

Discussion of Gupta, Sapriza, Yankov (2023) "The Collateral Channel and Bank Credit"

Pascal Paul

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Current Debate

- ▶ **Question:** How important is the collateral channel in amplifying business cycle shocks?
- ▶ **Chaney et al. (2012):** plausibly exogeneous differences in firm real estate values causally affect firm investment → evidence of collateral channel
- ▶ **Lian & Ma (2021):** let's look at the type constraints firms actually face
 - ▶ Larger public mostly face earnings-based covenants
 - ▶ Collateral constraints based on real estate values are rare
- ▶ **Rampini & Viswanathan (2022):** observed constraints not informative about mechanisms
 - ▶ Even if firms don't pledge collateral, lenders can still obtain assets in bankruptcy
 - ▶ So higher real estate values enable more borrowing even with unsecured debt
- ▶ **This paper:**
 - ▶ Let's broaden the sample by using newly available data for private firms
 - ▶ Directly estimate the effect for firms that actually pledge collateral

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Main Regression

$$\Delta y_{f,b,m,t} = \theta_0 I(\text{Pledge} - RE_{f,b,m,t}) + \theta_1 P_{m,t} \times I(\text{Pledge} - RE_{f,b,m,t}) \\ + \Theta' I(\text{Non} - RE_{f,b,m,t}) + \Gamma' X_{f,t-1} + \phi_f + \gamma \alpha_{f,t} + \psi_{b,m,t} + \epsilon_{f,b,m,t}$$

- ▶ $y_{f,b,m,t}$: credit, capex, ...
- ▶ $I(\text{Pledge} - RE_{f,b,m,t})$ indicator for firms pledging collateral
- ▶ $\alpha_{f,t}$ are firm-time demand factors obtained with Amiti & Weinstein (2018) method
- ▶ IV for $P_{m,t}$: follow Chaney et al. (2012) & use Saiz (2010) elasticity \times mortgage rates
- ▶ θ_1 : effect of higher real estate prices on borrowing & investment for firms that actually pledge collateral \rightarrow **Result**: $\theta_1 > 0$, sizeable, and significant for credit & investment

Comments & Suggestions

Comment I: Regression Interpretation

$$\Delta y_{f,b,m,t} = \theta_0 I(\text{Pledge} - RE_{f,b,m,t}) + \theta_1 P_{m,t} \times I(\text{Pledge} - RE_{f,b,m,t}) \\ + \Theta' I(\text{Non} - RE_{f,b,m,t}) + \Gamma' X_{f,t-1} + \phi_f + \gamma \alpha_{f,t} + \psi_{b,m,t} + \epsilon_{f,b,m,t}$$

- ▶ Let's go back to argument by [Rampini & Viswanathan \(2022\)](#)
- ▶ Collateral channel active even for firms that don't pledge collateral
- ▶ So θ_1 shows us that effects are stronger for firms that do pledge
- ▶ **BUT**: doesn't cover collateral channel for firms that don't pledge real estate !
- ▶ As an aside: regression by Chaney et al. (2012) covers secured and unsecured debt

Comment II: Regression Setup

$$\begin{aligned}\Delta y_{f,b,m,t} = & \theta_0 I(\text{Pledge} - RE_{f,b,m,t}) + \theta_1 P_{m,t} \times I(\text{Pledge} - RE_{f,b,m,t}) \\ & + \Theta' I(\text{Non} - RE_{f,b,m,t}) + \Gamma' X_{f,t-1} + \phi_f + \gamma \alpha_{f,t} + \psi_{b,m,t} + \epsilon_{f,b,m,t}\end{aligned}$$

- ▶ Ivo Welch (2022) criticizes regression setup by Chaney et al. (2012)
- ▶ He suggests to use a change-on-change regression
- ▶ Related: Why not use reported market value of collateral from Y14 data?
- ▶ My suggested regression:

$$\Delta \text{credit}_{f,b,m,t} = \theta \cdot \frac{\Delta P_{m,t}}{P_{m,t}} \cdot \frac{\text{Market Value} - RE_{f,b,m,t}}{\text{credit}_{f,b,m,t}} + \dots$$

Comment III: Regression Setup

$$\Delta y_{f,b,m,t} = \theta_0 I(\text{Pledge} - RE_{f,b,m,t}) + \theta_1 P_{m,t} \times I(\text{Pledge} - RE_{f,b,m,t}) \\ + \Theta' I(\text{Non} - RE_{f,b,m,t}) + \Gamma' X_{f,t-1} + \phi_f + \gamma \alpha_{f,t} + \psi_{b,m,t} + \epsilon_{f,b,m,t}$$

- ▶ $\alpha_{f,t}$ are firm-time demand factors obtained with Amiti & Weinstein (2018) method
- ▶ Appendix: based on groups within same geographic location, 2-digit NAICs industry code, investment-grade status, and high or low bank-dependence
- ▶ Issue: credit demand is very firm-specific, potentially biases estimates
- ▶ **Suggestion:** Why not use Khwaja-Mian (2008) approach and use firm-time FE?
- ▶ Restricts sample to firms borrowing from multiple banks, but tightens identification

Comment IV: Aggregation

$$Y_{m,t} = \theta_0^m \text{Share real estate}_{m,t-1} + \theta_1^m P_{m,t-1} \times \text{Share real estate}_{m,t-1} \\ + \Theta^{m'} \text{Share non-real estate}_{m,t-1} + \gamma_\beta^m \psi_{m,t} + \gamma_\alpha^m \alpha_{m,t} + \mu_m + \tau_t + \epsilon_{m,t}^m$$

- ▶ Earlier point about Rampini & Viswanathan (2022) carries over to the regional level
- ▶ Are $\psi_{m,t}$ supply factors from Amiti & Weinstein (2018) method? why control for supply?
- ▶ Credit multiplier seems large to me (7 times):
 - ▶ Kocherlakota (2000): amplification from credit constraints small
 - ▶ Small firms that pledge collateral not that important for aggregates
- ▶ **Future work:** Use estimates to calibrate macro-model & gauge aggregate importance

Summary

- ▶ Nice paper !
- ▶ New micro data allows for insights on current collateral channel debate
- ▶ **Some suggestions:**
 1. Clarify regression interpretation
 2. Use market value of collateral from Y14
 3. Consider change-on-change regression
 4. Consider Khwaja-Mian (2008) approach
 5. More evidence on aggregation

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