Monetary Stimulus and Bank Lending

by Chakraborty, Goldstein, and MacKinlay

Discussion by Christopher Palmer
MIT Sloan

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Stylized QE chain reaction

1. Central bank purchases of long-duration assets X bids up prices for those assets
2. Capital (including banks) looks at depressed yields in market for X and pulls out in favor of other long-duration assets with higher yields
   • (“portfolio-rebalancing channel”)
3. All long-duration assets experience lower yields
4. Movement along credit demand curve leads to more borrowing by firms, households, etc.
5. Increased borrowing leads to higher investment and consumption
6. Leads to higher incomes, higher consumption
Bank-lending channel

- QE intuition is that central bank just has to intervene on long end of yield curve
- Bank-lending channel: banks (among others) will increase lending for a variety of reasons
  - Capital flows to highest return projects
  - Authors highlight capital gains channel, origination channel
- Recent QE papers trying to figure out mechanisms behind QE effects
This paper’s findings

1. QE MBS purchases increased mortgage origination...
2. ...which partially crowded out C&I lending...
3. ...which led to lower investment by firms

• Ample evidence on #1 (RD 2017, DKP 2016, BFHV 16)
• #2 is new, impt, and disagrees with incumbent work
• #3 consistent with other work on disruptions in credit (e.g., Chodorow-Reich, 2014)
I. Different strokes

• Rodnyansky and Darmouni (RFS 2017) find that C&I lending increased through bank-lending channel

• Authors attribute this to specification differences

• CGM specification

\[ Y_{bt} = \alpha_b + \gamma_t + \beta_1 \text{Treat}_{bt-1} + \beta_2 \text{Treat}_{bt-1} \cdot MBSPurch_{t-1} + X'_{bt-1}\delta + \varepsilon_{bt} \]

• RD specification

\[ Y_{bt} = \alpha_b + \beta_1 QE^j_t + \beta_2 \text{Treat}_b \cdot QE^j_t + X'_{bt}(\delta_1 + \delta_2 QE^j_t) + \varepsilon_{bt} \]

• Time fixed effects and importance of flows

• Could replicate RD and show exactly where breaks down: 1) replicate 2) time FE s, 3) flows
II. Flow versus stock debate

• Understanding importance of flows is a first-order policy concern
• Gets at channels (signaling vs portfolio-rebalancing)
• Informs LSAP unwinding and optimal design of future LSAPs
• Despite ample variation in flows, identification strategy not clear to study their effects
Strong correlation with flows

Appendix Figure 2. Fed Gross MBS Purchases vs. Conforming Origination Volume

Notes: Figure plots the monthly origination amount of refinance mortgages below the conforming loan limit (right axis) recorded by LPS against the net monthly amount of Fed purchases of Agency securities observed in NY Fed Open Market Operations data (left axis).

Di Maggio, Kermani, Palmer (2016)
Where do flows come from?

• Details on how Fed OMO was tasked with TBA purchase quotas would help understand potential flow endogeneity

• What if they were told, please buy $X, but not more than 60% of a given TBA contract?

• Then flows mechanically track origination – reverse causality concern

• Worry that specification is a regression of quantity on some function of quantity?

• (TBA Dollar Rolls also exacerbate reverse causality)
QE1: relatively constant origin. share

Appendix Figure 1. Share of GSE Origination Owned by Federal Reserve by Quarter of Issuance

Notes:
Figure plots the percentage of GSE MBS volume issued in each quarter that was ultimately owned by the Federal Reserve. Shaded regions indicate QE programs. Source: Fannie Mae, Freddie Mac, and New York Federal Reserve Open Market Operations data.

Di Maggio, Kermani, Palmer (2016)
A “Figure 1” would bolster ID

• Paper’s empirical strategy is essentially diff-in-diff

• Treatment and control banks based on relative exposure to MBS market

• If parallel trends hold when flows=0, could allay concerns about flow endogeneity

• Why not have a figure that shows key outcomes over time for treatment and control?

• Treated firms should track control firms in, e.g. C&I volume, except during periods when flows are highest

• Are flows equally effectual over time? i.e. a given increase in flows during Tapering vs QE1?
III. Capital Gains vs Orig Channel

- Existing work suggests that any capital gains effects happen immediately on announcement, whereas origination quantities more correlated with flows
  - If so, empirical design relying on flows won’t detect any effects through capital gains channel
- Moreover, are capital constraints relevant for originate to distribute?
  - Originating to sell MBS to Fed requires minimal capital – 2 months holding + low risk weight
- Is it the case that mortgage-responding banks are same ones with C&I increase? Chain not necessarily identified by reduced-form specs
- That said, authors careful to caveat ability to distinguish
Conclusion

• “The problem with QE is that it works in practice, but it doesn’t work in theory.”
  –Ben Bernanke, 1/16/14

• Bank-lending channel important for theory of QE, i.e. mechanisms at play

• And how well does it really work in practice?

• This paper speaks to both, points out that how effective QE is depends on net effects—can’t declare victory after looking at just one market if substitution is negative

• Treatment of flows and contrast with RD could be bolstered.