Wealth and income inequality in an age of crisis and stagnation

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Outline

- Theory of (functional) income distribution
- Empirics: Wage Share & Wages
- Wealth inequality
- Summary

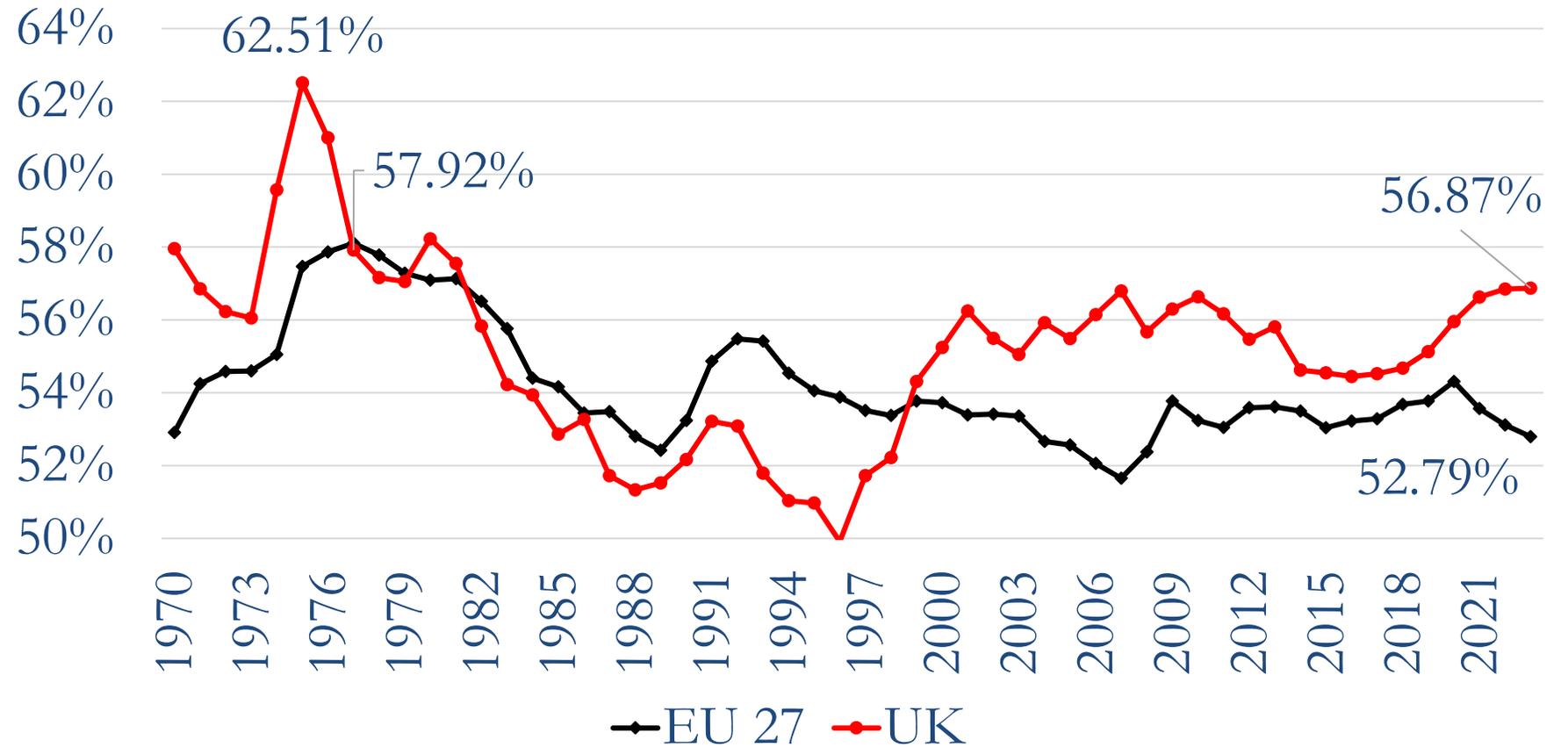# General framework for discussion

$$\text{Wage Share} = S_L = \frac{\text{wage bill}}{\text{GDP}} = \frac{w_r L}{Y}$$

w_r = real wage; L = hours worked

- Closed economy, no government
- Vertically integrated economy (no intermediate goods).
  - Note: prices & shares of intermediate goods determine distribution in all theories

Declining Wage Share

Wage Share in Europe and the UK

Theories of Functional Income Distribution

- Theory → Empirical hypothesis → Policy implication
  - "The ideas of economists and political philosophers, both when they are right and when they are wrong, are more powerful than is commonly understood. Indeed the world is ruled by little else. Practical men, who believe themselves to be quite exempt from any intellectual influence, are usually the slaves of some defunct economist" (Keynes, 1936)

- Theories
  - Neoclassical → Technology
  - Keynesian → Effective demand
  - Kaleckian → Degree of monopoly
  - Marxian → Class struggle

A neoclassical model

- Profits: $\pi = pY - f_0 - wL$

- FOC for profit max: $\dfrac{d\pi}{dL} = p\dfrac{dY}{dL} - w = 0 \leftrightarrow \dfrac{dY}{dL} = \dfrac{w}{p} = w_r$

- Wage Share $= S_L = w_r\dfrac{L}{Y} = \dfrac{dY}{dL}\dfrac{L}{Y} = \dfrac{dY}{Y}\bigg/\dfrac{dL}{L} =$ Labour elasticity of output

- Exact definition depends on production function

- Cobb-Douglas: $Y = AL^\alpha K^{1-\alpha} \rightarrow \dfrac{\partial Y}{\partial L} = A\alpha\left(\dfrac{K}{L}\right)^{1-\alpha} \rightarrow S_L = \alpha$

- CES: $Y = [b.(AK)^\rho + (1-b).(BL)^\rho]^{\frac{1}{\rho}}$

  $\rightarrow$ Wage Share $= 1 - \dfrac{\partial Y}{\partial K}.\dfrac{K}{Y} = 1 - \left(b.A.\left(\dfrac{K}{Y}\right)^\rho\right)$

Y=output; A, B=capital, labour augmenting technological change; b=distribution parameter; ρ =substitution parameter; K=capital; L=labour, w=wage rate, p=price

A neoclassical model – main features

- Distribution determined by technology!
    - CD: $\alpha = $ constant
    - CES: $S_L = f\left(A, \frac{K}{Y}\right)$

- No demand constraint!

A Keynesian/ Kaldorian model

- Keynes not really interested in income distribution
- Kaldor (1955): Keynesian model based on mechanism of effective demand
- $Y \equiv I + C \equiv W + \pi$
- Goods market equilibrium implies: $S = I$
- (investment determines saving)
- Only capitalists save: $S = s_p \pi$
- Plug into goods market equilibrium: $s_p \pi = I \leftrightarrow S_C = \frac{\pi}{Y} = \frac{I}{s_p Y}$
- Wage Share $= S_L = 1 - \frac{I}{s_p Y}$

I = investment; C = consumption; s_p =saving rate; π = profit bill; Y = GDP

A Keynesian/ Kaldorian model – main features

- Distribution determined by capitalists' consumption and investment (animal spirits) → MPL not useful reference point

- Distribution is a result of what happens in the goods market → hierarchy of markets

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A Kaleckian model

- Kalecki: effective demand & imperfect competition

- Distribution determined by cost structure and the pricing behaviour → assume simple mark-up pricing

- $p = (1 + \theta)UVC$

  p = price; θ = mark-up; $UVC = \dfrac{wL}{Y}$ = unit variable costs

- $p = (1 + \theta)\dfrac{wL}{Y}$ → $\dfrac{1}{(1+\theta)} = \dfrac{w}{p}\dfrac{L}{Y} = S_L$

A Kaleckian model – main features

- Distribution determined by
- Mark-up (θ) determined by 'degree of monopoly' which is a function of
  - Competition
  - Bargaining power (labour unions, financialisation, institutions, …)
  - …

Marxian theory

- Marx (Capital Vol. 1): socially determined subsistence wage

- "The value of labour-power is determined, as in the case of every other commodity, by the labour time necessary for the production, and consequently also the reproduction, of this special article. (…) In contradistinction therefore to the case of other commodities, there enters into the determination of the value of labour-power a historical and moral element." (Marx 1867: 120f.)

- Goodwin (1967): dynamic model with the wage share and employment as the two state variables

Theory	Main determinants of the wage share	Additional factors
Neoclassical/ New Keynesian	Technological progress; substitutability between capital and labour	Bargaining power; Competition
Keynesian/ Kaldorian	Animal spirits; capitalist consumption	
Kaleckian	Degree of monopoly (bargaining power; competition; …)	Overhead labour Technology
Marxian	Bargaining power (class struggle) Employment	Technology

Summary

- Functional and personal income inequality increased
- Different theories of income distribution
    - Neoclassical: Technology
    - Keynesian: Effective demand
    - Kaleckian: Degree of monopoly
    - Marxian: Class struggle
- → implications for employment
- Different empirical hypotheses
    - Technology
    - Bargaining power
    - Concentration
- Ongoing empirical debate
- Different theories → different empirical hypotheses → different policies → Pluralism!

Policy implications: short term

- Short term: Workers have been losing out since pandemic/cost of living crisis

- Markups at all time high

- Crisis preparedness
  - Policy of the day: Contractionary monetary policy
  - Wage suppression (Domash & Summers, 2022)

- Instead
  - Proper windfall tax & transfer payments (Wildauer, Kohler, Aboobaker, Guschanski, 2023)
  - Supporting tools: minimum wage↑, price controls (energy, rent, public transport); more progressive taxes & wealth tax
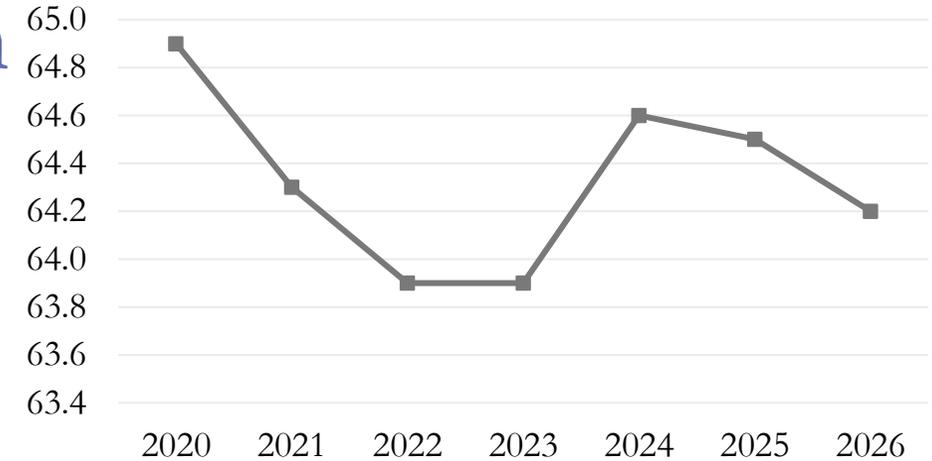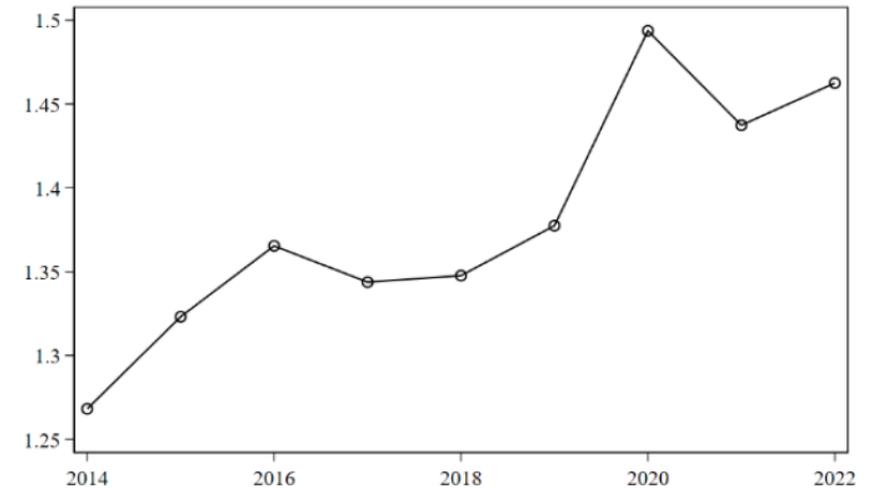   - Political reality…

Labour Share UK

Figure 1: Revenue-weighted average markup in the UK

Source: Guschanski, A. and Onaran, Ö. (2024) UK markups and profit margins during the pandemic and its aftermath, Working paper, Greenwich Papers in Political Economy.

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Policy implications: long-term

- Long-term context
    - Declining labour share, increasing wage inequality
    - Driven by: Declining bargaining power of labour → important, yet underappreciated
        - (Guschanski and Onaran 2022,2023; Rabensteiner & Guschanski, 2024)

- Policy: regain bargaining power
    - Union density, collective bargaining coverage can
        - increase the wage share (Guschanski and Onaran, 2022)
        - reduce wage inequality (Rabensteiner and Guschanski 2022)
    - Globalisation has negative impact in advanced and emerging economies
        - scope for international cooperation, in case the coordination failure can be overcome (Guschanski and Onaran, 2021, 2023)

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- Guschanski, A. and Onaran, Ö. (2023) Global value chain participation and the labour share: Industry-level evidence from emerging economies, *Development and Change*, 54 (1), 31-63.

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Part 2

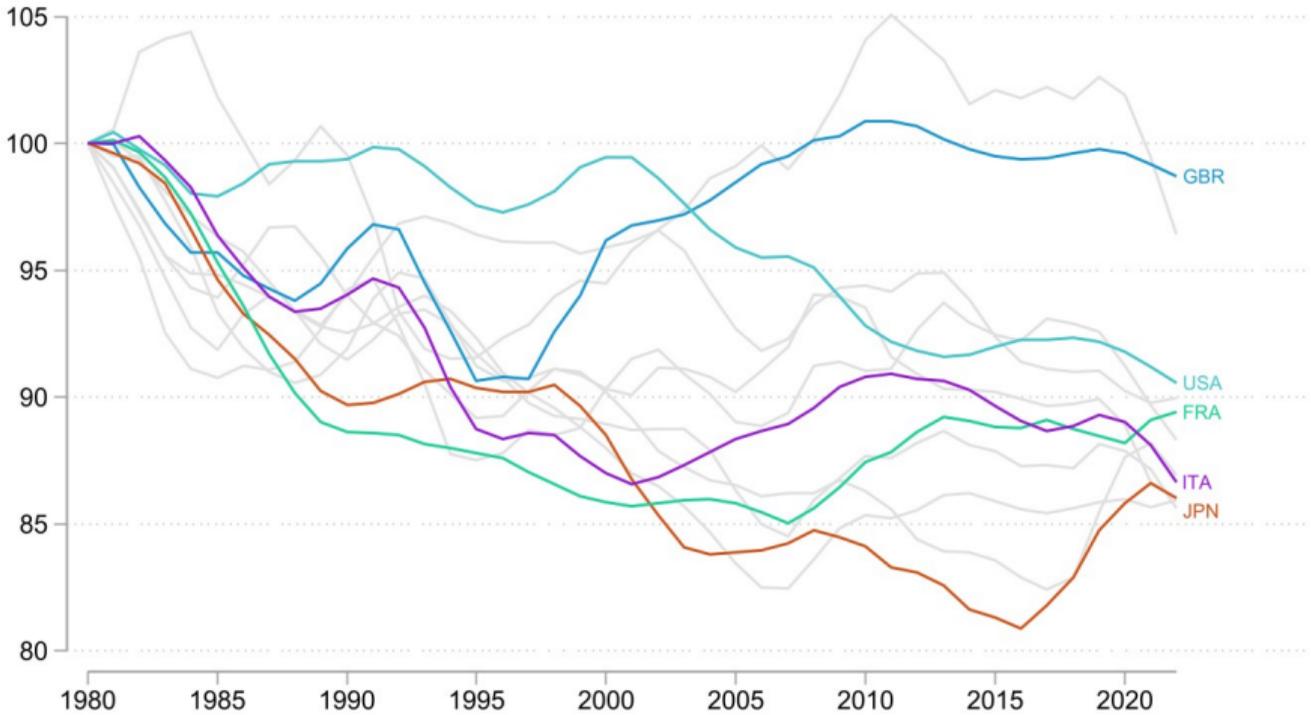Thomas Rabensteiner   Alexander Guschanski   Ben Tippet

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Wage share in selected high-income economies

1980 = 100, three-year averages

Source: AMECO, own calculations.
For each country, the figures shows the wage share trend relative to its 1980s level in that country.
Variable = Adjusted wage share: total economy: as percentage of GDP at current factor cost (Compensation per employee as percentage of GDP at factor cost per person employed).
Countries in the figure include Austria, Belgium, Denmark, France, Greece, Italy, Japan, Netherlands, Spain, Sweden, United Kingdom, United States.

UK: median wages have decoupled from productivity growth
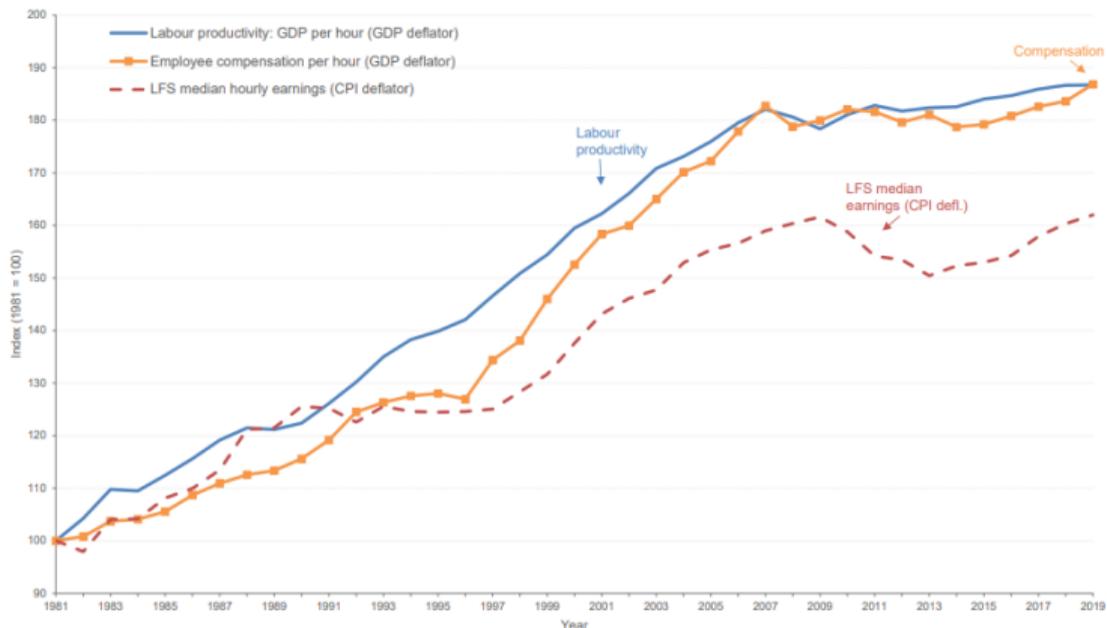
Note: *LFS, ONS, and OECD data (see Appendix for details). Values are shown as an index (1981=100). Labour productivity is total GDP divided by total hours worked deflated by the GDP deflator. Employee compensation is divided by total employee hours and also deflated by the GDP deflator. LFS median hourly earnings are deflated by the CPI deflator. We refer to the difference between the growth rates of labour productivity and average compensation as "net decoupling", and the difference between labour productivity and LFS median earnings as "overall decoupling".*

Wage share narratives

1. Technology: human labour is substituted by machines
   - Declining relative price of capital (Karabarbounis & Neiman 2014)
   - Automation as task replacement (Acemoglu & Restrepo 2021)
   - Technology determines inequality
   - Superstar firms (Autor et al. 2020) - technology $\rightarrow$ winner-takes-all $\rightarrow$ inequality

2. Bargaining/power relations
   - Labour market institutions (collective bargaining, unions, employment protection, strike laws)
   - Globalisation (offshoring threat)
   - Financialisation
   - References: Guschanski & Onaran 2021, Stockhammer 2017, Stansbury & Summers 2020, Benmelech et al. 2018, Cimenelli et al. 2020

- Guschanski and Onaran (2022):
  - Union density, labour market insitution, financialisation
  - Globalisation, global value chains hurt workers in advanced and emerging economies
  - Gender wage gap
- Not technological change
- Guschanski and Onaran (2024): firm-level analysis
  - dividend/interest payments, financial profits, linked to a fall in labour share
 - Not technological change

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What determines your personal income?

The most important factor determining your income is where you happen to have been born

Country of birth explains 60% of global income differences

Adding your parents' position in their country's income distribution:

Together these two factors explain 80-90% of income differences globally
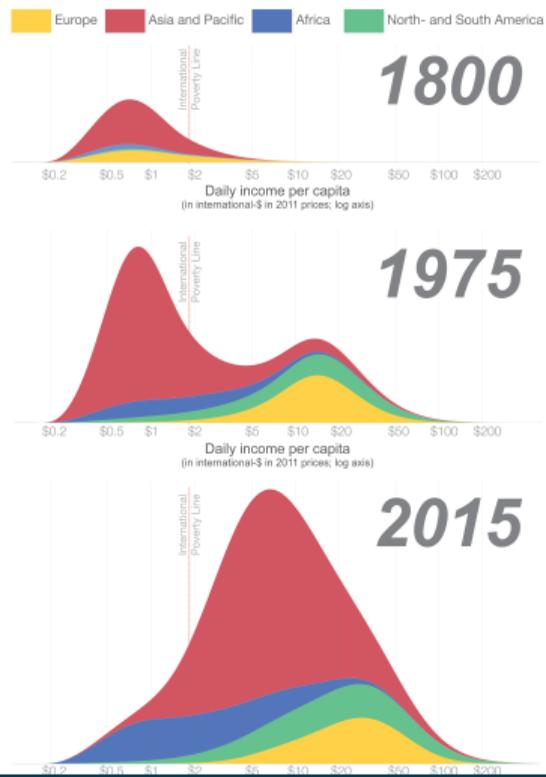
How are (hourly) wages determined?

Market-based explanations
- Productivity differences (human capital, skill, talents)
- Preferences (risk, effort, work-life balance)
- Reproduction time for skills
- Age, experience (job-specific skills)

Power relations
- Institutions, laws (minimum wage, unions, collective bargaining)
- Social norms, culture (de-valuation of care work)
- Employer power (monopsony) (Manning 2021, Robinson 1933)

Neoclassical labour economics

$w = MPL$

Supply and demand

Inequality:

- Productivity differences
- Preferences
- Skills, age, experience

- Methodological individualism: focus on individual choices

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Neoclassical labour economics

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Neoclassical labour economics: deviations

- Imperfect competition: $w \neq MPL$

- Monopsony (Robinson 1933)

- Efficiency wages (labour discipline) (Shapiro & Stiglitz 1984, Bowles 1986)

- Collective bargaining (Bhuller et al. 2022)

- But always "for workers of equal productivity"

Changing opinion among economists:

Do minimum wages substantially lower employment among low-wage workers?

- **1978** AEA Member Survey: **90%** agreed
- **1992** AEA Member Survey: **72%** agreed
- **2000** AEA Member Survey: **46%** agreed
- **2013** IGM Panel (**$9/hr**): **34%** agreed
- **2015** IGM Panel (**$15/hr**): **26%** agreed

Analysis of petition signers (O'Neill 2014):

Labor economists, recent PhDs *more* likely to support raising minimum wages

Post-Keynesian labour economics?

No specific pK view of the microeconomics of labour markets

Employment set in goods market (effective demand)

Most pK endorse views of institutionalist and industrial relations labour economists (Appelbaum 1979)

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Institutionalist/political economy perspective

- $w \neq MPL$
- Institutions, social norms, culture $\rightarrow$ bargaining power
- Labour market = conflict (Marx)
- Control and discipline
- But also persuasion and coordination (efficiency wages/labour discipline model)
- Collective bargaining institutions
  - unions, bargaining coverage, works councils, employer organisations, government
- Are class interests reconcilable?

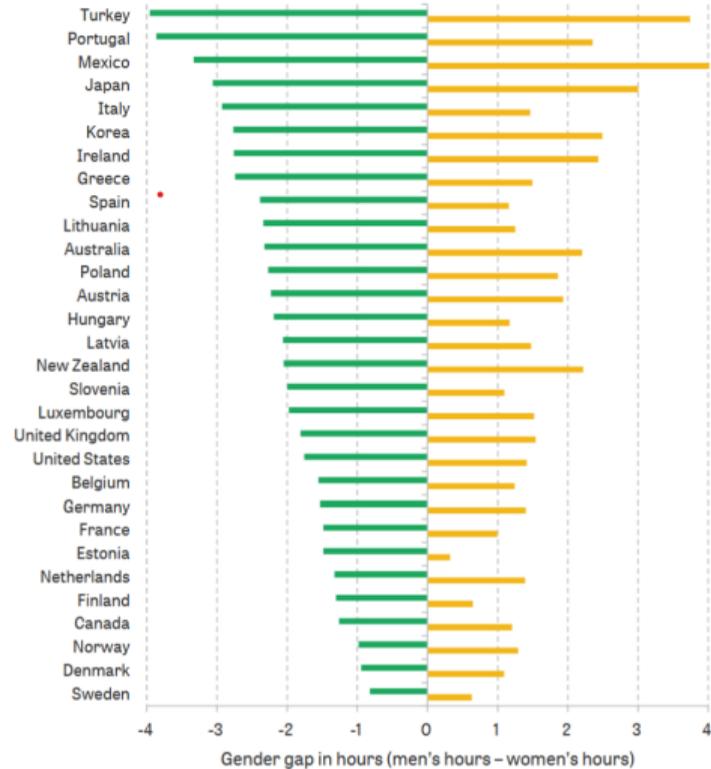# 7 principles of institutionalist labour economists (Kaufman 2004)

1. The labour market is the antithesis of a perfect market
   - Asymmetric information
   - Mobility costs
   - Externalities
2. These "imperfections" create unequal bargaining power
3. $w \neq MPL$, workers are usually underpaid
4. Labour markets unlikely to clear
   - lower wages are unable to reduce unemployment,
   - but reduce AD and hence employment
5. Work conditions matter (intensity, pressure)
6. Beyond efficiency: focus on equity and well-being
7. Behaviour is interdependent: relative comparisons/hierarchies
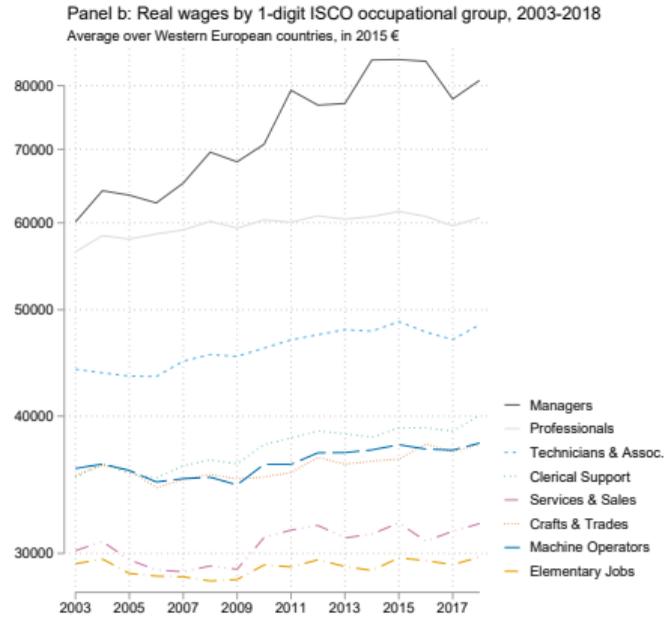
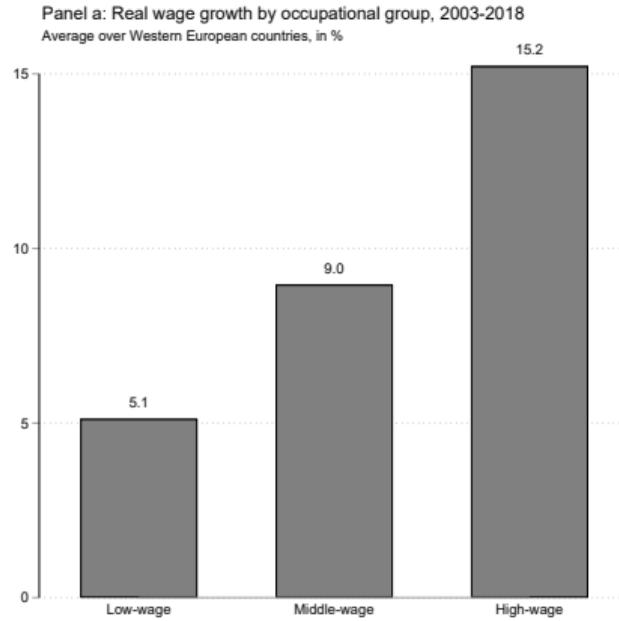   *Reproduction of labour power?*

Annual working hours per worker over time
1950-2017

Source: Our World in Data, 2024

Figure 1. Gender gap in labour market income across OECD countries (as % of male income)

Source: Andrew et al. (2023)

Figure 2. Gender gaps (male – female) in time spent on paid work and study, and unpaid work

Gender gap in hours (men's hours – women's hours)

Source: Andrew et al. (2023)

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Wages have diverged across occupations

Panel a: Real wage growth by occupational group, 2003-2018
Average over Western European countries, in %

Panel b: Real wages by 1-digit ISCO occupational group, 2003-2018
Average over Western European countries, in 2015 €

Source: Rabensteiner and Guschanski (2025), based on EU SILC data.

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Existing theories fail to explain European wage trends

- Routine-Biased Technological Change (RBTC):
  - Predicts wage polarisation: declining middle wages, rising top and bottom wages
  - Cannot explain stagnant wages for low-wage, non-routine occupations
- Our Explanation - Occupational Autonomy:
  - Workers' control over their work process and decision-making
  - High autonomy = higher bargaining power = wage premiums
  - Low autonomy workers: cleaners, janitors, guards, customer-facing service and sales workers, care workers
  - Theoretical foundation: labour discipline model, industrial relations, institutional labour economics
  - Predicts monotonic wage growth along distribution (not polarisation)
  - Drivers: outsourcing, monitoring, surveillance, and offshoring

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Rising returns for supervisors: Western Europe

Supervisory Wage Premium Over Time

Note: Own calculations using EU SILC data, 95% confidence intervals shown.

Research takeaways:

1. More autonomy = faster wage growth
2. Supervisory tasks = faster wage growth
3. Computerisation/automation and task offshoring cannot explain observed wage patterns
4. Correlations: more employee monitoring and outsourcing = higher increase in wage inequality
5. Minimum wages related to lower wage inequality

Policy implications:

- Focus on supporting low-autonomy/non-supervisory worker workers
- Minimum wage policies can reduce wage inequality
- Tackle monitoring/surveillance and outsourcing trends (AI?)

Research reflection

Identified

Interesting / Not Interesting

- Causal factors hard to isolate
- Mainstream:
  - Empirical turn: monopsony, firms have power, workers with similar productivity not get paid similar wages
  - But methodologically narrow
  - "Deviations" of perfect competition, little questioning of underlying theory
- Pluralism:
  - Social reality is complex, multi-causal
  - Theories: cover a broad spectrum of potential channels
  - Access to high-quality datasets $\rightarrow$ empirical testing of distinct theories

Labour markets in developing/emerging economies

- Informal labour markets

- Higher levels of income and wage inequality compared to high-income countries

- Tech. change favours high-skill labour (Goldberg and Pavcnik 2017)

- Urbanisation reduces poverty, emergence of middle class since the early 1990s have led to significant reductions in poverty rates

- Wage inequality: mixed trends over recent years

- Income inequality has declined in: Chile, Uruguay, Slovakia, El Salvador, Ecuador . . .

- General observation: lifting workers out of poverty often a larger concern than inequality

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Why should economists care about wage inequality?

Cost-of-living crisis

Wage inequality has been rising in US (and UK) since early 1980s

Other high-income countries with a lag

Distributional issues inherently interesting - political/policy implications

Distributional issues set agenda in labour, macro, trade, public economics

Perceptions of unfairness, injustice, exploitation

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Joan Robinson - Monopsony

- Robinson (1933): "There may be workers attached to the firm by preference or custom and to attract others it may be necessary to pay a higher wage."

- Workers may value jobs because of where they are as well as what they are (geography)

- Or social norms: care work - less flexibility

- Also used for explaining gender wage gaps

Technological change: skill-biased

- Perfect competition
- Relative supply of skilled workers increased (1940-2000) AND the skill premium increased
- Tinbergen: race between technology and education
- Bursts of supply and/or technologically-induced demand accelerations/decelerations cause skill premium to rise or fall
- Always skill-biased? 20th century evidence: new tech favours skilled workers

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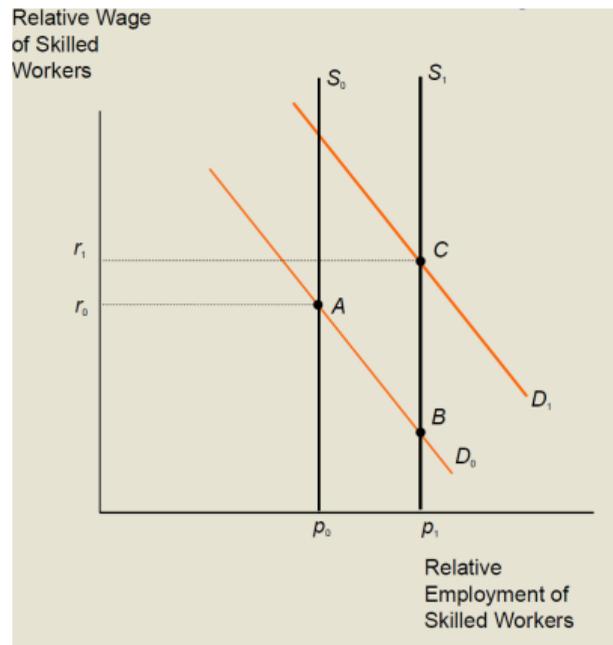
Technological change: routine-bias

SBTC limitations

Real wages of some workers stagnating

→ routine-biased technological change

RBTC (Autor et al. 2003):

Computer capital/automation
substitutes for humans in routine
tasks

Lower labour demand for routine jobs

Jobs affected: clerical, payroll,
accounting, human resources, and
basic legal tasks, productive and
operating jobs

Figure 1: Job Polarization: Ranking Occupations by Wages
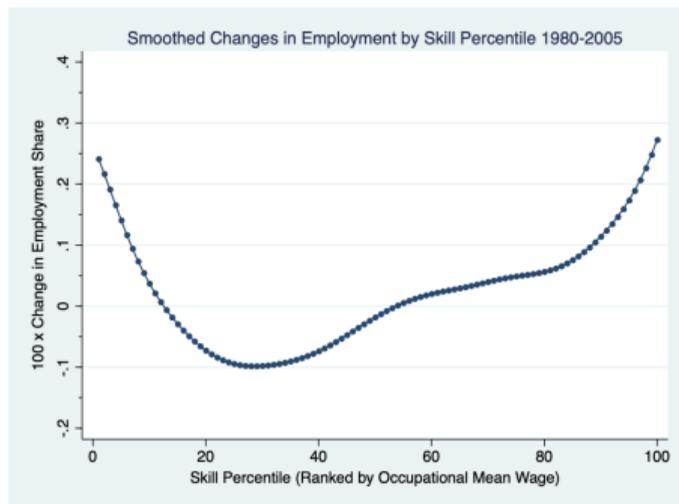
Notes: Smoothed changes in occupational employment share by wage percentile. This figure is reproduced from
Autor and Dorn (2013). See text for details.

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Technological change and offshoring

Globalisation: offshoring of jobs that do not require to be performed at specific domestic production sites

New technology (ICT) enables the relocation of tasks and jobs

Labour demand for offshoreable jobs ↓

Technological change ↔ task offshoring

Decrease in the demand for middle-skilled occupations

Jobs at risk from offshoring: IT jobs, production jobs

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Political economy angle on technological change

- Technological change may not improve productivity and living standards

- Deliberate strategy to control and discipline labour

- Division of labour, managerial control, monitoring of work process etc. (e.g. Marglin 1974)

- Technological change affects power across workers (and, hence, wages)
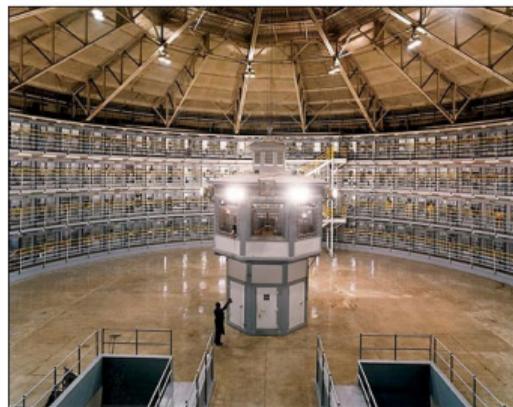
doug duBois & jim goldberg NYTimes 9-22-2002

Labour discipline model

- Marx: distinguishes labour and labour power: labour itself cannot be bought and hence lacks a price
- Instead, what workers sell is their labour power
- Firm problem: effective monitoring of workers
- Workers may shirk, sabotage, *quiet quitting*
- Employer solution
    - Pay higher wages than workers next best alternative → make getting fired costly (fear is what keeps them working) OR
    - police, supervise, monitor (Skott and Guy 2007)
    - Outsourcing (Weil 2014)
- Macro conditions matter: When unemployment too low, worker discipline weakens, insubordination towards employers rises (Kalecki, 1943)

Wage share
○○○○

Personal income
○

Wages
○○○○○○○

Working hours
○○○

Research insights
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Appendix: research
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Technological change: market or power?

Market view: how does tech complement/substitute different types of workers? which workers are becoming more productive?

Power view: technology as a tool to control and discipline workers

How to separate a pure skill-compensating effect of technological change from a pure monitoring-intensifying effect?

How to measure ease of monitoring workers?

Occupational autonomy

Low autonomy occupations: easy to monitor and discipline, low potential to disrupt → low bargaining power

Labour discipline model (Shapiro and Stiglitz 1984, Bowles, 1985), but already in Smith and Marx

> Skott & Guy (2007): Power-Biased Technological Change
> Weil (2014): Outsourcing
>> Technological change (ICT) → monitoring costs ↓ → Wages of 'monitorable' workers ↓
>
> Decline in labour market institutions adversely affects workers with low bargaining power (Farber et al. 2021; Guschanski & Onaran, 2022)

Our contribution:
> Empirically test the relationship between autonomy and wage growth
> Empirically test the role of institutions and technology

Wage share
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Personal income
◦

Wages
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Working hours
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High autonomy occupations are at the top of the wage distribution
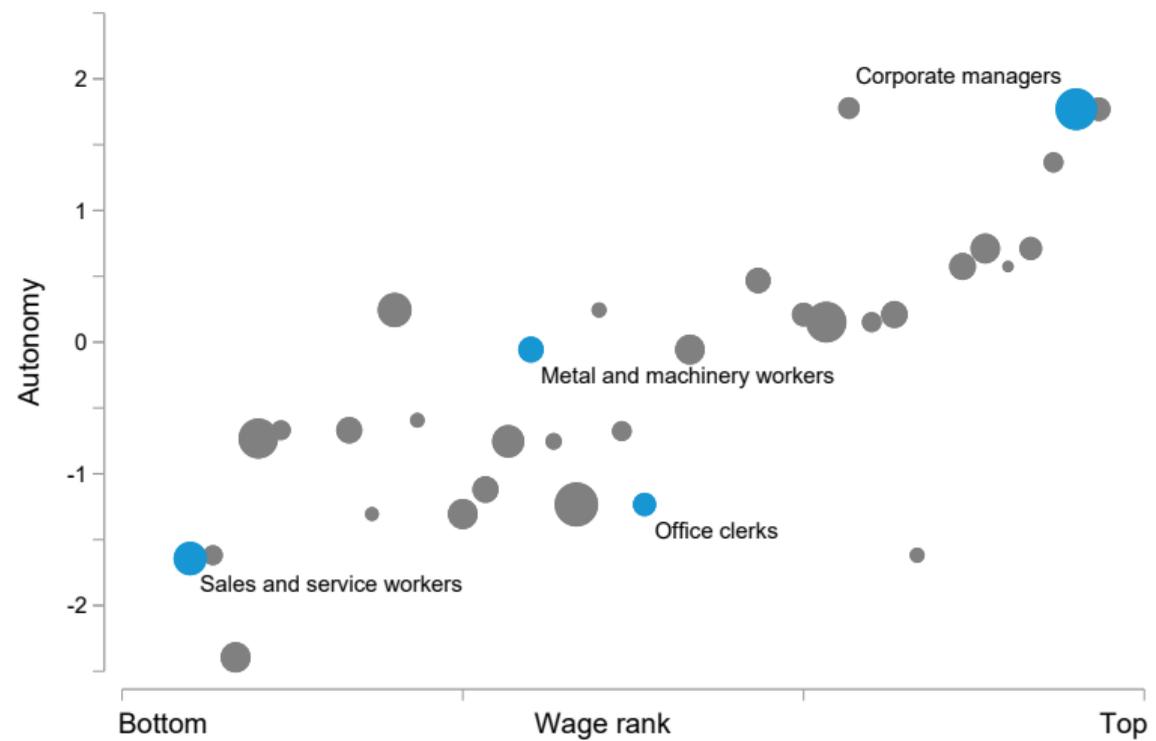
Wage data

European Union Survey of Income and Living Conditions (EU SILC)

Repeated cross-section, 800k observations

2003-2018, 15 countries; full-time, full-year employees, private sector only

Wage share
oooo

Personal income
o

Wages
ooooooo

Working hours
ooo

Research insights
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Appendix: research
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Empirical strategy

$$\ln\left(w_{ijkct}\right) = \beta_1(A_j \times t) + \beta_2(X_j \times t) + \mathrm{B}M_{ijkct} + \lambda_{jkc} + \theta_{kct} + \varepsilon_{ijkct}$$

$\ln\left(w_{ijkct}\right)$, Real wage of worker i in occupation j, industry k, country c, year t

A_j, Autonomy index

t, Linear time trend

X_j, Other task-based measures (routine, offshoreable)

M_{ijkct}, Demographic control variables (Mincer)

λ_{jkc}, Occupation-industry-country dummy

Economic interpretation

Wages in a mean autonomy occupation grow by 1%

Wages in a high autonomy occupation grow by 1.27%

Compounded over 12 years:

Wage level difference of 3.3% (if occupations have same initial wage level)

Wage share
○○○○

Personal income
○

Wages
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Working hours
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Research insights
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Appendix: research
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Higher wage growth in jobs with higher autonomy, 2003 - 2018
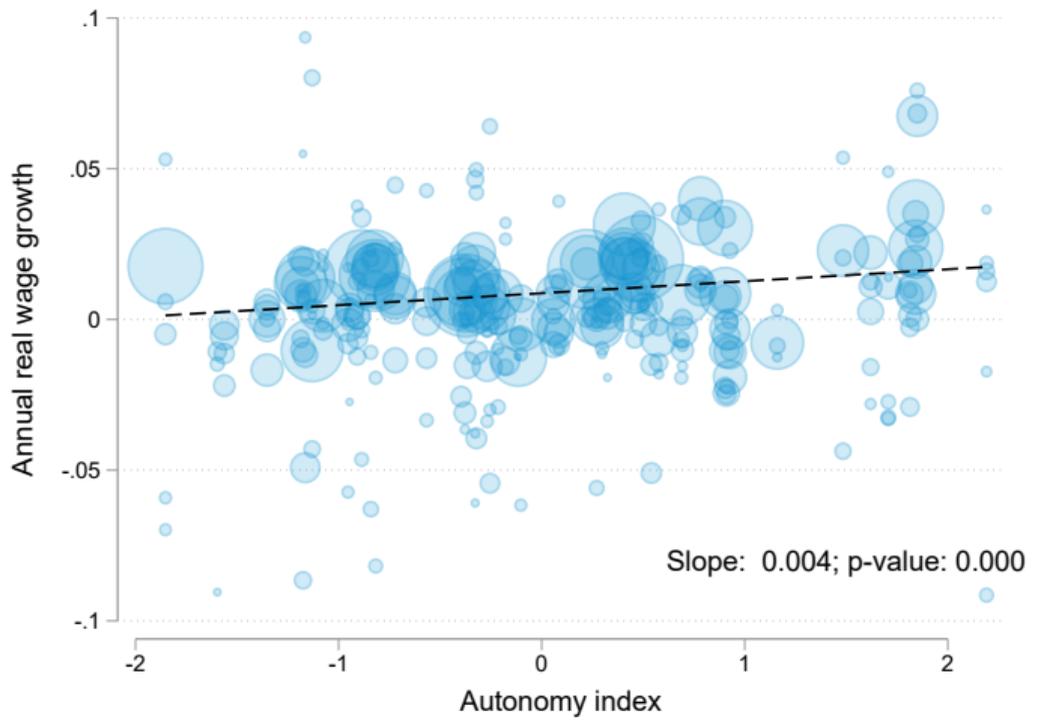
The linear fit is weighted by employment shares. Circle sizes represent employment shares.

Potential channels

Economic theory: technological change and institutions affect the relationship between autonomy and wages

Institutions

- Changes in labour market institutions

Worker monitoring

- New tech $\rightarrow$ monitoring (Skott and Guy 2007)

Outsourcing

- Weil (2014)

Data: ICTWSS, European Social Survey, European Working Conditions Survey, European Company Survey, KLEMS database

Implications

Policy

Collective bargaining: Strengthen worker coordination across occupations

Technology: re- and upskilling
(but can everyone have a high-autonomy occupation?) $\rightarrow$ direct tech change
towards creating *good* jobs

Research

Why do firms adopt digital technologies?

Employee monitoring or productivity improvements?

Why does the autonomy premium increase in high-bargaining countries?

Why do firms adapt digital technologies?

Firms use data analytics to improve the production process AND to monitor employees
Share of firms using data analytics for ... , by industry-country group
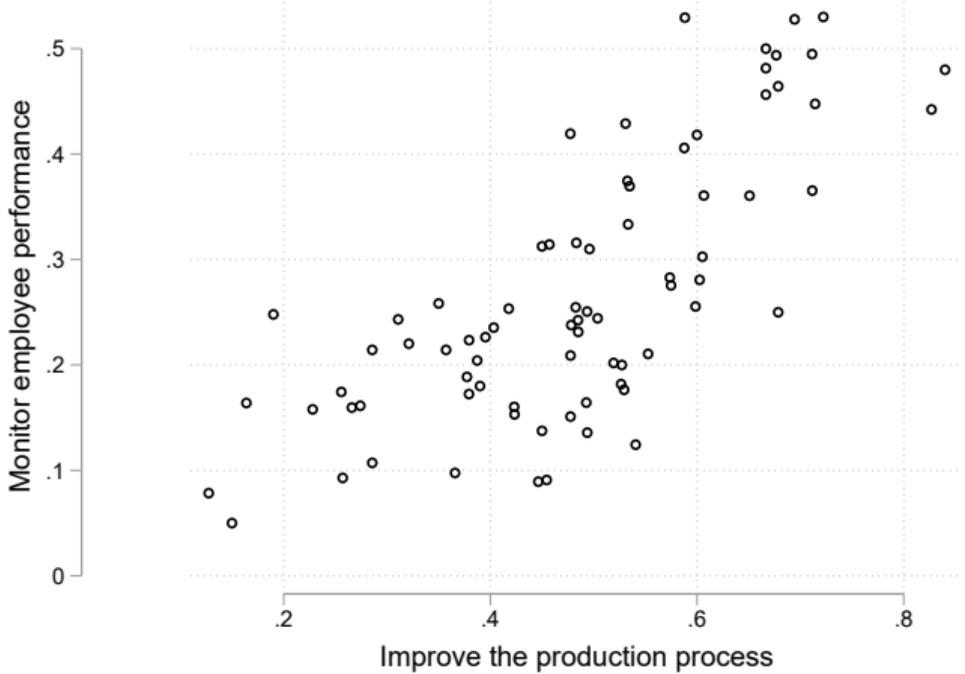
Wage share: theory

Theory	Main determinants of wage share	Additional factors
Neoclassical/New Keynesian	Technological progress C-L substitutability	Bargaining power; Competition
Keynesian/Kaldorian	Animal spirits Capitalist consumption	
Kaleckian	Degree of monopoly (bargaining power, competition, ...)	Overhead labour Technology
Marxian	Power (class struggle) Employment	Technology (power-biased)

Institutions

Union density, wage coordination, collective wage negotiations, union involvement in policy making, employment protection, minimum wage

Power vis-a-vis capital, but also among workers: unions compress wage distribution, restrain management pay

Unequal wage growth in Western Europe

Wage growth diverges across jobs
Real wage, in 2015 €

Managers + 34%

150.7%

95.7%

Service and sales workers + 4.8%

Source: Rabensteiner and Guschanski (2025), based on EU SILC data.

Motivation 2

Union density in selected high-income economies
1980 = 100, three-year averages
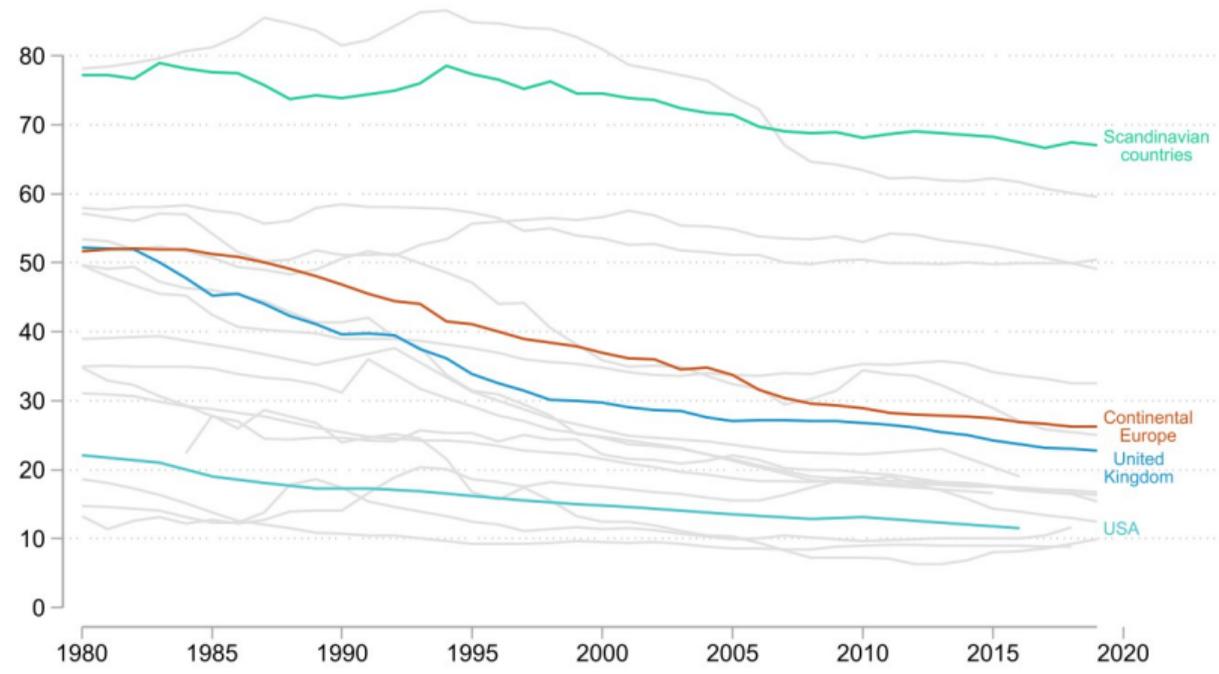
Source: ICTWSS, own calculations.

Literature and contribution

Changes in wage distribution across jobs

Automation (Autor et al. 2003, Acemoglu and Autor 2011)

Offshoring (Firpo et al. 2011)

Research gap:

Low-income occupations? (Mishel et al. 2013, Autor 2015)
Cleaners, janitors, guards, customer-facing service and sales workers, care workers

No power relationships
Power-biased technological change (monitoring, fissuring)

Deregulation of labour markets (decline in union density, bargaining coverage)

$\rightarrow$ Autonomy

Worker monitoring/surveillance

Improved monitoring:

Video cameras, GPS trackers, sensors

Call monitoring, eye tracking

Wearables, AI tools

Fissuring (Weil 2014)

Better monitoring $\rightarrow$ coordination costs $\downarrow$ $\rightarrow$ outsourcing

Occupational autonomy index

Key assumption: autonomy as inherent feature of an occupation

Measuring autonomy

- Making Decisions and Solving Problems
- Thinking Creatively
- Developing Objectives and Strategies
- Responsibility for Outcomes and Results
- Frequency of Decision Making

O*NET (Bureau of Labour Statistics)

Alternative measure from European Work Conditions Survey

Wage share
○○○○

Personal income
○

Wages
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Working hours
○○○

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The autonomy premium: monitoring, outsourcing and ICT

	(1) Ln wage	(2) Ln wage	(3) Ln wage	(4) Ln wage	(5) Ln wage	(6) Ln wage	(7) Ln wage
Autonomy	-0.0016 (0.0019)	0.0002 (0.0014)	-0.0019 (0.0026)	0.0001 (0.0020)	-0.0022 (0.0024)	-0.0028 (0.0022)	0.0024*** (0.0008)
Autonomy × Monitoring (country)	0.0161** (0.0064)						
Autonomy × Monitoring (industry)		0.0094** (0.0046)					
Autonomy × Outsourcing (any)			0.0100* (0.0053)				
Autonomy × Out. prod.				0.0078 (0.0057)		.	
Autonomy × Out. sales					0.0225** (0.0105)		
Autonomy × Out. design/dev.						0.0236*** (0.0088)	
Autonomy × Δ(ICT/GFCF)							0.0515** (0.0252)
Observations	733060	733060	733060	733060	733060	733060	638544
Occ.-ind.-country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ind.-country-year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cluster-robust SE	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: Standard errors in parentheses. All regressions include occupation-industry-country fixed effects and industry-country-year fixed effects. All regressions include demographic control variables in line with our baseline estimation. Standard errors are clustered by occupation-industry-country. All regressions use country-level interaction terms

The autonomy premium: LMI

	(1)	(2)	(3)	(4)	(5)
Autonomy	0.0032***	0.0032***	0.0029***	0.0031***	0.0031***
	(0.0007)	(0.0008)	(0.0005)	(0.0009)	(0.0006)
Autonomy × Δ (Min. wage/median wage)	-0.0235***				
	(0.0087)				
Autonomy × Δ (Min. wage/mean wage)		-0.0299**			
		(0.0121)			
Autonomy × Δ (Min. wage/median wage), all			-0.0217**		
			(0.0086)		
Autonomy × Δ Union density				0.0096	
				(0.0118)	
Autonomy × Δ CB coverage					0.0188
					(0.0122)
Observations	452013	452013	808122	808122	808122
r2	0.5882	0.5882	0.5450	0.5450	0.5450
Occ.-ind.-country FE	Yes	Yes	Yes	Yes	Yes
Ind.-country-year FE	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes
Cluster-robust SE	Yes	Yes	Yes	Yes	Yes

Notes: Standard errors in parentheses. All regressions include occupation-industry-country fixed effects and industry-country-year fixed effects. Standard errors are clustered by occupation-industry-country. All regressions use country-level interaction terms unless stated otherwise. Columns 1 and 2: These regression have a smaller sample size because countries without a minimum wage are excluded. In column 3 we include the remaining countries and assign these

The autonomy wage premium and gender inequality

The autonomy wage premium does not affect women and men differently

But women are more often employed in low-autonomy occupations

Share in low autonomy jobs in %

Bottom line

Higher occupational autonomy is related to higher wage growth

$\rightarrow$ Wage inequality increases

Collective bargaining: *lower* autonomy premium

Technological change: *rising* autonomy premium

Wealth inequality and the super-rich: to tax or not to tax?

Ben Tippet, Department of International Development King's College London

Tuesday 24th June 2025, PKES Summer School

Rising wealth to income ratios (WID, 2022)

Figure 8 **The rise of private versus the decline of public wealth in rich countries, 1970-2020**
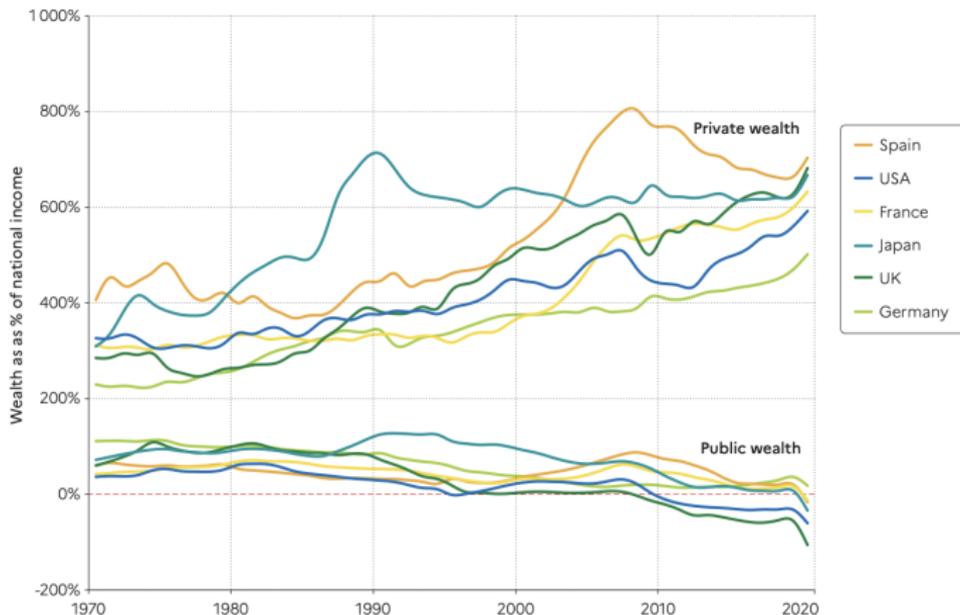
*Interpretation: Public wealth is the sum of all financial and non-financial assets, net of debts, held by governments. Public wealth dropped from 60% of national income in 1970 to -106% in 2020 in the UK. **Sources and series:** wir2022.wid.world/methodology, Bauluz et al. (2021) and updates.*

Top 0.001% Share of Wealth UK using STRL
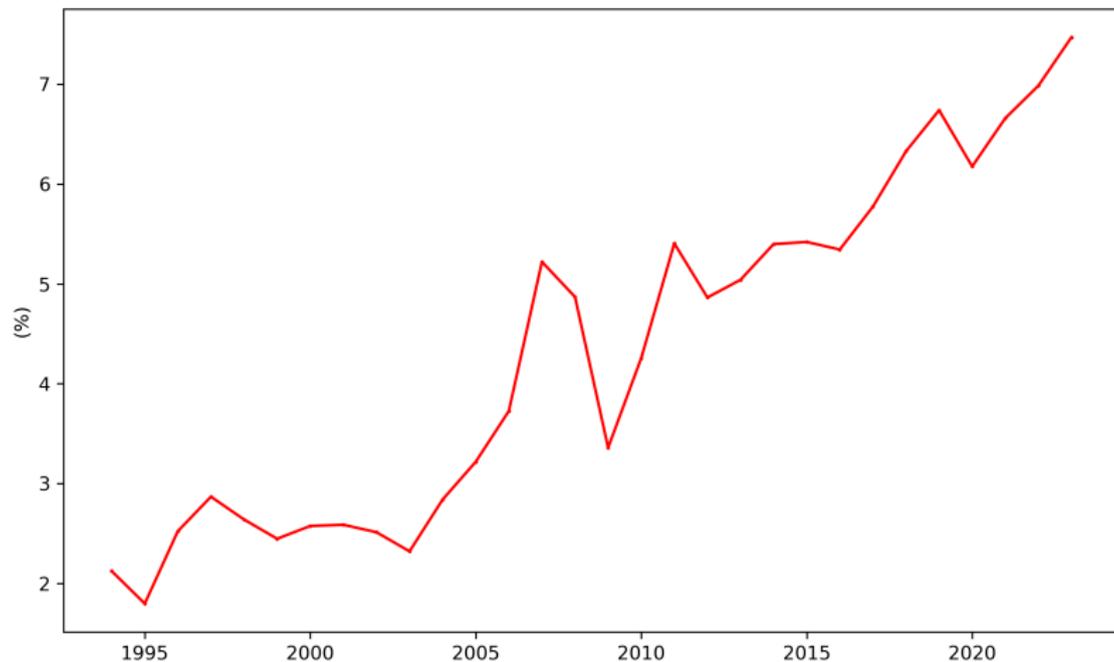
Rich list tax residents in 2025 represents roughly top 0.001% share (350/28,699,000)

Top 0.001% Share of Wealth USA using Forbes (Gomez, 2023)
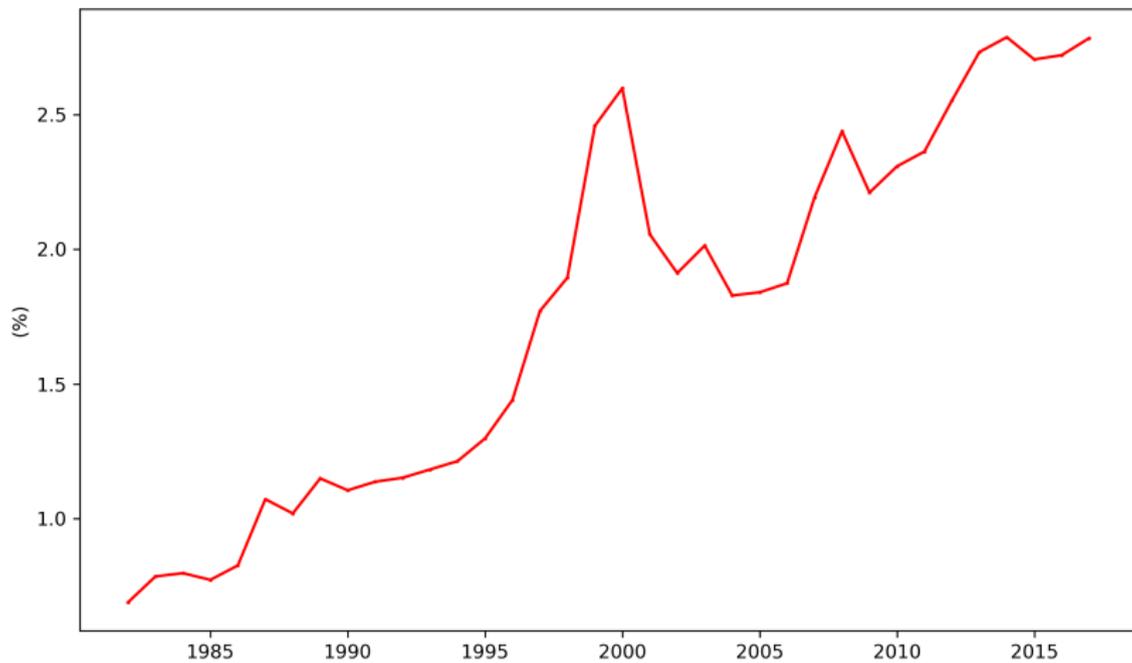
Policy discussion: should we implement a new wealth tax?

Policy discussion: should we implement a new wealth tax?

▶ PK: redistribution increases aggregate demand and/or funds social expenditure (Onaran, 2023)

▶ Mainstream: inequality is "inefficiency of the production of social utility" Atkinson (1970) but views on wealth taxes mixed

▶ Marxist: real progressive wealth taxes are utopian and their advocates don't have a theory of the state (Varoufakis, 2014)

▶ Ecological: wealth taxes can fund green new deal (Kapeller et al., 2023); high emissions of the wealthy (Chancel, 2023) although with limited consumption effects

Wealth tax: definitions

- Tax on the stock of net wealth: assets minus liabilities
- Tax base
  - Property (first and second homes)
  - Business
  - Pension
  - Financial
  - Physical
- Valuation: Open market valuation – the price the assets would expect to fetch if sold on the open market

Composition of UK wealth from survey data
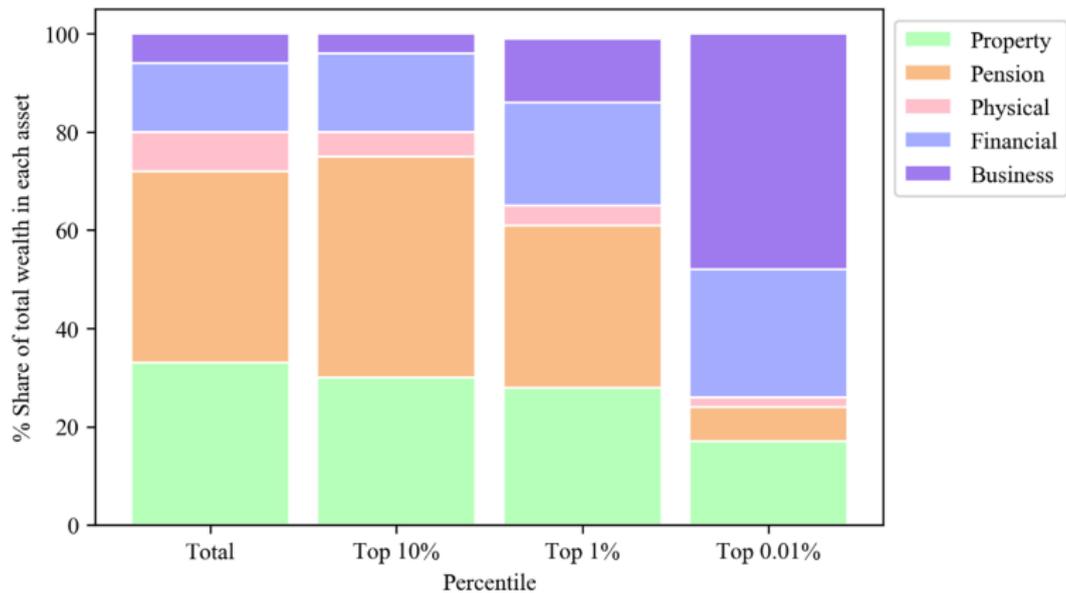
What threshold?

- Threshold is the level of wealth where the tax starts:
    - Suppose the threshold is £10m and a person has £30m in wealth
    - Only £20m of their wealth will be taxed (£30m - £10m)

- Examples of thresholds:
    - Norway: £125,428
    - Spain: €3,000,000
    - Switzerland: 111,060 swiss francs
    - UK Wealth Tax Commission proposal: £500,000
    - Progressive campaigning organisations: £10m

- Go high or low?
    - Low threshold increases revenues and taxes less mobile wealth but ...
    - ... causes liquidity problems and administrative costs

What tax rate?

- ▶ The rate at which the stock of wealth is taxed (above threshold)
    - ▶ Suppose the threshold is £10m, a person has £30m in wealth and the tax rate is 2%
    - ▶ Tax revenues = £20m x 0.02 = £400,000

- ▶ Examples of thresholds:
    - ▶ Norway: flat at 1.1%
    - ▶ Spain progressive: progressive with top tax rate (over EUR10m) 2.5%
    - ▶ UK Wealth Tax Commission: 5%
    - ▶ UK Progressive campaigning organisations: 2%
    - ▶ Thomas Piketty - 90% above €2bn

- ▶ Go high or low?
    - ▶ High thresholds generate more revenues and more redistributive but ...
    - ▶ ... causes more liquidity and tax avoidance/evasion

How often? Annual vs one-off

▶ Annual: tax the stock of wealth every year

▶ One-off: implemented once in response to some shock

▶ Trade-offs:
  ▶ One-off is less susceptible to tax evasion and avoidance (O'Donovan, 2020)
  ▶ One-off raises less revenues and is less effective at reducing wealth inequality

What are the arguments against an annual wealth tax?

- ► Tax avoidance/evasion: won't the wealthy just leave?

- ► Liquidity: asset rich / cash poor

- ► Past failures: haven't most wealth taxes failed?

- ► Valuation: can we properly value business assets?

- ► Political reaction: is the fight necessary?

Tax avoidance/evasion

- How could the wealthy evade a wealth tax?
    - Give up citizenship/residency
    - Fragmentation
    - Hide assets abroad (illegal)
    - Give up ownership in a trust

- Solutions?
    - Exit tax/fee
    - Invest in tax authorities capabilities (HMRC)

- Is the threat of leaving overblown?
    - Mismatch between media reporting and academic research
    - UK 'exodus' of millionaires featured in 10,900 articles (30 a day) based on Henley Private Wealth Migration Report's
    - The report found that 9,500 millionaires left UK in 2024 (out of $3,061,553 = 0.31\%$)

Empirical evidence on behavioural resposnes

Table 1: Behavioral responses to wealth taxation: an overview of the literature

Authors	Country	W. bracket	Time	Elast.	Identification
Londoño-Vélez and Ávila Mahecha (2021)	COL	top 1%	1 year	0.6-2%	Bunching at tax notch
K. Jakobsen et al. (2020)	DEN	top 1-2%	8 years	1-11%	DiD (tax schedule)
Agrawal et al. (2023)	ESP	top 1%	6 years	8-10%	DiD (municipal tax rates)
Duran-Cabré et al. (2019)	ESP	top 1%	4 years	15-32%	DiD (tax schedule)
Garbinti et al. (2023)	FRA	top 3%	5 years	0.5%	Dynamic bunching
Zoutman (2018)	HOL	n.a.	4 years	12-14%	DiD (tax schedule)
Alstadsæter, Bjørneby, et al. (2022)	NOR	top 10%	2 years	6.6%	DiD (tax schedule)
Iacono and Smedsvik (2023)	NOR	top 10%	2 years	66%	DiD (municipal tax rates)
Ring (2020)	NOR	top 10%	5 years	0.05%	Boundary DD
Seim (2017)	SWE	top 4%	n.a.	0.3%	Bunching at tax kink
Brülhart, Gruber, Krapf, and Schmidheiny (2016)	SWI	top 34%	5 years	34%	DiD (canton tax rates)
Brülhart et al. (2022)	SWI	top 34%	5 years	18-43%	DiD (canton tax rates)

Note: This table is adapted from Table 2 (page 115) in Brülhart et al. (2022), and updated with the latest references in the literature on behavioral responses to wealth taxation. It is in alphabetical order with respect to countries. Wealth bracket indicates the share of wealth owners that is affected by the reform studied. Time indicates the time horizon post-reform. Elasticity refers to the semi-elasticity of taxable wealth to changes in the tax schedule or tax rates. Notice that semi-elasticities are expressed as percentage effect on taxable wealth of a 1 percentage point wealth tax cut.

(Iacono and Smedsvik, 2023)

Against a Wealth Tax: Liquidity

- Who are the asset rich but cash poor?
    - Farmers
    - "Small" business owners
    - Elderly widowers in family home
    - Owners of country houses

- Solutions?
    - High thresholds
    - Sale of asset to pay for tax
    - Payment in specie (already exists for IHT)

Wealth Tax Decline Over Time

FIGURE 1: NUMBER OF OECD COUNTRIES LEVYING INDIVIDUAL NET WEALTH TAXES OVER TIME
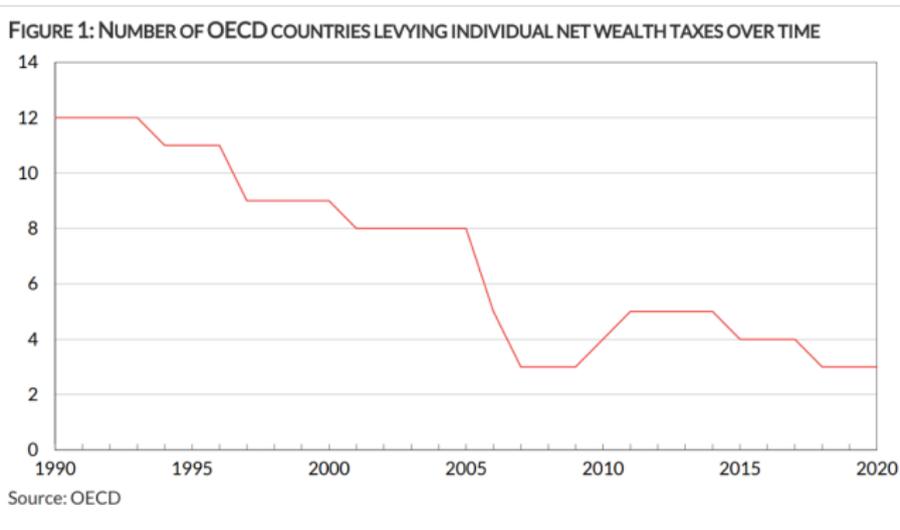
Source: OECD

Figure: Number of OECD countries levying individual net wealth taxes over time. Source: OECD

Against a Wealth Tax: Past Failures

- Number of countries with wealth tax declining
- Failure followed similar pattern:
    - Low threshold includes many households
    - Excluded some assets due to political/liquidity reasons (e.g. first homes, business assets)
    - Wealthy buy up these assets
    - Undermines effectiveness of tax

- Solutions?
    - Broad tax base: no exemptions
    - High tax thresholds

An annual 2% wealth tax above £10m?

- Many UK campaign groups pushing for a 2% wealth tax above £10m
  - Would this actually reduce wealth inequality?
  - How much money woud it raise?

- Tax simulation of new longitudinal rich list dataset from 1994 to 2025
  - Annual! Applied every year
  - Only the tip of the ice-beg: the top 230-822 people vs 20,000 people with wealth above £10m
  - Assume wealth after tax grows at the same rate as without the tax
  - Exodus: 20% of dynasties permanently leave the UK in 1994
  - Only tax residents: 287 out of 350 2025 families

New Longtidunal Sunday Times Rich List Dataset

- 1994 to 2025
- Link families over time using their names
  - Multiple Anthony Todd, Peter Jones, Simon Clarke, Peter Dawson, Chris Evans, Andrew Page and John Reeces!
- Linearly impute missing wealth
- Generated a tax residency indicator from magazine, Companies House and Googling

"If you can actually count your money, you're not really a rich man."

Cheltenham & Gloucester Building Society

We're can to make you richer.

Top UK Wealth Shares Different Sources
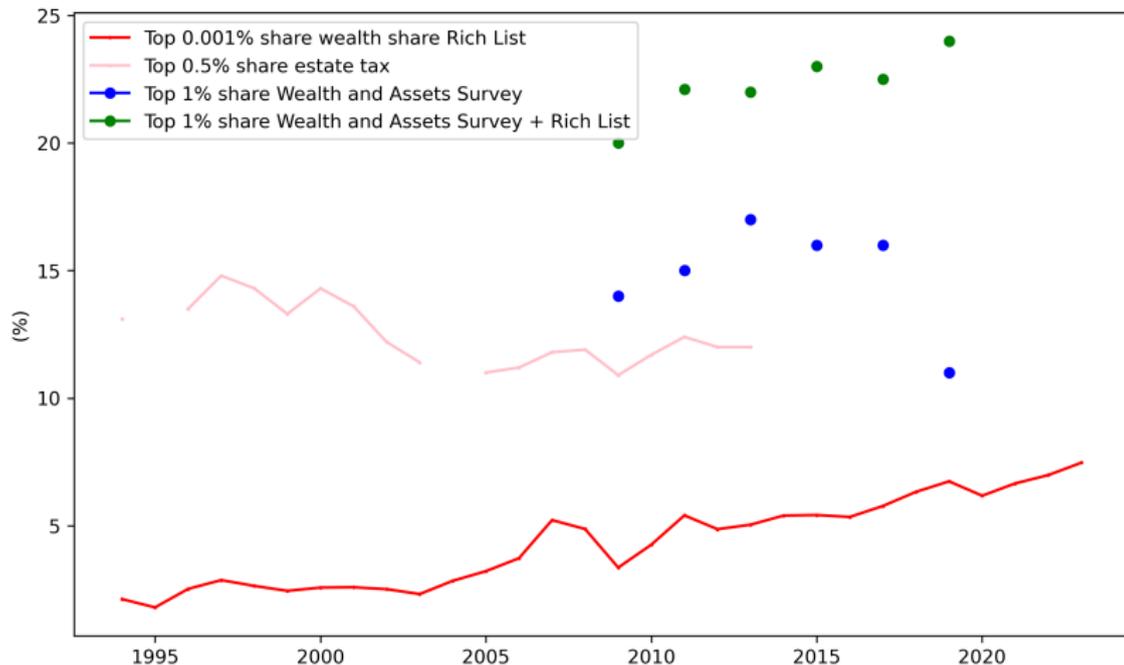
Source for estate tax data (Alverado et al,. 2018)

The impact of a 2% annual wealth tax on top 0.001% wealth share

Effect of Wealth Taxes on Top 0.001% Wealth Share

Legend:
- No tax
- 2% tax above £10M with 20% leaving country in 1994

Y-axis: Top 0.001% wealth share (%)
X-axis: Year
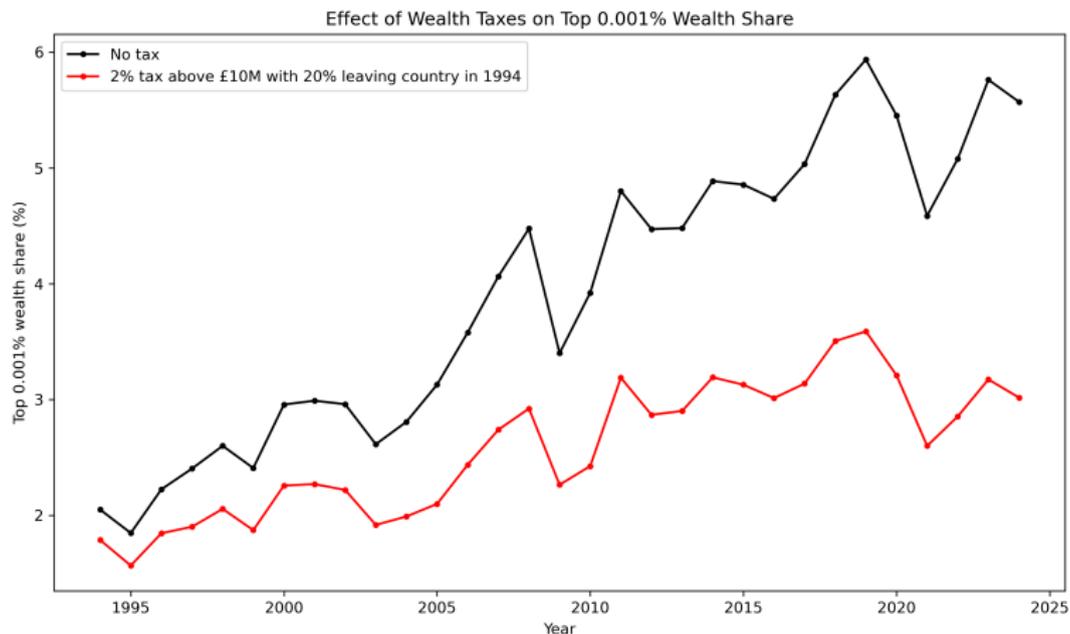
How much would an annual 2% wealth tax on the STRL raise?

▶ £160 billion worth of tax revenues over last 32 years (£5bn a year)

▶ If the government had invested those revenues it would now have a national wealth fund of £317bn and tax revenues over and have spent £50bn

▶ A £317bn wealth fund is roughly a quarter of the size of the Norwegian sovereign wealth fund at £1.3trillion - the largest in the world.

Hinduja dynasty

Hinduja Dynasty

Westminster dynasty
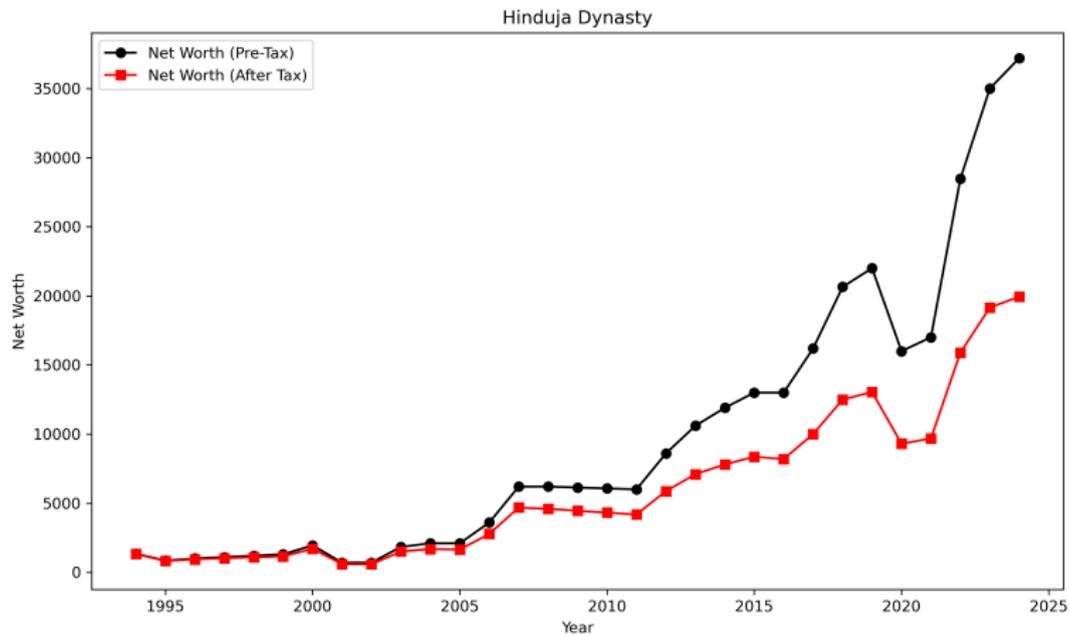
Duke of Westminster Dynasty
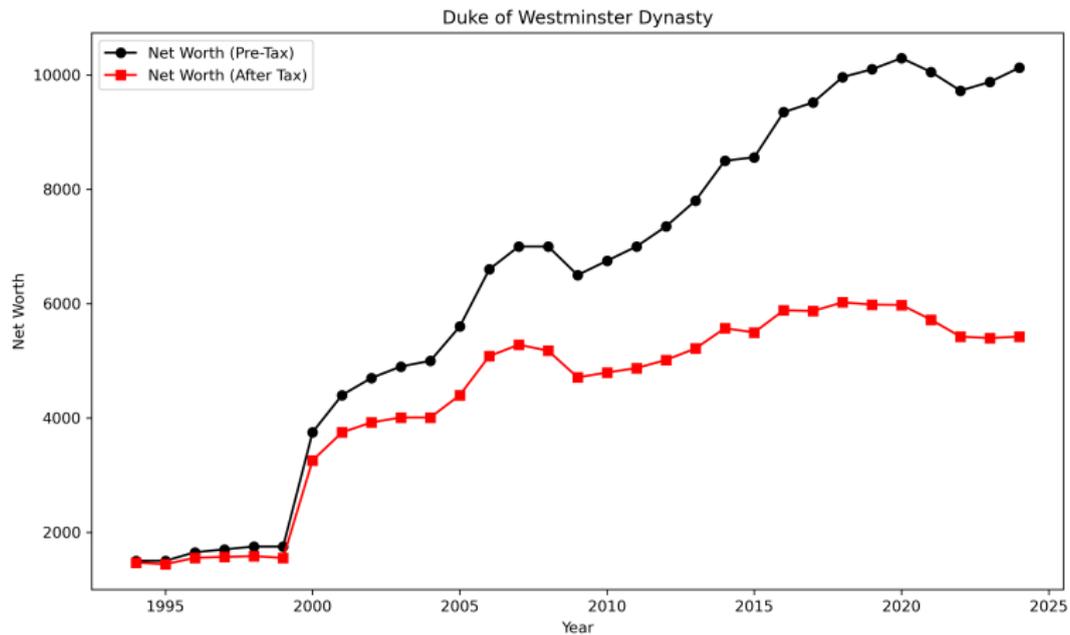
Rausing dynasty

Rausing Dynasty
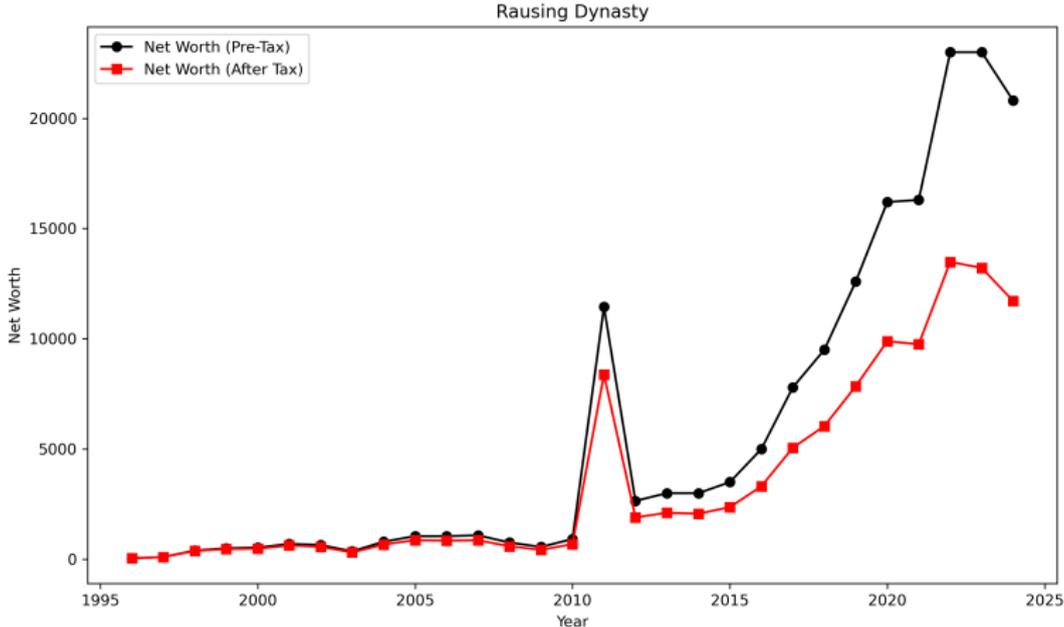
Ratcliff dynasty
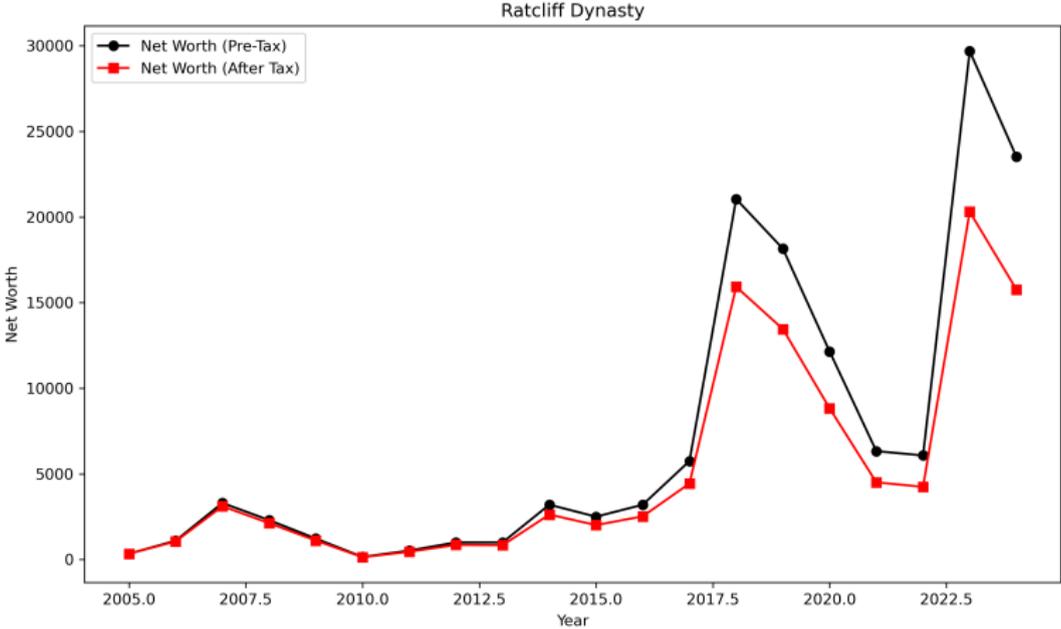
Conclusion

- ▶ Wealth taxes are an effective tool to redistribute wealth and raise government revenue but tradeoffs involved in design

- ▶ UK campaigners are pushing for annual, high threshold (£10m) and low rates (2%)
    - ▶ Easier to administer
    - ▶ Less liquidity problems
    - ▶ Unknown capital flight effects
    - ▶ Substantial but not revolutionary revenues:
        - ▶ £160bn over 32 years (£5 billion a year)
        - ▶ £317bn in a sovereign wealth fund and an additional £50bn day to day spending
        - ▶ Just top 230-822 people (out of 20,000). Full 20,000 people estimate around £24bn a year
    - ▶ Limited impact on inequality although some dynastic fortunes substantially hit

APPENDIX

PK Literature on Wealth Inequality

- ▶ Distribution is a key hallmark of PK models
- ▶ Modelling of wealth more recent:
- ▶ Impact of wealth inequality on demand (Ederer and Rehm, XX; Palley, XX; Onaran, XX;)
    - ▶ SFC models (Dafermos,
    - ▶ Minskyian cycles
- ▶ Related wealth inequality literature
    - ▶ Pareto models
    - ▶ Empirical debates (Piketty etc)
    - ▶ Mainstream models (see XX for an overview)
    - ▶

Exemptions

TABLE 1: TREATMENT OF ASSETS UNDER CURRENT AND PAST WEALTH TAXES

Exemptions

Figure 1. Existing wealth tax revenues as a percentage of GDP