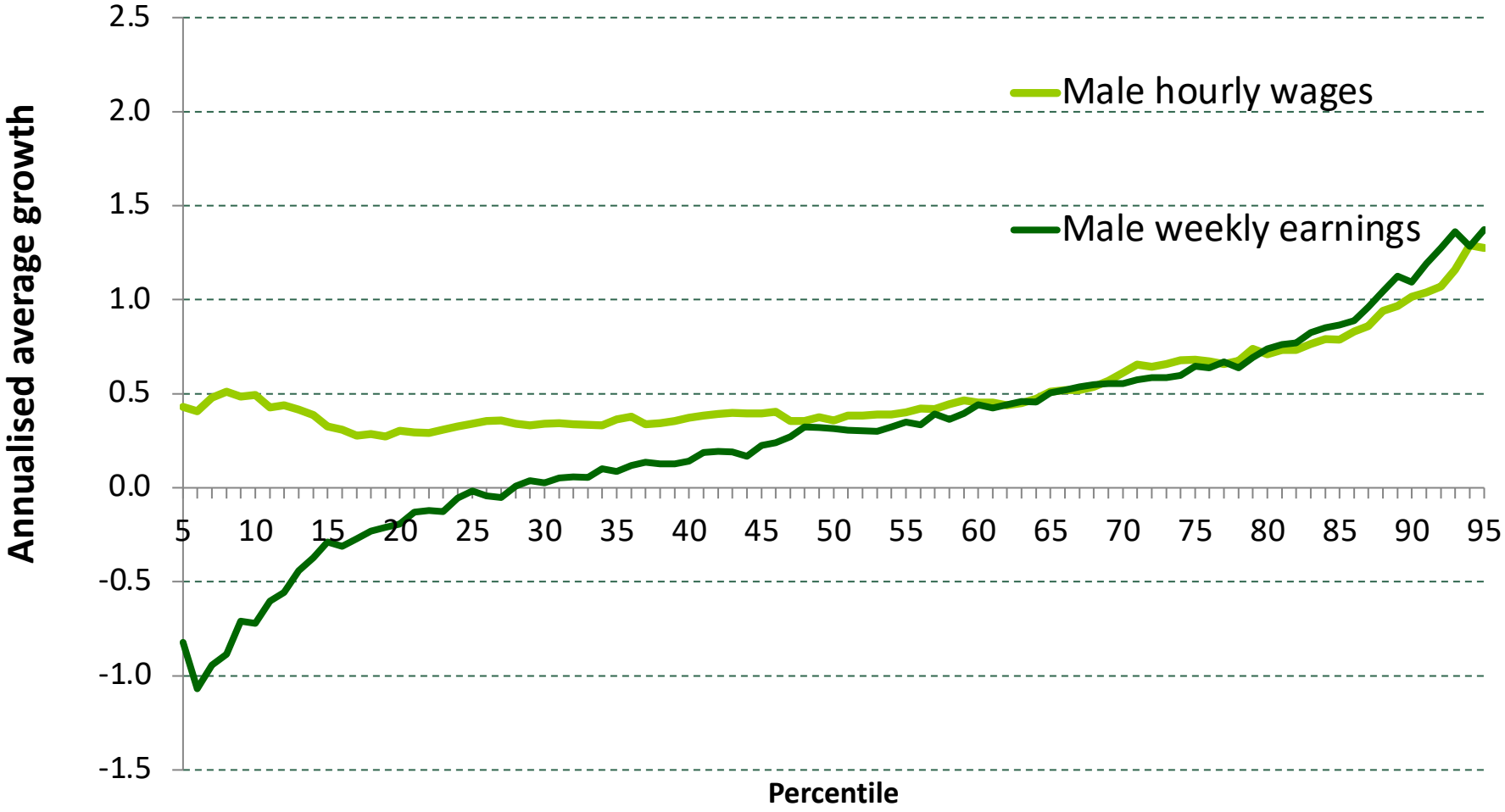
Growth in UK male weekly earnings:
1994/95 – 2015/16



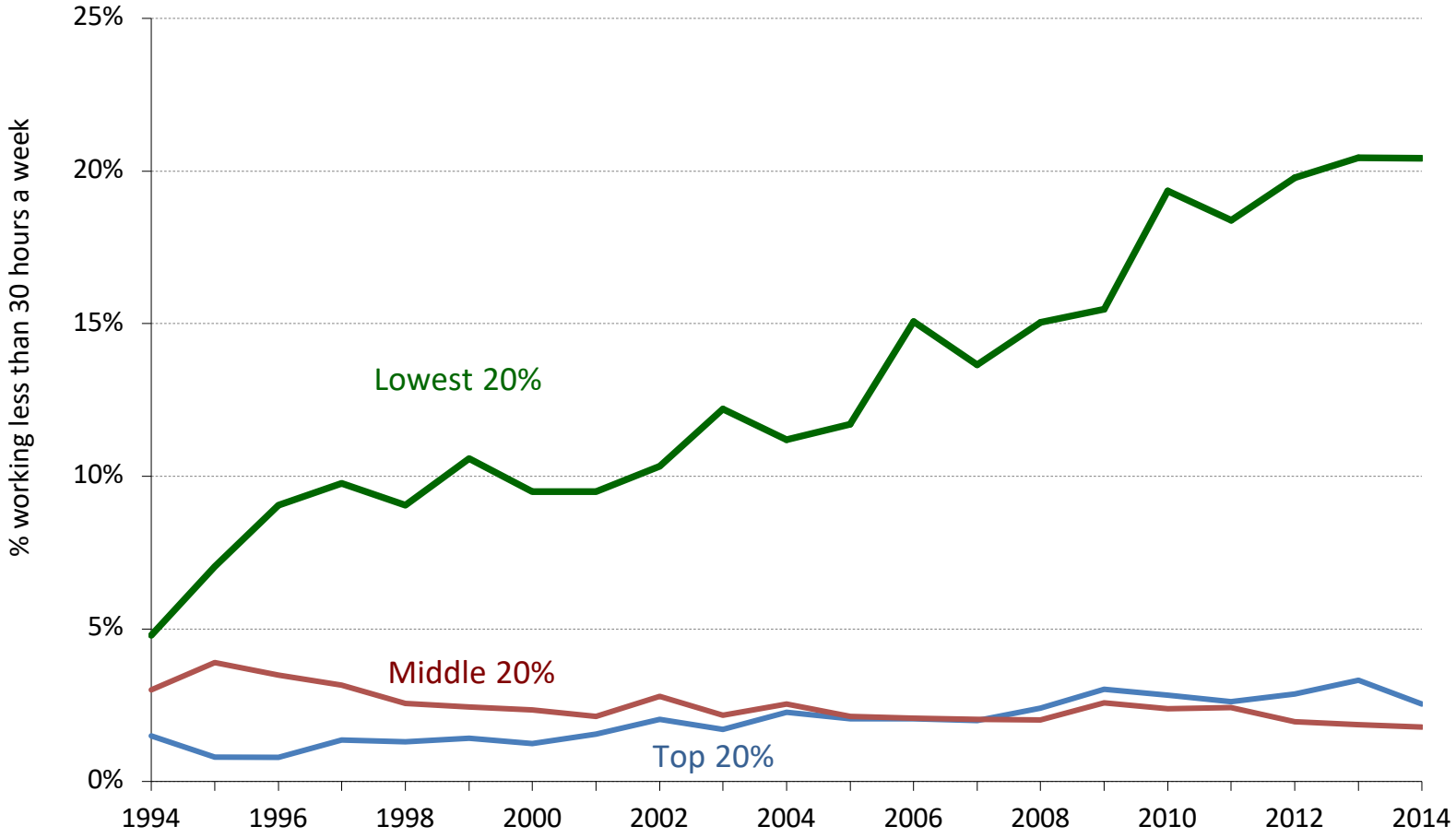
Source: Blundell, Joyce, Norris Keiller and Ziliak (2018): www.ifs.org.uk/publications/10031. Data used is UK FRS 1994-95 and 2015-16.

Growth in UK male weekly earnings and hourly wages: 1994/95 – 2015/16



Source: Blundell, Joyce, Norris Keiller and Ziliak (2018): www.ifs.org.uk/publications/10031. Data used is UK FRS 1994-95 and 2015-16.

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



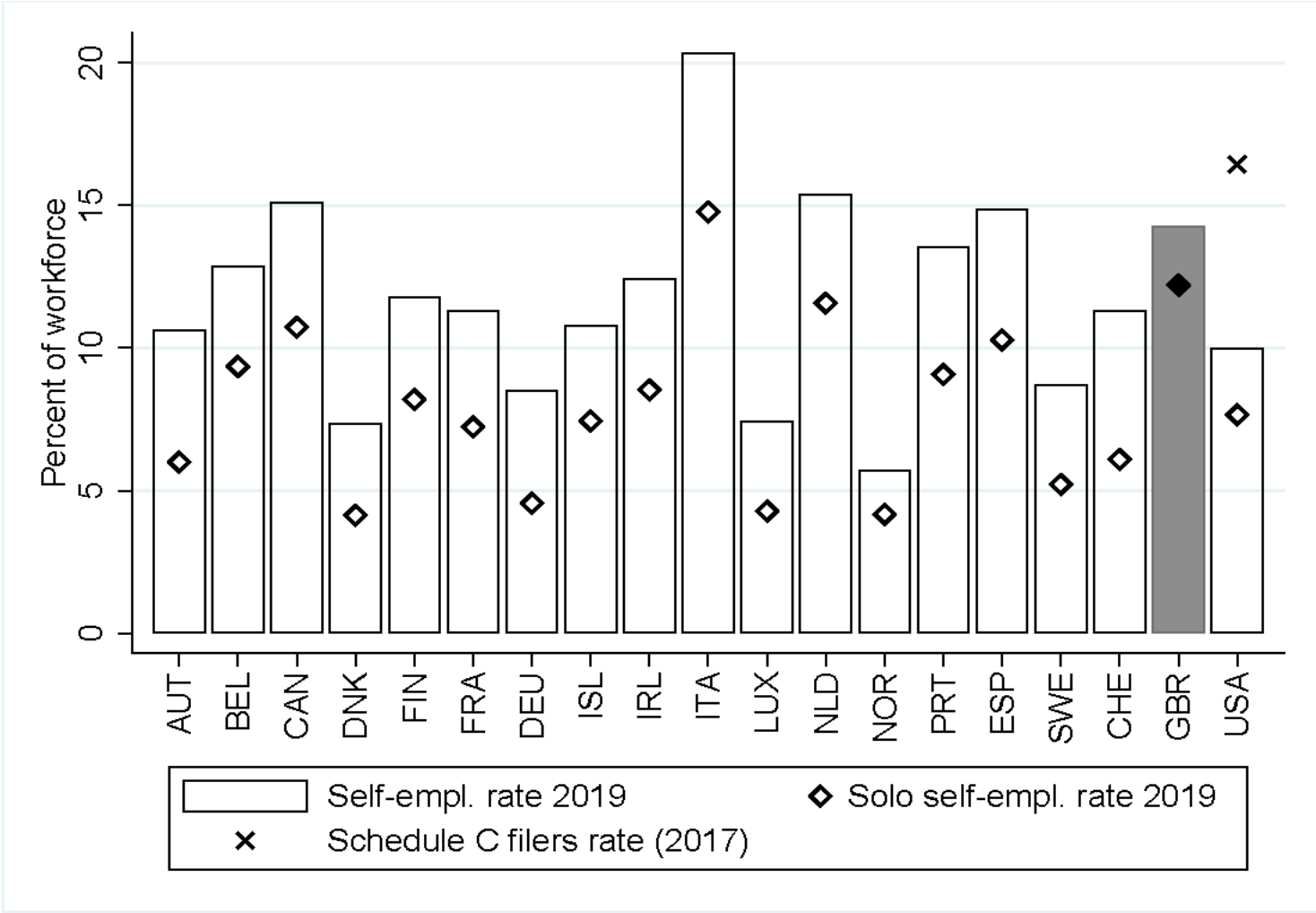
Source: IFS calculations using Labour Force Survey

Notes: LFS: Male employees aged 25-55.

Giupponi and Machin (2020) show even stronger for self-employed since 2008 where there has been a growing rate of solo self-employed and part-time hours.

Self-employment across countries

Self-employment as percent of workforce



Source: Giupponi and Machin (Deaton Review, IFS, 2020)

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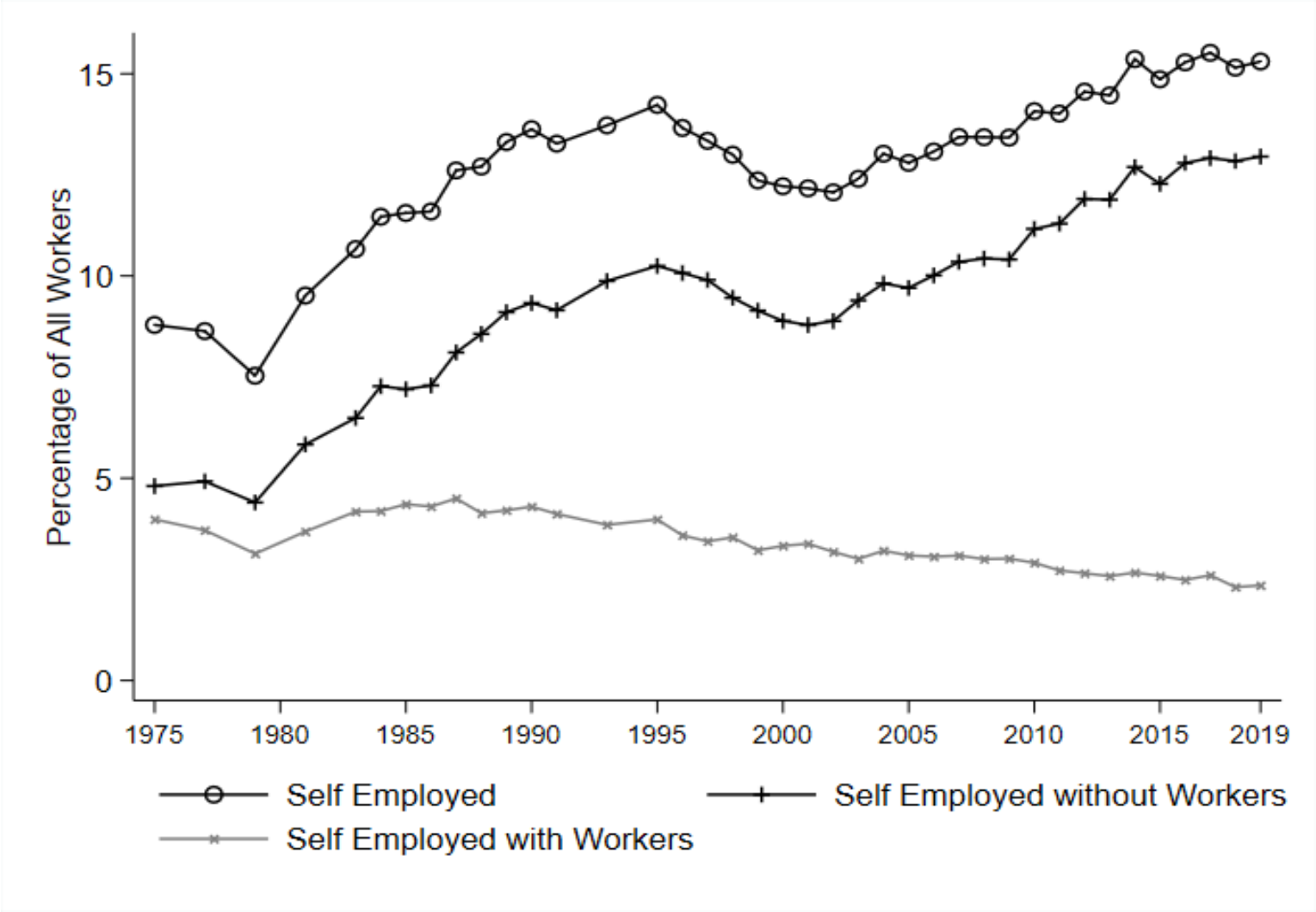
Self-employment and ‘alternative work arrangements’

Self-employment as percent of workforce



Source: Giupponi and Machin (Deaton Review, IFS, 2020)

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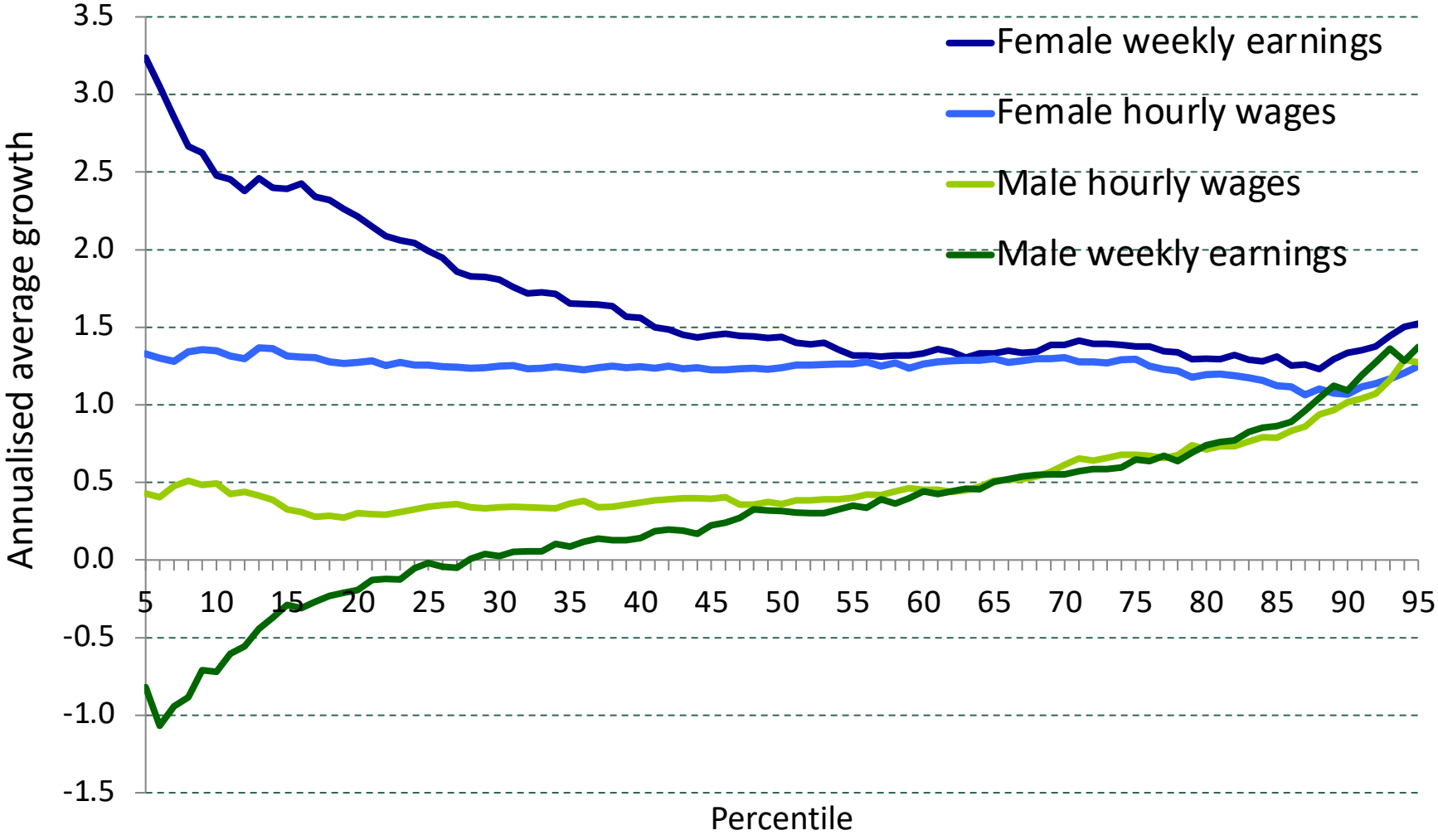
Very different growth in female hourly wages and weekly earnings:

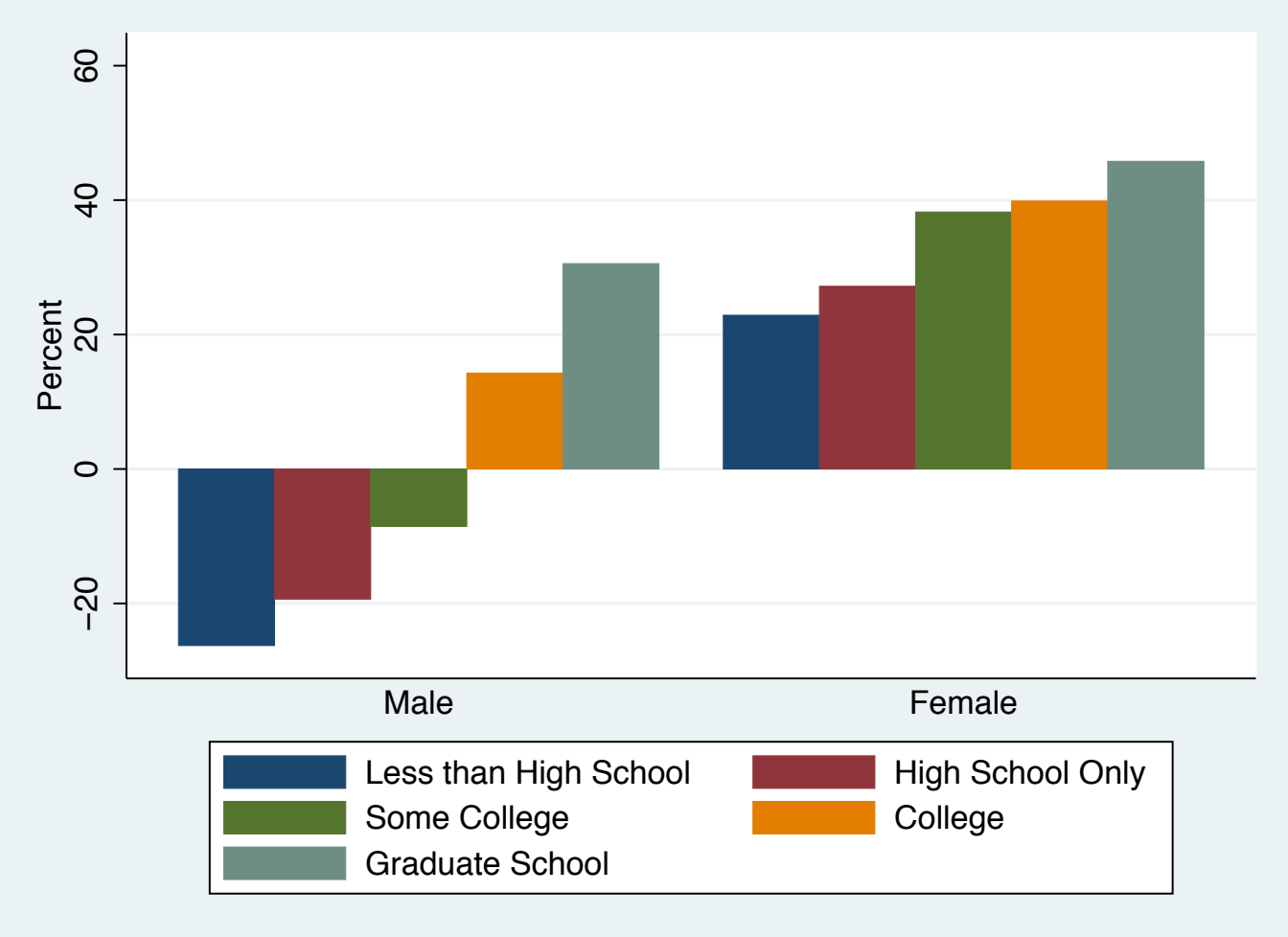
UK 1994/95 – 2015/16



But assortative partnering and the low female earnings share implies this has not improved between family inequality…. Similar results in the US.

Source: Blundell, Joyce, Norris Keiller and Ziliak (2018): Data used is FRS 1994-95 and 2015-16.

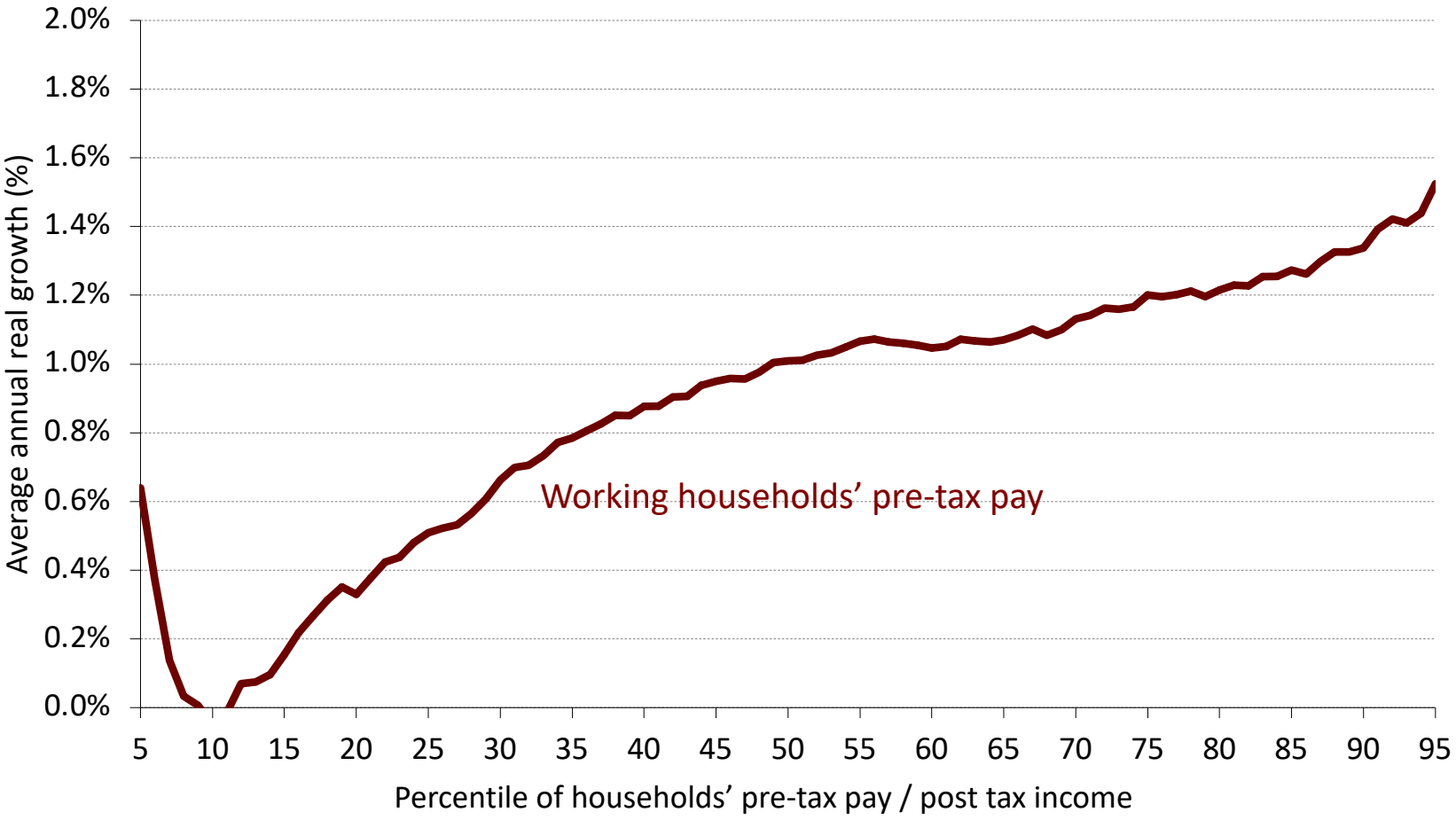
Growth in pre-tax earnings in US: 1974/5 to 2015/6



Notes: CPS, Includes self employment income and self-employed households.
Source: Blundell, Joyce, Norris Keiller and Ziliak (2018)

Earnings and Incomes:

Growth in pre-tax earnings for working households in UK 1994/5 to 2015/6



Notes: Includes self employment income and self-employed households. Family Resources Survey. All income measures are equivalised.
Source: Blundell, Joyce, Norris Keiller and Ziliak (2018)

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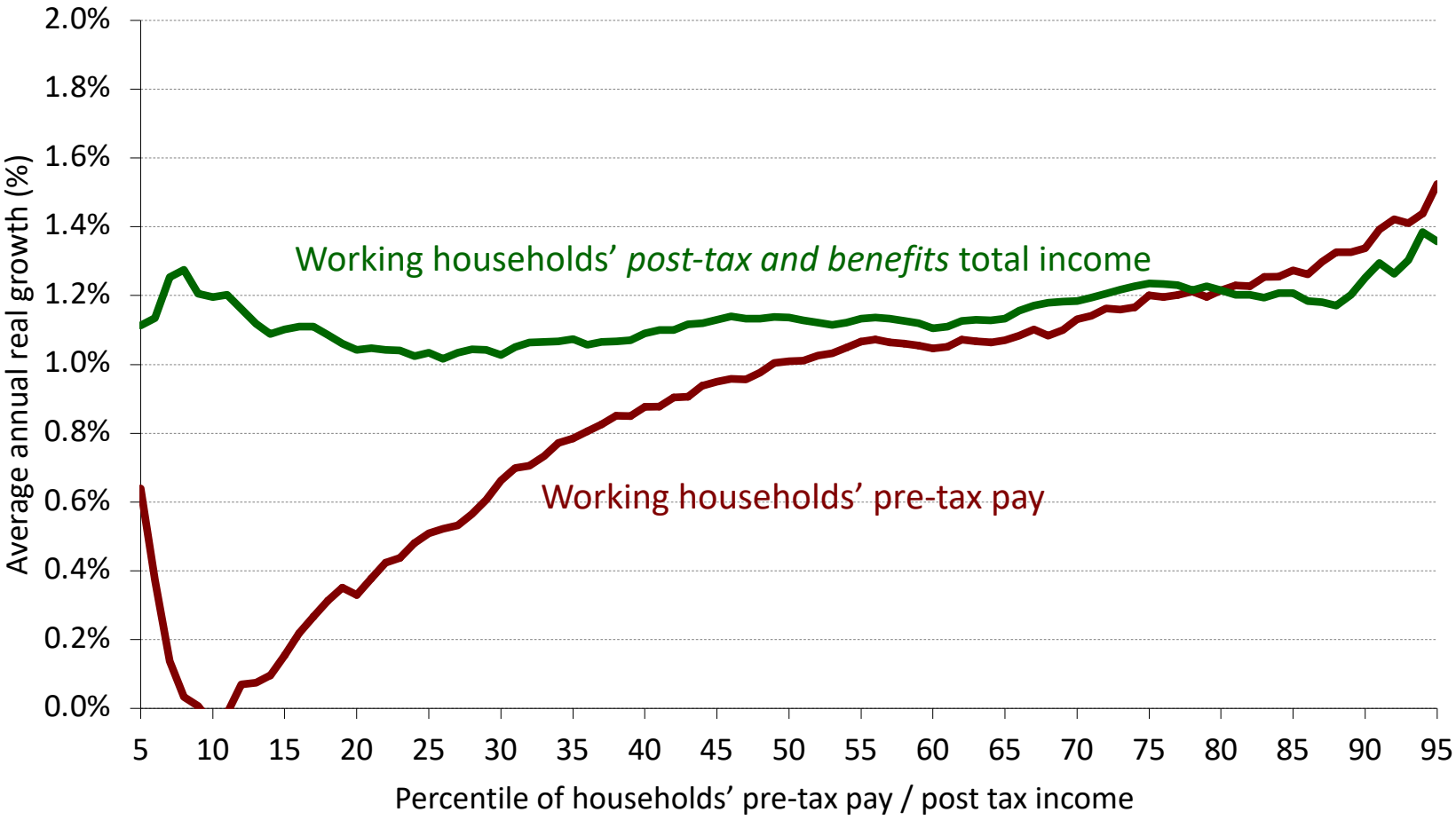
Family Earnings and Family Incomes:

Household income growth for working households in UK 1994/5 to 2015/6



Notes: Includes self employment income and self employed households. Family Resources Survey. All income measures are equivalised.
Source: Blundell, Joyce, Norris Keiller and Ziliak (2018)

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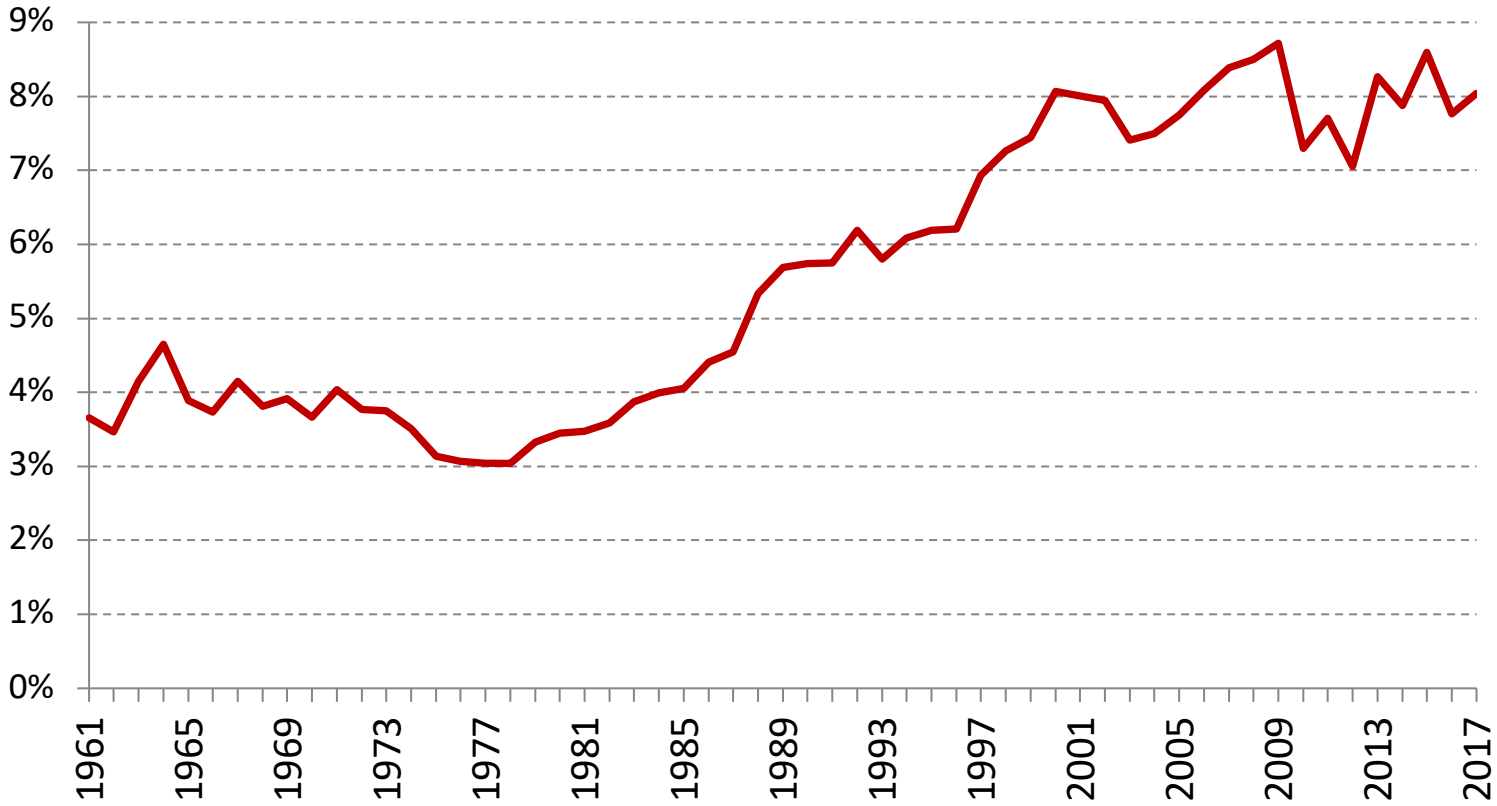
The top 1% share has nearly tripled in the last 4 decades

Top 1% share of net household income, UK 1961–2017



Gini and household survey income data do not capture the very top well!

Note: Years refer to calendar years up to and including 1992 and to financial years from 1993–94 onwards, corrected with tax data. Source: Joyce and Xu, 2019

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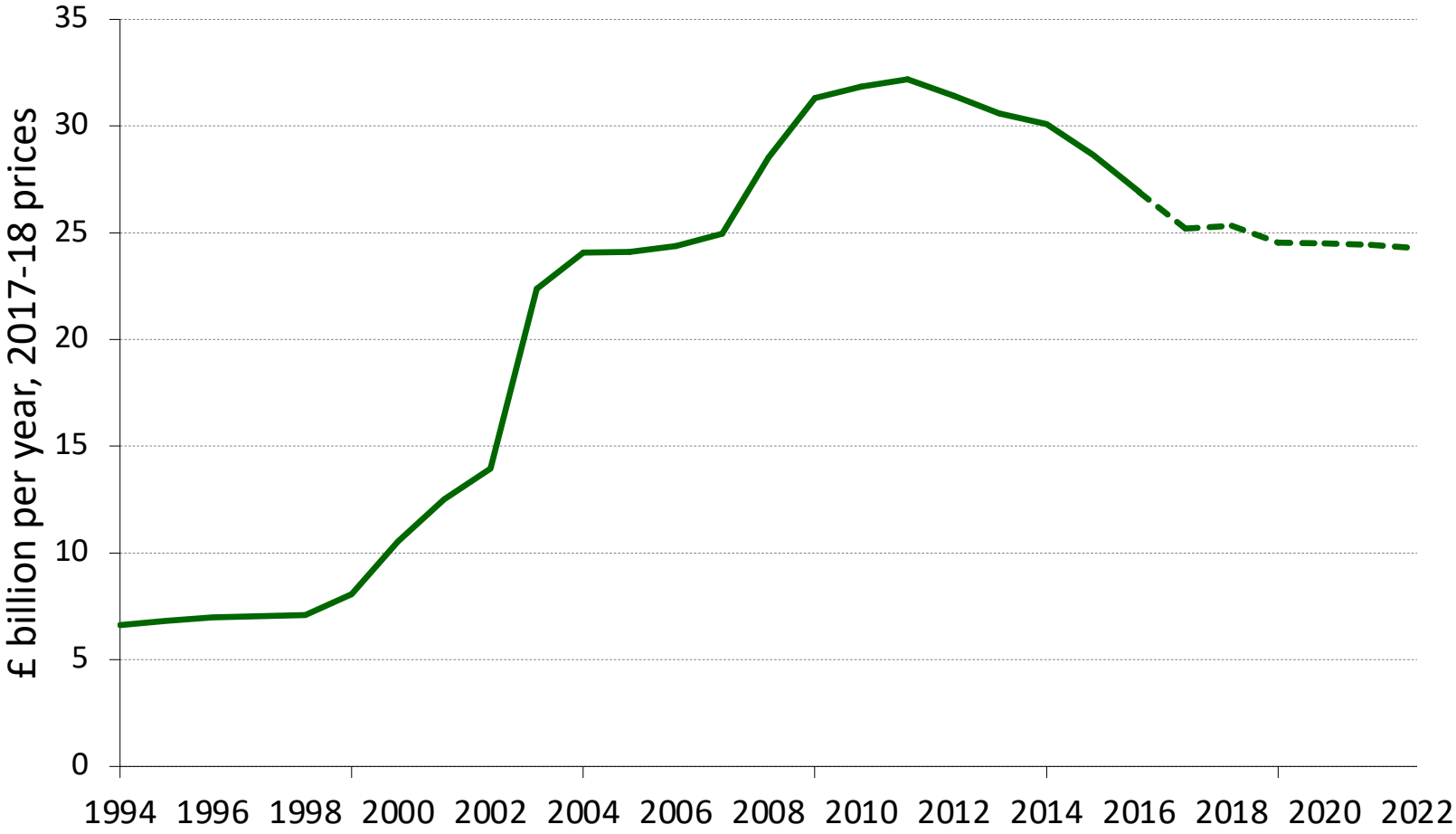
Real spending on work-related tax credits and equivalents in the UK



Source: IFS calculations from DWP (UK) benefit expenditure tables.

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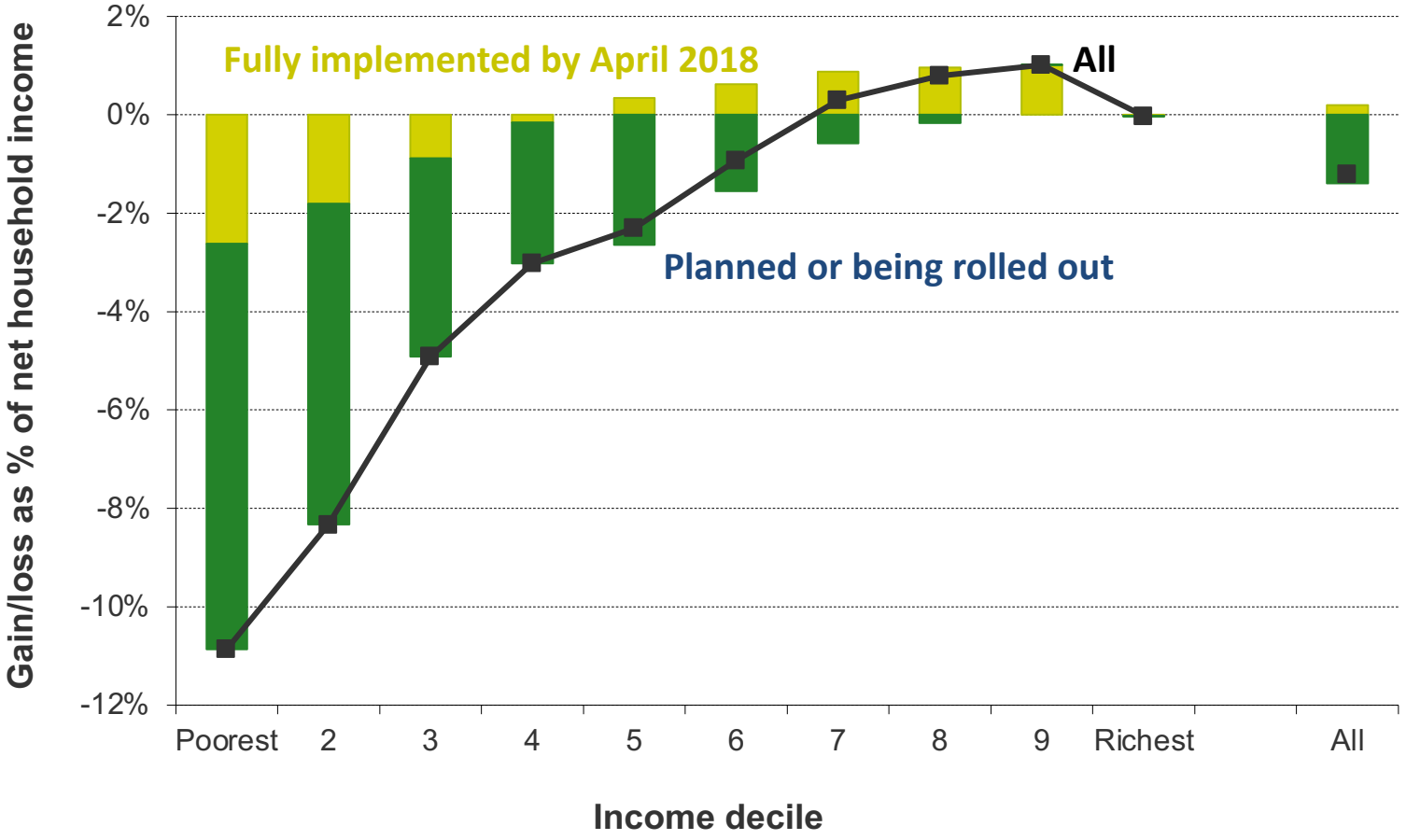
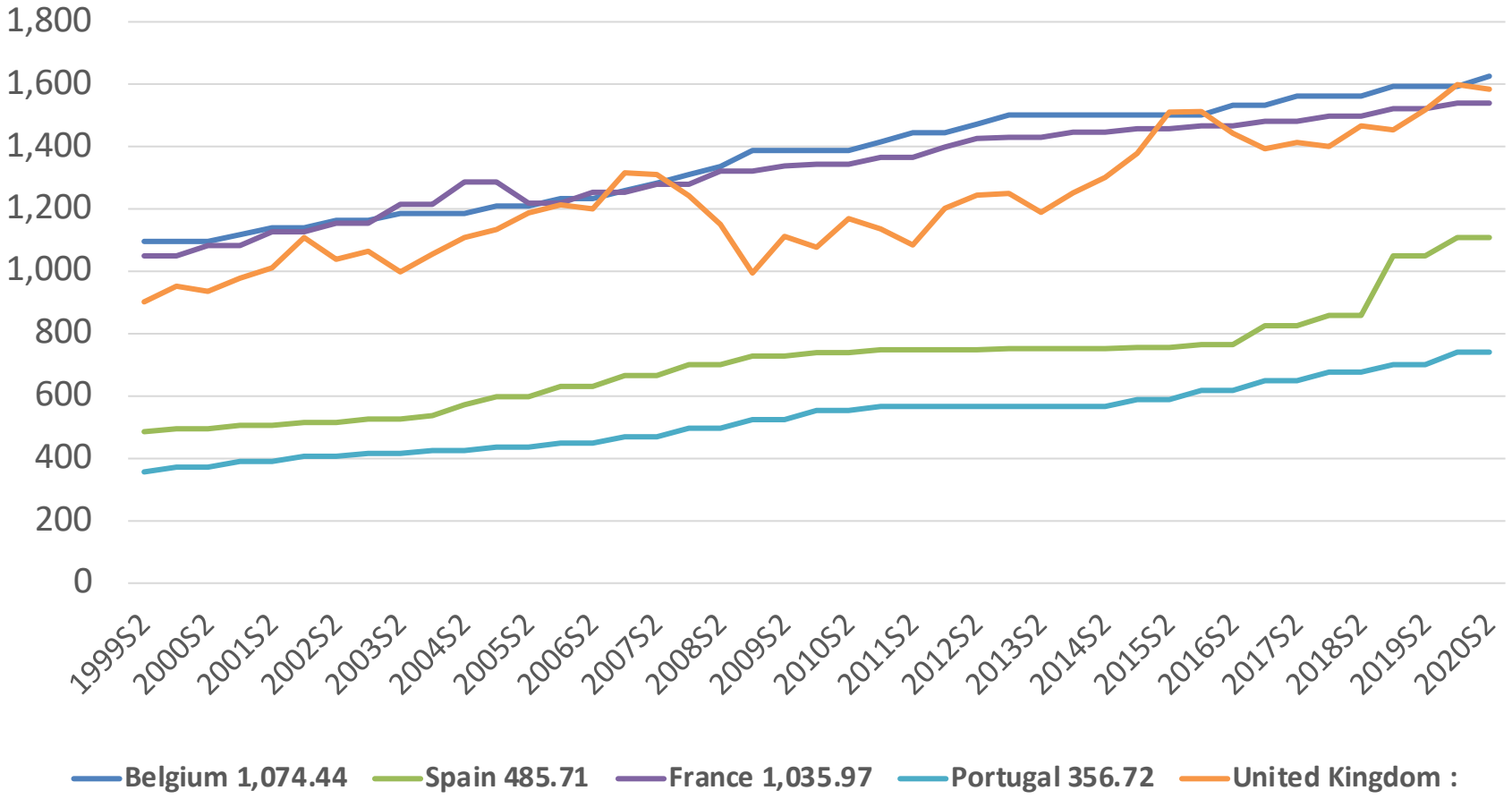
Long run distributional impact of personal tax/benefit reforms in the UK since 2015 going forward…



Note: Assumes full take-up of means-tested benefits and tax-credits. Policies partially rolled are Universal Credit, the 2-child limits, the replacement of DLA with PIP and the abolition of the WRAG premium in ESA.
Source: IFS calculations using the IFS micro-simulation model run on the 2015–16 FRS and 2014 LCFS.

Minimum wage across countries

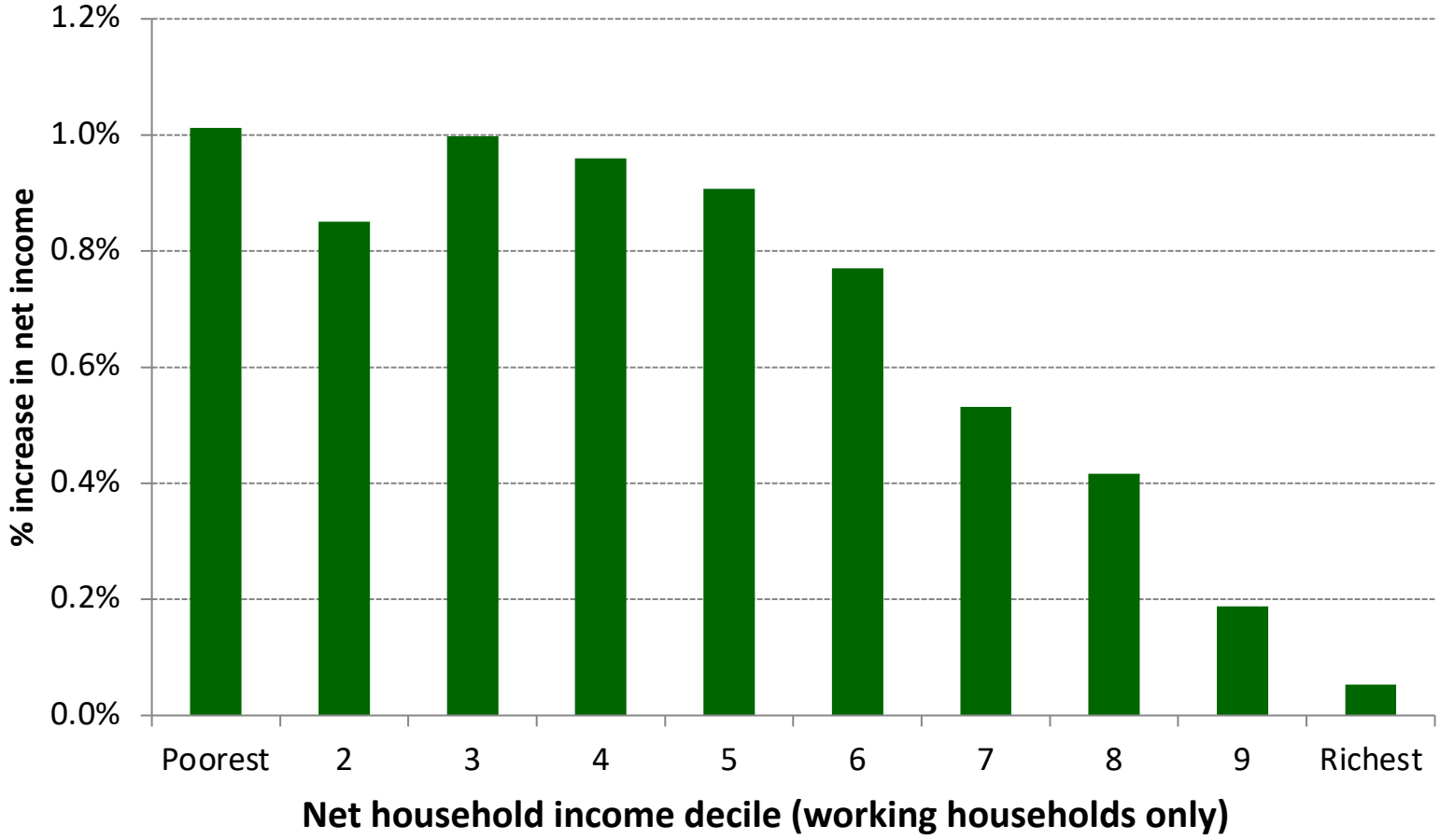
Monthly equivalent min wage



Source: Eurostat

Higher minimum wage targets the lowest-wage people, *not* the lowest-earning households

Figure shows the increase in the minimum wage between now and 2020 in the UK. Which *working households* get the extra money?



Note: Shows mechanical increase in net income arising from minimum wage rises planned between now and 2020, allowing for interaction with tax payments and benefit entitlements.
Source: Calculations using data underlying Figure 9 of Cribb, Joyce and Norris Keiller (2017): www.ifs.org.uk/publications/9205

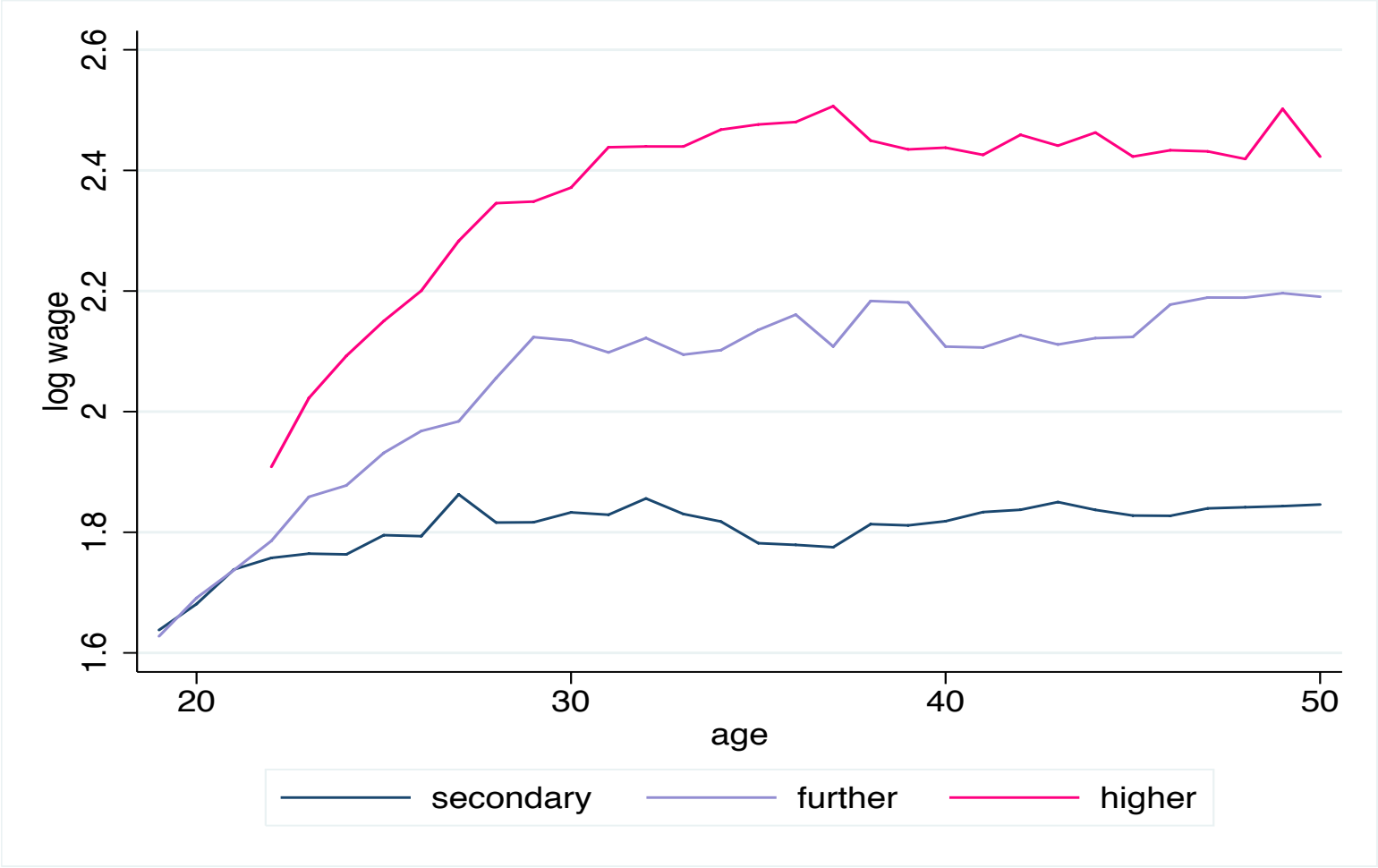
Briefly focus in on three key labour market issues:

1. Wage progression,
2. Training – human capital,
3. The role of firms.

- Use this analysis to think through an appropriate policy mix.
- Finish (if time!) with an addendum on the implications of the covid-19 pandemic.

1. Wage progression:

It's depressing at the bottom: wage profiles by education and age - returns to experience strongly *complementary* with education

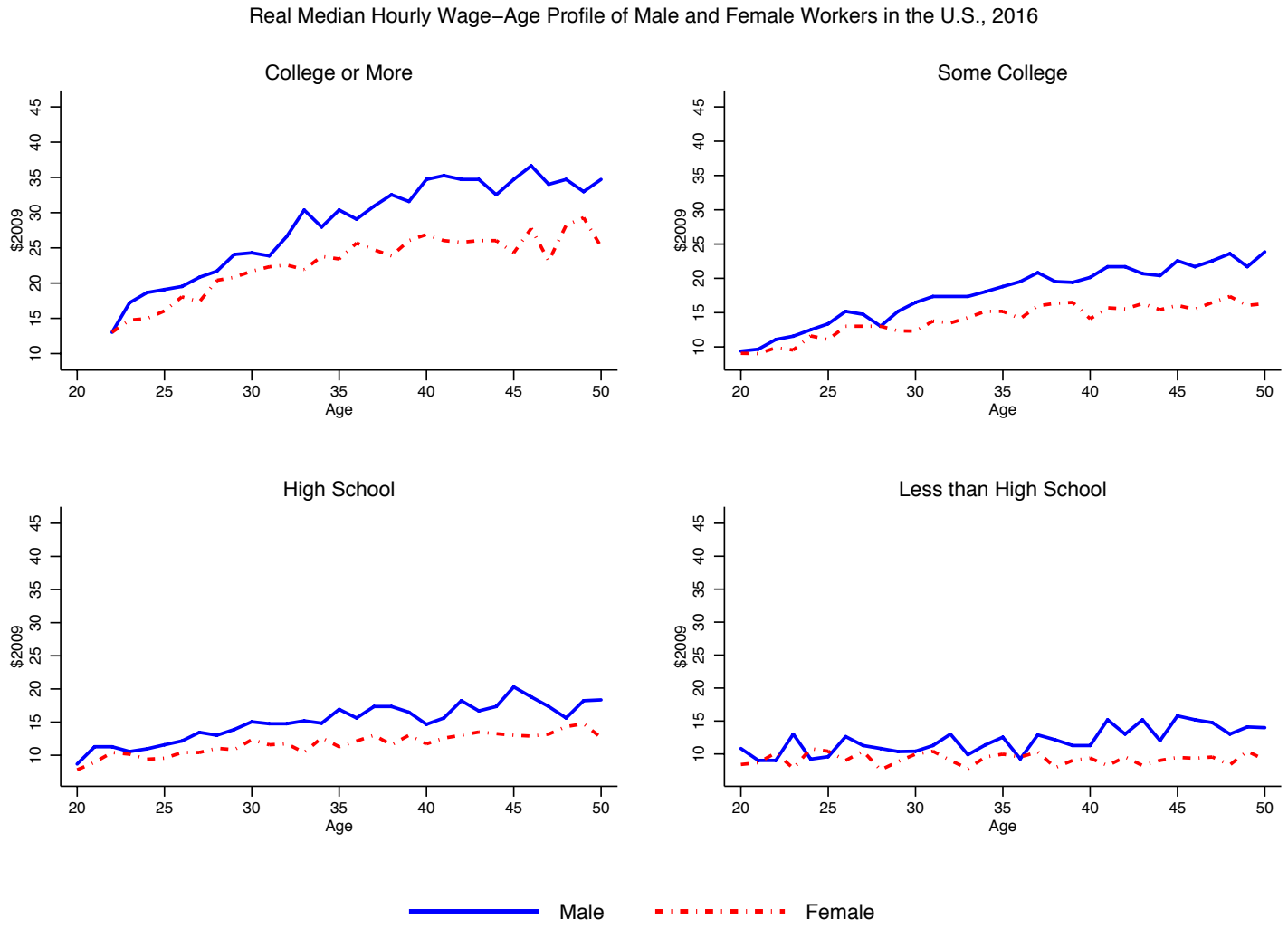


Source: Blundell, Costa-Dias, Meghir and Shaw (2016),

Notes: Women, UK BHPS. See similar for UK men and for recent cohorts in the US.

Similar wage progression age profiles in the US

Life-cycle growth in real median wages



Notes: CPS, Includes self employment income and self-employed households.
Source: authors calculations.

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Panel data model of wage progression and work experience

- Household panel linked to family histories and IFS tax/benefit simulator
- Panel data model of log wage for individual *i* of education *s* and age *t*

$$lnw_{\text{ist}} = lnW_{st} + \gamma_0(x_i) + \gamma_1(x_i)\ln(\kappa_{ist} + 1) + \omega_i + v_{ist} + \xi_{ist}$$

where

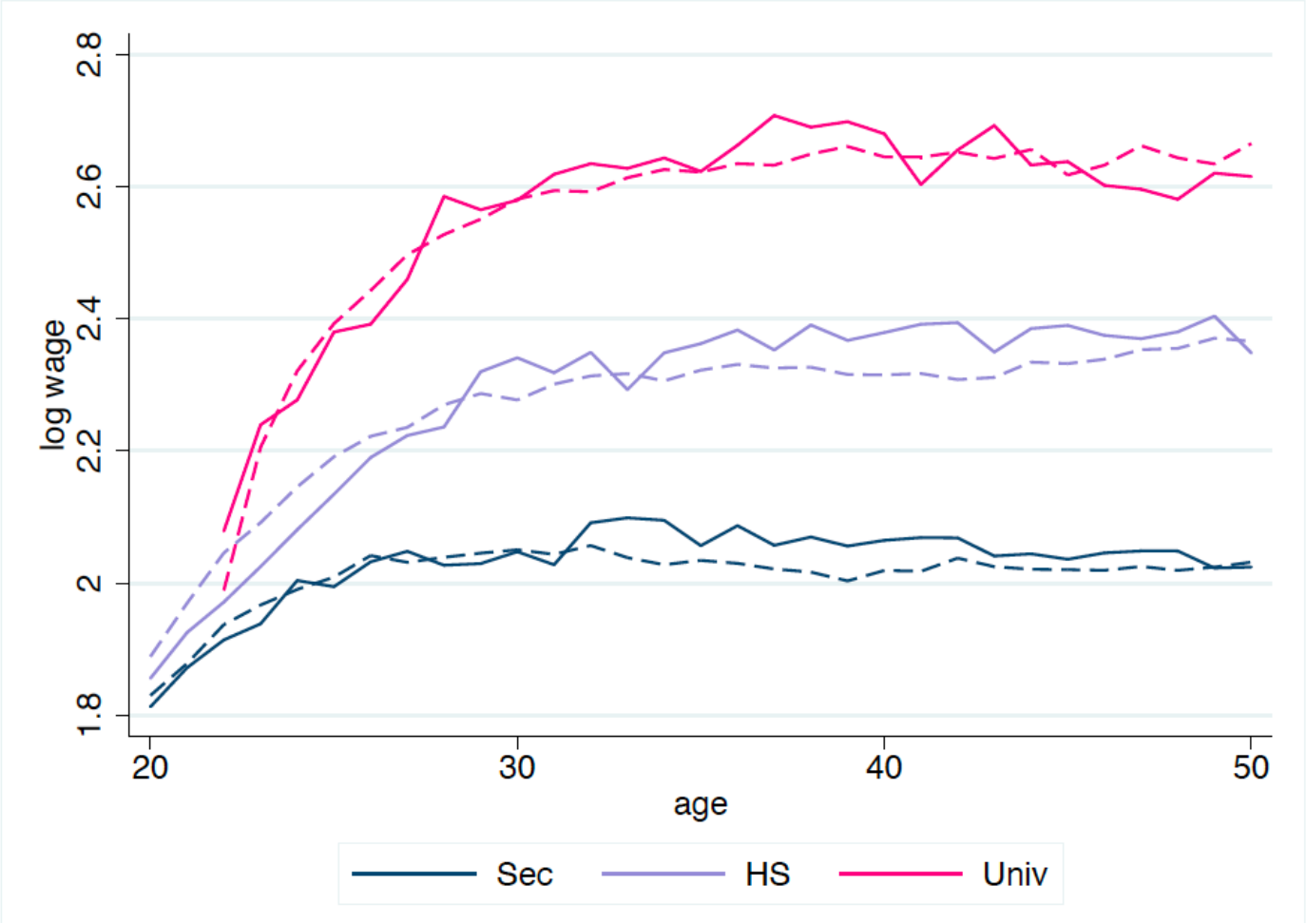
education:	s = [1,2,3] [secondary (16), high school (18),university (21)]
family background:	x_i
baseline Mincer effect:	lnW_{st}
individual effect:	ω_i
experience capital:	$\kappa_{ist} = \kappa_{ist-1}(1-\delta_s) + \alpha_0 FT_{it-1} + \alpha_2 PT_{it-1}$
persistent shocks:	$v_{ist} = \rho_s v_{ist-1} + \mu_{ist}$
random shocks:	ξ_{ist}
endogeneity:	selection and experience; use simulated tax instruments
initial conditions:	flexible heterogeneous initial productivity

Wage equation estimates: UK BHPS

	Secondary		Further		Higher	
baseline at age 25	7.19	(.050)	8.64	(.067)	10.55	(.31)
returns to experience	.15	(.01)	.23	(.01)	.31	(.02)
autocorrelation coef	.92	(.01)	.92	(.01)	.88	(.02)
se innovation	.12	(.01)	.15	(.01)	.14	(.01)
initial prod	.14	(.01)	.13	(.01)	.31	(.03)
initial productivity: se	.14	(.02)	.20	(.02)	.23	(.03)
depreciation rate	.08	(.01)	.06	(.01)	.07	(.01)
accumulation of HC in PTE	.15	(.02)	.10	(.02)	.12	(.02)

Notes: Female wage equation. Interactions with background factors are included
Source: Blundell, Costa-Dias, Meghir and Shaw (Ecta, 2016),

Wage distribution fit

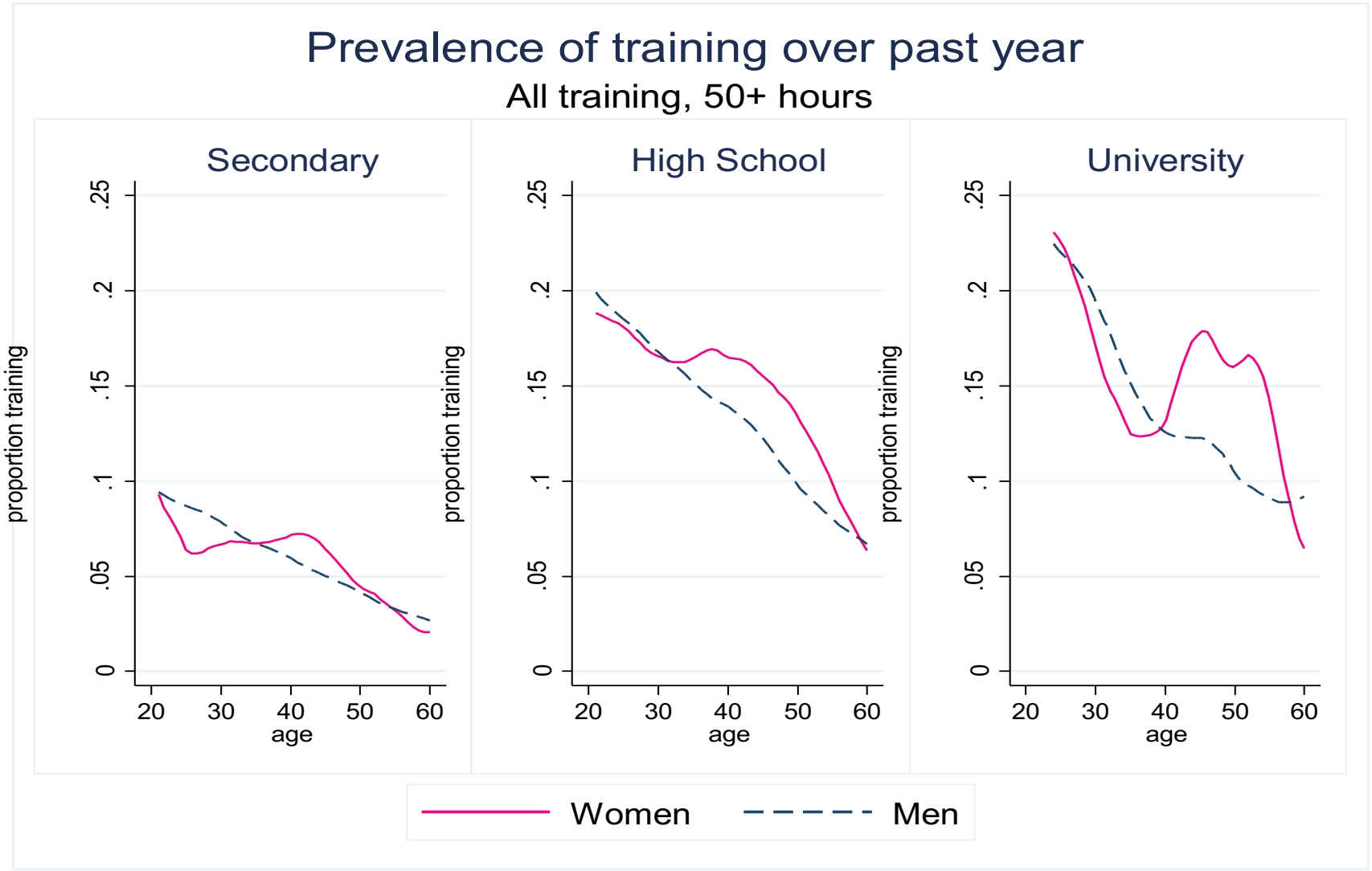


Notes: Interactions with background factors are included
Source: Blundell, Costa-Dias, Meghir and Shaw (Ecta, 2016),

Wage progression results: summary

- The returns to work experience show strong complementarity with education,
  - much lower returns for low educated,
  - much lower returns to part-time work.
- A key question is whether these effects are getting stronger, generating increasing earnings inequality over time,
  - We find experience and the part-time penalty explain around 60% of the gender wage gap in the UK.
  - Note too the fall in labour market attachment (part-time) for younger low wage men in the UK.
- What about the role of on-the-job training? And do low educated workers do better in some firms than others?

2. Training also appears complementarity with education



Source: Blundell, Costa-Dias, Goll and Meghir (2020), Notes: UK BHPS

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Training questions

READ OUT

I would like to ask some details about all of the training schemes or courses you have been on since September 1st 1999, (other than those you have already told me about), starting with the most recent course or period of training even if that is not finished yet.

	D69.	D70.	D71.	D72.
Event no.	**SHOWCARD D13** Where was the main place that this course or training took place?	Was this course or training. . . **READ OUT AND CODE FOR EACH**	Since September 1st 1999 how much time have you spent on this course or training in total?	**SHOWCARD D14** Which statement or statements on this card describe how any fees were paid, either for the course or for examinations? **CODE ALL THAT APPLY**
1	**WRITE IN MAIN PLACE AND ENTER CODE FROM SHOWCARD CODE ONE ONLY** **WRITE IN PLACE** _____ _____ **ENTER CODE FROM SHOWCARD** ☐☐ JTRPLCE1	**Yes No** To **help** you get started in your current job? ..... 1 ..... 2 JTRWHYA1 To **increase** your skills in your current job for example by learning new technology? ..... 1 ..... 2 JTRWHYB1 To **improve** your skills in your current job? ..... 1 ..... 2 JTRWHYC1 To **prepare** you for a job or jobs you might do in the future? ..... 1 ..... 2 JTRWHYD1 To **develop** your skills generally? ..... 1 ..... 2 JTRWHYE1	**ENTER NUMBER** ☐☐☐ JTRQ1 **CODE UNIT** Hours ..... 1 Days ..... 2 Weeks ..... 3 Months ..... 4 Other (SPECIFY) _____ 5 JTRU1	No fees ..... 01 JTRFEEA1 Self/family ..... 02 JTRFEEB1 Employer/ future emp ..... 03 JTRFEEC1 New Deal scheme ..... 05 JTRFEEE1 Training for work, Youth/Emp training/ TEC ..... 06 JTRFEEF1 Other arrangement (SPECIFY) _____ 07 JTRFEEG1

Source: Blundell, Costa-Dias, Goll and Meghir (2020), Notes: UK BHPS

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Adding training investments to the log wage equation
by education group s

- Geo-coded household panel linked to family histories, earnings, hours,..
- Extend dynamic panel data model of earnings for individual *i* and training τ,
- Training investment τ adds to the stock of human capital.

Parameter	Secondary	High School	University
Return to HC ($\gamma_{s,0}$)	0.134 (.02)	0.230 (.03)	0.290 (.03)
Exp from training (τ)	0.119 (.08)	0.139 (.04)	0.096 (.02)
Exp from PT work	0.092 (.01)	0.093 (.02)	0.105 (.03)
Exp depreciation rate (δ)	0.081 (.04)	0.087 (.03)	0.083 (.03)

Training impact: Relative to year full-time experience

Source: Blundell, Costa-Dias, Goll and Meghir (2020), Notes: UK BHPS

Wage progression and training: results summary

- Training enters the wage equation as an additional human capital investment
  - offsetting the depreciation of experience capital,
  - allow for endogeneity of training,
  - allow for job induction training.
- The training impact is significant, *conditional* on education, experience, family background, persistent shocks and heterogeneity.
- Particularly strong effects for mid-education group
  - with return equivalent to that in formal education,
  - firm-based qualification training is key.
- Find positive impact of a Training (tax credit) subsidy.

3. Wage progression and firms

- Why do some low education workers do well?
- Do firms matter?
- We show that low-educated workers in occupations that require 'soft-skills' get higher wage progression and more likely to get training
  - these jobs are more common, and workers experience higher wage progression, in more innovative firms
  - 'soft skills' are difficult to observe (for the employer and us) this means that firm wants to keep (and train) workers with these skills

Proxies for importance of soft skills and abilities in O*NET

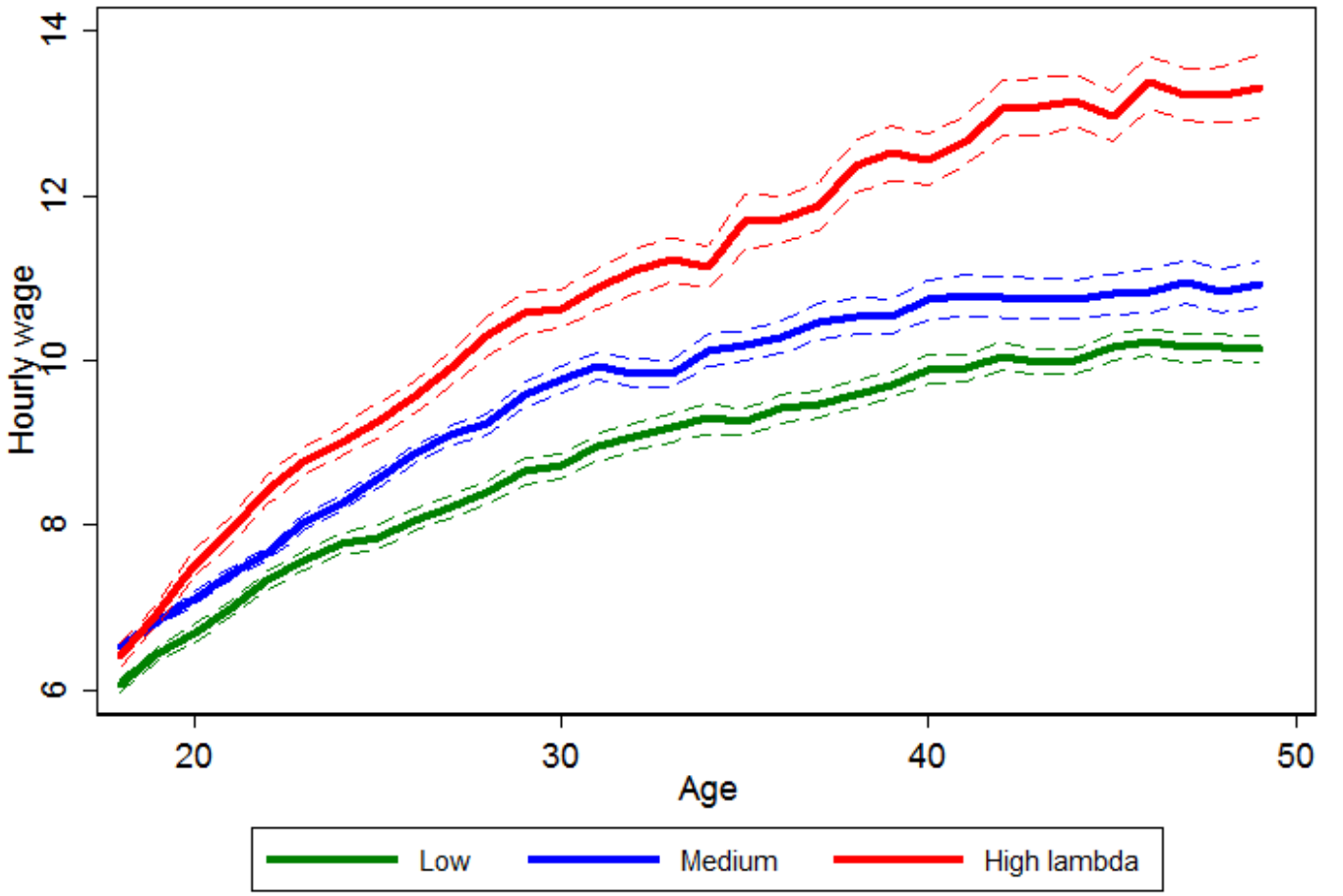
How important is ... to the performance of your current job?

- Negotiation: bringing others together and trying to reconcile differences
- Persuasion: persuading others to change their minds or behavior
- Social Perceptiveness: Being aware of others' reactions and understanding them
- Active Listening: Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.
- Coordination: Adjusting actions in relation to others' actions.
- Problem Sensitivity: The ability to tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing a problem.
- interactions that require you to coordinate or lead others in accomplishing work activities (not as a supervisor or team leader)

We use these to create (PCA) a **single index 'λ'** of the importance of 'soft skills'.

More wage progression for workers in high λ occupations

Low-educated only

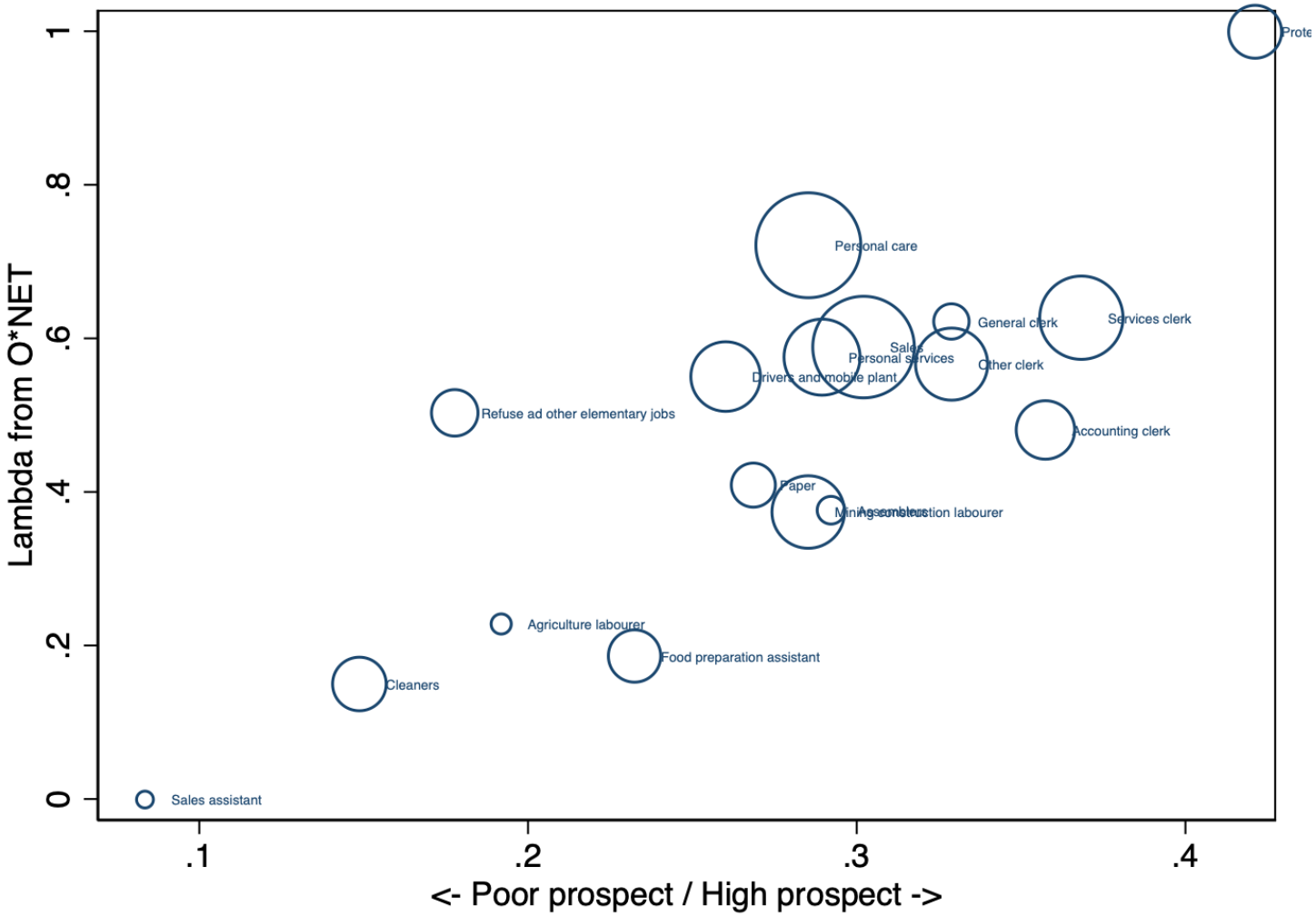


Sample is male workers aged 18-49 in low-skilled occupations in private firms with 400+ employees.

Notes: Skill allocated by occupations in matched employer-employee data (ASHE) for UK 2004-2016 .
Source: Aghion, Bergeaud, Blundell and Griffith (2020)

λ and "good jobs" in the EWCS

My job offers good prospects for career advancement, low-educated



Notes: Authors' calculations using EWCS, 2015. Each dot is a 2-digit occupation, scaled by UK employment.
Source: Aghion, Bergeaud, Blundell and Griffith (2020)

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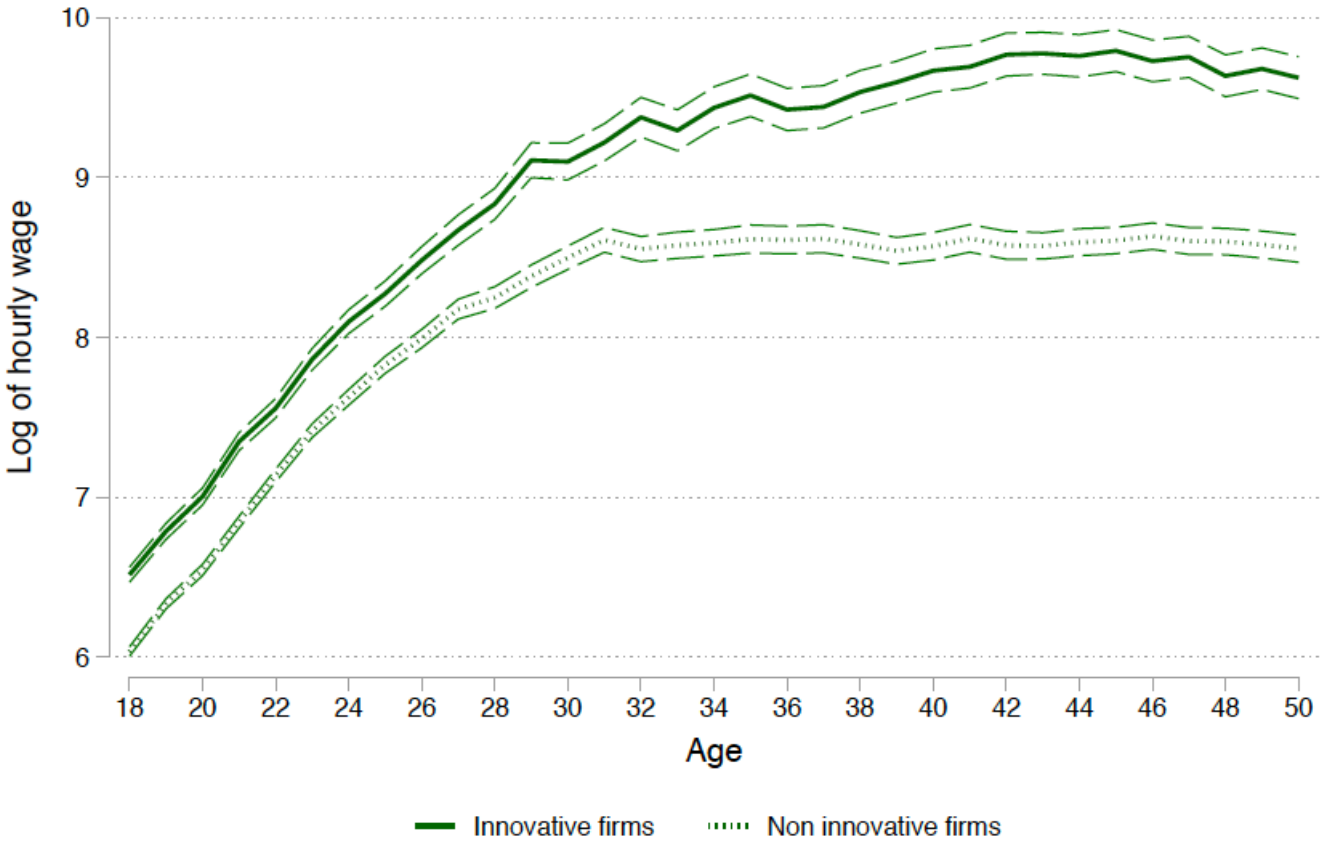
Panel Data Results for low-educated

Log individual wage

High lambda	0.0790***	0.0179***	0.0495***	0.0130**	0.0421***
	(0.0049)	(0.0048)	(0.0039)	(0.0052)	(0.0041)
x tenure	0.0070***	0.0008*	0.0026***	0.0007	**0.0022*** **
	(0.0005)	(0.0005)	(0.0003)	(0.0005)	(0.0003)
x tenure 0-5 years	0.0048***	0.0051***	0.0086***	0.0027**	**0.0059*** **
	(0.0014)	(0.001)	(0.0011)	(0.0012)	(0.0014)
x RD firm				0.0112*	0.0148***
				(0.0062)	(0.0050)
x tenure 0-5 years x RDfirm				0.0050***	**0.0054*** **
				(0.0018)	(0.0021)
RD firms				0.0339***	0.0415***
				(0.0038)	(0.0033)
tenure x RD firm				-0.0016***	-0.0006**
				(0.0004)	(0.0003)
intial wage			0.0519***		0.0515***
			(0.0011)		(0.0011)
Control	✓	✓	✓	✓	✓
Geo-Year	✓	✓	✓	✓	✓
Worker effects		✓		✓	
R^2	0.288	0.284	0.509	0.286	0.512
Observations	173,339	173,339	173,339	173,339	173,339

Source: Aghion, Bergeaud, Blundell and Griffith (2020)

Wage progression for workers in low educated workers



Notes: matched employer-employee data for UK 2004-2016; average hourly wage for workers in low-skilled occupation in innovative and non-innovative firms
Source: Aghion, Bergeaud, Blundell and Griffith (2020)

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Workers in high λ occupations get more training

Data from LFS on training of individual UK worker's

	Lambda of occupation		
	below median	above median	diff
Whether employer has offered training	13.9 (0.17)	15.7 (0.18)	1.7*** (0.24)
In education or training (of any kind)	9.5 (0.12)	10.9 (0.13)	1.5*** (0.18)
Training during work	4.9 (0.29)	5.8 (0.31)	0.9*** (0.42)

Source: Aghion, Bergeaud, Blundell and Griffith (2020)

Good jobs and good firms: results

- Some lower educated workers attract higher wage progression
  - these workers see longer firm tenures and more training,
  - find this reflects the value of 'soft skills' for low educated workers,
  - more likely to occur in innovative firms,
  - also find workers with these skills are less likely to be out-sourced.
- The idea is that workers with 'soft skills' are *complementary* to high skilled workers and technology, capture a higher share of the surplus, especially in high-R&D firms.

Some take-aways

- Little wage progression for low educated & those in part-time work
  - employment is not enough to escape poverty or for self-sufficiency,
  - diverging profiles with education? US and UK evidence. Portugal?
- Increased female labour supply
  - has not overcome increasing family earnings inequality,
  - assortativeness and low earnings share.
- Earned income tax credits are well targeted to low earning families
  - offset means-testing at the extensive margin for parents,
  - but earnings progression and incidence? (conditional on training, etc?)
- Minimum wage has lifted *hourly* wages at the bottom
  - but not well-targeted to low earning families, due to secondary workers and falling male hours -> *complementary* to tax credits
  - increasingly affecting workers vulnerable to automation?

Jobs affected by higher minimum are not the same as those previously affected

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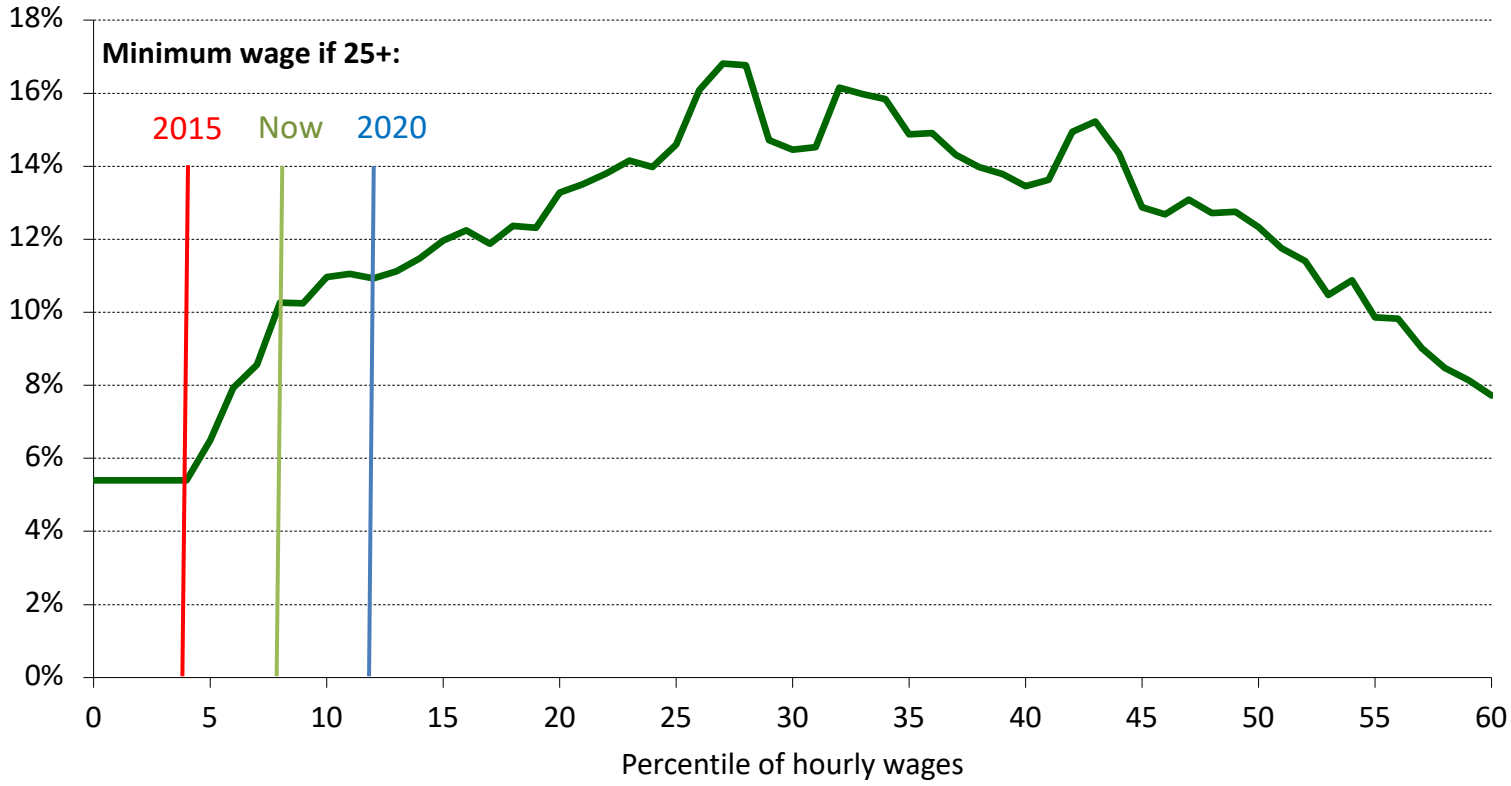
Proportion of employees aged 25+ in the most "automatable" jobs (top 10% of routine task intensity")



Source: Cribb, Joyce and Norris Keiller (2018): www.ifs.org.uk/publications/10287. Data used is ASHE, 2015.

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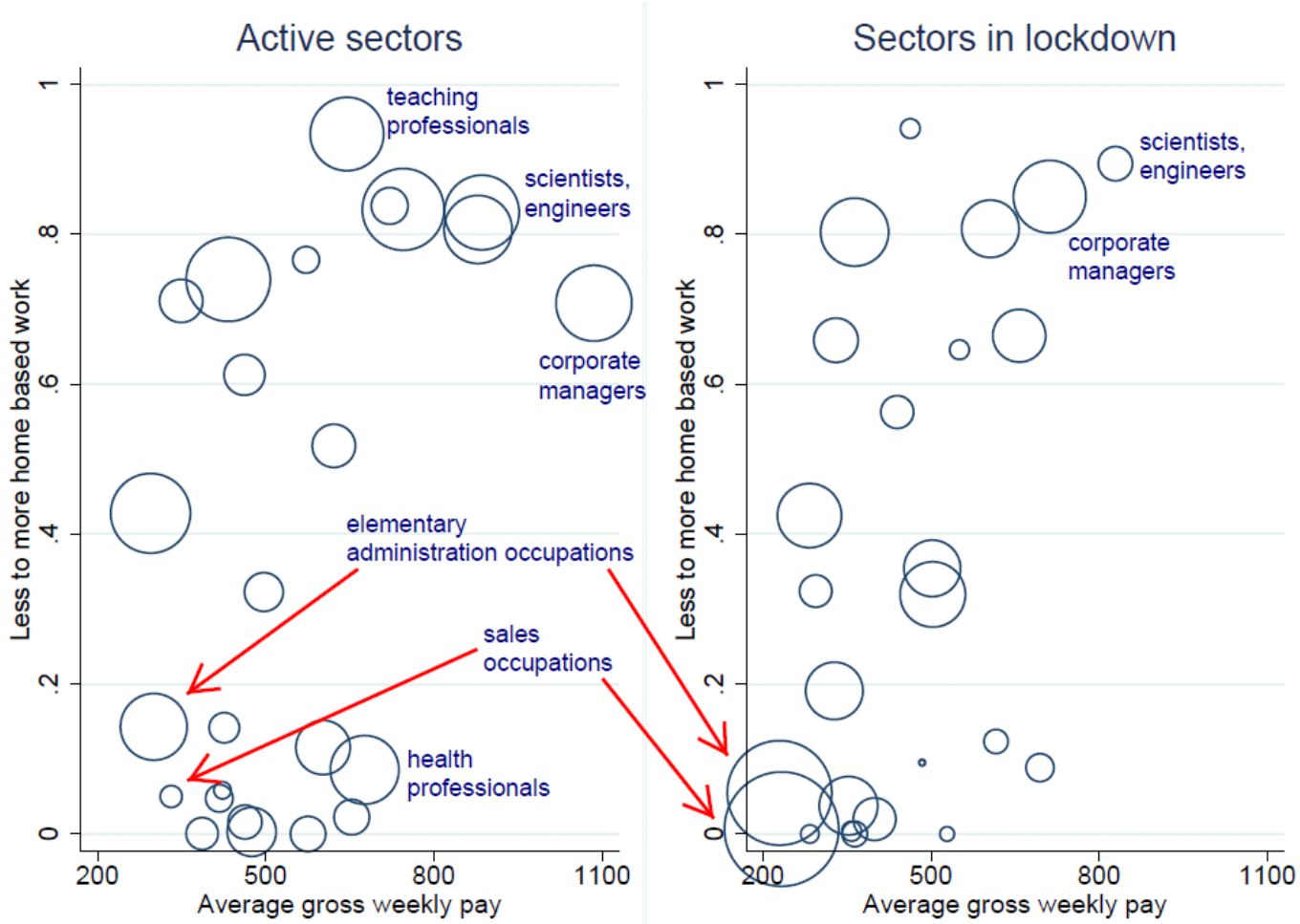
Designing a policy mix

- What limits wage progression?
  - less training and networking, constraints on build-up of skill in low-hours jobs,
  - avoid part-time incentives in welfare & incorporate training incentives (CCT?)
- What skills among those with lower education are valued by firms?
  - 'soft skills' seem key with longer tenures and more training,
  - skills that complement innovation are less likely to be out-sourced,
  - re-think qualification firm-based training and the role of technology.
- Do we need stronger competition policy and contract regulation alongside redistributive tax credit and min wage policies?
  - increasing mark-ups, solo self-employment and the gig economy may signal declining bargaining power of lower educated workers..
  - improve access to training, non-wage benefits and job search information.

Implications of the Covid pandemic…..

- Far from pushing labour market inequalities and redistribution down the agenda, the pandemic has
  - exacerbated existing inequalities – in earnings, work, health, education, age, gender,…
  - opened up new fissures along dimensions that were previously less significant – working at home, use of public transport, …..
- The loss of earnings from the pandemic and the lockdown has brought the effectiveness of the safety net across different countries into sharp focus.
- Will there be a new emphasis on building a fairer society?
  - especially with the challenge of doing so while facing unprecedented levels of (peace time) debt.

Workers in lockdown sectors are lower paid and less likely to be able to work from home



Notes: IFS calculations. LFS for the years 2018-19, adults aged 20-60. Pay in Dec 2019 prices. O-net data used to identify occupations that are amenable to work from home. Use classification in Dingel and Neiman (2020) to identify occupations that cannot be worked from home.

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What changes after the covid pandemic?

- Wage inequality?
  - Will there be a move to enhancing wages of low paid ‘key workers’?
  - Or will the increase in demand for e-commerce and IT dominate? An increase in the education premium and for those who can work from home?
- Will firms consolidate power?
  - Rethinking competition policy.
- A change of attitudes towards the welfare state?
  - More people will have experienced welfare state?
  - A new emphasis on social insurance?
  - Intergenerational redistribution – the already squeezed young working age…
- Financing the deficit and fair taxation.
  - Enhancing fiscal capacity and trust in government in a time of populism?
  - A new social contract?

Inequality, Redistribution and the Labour Market: Summary

- Earnings of low-wage and low-educated workers have performed poorly in recent decades
  - earnings inequality is increasingly persistent: the poor stay poor,
  - there is little pay progression for low-educated workers,
  - employment alone is increasingly not enough to move households out of poverty,
  - we see diverging wage profiles by education and part-time work,
  - female employment has not reversed rising family earnings inequality.
- The policy mix:
  1. Earned income tax credits? - encourage employment, well-targeted to low earning families, but preserve low progression, & adverse incidence.
  2. Minimum wage? - not so well-targeted, due to family earnings and falling male hours/attachment. Should be a *complement* to tax credits.
  3. Human capital/training? - focus on soft skills for low educated and technologies that complement these skills – a 'good jobs and good firms' agenda.
  4. Competition policy and market power? - anti-competitive clauses, job search, …

Inequality, Redistribution and the Labour Market

Bank of Portugal Conference

November 16th 2020

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University College London and Institute for Fiscal Studies

Motivating theme: Can't address all the concerns about low wages and earnings inequality through the tax and welfare system alone.

Key challenge: How do we balance tax/benefit policy with other policies: min wages, human capital policies, competition policy, etc?

COVID-19: => exacerbated existing inequalities and created new ones.