

Inequality: what do we know, and why do we care?

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16:00 - 17:00



Economic
and Social
Research Council





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Inequality: what do we know, and why do we care?



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Lecture outline

Part 1:

What do we mean by inequality?

- Inequalities in what? Between whom?

Part 2:

Why do we care about it?

- What arguments are made for / against intervention?
- What can economic research tell us?

Part 3:

How can we measure inequality? What do we know about it?

- There are many measures, which give us different insights about inequality



What do we mean by inequality?

Inequality in what/ between whom?

In what?

- Earnings
- Disposable income
- Wealth
- Health/ well-being
- Opportunity
-

Between whom?

- Between-group inequality
- Interpersonal / interhousehold inequality
- Over what population?



Examples

- Black people in UK were over 4x more likely to die from Coronavirus than white people, adjusting for age (ONS, 2021a)
- At beginning of 2020, 9% of children in the UK did not have access to a computer at home (Ofcom, 2020)
- The wealthiest 10% in the UK own almost 45% of the wealth¹

¹Author's calculations using WAS

A controversial topic...



Inequality: cause for concern?

See Satz and White (2021) 'What is wrong with inequality?'

Why might we not want to reduce inequality?

Meritocracy / Fairness of inequality

- Inequality due to unequal rewards for unequal contributions?
 - E.g. Some people choose to work more than others

Equity-efficiency trade-off (e.g. Okun, 1975)

- Redistributive measures may reduce efficiency – wedges between prices
- Inequalities might motivate innovation / entrepreneurship
- Though other measures to reduce inequality may increase efficiency

Why care about inequality? Why should government intervene reduce it?

- **Because of its causes?**
 - Historical injustice
 - Market failure

- **Because of its consequences?**
 - Preferences for equality / impact on welfare
 - Political-economy arguments

Reasons for intervention – causes I



- **Historical injustice**

- Discrimination, colonialism

- E.g. discrimination in housing market against African-Americans in 20th century -> wealth inequality today (Satz and White, 2021)

- Possible policy responses:

- Redistribution, reparations
 - Positive discrimination

- Equity-efficiency trade-off?

Reasons for intervention – causes II



- **Market failure**
 - Market power
 - Monopoly / oligopoly (e.g. De Loecker et al 2017)
 - Monopsony power in labour market (e.g. Abel et al 2018)
 - Imperfect information
 - Some risks cannot be insured privately, e.g. unemployment or health shocks

- Possible policy responses:
 - Target underlying market imperfections
 - Minimum wages, collective bargaining, mandatory health insurance
 - Redistribution

Reasons for intervention – consequences I

Welfare

- Inequality may be harmful to welfare
 - May be pure preferences for equality – equality entering the utility function (e.g. Fehr and Schmidt, 1999)

$$u_i(x_i, \tilde{x}_J) = x_i - \frac{\alpha_i}{n-1} \sum_{j \neq i} \max\{x_j - x_i, 0\} - \frac{\beta_i}{n-1} \sum_{j \neq i} \max\{x_i - x_j, 0\}$$

- Can examine with polling / experiments (e.g. Stantcheva 2021)
 - Or inequality may transform people's capability for wellbeing (e.g. Sen 1983)
 - In these ways inequality might be considered an externality.
 - Increase fairness and efficiency by intervention?

Reasons for intervention – consequences II

Political influence

- Inequality in certain resources causes unequal influence in the democratic process
- E.g.
 - relationship between party donations and House of Lords membership (The 2018 Democratic Audit)
 - richer people might find it easier to run for office

More inequality

- Today's inequality of outcome might -> tomorrow's inequality of opportunity

Inequality: cause for concern?





Measuring inequality

Between-group inequalities

- Can simply compare outcomes for different groups,
 - E.g. Compare Covid mortality rates of black people and white people (amongst a specific age group)
- Might run a regression to deal with multiple dimensions of inequality
 - E.g. Covid mortality example from earlier, ONS (2020) used*

$$p_i = S\left(\alpha + \sum_j \beta_j e_{j,i} + \sum_k \gamma_k x_{k,i}\right)$$

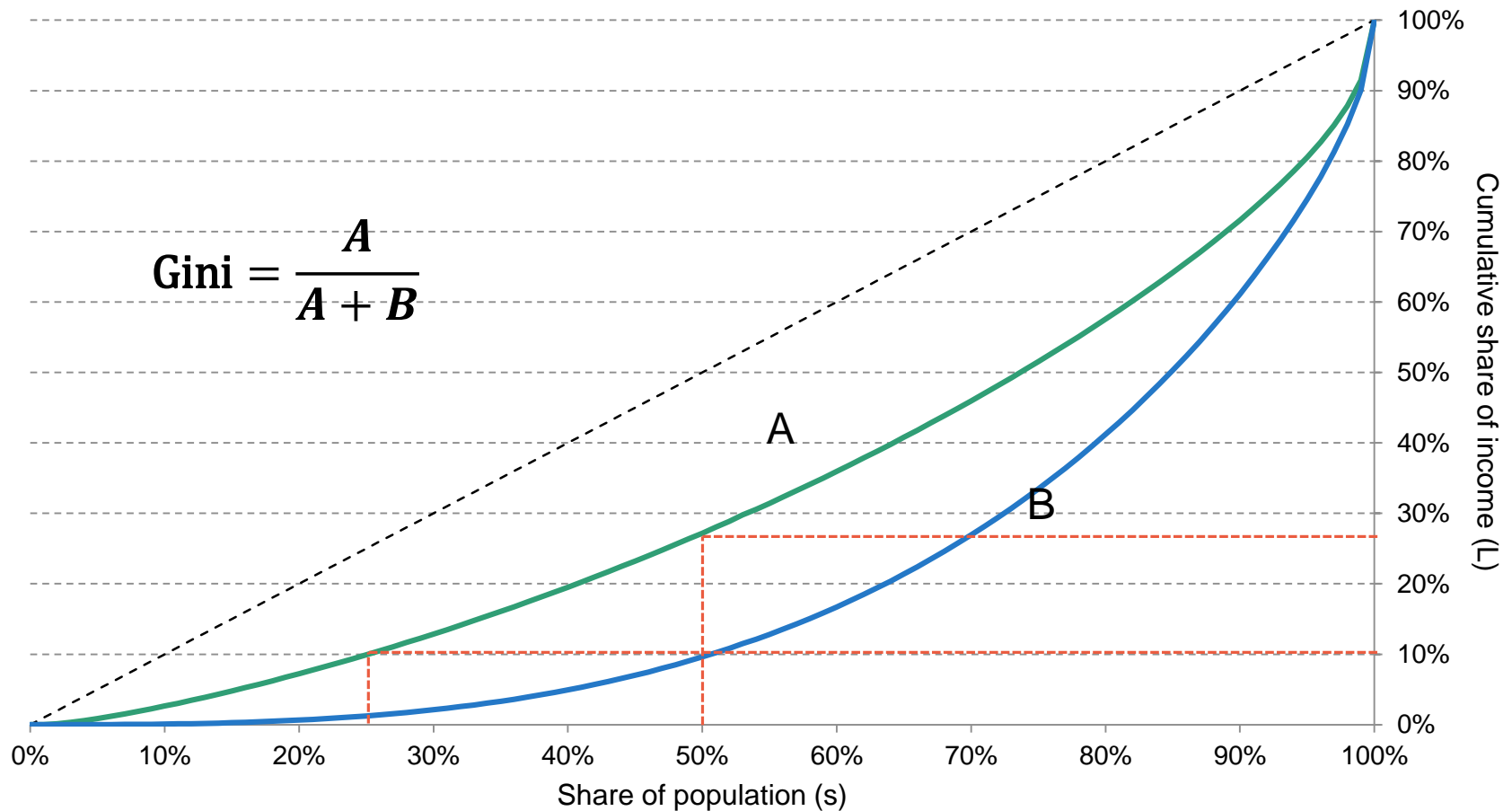
- e_j are ethnicity dummies
- x_k are controls for age, region, rural/urban, deprivation, household composition, socio-economic status, education and health

* $S(x) = e^x / (e^x + 1)$

Lorenz curve

$$L(s) = \frac{\int_0^s CDF_x^{-1}(q) dq}{\int_0^1 CDF_x^{-1}(q) dq}$$

— Lorenz curve for income - - - Perfect Equality — Higher inequality



Source: Author's calculations using HBAI

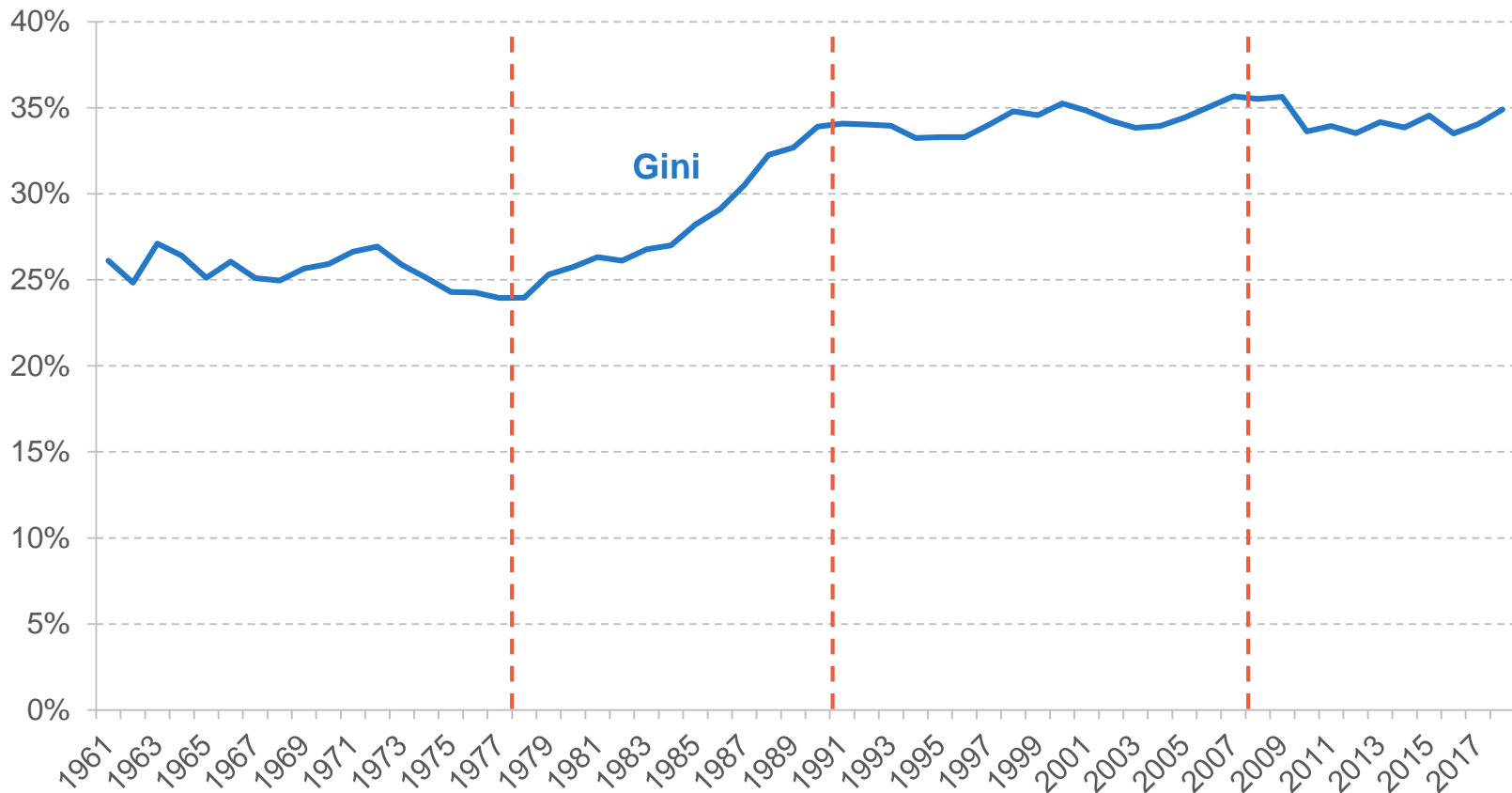
Note: Income here is household income, net of taxes and benefits, equivalised for household size

Gini coefficient

$$\blacksquare G = \frac{A}{A+B} = \frac{\sum_i \sum_j |x_i - x_j|}{2n^2 \bar{x}}$$

- Takes account of the whole income distribution
- But only a summary measure
 - Sensitive to extremes
 - ∴ Complicated to estimate

Gini – UK Household Income

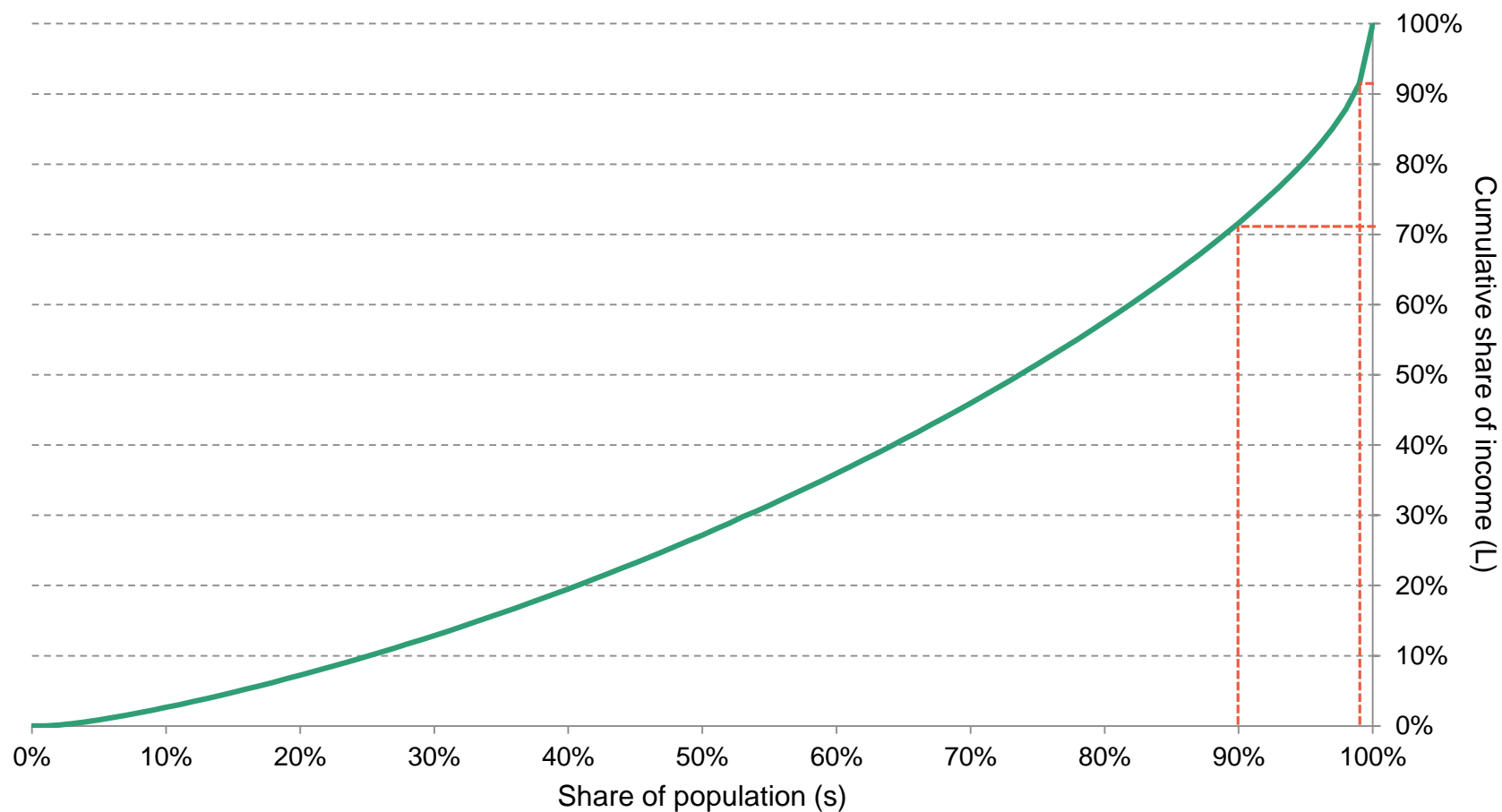


Source: Author's calculations using HBAI

Note: Income here is household income, net of taxes and benefits, equivalised for household size

Income Shares

Lorenz Curve



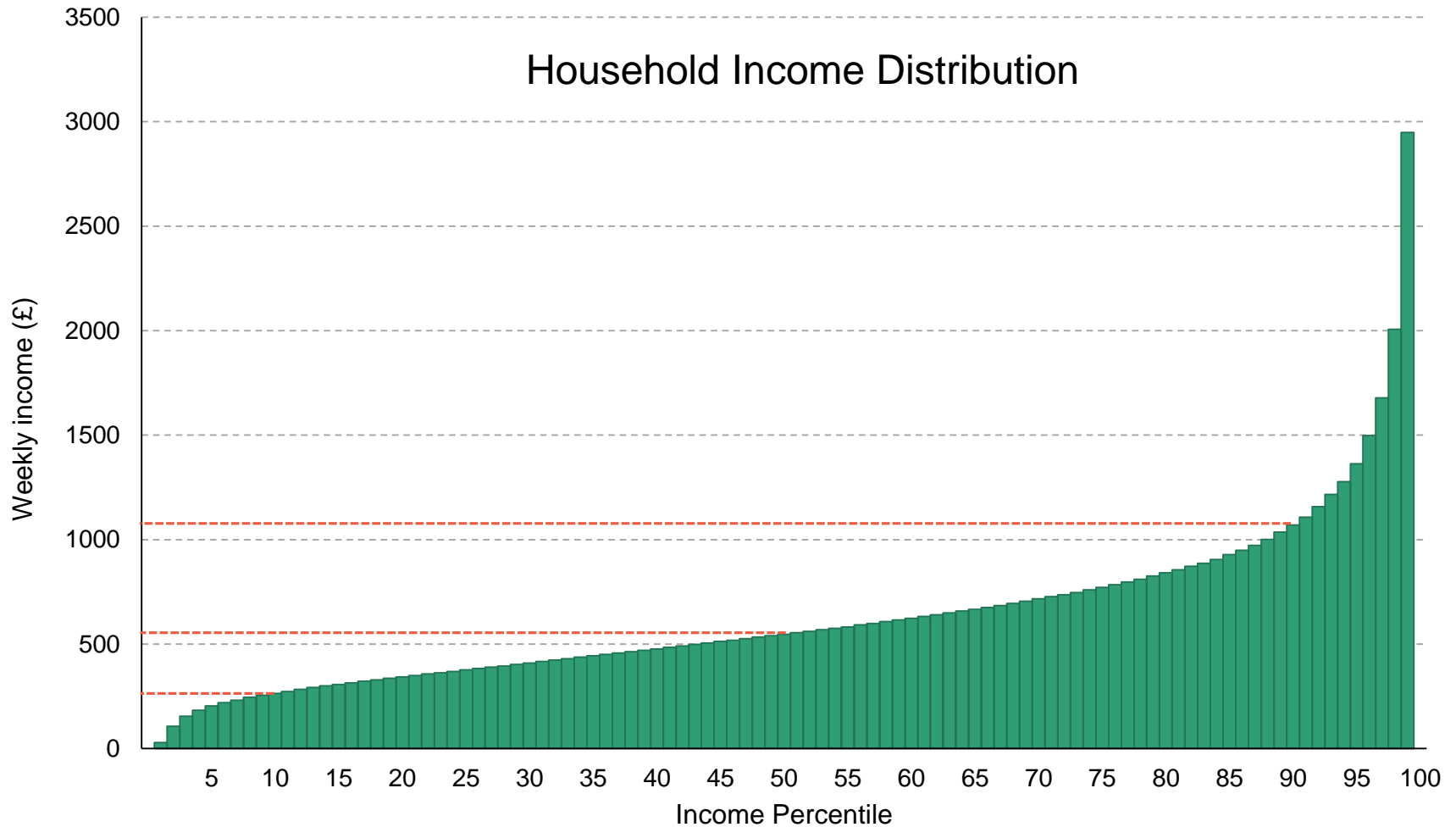
Source: Author's calculations using HBAI

Note: Income here is household income, net of taxes and benefits, equivalised for household size

Income Shares and Percentile Ratios

- Income shares (e.g. Top 1%'s share of income)
 - Good for understanding inequality “at the top”
 - Focus on a specific part of the distribution
 - Again, difficult to estimate from survey data

Percentile Ratios



Source: Author's calculations using HBAI

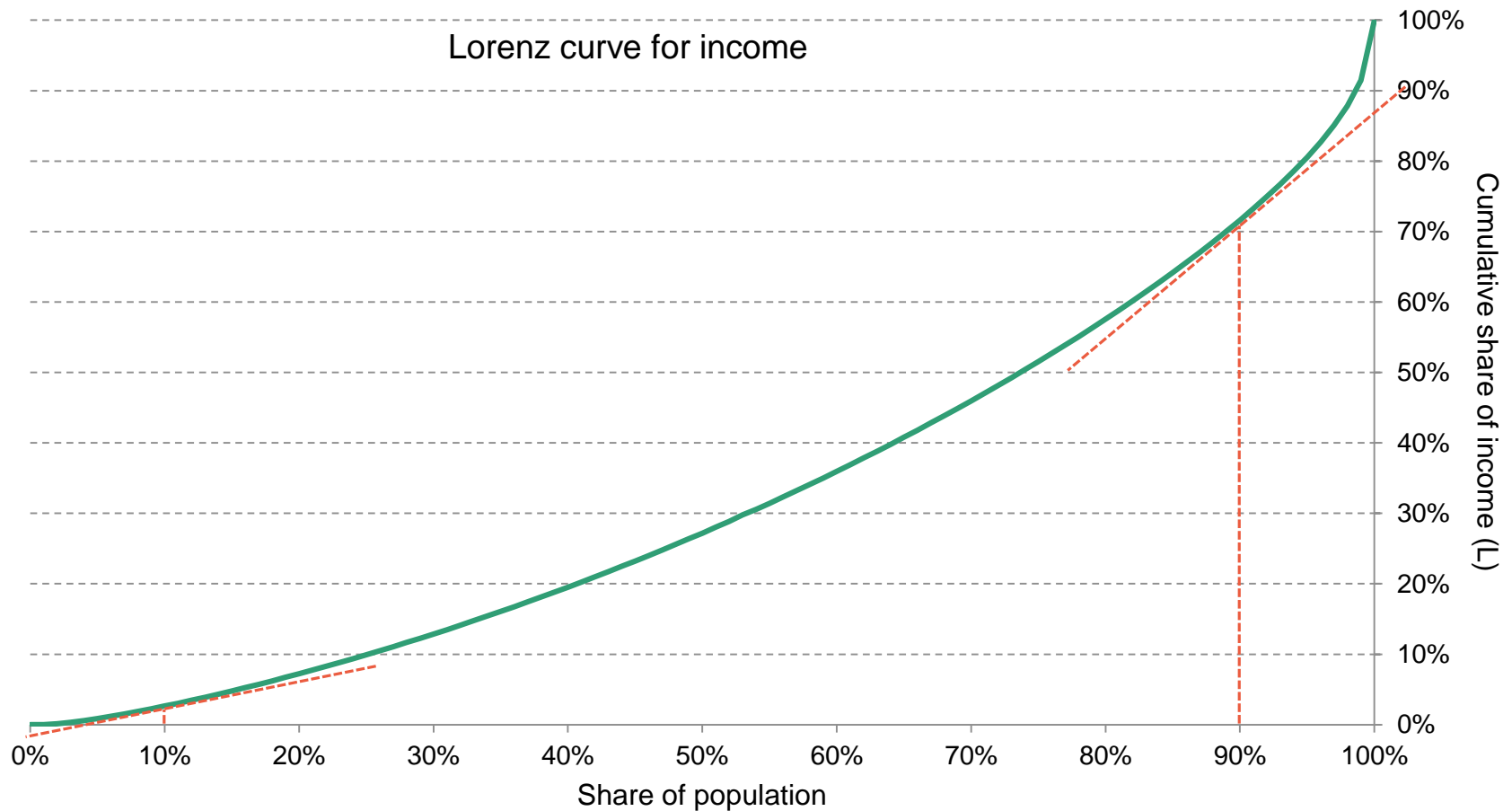
Note: Income here is household income, net of taxes and benefits, equivalised for household size

Income Shares and Percentile Ratios

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- Percentile ratios (e.g. 90:10, 50:10)
 - Summarise inequality at different parts of income distribution
 - Usually used to focus on the middle of the distribution

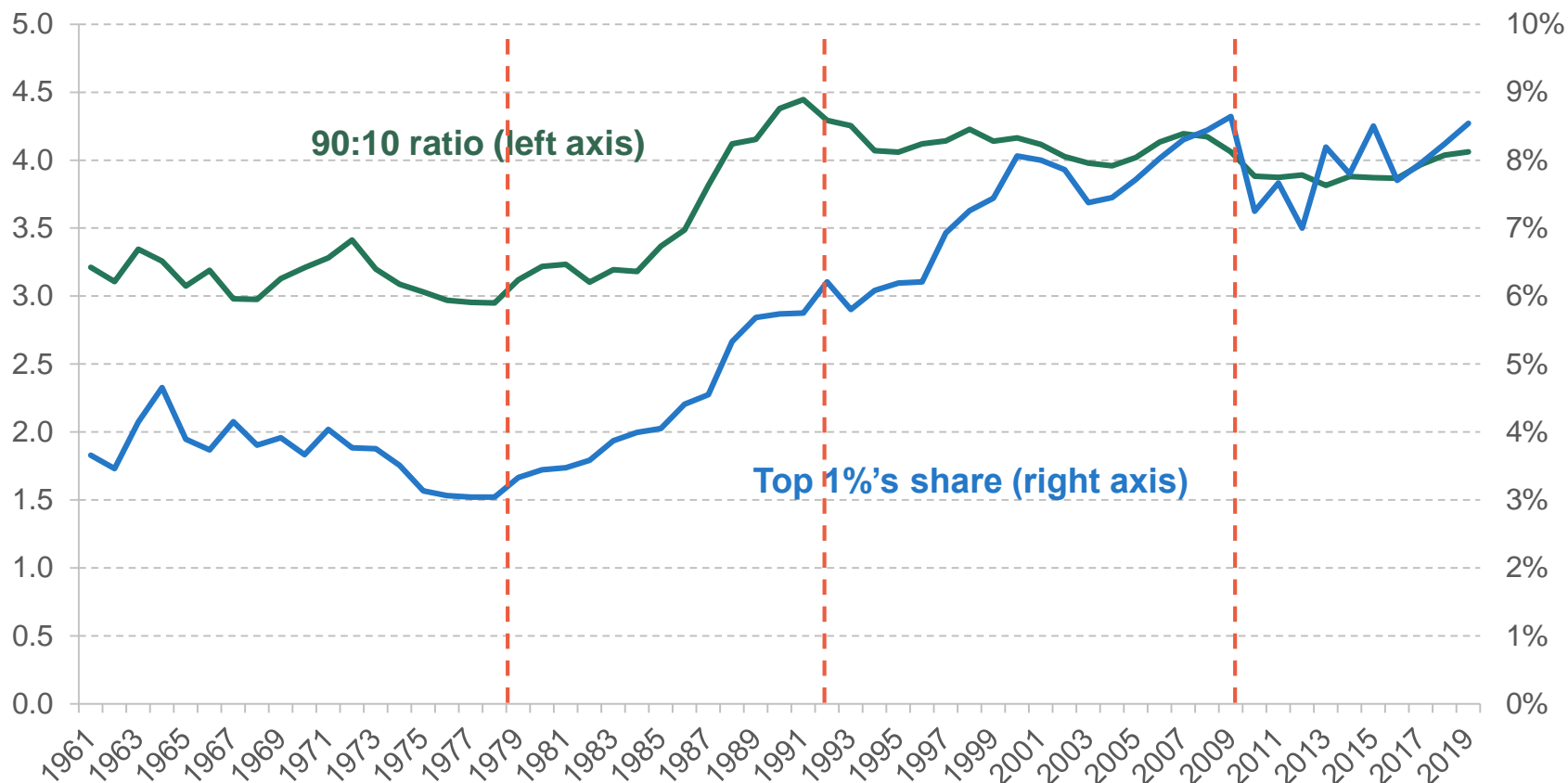
Percentile Ratios



Source: Author's calculations using HBAI

Note: Income here is household income, net taxes and benefits, equivalised for household size

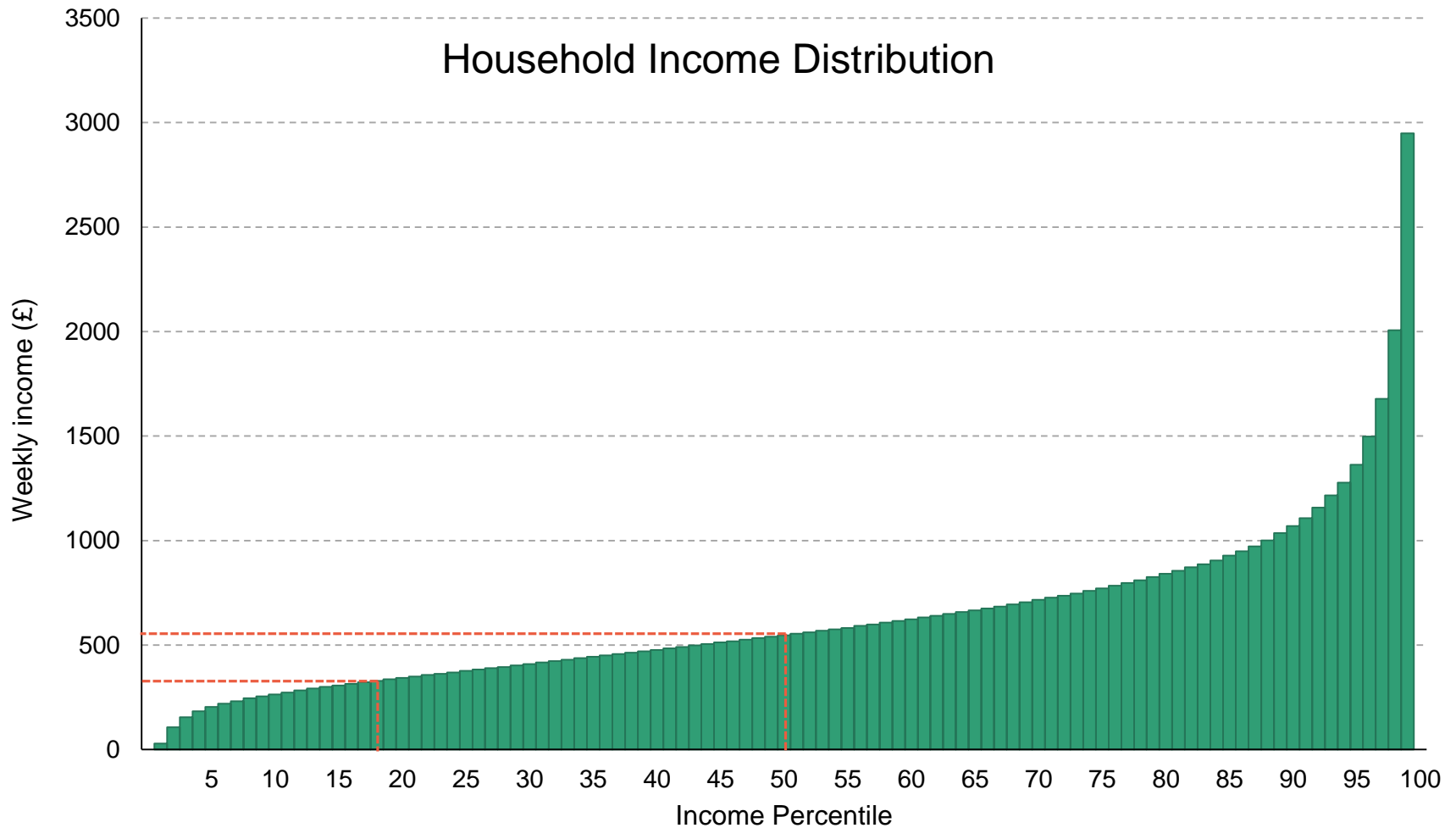
More measures of inequality



Source: Bourquin et al (upcoming)

Note: Income is measured as total household income net of taxes and benefits and is adjusted for household size.

Relative Poverty



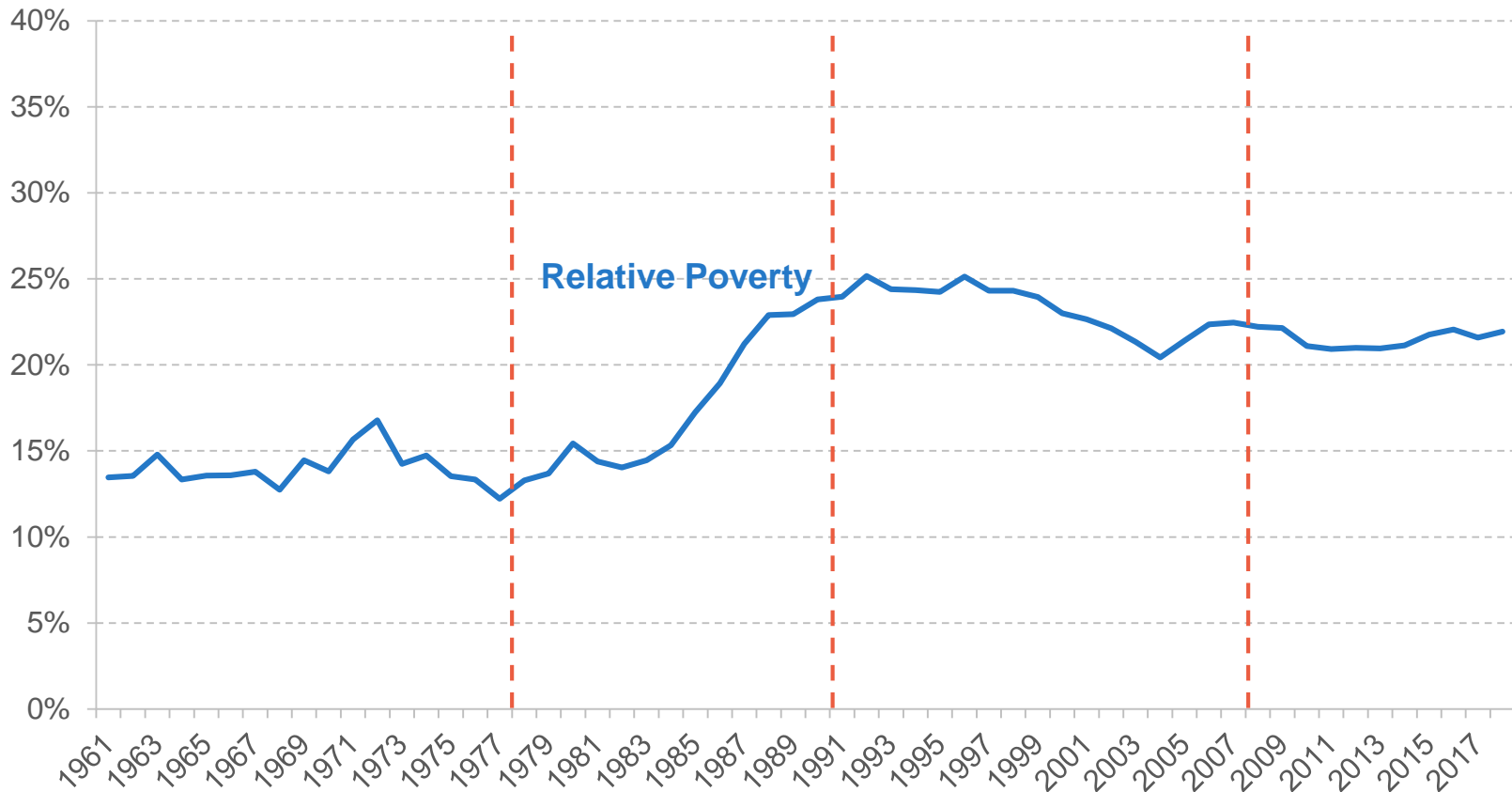
Source: Author's calculations using HBAI

Note: Income here is household income, net taxes and benefits, equivalised for household size

Relative Poverty II

- Fraction living below 60% of contemporaneous median income
 - Before or after subtracting housing costs
- Summary measure of lower end inequality
- Gets at idea that sufficiency for an individual's standard of living defined relative to rest of population
- But 60% is an arbitrary cut-off

Relative Poverty III



Source: Author's calculations using HBAI

Note: Income here is household income after deducing housing costs, net taxes and benefits, equivalised for household size

Various measures of inequality

- Between groups
 - Simple cross-tabulation
 - Regression

- Interpersonal / interhousehold
 - Gini coefficient
 - Top X% share
 - Percentile ratios
 - Relative poverty

- Different measures give us different insights, but on all measures income inequality in the UK has increased in the last 60 years



Conclusions

Conclusions

- People are concerned about a huge range of inequalities
- A range of arguments for and against reducing inequality, most contingent on claims about inequalities' causes / consequences
- There are many ways of measuring inequality, and different measures give different insights into how inequalities have changed
- Over the last 60 years, income inequality has increased in the UK
 - But not since the financial crisis on most measures
 - Apart from at the very top, this was mostly in the 1980s

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Extra resources and references

Inequalities in the 21st Century: the IFS Deaton Review



How are different kinds of inequality related, which matter most, what are the big forces that combine to create them, and what is the right mix of policies to tackle them?

- An interdisciplinary panel of world leaders in economics, sociology, demography, philosophy, political science and epidemiology chaired by Nobel Laureate Sir Angus Deaton
- Initial research found online
- <https://www.ifs.org.uk/inequality/>

Some interesting resources

Your household's income: Where do you fit in?

https://www.ifs.org.uk/tools_and_resources/where_do_you_fit_in

Richard Blundell and Xiaowei Xu. Covid-19: the impacts of the pandemic on inequality (60mins)

<https://www.ifs.org.uk/publications/14878>

How “economic despair” affects high school graduation rates for America’s poorest students (2 mins)

<https://youtu.be/wIHjPRho4A4>

David Autor – Did China eat America’s jobs? (40 mins)

<http://freakonomics.com/podcast/china-eat-americas-jobs/>

Ezra Klein and Matt Yglesias discuss US inequality and the rise in market power (50 mins)

<https://www.vox.com/podcasts/2017/8/24/16189890/weeds-us-economy-inequality-trump>

Some interesting resources

Global data sources:

Gapminder (world income distributions) <https://www.gapminder.org/>

World Inequality Database (income shares, 90:10 ratios)
<https://wid.world/>

Chartbook of Economic Inequality (disposable income)
<https://www.chartbookofeconomicinequality.com/>

References



- W Abel, S Tenreyro, and G Thwaites (2018), "Monopsony in the UK", CEPR Discussion Paper 13265.
- P Bourquin, M Brewer and T Wernham (upcoming), 'Trends in income, wealth and consumption inequalities', IFS Deaton Review
- C Cullinane and R Montacute, 'Access to Advantage', Sutton Trust, '<https://www.suttontrust.com/our-research/access-to-advantage-university-admissions>'
- J De Loecker, J Eeckhout and G Unger (2017), 'The Rise of Market Power and the Macroeconomic Implications', QJE 135(2):561-644
- P Dunleavy, A Park and R Taylor (eds) (2018), 'The 2018 Democratic Audit', LSE Press
- E Fehr and K Schmidt (1999), 'A Theory of Fairness, Competition, and Cooperation', QJE 114(3):817-868
- S Kaplan and J Rauh, 2013, 'It's the Market: The Broad-Based Rise in the Return to Top Talent', Journal Of Economic Perspectives, 27(3):35-56
- V Nafilyan and C White, 2021a, 'Coronavirus (COVID-19) related deaths by ethnic group, England and Wales: 2 March 2020 to 10 April 2020', ONS article, <https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/articles/coronavirusrelateddeathsbyethnicgroupenglandandwales/2march2020to10april2020>
- Ofcom, 'OFCOM NATIONS & REGIONS TECHNOLOGY TRACKER - 2020. 9th January to 7th March 2020', 'https://www.ofcom.org.uk/__data/assets/pdf_file/0030/198138/tech-tracker-internet-and-device-access-children-data-tables.pdf'

References II



A M Okun (1975), 'Equality and Efficiency, The Big Tradeoff', The Brookings Institution

Our World in Data, 'Coronavirus Vaccinations', '<https://ourworldindata.org/covid-vaccinations>' (date accessed: 21/10/21)

Our World in Data, 'Global Education', '<https://ourworldindata.org/global-education>' (date accessed: 21/10/21)

M Pratt, 2021b, 'Health state life expectancies by national deprivation deciles, England: 2017 to 2019', ONS, '<https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/healthinequalities/bulletins/healthstatelifeexpectanciesbyindexofmultipledeprivationimd/2017to2019>'

D Satz and S White (2021), 'What is wrong with inequality?', IFS Deaton Review Chapter

A Sen (1983), 'Poor, Relatively Speaking', Oxford Economic Papers 35(2):153-169

S Stantcheva (2021), 'Perceptions and preferences for redistribution', IFS Deaton Review Chapter

DATA:

Households Below Average Income (DWP)

Wealth and Assets Survey (ONS)

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