

Employment and the Collateral Channel of Monetary Policy

Saleem Bahaj, Angus Foulis, Gabor Pinter, and Paolo Surico

Discussion by Yueran Ma

Chicago Booth

ECB Workshop on Monetary Policy and Financial Stability

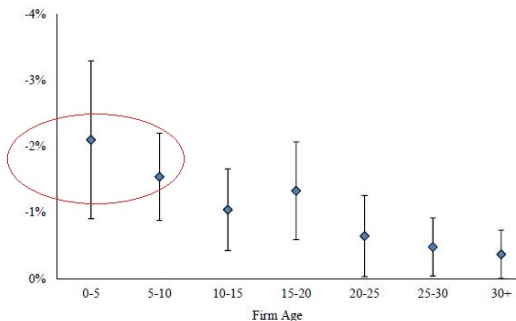
Financial Frictions & Transmission of Monetary Policy

How does monetary policy affect the real economy?

- The role of financial frictions
 - ▶ Study firm **heterogeneity** (Gertler-Gilchrist 1994)
- Some firms more exposed to frictions \Rightarrow higher sensitivity to MP
 - ▶ Small, young, high leverage
- Channel #1: Borrower balance sheet channel
 - ▶ Balance sheet matters more for constrained firms
- Channel #2: Bank lending channel
 - ▶ Weaker bank balance sheet affects vulnerable borrowers most (Holmstrom-Tirole)

This Paper

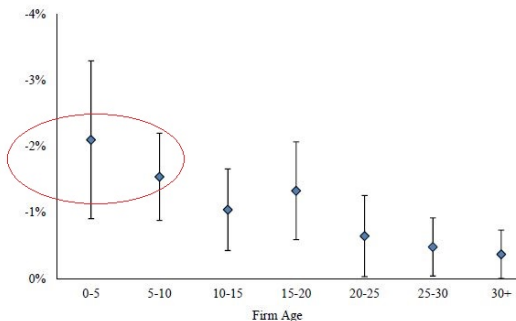
- MP significantly affects young firms' employment
- Esp if directors live in areas w/ high sensitivity of house prices to MP



25bps tightening shock, cumulative effect after 2 years

This Paper

- MP significantly affects young firms' employment
- Esp if directors live in areas w/ high sensitivity of house prices to MP



25bps tightening shock, cumulative effect after 2 years

Preferred mechanism:

- **Firm balance sheet:** directors' houses serve as collateral for debt

From Monetary Policy to Firm Outcomes

Key Mechanism: Monetary policy \Rightarrow Director RE value \Rightarrow Firm outcomes

From Monetary Policy to Firm Outcomes

Key Mechanism: Monetary policy \Rightarrow Director RE value \Rightarrow Firm outcomes

Effect should be strong when:

- Director RE value important for firm financing (young/leveraged)
- High sensitivity of housing price to monetary policy
- *Large real estate stock*

A. Magnitude

Key Mechanism: Monetary policy \Rightarrow Director RE value \Rightarrow Firm outcomes

A. Magnitude

Key Mechanism: Monetary policy \Rightarrow Director RE value \Rightarrow Firm outcomes

- Summary statistics
 - ▶ Median young firm: 28 employees; £1,750K debt (70% leverage).
 - ▶ 3 to 4 directors; £600K RE/person, £2,000K total (BFP, 2018)
- Real estate value \Rightarrow employment and borrowing (BFP, 2018)
 - ▶ £1.1 M \uparrow in director RE \rightarrow 1 additional job
 - ▶ £1 increase in director RE \rightarrow £0.03 more borrowing
- **25bps easing shock**: HP \uparrow 1.5% in high exposure region (appendix)
 - ▶ £30K \uparrow in director RE value (2 year cumulative effect)

A. Magnitude

Key Mechanism: Monetary policy \Rightarrow Director RE value \Rightarrow Firm outcomes

- Summary statistics
 - ▶ Median young firm: 28 employees; £1,750K debt (70% leverage).
 - ▶ 3 to 4 directors; £600K RE/person, £2,000K total (BFP, 2018)
- Real estate value \Rightarrow employment and borrowing (BFP, 2018)
 - ▶ £1.1 M \uparrow in director RE \rightarrow 1 additional job
 - ▶ £1 increase in director RE \rightarrow £0.03 more borrowing
- **25bps easing shock**: HP \uparrow 1.5% in high exposure region (appendix)
 - ▶ £30K \uparrow in director RE value (2 year cumulative effect)
 - ▶ **0.03 additional jobs (0.1% on a base of 28)**

A. Magnitude

Key Mechanism: Monetary policy \Rightarrow Director RE value \Rightarrow Firm outcomes

- Summary statistics
 - ▶ Median young firm: 28 employees; £1,750K debt (70% leverage).
 - ▶ 3 to 4 directors; £600K RE/person, £2,000K total (BFP, 2018)
- Real estate value \Rightarrow employment and borrowing (BFP, 2018)
 - ▶ £1.1 M \uparrow in director RE \rightarrow 1 additional job
 - ▶ £1 increase in director RE \rightarrow £0.03 more borrowing
- **25bps easing shock**: HP \uparrow 1.5% in high exposure region (appendix)
 - ▶ £30K \uparrow in director RE value (2 year cumulative effect)
 - ▶ **0.03 additional jobs (0.1% on a base of 28)**
£900 \uparrow in borrowing (0.05% on a base of £1,750K)

A. Magnitude

“Reverse engineering”: How much MP needs to affect HP to get results?

- Summary statistics
 - ▶ Median young firm: 28 employees; £1,750K debt (70% leverage).
 - ▶ 4 directors; £600K RE/person, £2,000K total (BFP, 2018)
- Real estate value \Rightarrow employment and borrowing
 - ▶ 1.1 M \uparrow in director RE \rightarrow 1 additional job
 - ▶ 1 increase in director RE \rightarrow 3 cents more borrowing

25bps easing shock

- Employment \uparrow 2%, or 0.56 jobs \rightarrow need £616K \uparrow in director RE \rightarrow 30% \uparrow in RE value

A. Magnitude

“Reverse engineering”: How much MP needs to affect HP to get results?

- Summary statistics
 - ▶ Median young firm: 28 employees; £1,750K debt (70% leverage).
 - ▶ 4 directors; £600K RE/person, £2,000K total (BFP, 2018)
- Real estate value \Rightarrow employment and borrowing
 - ▶ 1.1 M \uparrow in director RE \rightarrow 1 additional job
 - ▶ 1 increase in director RE \rightarrow 3 cents more borrowing

25bps easing shock

- Employment \uparrow 2%, or 0.56 jobs \rightarrow need £616K \uparrow in director RE \rightarrow 30% \uparrow in RE value
- Borrowing \uparrow 3.5%, or £61K debt \rightarrow need £2M \uparrow in director RE \rightarrow 100% \uparrow in RE value

A. Magnitude

- Sensitivity of firm outcomes to MP seems super large
 - ▶ Given HP sensitivity to MP, amount of director RE & typical response of firm outcomes to director RE value
- Even for lower bound of confidence interval for employment response
- Helpful to have more discussion about plausible magnitude

B. Bank Lending Channel

- Monetary policy affects bank balance sheets
 - ▶ Large effects in regions w/ high house price exposure to MP
 - ▶ Banks exposed to housing

B. Bank Lending Channel

- Monetary policy affects bank balance sheets
 - ▶ Large effects in regions w/ high house price exposure to MP
 - ▶ Banks exposed to housing
- SMEs borrow from banks close to director real estate
 - ▶ Distance affects lending relationships (Petersen-Rajan)

B. Bank Lending Channel

- Monetary policy affects bank balance sheets
 - ▶ Large effects in regions w/ high house price exposure to MP
 - ▶ Banks exposed to housing
- SMEs borrow from banks close to director real estate
 - ▶ Distance affects lending relationships (Petersen-Rajan)
- Bank balance sheets affect young/weak firms most, vice versa
 - ▶ Holmstrom-Tirole
 - ▶ “All forms of capital tightening hit poorly capitalized firms hardest”

B. Bank Lending Channel

- Monetary policy affects bank balance sheets
 - ▶ Large effects in regions w/ high house price exposure to MP
 - ▶ Banks exposed to housing
- SMEs borrow from banks close to director real estate
 - ▶ Distance affects lending relationships (Petersen-Rajan)
- Bank balance sheets affect young/weak firms most, vice versa
 - ▶ Holmstrom-Tirole
 - ▶ “All forms of capital tightening hit poorly capitalized firms hardest”
- Use bank-time fixed effect
 - ▶ Difference between young & old firms can still arise from credit supply

B. Bank Lending Channel

- More generally, is the bank lending channel silent?
- If no, likely contributes to young/old firms' different response to MP
- Might be challenging to show that young/weak firms' response to MP **entirely** due to collateral channel
 - ▶ Magnitude also seems too large (comment A above)
- Exposures to collateral channel and to bank lending channel likely correlated

C. Director Real Estate Ownership Data

Focus more sharply on collateral channel

- Use data on directors' real estate ownership amount
- \Rightarrow Different exposures to collateral channel
- RHS: $\lambda \times DirectorRE_{i,t-1} \times \Delta r_t$
 - ▶ λ_{Young} vs. λ_{Old}
- Director real estate holdings might be endogenous
 - ▶ Use beginning of sample quantities
 - ▶ Tradables
 - ▶ Controls for firm characteristics

D. House Price Sensitivity to Monetary Policy

- MP \Rightarrow house price has important implications
- What affects the strength of this relationship?
- Why is it different across regions?
 - ▶ Terrain and land supply (Saiz)
 - ▶ Household housing equity (Beraja-Fuster-Hurst-Vavra)
 - ▶ Financial development
 - ▶ ...
- If entire country has low sensitivity, MP transmission weaker?

D. House Price Sensitivity to Monetary Policy

- MP \Rightarrow house price has important implications
- What affects the strength of this relationship?
- Why is it different across regions?
 - ▶ Terrain and land supply (Saiz)
 - ▶ Household housing equity (Beraja-Fuster-Hurst-Vavra)
 - ▶ Financial development
 - ▶ ...
- If entire country has low sensitivity, MP transmission weaker?

Ed Glaeser: Real estate is (still) a local business driven by local conditions.

Summary

- Interesting and thought-provoking paper
 - ▶ Ties together many topics
- Can further sharpen evidence for its key mechanism

