

Discussion of the paper “When Banks Hold Back: Credit and Liquidity Provision” by Altavilla, Rostagno and Schumacher

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A very interesting paper

- Addresses an important problem: why are banks sometimes reluctant to borrow from central banks and often do not use the borrowed facility to create credit?
- It studies carefully the connection between sources of funding and credit creation, drawing from the recent policies of the ECB
- It uses theory to draw useful testable implications

The Stein (2012) model

- Simple structure. 3 dates: 0, 1, 2
- At $t = 0$ households can consume their endowment or invest it in bonds or in deposits M . Utility:

$$U = C_0 + \beta E(C_2) + \gamma M$$

- Money in the utility function!
- $R^B = \frac{1}{\beta}$, $R^M = \frac{1}{\beta + \gamma} < R^B$

Banks

- Continuum with mass. Only they can invest
- Investment technology: An amount I invested in 0 produces at $t = 2$ $f(I) > I$ with prob. p (good state)
- $\lambda I \leq I$ with prob. $(1 - p)q$ and 0 with prob. $(1 - p)(1 - q)$ (bad state)
- At $t = 1$, a public signal reveals whether the good or bad state will be realized at time 2.
- Banks can sell a fraction of their assets to nonbanks.
- But they must sell at a discount k
- Important: k is endogenous and depends on total asset sales by all banks in the economy.

Banks

- Key trade-off: banks want to issue short-term debt because by virtue of its money-ness, it represents a cheap form of finance.
- On the other hand, what keeps short-term debt safe is the bank's ability to sell assets in the bad state.
- This implies that there is an upper bound on private money creation given by:
 $m^{max} = k\lambda R^M$.
- This is basically a collateral constraint

Non-Banks

- They have an endogenous endowment W and they can:
- invest a fraction K at $t = 1$ to get $g(K)$ at $t = 2$,
- or buy banks' assets at $t = 1$.
- For the nonbanks to be willing to buy banks' assets, the marginal return on new projects must be the same as the marginal return from buying existing assets from banks, i.e.

$$\frac{1}{k} = g'(W - M)$$

- This is what pins down the fire-sale discount k .

Equilibrium and efficiency

- When the collateral constraint binds, and each bank is setting $m = m^{max}$, an incremental increase in money creation by any one bank reduces the equilibrium value of k
- i.e. it creates an externality not internalized by atomistic banks
- \implies excessive creation of inside money

This model: Central Bank intervention

- Assumes a LOLR regime: the central bank announces at $t = 0$ that it stands ready to lend to the banks, at an interest rate $R^{LOLR} = [1 + (1 - p)\frac{1-x}{x}]R^M < R^B$
- Under this liquidity window, the banks' assets are subject to a $1-x$ haircut, which the central bank sets equal to $1 - k$, i.e. the same discount would suffer if banks were forced to sell in a competitive market instead.
- Consistent with the Bagehot prescription for the LOLR: the CB should lend at a penalty rate
- In practice the CB here eliminates the need for fire sales since liquidity is now provided by the central bank.
- However banks do not create enough money and do not invest as much as the planner would like
- In this sense the authors claim that banks are reluctant to borrow.

Central Bank intervention

- The solution is to move away from a LOLR governance
- “Credit Easing” (CE) regime: the CB is not constrained by $x = k$ when setting the interest rate, but chooses k , so that loans are priced attractively
- If market failures are not too pervasive, CE is successful in bringing private allocations into complete alignment with those prescribed by the social optimum.
- However, if banks investment has positive externality on non-bank investment money creation and investment fall short of the central bank's targets.
- In this case the central bank can induce banks to expand further their money creation by offering to purchase a pre-set amount of bank assets in the the bad state at a given price.
- They call this a Quantitative Easing regime.

A few remarks on the paper

- One main perplexity
- The model is based on Stein (2012) that shows that the collateral constraint of banks, causes an excessive creation of inside money, relative to the planner's solution.
- Hence one would think that the purpose of the central bank is to correct this inefficiency in order to equate private and social returns.
- However the policies suggested in the paper do not really try to correct this inefficiency.
- Actually they exacerbate the inefficiency since they imply an increase in inside money creation and more credit.

A few remarks on the paper

- The problem that the authors address, instead, is the following: suppose that the central bank creates some facilities in order to provide liquidity when there is a bad equilibrium.
- Conditional on there existing these facilities which one is the optimal one?
- But why should we have this policies in the first place? Are we sure that intervention by a public authority is welfare improving?
- Although conventional wisdom indicates that this is the case, from a theoretical point of view this is not obvious
- Intervention during a situation of financial distress is costly - must be financed through taxation
- Moreover: knowing that the central bank will intervene in the market, banks might be tempted to increase further money creation, increasing the costs of intervention when the bad equilibrium occurs.