Government Credit and Monetary Policy Transmission: Evidence from Brazil

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Motivation

Research question

Does government involvement in credit markets affect monetary policy transmission in the private credit market, and if so, through what channel?

Policy relevance

- Government ownership of banks (La Porta et al. 2002) and government-sponsored or guaranteed credit programs (Beck et al. 2011) are prevalent around the world.
- Many countries have implemented credit programs in response to COVID-19, which could have legacy implications for monetary policy transmission.

Empirical Setting

We study the pass-through of monetary policy rates to loan interest rates in **Brazil**, where government has a large presence through both public banks and special "earmarked" credit.

Earmarked credit are loans through government programs designed to stimulate investment, export, or agriculture among other objectives. They can be directly granted by government-owned banks or intermediated through private banks. Interest rates on earmarked loans are regulated and tend to be lower than non-earmarked loans. These below-market interest rates for earmarked loans are subsidized by the government.

Data

We use an administrative dataset from the Central Bank of Brazil that contains loan-level information and bank-firm credit relationships.

Ability to observe bank-firm relationships allows us identify the credit supply channel in an empirical specification fully saturated with fixed effects.

Frequency and coverage

Data is at monthly frequency and the unit of observation is a loan extended by a given bank to a given firm at a given time.

The database includes detailed information on all loans granted by financial institutions operating in Brazil, including government banks, private domestic banks, and foreign banks.

All loans larger than 5,000 reais (equivalent to 3,000 USD in Jan 2011) are included.

Sample period

Our sample period is September2011 to August 2015. This is a period with a significant expansion of government credit. Monetary policy loosened till end-2012 and started to tighten afterwards, allowing us study two sub-periods.
Subsample period 1: Monetary policy loosening (Sep 2011 – Nov 2012)
Subsample period 2: Monetary policy tightening (Dec 2012 to Aug 2015)

Results

Regression specification

$$y_{libct} = \alpha + \boldsymbol{\gamma_1} S_{ibt} NE_{libt} i_{BRt-1} I_{bBR} + \gamma_2 S_{ibt} NE_{iblt} + \boldsymbol{\gamma_3} S_{ibt} i_{BRt-1} I_{bBR} + \boldsymbol{\gamma_4} NE_{libt} i_{BRt-1} I_{bBR} + \gamma_5 S_{ibt} + \gamma_6 NE_{libt} + z_{lt} + \varphi_{ib} + \tau_{it} + \eta_{bt} + \varepsilon_{libct},$$

l, i, b, t: loan, firm, bank, and time. c: country origin of the bank.

y: loan interest rate. $i_{c,t-1}$: one-period lagged policy rate in country c. I_{bc}: dummy variable for the bank's country of origin (c=BR for Brazil). NE_{libt}: a dummy variable for non-earmarked loans. S_{ibt}: earmarked exposure, measured by the share of earmarked loans. z_{lt}: loan characteristics (log loan amount, rating, maturity, and a dummy variable for collateralized loans). φ_{ib}: firm-bank fixed effects. τ_{it}: firm-time fixed effects. η_{bt}: bank-time fixed effects.

Main findings

- Earmarked exposure affects monetary policy transmission to non-earmarked loans. The effect is asymmetric during periods of monetary policy tightening and loosening.
- Specifically, the monetary policy passthrough to non-earmarked loans' interest rate is weaker (stronger) when the firm's earmarked exposure is higher during the period of monetary policy loosening (tightening).
- In other words, the higher the firm's exposure to the earmarked market, the less its non-earmarked loan interest rate falls when policy rate falls and the more its non-earmarked loan interest rate rises when policy rate rises.
- These results are present among large firm but not SMEs.
- Overall, this evidence is consistent with a rent-seeking interpretation in which a bank locks in a client with low-cost earmarked loans but is compensated through the ability to charge higher interest rates on non-earmarked loans.

	Monetary policy loosening		Monetary policy tightening	
	SMEs	Large firms	SMEs	Large firms
i*earmarked share*non-earmarked dummy	-1.551 (1.344)	-8.722** (2.994)	-1.525 (1.295)	-2.380** (1.004)
i*earmarked share	1.850 (1.224)	5.721** (2.441)	1.536 (1.412)	2.916*** (0.972)
i*non-earmarked dummy	1.720 (1.242)	7.971*** (1.866)	0.952 (1.064)	3.184*** (0.818)
Observations	397,459	22,471	789,211	232,853
R-squared	0.803	0.927	0.813	0.730

Firm-bank, firm-time, bank-time fixed effects and loan-level controls are included in all regressions. Only firms borrowing from more than one bank are included. Robust standard errors are in parentheses. *** and ** denotes statistical significance at the 1% and 5% level, respectively.

Conclusions

We examine the role of government credit in monetary policy transmission, using a comprehensive dataset from Brazil and an empirical specification that allows the identification of the credit supply channel.

We find that earmarked lending affects the monetary policy transmission to non-earmarked loans. Our evidence is consistent with a rent-seeking interpretation: banks lock in clients with low-cost earmarked loans and then they pass on monetary policy loosening less to non-earmarked loans while they pass on monetary policy tightening more. As a result, the transmission of monetary policy through private bank lending may differ in the presence of significant government involvement in credit markets.

Additional interesting questions to be addressed include how the credit supply channel we identified depends on bank characteristics and the indexation of loan interest rates.

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References

1. Aghabarari, Leila, Sophia Chen, Deniz Igan, and Bernardus Van Doornik (2022). "Government Credit and Monetary Policy Transmission: Evidence from Brazil."
2. Beck, Thorsten, Asli Demirgüç-Kunt, and María Soledad Martínez Pería (2011). "Bank Financing for SMEs: Evidence Across Countries and Bank Ownership Types," *Journal of Financial Services Research* 39, 35–54.
3. La Porta, Rafael, Florencio Lopez-de-Silanes, and Andrei Shleifer (2002). "Government Qwnership of Banks," *Journal of Finance* 62, 265–302.