Public Liquidity and Intermediated Liquidity

A Brief Summary

Link to the full paper: https://yeli-macrofinance.com/intermediated_liquidity_cycle.pdf

This paper raises two questions. First, when financial intermediaries cannot supply enough liquid assets ("intermediated liquidity"), can the government issue liquid securities ("public liquidity"), such as Treasury bills, to alleviate the shortage? Second, can financial instability caused by private money creation be alleviated by public liquidity that crowds out intermediated liquidity? My dynamic model provides results that are distinct from those obtained in the static settings (Holmström and Tirole, 1998).

In the model, financial intermediaries incur costs when transforming risky and illiquid assets into safe and liquid debts (e.g., deposits). Profits earned from supplying liquid assets compensate for intermediation cost in equilibrium. When the government issues liquid securities, intermediaries reduce their issuance to meet the residual demand so that their profits per dollar of liquid assets created remain the same. My analysis shows that introducing public liquidity can crowd out more private (intermediated) liquidity than it adds, resulting in a net reduction of liquidity supply.

Intermediation cost is modelled as equity issuance costs (Myers and Majluf, 1984). A threshold of equity level is optimally chosen below which intermediaries choose to incur the issuance costs and raise equity. As in He and Krishnamurthy (2013) and Brunnermeier and Sannikov (2014), intermediation cost is countercyclical. When negative shocks deplete equity, costly equity raising becomes more likely, and the effective intermediation cost rises. In contrast, following positive shocks, equity raising becomes a more distant event, and the intermediation cost declines.

Under this countercyclical intermediation cost, public liquidity supply makes financial intermediaries' leverage more procyclical: intermediaries compete with the government in supplying liquid assets (issuing debts) in booms when the intermediation cost is low; they cut debt issuance and deleverage sharply in downturns as the intermediation cost rises. Public liquidity, by amplifying the procyclicality of intermediary leverage, can contribute to financial instability.

References

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