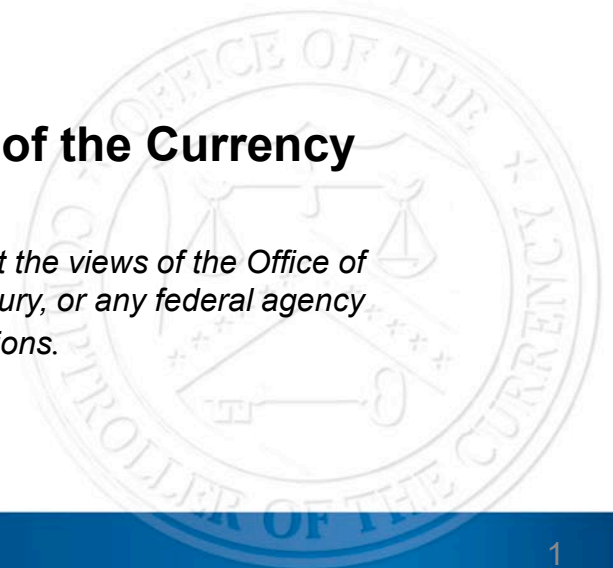Discussion of: **The COVID-19 Shock and Firm Financing: Government or Market? Or Both?**
Acosta-Henao, Fernández, Gomez-Gonzalez, and Kalemli-Özcan

BCBS-GCFS Research Conference: *How effective were policy measures in supporting bank lending during the Covid-19 crisis?* May 10-11, 2021

Hein Bogaard, Office of the Comptroller of the Currency

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The COVID-19 Shock and Firm Financing: Government or Market? Or Both?

- Paper studies the impact on bank-loan take-up following the implementation of two programs in Chile in 2020:
  - FCIC, a funding for lending type credit line to commercial banks
  - FOGAPE-COVID, an expansion of existing guarantees on business lending (higher eligibility threshold)
- RDD analysis shows that eligibility led to an increase in domestic borrowing relative to foreign borrowing
  - Exploiting great data with comprehensive information on banking relationships and composition of debt
- Model to study trade-off between foreign and domestic borrowing
  - Complementarity between FCIC (counteracting upward pressure on rates in light of higher demand) and FOGAPE-COVID (relieving collateral constraint)

Substitution between FX and CLP loans – model

- Key features of the model
  - Firms have common technology $y_i = A_2 k^{i^{0.5}}$
  - Firms borrow to finance k^i:
  - Foreign borrowing at rate R* up to a limit defined by international collateral $d_f^i \leq \frac{\lambda_f^i}{R^*}, \lambda_f^i \sim U[0, \bar{\lambda}]$
  - Domestic borrowing at rate R_2, collateralized with future production (and any international collateral remaining) so that $d_d^i \leq \left(\theta_d y^i(k^i) + \lambda_f^i - R^* d_f^i \right) \times \frac{1}{R_2}$, with $k^i = d_d^i + d_f^i$
  - R_2 is endogenous and adjusts to ensure demand for loan Is equal to domestic household endowments e_1
- Parameter assumptions:
  - $R^* < R_2$ so that $d_f^i = \frac{\lambda_f^i}{R^*}$
  - $\bar{\lambda} < (A_2 \alpha)^{\frac{1}{1-\alpha}}$ so that all firms have some domestic loans and R_2 is the marginal cost of funding
  - Some firms, with λ_f^i large enough, are unconstrained in the domestic market and borrow to equate the marginal benefit of borrowing to the marginal cost, R_2 (!)
  - Other firms borrow as much as feasible under the collateral constraint

Substitution between FX and CLP loans – comparative statics

- An increase in θ_d relaxes the domestic collateral constraint
  - ➤ higher demand for loans from (formerly) constrained firms.
  - ➤ Higher R_2, no change in total borrowing (but some redistribution from formerly unconstrained to constrained firms?)
- An increase in endowments e_1
  - ➤ Lower R_2, should raise domestic borrowing by constrained and unconstrained firms

No impact on foreign borrowing provided $R_2 > R^*$

- An increase in the cost of foreign borrowing R^*
  - ➤ In the model this tightens the foreign collateral constraint, λ_f^i / R^* and induces less foreign borrowing
  - ➤ In isolation, R^* does not affect total domestic borrowing and the impact on initially unconstrained firms is indeterminate
  - ➤ In an extended version of the model, R^* also increases risk aversion among domestic banks

Lower foreign borrowing, but no general result on substitution

R^* Does a lot of work!

What do the empirical results say? Loan composition

- RDD estimation of:

$$\frac{D_i^{Domestic}}{D_i^{Domestic} + D_i^{Foreign}} = \beta_0 + \beta_1 \log\left(sales_i^{2019}\right) + \delta I(eligible_i) + \varepsilon_i$$

  ➢ Increase in the share of domestic borrowing at the FOGAPE-COVID eligibility cut-off

- Potential further analysis
  - What is the composition of changes in the domestic debt ratio?
  - Was there a greater impact for firms with a tighter collateral constraint (e.g., in more opaque sectors, higher debt/sales in 2019)? Or greater dependency on FX debt?
  - Was the increase in lending larger for banks with lower pre-FCIC liquidity?

Empirical analysis – interest rates

Table 5: Interest Rate Regression, UIP Premium and policy effect

Variables	(1) April 2012 to Sept 2019	(2) March 2020 to July 2020	(3) March 2020 to July 2020
Fx	-0.0395***	0.00115	-0.00377*
	(0.00345)	(0.00131)	(0.00215)
Fx-elegible			0.0117***
			(0.00239)
Macro Controls	Yes	Yes	Yes
Firm Controls	Yes	Yes	Yes
Bank Controls	Yes	Yes	Yes
Observations	5,929,453	348,550	348,550
R-squared	0.869	0.646	0.646

➢ Chilean firms pay lower rates on FX debt, except for firms that are eligible for FOGAPE-COVID in 2020

- Potential further analysis
  - Interest rates on FOGAPE-COVID were capped, what happens to rates on other CLP loans to eligible/non-eligible firms?
  - Robustness: consider a Diff-in-Diff specification to control for any pre-existing differences between eligible/non-eligible firms

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