

The distributional impact of Covid-19 crisis and government response in the UK: A monthly perspective

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Background and motivation

- The UK was among the most adversely-affected economically by the pandemic among OECD countries.
 - ✓ E.g. 10% reduction in the GDP in 2020 but aggregate household income in 2020 was broadly similar to 2019.
- A large emergency package, including **earnings subsidies** for employees and the self-employed, as well as increasing the generosity **of benefits for low-income families**.
- Several studies of the impact of Covid-19 crisis on household incomes in the UK in early 2020 (Brewer and Tasseva (2021), Bronka et al. (2020), Cantó et al. (2021), Crossley et al. (2021) have highlighted the importance of the Covid-19 emergency package.

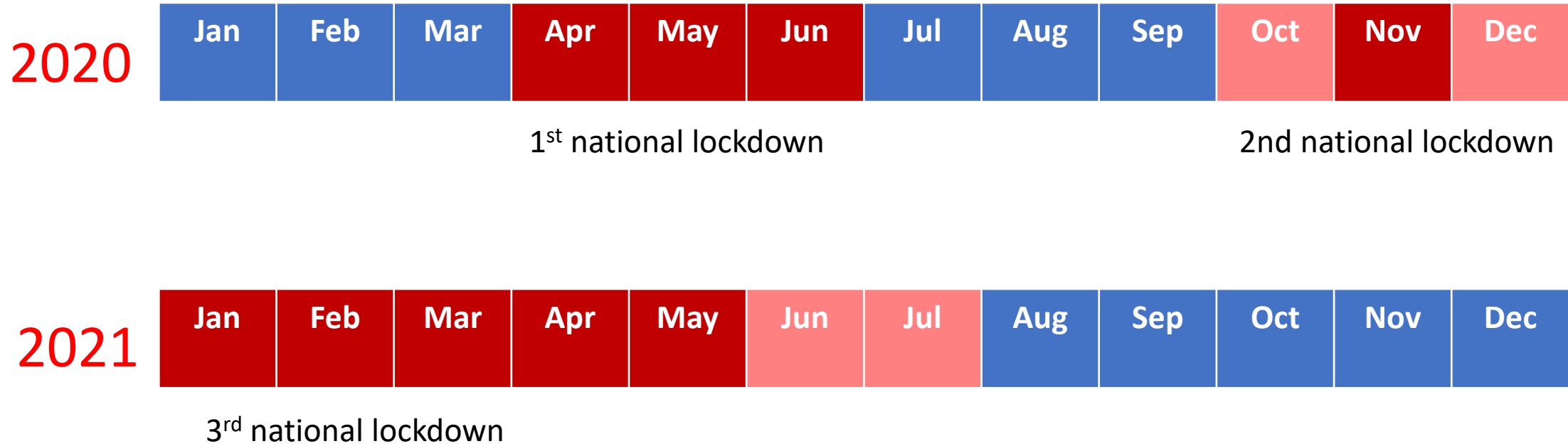


Objectives and contribution

- To assess the monthly changes in the distributional impact of the Covid-19 crisis and the emergency policy reforms on household incomes in 2020 and 2021.
 - ✓ Tax-benefit model UKMOD <https://www.microsimulation.ac.uk/ukmod/>
 - ✓ Family Resource Survey (FRS) data
- Our contribution:
 - ✓ Advanced modelling of Covid shocks which allows for assessing the impact of the crisis by month
 - ✓ Monthly changes in policies over the whole period of Covid-19 crisis, incl 2020 and 2021.
 - ✓ Detailed impact for different population subgroups.



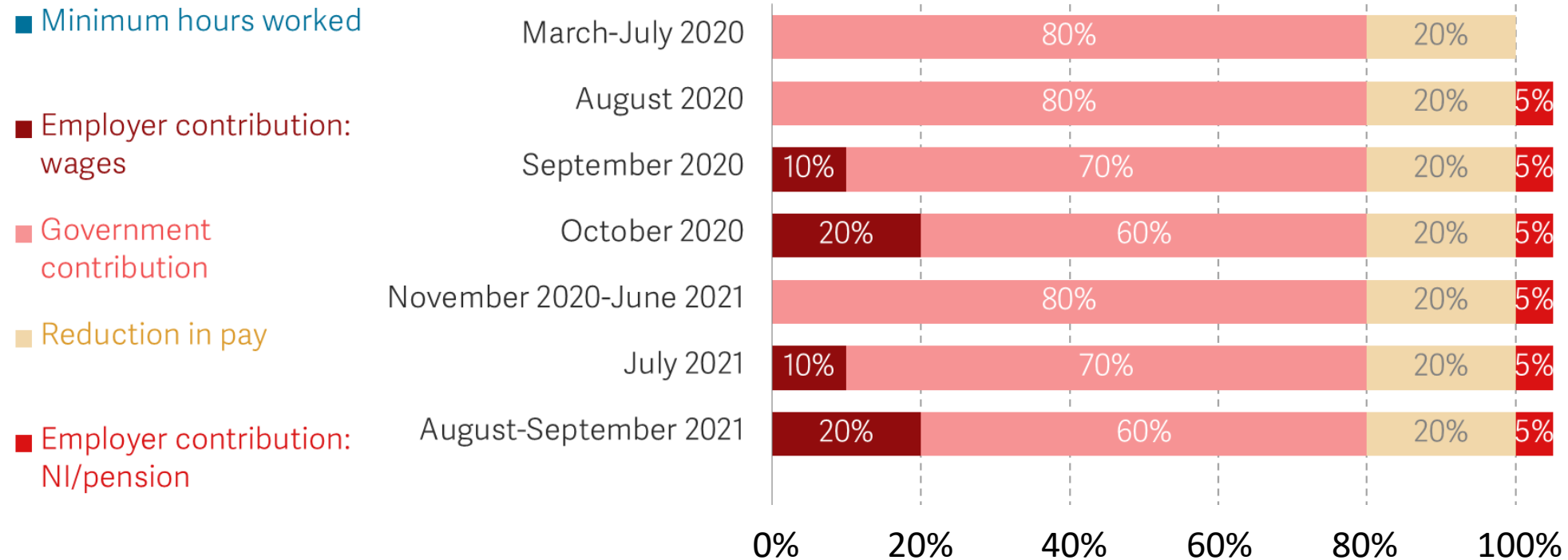
Timeline of the lockdown measures in the UK





Covid related policy changes (1/3)

- **Coronavirus Job Retention Scheme (CJRS).** Duration: Late Mar 2020-Sep 2021



* For employees earning below £2,500 per month



Covid related policy changes (2/3)

- **Self-Employment Income Support Scheme (SEISS)**. Duration: May 2020-Sep 2021.
- Paid in five grants.

	May20-Jul20, Nov20-Jan21, Feb21-Apr21	Aug20-Oct20	May21-Sep21
Government contribution:			
Average trading profits	80% up to £7,500, covering 3 months' worth of profits	70% up to £6,570, covering 3 months' worth of profits	80%/30% up to £7,500/£2,850 covering 3 months' worth of profits, for those with a turnover reduction of 30% or more/less than 30%
Self-employed person's contribution:			
Self-employed NICs	yes	yes	yes



Covid related policy changes (3/3)

- **Changes in state benefits.** Duration: Apr 2020-Sep 2021.
 - ✓ A £20 a week increase in the basic allowance of **the Universal Credit (UC)**, the means-tested benefit for working age people on low incomes or unemployed, subject to a benefit cap. Access of the self-employed improved by suspending the Minimum income floor.
 - ✓ A £20 a week increase in the basic allowance of **the Working Tax Credit (WTC)**, an in-work benefit that UC is replacing.
 - ✓ Increases to **Housing Benefit (HB)** and the UC component which support low-income families with paying their rent.
 - ✓ Increases in the amount if earnings disregarded in calculating the entitlements to HB and **Council Tax Reduction** (a benefit that supports families with paying property tax).



Data and methods

- UKMOD version A3.7 (as of July 2022) with the 2019-20 FRS data.
- 2020/2021 income distributions are **nowcasted** using the aggregate ONS and HMRS statistics and UKHLS Covid study data.
- **Baseline: pre-Covid 2020 (no shocks, no new policies).**
 - ✓ market incomes are indexed to target year (2020);
 - ✓ tax-benefit rules effective in (March) 2020 before Covid.
- **Counterfactuals: post-Covid 2020 and 2021 (shocks, new policies) for each month from Apr 2020 to Dec 2021:**
 - ✓ market incomes indexed to target year (2020 or 2021);
 - ✓ labour market transitions for individuals potentially affected by the lockdowns;
 - ✓ tax-benefit rules effective in 2020/2021 after Covid.
- First-order effects of the Covid policies on the income distribution (e.g. no changes in benefit take-up).



Nowcasting in UKMOD: objectives

- The EU-27 EUROMOD model is based on SILC data; UKMOD is based on FRS.
- EU-27: **Predict yearly income**
- UK: **Predict current income**
- **“instant” simulations** misrepresent policies that condition on yearly variables (e.g. most taxes)
- **yearly simulations** misrepresent policies that condition on current state
 - ✓ This is particularly problematic for Covid-19 shocks and policies



Nowcasting in UKMOD: Overview of transitions

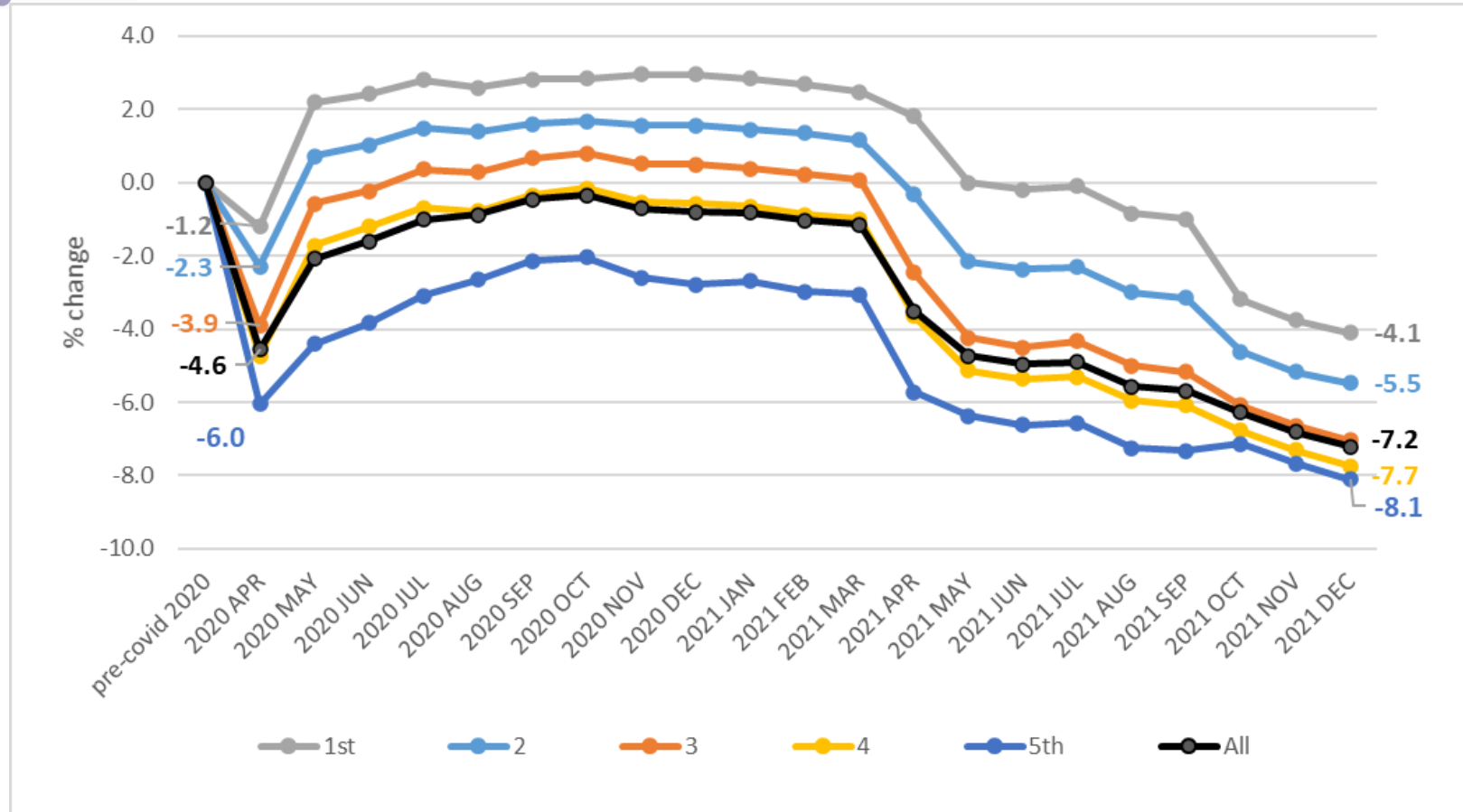
- **Employment states and policy rules are modelled based on the month of interview**
- We model the transitions between the states below using multinomial logit models, controlling for a number of observable characteristics such as gender, age, education, household composition, industry, working hours, baseline pay, lagged pay, occupation, time.
- *New working hours and unit wages predicted, conditional on baseline values and current occupation / industry. We allow for correlation in the error terms using seemingly unrelated regressions.
- +New industry and occupation predicted, conditional on age, gender, education

From / To	Employment	Self-employment	Furlough	Non-employment
Employment	No changes / some changes* ✓	✓	✓	✓
Self-employment	* ✓	* / SEISS ✓		✓
Furlough	* ✓	* ✓	✓	✓
Non-employment	*+ ✓	*+ ✓		✓





Monthly changes in real disposable incomes by quintile, % wrt baseline

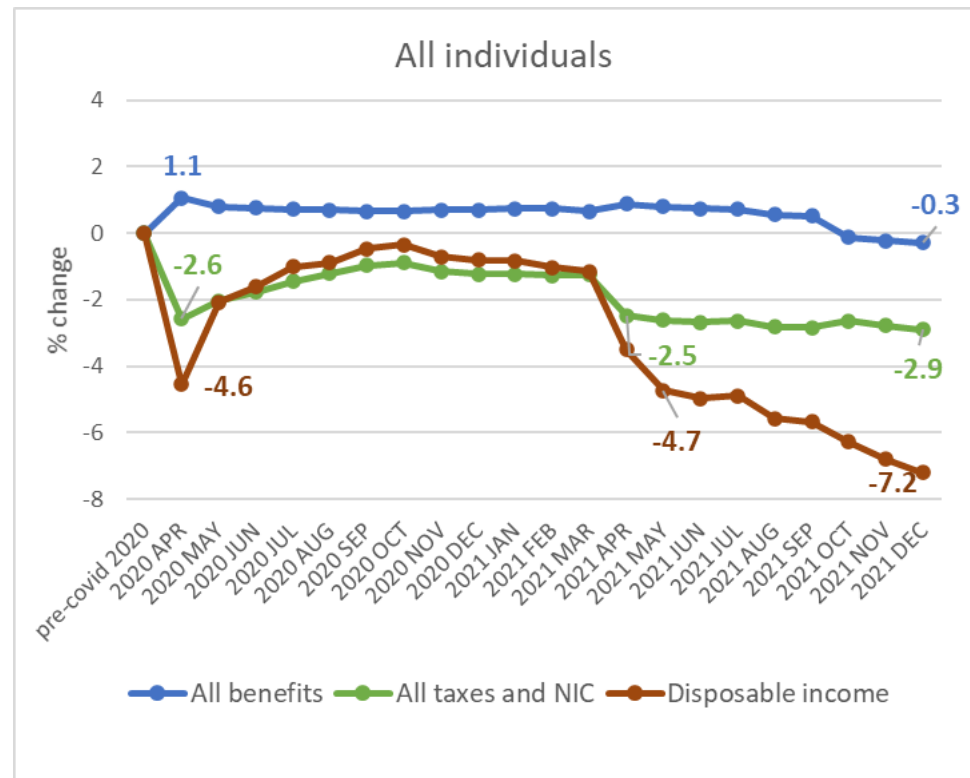
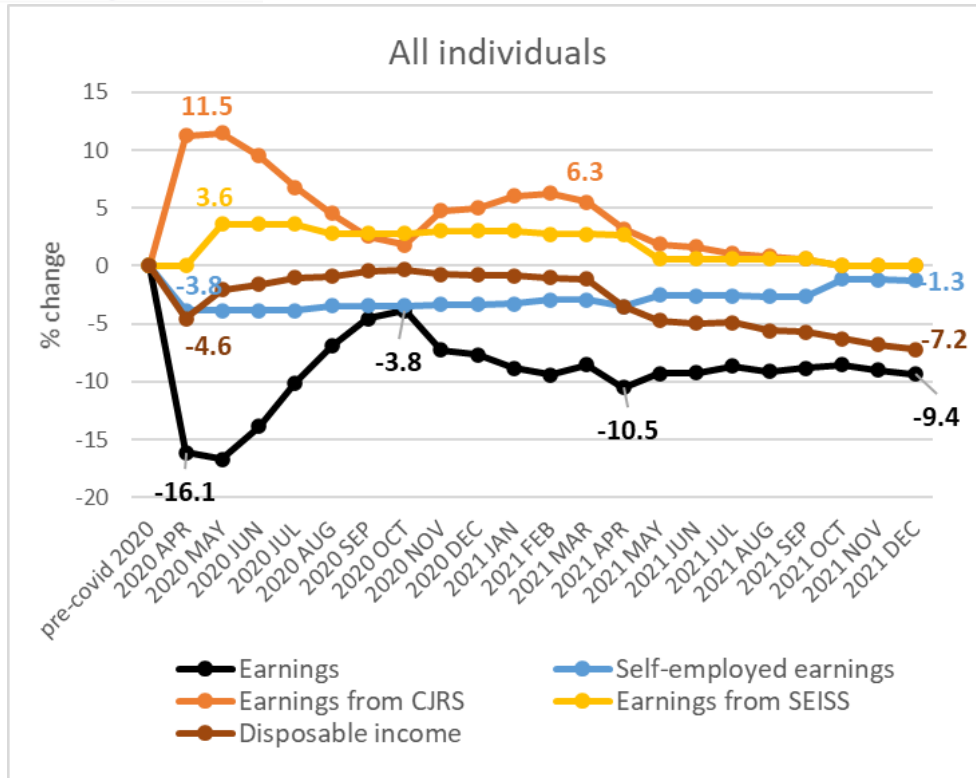


Annual changes

- All: -1.1 (2020) and -3 (2021).
- Bottom quintile: 2.4 (2020) and 1.1 (2021)
- Top quintile: -2.9 (2020) and -2.4 (2021).



Monthly changes in real earnings and earnings subsidies, % wrt baseline

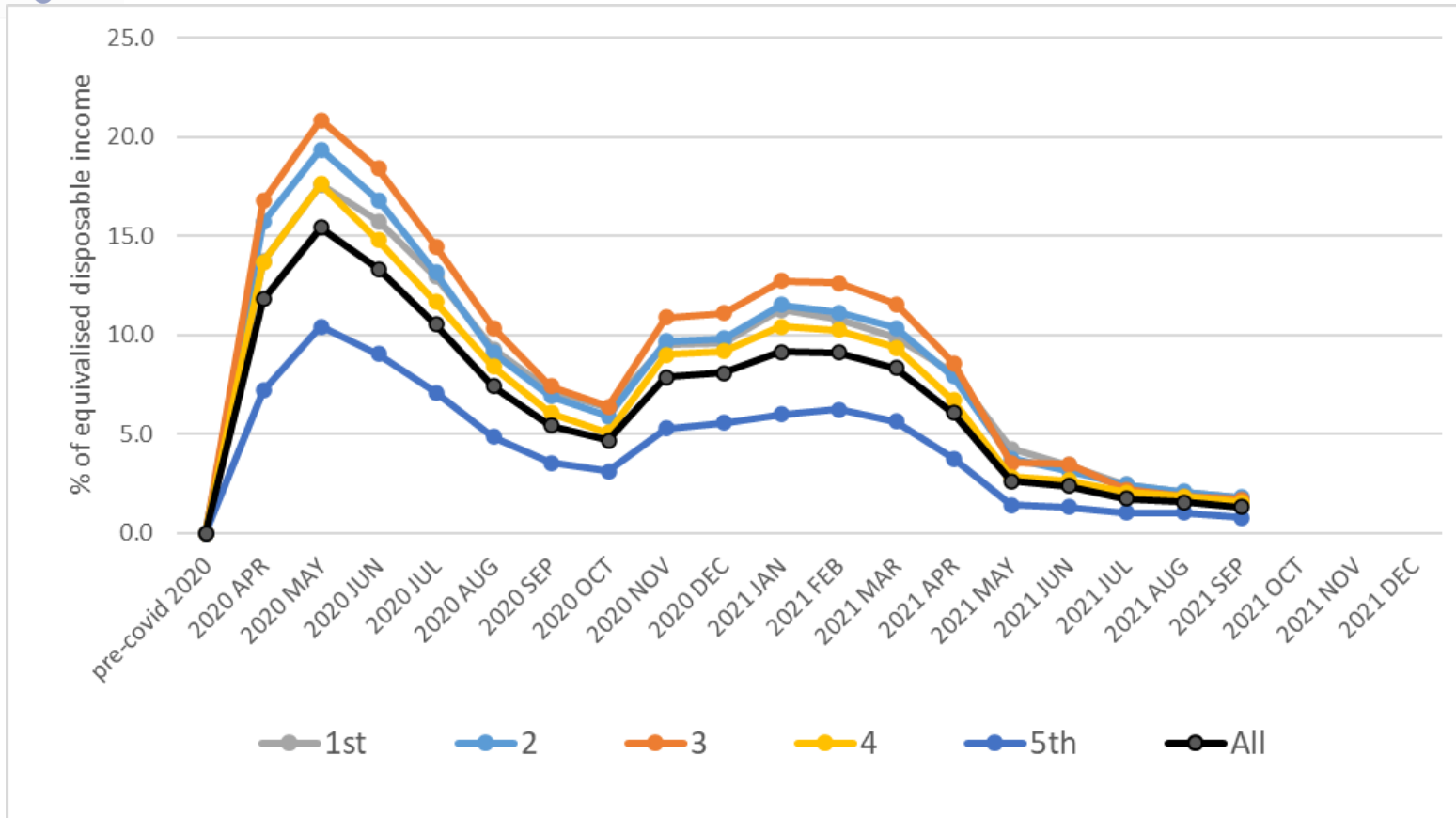


Annual changes

- Earnings: -9.2 (2020) and -6.8 (2021).
- Self-employment income: -3.4 (2020) and -1.7 (2021)
- Benefits: +1
- Taxes: -1.4 (2020) and -2 (2021)



Monthly changes in the share of earnings subsidies (CJRS and SEISS) in disposable income by quintile, %

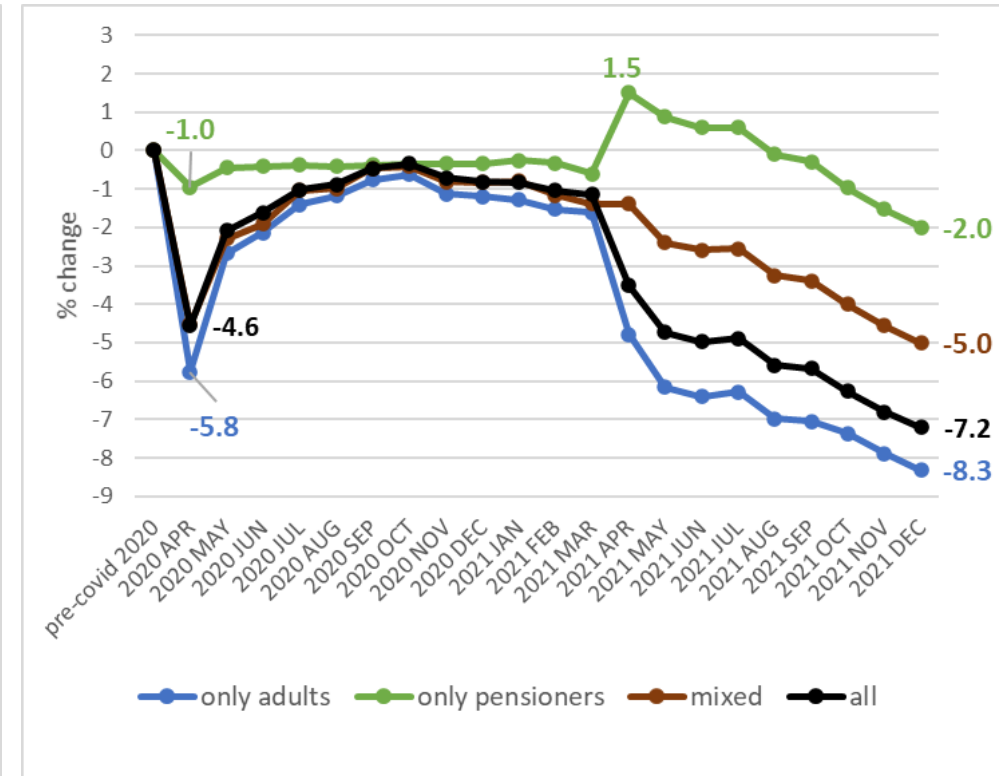
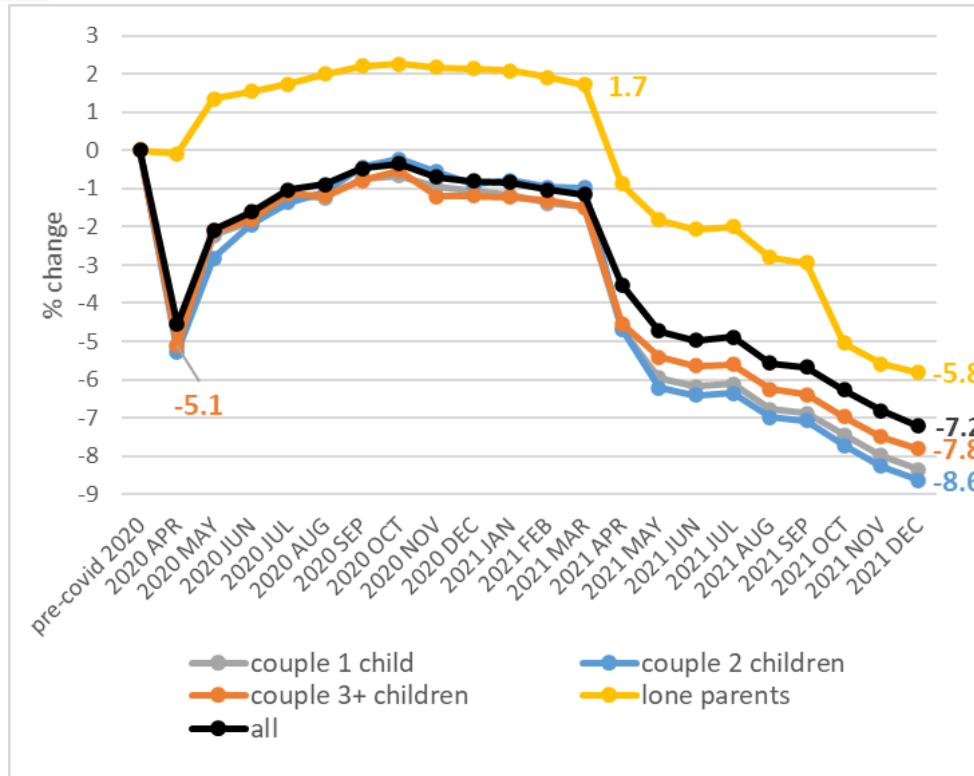


Annual changes

- All: 9% (2020) and 1% (2021).
- Bottom quintile: 11% (2020) and 2% (2021)
- Top quintile: 6% (2020) and 1% (2021).

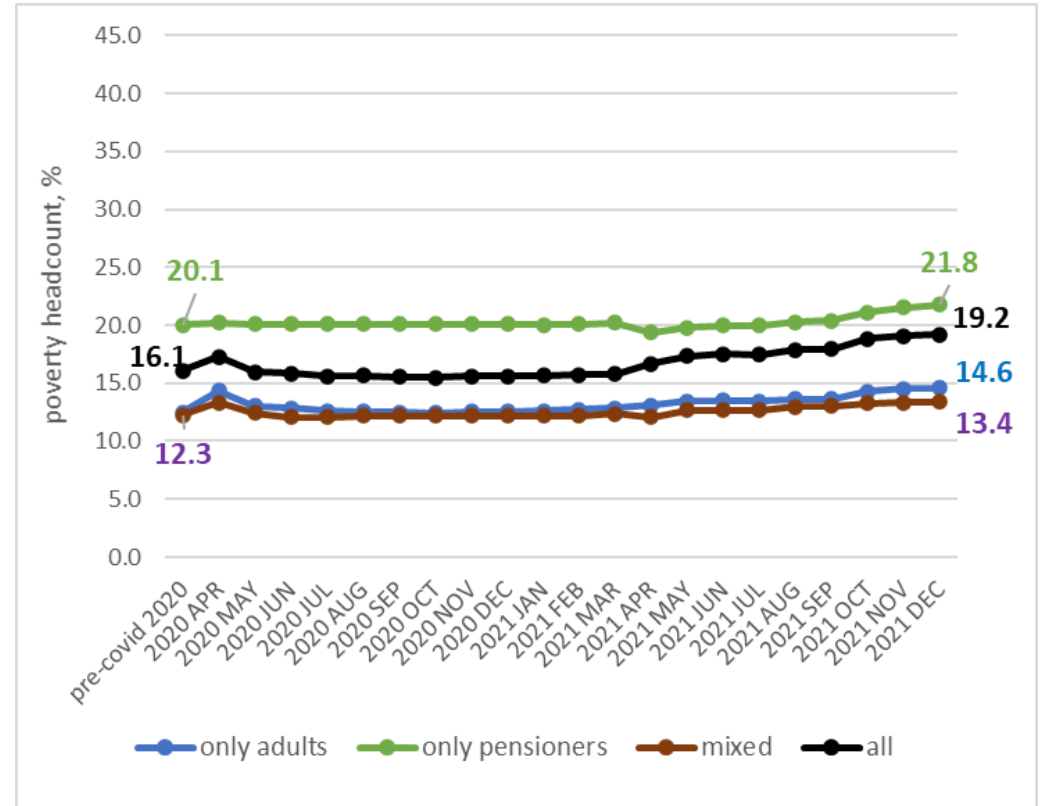
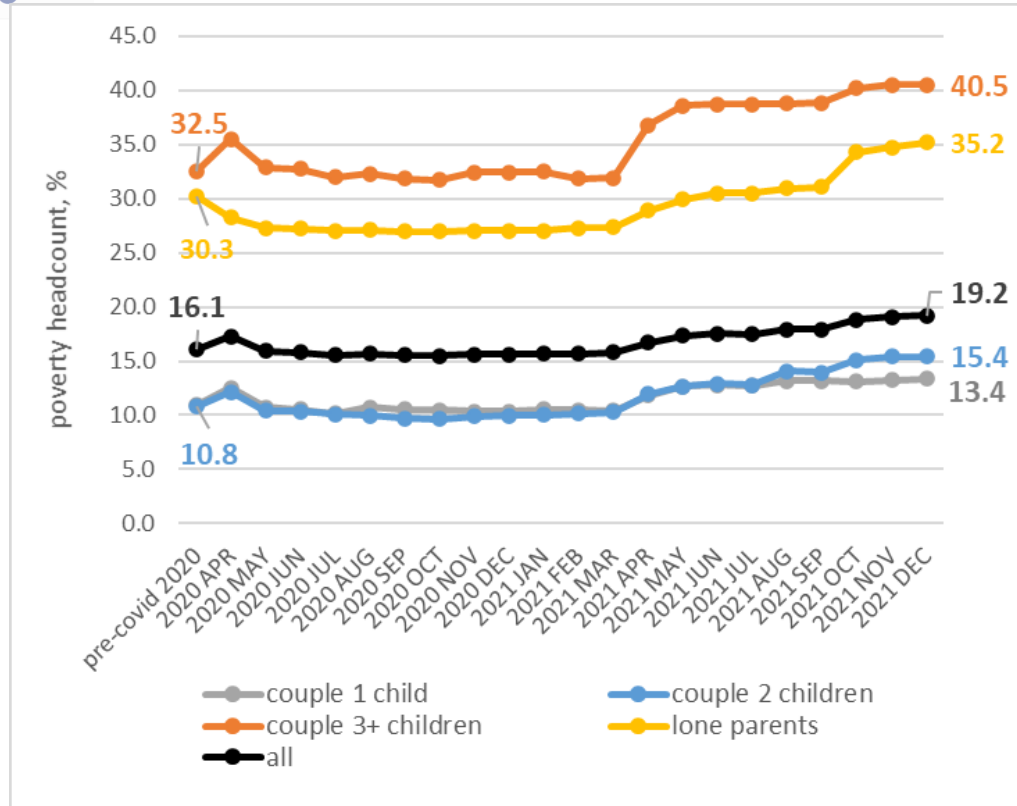


Monthly changes in real disposable incomes by household type, % wrt baseline



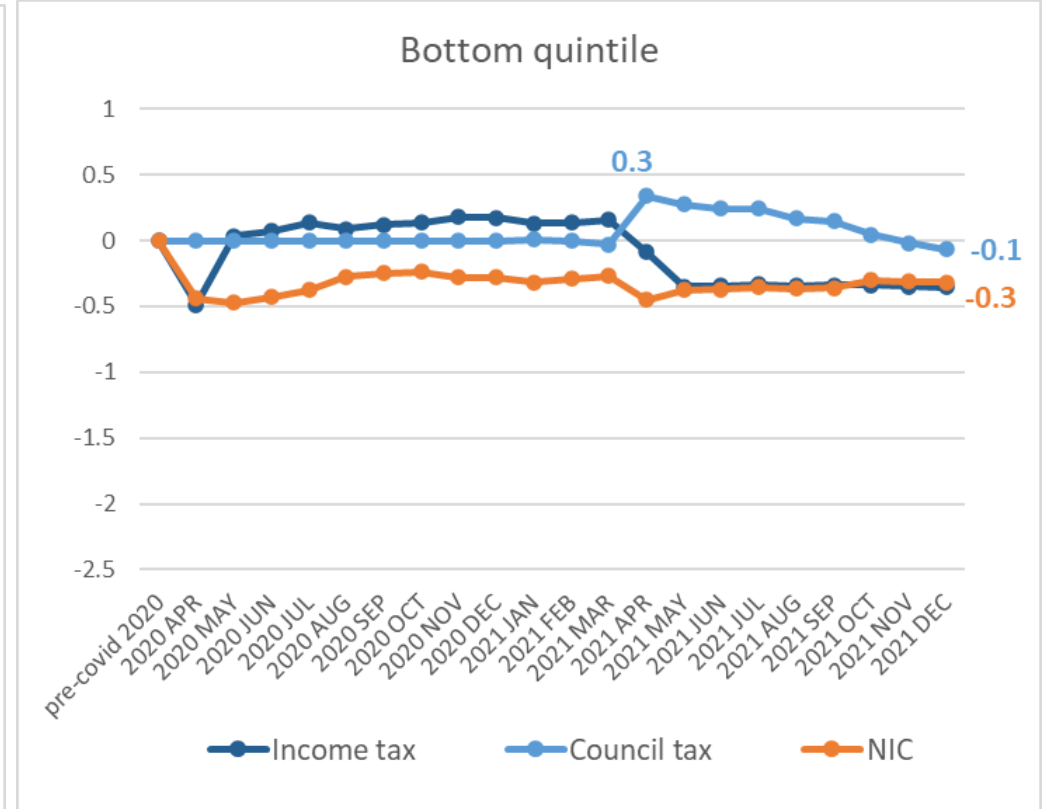
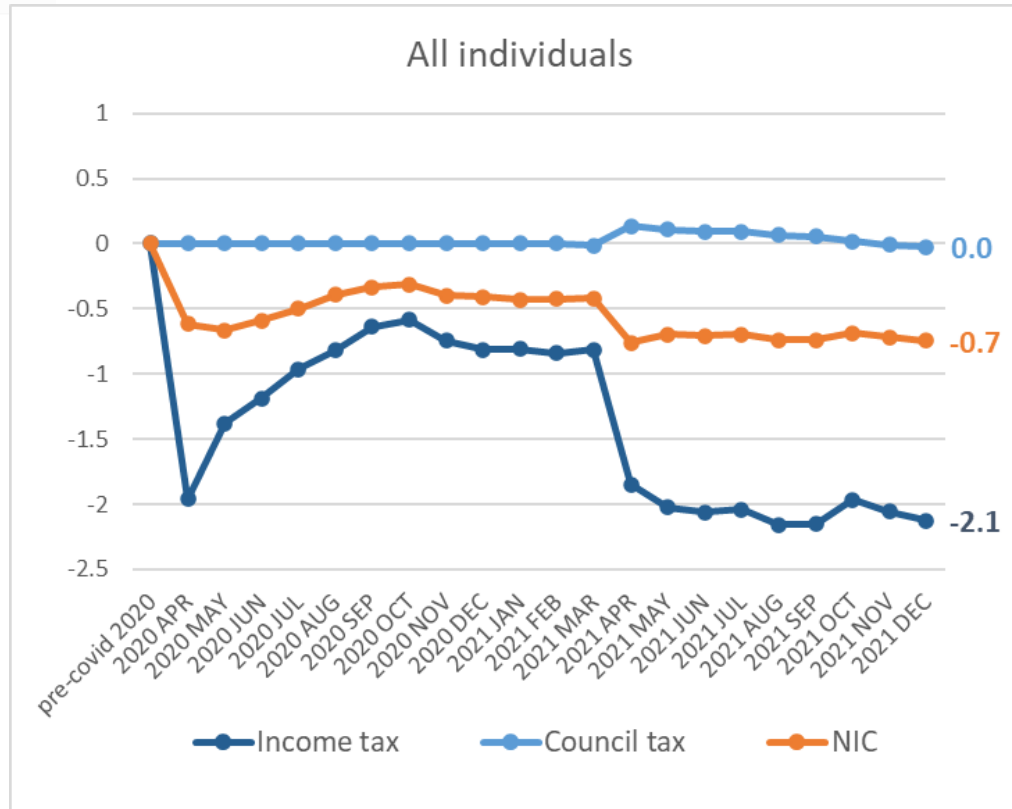


Poverty headcount by household type, by month



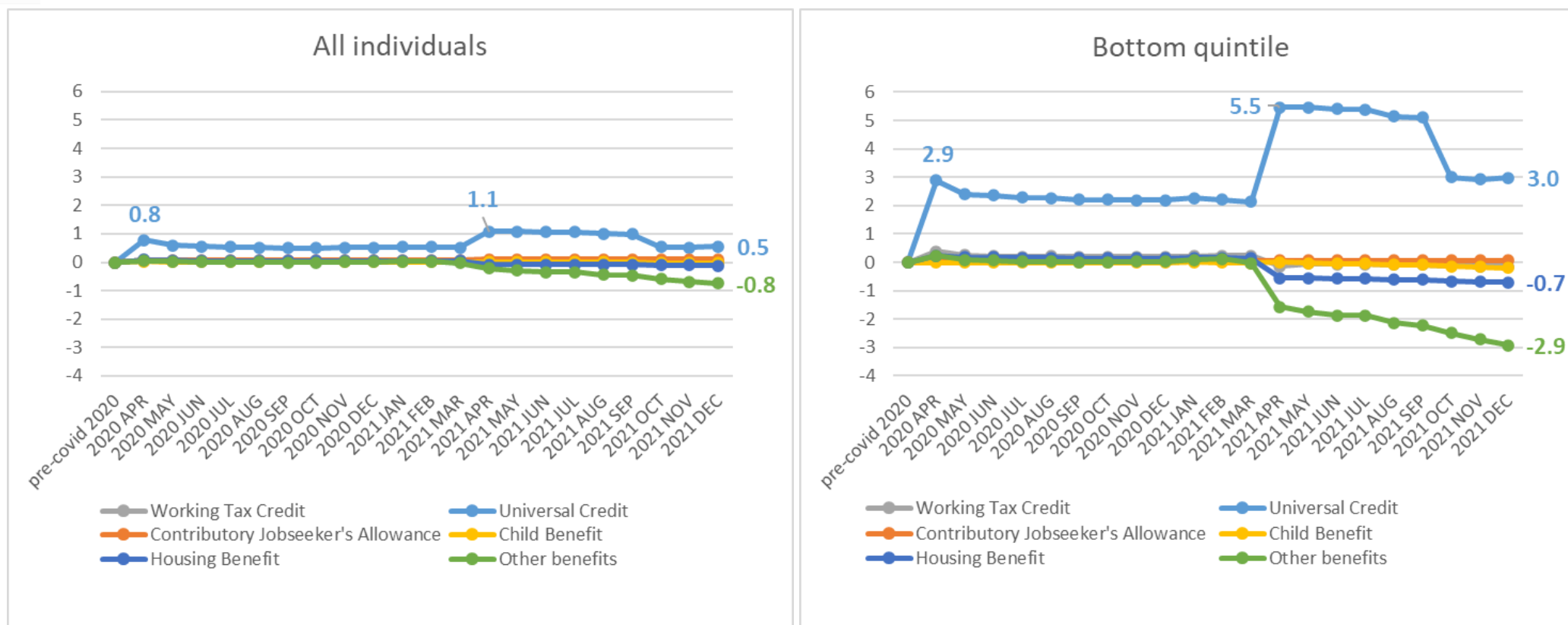


Monthly changes in income taxes and SIC, % wrt baseline



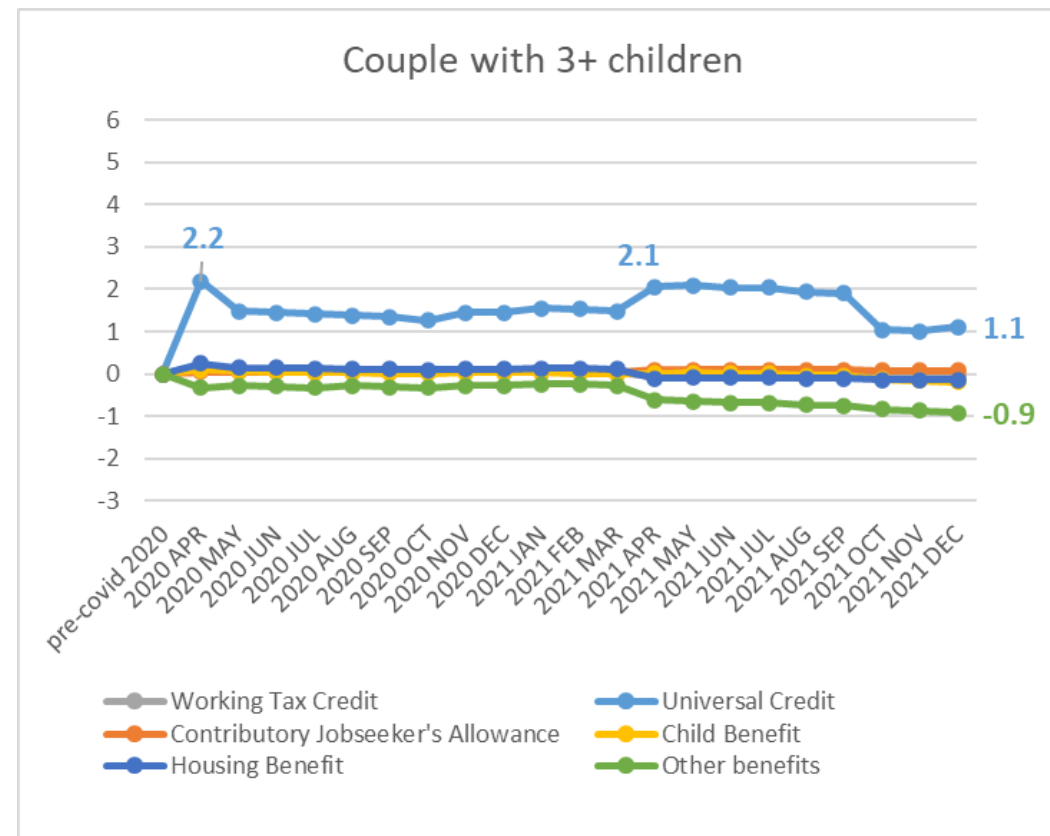
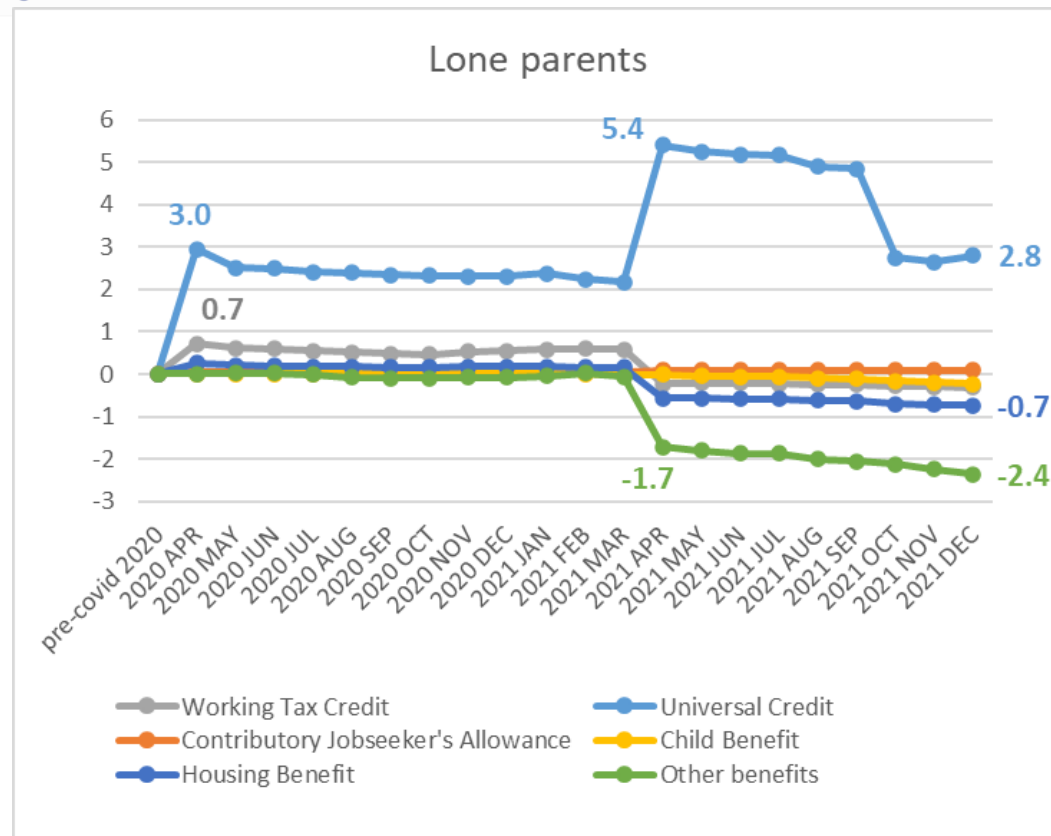


Monthly changes in benefits, % wrt baseline



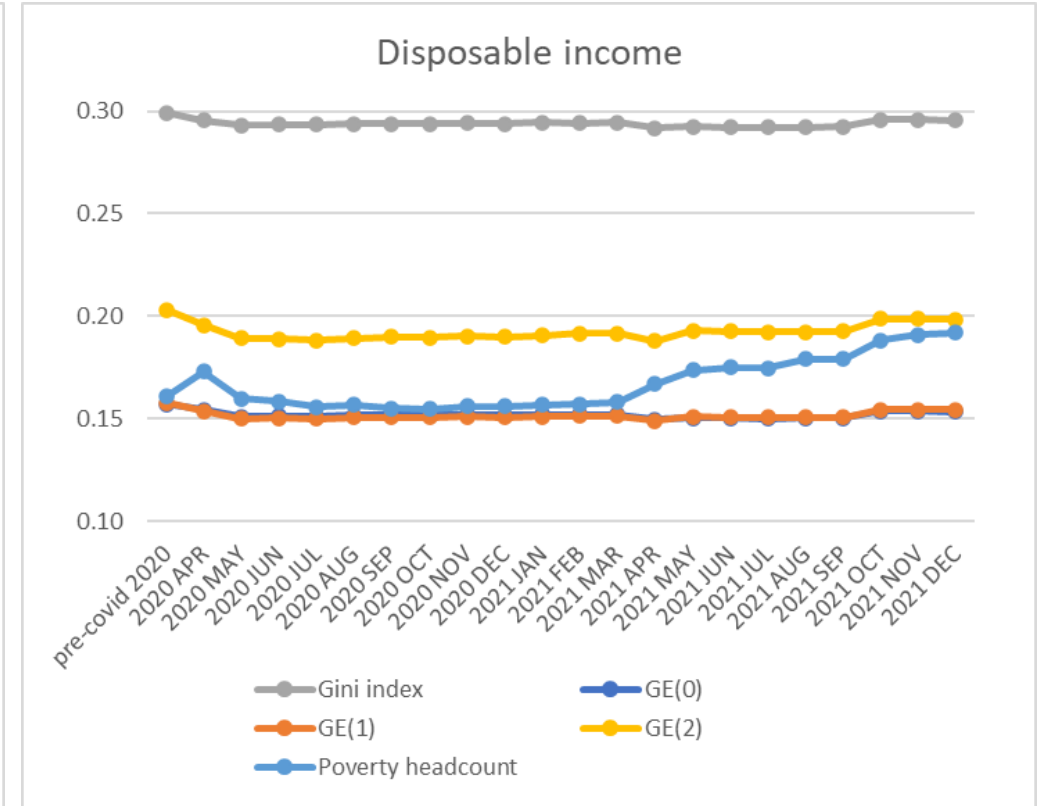
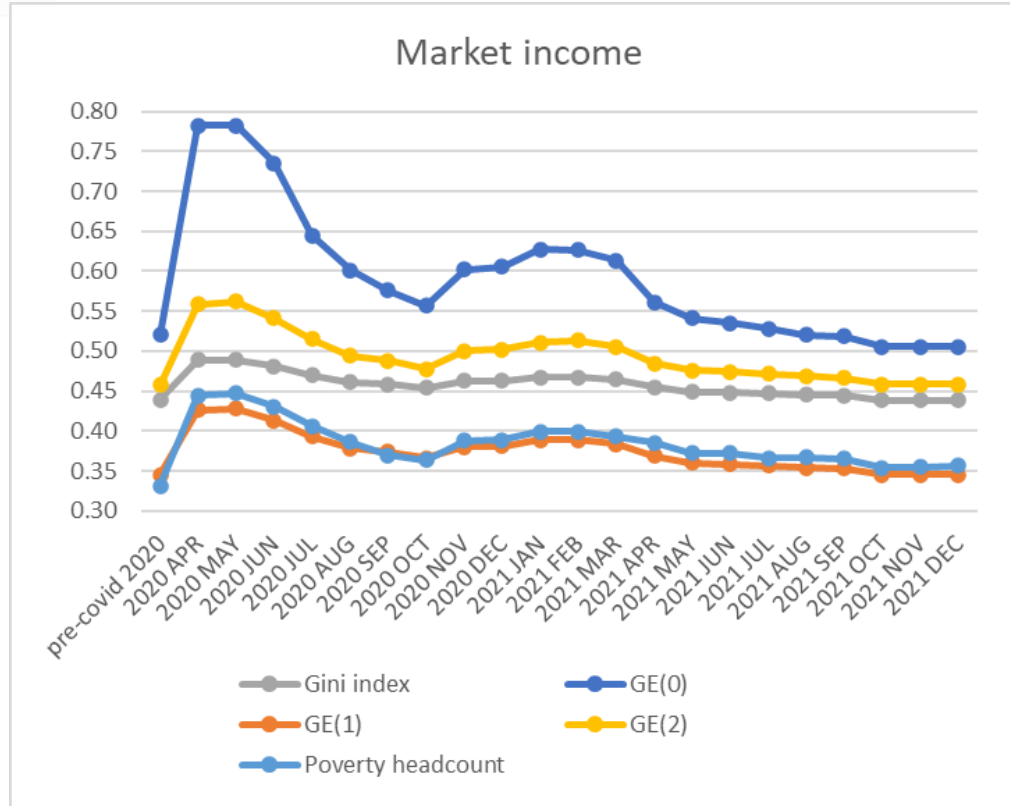


Monthly changes in benefits, % wrt baseline



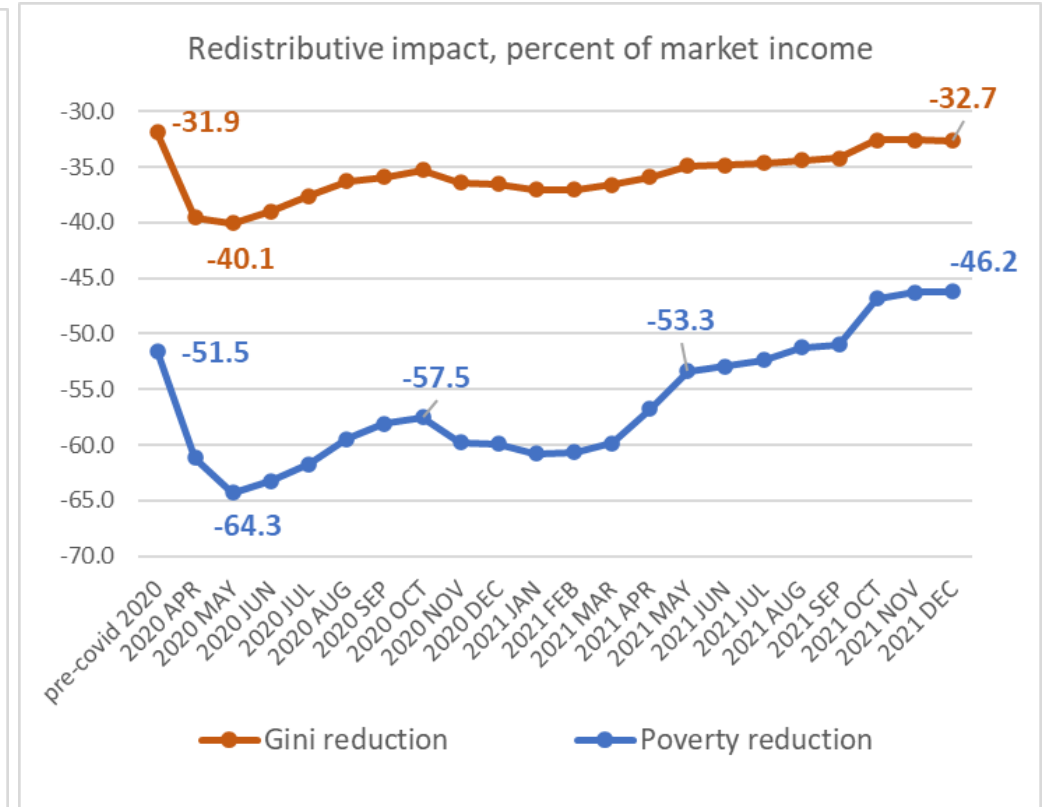
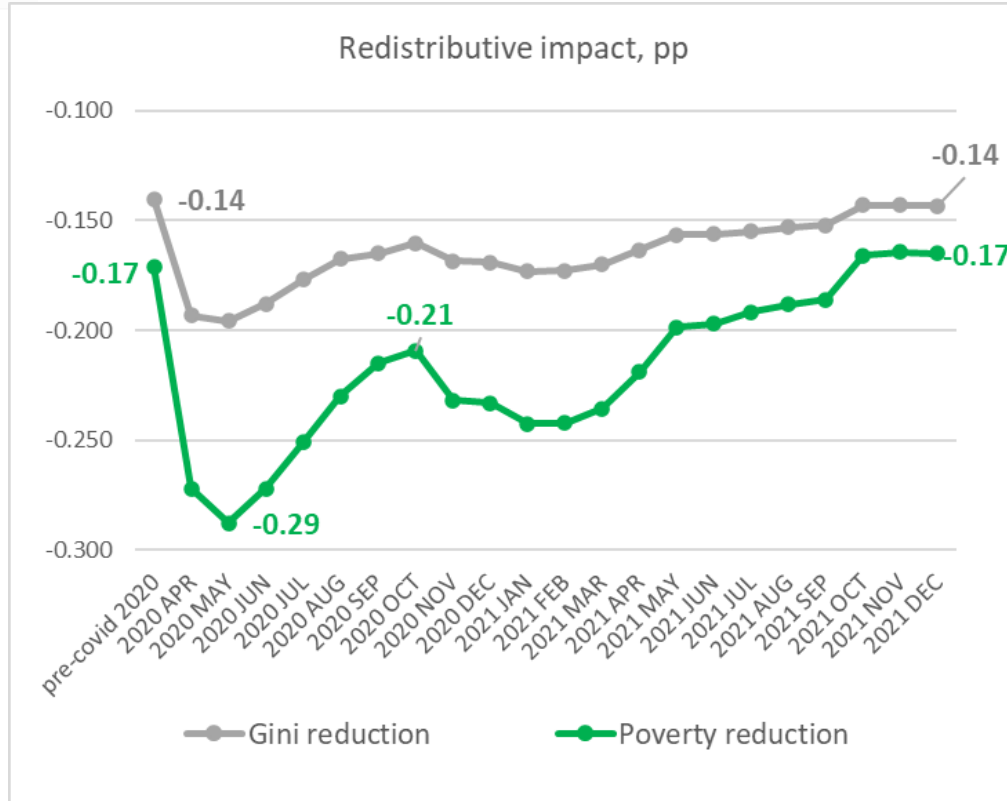


Inequality and poverty measures at market and disposable income, by month





The redistributive impact of the tax-benefit system, by month





Discussion

- The UK's social security system has evolved over decades into one that provides a basic level of support, with a heavy reliance on means-testing, and a sharp financial divide between being 'in work' and 'out of work' to motivate people to work.
- The level of support provided by the pre-crisis safety net was too low, after nearly a decade of retrenchment affecting the social security system for working-age adults (freezing the cash value of benefits).
- Most of the spending on the new covid policies went to earnings subsidies is that they provide payments to workers that were directly related to workers' previous earnings. Earnings subsidies provided the main insurance mechanism during the crisis.
- Any distinctions between the treatment of employees and the self-employed in the social security system were removed.



Thank you!

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