Overview

• Why do we use income?
• Income Inequality
  – The UK income distribution
  – Measures of income inequality
  – Explaining changes in income inequality
• Income Poverty
  – Measuring income poverty
  – Universal Credit and poverty
• Summary and conclusions
Why income?

• Economic analysis tends to focus on income inequality and income poverty
  – not because income is the only thing that matters...
  – ...but because it is arguably the best measure of living standards we’ve got

• Consumption is conceptually a better indicator of living standards
  – Income snapshots can be misleading
Those with the lowest incomes do not have the lowest consumption

Source: Brewer and O’Dea (2012)
Why income?

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  - not because income is the only thing that matters...
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- Consumption is conceptually a better indicator of living standards
  - Income snapshots can be misleading
  - but consumption is much harder to measure and the data is much better (and more up-to-date) for income
Measurement of income

- Income as measured by government in “Households Below Average Income” (HBAI)
- Income is measured net of direct taxes and benefits
- Measured at the household level (implicitly assumes income sharing)
- Adjusted for household size (equivalised)
- Adjusted for inflation
- Based on Family Resources Survey (from 1994-5 onwards)
  - 25,000 households across the UK
  - Subject to sampling error
Income Inequality
The UK income distribution in 2011–12

Source: Cribb et. al. (2013)
The UK income distribution in 2011–12

50th percentile: £427

Source: Cribb et. al. (2013)
The UK income distribution in 2011–12

- 10th percentile: £221
- 50th percentile: £427

Source: Cribb et. al. (2013)
The UK income distribution in 2011–12

Household income (£ per week)

Percentile point

10th percentile: £221

50th percentile: £427

90th percentile: £865

Source: Cribb et. al. (2013)
The UK income distribution in 2011–12

- 90th percentile: £865
- 50th percentile: £427
- 10th percentile: £221

Source: Cribb et. al. (2013)
Gross annual earnings required to reach certain percentiles of the UK income distribution

<table>
<thead>
<tr>
<th></th>
<th>Single individual</th>
<th>One-earner couple, no children</th>
<th>Two-earner couple, no children</th>
<th>One-earner couple, two children under 14</th>
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<tbody>
<tr>
<td>50th</td>
<td>£18,000</td>
<td>£29,000</td>
<td>£26,000</td>
<td>£39,000</td>
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<tr>
<td>90th</td>
<td>£41,000</td>
<td>£66,000</td>
<td>£59,000</td>
<td>£94,000</td>
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<tr>
<td>99th</td>
<td>£125,000</td>
<td>£198,000</td>
<td>£174,000</td>
<td>£290,000</td>
</tr>
</tbody>
</table>

\(^{a}\) With each partner earning the same amount.
Source: Cribb et. al. (2013)

- Equivalisation makes a really big difference
- The gap between the 90\(^{th}\) and the 99\(^{th}\) percentiles is pretty significant
Measuring income inequality

• Broadly 2 types of inequality measures

1. Ratio measures – compare incomes at different points of the distribution

2. Summary measures – attempt to collapse the whole income distribution into a single number
Measuring income inequality: ratio measures

Source: Cribb et. al. (2013)
Measuring income inequality: the Gini coefficient

\[ Gini = \frac{A}{A + B} \]

Perfect equality

UK Lorenz curve in 2011-12: Gini = 0.34
Gini coefficient: 1979 to 2011–12

- Gini rose dramatically in the 1980s (0.25 in 1979 to 0.34 in 1990)
- Big fall in recent years (0.36 in 2007–08 to 0.34 in 2011–12)

Source: Cribb et al. (2013)
Why has income inequality risen?

• Lots of explanations
  – Labour market institutions: weaker trade unions and a decline of collective bargaining (Goodman and Shephard 2002)
  – More inequality in employment status across households (Gregg and Wadsworth, 2008)
  – Changes in the tax and benefit system

• How can we test them?
Example 1: decomposition of inequality by household employment structure

- Take overall inequality as measured by the mean log deviation:

\[ I_0 = \frac{1}{n} \sum_i \log \frac{\mu}{y_i} \]

- If we divide the population into \( g \) subgroups (each containing \( n_g \) members) overall inequality can be decomposed into a “within-groups” and a “between-groups” term (Shorrocks, 1980):

\[ I_0 = \sum_g \left( \frac{1}{n} \sum_{i=1}^{n_g} \log \frac{\mu_g}{y_i^g} \right) + \frac{1}{n} \sum_g n_g \log \frac{\mu}{\mu_g} \]
Example 1: decomposition of inequality by household employment structure

• Brewer, Muriel and Wren-Lewis (2009) use this decomposition to examine the impact of changes in household employment structure on inequality
  – Groups defined according to number of adults, number of earners and age of household head

• Conclude that the growing disparity between “work-rich” and “work-poor” households contributed significantly to the increase in inequality during the 1980s
Example 2: replacing tax/benefit system with those from previous years (UK)

Source: Adam and Browne (2010).

Note: Tax and benefit systems from previous years have been uprated in line with the Retail Prices Index. Years up to and including 1992 are calendar years; thereafter, years refer to financial years.
Example 2: replacing tax/benefit system with those from previous years (UK)

- The tax and benefit system matters for the level of income inequality
  - if Labour had left the system they inherited unchanged, the Gini in 2009–10 would have been 0.39 rather than 0.36, higher than the US (assuming no behavioural response)

- Other things matter more than the tax and benefit system for the level of income inequality
  - Inequality rose during the 2000s despite inequality-reducing changes to the tax and benefit system
Poverty
What is poverty?

• Destitution, relative deprivation, capability or functioning in society, livelihood sustainability?
  – but what can we measure?

• Economists have tended to define poverty as having income below a certain “poverty line”

• One alternative is a “poverty gap” measure
  – weights people according to how far they are below the poverty line
  – but the data towards the bottom of the income distribution is not good enough
Poverty lines

• 2 kinds of poverty lines are used

1. Absolute Poverty lines
   – defined as a certain level of real-terms income
   – egs. $1 a day poverty line (in 1990 prices) (Ravallion et al 1991), US government basket of goods and services
Calculating absolute poverty

Count the proportion of people below that poverty line

Draw a line of real-terms income

Income

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Absolute poverty over time

Count the proportion of people below that poverty line

Draw a line of real-terms income

Income

Lowest

Highest
Absolute poverty over time

Count the proportion of people below that poverty line

Draw a line of real-terms income

Income

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Poverty lines

• 2 kinds of poverty lines are used

1. Absolute Poverty lines
   – defined as a certain level of real-terms income
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2. Relative Poverty lines
   – defined as a certain percentage of median income in a country
   – eg. UK government uses 60% of median income for child poverty targets
Calculating relative poverty

Find the middle person’s income (the median)

Take (e.g.) 60% of that amount. Everyone with income less than this is in relative poverty.
Relative poverty over time – a moving target

...then “60% of median income” – the relative poverty line – grows too...

...even with no change to incomes of low-income people, relative poverty goes up

If median income grows...

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Why look at relative and absolute poverty?

• Relative poverty is really a measure of inequality between the middle and the bottom
  – particularly problematic when median income is falling

• Absolute poverty lines become irrelevant in the long run
  – often moved on an ad hoc basis eg. 2010 baseline for 2020 child poverty targets

• Changes in absolute poverty perhaps more significant in the short run, with changes in relative poverty more significant in the long run
Poverty and government policy: a case study

• Universal Credit is a major reform to the UK benefits system aiming to:
  – simplify the system
  – improve work incentives

• How does it work?
  – Universal Credit will replace 6 major working-age benefits and tax credits with a single monthly payment
  – So-called “legacy benefits” are Jobseeker’s allowance, employment and support allowance, income support, housing benefit, child tax credit and working tax credit

• Roughly revenue-neutral on an entitlements basis
Universal Credit: improving work incentives

- Universal Credit has larger earnings disregards...
  - You can earn more before your benefit starts to be withdrawn

- ... and a lower maximum withdrawal rate
  - Single rate of 65% on post-tax earned income (maximum 76.2% effective marginal tax rate)
Budget constraint for a lone parent with 2 children

Weekly net income

Hours worked per week, at £6.50 per hour

Source: Browne and Roantree (2013)
Average participation tax rates by earnings

Source: Browne and Roantree (2013)
Universal Credit: improving work incentives

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  - Single rate of 65% on post-tax earned income (maximum 76.2% effective marginal tax rate)

- Average participation tax rates are substantially reduced for low earners
  - this should increase labour supply and hence reduce poverty
Universal Credit: increasing take-up

• Take-up rates for benefits and tax credits are surprisingly low
  – below 70% for Jobseeker’s allowance
  – around 80% for Housing Benefit

• Universal Credit should increase take-up
  – system will be easier to understand
  – those currently only claiming one benefit but entitled to more will automatically get their full entitlement

• All else equal, higher take-up rates will reduce poverty
Universal Credit: increasing take-up

• We can isolate the projected impact of introducing Universal Credit on child poverty
  – we assume no behavioural response ie. work incentives don’t matter
  – we assume everyone who currently claims any legacy benefit claims their full Universal Credit entitlement
The effect of Universal Credit on relative child poverty (UK)

Notes: Poverty line is 60% of median before-housing-costs (BHC) income. Years refer to financial years.
Source: Browne, Hood and Joyce (2013)
Universal Credit: increasing take-up

- We can isolate the projected impact of introducing Universal Credit on child poverty
  - we assume no behavioural response ie. work incentives don’t matter
  - we assume everyone who currently claims any legacy benefit claims their full Universal Credit entitlement

- Universal Credit is projected to reduce relative child poverty by 2 percentage points in 2016-17
  - this is basically just the result of increased take-up (as reform is revenue-neutral and we don’t model behavioural response)

- Overall fiscal consolidation increases poverty substantially
The effect of tax and benefit reforms since April 2010 on relative child poverty (UK)

Notes: Poverty line is 60% of median before-housing-costs (BHC) income. Years refer to financial years. Source: Browne, Hood and Joyce (2013)
Summary

• Income inequality rose quickly across the distribution in the 1980s, and has been increasing at the very top since
  – decompositions and counterfactual analysis can help us to understand why

• Poverty can be defined according to an absolute or relative income measure

• The introduction of Universal Credit has the potential to reduce poverty through improved work incentives and higher take-up rates
  – but the fiscal consolidation overall is likely substantially increase poverty rates
References (1)


- Browne, J. and Roantree, B. (2013) “Universal Credit in Northern Ireland: what will its impact be, and what are the challenges?”, IFS Report R77
References (2)


