Income Inequality & the Cost of Living Crisis

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Outline

- Short-term: The cost of living crisis & inequality
- Long-term: Declining bargaining power of labour
  - Decline in the wage share: Theory & Empirics
  - Wage inequality: Theory & Empirics
- Summary
- Policy implications

The cost of living crisis

- Q1 2021-Q4 2022: Consumer Prices Index (CPIH) ↑ 14%
    - Main contribution: Housing, water, electricity, gas and other fuels, transport & food (ONS)
- Nominal wages don't keep up → real wages fall
    - Q1 2021-Q4 2022: regular pay ↓ -3.2% (ONS)
- Policy response:
    - Chancellor Jeremy Hunt warns unions not to jeopardise Britain's recovery
    - Andrew Bailey: Workers should "think and reflect" before asking for pay rises
- What is the role of profits?

Inflation decomposition UK
(based on Bivens 2022, Unite 2022)

- pY=wL+rK
  - p=prices; Y=GDP; L=Labour; w=nominal wages; r=profit rate; K=capital, $p = \frac{wL}{Y} + \frac{rK}{Y} =$ unit labour costs(ULC) + unit profits

$$\hat{p} = \underbrace{\widehat{\left(\frac{wL}{Y}\right)}\frac{wL}{pY}}_{\text{contribution of ULC to inflation}} + \underbrace{\widehat{\left(\frac{rK}{Y}\right)}\frac{rK}{pY}}_{\text{contribution of unit profits to inflation}}$$

Q1 2021-Q4 2022: 18% 54%

- The rest driven by changes in taxes & other income (self-employed)
- Q1 2021-Q4 2022: Labour share ↓ (-2.8%) & Profit share ↑ (10.3%)
- This is a snapshot in an ongoing process → long run important

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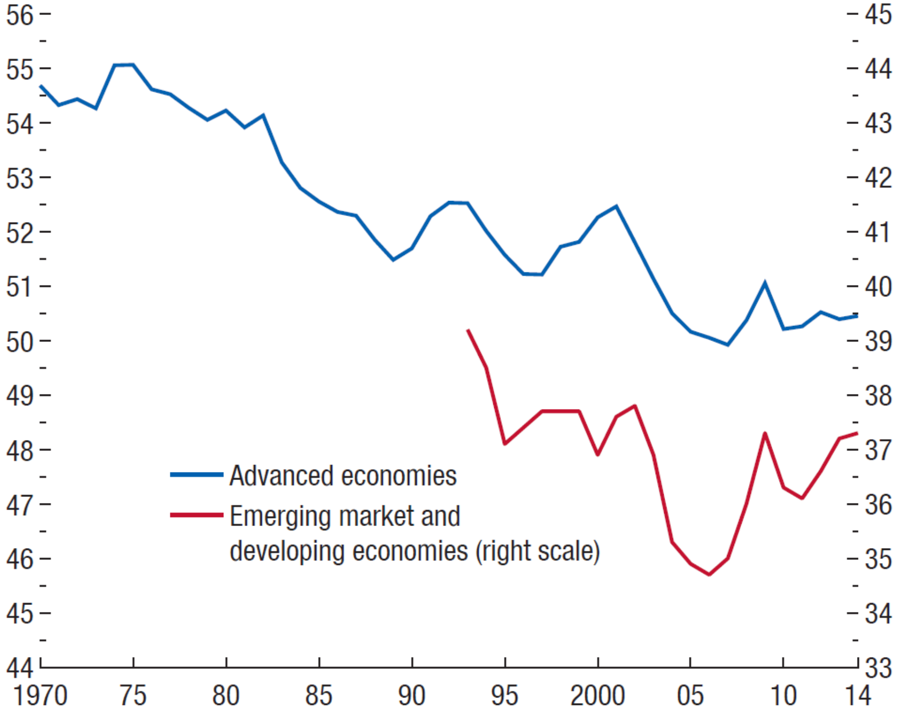
Long-term: Declining bargaining power of labour

Declining Wage Share

The labor share of income has been on a downward trend in both advanced economies and emerging market and developing economies.

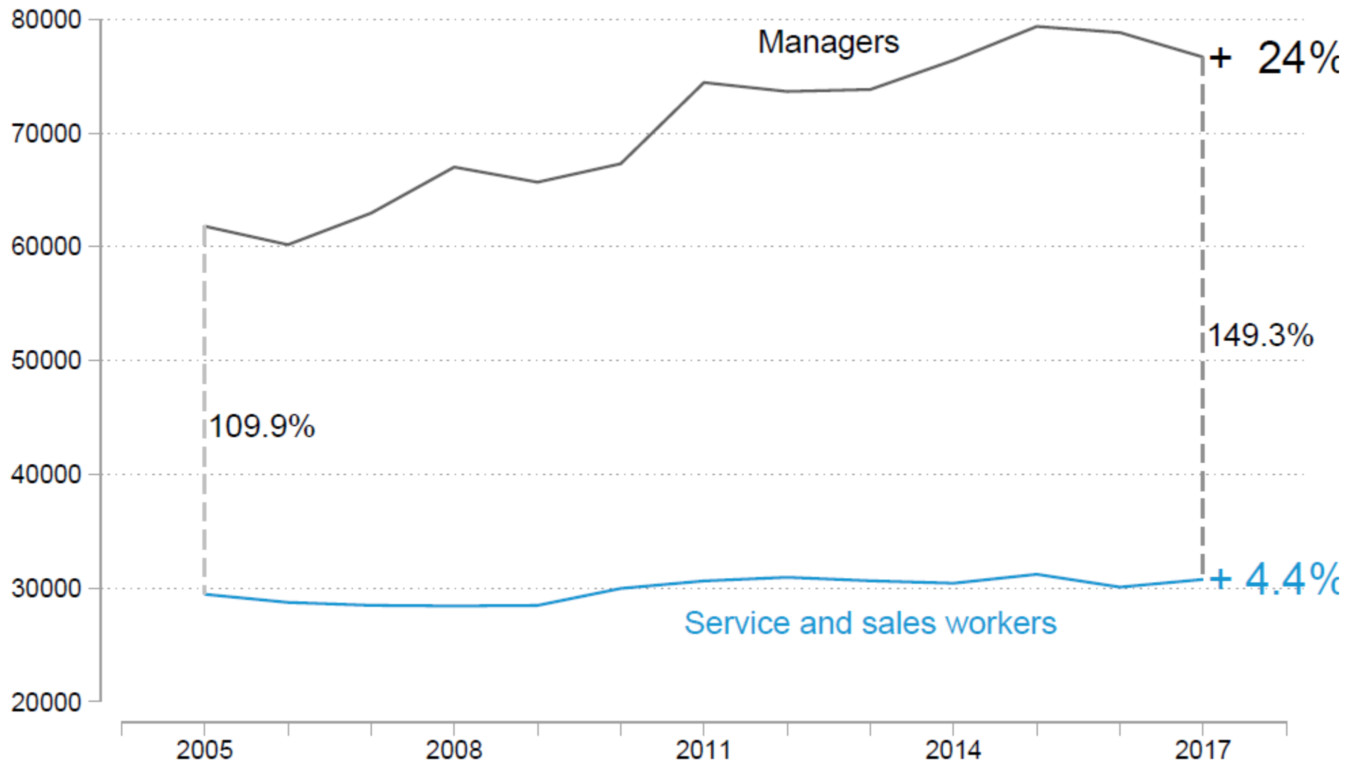


Sources: CEIC database; Karabarbounis and Neiman (2014); national authorities; Organisation for Economic Co-operation and Development; and IMF staff calculations.

Increasing Wage Inequality

Wage growth diverges across occupations

Real wage, in 2015 €



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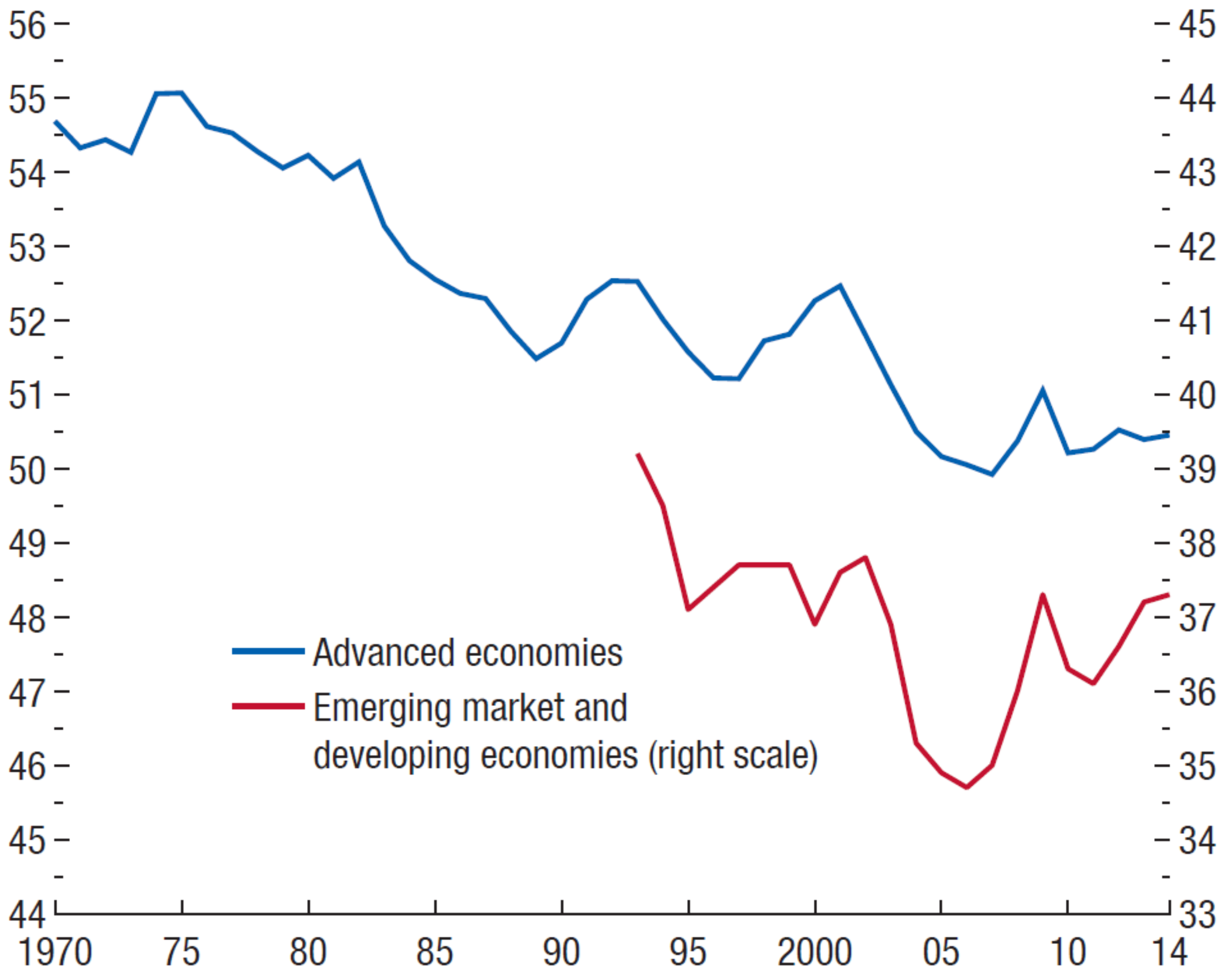

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Theories of Functional Income Distribution

- 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

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General framework for discussion

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

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 (Lavoie, 2023)

A neoclassical model

- Profits: $\pi = pY - f_0 - wL$
- FOC for profit max: $\frac{d\pi}{dL} = p\frac{dY}{dL} - w = 0 \leftrightarrow \frac{dY}{dL} = \frac{w}{p} = w_r$
- Wage Share $= \mathrm{S_L} = w_r\frac{L}{Y} = \frac{dY}{dL}\frac{L}{Y} = \frac{dY}{Y}/\frac{dL}{L}$ = Labour elasticity of output
- Exact definition depends on production function
- Cobb-Douglas: $Y = AL^{\alpha}K^{1-\alpha} \rightarrow \frac{\partial Y}{\partial L} = A\alpha\left(\frac{K}{L}\right)^{1-\alpha} \rightarrow \mathrm{S_L} = \alpha$
- CES: $Y = [b.(AK)^{\rho} + (1-b).(BL)^{\rho}]^{\frac{1}{\rho}}$

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

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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: α = constant
  - CES: $S_L = f(A, \frac{K}{Y})$
- 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 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

A Kaleckian model

- Kalecki: effective demand & imperfect competition
- Distribution determined by cost structure and the pricing behaviour
  → assume simple mark-up pricing
- $\mathrm{p} = (1+\theta)\mathrm{UVC}$

  p = price; θ = mark-up; $\mathrm{UVC} = \frac{\mathrm{wL}}{\mathrm{Y}}$ = unit variable costs
- $\mathrm{p} = (1+\theta)\frac{\mathrm{wL}}{\mathrm{Y}} \rightarrow \frac{1}{(1+\theta)} = \frac{w}{p}\frac{\mathrm{L}}{\mathrm{Y}} = S_L$

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

Why did the wage share decline?

- Different theories → different empirical hypotheses
- Empirical evidence

Why did the labour share decline?

Pluralism

Three main narratives

1. Human labour is substituted by machines
   - Declining relative price of capital (Karabarbounis & Neiman 2014)
   - Automation as task replacement (Acemoglu & Restrepo 2021)
   - 'Inequality is natural consequence of technological progress'
2. Bargaining relations (Guschanski & Onaran 2021, Stockhammer 2017, Stansbury & Summers 2020)
   - Changes in labour market institution [strike laws – immunities(!), collective bargaining coverage, union density, gender, race]
   - Globalisation – in capital (offshoring) and labour (migration)
   - Financialisation
3. Changes in concentration
   - Superstar firms (Autor et al. 2017)
   - Monopsony power (Benmelech et al. 2018)

neoclassical

Marxian/ Kaleckian

Various approaches

Empirical evidence
(with Ozlem Onaran)

- We find that the reasons for decline in the wages share are:
  - Mainly political → labour market institutions (union density) & financialisation
  - Globalisation & Global value chains → hurts workers in advanced & emerging economies
  - Gender wage gap: female workforce participation↑ → wage share↓
  - No effect of migration
  - Technological change: not able to explain decline in the wage share
  - There is nothing "natural" about increasing income inequality

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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

Policy implications I

- Short term: cost of living crisis
  - Workers have been losing out:
    - Price increase since 2021 Q1: 18% ULC vs 54% unit profits
    - Regular pay↓, executive pay/ bonuses↑ → wage inequality ↑
- Policy of the day
  - Contractionary monetary policy
  - Wage suppression (Domash & Summers, 2022)
- Instead
  - Proper windfall tax & transfer payments (Wildauer, Kohler, Guschanski, Aboobaker, 2023)
  - Supporting tools: minimum wage↑, price controls (energy, rent, public transport); more progressive taxes & wealth tax
    - Political reality…

Policy implications II

- 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, 2022)
- 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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