

Quantitative easing and bank risk taking: evidence from lending

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¹The views expressed here are solely those of the author and should not be taken to represent those of the Bank of England.

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 - Is it possible to isolate the effect of the expansion of banks' reserves on lending (ie, in isolation from the impact of the assets purchased)?
- ▶ **Why is this important**
 - Long tradition in the analysis of transmission of monetary actions through reserves [Friedman and Schwartz, 1963; Tobin, 1969]
 - Could improve our understanding of QE

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- ▶ How do they do that?
 - **Problem** Bank-level reserves are endogenous to other portfolio decisions (eg, lending)
 - **Solution** Exploit a regulatory change in April 2011 that (i) strongly affected reserves distribution in the banking system and (ii) naturally provides a treatment and control group of banks

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 - **Problem** Bank-level reserves are endogenous to other portfolio decisions (eg, lending)
 - **Solution** Exploit a regulatory change in April 2011 that (i) strongly affected reserves distribution in the banking system and (ii) naturally provides a treatment and control group of banks
- ▶ What is new?
 - Quantify (identify?) the role of a novel transmission channel of QE, the *“reserve channel”*

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- ▶ **Discussion** I'll focus on the novel aspect of the paper, the *reserve channel of QE*
 - How does it work?
 - How different is it from other (more standard) channels?

Quantitative easing: channels of transmission

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- ▶ *Change in the supply for a given asset (Portfolio balance channel)*
 - 'Traditional' portfolio balance
 - ▶ Change in the relative supply of the assets purchased and thus in their prices (and their close substitutes)
 - Duration
 - ▶ Removal of duration risk lowers the risk premia and thus increase prices

[Underlying assumptions for portfolio balance: bonds of different maturities are imperfect substitutes for some investors (preferred habitat) and markets are segmented (Vayanos and Vila, 2009)]

The reserve channel of QE: how does it work?

- ▶ Use the simple example in Christensen and Krogstrup (2015)
- ▶ Agents: banks, CB, and non-banks financial firms
- ▶ To focus on reserve channel (and not on supply channel) consider purchases of short-term assets

Example: start with banks and CB only (boring)

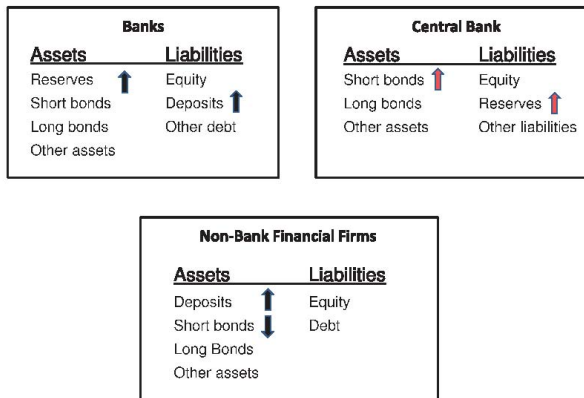
Banks	
<u>Assets</u>	<u>Liabilities</u>
Reserves ↑	Equity
Short bonds ↓	Deposits
Long bonds	Other debt
Other assets	

Central Bank	
<u>Assets</u>	<u>Liabilities</u>
Short bonds ↑	Equity
Long bonds	Reserves ↑
Other assets	Other liabilities

- ▶ No change in composition and/or duration of banks' assets
- ▶ Standard argument for why is not a good idea to do QE on short-term assets

[Assumption: short-term bills and reserves are near-perfect substitutes and that both instruments carry a near-zero interest rate]

Example: now introduce non-banks financial firms



- ▶ Banks' assets have expanded with lower yielding securities, and their average duration has declined
- ▶ Portfolio allocation and duration likely to be non-optimal

[Assumption: bank deposits and short-term bills are near-perfect substitutes for non-bank financial firms]

The reserve channel of QE: some doubts/questions

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 - Difference lies in the *expansion* of balance sheets, rather than change in their composition
 - Role of heterogeneity?

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 - Are new deposits considered core funding? Non-banks financial firms deposits can be 'flighty' (quite different from 'grandma' deposits)
 - What are the implications for portfolio balance?

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- ▶ Leverage
 - In the above example leverage increases
 - How would banks that target a certain level of leverage respond (ie, equity or assets)?
 - Could dampen or amplify the effect

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 1. QE program that (i) entails a substantial increase in reserves but (ii) is achieved without acquiring any long-lived securities (Christensen and Krogstrup)

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 1. QE program that (i) entails a substantial increase in reserves but (ii) is achieved without acquiring any long-lived securities (Christensen and Krogstrup)
 2. **This paper** Treatment and control group where the amount of reserves differ for reasons that are exogenous to their portfolio decisions

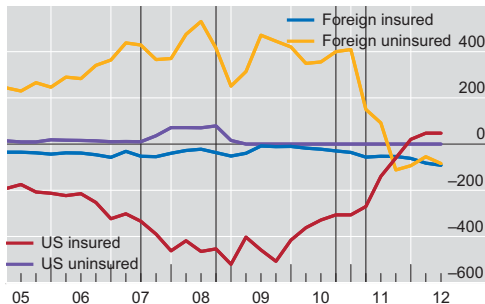
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- ▶ Uninsured US branches and agencies of foreign banks drew on their own affiliates outside the United States to fund their asset growth (yellow line). Any implications?

Inter-office claims by bank nationality and FDIC status^{1,4}



Source: Kreicher et al (2013)

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- ▶ Uncovered empirically the existence of an important mechanism of transmission of QE
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- ▶ Develop the theory
 - Assess the role of different assumptions
 - Take into account general equilibrium effects
- ▶ Important implications
 - QE with short-term bonds
 - Regulation may be important conduit for QE
 - Exit strategy