Liquidity Creation, Capital Requirements, and Regulatory Arbitrage

Stephan Luck
Federal Reserve Board

Paul Schempp
University of Cologne

Fire sale pricing

„Money creation“ is non-monotonic in asset sales

Mechanics

• Banks generate Liquidity Benefits (à la Stein 2012) by creating safe claims ("Money")

\[ M(\eta) = (1 - \eta)R_L + \eta \min \left[ \frac{R_1}{g}, W \right] \]

• Late investors have endowment \( W \) and productive technology \( g \); can buy assets after pessimistic news

• Friction: Financing terms are non-contractable, effect on collateral constraint through fire-sale price not internalized

• Asset sales do not only create liquidity, they can also destroy it

Findings

1. Fire-sale externality leads to excessive fire sales
   • But: too much or too little money creation

2. Macropudential regulation
   • Limit asset sales with Pigouvian tax, or capital / liquidity requirements

3. Regulatory arbitrage undermines regulation
   • Shadow banking sector grows too large
   • Solution: Subsidy on bank equity

Optimal and equilibrium size of shadow banking as a function of \( R_1 \)

Regulation & Regulatory Arbitrage

• Targeting asset sales directly (Pigou)
• Effective if not regulatory arbitrage possible
• Otherwise: Shadow banks operate outside the regulatory perimeter
• High leverage: Shadow banks engage only in market-based liquidity creation
• Shadow banking sector grows too large; macroprudential policy is offset completely
• Solution: Subsidy on bank equity
• Low leverage: constrained efficient not attained

This paper

• Motivation: Liquidity creation vs. excessive leverage
• Banks can create liquidity ("money") in two ways:
  • Issue equity and hold-to-maturity (traditional banking)
  • Market-based liquidity creation (shadow banking)
• Role for macroprudential regulation?
• What is the effect of regulatory arbitrage through shadow banking?