Comments on Saito, Suzuki and Yamada

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Comments are my own and not those of the Federal Reserve
Paper examines private creation of collateral

• Examine risk-sharing in the presence of solvency constraints
  – When constraints are “sufficiently severe,” agents don’t fully insure against risk ex-ante
  – However, in wake of catastrophe, market endogenously achieves some level of additional ex-post risk sharing
  – If shocks are not too severe, ex-post risk sharing achieves substantial consumption smoothing
Model Setup

• Labor endowment subject to catastrophic shocks
• Two assets:
  – Lucas tree
    • Fixed supply
    • Dividend on Lucas trees proportional to world labor endowment (common shock)
  – Contingent claims given realization of state
• National portfolios consist of long positions in one asset and short positions in the other
• Default penalty is confiscation of collateral, but no permanent exclusion from K markets
Collateral constraint

• Each county subject to solvency constraint
  – Lucas trees or contingent claims can be used as collateral
• Net positions of financial assets cannot be negative in every possible state

\[ p(z^{t+1}) + d(z_{t+1})\theta^i(s^t) \geq -a^i(s^t, s') \]

• Lucas tree holding values must exceed insurance payment
• Under equality debtor indifferent between default and repayment
Portfolio positions

• Could be short Lucas trees and long contingent claims
• Issue “risky” bonds collateralized by Lucas tree holdings
  – Bond payoffs contingent on price of Lucas trees
• Possibility of balance sheet expansion
  – Purchase long positions in Lucas trees financed by issuance of risky contingent bonds
  – Other country holds opposite position
Impact of collateral constraint

- Arbitrage condition violated when it binds
  \[ p(z^0) > \sum_{s^1 > s^0} q(s^0, s^1) \left[ p(z^1) + d(z^1) \right] \]

- Easing of collateral constraint raises opportunity for profitable asset trades

- Labor endowment shock
  - Eases collateral constraint, raising opportunities for mutually-profitable trades
  - Country acquires long positions in contingent claims through short positions in Lucas trees
Intuition is blowing up of balance sheet has real effects

- Acquire assets admissible as collateral in exchange for claims on risky Lucas tree assets
- Kind of a fancy debt-equity swap
- Key is that terms of trade between Lucas trees and contingent claims have changed in wake of labor shock
- Can raise “collateral” (safe contingent claims) on superior terms
Calibration: Bulk of smoothing ex-post

- Examine impacts of transitory and persistent catastrophic shocks to labor endowment

- Transitory shock:
  - Labor endowment share falls by 5.6%
  - Consumption share only falls by 0.2%
  - But ex ante insurance only makes up 0.7%
  - Follows that bulk of smoothing achieved through ex-post trading
Comments
Very interesting paper

• Demonstrates in open economy setting that collateral constraints of type examined in literature can impact international risk sharing

• Balance sheet expansion after endowment shock can achieve substantial smoothing
  – Bulk of smoothing achieved subsequent to realization of labor shock

• Relevance to current liquidity provision policies?
Previous literature

- Lustig and Nieuwerburgh (2005)
  - Increased share of housing value in economy eases collateral constraint
  - Raises equity values, allows for improved household risk sharing

- Lustig and Nieuwerburgh (2009)
  - Increases in housing values improve regional risk sharing

- Chien and Lustig (2010)
  - Lucas tree/labor income setup similar to this model
  - Collateral constraints affect liquidity premium
Not about sovereign debt crises

Argentina: Private Consumption Expenditures
Percent change at seasonally adjusted annual rate

Argentine Debt Crisis
Is extension to sovereign case valid?

- **Argentina**
  - Both consumption and income fell dramatically
  - Something else going on?
- **Solvency constraint based on ability to pay criterion**
  - Willingness to pay more relevant for sovereign default decisions [e.g. Eaton and Gersovitz]
- **Lustig literature assumes enforceable contracts**
  - Inappropriate for international claims?
- **Feedback from debt outcomes to productivity**
  - Mendoza and Yue (2010): default reduces TFP by hindering imports of intermediate goods
- **Not about insolvent situations (Greece?)**
Global Lucas trees

• Holdings of Lucas trees in current model already induce some level of global risk-sharing
• In earlier closed-economy models, aggregate risk was at country level
• Extension with country-specific Lucas trees?
  – With complete markets, agents could choose portfolios that mimic global trees ex-ante, but might not choose to do so
• Given home bias, might be difficult to achieve as substantial consumption-smoothing ex-post
Does calibration underestimate potential ex-ante smoothing?

• Collateral constraint needn’t be binding for all potential states
• Follows that additional ex ante smoothing is feasible over those states
• Agents may not smooth ex-ante because they can achieve it at superior terms ex-post
  – Improved terms of trade for risky short positions
• “Horse race” in calibration may be misleading
  – Case examined does have binding constraints
Is collateral constraint too rigid?

- Catastrophic labor endowment shock allows for “ex-post” expansion of balance sheets
  - Leads to enhanced smoothing opportunities
- Why can’t more complicated contracts be written ex-ante that mimic this outcome?
  - Suggests more ex-ante smoothing is feasible
- Perhaps no incentive to write these contracts
  - We get smoothing ex-post anyway
Relevance to current crisis

• Paper sends a mixed message
• Easing collateral constraint enhances risk-sharing in mutually-desirable manner
  – Suggests that government efforts to provide such collateral can be welfare-enhancing
• However, to extent such opportunities exist, private sector can capitalize on them
• To motivate government intervention need additional distortions
  – May change desirability (or feasibility) of such advantageous balance sheet expansions