Discussion of "Who Bears the Costs of Inflation" by Pallott, Paz-Pardo, Slacalek, Tristani, and Violante

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Quick Summary of the Paper

- Global surge of inflation post-COVID, Russian invasion of Ukraine
- Objective: measure welfare impacts across the distribution
- Simple framework to quantify different channels
- Focus on direct, indirect, fiscal policy
- Nice combination of theory, micro/macro data to tackle big policy question

The Thought Experiment

- Two-period, two-generation OLG model
- Period 0 is “short run”, unexpected shock happens:
  - Aggregate price level moves
  - Relative prices also move
- Period 1 is “long run”, basically flex price back in SS but:
  - Aggregate price level same as in period 0
  - Relative prices back to pre-shock

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Deriving Welfare Costs

- Start with household Lagrangean
- Differentiate with respect to the shock
- To first order, gives money-metric welfare costs
- Analyze different components of the budget constraint:
  - Consumption basket/individual price indices
  - Wages and taxes/transfers
  - Short- and long-term bond holdings
  - Real assets and dividends

Direct and Indirect Welfare Costs

$$
\begin{aligned}
d\mathcal{W}_i^{DIR} &= \left(-\frac{d\log \bar{P}_0^{\star}}{dz_0} - \left[\frac{d\log P_{i0}^{\star}}{dz_0} - \frac{d\log \bar{P}_0^{\star}}{dz_0}\right]\right) \times \\
&\quad \left(W_{i0} - T_{i0} + B_{iS0} + \left(1 + Q_{L0}\delta\right) B_{iL0} + \sum_{k=1}^{K} D_{k0} a_{ik0} + \sum_{k=1}^{K} Q_{0k}\left(a_{i0k} - a_{i1k}\right)\right)
\end{aligned}
$$

$$
\begin{aligned}
d\mathcal{W}_i^{IND} &= \frac{d\log W_0}{dz_0} W_0 - \frac{d\log T_{i0}^{AUT}}{dz_0} T_{i0}^{AUT} - \frac{d\log Q_{S0}}{dz_0} Q_{S0} B_{S0} \\
&- \frac{d\log Q_{L0}}{dz_0} Q_{L0}\left(B_{i,L1} - \delta B_{i,L0}\right) + \sum_{k=1}^{K}\left[\frac{d\log Q_{k0}}{dz_0} Q_{k0}\left(a_{i,k0} - a_{i,k1}\right)\right] \\
&+ \sum_{k=1}^{K}\left[\frac{d\log D_{k0}}{dz_0} D_{k0} a_{i,k0}\right]
\end{aligned}
$$

Comments on the Thought Experiment

- Why are we doing this? If we could observe prices and expenditures at the HH level at higher frequency, we wouldn't need the additional machinery
- Model is very partial equilibrium:
  - Shock is to equilibrium prices
  - "GE" effects are observed changes to wages, taxes, etc
  - Distinction between direct/indirect/fiscal is more accounting than counterfactual
- A cleaner "direct effect" would be increase in price of energy, indirect effects through other prices, etc
- In general P_0 in equilibrium depends on fiscal policy, wages, etc
- Why OLG structure? Model and empirics don't line up

Non-linearities and non-homotheticities

- Is a first-order approach the right one for largest increase in prices in decades?
- Model very simple, in principle could be solved fully non-linearly
- Even a second-order approximation picks up additional welfare terms
- Robust evidence of non-homothetic preferences
- Non-homotheticity+higher order captures expenditure switching:
  - Due to income effects
  - Due to substitution effect
  - Due to preference shocks

Assumptions 1 & 2

- Assumption 2: inflation is temporary, but prices permanent
- Assumption 3: shock is neutral in the long-run
- Would be interesting to explore other scenarios:
  - How different would welfare effects be under strict price targeting?
  - If some relative prices move because of preferences, different long-run relative prices
- In general, there's little discussion of monetary policy and what could (should?) have been done

Measurement: The Devil's in the Details

- Ideally: we'd have high frequency data on all components of HH budget constraint
- Reality: have to use macro data to infer changes
- Given the data limitations, they're doing a careful job
- Already find a lot of heterogeneity across households, likely even more
- Small comment: use REIT regression for house prices, why not use BIS Residential Property Price database?

Measurement: "Mortgages"

- In the model, mortgages are essentially negative short term bond positions
- Bond prices taken as average of gov and corp
- Mortgages typically repaid at par not market price
- Fixed vs adjustable rate mortgages, model completely ignores any MP response and affect on mortgage payments
- Given that my guess is mortgages represent the majority of bond holdings for most households, trying to do that more carefully would be important

Final thoughts

- Very nice paper
- Careful first stab at answering important welfare question
- Given data limitations, about as good as we can do
- Would be interesting to explore non-linearities and non-homotheticities
- Could also comment on monetary as well as fiscal policies