The Political Economy of Income Distribution

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Structure

1. What inequality?
   - Personal and functional income distribution
2. Different theories of income distribution
   - Neoclassical vs Keynes vs Kalecki vs Marx
3. Why did income inequality increase? Empirical evidence
4. Income distribution in times of COVID-19
5. What can we do about it?

What inequality?

Personal and functional income distribution

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GDP = 100$

40$

60$

Top 10% of the population

Bottom 90% of the population

$$\text{Wage Share} = \frac{\text{wage bill}}{\text{GDP}}$$

GDP = 100$

40$
= 20$ profits
+ 20$ wages

60$
= 10$ profits
+ 50$ wages

Top 10% of the population

Bottom 90% of the population

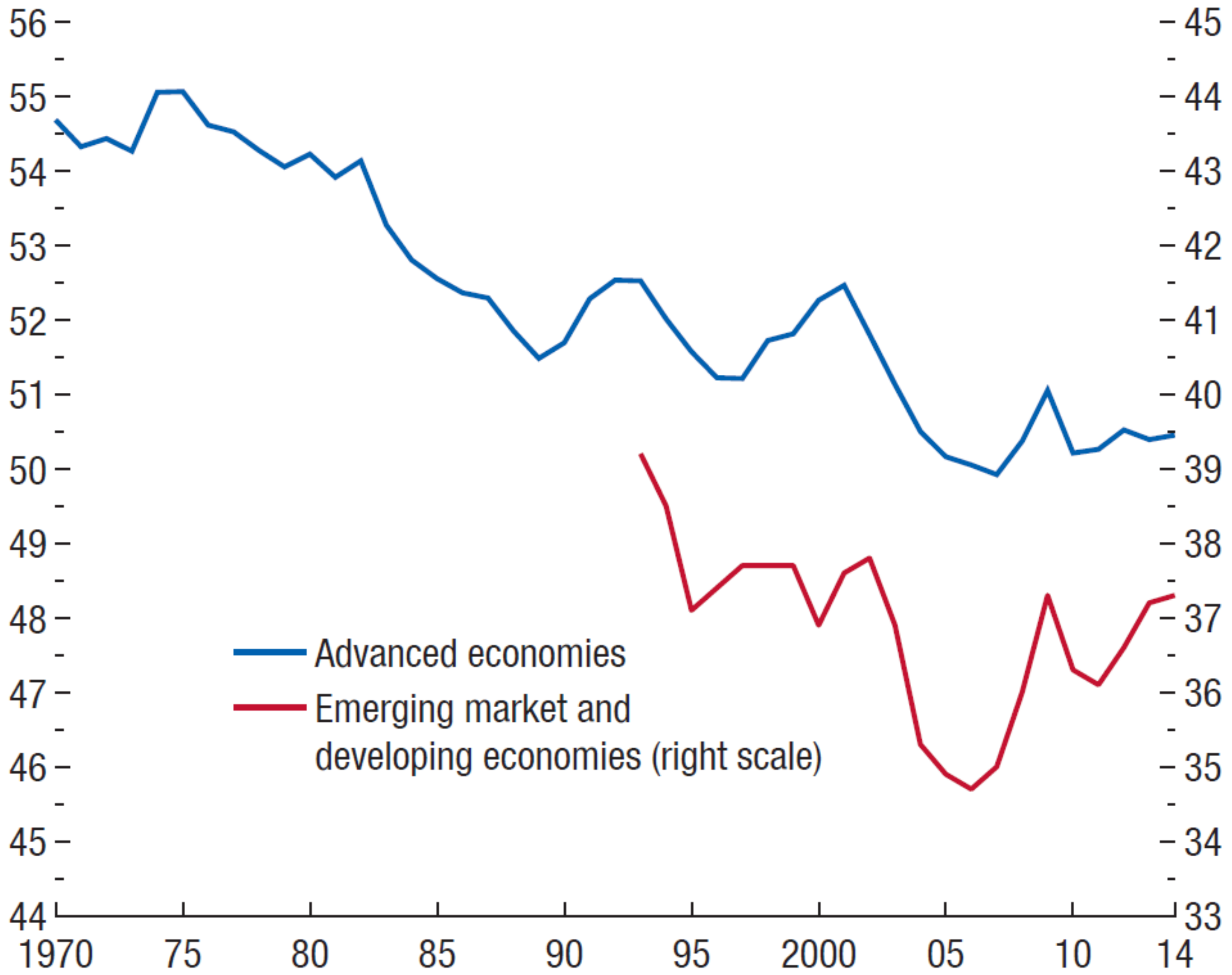
Wage share = (20$ + 50$)/100$ = 70%

Profit share = (20$ + 10$)/100$ = 1-Wage share = 30%

Source: Piketty, Saez and Zucman (2016): Distributional National Accounts
Reported rounded averages for the U.S. (1913-2014 period). Exact numbers:

capital share of top 10: 47%
capital share of bottom 90: 11%
top 10% income share: 41%

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.

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Interim conclusion

- Increase in functional income inequality
- Increase in personal income inequality
- Those phenomena are probably related

Theories of Income Distribution

- Theory → Empirical hypothesis → Policy implication
- Theories
  - Neoclassical → Technology
  - Keynesian → Effective demand
  - Kaleckian → Degree of monopoly
  - Marxian → class struggle

General framework for discussion

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

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

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 = $S_L = w_r \frac{L}{Y} = \frac{dY}{dL}\frac{L}{Y} = \frac{dY}{Y} / \frac{dL}{L}$ = Labour elasticity of output
- Exact definition depends on production function
- Cobb-Douglas: $Y = AL^{\alpha}K^{1-\alpha} \rightarrow \frac{\partial Y}{\partial L} = A\alpha\left(\frac{K}{L}\right)^{1-\alpha} \rightarrow S_L = \alpha$
- CES: $Y = [b.(AK)^{\rho} + (1-b).(BL)^{\rho}]^{\frac{1}{\rho}}$

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

Y=output; A, B=capital, labour augmenting technological change; b=distribution parameter; ρ =substitution parameter; K=capital; L=labour

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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 $= S_L = 1 - \frac{I}{s_p Y}$

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
- $\mathrm{p} = (1+\theta)\mathrm{UVC}$, $\mathrm{p} =$ price; $\theta =$ 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: 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 (Kohler's presentation yesterday)

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

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Why did the wage share decline?

- Different theories → different empirical hypotheses
- Empirical evidence

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The empirical debate on income inequality

Three ma… …atives

Pluralism

1. Human labour is … …ituted by machines
   - "Inequality is natura… …ce of technological progress"

neoclassical

2. Bargaining relations
   - Changes in … market institution [strike laws – immunities(!), collective bargaining co… …density, gender, race]
   - Globalisation – in capita… …) and labour (migration)
   - Financialisation

Marxian/ Kaleckian

3. Changes in … …ration
   - Certain firms cap… …hare of the market

Various approaches

Empirical evidence

- Ongoing empirical debate
- We find that the reasons for decline in the wages share are:
  - Mainly political → labour market institutions & financialisation
  - Gender wage gap: female workforce participation↑ → wage share↓
  - Globalisation → hurts workers everywhere: scope for international collaboration
  - No effect of migration
  - Technological change: not able to explain decline in the wage share → simply boosting skills is not a solution
  - There is nothing "natural" about increasing income inequality

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Income distribution in times of COVID-19

1. Technological change
   - Automation rather than re-hiring (Baldwin 2020)
2. Bargaining relations
   - Labour usually bears costs of crises (Diwan 2001; Furceri et al. 2020)
   - Mass layoffs, wage cuts, unpaid leave, inability to organise (strikes called-off)
   - Especially low-income, low-skilled workers → weakens power for weakest workers
   - Globalisation – reshoring? (Seric and Winkler 2020)
   - Financialisation → cut in dividends, but short-term without behavioural change
3. Changes in concentration
   - Increase in concentration, death of 'zombie firms'

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

- Reduce inequality: level playing field between capital and labour → bargaining power! Via
  - Improving the union legislation, increasing collective bargaining coverage
  - Close gender wage gaps
  - Sufficiently high minimum wages / living wage
  - Social government expenditure
- Globalisation has negative impact in advanced and emerging economies: scope for international cooperation, in case the coordination failure can be overcome
- Re-regulating finance (taxation) could boost the labour share and investment (Tori and Onaran 2017; Lazonick 2014)

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Appendix

Our empirical analysis

- Econometric analysis of the determinants of the wage share
  - Regression analysis, shift-share decomposition
- Different datasets
  - Industry level data pooled across countries
  - Firm level data on a country-by-country basis
  - Input-output tables

Relation between real wage and employment

- Neoclassical: Negative relation between real wages and employment $\left(\frac{dY}{dL} = w_r\right)$
- Kaldor (1955) assumed full employment: endogenous price increase when $\frac{I}{s_p Y}$ rises. Later abandoned (Kaldor 1964)
- Kalecki: think of distribution as determined by the demand side like in Kaldor, and the cost side through mark up. But: no assumption of full employment necessary because S_L varies with employment (capacity utilisation) through overhead costs
- The goods market equilibrium implies positive relation between real wage and employment: $S_L = \frac{w_r L}{Y} = 1 - \frac{I}{s_p Y}$

$$\rightarrow (w_r)_{eff} = \frac{Y}{L} - \frac{I}{s_p L} = \bar{y} - \frac{I}{s_p L} \rightarrow \frac{dw_r}{dL} = \frac{I}{s_p L^2} > 0$$

Annual Income = 100£

40£

60£

Top 10% of the population

Bottom 90% of the population

14£

26£

46£

14£

99th – 100th percentile

(Top 1%)

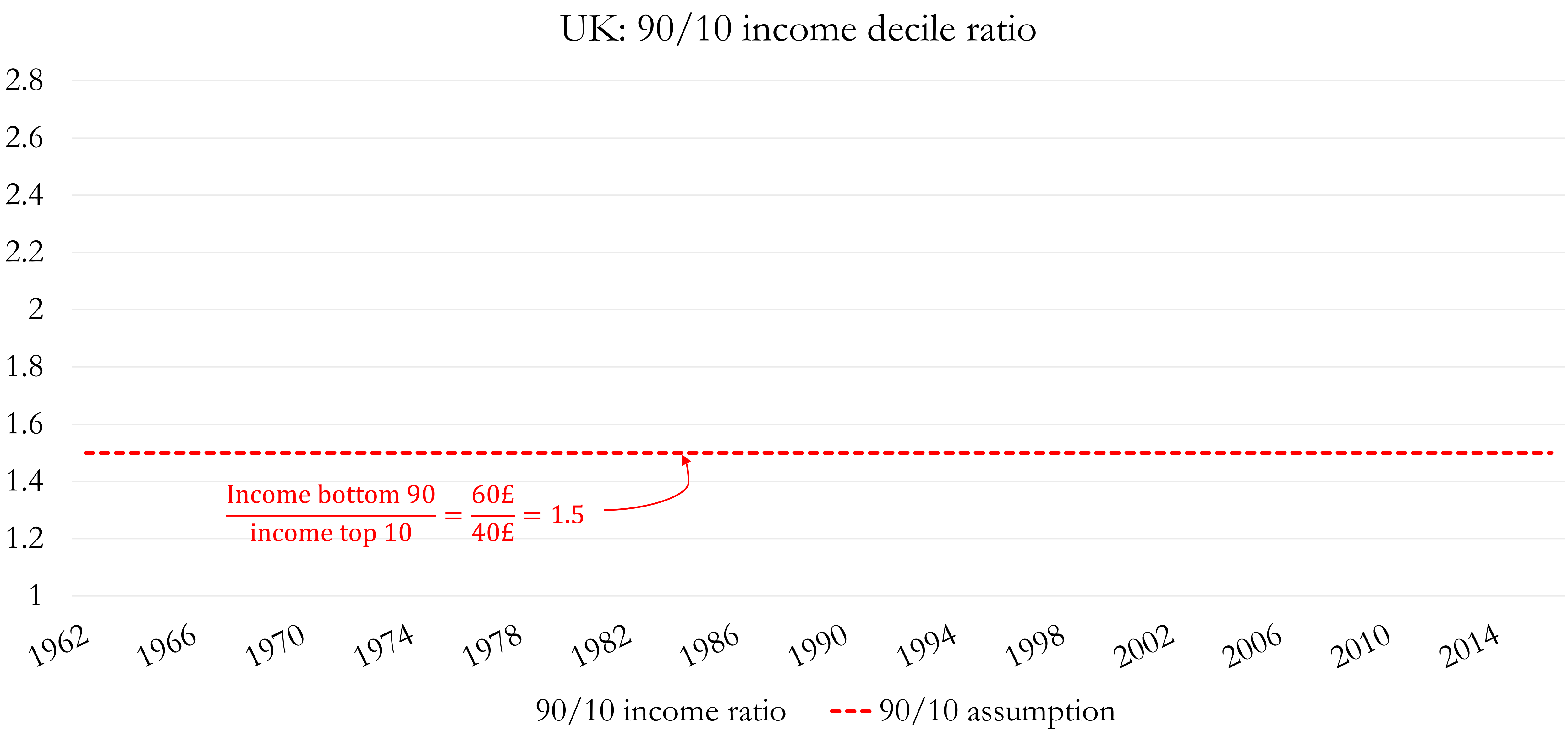
90th – 99th percentile

50th – 90th percentile

1st – 50th percentile

About 500,000 people

Source: wid.world (2018)



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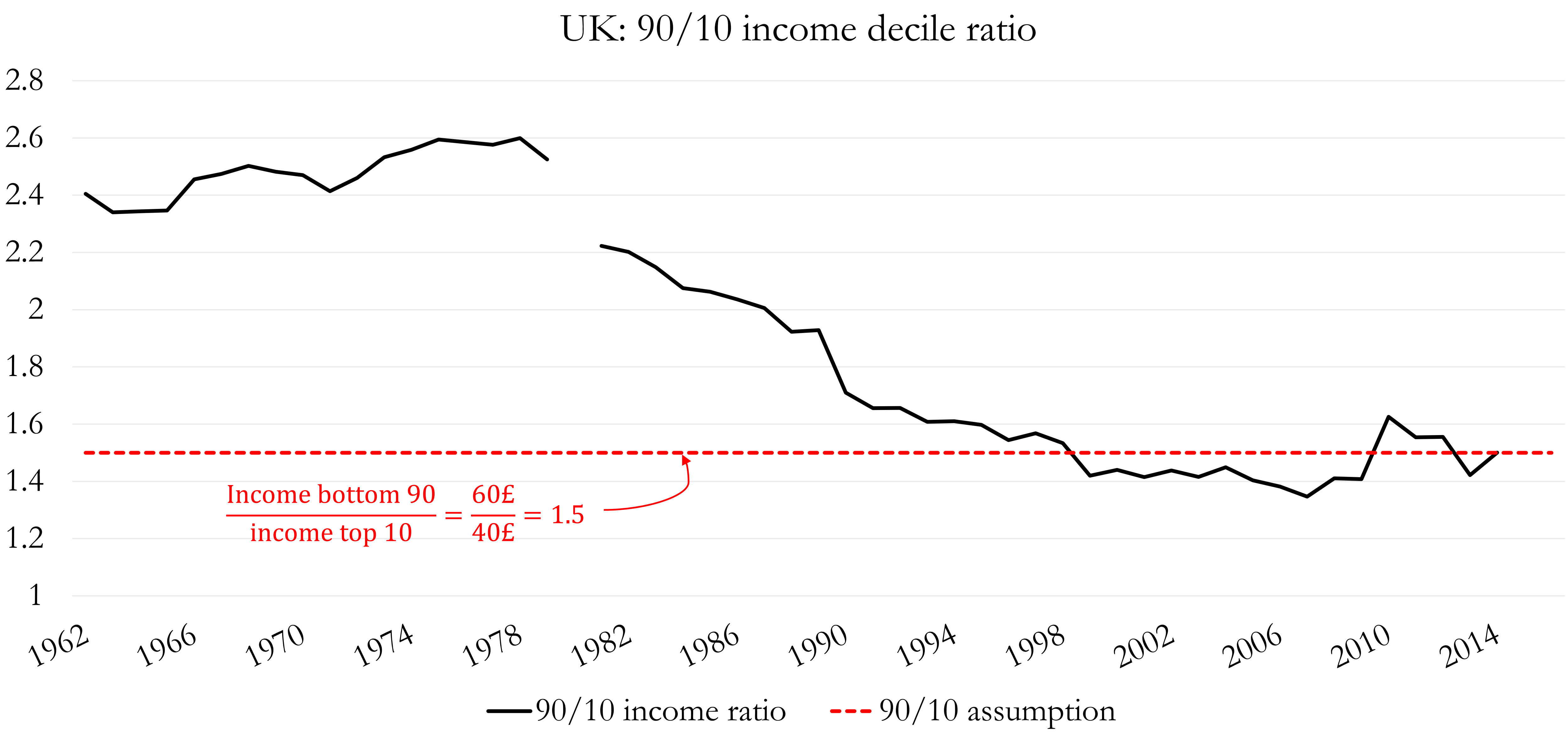

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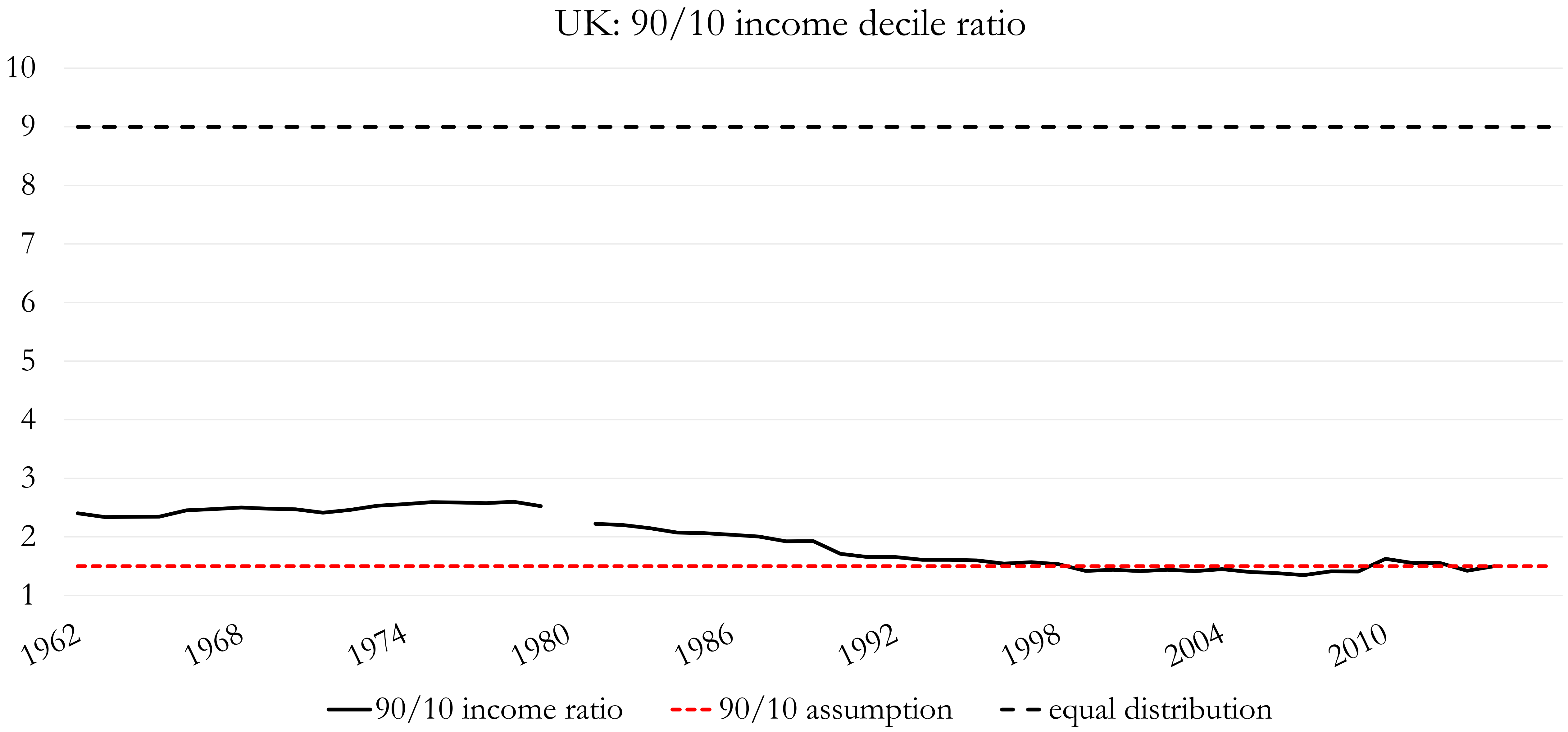
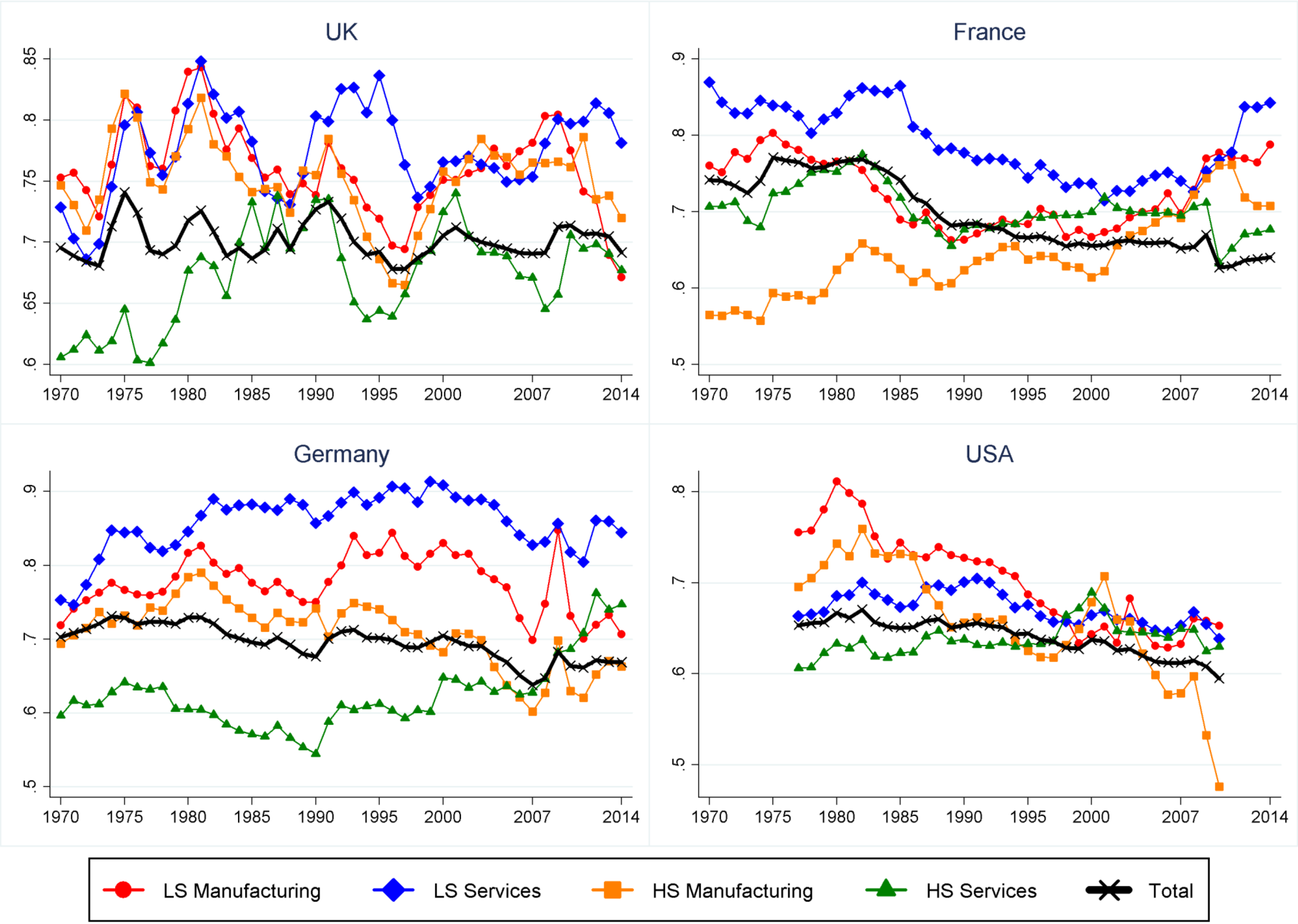


Source: wid.world (2018)

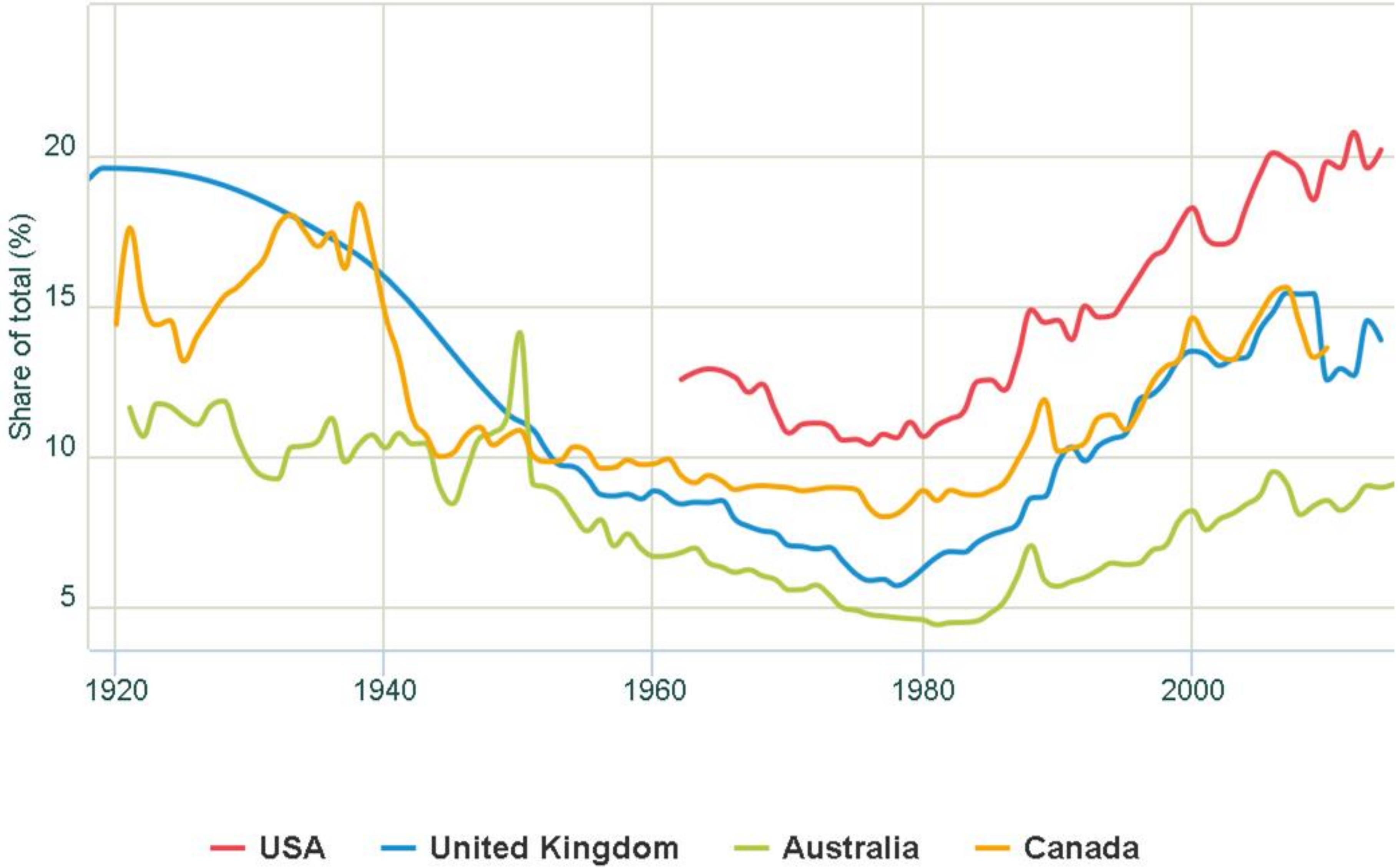

UK
France
Germany
USA
LS Manufacturing
LS Services
HS Manufacturing
HS Services
Total

OK, inequality is bad, but ...

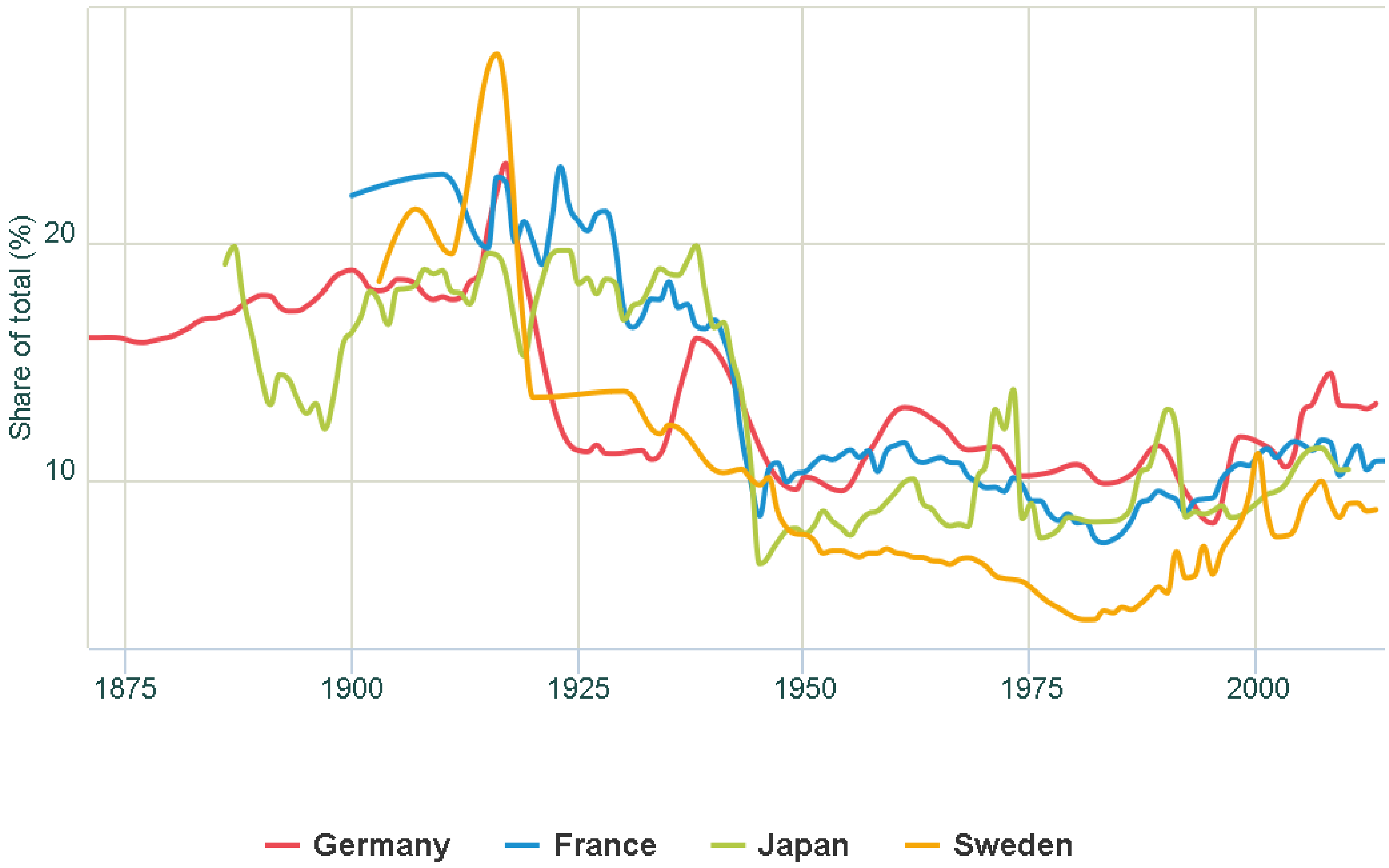
… is redistribution worse?

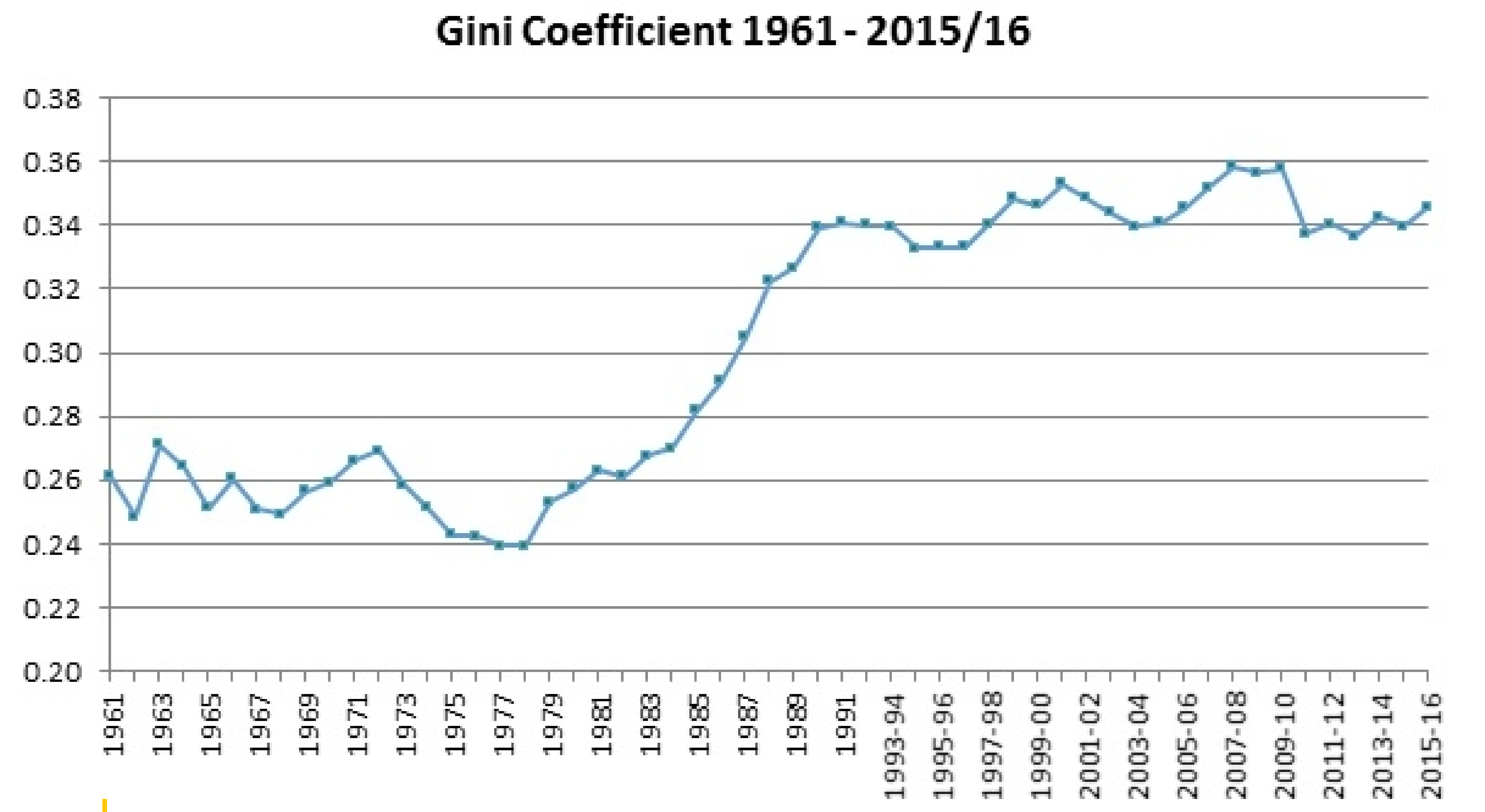
- IMF (2014): “[…] the combined direct and indirect effects of redistribution—including the growth effects of the resulting lower inequality—are on average pro-growth. “
  - (Ostry, Berg, Tsangarides (2014) ‘Redistribution, Inequality and Growth’)

Top 1% National Income Share - Anglo-Saxon countries: U-Shape

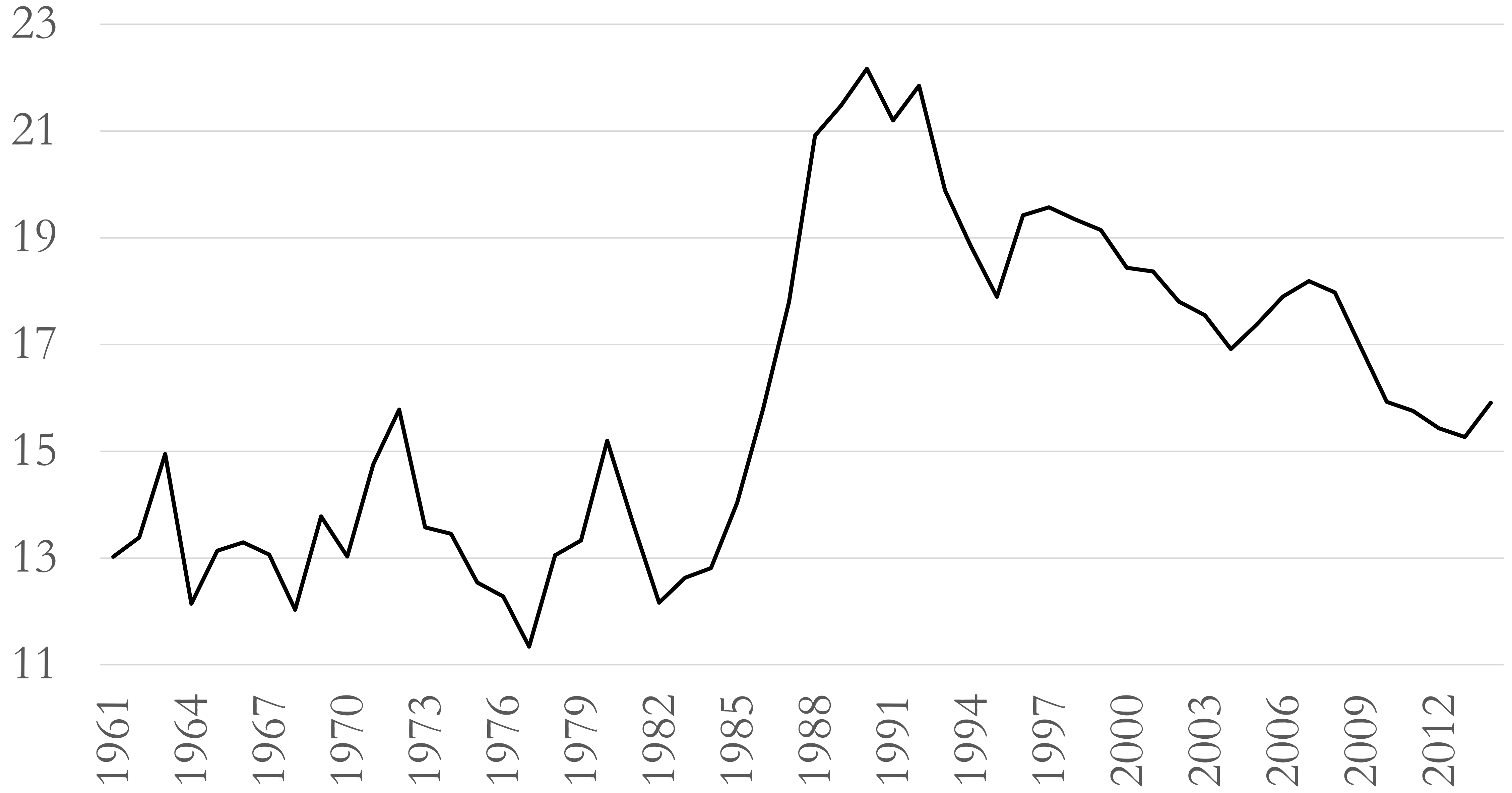


Top 1% National Income Share - Continental Europe + Japan: L-Shape (?)




Gini Coefficient 1961 - 2015/16
0.38
0.36
0.34
0.32
0.30
0.28
0.26
0.24
0.22
0.20
1961
1963
1965
1967
1969
1971
1973
1975
1977
1979
1981
1983
1985
1987
1989
1991
1993-94
1995-96
1997-98
1999-00
2001-02
2003-04
2005-06
2007-08
2009-10
2011-12
2013-14
2015-16

Poor households in the UK, %



Questions

Why did income inequality increase? Which arguments are most useful?

How can we achieve a reduction in income inequality?

OK, inequality is bad but – is redistribution worse?

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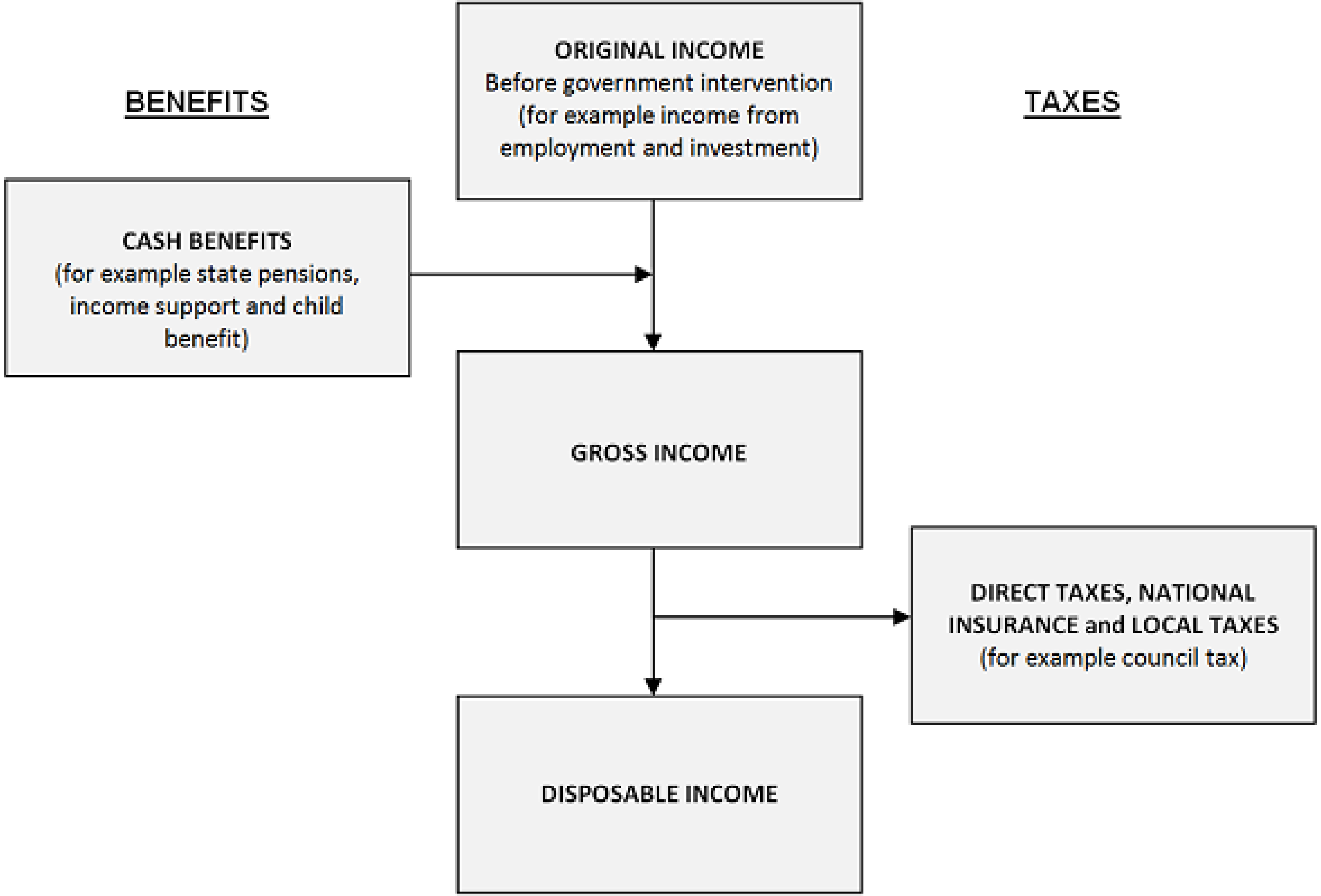

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