Public Guarantees for Small Businesses in Italy during Covid-19

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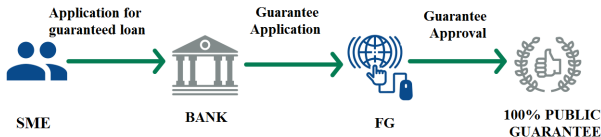
Motivation

- The Covid-19 pandemic forced a *global business shutdown* and caused a *liquidity crunch* which was especially acute among small businesses (SMEs)

- Policymakers relied on the banking system to act as a conduit of government-backed liquidity through the use of *public credit guarantees on private bank loans*

- Since mobility restrictions limited access to bank branches, applications for guaranteed loans were mostly *filed online*

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- This paper: we study the importance of banks' IT capabilities and of local banking relationships in the allocation, pricing and processing time of guaranteed loans

- If banking system is heterogeneous in ability to deliver funds or if pre-existing relationships are sticky, funds may not reach neediest firms

COVID-19 Public Credit Guarantees for SME in Italy

- **Guarantees in normal times**: partial (up to 80%) and costly (25-200bps in addition to loan rate). Application evaluated with Guarantee Fund scoring system

- **New rules introduced on April 8, 2020** (*DL Liquidità*):

  1) 90% guarantee for 6-year loans (later increased to 10-year) up to €5M

  2) 100% guarantee for loans up to €25,000 (increased to €30,000 in June)
     - No fees and no credit check
     - Interest rate ceiling formula ($\leq$2%)

- $\neq$ PPP loans: no strings attached (other than no dividends)

| Application for guaranteed loan	Guarantee Application	Guarantee Approval

| SME | BANK | FG | 100% PUBLIC GUARANTEE |

Data

1. **Loan Guarantees**: confidential loan-level (bank-firm) data from the Italian SME guarantee fund (*Fondo di Garanzia*, FG) with interest rates and processing times
   Advantage compared to US PPP data: unique firm tax code

2. **BvD Orbis**: firm-level balance sheet data for a large sample of private firms, covering 76% of total SME revenues in Italy, and bank balance sheet data from BvD Orbis BankFocus

Italian banks issued almost one million government guaranteed loans to around 900,000 small businesses for an aggregate amount of €79 billion.

Volume of guaranteed loans, 2013-2020
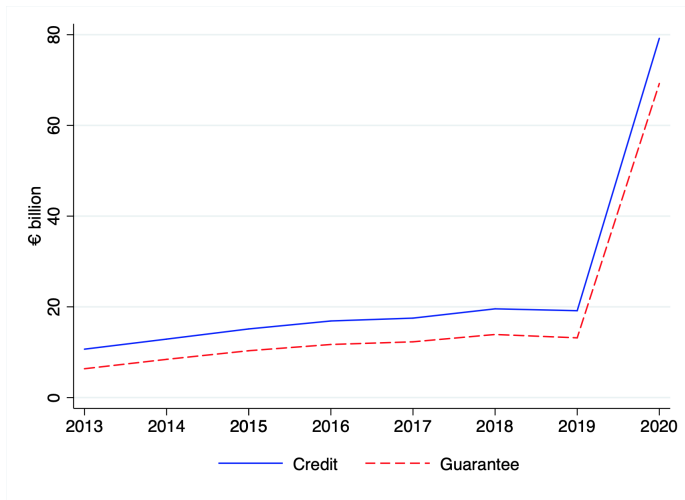
First part: Extensive Margin

We first describe program targeting more formally using regression analysis

We find that firms more likely to receive guaranteed loans are:

- young

- financially constrained (i.e., with less cash on hand)

- the effect of firm risk (z-score) is non-monotonic: firms in the middle of the risk distribution are much more likely to obtain a guaranteed loan compared to high-risk or low-risk firms

Naturally, larger firms were more likely to obtain partially guaranteed loans, which are above the €30,000 threshold, while smaller firms asked for the 100% guaranteed loans.

Second part: Bank Heterogeneity

We then analyze the role of banks in the allocation of credit

We focus on two loan outcomes:

1. **Interest rates**: low on average (1.2%-2.8%) but vary across banks and firms
2. **Processing times**: defined as days between approval of the guarantee by the Fund and actual disbursement

We find that:

1. the variation in loan conditions is mostly explained by supply factors (i.e. bank heterogeneity) rather than demand factors
2. banks with better IT systems, as proxied by the Google Playstore rating, make 25% more guaranteed loans as a fraction of their total lending, charge rates that are 19-23% lower and process guaranteed loans almost twice as fast

Banks with higher quality IT charge lower rates
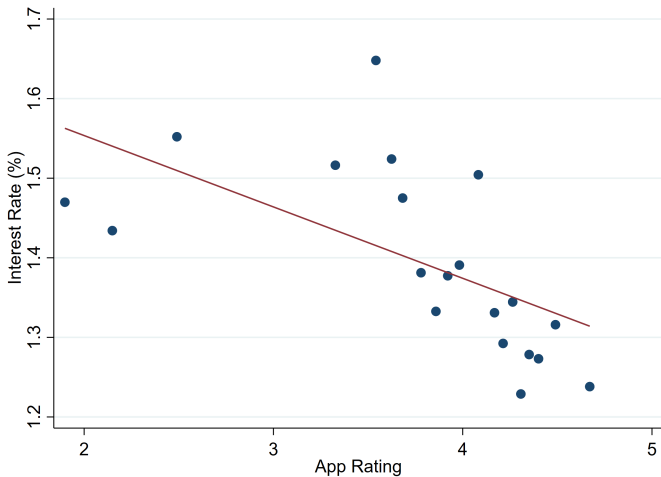
Banks with higher quality IT process loans faster
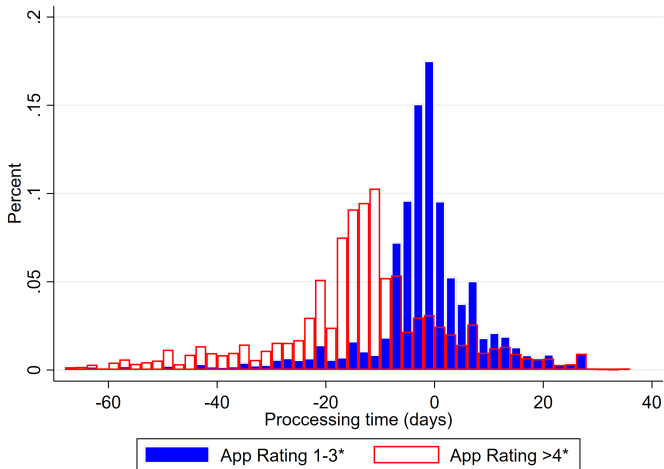
Third part: The Role of Local Banking Markets

- Applications were filed online, so is the bank branch network still relevant?

- Number of bank branches has been steadily declining in Italy (and US). Covid-19 accelerated the adoption of digital technologies.

- Since government guaranteed loans are cheap, online and available to all, they provide the perfect setting to test whether lending relationships are sticky (Degryse and Ongena, 2005)

We find that:

- guaranteed lending remained local: banks lent more in their core markets, i.e. in provinces where they have a larger share of their branch network, and in markets where they have more market power, i.e. a larger share of local bank branches

- local banking competition matters for guaranteed loans made by banks with high quality IT: the sensitivity of loan rates to bank IT is lower in more concentrated local markets

Conclusions

- Our results indicate that bank heterogeneity, in terms of the quality of the digital infrastructure, is a crucial determinant of the quantity, speed and pricing of guaranteed loans

- The structure of local banking markets and bank branch presence is also an important determinant of the overall volume of guaranteed credit, affecting the pricing policies of banks with good digital infrastructure too

- Policy makers should keep this in mind when designing policies that are meant to address firm liquidity shortages during a crisis

APPENDIX

Which firms obtained guaranteed loans?

	Guarantee 2020 = 1		
	All	100%	90%
	(1)	(2)	(3)
Log(Assets)	0.015***	-0.035***	0.058***
	(0.004)	(0.004)	(0.002)
Cash/Assets	-0.074***	-0.065***	-0.016***
	(0.003)	(0.002)	(0.002)
Log(Age)	-0.021***	-0.024***	0.003***
	(0.002)	(0.002)	(0.001)
Medium risk	0.071***	0.060***	0.027***
	(0.002)	(0.002)	(0.002)
High risk	-0.001	0.003	-0.005***
	(0.002)	(0.002)	(0.001)
Fixed effects			
Province×4-digit Industry	Yes	Yes	Yes
Observations	720404	662127	556220
R^2	0.162	0.155	0.172

Bank IT and Loan Outcomes

	Interest Rate (%)				
	All	100%	90%	All	90%
	(1)	(2)	(3)	(4)	(5)
HighAppRating	-0.182***	-0.083	-0.670***	-0.404***	-0.534***
	(0.055)	(0.066)	(0.193)	(0.132)	(0.148)

	Processing Time (Days)				
	All	100%	90%	All	90%
	(1)	(2)	(3)	(4)	(5)
HighAppRating	-8.387***	-8.088***	-4.238***	-3.460***	-4.729***
	(1.632)	(1.855)	(0.592)	(0.961)	(0.796)

Fixed effects and controls:					
Bank Controls	Yes	Yes	Yes	Yes	Yes
Date of Approval	Yes	Yes	Yes	Yes	Yes
Province × Industry	Yes	Yes	Yes	-	-
Firm	No	No	No	Yes	Yes

Guaranteed Lending and Local Banking Markets

	Log(GuaranteedCredit)				
	(1)	(2)	(3)	(4)	(5)
LocalMarketShare$_{b,p}$	1.030***	1.037***			0.679***
	(0.135)	(0.138)			(0.096)
CoreMarketShare$_{b,p}$			1.967***	1.927***	1.446***
			(0.127)	(0.119)	(0.113)
AppRating $\geq$ 4*	0.386		0.260		
	(0.298)		(0.280)		
Log(Number Reviews)	-0.280		-0.084		
	(0.180)		(0.164)		
Log(Assets)	1.163***		1.713***		
	(0.106)		(0.107)		
Tier 1 ratio	-0.309		-0.056		
	(0.303)		(0.274)		
NPL/Loans	0.060		0.037		
	(0.114)		(0.141)		
ROA	-0.041		-0.163		
	(0.115)		(0.111)		
Interbank/Asset	0.230*		0.140		
	(0.135)		(0.141)		
Fixed effects					
Province	Yes	Yes	Yes	Yes	Yes
Bank	No	Yes	No	Yes	Yes
Observations	2871	2871	2871	2871	2871
R^2	0.574	0.642	0.585	0.662	0.697

Bank IT and Local Banking Markets

	Interest Rate (%)				
	All	100%	90%	All	90%
	(1)	(2)	(3)	(4)	(5)
HighAppRating	-0.203***	-0.084	-0.738***	-0.458***	-0.582***
	(0.053)	(0.065)	(0.202)	(0.141)	(0.158)
HighAppRating $\times$ HighHHI$_p$	0.072**	0.003	0.274**	0.185***	0.167*
	(0.030)	(0.018)	(0.115)	(0.071)	(0.097)
Fixed effects and controls:					
Bank Controls	Yes	Yes	Yes	Yes	Yes
Date of Approval	Yes	Yes	Yes	Yes	Yes
Province $\times$ Industry	Yes	Yes	Yes	-	-
Firm	No	No	No	Yes	Yes
Observations	850874	745489	105385	103487	58640
R^2	0.237	0.318	0.412	0.653	0.731