Food, Fuel, and Facts:
Distributional Effects of Global Price Shocks

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A quick summary

- How do commodity price shocks affect **households** in emerging markets?
    - Important question given recent large global commodity price shocks
- Analyze empirically in Indian context exploiting
    1. **rich household survey** data on income and consumption
    2. time-series variation in global commodity prices
- Shed light on **distributional effects** and **transmission mechanisms**

Consumption (Non-Durable)
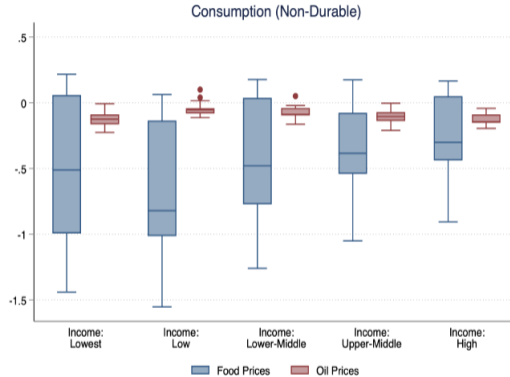
- Poorer households **more affected** by food price shocks
- Oil price shocks affect households more homogeneously
- Heterogeneous consumption responses mirror heterogeneity in **earnings responses**

Overview of my comments

1. Identification & more on macro effects

2. Econometric odds and ends

3. Mechanism & story

Commodity price shocks and their macro impact

- The authors study food and oil price shocks. Use as instruments:
    1. Baumeister and Hamilton (2019) oil supply shock
    2. Self-constructed food price shock
        residualize global food price index from a common demand and food-specific demand factor
        estimated in a DFM of non-energy commodity prices
- Before studying distributional impacts, I would like to see **macro impact**
    - Sense-check how well shocks are identified
    - Helps putting distributional effects into perspective. How is overall Indian economy affected?
    - Compare aggregate consumption response and average household consumption response to assess representativeness of survey

Empirical specification

Panel LP-IV:

$$c_{i,t+h} - c_{i,t-1} = \beta_{0,\text{ food}}^{g,h}\ \text{ext}_t^{\text{food}} \times \mathbb{1}_{i \in g(t)} + \beta_{0,\text{ oil}}^{g,h}\ \text{ext}_t^{\text{oil}} \times \mathbb{1}_{i \in g(t)} + \sum_{j=1}^{J} \alpha^h \left(c_{i,t-j} - c_{i,t-j-1} \right)$$

$$+ \sum_{k=1}^{K} \beta_{k,\text{ food}}^{h}\ \text{ext}_{t-k}^{\text{food}} + \sum_{k=1}^{K} \beta_{k,\text{ oil}}^{h}\ \text{ext}_{t-k}^{\text{oil}} + \sum_{d=0}^{D} \delta^h D_{t-d} + \gamma^{g,h} X_t \times \mathbb{1}_{i \in g(t)}$$

$$+ \delta_{c,t} + \delta_{1,t} + \delta_{e,t} + \delta_{\text{city},t} + \delta_{\text{age},t} + \mathbb{1}_{i \in s} \times \mathbb{1}_{\text{year}} + \mathbb{1}_{i \in s} \times \mathbb{1}_{\text{month}} + \epsilon_{i,t+h}$$

- Baseline specification uses global commodity price shocks as instruments
- But only second stage is reported. How does the **first stage** look? Are the commodity price shocks strong instruments?
  - Important for inference

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$$+ \delta_{c,t} + \delta_{1,t} + \delta_{e,t} + \delta_{\text{city},t} + \delta_{\text{age},t} + \mathbb{1}_{i\in s} \times \mathbb{1}_{\text{year}} + \mathbb{1}_{i\in s} \times \mathbb{1}_{\text{month}} + \epsilon_{i,t+h}$$

- Baseline specification estimates effects of food and oil price shocks **jointly**
- Controlling contemporaneously for food prices when looking at oil price shock nets out any potential effects of oil price shocks through higher food prices
  - Less of an issue in IV specification, problematic in OLS
  - My suggestion would be to run two **separate** LP regressions

6

Empirical specification

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$$c_{i,t+h} - c_{i,t-1} = \beta_{0,\text{ food}}^{g,h} \text{ ext}_t^{\text{food}} \times \mathbb{1}_{i \in g(t)} + \beta_{0,\text{ oil}}^{g,h} \text{ ext}_t^{\text{oil}} \times \mathbb{1}_{i \in g(t)} + \sum_{j=1}^{J} \alpha^h \left(c_{i,t-j} - c_{i,t-j-1} \right)$$

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- Baseline specification uses many **fixed effects**, e.g. to account for state-specific trends
- If shocks are truly exogenous, these controls are not necessary. How sensitive are results to inclusion of fixed effects?
  - Important to understand where identifying variation is coming from

Mechanism

- Why are distributional effects of oil and food price shocks **so different**?

- It would be useful to discuss the food and fuel consumption shares more prominently
  - Food share is over 50% even for the top decile of households. Is that realistic? How is food defined?

- Earnings heterogeneity seems to play an important role. But **what is driving** earnings heterogeneity?
  - Do you have information on occupation? Can you look at households with occupations in agricultural sector?

Mechanism

- What about heterogeneity in **financial income**?
    - You show some aggregate responses but don't you also have information on this in the survey?
    - Could this help explain the relatively stronger response of richer households to oil price shocks?

Minor comments

- Robustness to commodity price shock instruments:
    1. Oil supply shocks: Caldara, Cavallo, and Iacoviello (2019), Känzig (2021)
    2. Food price shocks: De Winne and Peersman (2016)
- Use Brent or more relevant benchmark for Indian oil prices
- Be more transparent about the size of the shock. One sd shock? By how much do prices change?
- Grouping households by permanent income or education
  estimate permanent income using Mincerian-type regression

To sum up

- Great paper on a very timely and important topic!

- Impressive data effort

- Convincing new evidence for emerging markets