India's Pandemic through the Lens of Consumption Expenditure: capturing welfare effects

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Summary

- **Question**: What were the welfare effects of the pandemic on India's consumption expenditure?
- **Method**: Secondary data analysis using CMIE-CPHS
- **Findings**:
  - Sharp rise in poverty following lockdown 1, that does not persist.
  - Consumption inequality unaffected due to lockdown 1 - all deciles experienced a proportionate fall. It reduced after that because the poor recover faster.
  - When we follow households using deciles assigned pre-pandemic, the pre-pandemic rich suffer a higher consumption loss post lockdown 1 & recover much slower.
  - The richer population's consumption was affected more and they recovered slower due to reduction in discretionary spending.

Motivation

- Rich literature on labour market and income effects of the pandemic.
  - Bertrand et al. (2020): warns of incomplete recovery in employment
  - Abraham et al. (2021): recovered jobs come with earning losses and increased precarity through more informal contracts
  - Gupta et al. (2020a): the shock is either neutral or progressive across household income
- Gap in the literature: Pandemic's effects on consumption expenditure largely unexplored

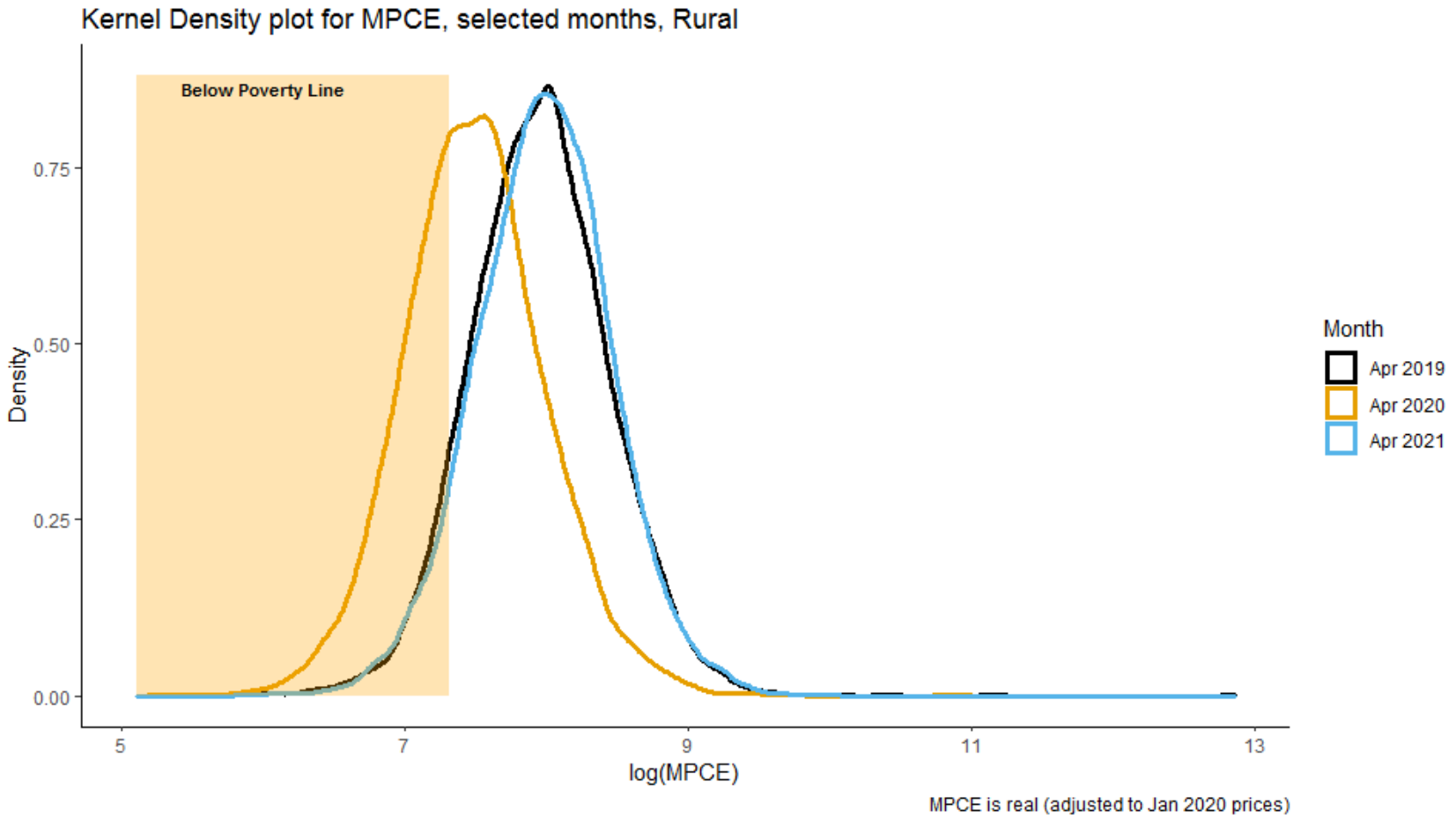
About CMIE-CPHS

- CMIE has been conducting the CPHS since 2014.
- collects information on demographics, employment status, income, consumption, and assets
- Each household interviewed once in four months (thrice a year)- data provided for each month
- Households do drop out, but a large panel data can be created
- The only large scale (nationally representative?) survey data available for the pandemic

Procedures followed

- Usage of weights: first month's weight for household used
- Recall issue: previous month and fourth month recall don't change values (comparibility with NSS-CES)
- Inflation adjustment: Rebased to Jan 2020's prices (Close to the pandemic)
- Poverty line: Inflation updated Rangarajan line used (separate rural and urban)

Expected Fall in Consumption due to Lockdown 1



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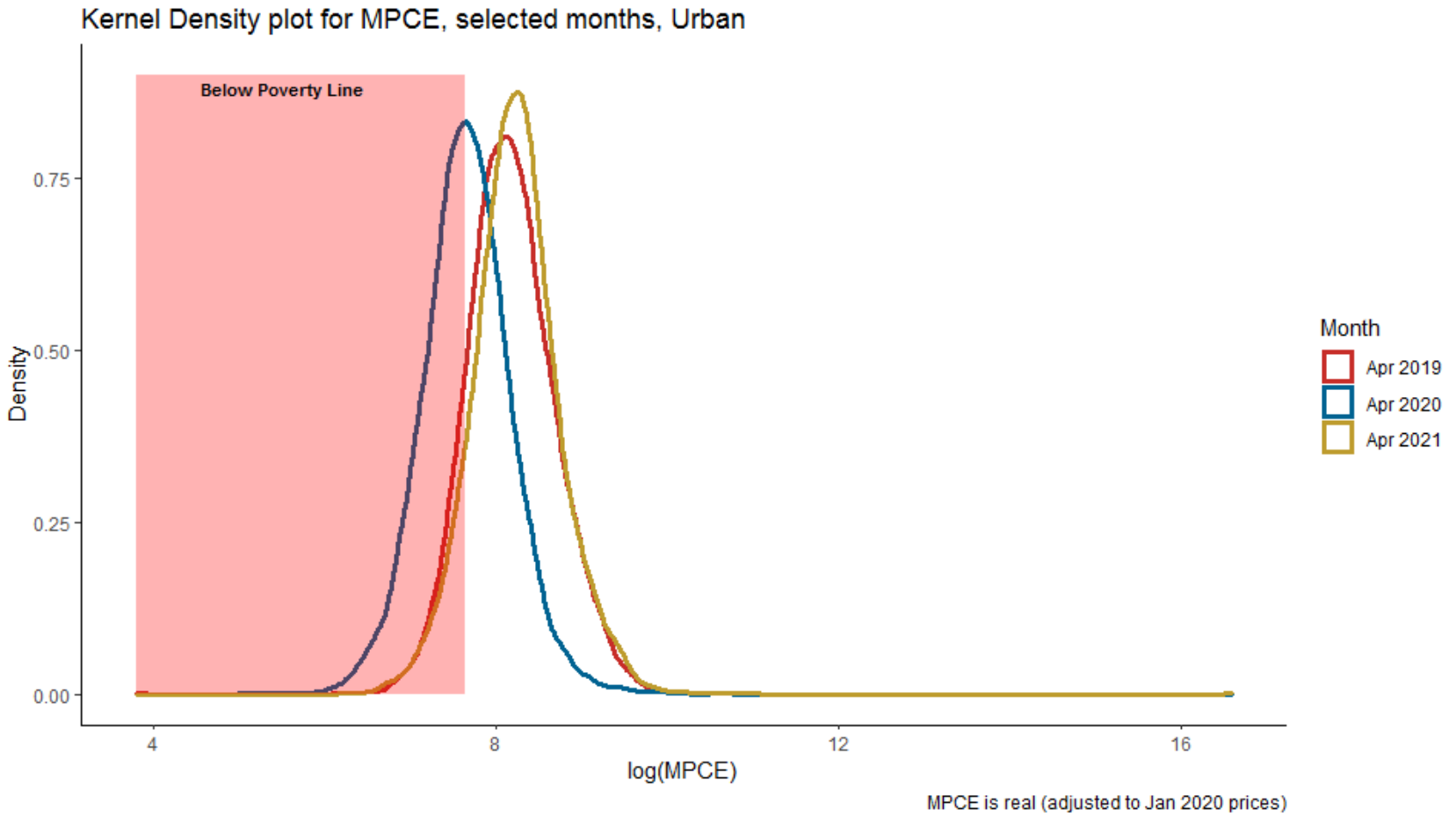
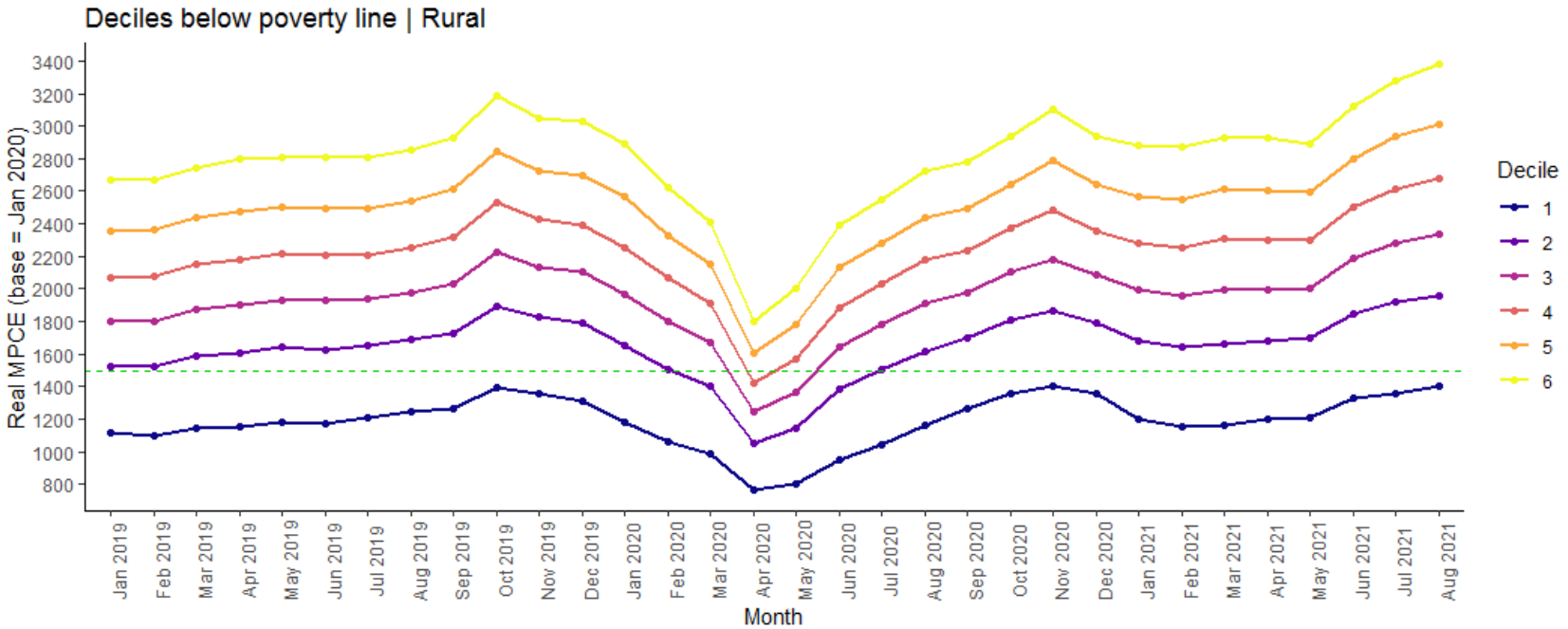
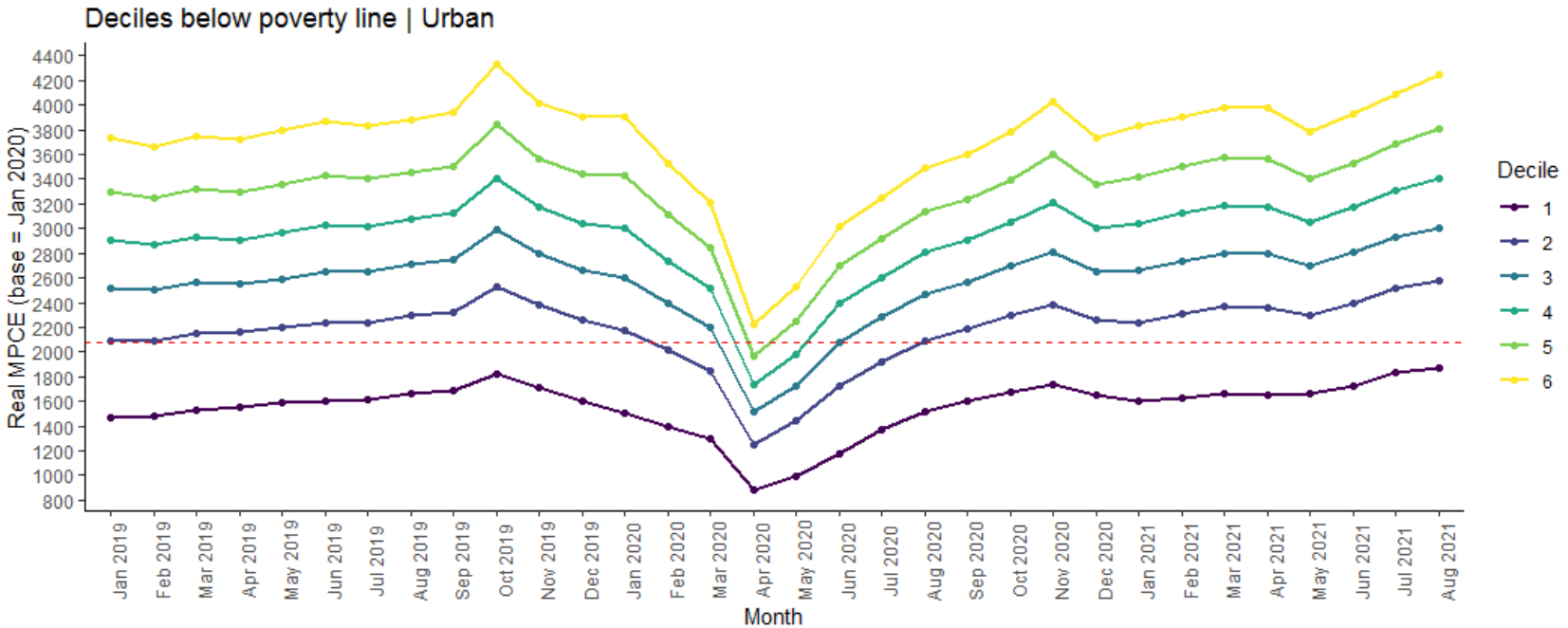


Bottom four rural deciles fell below poverty



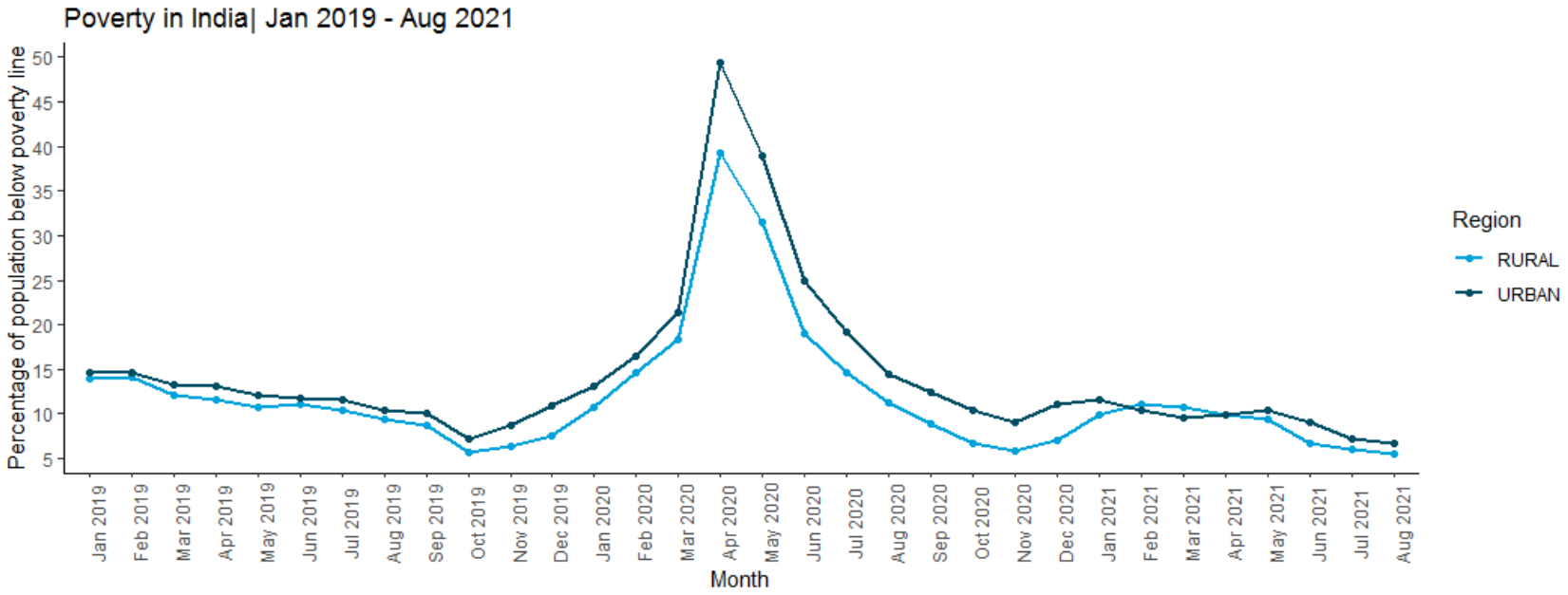
For deflation, base month was Jan 2020. Dynamic deciles were used. Also note that the top four deciles are excluded in this graph.
The rural poverty line is Rs. 1497 per person, per month.

Bottom five urban deciles fell below poverty



For deflation, base month was Jan 2020. Dynamic deciles were used. Also note that the top four deciles are excluded in this graph.
The urban poverty line is Rs. 2080 per person, per month.

Absolute poverty spiked, but recovered in few months



The Rangarajan poverty line was updated with Jan 2020's average CPI of all states.
The poverty thresholds were 1497 and 2080 per person, per month for rural and urban respectively.
Real MPCE was calculated by deflating the nominal MPCE with Jan 2020 as the base month.
An unbalanced panel was used.

Rural inequality unaffected due to lockdown 1, reduced afterwards

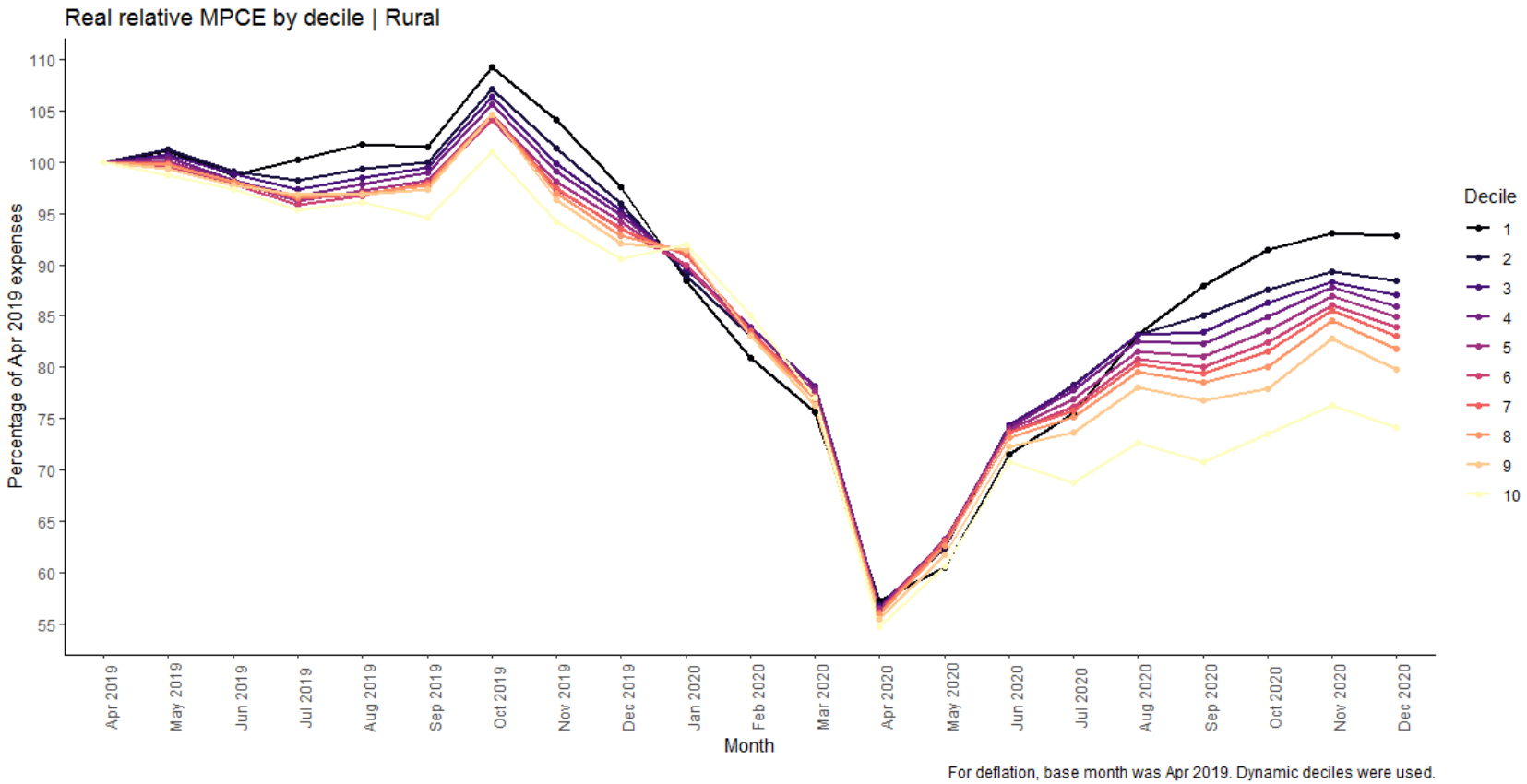


Figure: All deciles fall by the same proportion in Apr 2020, poor recover faster

Urban inequality unaffected due to lockdown 1, reduced afterwards

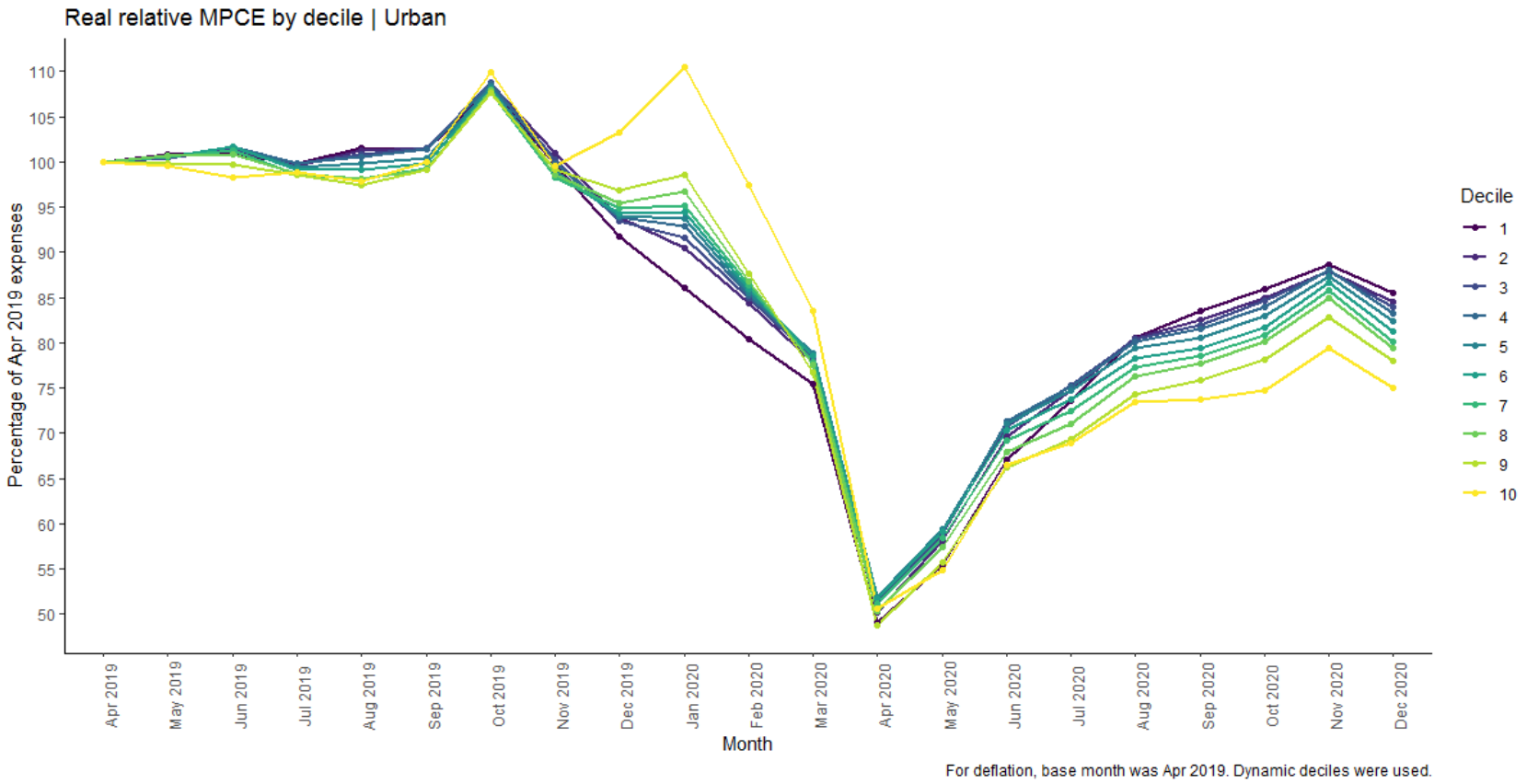
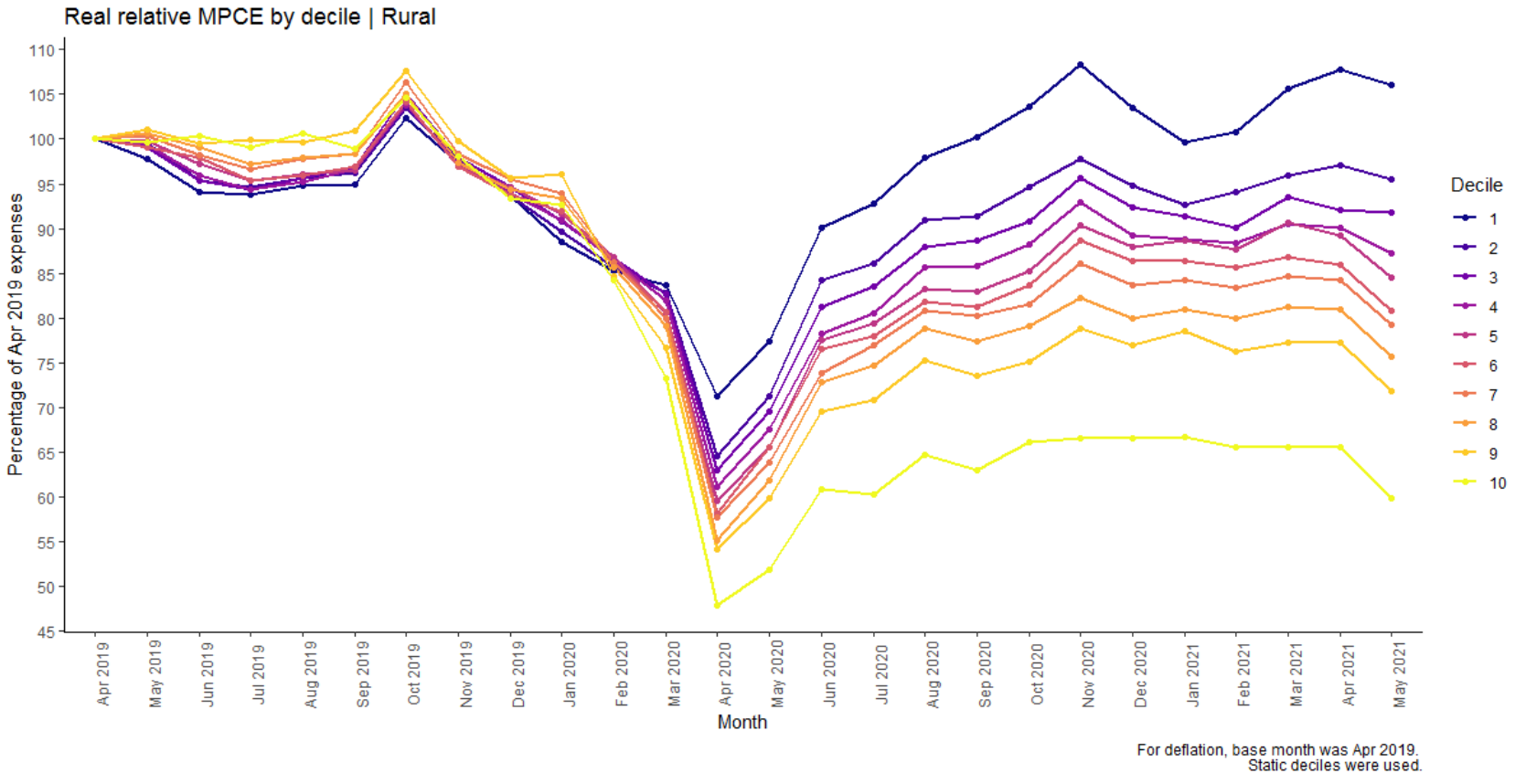
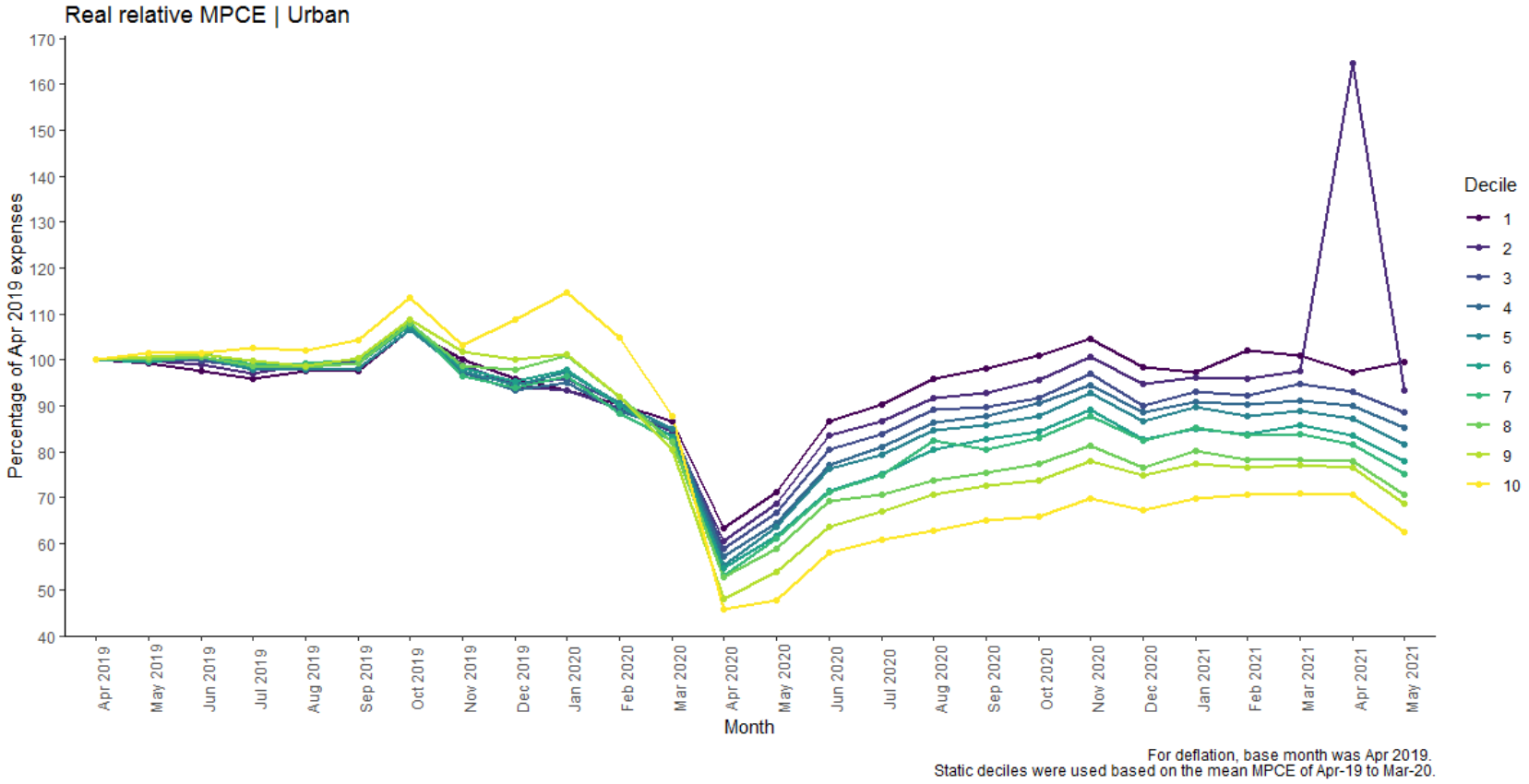


Figure: All deciles fall by the same proportion in Apr 2020, poor recover faster

Rural pre-pandemic rich suffer more, recover lesser



Urban pre-pandemic rich suffer more, recover lesser



Why this puzzling result?

Firstly, the literature supports this finding (rich impacted more, recovered lesser):

- Bussolo et al. (2021): Consumption smoothing puzzle. Informal workers (who most likely belong to lower deciles) were able to better smooth expenditure when compared to formal workers.
- Gupta et al. (2021b): Consumption inequality declined.

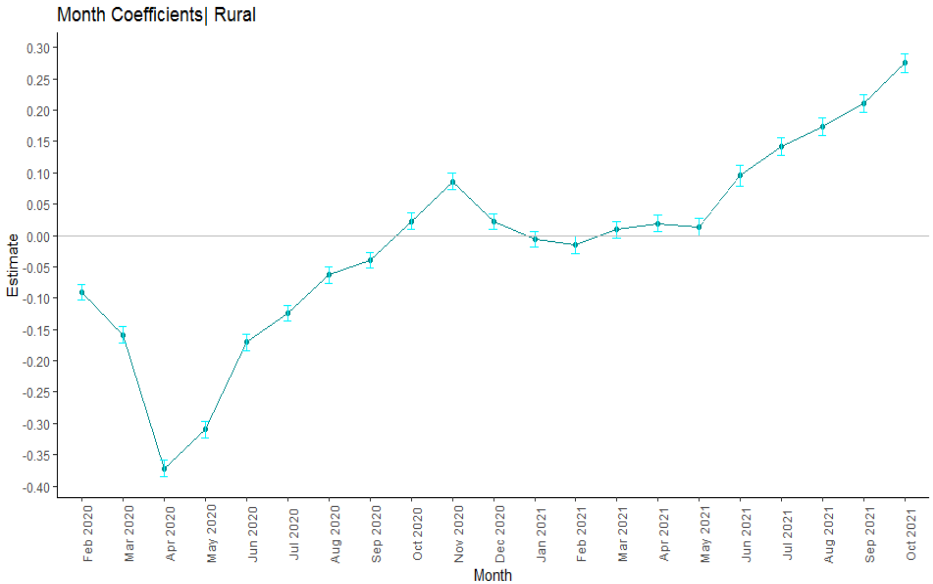
Hypothesis:
Drop in Discretionary spending: Enforced mobility restrictions, stores for discretionary spending shut, reduced incomes impact discretionary spending first.
The rich dominate discretionary spending. The drop in discretionary spending dominated by the rich- this makes it look like their consumption was dramatically impacted.

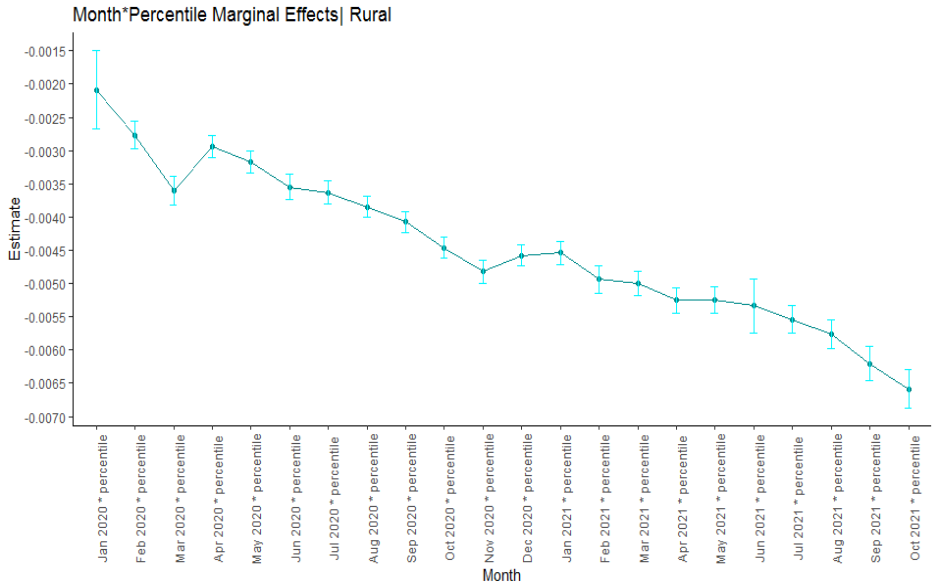
Aim and Model

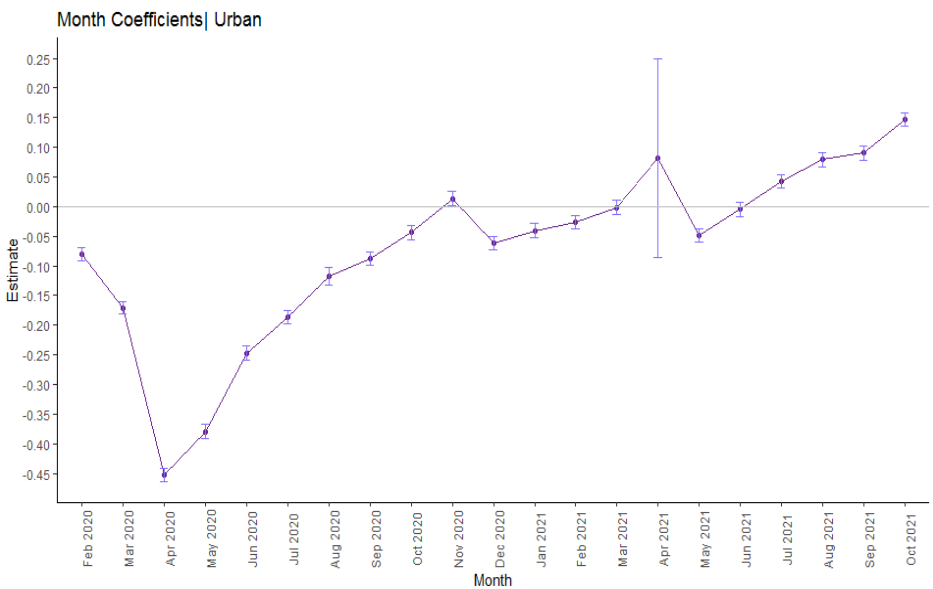
A regression framework allows us to observe trends in a controlled environment.

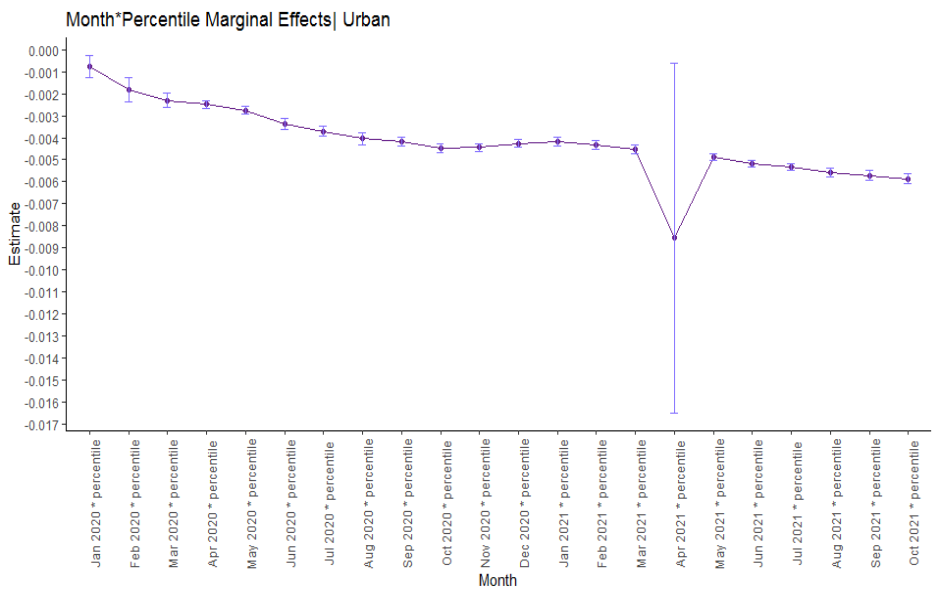
$$\Delta Consumption_{i,t} = [\beta_0] + \beta_1 month_t + \beta_2 percentile_i + \beta_3(month_t \times percentile_i) + [\gamma S] + \varepsilon \quad (1)$$

Regression 1







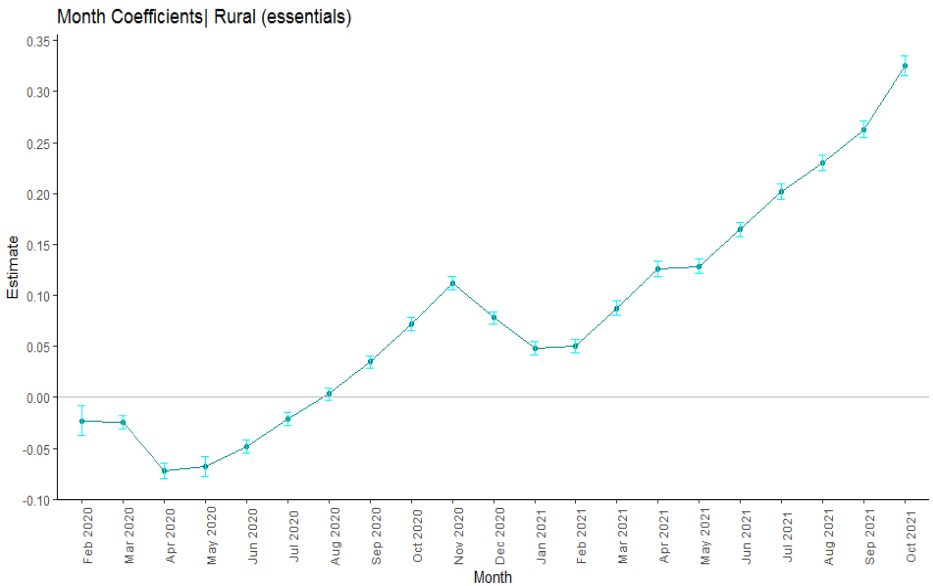


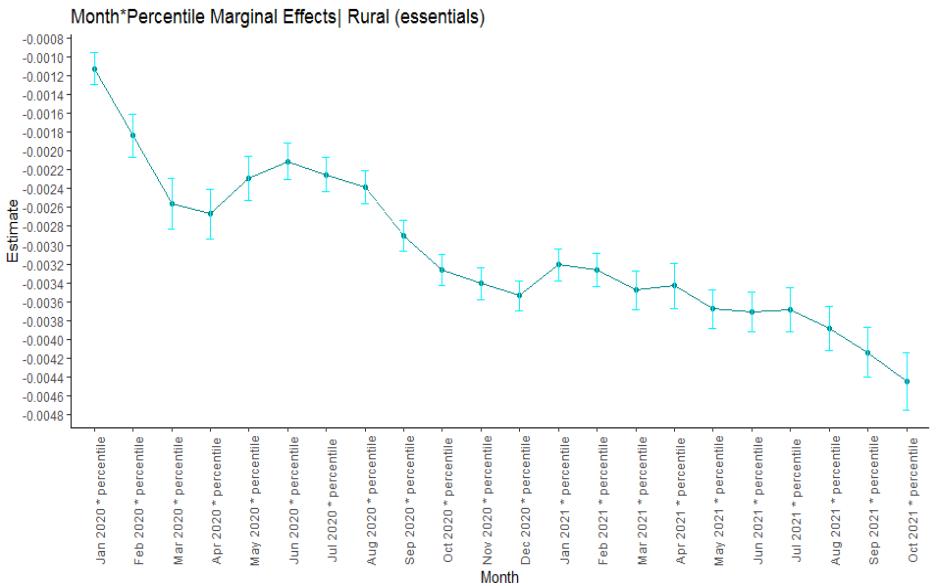
Robustness Check for Regression 1

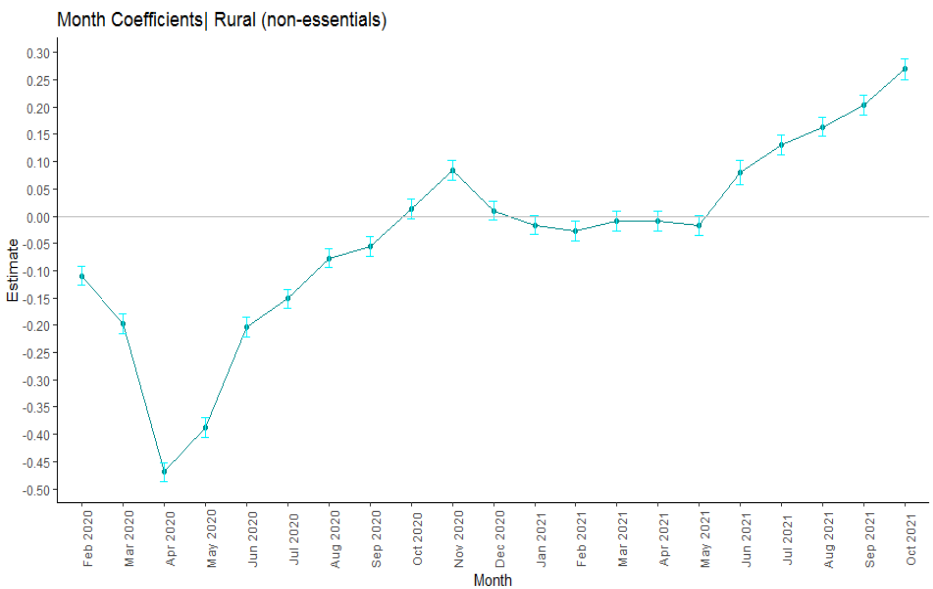
- Same regression on a balanced panel
- Unbalanced panel, Without fixed effects
- Change in counterfactual- $\widehat{Y_{i,t}}$ instead of 2019's mean consumption

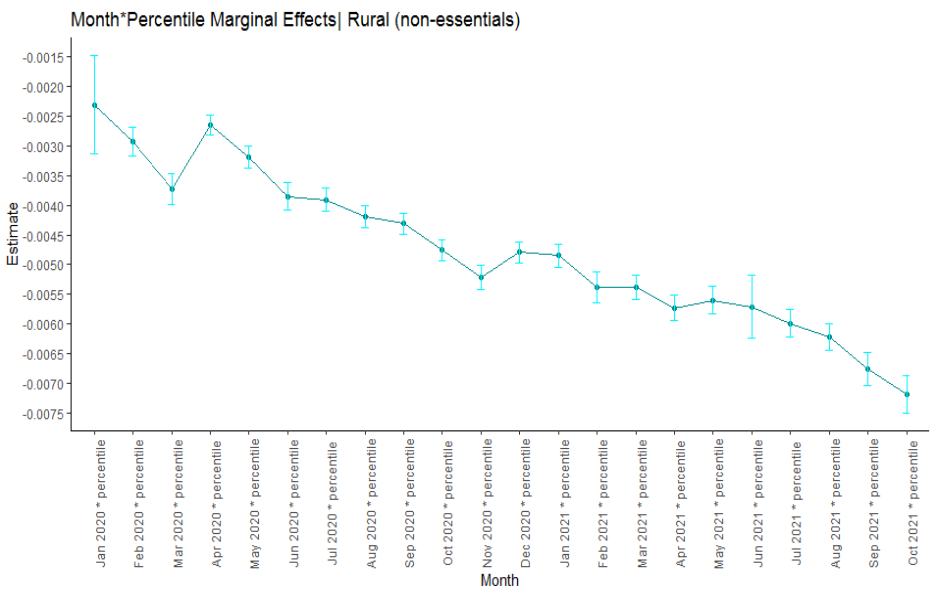
The same results hold: Large drop in consumption following lockdown 1. The rich suffered a higher drop.

Regression 2: essential and non-essentials — Rural

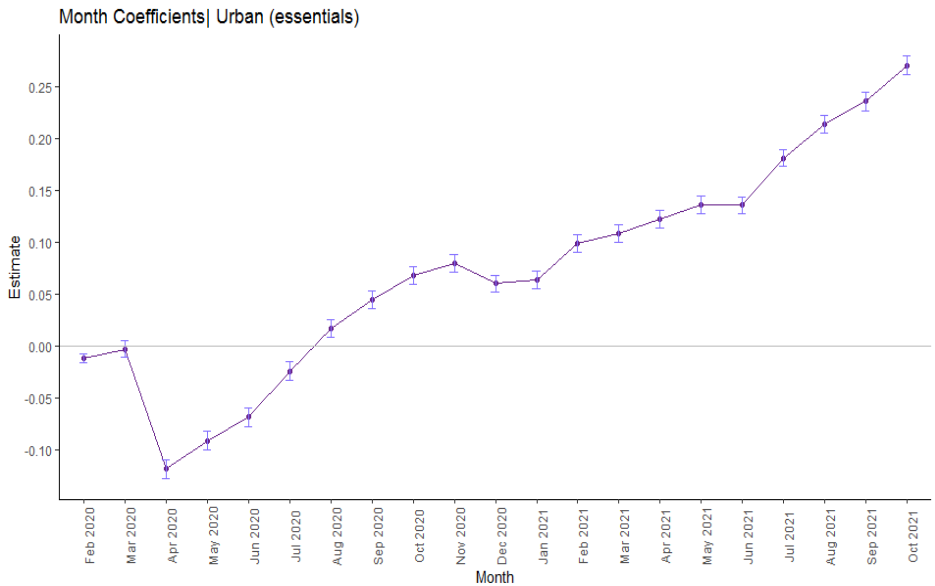


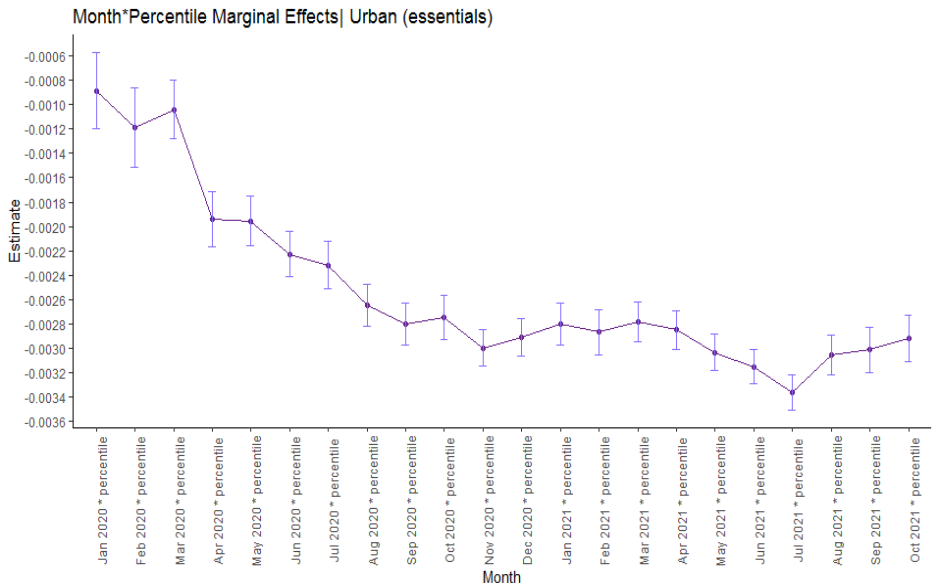


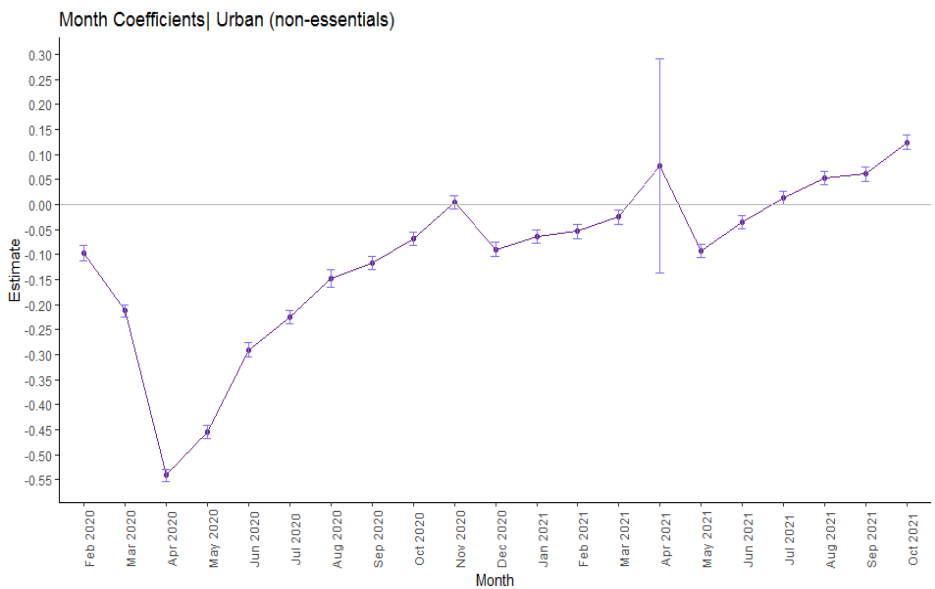


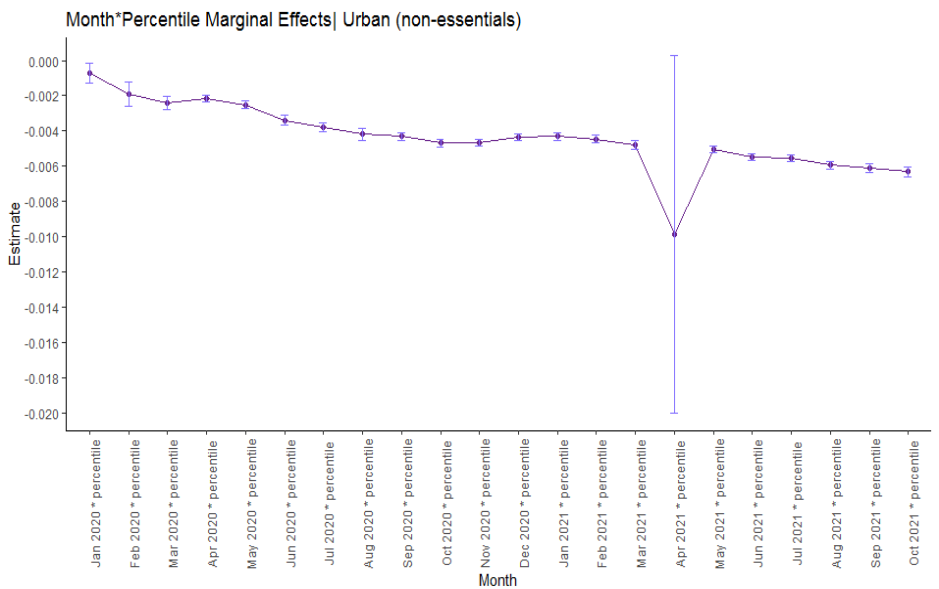


Regression 2: essential and non-essentials — Urban









Robustness Check for Regression 2

- Same regression without fixed effects
- Change in the definition of "essentials"- bills and rent, power and fuel, necessary transport, etc. included

The same results hold: The drop in non-essential spending is much higher than that of essentials (larger coefficient values), it lasts for more months.
Surprising result: Progressive impact for essential spending (given that 'essentials' consisted only of four food items).

Conclusion

The regression results confirm that discretionary spending was the cause for the large drop in consumption. The percentile-month interaction informed us that richer households had higher drops in discretionary spending.

Caveat: The percentile-month coefficients for essential spending are negative and significant throughout. This is surprising and remains unexplained.

Contribution to literature: Rigorously tested a hypothesis that explains why richer households were impacted more, and recovered slower.