Discussion of “Income Inequality, Financial Crises and Monetary Policy”
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Overview of the paper

- Presents a dynamic stochastic GE model featuring:
  1. State-of-the-art business cycle backbone with nominal rigidities
     - Smets-Wouters
  2. Income inequality, household leverage and default
     - Kumhof-Ranciere-Winant (KRW)
  3. A zero lower bound
     - Eggertsson-Woodford

- Main focus:
  - Positive: general equilibrium interactions between inequality, aggregate demand, crises and the ZLB
  - Normative: design of monetary policy rules

- Overall: impressive work to make 1–3 all work together
  - Two suggestions: narrow down the mechanisms, and make the normative analysis more specific to these mechanisms
Kumhof-Ranciere-Winant

- **KRW paper in a nutshell:**
  - Endowment-economy borrower-saver model
  - Borrowers ('bottom 95%') have standard preferences $\sum \beta_B^t u(c_{Bt})$
  - Savers ('top 5%') have preferences for wealth
    \[
    \max \sum \beta_S^t \{u(c_{St}) + v(b_t)\}
    \]
    \[
    \frac{b_t}{R_t} + c_{St} = y_{St} + b_{t-1} \quad (BC)
    \]
  - Consequence: they save out of *permanent* income shocks. Why?
Saving out of permanent income

- Consider partial eqbm problem with constant $y_S$ and $R = \beta_B^{-1}$.
- Take first-order condition for saver:
  \[ u'(c_t) = \beta_S Ru'(c_{t+1}) + Rv'(b_t) \] (FOC)
- In steady-state: $\beta_S R < 1$ and
  \[ u'(y_S + \left(1 - \frac{1}{R}\right)b) (1 - \beta_S R) = Rv'(b) \]
- Higher $y_S \Rightarrow$ higher $b$ (so higher $c$, given $R > 1$)
- Solve for transition after unexpected permanent shock to $y_S$
  - Use (BC) + (FOC), ending at new SS
  - Contrast to $B$ response when he loses permanent income
Partial equilibrium effect of permanent redistribution

Calibration: $\beta_S = 0.8$, $R = \beta_B^{-1} = 1.04$, $y_S = 1$, $u(c) = \frac{1-\theta}{1-\theta}$, $\theta = 1$, $v(b) = \frac{(1+b)^{1-\psi}}{1-\psi}$, $\varphi = \psi = 1.$
Permanently inequality shock depresses consumption for ≃10 years.

In KRW, endowment-economy GE:
- ⇒ lower natural rate, additional borrowing, increased chance of crisis.

In Cairo-Sim, sticky-price GE:
- Mon policy does not fully accomodate $R^n$ (inertial Taylor rule/ZLB),
- Same effects, and depressed economic activity.

Heterogeneity + sticky prices implies
- Countercyclical profits: endogenous additional redistribution towards top 5% (‘inequality multiplier’),
- Fisher debt deflation effect from nominal asset holdings,
- Fall in real rates redistributing towards borrowers,
Impressive effort to build a full DSGE model w. inequality + leverage
- Search-and-matching à la Gertler-Sala-Trigari
- Endogenous default + nominal rigidities

In the end, restrict model to four shocks: bargaining power, TFP, risk premium and monetary policy
- Why? All of these have supply and demand effects so do not isolate the mechanism under study
- Example: bargaining power shocks redistributes to workers but also lessens firm incentives to post vacancies

**Suggestion 1:** isolate the mechanisms in the positive analysis
Suggestion for isolating the mechanisms

- Focus on very persistent/permanent redistributive shocks as KRW
  - Not transitory shocks: top 5% have *higher* MPCs
  - Then, study bargaining power shocks that have the same redistributive effect, but also a vacancy posting effect

- Study impulse responses rather than model simulations with all shocks turned on
  - Show the impulse response to a crisis shock, various redistribution shocks
  - Decompose those impulse responses into channels (using partial equilibrium problem or modified model with some channels turned off)
  - Then, use this to decompose $\text{Corr}(\text{income inequality}, y) < 0$, notably exogenous vs endogenous components
Normative analysis

- The current normative analysis is not specific to the model
  - Skewness is there in representative-agent models with ZLB as well
  - Also in any model with exogenous, rare crises
  - Prescriptions in terms of inflation targeting are the same as these alternative models

- **Suggestion 2**: focus on policy rules that are specific to the environment
  - eg, rules where mp responds to inequality and/or leverage
Conclusion

- Nice paper on important topic
  - Captures GE interactions between inequality, aggregate demand, crises and the ZLB
  - Since those are complex two-way interactions, would be nice to break down the overall effect into economically meaningful components
- Shows that heterogeneous-agent mechanisms can be tractably integrated into DSGE models, to study
  - Macroprudential policy
  - Role of central banks in affecting inequality, and of inequality in affecting monetary policy
  - Future of monetary policy analysis!
Thank you!
Partial equilibrium effect of transitory redistribution

Calibration as earlier, shock to income at date 0 only.