

Risk-shifting Incentives Under Government Credit Guarantees

by de Elejalde, Sánchez, and Toro, 2024

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Bank incentives to allocate guarantees across firms

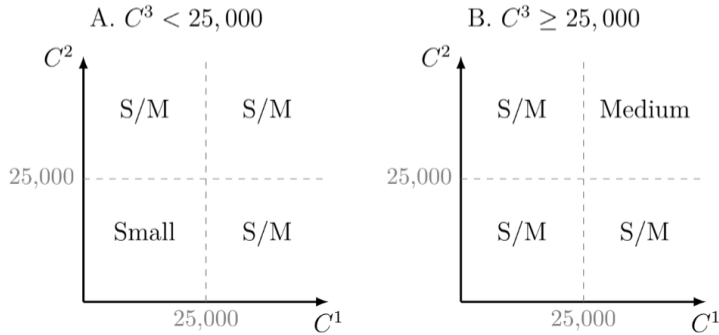
- **How do banks chose the guarantee rate for firms?**

- ▶ FOGAPE Covid loans: program of guarantees, where coverage varies with firm size
 - Banks were able to determine firm size (in some cases), thus, choosing the guarantee rates
- ▶ Data: bank-firm level data on flow and stock of loans + tax records

Program design allows banks to (re)classify some firms

- Small if sales < 25.000
- Three measures of sales determine firm size
- Then, the program allows banks to choose the guarantee ratio for some firms

Figure 3: Suggested Classification by Past Sales

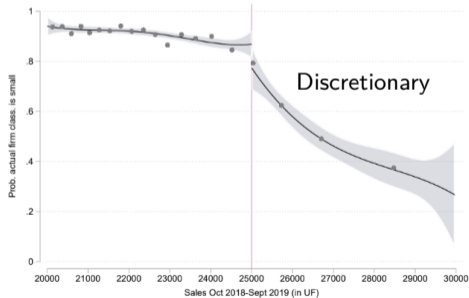


And banks do (re)classify

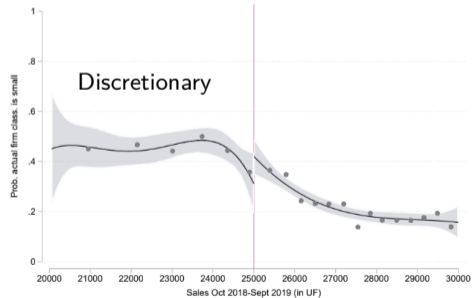
- Mainly in the discretionary space (at zero cost)
- But also in the non-discretionary medium-size space (costly)

Figure 4: Classification Probability by Past Sales Measure C^1

A. $\Pr(\text{small} \mid Z^2, Z^3 = 0)$



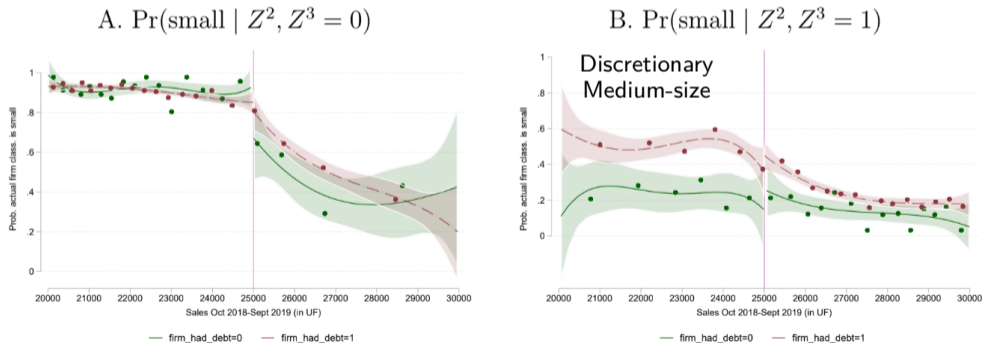
B. $\Pr(\text{small} \mid Z^2, Z^3 = 1)$



Firm pre-Covid debt correlates with re-classification

- Only in the medium-size space (mainly discretionary)

Figure 5: Classification Probability by Past Sales Measure C^1 and Credit History



From empirical results to modeling

- Interpretation of the results:

- Banks tend to reclassify firms as small in search of larger guarantee rates
- Evidence of banks trying to avoid incumbent firms default (debt burden)

- Modelling bank reclassification:

- Bank profits

$$\max_{s_{ij} \in \{0,1\}} E[\Pi_{ij}] = \{E[R_i](1 + \rho) + (1 - E[R_i]) [s_{ij}M^s + (1 - s_{ij})M^m]\} L_i - s_{ij}\kappa_{ij}^s - (1 - s_{ij})\kappa_{ij}^m. \quad (1)$$

- Bank decision rule

$$s_{ij}^* = \mathbb{1} \{ (1 - E[R_i])L_i(M^s - M^m) \geq \kappa_{ij}^s - \kappa_{ij}^m \}, \quad (2)$$

Comment #1: Why do banks want to reclassify?

- **Better allocate guarantees**

- Guarantee more the riskier or the bigger
- Test in the paper: new (revealed information) versus incumbent (debt burden) firm
 - If new firms are more likely to be classified as small → evidence of informational frictions
 - Otherwise, evidence of debt burden driving bank risk incentives
 - **However, having debt does not mean null informational frictions nor being risky**

- **Additional tests of these mechanisms**

- Covid-19 led to industry and city risks: shut-downs were specific to these dimensions, then risk might be as well + allows to compare within new firms
- Within industries and cities: firm risk can be captured by leverage, past events of repayment delay, observed interest rate... could help in providing more evidence on the role of risk

Comment #1: Why do banks want to reclassify? (Cont.)

- **Alternative mechanism**

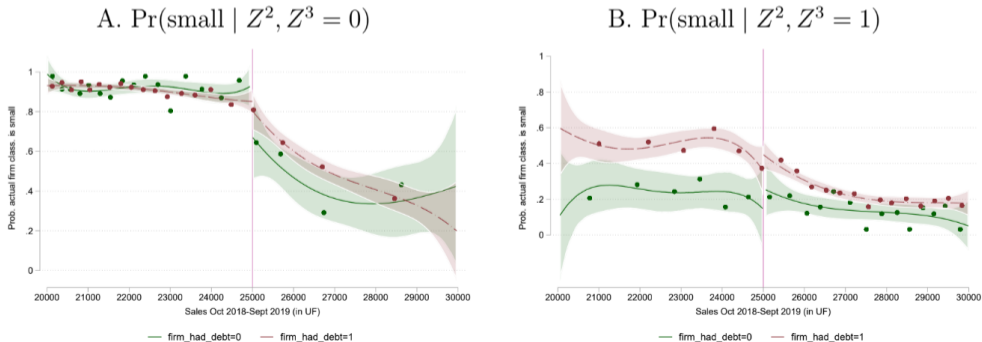
- Evidence of banks targeting bigger firms in other settings (Joaquim and Netto (2021) in the US, Haas Ornelas, Pedraza, Ruiz, and Silva (2024) in Brazil)
- During Covid-19 in the US, Joaquim and Netto (2021) find that banks provide more guarantees to bigger clients in industries and cities less affected by the shock
- Bank incentives to provide guarantees to their bigger clients to avoid poaching threats

Comment #2: Modeling bank reclassification decisions

- Motivated by empirical evidence, provide an explanation of bank trade-off
 - Guarantee rates, loan size, classification costs, default rate and deductibles

$$s_{ij}^* = \mathbb{1} \{ (1 - E[R_i])L_i(M^s - M^m) \geq \kappa_{ij}^s - \kappa_{ij}^m \},$$

Figure 5: Classification Probability by Past Sales Measure C^1 and Credit History



Comment #2: Modeling bank reclassification decisions (Cont.)

- **Suggestions for counterfactual and welfare analysis**

- What is the social planner goal?
 - ▶ Higher guarantee rates are established to reduce frictions on smaller firms
- Then, do bank incentives generate misallocation of guarantees?
 - ▶ Re-classifying medium-size firms as small reduces credit access to smaller firms
 - ▶ But, are they more sensitive? In which dimension?
 - ▶ Some thoughts: Providing guarantees can reduce debt burden, making firms more likely to survive. Some trade-off between “treatment effect” and bank incentives
 - ▶ It could be nice to extend the model and interact guarantee rate with some firm-size-specific response of performance
 - ▶ Then, we can think of different policy tools such as homogeneous guarantees, even more differentiated schemes, or increasing re-classification costs

Comment #3: More on institutional background

- Authors indicate that guarantees were allocated through auctions, so banks bid on interest rates? If so, it could add another argument to the maximization problem
- Timing. The first months of Covid-19 had a lot of uncertainty and I could expect banks to re-classify more... any evidence of re-classification over time?
- Bank specialization could also matter, mainly in micro and small firms that rely on relationship lending. I would like to see if re-classification is more often among banks that are specialized in bigger borrowers, and how participation in the program varies over this dimension

Minor comments

- Compare FOGAPE Covid-19 loans with other settings
 - The flexibility is a distinctive feature of the program, but how should we think about it more generally?
 - Is it common for banks to choose on the classification of firms? how this compares to other programs like the PPP in the US or other loan guarantee programs in emerging markets?
 - It would help to extend the insights of this paper to other settings
- Place in the literature
 - Lender incentives and allocation of PPP in the US: Griffin, Kruger, and Mahajan (2023), Joaquim and Netto (2021)
 - Lender incentives and allocation of earmarked loans in Brazil: Haas Ornelas, Pedraza, Ruiz, and Silva (2024)
 - Making it clear that it is a bank incentives paper (not another Covid-19 one) looks super promising

Wrapping up

- **Nice paper! Contributes to a relevant topic + major policy implications**
 - ▶ Bank incentives when loans are guaranteed by government
 - Worldwide used policy, not only in recessions
 - Detailed data + model allow us to learn from the Chilean setting
 - ▶ Debt burden > Revealed information
 - ▶ Modeling bank trade-off: guarantee rates, classification costs, default rate and deductibles
- **My discussion:**
 - ▶ Additional tests of banking trade-off
 - ▶ Suggestions of counterfactual & welfare analysis
 - ▶ Minor comments on institutional background and placing paper in literature