

Differential Crowding Out Effects of Government Loans and Bonds: Evidence from an Emerging Market Economy

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Overview

- ▶ This paper studies the crowding-out effects of different types of lending provided to the government in Mexico.
- ▶ Authors use a unique dataset combining information on all loans granted by commercial banks to non-financial private firms (SMEs) and the government in Mexico. Also, with information on government bonds held by these banks.
- ▶ **Main result:**
 - ▶ Lending to the government through bank loans leads to a crowding-out effect on SME credit that is three times greater than that resulting from banks' holdings of government bonds.
 - ▶ Authors find that a 1 percent increase in exposure to bank loans (holdings of government bonds) leads to 0.47 (0.16) percent reduction in credit granted to firms.
- ▶ **Channel:**
 - ▶ Government bonds can serve as collateral for securing funding in the interbank market, compensating for the resources diverted to the government.

Outline

- 1 Contribution
- 2 Clarifying Questions
- 3 Empirical Strategy
- 4 Suggestions

Contribution

Identifying crowding-out is very difficult due to different empirical challenges:

- 1 Confounding effects: credit demand vs. credit supply.
 - 2 Granularity of the data.
 - 3 Exogenous variation.
- ▶ The authors attempt to identify the crowding-out effect by employing highly granular data on bank loans and government bonds. So far, there is no exogenous variation.
 - ▶ Importantly, the authors compete with two recent papers that use the same level of granularity and focus on perfectly identifying crowding-out effects: one when the Colombian government issues bonds (Onder et al., 2024, AEJM) and another when the French government (local) takes loans from banks (Pinardon-Touati, 2024, R&R AER).
 - ▶ However, the authors show that the heterogeneity of lending to the government matters—specifically, the distinction between government loans and government bonds. **This is the main contribution of the paper.**

Clarifying Questions

1 Federal Government vs. State (Local) Government

- ▶ Are bonds sold by the federal government while local governments rely on bank loans?

2 Domestic Banks vs. Multinational Banks

- ▶ "Currently, 48 banks operate in Mexico, seven of which (BBVA Bancomer, CitiBanamex, Santander, Banorte, HSBC, Inbursa, and Scotia Bank) control 78 percent of the market share by total assets." (Source: U.S. Department of Commerce)

3 Primary Market vs. Secondary Market

- ▶ Banks can also buy government bonds in the secondary market, searching for yield and for liquidity reasons. If they do so, the crowding-out effect becomes more difficult to identify (bond holdings and loans to private sector are jointly determined).

4 Types of Government Loans

- ▶ Maturity: short-term vs. long-term.
- ▶ Use of Financing Proceeds: investment vs. social spending.

5 Big Firms

- ▶ Why is the focus only on SMEs?
- ▶ The heterogeneous effects of crowding-out could vary depending on firm size.

6 Firm Characteristics

- ▶ It seems that the authors do not control for firm characteristics.

Empirical Strategy I: Crowding out at the bank level

$$\text{Firm Credit}_{bt} = \alpha + \gamma_t + \theta_b + \beta \times \text{Lending to the P.S}_{bt} + \psi X_{bt-1} + e_{bt}$$

- ▶ *Lending to the P.S_{bt}*: loans and/or government bonds.
- ▶ $\beta < 0$ only for bank loans. At this level, government bonds do not affect private lending.
- ▶ **Identifying assumption:** When the two forms of lending are included in the same regression, the specification accounts for cases where banks substitute one type of lending for the other, as well as cases where they increase both government loans and government bonds simultaneously.
- ▶ **Comment:** A key challenge for identification is that banks optimally balance their portfolio mix between government debt and private lending, particularly through the use of the secondary market.
 - ▶ If banks buy bonds in the secondary market, they may do so for liquidity reasons or portfolio management purposes (Dell'Ariccia et al., 2026, IMF).

Empirical Strategy II: Crowding out at the firm-bank level

$$\ln(\text{Firm Credit}_{ibt}) = \beta \times \text{Gov. Lending Exposure}_{ibt} + \psi X_{bt-1} + \gamma Z_{ibt-1} + e_{ibt}$$

- ▶ *Gov. Lending Exposure*_{ibt}: loans and/or government bonds.
- ▶ $\beta < 0$ for bank loans and government bonds. However, the crowding-out effect is stronger for bank loans.
- ▶ **Identifying assumption:** By using firm-bank pairs, the authors can account for firms' credit demand. The identification strategy relies on the assumption that shifts in a firm's demand for credit should affect its borrowing from all banks, not just those that are more exposed to the public sector.
- ▶ Authors include Firm-Time FE.
- ▶ **Comment:** What about the credit supply?
 - ▶ Lending to the government and firms is jointly determined, as part of the bank's optimization problem.
 - ▶ Similarly, lending through bonds and loans is also jointly determined.
 - ▶ Liquidity shocks at the bank level will affect the bank's lending decisions to both firms and the government (Morais et al., 2019).

Empirical Strategy III: Crowding out at the firm level

$$\ln(\text{Firm Credit}_{it}) = \alpha_i + \beta \times \text{Firm Gov. Lending Exposure}_{it} + \psi X_{it-1} + \gamma Z_{it-1} + e_{ibt}$$

- ▶ *Firm Gov. Lending Exposure*_{ibt}: loans and/or government bonds.
- ▶ $\beta < 0$ for bank loans and government bonds. However, the crowding-out effect is stronger for bank loans.
- ▶ **Identifying assumption:** State-sector-time fixed effects control for time-varying unobserved factors correlated with firm demand for private credit.
- ▶ **Comment:** What about the credit supply?
 - ▶ Lending to the government and firms is jointly determined, as part of the bank's optimization problem.
 - ▶ Controlling for firm characteristics?

Suggestions

- ▶ Exploit bank-local government pairs.
- ▶ Exploit banks' and firms' characteristics (cross-sectional tests).
- ▶ National bonds vs. Subnational bonds (channel).
- ▶ Apply local projections to determine whether the crowding-out effect is transitory or permanent (loans vs. bonds).
- ▶ Analyze real effects on firms and the local economy.
- ▶ Explore the role of multinational banks vs. domestic banks (internal capital market channel).

Conclusion

- ▶ My comments focus on sharpening the empirical design and results to enhance the paper's contribution.
- ▶ I would improve the discussion of the institutional background (addressing key questions) to mitigate potential concerns that may affect the credibility of the results.
- ▶ I suggest exploiting different cross-sectional tests to demonstrate that the crowding-out effect also depends on both banks' and firms' characteristics.
- ▶ Including real effect results could strengthen the paper's overall contribution.
- ▶ Best of luck!