Discussion of “Dynamic Bank Capital Requirements” by Tetiana Davydiuk

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Summary  Goal: optimal time varying capital requirement policy

- Model
  - Households value deposits via money-in-the-utility
  - Banks operate DRTS ⇒ implies optimal scale
  - Binding capital (leverage) requirement
    - Gov. always bails out defaulting banks
    - Households value deposits, i.e., rate lower due to MIU
  - Given bailout policy, solve for optimal cap req
  - Calibrated to annual macro aggregates 1980-2007

- Results
  - First best: lending = deposits
    procyclical & no excessive lending
  - Government guarantee leads to excessive lending
  - Optimal time varying capital requirement (Ramsey)
    Lower than in calibration & pro-cyclical
How is lending determined?

W/ bailout guarantee & w/o cap req: too much lending
less overinvestment in good times b/c high MPK

Marginal Benefit = Marginal Cost

\[ \text{Marginal Benefit} = \text{Marginal Cost} \]

\[ = R^d + \zeta_t \cdot \text{L-Prem} - \text{Expected mg. loss reimbursed} \]

Funding Costs  
Bailout Guarantee Benefit

Figure 3: Competitive Equilibrium Allocation

Panel A of this figure depicts the social marginal cost of bank lending \( R^d_{t+1} \) (black dash-dotted line) and the private marginal cost of lending during recessions \( R^d_{t+1} - \xi_B(L_{t+1}, N_{t+1}; a_t) \) (red dashed line) and during expansions \( R^d_{t+1} - \xi_G(L_{t+1}, N_{t+1}; a_t) \) (blue dashed line) as a function of bank lending \( L_{t+1} \). Panel B additionally depicts the marginal cost of lending \( E_t[R_{l,t+1}] \) during recessions (red solid line) and expansions (blue solid line). The optimal level of lending at social optimum is at the intersection of the social marginal costs and benefits. The optimal level of lending in the competitive equilibrium is at the intersection of the private marginal costs and benefits. The social and private marginal benefits are identical. The scale of the y-axis is omitted, as the numbers in this parameterized example do not have economic meaning. The parameter values are set to \( \beta = 0.98, \eta = 0.8, \alpha = 0.85, \delta = 1, \rho_a = 0.97, \sigma_a = 0.02, \) and \( \sigma_\omega = 0.2. \)
Effect of higher capital requirements

- Reduced gov. bailout benefit $\Rightarrow$ decreases oversupply of loans

- Increases funding costs $\Rightarrow$ decreases supply of deposits

- Optimal Ramsey policy suggests either overborrowing not a big concern during 1980-2007 or liquidity provision too low as $\zeta_t^* < \bar{\zeta}$

- Why? I’m not sure
  - Draw Fig 3 for full model
  - Bailout wedge channel dominates funding channel (liquidity) leading to decreasing MC of loans
Understates optimal procyclicality of cap req

- Business cycle correlation of liquidity premium not matched
  - data = -0.21 but 0.07 in the model
  - $\eta$ might be too low - however unmatched calibration target suggests $\eta$ too high

$\Rightarrow$ means recessions liquidity premium does not fall which would have indicated the rule to lower cap req

- w/o cap requirement less overlending during booms
  - marginal productivity of loans procyclical $\Rightarrow$ means gap to correct is smaller in booms
  - evidence: agg. marginal productivity higher, but marginal borrower often of lower quality

- Quantitative model effect dampened b/c loans effectively long term
Lending Standards: Survey of loan officers

Net percentage of domestic banks tightening standards

C&I loans to large and middle-market firms
C&I loans to small firms
No role for equity

- No role for equity in the model (common in the literature) - except for correcting excessive lending due to government subsidy

- Standard finance model introduce costs of financial distress
  ⇒ privately optimal to keep some equity on balance sheet
  ⇒ w/o optimal range of capital requirement lower

- Private costs of financial distress for banks not entirely absent despite bailout
  - Bailout can imply restrictions on equity payout, loss of franchise value, reputation, legal costs
  - Also: inefficient incentives generated by cap req (empirical evidence e.g., Blattner)

- Without a positive role for equity - optimal level of equity likely to be lower
In sum

- Nice & tractable paper on a relevant question

Suggestions
- Check quantitative implications
- Role of equity even in the presence of government guarantees