Liquidity and Monetary Transmission
A Quasi-Experimental Approach

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THIS PAPER

A large rise of liquidity in the banking system

Gradual implementation of liquidity regulations

Reserve creation from QE purchases

Research question

How does bank liquidity interact with interest rate pass-through?

DATA & IDENTIFICATION STRATEGY

Mortgage-level data

Control for risk characteristics & explore heterogeneities

Bank-level liquidity

Net off repos and control for bank balance sheet characteristics

Regional/agg. controls

Control for local demand factors and use swap rates as risk-free benchmark

Identification strategy

- Exploit QE auctions for bank-specific liquidity variation
- Use time FEs, so need exogenous *allocation* variation
- Gilt sellers were *non-banks*: the addition of bank-specific QE liquidity were outside of banks' decisions

MECHANISMS

A fall in risk-free rates -> loosening in credit supply

Liquidity constraints

- A credit supply expansion requires funding, so requirements ↑
- A bank with excess liquidity can satisfy these requirements
- More liquid banks should have **higher** pass-through

Net interest margin targeting

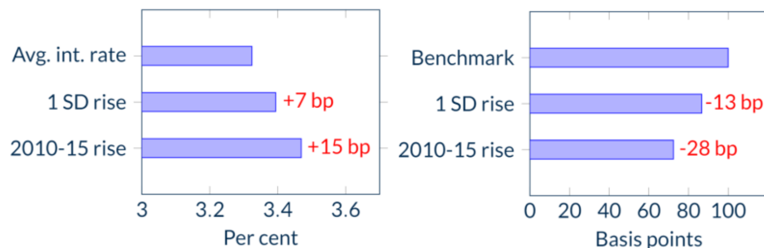
- Treasuries discourage (low-yielding) excess liquidity
- More hesitant to pass on a fall in funding costs
- More liquid banks should have **lower** pass-through

RESULTS

$$r_{ijt}^{L} = \beta_1 distance_{jt} + \beta_3 distance_{jt} \times r_t^S + \Gamma_1 x_{jt} + \Gamma_1 x_{ijt} + \alpha_t + \alpha_j + \varepsilon_{ijt}$$

(bank-level controls: $\Gamma_1 x_{jt}$; mortgage-level controls: $\Gamma_1 x_{ijt}$)

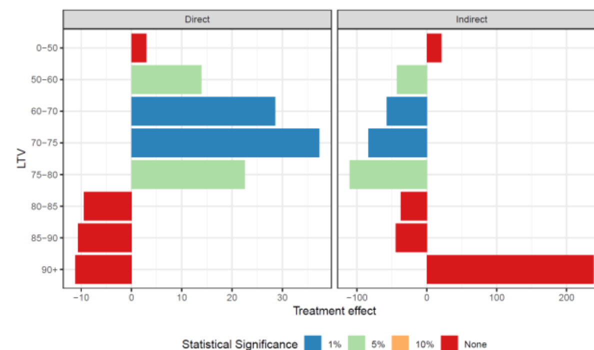
- Interact excess liquidity ($distance_{jt}$) with risk-free swap rates
- Only a small rise in average mortgage rates (supply contraction)
- But a significant reduction in pass-through for more liquid banks (28pp less pass-through for every 100bps prior to 2010)
- Suggests **net interest margin targeting** mechanism



HETEROGENEOUS EFFECTS

$$r_{ijt}^{L} = \beta_1 QE_{jt} \times LTVband_i + \beta_2 QE_{jt} \times r_t^S \times LTVband_i + \cdots + \varepsilon_{ijt}$$

- Reduced-form regression: interact QE with mortgage LTV bands
- Effect is concentrated at lower LTVs: **search-for-yield**
- Banks do not tighten supply to higher-yielding riskier mortgages



KEY TAKEAWAYS

Increased liquidity only have a small impact on credit supply

Search-for-yield behaviour induced

Increased liquidity reduce interest rate pass-through

Effect concentrated in lower risk mortgages

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