Does the Tail Wag the Dog?

Unconventional Monetary Policy and Credit Contractions

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Motivation

- Euro area economic slowdown since the financial crisis
- Unconventional monetary policy (UMP) measures widely adopted
  - Abundance of liquidity through repo transactions
  - Direct financing to banks via targeted long-term refinancing operations
- Theoretical underpinning (Bianchi and Bigio, 2018):
  Credit channel of monetary policy – A liquidity view
  - Banks trade off between lending profit and liquidity risk
  - Monetary policy affect credit supply by changing aggregate liquidity

Unconventional monetary policy transmission

- How effective has been central bank liquidity provision?
  - Restore credit supply, esp. by banks facing wholesale funding dry-up
    Carpinelli and Crosignani (2018), Andrade, Cahn, Fraisse and Mesonnier (2019)
  - Yet, other evidence suggests banks hoard CB liquidity rather than increase credit supply
    Iyer, Peydro, da-Rocha-Lopes and Schoar (2014), Peydro, Polo and Sette (2019)
    - Esp. banks reliant on interbank market that suffers a dry-up

$\Rightarrow$ Mixed evidence points to potential impairment to UMP transmission

  - Esp. given the abundance of central bank liquidity
  - Is all sources of liquidity not equal?

This paper

- A model of bank credit supply in which
  - lending has refinancing needs *and is subject to moral hazard* (Holmstrom and Tirole, 1997)

    $\Rightarrow$ Banks refinancing risk arises due to limited pledgeability...
    ... rather than limited liquidity availability
  - Interbank relationship lenders can engage in peer monitoring
    - Prevents opportunistic behavior of the borrowing bank (Rochet and Tirole, 1996)

$\Rightarrow$ Credit channel of UMP with endogenous peer monitoring

Results preview

- Bank credit supply with endogenous interbank peer monitoring
  - Amplification effect of endogenous interbank market dry-up:
    - Small shock to lending opportunity $\rightarrow$ Large credit contraction
  - Endogenous interbank market dry-up can impair UMP transmission:
    - Central bank ex post optimal liquidity provision
    - Improves bank liquidity *conditional* on interbank market condition
    - *But* worsens interbank market liquidity ex ante

Main model ingredients

- Bank's credit supply decision: Interbank borrower's perspective
    - Loans requires refinancing but has limited pledgeability (moral hazard)
        - High return if refinanced and held to maturity
        - Low return if unable to refinance and liquidated
    - Trade-off: Expected return on loans (refinancing risk) vs. cash holding
- Bank's peer monitoring decision: Interbank lender's perspective
    - Improves the interbank relationship borrower's refinancing capacity

      $\Rightarrow$ Efficiency gain from reducing inefficient liquidation
    - Interbank lender gains market power thru peer monitoring

      $\Rightarrow$ Profitable interbank lending, capturing part of the efficiency gain
    - Trade-off: Expected profit from interbank lending vs. monitoring cost

Key mechanisms I: Amplification effect

- Strategic complementarity:
  - Peer monitoring by interbank lender $\nearrow$

    $\Rightarrow$ Refinancing risk of borrowing bank's loan portfolio $\searrow$

    $\Rightarrow$ Return on loans and thus credit supply $\nearrow$
  - Credit supply by interbank borrower $\nearrow$

    $\Rightarrow$ Refinancing needs and thus efficiency gains from peer monitoring $\nearrow$

    $\Rightarrow$ Profits to interbank lender and thus peer monitoring $\nearrow$

$\Rightarrow$ Amplification of fundamental shocks:

  - A small shock to lending opportunity $\searrow$ bank credit supply
  - Reduces endogenous peer monitoring and interbank market liquidity
  - Further reduces bank credit supply

Key mechanisms II: UMP transmission

- UMP: Central bank ex post liquidity provision
  - Supply liquidity to avoid liquidation of bank loan portfolio...
  - ...if unable to obtain sufficient liquidity from interbank market

- UMP transmission:
  - $+$ direct effect on credit supply: $\searrow$ refinancing risk
  - $-$ direct effect on peer monitoring: $\searrow$ interbank lending profit
    - CB liquidity strengthens interbank borrower's bargaining position
  - Indirect effects due to strategic complementarity
    - credit supply $\Leftrightarrow$ peer monitoring

$\Rightarrow$ CB liquidity provision and credit supply

  - Conventional effect if $+$ direct effect on credit supply dominates
    - thus $\nearrow$ peer monitoring and crowds in interbank market liquidity
  - Endogenous interbank market dry-up may $\searrow$ credit supply
    - if $-$ direct effect on peer monitoring dominates