"Macroprudential policies for controlling the Basel leverage cycle", by C. Aymanns, F. Caccioli, J. D. Farmer, and V. W.C. Tan

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The views expressed are those of the authors and not of the Bank of Canada.

Quick Summary of the Paper

This Paper

What they do:

- Study tradeoff in effective risk control between microprudential risk originating from exogenous shocks to individual institutions and the macroprudential risks caused by their systemic interactions
- Study optimal macroprudential policies

How they do it:

- Investigate a simple dynamic model consisting of a
  - Bank with leveraged target
  - Unleveraged fundamental investor subjects to exogenous shocks
  - Lenders
- Propose a criterion for rating macroprudential policies

This Paper

What they find:

- Optimal policy depends critically on three parameters:
  - The average leverage used by the bank
  - The relative size of the bank and the fundamental investor
  - The amplitude of the exogenous noise
- Optimal policy
  - Basel II is optimal when the exogenous noise is high, the bank is small and leverage is low
  - Constant leverage is closer to be optimal when the bank is large or leverage is high

General Comments

Focus of the paper

Paper built mostly around two different but complementary sections

- The model, which is a modification of the one presented in Aymanns and Farmer (JEDC, 2015)
- The optimal policy

Main contribution

- Identification of optimal capital buffer policies

Focus of the paper

... but

- two-third of the paper is dedicated to explain small modifications to Aymanns and Farmer model(JEDC, 2015)
- ... and only three pages to the optimal policies exercises

Paper could do a better job in terms of focus

- More emphasis on optimal policy section ...
- ... and less on the model and refocus on why the modifications from Aymanns and Farmer are necessary by providing examples

Model of Basel Leverage Cycle

Liquidity

No role for liquidity

- Bank can always access new funding from an outside lender
- No maturity mismatch between loans and assets
- Return on equity maximized at $\lambda(t) = \bar{\lambda}(t)$, ... then the constraint is the main driver of the results

But if there is maturity mismatch between lenders and bank with risk averse lenders

- Bank funds their assets by means of collateralized debt with possibly very short maturity
- Negative shocks $\rightarrow$ Initial losses suffered by some of the assets that served as collateral $\rightarrow$ Uncertainty surrounding individual exposures to such assets $\Rightarrow$ Lenders can stop rolling over their lending
- Return on equity not maximized anymore at $\lambda(t) = \bar{\lambda}(t)$, ... then the constraint is not the only driver anymore

Funds Heterogeneity and Leverage Regulation

Two main economic agents:

- Bank with leverage target
- Unleveraged funds

Shadow banking sector not necessarily subject to regulatory capital requirements

- Funds heterogeneity: Pension funds, Investment firm, Hedge funds
- Different objectives and/or different risk aversion
- Stabilize the system by the size of the risk averse and/or long-term returns funds

Stabilization reached by behavior of agents, not exogenous constraints

Fixed Asset Weights

Fixed preference for relative weight of risky and cash assets

- For a simulation over 2 years, fixed weight is perfectly fine
- For a simulation over 10 years, structural changes are likely

Explore the role of structural change

- Deterministic: from Treasuries to AAA-rated asset-backed securities
- Stochastic: flight to quality, flight to liquidity

Weight would depend on financial stress concept, computed from the scenario itself

Macroprudential Policies

Extension

With very few modifications to the current model, optimal policies computation could be enlarge to include more cases

- Basel III
  - Countercyclical capital buffer
- Canada
  - Capital conservation buffer

Thank you for your attention!