Discussion of "Income Inequality, Financial Crises and Monetary Policy" by Isabel Cairo and Jae Sim

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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

$$\max \sum_{\substack{b_t \\ R_t}} \beta_S^t \left\{ u(c_{St}) + \mathbf{v}(\mathbf{b_t}) \right\}$$
$$\frac{b_t}{R_t} + c_{St} = y_{St} + b_{t-1}$$
(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:

$$u'(c_t) = \beta_S R u'(c_{t+1}) + R v'(b_t)$$
 (FOC)

• In steady-state: $\beta_S R < 1$ and

$$u'\left(y_{\mathcal{S}}+\left(1-\frac{1}{R}\right)b\right)\left(1-\beta_{\mathcal{S}}R\right)=Rv'(b)$$

- Higher $y_S \Rightarrow$ higher b (so higher c, given R > 1)
- Solve for transition after unexpected permanent shock to ys
 - ► Use (BC) + (FOC), ending at new SS
 - ► Contrast to *B* response when he loses permanent income

Partial equilibrium effect of permanent redistribution



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From KRW to Cairo-Sim

- Permanent inequality shock depresses consumption for $\simeq 10$ years
- In KRW, endowment-economy GE:
 - \blacktriangleright \Rightarrow lower natural rate, additional borrowing, increased chance of crisis
- In Cairo-Sim, sticky-price GE:
 - Mon policy does not fully accomodate Rⁿ (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
 - cf literature on heterogeneous-agent NK: Auclert 2015, Kaplan-Moll-Violante 2016, Auclert-Rognlie 2016

Comments

- ► 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 Show
- 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 Corr (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



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