Reassessing the Role of Heterogeneity to Understand Business Cycles

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Workshop on Central Bank Models:
The Next Generation
Session III: Challenges to the
Business Cycle Paradigm in Central Bank Models

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- But as Macroeconomists or Central Bankers should we care?

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Using Neoclassical Heterogeneous Agent Models & Business Cycles

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    4. Middle class households are very leveraged.

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2. They do have poor, yet mobile, households (those that consume most of their income).

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  - Wealth does not disappear in recessions (it is capital).

A Recent update to Heterogeneous Agent Models
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2. Automatic Stabilizers do their job (smaller role of Heterogeneity)
3. Other margins (investment, labor) not clearly helped by household Heterogeneity.

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- These margins open the door to other type of shocks (financial shocks, government policy shocks, perception shocks) to make up for TFP or markup Shocks.

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   - In Rep Agent Models assets are priced by their shadow value. Proper movements of assets (houses) should include transactions and a theory of their determination. Moreover, Bankruptcies destroy wealth and redistribute wealth. (Hedlund various papers, Head, Lloyd-Ellis & Sun (14), Huo & Rios-Rull (14), Kaplan, Mitman & Violante (16), Head, Sun & Zhou (15)).

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3. Expenditures play a role in productivity and adjustment is costly.
   - Mechanisms that transform drops in expenditures into drops in TFP. Reallocating inputs used in Consumption or Housing Construction into Exports or Investment in Equipment is difficult.

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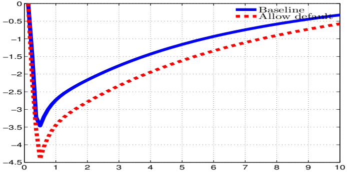
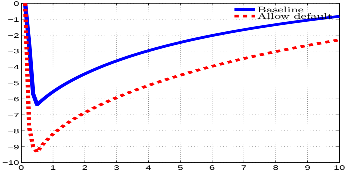
5. Households that differ in job prospects.
6. Households can go bankrupt: lenders lose.

A (MIT) financial shock: Tightening of credit

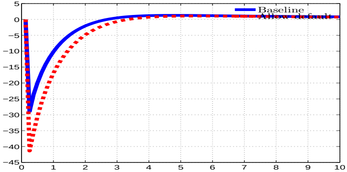
1. An Economy with Default
   - Over three months the down payment changes from 20% to 40%
   - The borrowing interest rate's surcharge goes from zero to 1.%
2. Long Run Properties
   - Like in all heterogeneous agents models, more frictions imply that in the long run output and wealth end up being higher.
   - But in our economies the transition is associated to a recession.



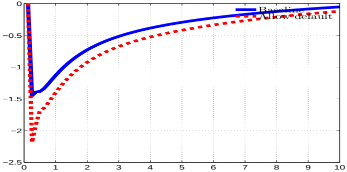
Output



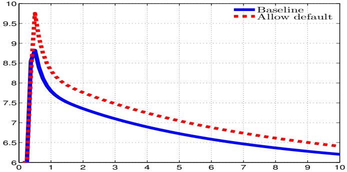
Consumption



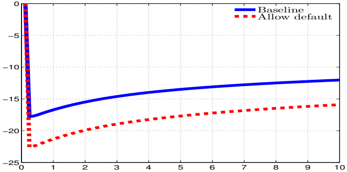
Investment



TFP



Unemployment rate



Housing Prices

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- These models pose Household Heterogeneity in the context of models suited for the study of Monetary Policy. They still need wealth destruction and effects on productivity.

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  - Boosting household lending is not the same as interest rate changes.
  - The trade-offs between Employment and Inflation are very different for various income, age, and education groups.

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- This is the standard tool in using models for business cycles. It uses matlab and can be ran by Research Assistants once the stationary version is constructed with all kinds of shocks.

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- Not only models with Heterogeneity of households but also of firms and financial entities should be part of the Central Bank's arsenal of analytical tools.

Thank You!