The Short and Longer Term Impacts of the Recession on the UK Income Distribution

Robert Joyce (IFS)

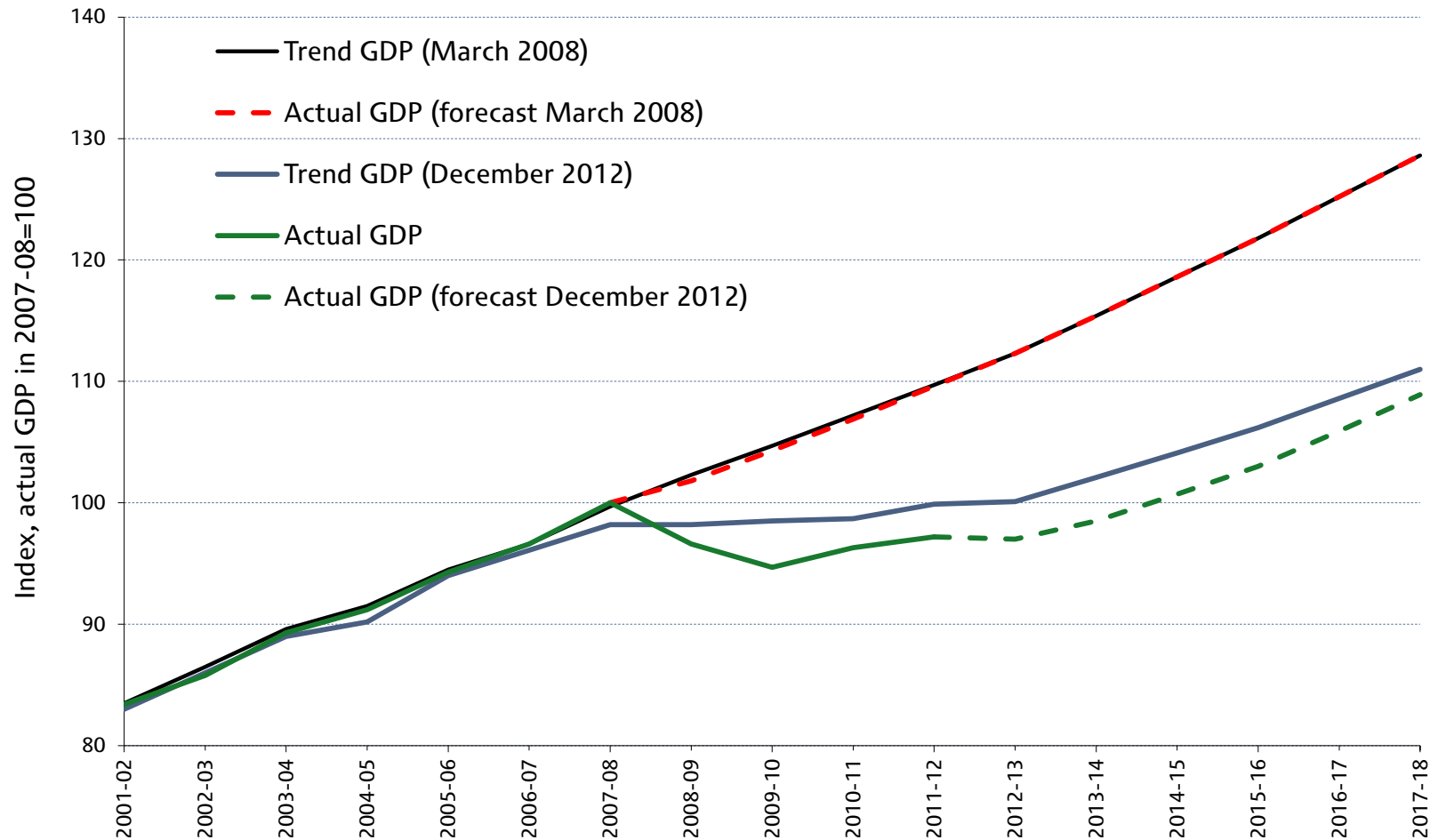Joint work with Mike Brewer (University of Essex, IFS), James Browne (IFS), Luke Sibieta (IFS)

Introduction and motivation

- UK in aftermath of severe recession and in midst of slow recovery

- Want to know implications for living standards and how effects are distributed. But:
  - Data on income distribution come out with long lag
  - Much still happening (massive fiscal consolidation; falling real wages)

- Aim: simulate current and future changes to income distribution
  - Given what's known/forecasted re labour market, tax/benefit policy, etc.
  - Enables more comprehensive assessment of recession's effects on incomes in short and medium run

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Outline

- Background
  - The shock to national income to be distributed
  - The fiscal policy response

- How we simulate the income distribution
  - Overview of method
  - Particular issues

- Results: 'nowcasts' and projections

- Summary

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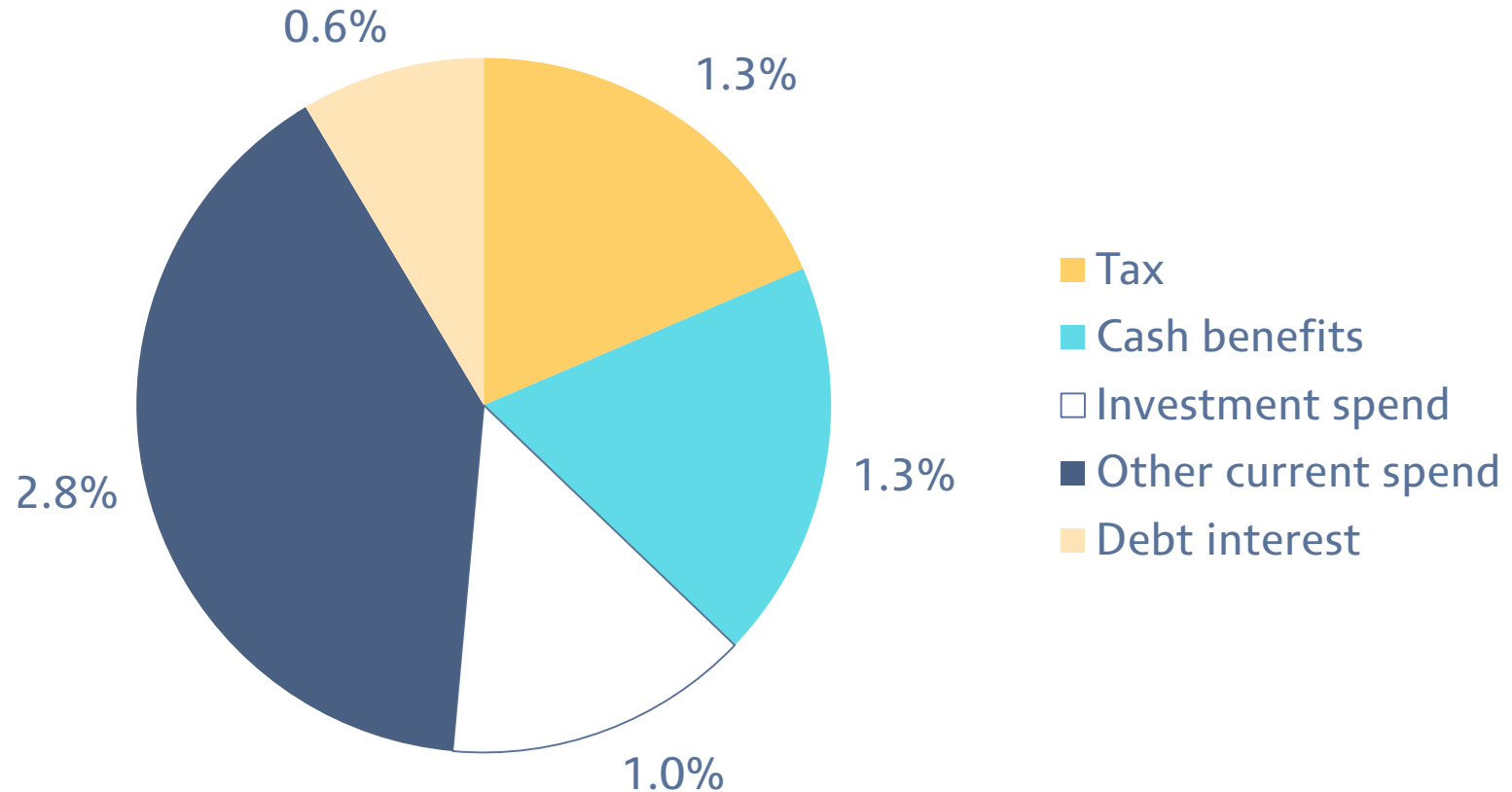Fiscal Studies

The shock to national income

Legend:
- Trend GDP (March 2008)
- Actual GDP (forecast March 2008)
- Trend GDP (December 2012)
- Actual GDP
- Actual GDP (forecast December 2012)

Y-axis: Index, actual GDP in 2007-08=100

X-axis: 2001-02, 2002-03, 2003-04, 2004-05, 2005-06, 2006-07, 2007-08, 2008-09, 2009-10, 2010-11, 2011-12, 2012-13, 2013-14, 2014-15, 2015-16, 2016-17, 2017-18

Source: Emmerson, Keynes and Tetlow (2013), http://www.ifs.org.uk/budgets/gb2013/GB2013_Ch5.pdf

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Debt forecasts with and without policy action
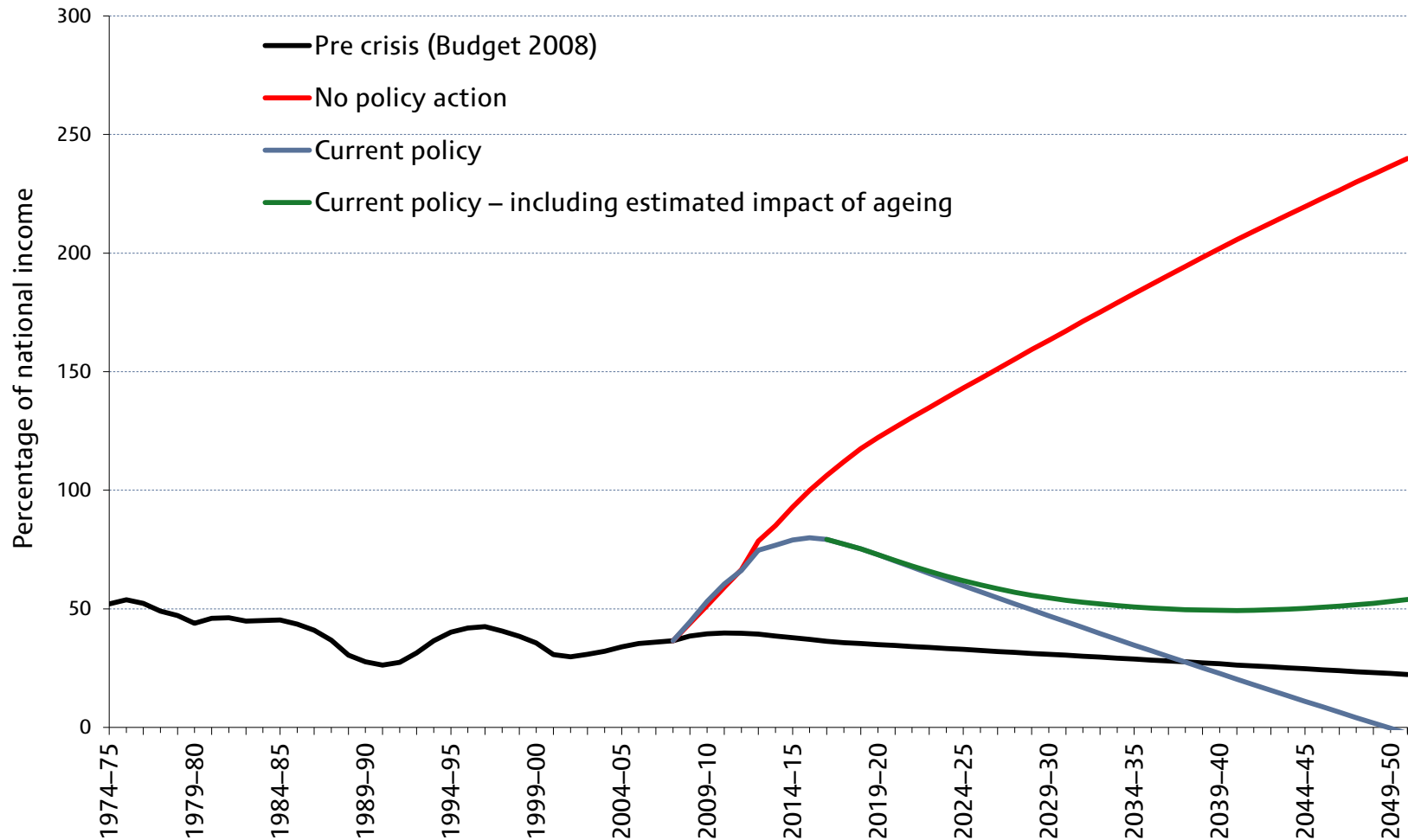
Source: Emmerson, Keynes and Tetlow (2013), http://www.ifs.org.uk/budgets/gb2013/GB2013_Ch5.pdf

Composition of fiscal tightening (% GDP)

Legend:
- Tax
- Cash benefits
- Investment spend
- Other current spend
- Debt interest

Values shown: 0.6%, 1.3%, 1.3%, 2.8%, 1.0%

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Basic approach

- Start with latest data on distribution of private income and household characteristics (2010/11 Family Resources Survey)

1. Up-rate financial variables, e.g. Earnings

   - Average earnings forecasts from Office for Budget Responsibility; allow also for variation by industry (Oxford Economics)

2. 'Reweight' to reflect socio-demographic and employment changes

   - i.e. increase weight given to types of people who become more common after 2010/11 (more detail later...)

3. Simulate tax liabilities and benefit and tax credit entitlements

   - Use tax and benefit micro-simulation model (NB: ours is a static model, i.e. does not allow for behavioural responses)

4. Adjust incomes to reflect a) non-take-up / non-reporting of means-tested benefits and tax credits; and b) any other discrepancies between official data and simulation output

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Issues

1. Aligning simulated income distribution with officially measured income distribution

2. Simulating future changes to welfare system

3. Use of re-weighting to reflect employment and demographic changes

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1. Aligning simulated income distribution with official measure (2010-11 FRS)
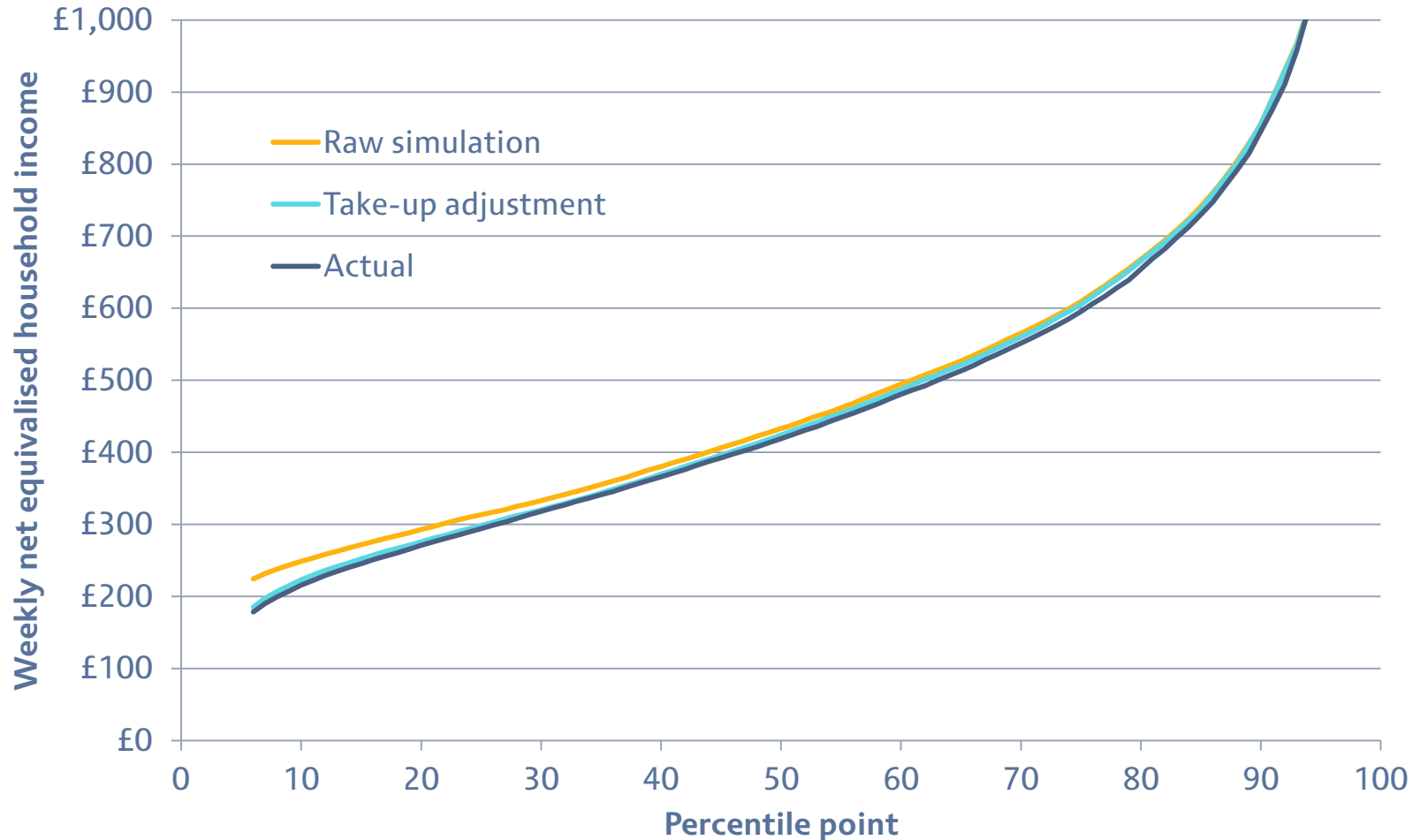
Notes: Incomes at the top and bottom 5 percentile points are not shown as they are ignored in our simulation results. Incomes equivalised using OECD equivalence scale; monetary amounts expressed as equivalents for childless couple.

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2. Simulating future changes to welfare system

- Mechanical effects can be attributed precisely to particular households for large majority of changes, using micro-simulation

- But some changes are less easy to model
  - Increase in female state pension age (we model behavioural response)
  - *Making medical tests for disability benefits "tougher"*
  - *Tax credit cuts affecting families whose incomes change mid-year*
  - *Savings that vary by local area (localisation of Council Tax Benefit)*

- Do not generally model behavioural responses at the micro level

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3. Re-weighting to reflect employment and demographic changes

- Demographics we control for include:
  - Population by age/sex (jointly) and region (ONS)
  - Household types by region (ONS)

- Control for number of individuals in work
  - Use total employment forecasts from Office for Budget Responsibility
  - But allow employment trends to vary by industry and region (Oxford Economics)

- To generate weights from control totals we use algorithm set out in Gomulka (1992), implemented in Stata/Mata
  - Ado-file 'REWEIGHT2' (http://www.ifs.org.uk/publications/6270)

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3. Re-weighting to reflect employment and demographic changes (2015-16 simulation)
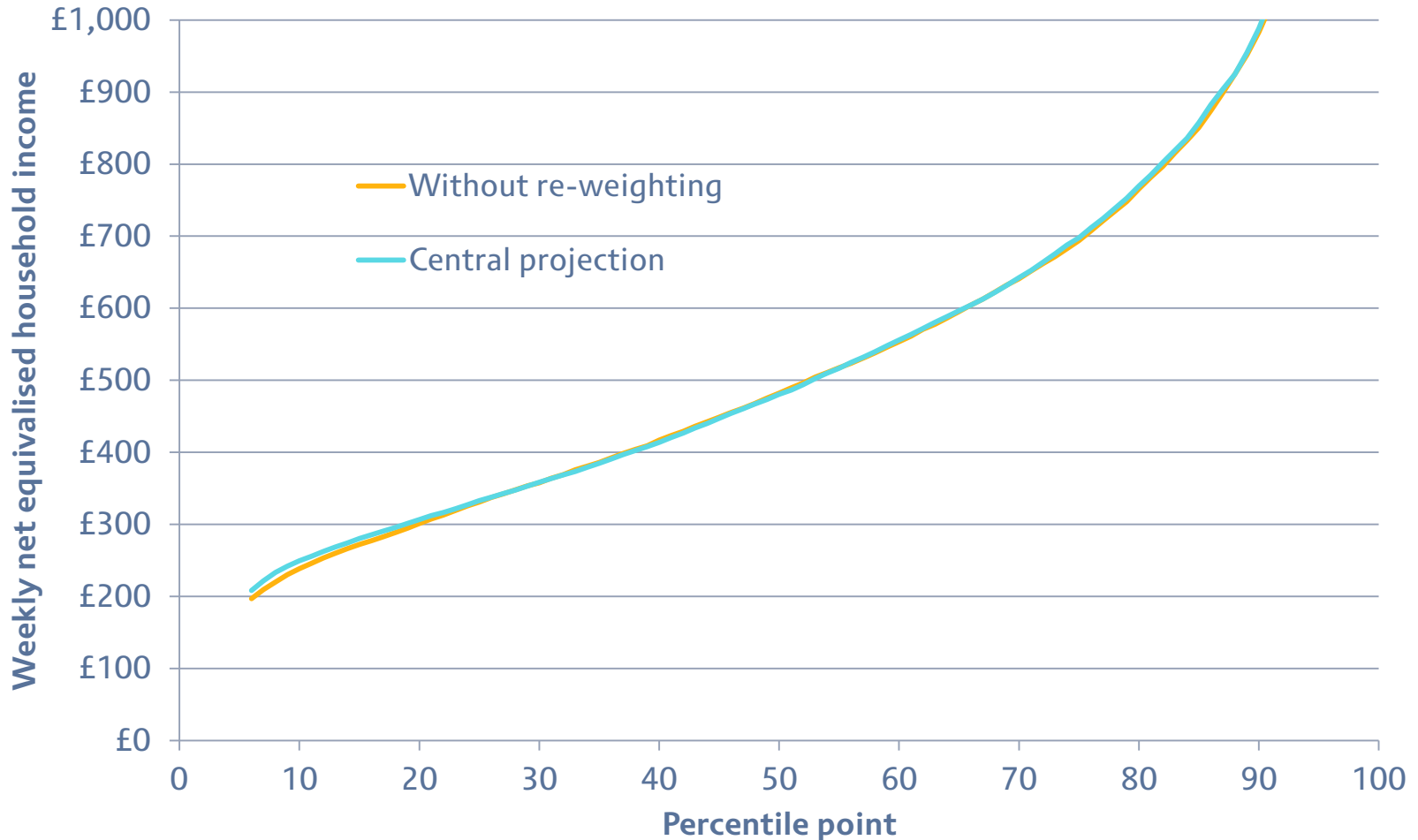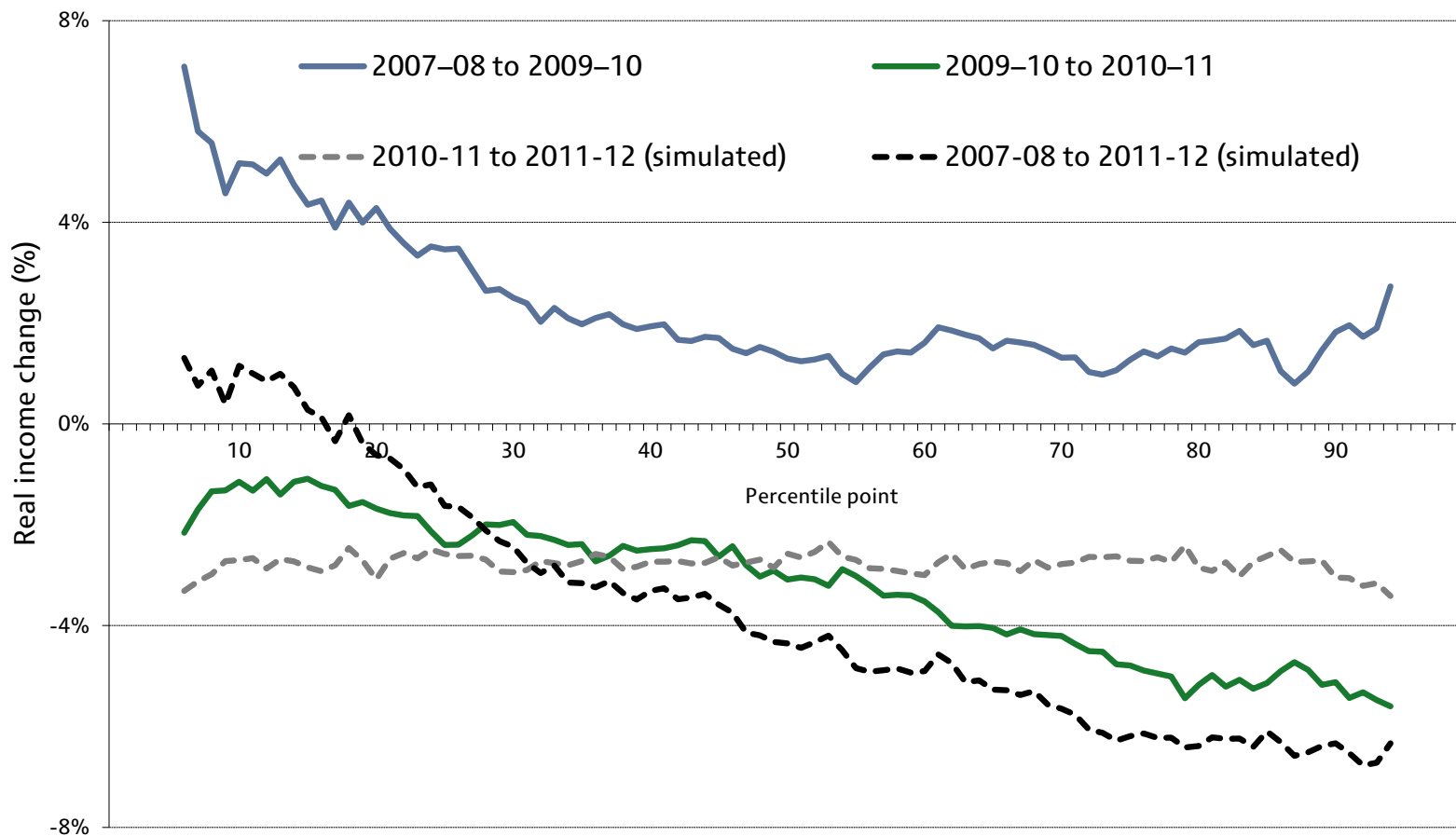

Notes: Incomes at the top and bottom 5 percentile points are not shown as they are ignored in our simulation results. Incomes equivalised using OECD equivalence scale; monetary amounts expressed as equivalents for childless couple.

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Caveats

- The deflator!

- Methods not very appropriate at tails of the distribution

  - Due to (necessary) use of survey data, which is unreliable in the tails

  - Those hit the hardest by consolidation package are the very richest; but we exclude top/bottom 5 percentiles so will not pick this up

- Indirect taxes have no distributional impact here because constant deflator is assumed across households

  - Rise in VAT in January 2011 raises £12 bn per year

- Simple approach to modelling future pensioner incomes – assume real private incomes constant; no allowance for cohort effects
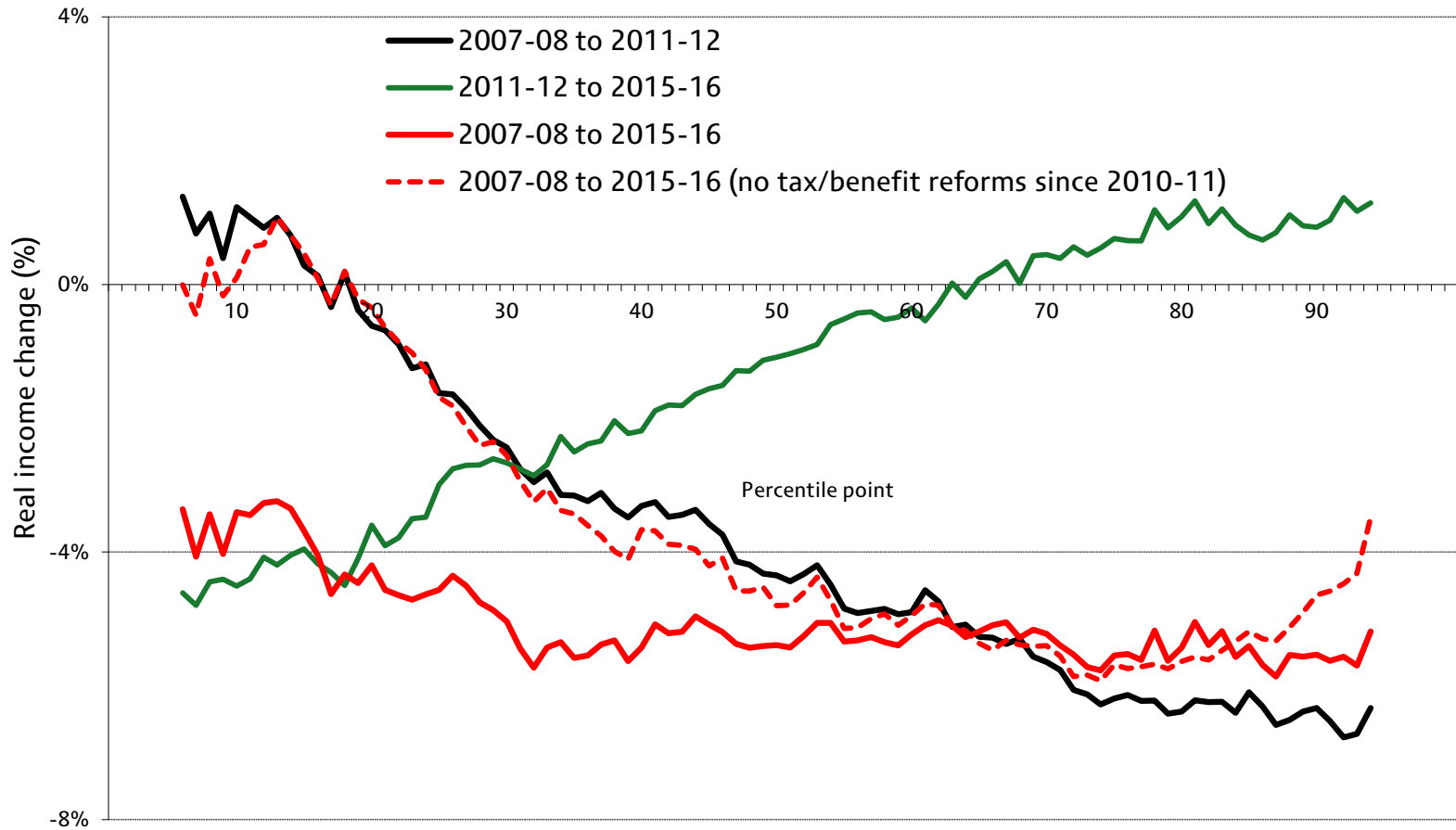
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Income growth incidence curves to date…

Legend: 2007–08 to 2009–10 | 2009–10 to 2010–11 | 2010-11 to 2011-12 (simulated) | 2007-08 to 2011-12 (simulated)

Y-axis: Real income change (%)
X-axis: Percentile point

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...and up to 2015-16

Legend:
- 2007-08 to 2011-12
- 2011-12 to 2015-16
- 2007-08 to 2015-16
- 2007-08 to 2015-16 (no tax/benefit reforms since 2010-11)

Y-axis: Real income change (%)

X-axis label: Percentile point

Source: Simulated data from authors' calculations using FRS 2010/11; other data from Cribb et al. (2012).
Note: Income growth at the top and bottom 5 percentile points is not shown due to uncertainty from sampling and measurement error.
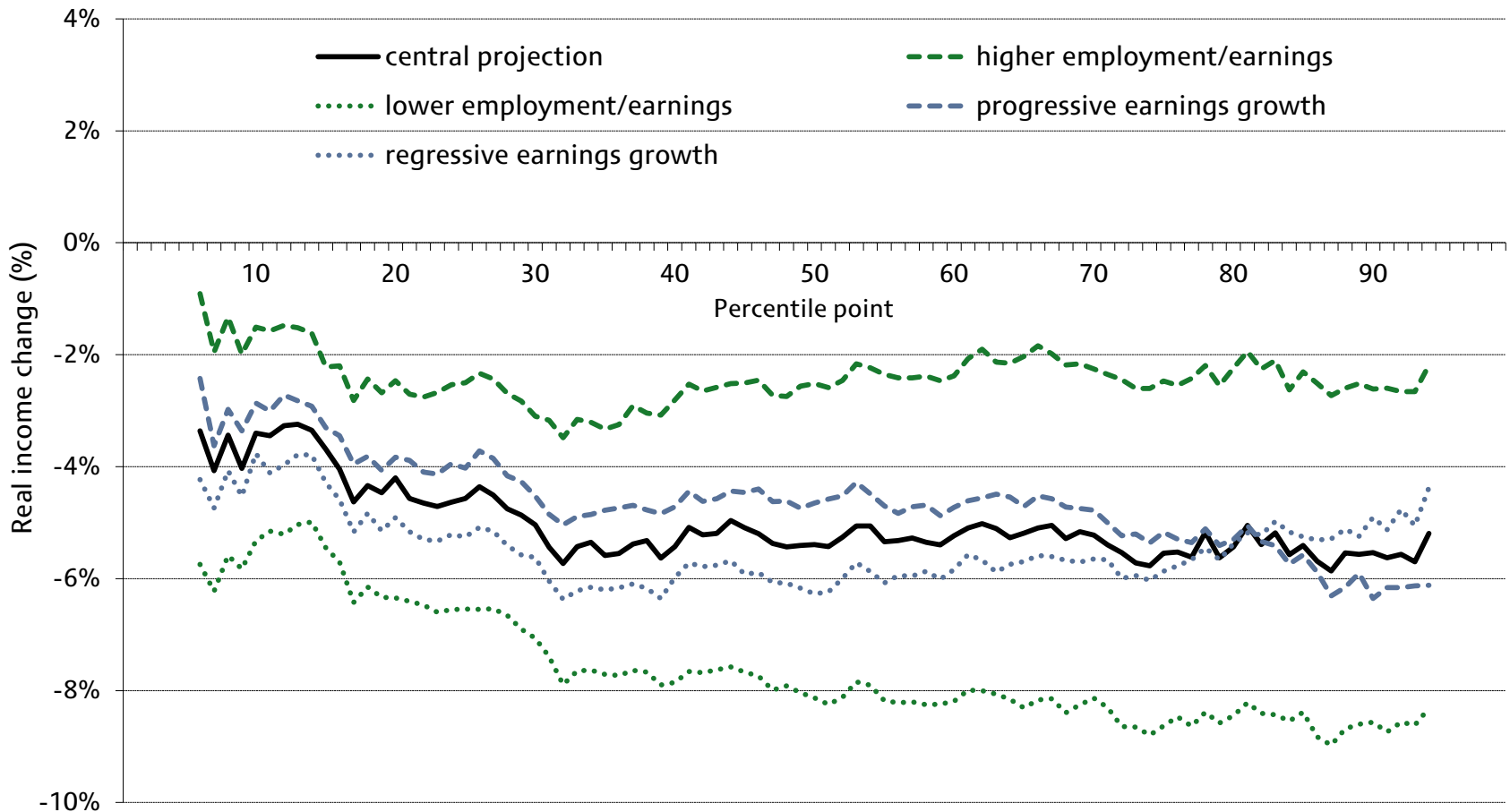
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Sensitivity analysis (2007-08 to 2015-16)

Source: Authors' calculations using FRS 2010/11; and Cribb et al. (2012).
Notes: Income growth at the top and bottom 5 percentile points is not shown due to uncertainty from sampling and measurement error.
Higher/lower employment and earnings scenarios add/subtract 400,000 to/from the employed population and 4% to/from earnings levels.
'Progressive' and 'regressive' earnings growth scenarios involve each earnings decile group having 1% lower/higher earnings relative to the
previous decile group than under central scenario.

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Relative poverty projections
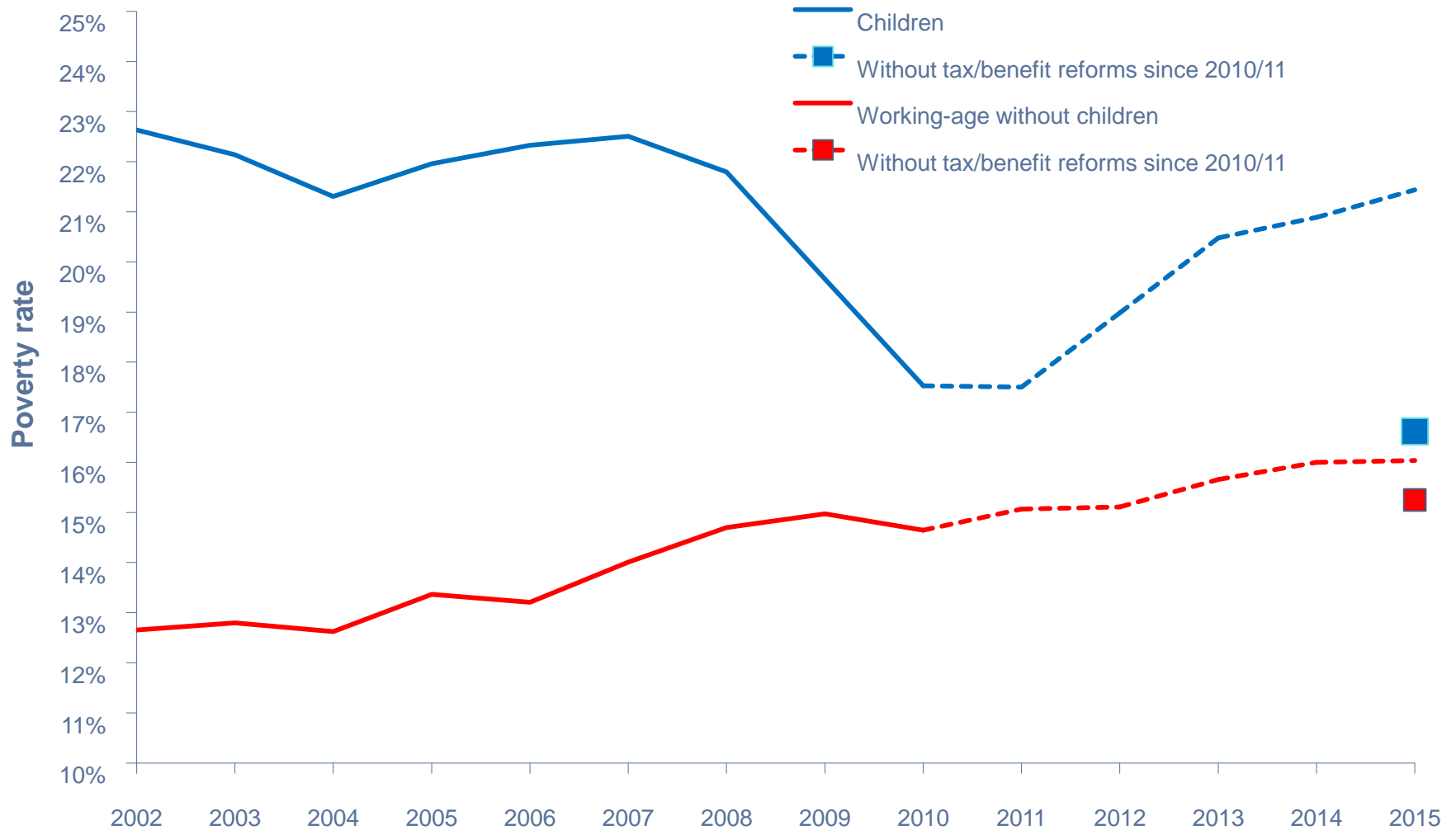
Note: Poverty line is 60% of median income. Years refer to financial years.

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Summary

- Medium-term impact of recession looks set to be quite evenly distributed

- But very stark differences in timing of income falls

- Initial impacts were inequality-reducing, as real earnings fell sharply while benefits were generally price-indexed

- Subsequent impacts look almost the exact opposite, with lower income groups hit much harder by tax/benefit elements of consolidation than those in middle and upper-middle

- Relative low income rates among families with children to rise more, due to differential effects of consolidation

    – But also fell more during recession

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