Discussion of
Loan Guarantees, Bank Lending and Credit Risk Reallocation

(Altavilla, Ellul, Pagano, Polo, Vlassopoulos)

José-Luis Peydró
(Imperial College London, CEPR)

DNB-Riksbank-Bundesbank Macroprudential Conference Series, June 2022

A 1-page summary of the paper

Question and context/identification

- Analyze government loan guarantees and private credit substitution by banks (risk-shifting by banks to the public sector?)
- Exploit Euro Area Anacredit data under the context of COVID-19 loan guarantee programs

Results

1. Guaranteed loans were mostly extended to small but comparatively creditworthy firms in sectors severely affected by the pandemic, borrowing from large, liquid and well-capitalized banks

2. Guaranteed loans partially substituted for pre-existing debt: banks extending guaranteed loans reduced non-guaranteed credit by about 40% more than other banks lending to the same client
   - Substitution was highest for riskier and smaller firms in more affected sectors, and for stronger banks

General comments and overview of my discussion

- **Great paper, with key contribution to the literature and policy**: first paper to document substitution between guaranteed loans and pre-existing exposure, with very interesting, rich set of results

- I will offer some suggestions to improve the already excellent paper, and first put the results into context ("bad" results?)

- I will provide some related results from our paper (with Jimenez, Laeven & Martinez-Miera), on data from Spain analyzing differential bank incentives depending on the importance of the bank for firm (highlighting some different results, under a different question)

- I will finalize with some comments and results on potential need of state-owned banks (given that if we use public guarantees through private banks in the future, there may be some costs), is there a trade-off or a possibility for directt state owned lending?

José-Luis Peydró

Are the results "bad"?

- As the authors recognize, one has to be careful in drawing welfare implications

- I was involved in the creation of these public guarantees in Catalonia, and we were aware of many problems, but we needed to put very fast liquidity into firms (with little screening and monitoring) as firms were having at the time a big liquidity crisis which if would take some months it would become a solvency crisis

- What would the counterfactual have been without private banks distributing the loans, especially in bank-dominated economies?
  - The problem for banks was not of liquidity or capital, but firms were too risky around March-April 2020, plus there were different COVID waves
  - Are there other complementary ways?

Suggestions to improve a paper which is already very polished and excellent

1. Selection of unobservables: you may compare the estimated coefficients in some regressions with firm vs non-firm fixed effects

2. For pricing and supply vs. demand of loans: you may compare the loan price of old (private) loans vs public guaranteed loans

3. Firm risk variables: banks could not lend if firm had loan arrears as of December 2019. So not entirely surprising the result on ex ante better firms getting more COVID loans. Could you use other firm risk variables? Firm Z-score or related ex ante risk variable?

4. For credit substitution quantitative estimate: you may need to put guaranteed loans alone without any interaction even if you demean interaction variables as it may change the coeff. due to skewness of size

5. You may want to exploit % of public guarantees, 100% vs e.g. 90, 80, 70, 60%. Incentives are different for banks' risk-shifting?

José-Luis Peydró

Jimenez, Laeven, Martinez-Miera, Peydró

- We analyze the effects of public credit guarantees on the allocation and performance of bank credit. We complement Altavilla et al.

- Our focus is on the role of private bank incentives when lending decisions on partially guaranteed loans are delegated to banks, in particular how important is ex ante the bank for firm

- For identification:
    1. We exploit the COVID-19 crisis and exhaustive loan-level data from the Spanish credit register with unique information on the provision of COVID-19 public loan guarantees

    2. To guide the empirical strategy, we build a stylized model in which banks' private incentives shape the granting of guaranteed loans to counter debt overhang problems at the firm level resulting from the COVID-19 shock

Some differences with Altavilla et al

	Public Guarantee Loan (0/1)					Non-Public Guarantee Loan (0/1)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
SME	0.119***	0.112***	0.106***	0.108***		-0.151***	-0.143***	-0.138***	-0.129**
	(0.020)	(0.018)	(0.016)	(0.016)		(0.019)	(0.018)	(0.018)	(0.019)
Risk	0.026***	0.029***	0.029***	0.029***		-0.014**	-0.013**	-0.013*	-0.014*'
	(0.006)	(0.006)	(0.007)	(0.007)		(0.006)	(0.006)	(0.006)	(0.007)
Liquidity	-0.242***	-0.253***	-0.262***	-0.244***		0.006	0.020	0.022	0.036
	(0.043)	(0.042)	(0.044)	(0.045)		(0.041)	(0.040)	(0.041)	(0.040)
Growth opportunities	0.038***	0.039***	0.041***	0.039***		-0.022***	-0.020***	-0.022***	-0.021**
	(0.005)	(0.005)	(0.005)	(0.006)		(0.004)	(0.004)	(0.005)	(0.005)
Affected Sector	0.037***					-0.012***			
	(0.004)					(0.004)			
Share	0.116***	0.112***	0.142***	0.129***	0.216***	0.035**	0.041***	0.043**	0.033*'
	(0.020)	(0.020)	(0.021)	(0.022)	(0.023)	(0.015)	(0.015)	(0.017)	(0.016)
Ln(Average residual maturity)	0.017***	0.018***	0.013**	0.015***	-0.005	-0.055***	-0.055***	-0.056***	-0.041**
	(0.006)	(0.006)	(0.005)	(0.006)	(0.004)	(0.010)	(0.010)	(0.010)	(0.007)
Ln(Assets)	0.056***	0.056***	0.058***			0.006	0.007	0.006	
	(0.005)	(0.005)	(0.005)			(0.010)	(0.010)	(0.010)	
Capital ratio	-0.641*	-0.639*	-0.604*			1.966*	1.980*	1.995*	
	(0.367)	(0.363)	(0.352)			(1.082)	(1.086)	(1.057)	
ROA	-1.998**	-2.074**	-2.114**			5.097	5.185	5.190	
	(0.908)	(0.917)	(0.904)			(3.547)	(3.541)	(3.478)	
Liquidity ratio	0.349	0.352	0.344			0.976***	0.978***	0.988***	
	(0.258)	(0.258)	(0.250)			(0.360)	(0.361)	(0.359)	
NPL ratio	1.665**	1.636**	1.509**			-1.507	-1.519	-1.492	
	(0.640)	(0.643)	(0.623)			(1.526)	(1.531)	(1.495)	
Zip code Fixed Effects	Yes	Yes	-	-	-	Yes	Yes	-	-
Industry Fixed Effects (NACE 2 digits)	No	Yes	-	-	-	No	Yes	-	-
Industry*Zip Code Fixed Effects	No	No	Yes	Yes	-	No	No	Yes	Yes
Bank Fixed Effects	No	No	No	Yes	Yes	No	No	No	Yes
Firm Fixed Effects	No	No	No	No	Yes	No	No	No	No
Observations	718,204	718,204	718,204	718,204	718,204	718,204	718,204	718,204	718,204
R2	0.154	0.161	0.260	0.279	0.475	0.122	0.126	0.214	0.266

Jimenez, Laeven, Martinez-Miera, Peydró: further results

- Firms are more likely to obtain a public guaranteed loan from banks to which they have larger pre-COVID credit exposures, measured as the share of the firm's total credit outstanding with the bank pre-shock
  - Effects for granular risk for banks or for firm-bank duration in lending are different

- This effect is larger for ex-ante risky firms and for firms in more pandemic-affected sectors, especially for ex-ante weaker banks, with lower capital and higher nonperforming loans
  - Effects operate both at the intensive and extensive margin of lending

- The guarantee scheme results in credit substitution at the firm-bank level, with the share and amount of nonguaranteed (private) credit declining for firms that obtain guaranteed loans:
  1. In part reflecting early prepayment of outstanding private credit
  2. Further, banks that grant guaranteed loans get lower delinquencies (even with firm-time fixed effects)
  3. Maturity effects opposite from Altavilla et al but recall our key variable is different (how important the bank for the firm was before the shock)

Jimenez, Laeven, Martinez-Miera, Peydró: further results

Dependent variable:	Public Guarantee Loan (0/1)					Non-Public Guarantee Loan (0/1)				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Share	0.221***	0.216***	0.222***	0.223***	0.200***	0.027*	0.027*	0.027*	0.028*	0.028*
	(0.024)	(0.023)	(0.023)	(0.024)	(0.022)	(0.015)	(0.015)	(0.015)	(0.016)	(0.016)
Share*Risk	0.050***		0.054***	0.055***	0.044***	0.000		-0.001	-0.000	0.000
	(0.004)		(0.004)	(0.004)	(0.004)	(0.005)		(0.005)	(0.005)	(0.003)
Share*Affected sectors		0.022***	0.041***	0.040***	0.031***		-0.011***	-0.011**	-0.011**	-0.011**
		(0.006)	(0.006)	(0.006)	(0.006)		(0.004)	(0.004)	(0.004)	(0.004)
Share*Risk*Affected sectors				0.015***	0.013***				0.011***	0.012**
				(0.004)	(0.004)				(0.004)	(0.005)
Share*Risk*Affected sectors* Bank Capital ratio					-0.434**					0.395**
					(0.177)					(0.190)
Share*Risk*Affected sectors*Bank NPL ratio					0.719**					-0.697*
					(0.303)					(0.360)
Bank Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	718,204	718,204	718,204	718,204	718,204	718,204	718,204	718,204	718,204	718,204
R2	0.476	0.475	0.476	0.476	0.478	0.437	0.437	0.437	0.437	0.441

José-Luis Peydró

Jimenez, Laeven, Martinez-Miera, Peydró: further results

- Firms are more likely to obtain a public guaranteed loan from banks to which they have larger pre-COVID credit exposures, measured as the share of the firm's total credit outstanding with the bank pre-shock
  - Effects for granular risk for banks or for firm-bank duration in lending are different

- This effect is more pronounced for ex-ante risky firms and for firms in more pandemic-affected sectors, especially for ex-ante weaker banks, with lower capital and higher nonperforming loans
  - Effects operate both at the intensive and extensive margin of lending

- The guarantee scheme results in credit substitution at the firm-bank level, with the share and amount of nonguaranteed (private) credit declining for firms that obtain guaranteed loans:
  1. In part reflecting early prepayment of outstanding private credit
  2. Further, banks that grant guaranteed loans get lower delinquencies (even with firm-time fixed effects)
  3. Maturity effects opposite from Altavilla et al but recall our key variable is different (how important the bank for the firm was before the shock)

Any role for state-owned banks?

- In executing the Catalan public guarantees, we thought that ideally one would have <u>administrative monthly firm level data on sales (eg VAT tax)</u>, as well as income, and many other firm variables

- In many Western countries, the state may have more accurate information than private banks
    - Not the case in e.g. Greece, very nice paper on this

- As Altavilla et al and our paper show that there are some problems in the provision of public guarantees by privately-owned banks as these have their own interests, one wonders whether there is a potential role with state owned banks in complementing lending

- I want to finalize by providing two pieces of evidence that state-owned banks may have a role

Dassatti, Lluberas, Ponce, Peydró

- Uruguay provides us with both with public and without public guarantees credit during COVID for both privately-owned banks and state-owned banks

  - It also has credit register data

- State-owned banks use more credit without public guarantees during the COVID crisis, especially to riskier or more COVID affected firms

- **State-owned banks** use both public guarantees and non-guarantees to provide more lending in **new lending relationships during the COVID, so NO issues about substitution of previous credit as in Altavilla et al or in our paper in Spain**

- No back of envelope welfare in the sense of social NPV of loans

Jimenez-Peydró-Repullo-Saurina

- We analyze a small, new credit facility of a Spanish **state-owned bank** during the **Euro Area 2010-2013 crisis**, using its continuous credit scoring system, its firm-level scores, and the credit register

- Compared to privately-owned banks, the state-owned bank faces worse applicants, (softens) tightens its credit supply to (un)observed riskier firms, and has higher defaults, especially driven by unobserved ex-ante firm risk

- In a regression discontinuity design, the supply of public credit causes: large positive real effects to financially-constrained firms (whose relationship banks reduced substantially credit supply); crowding-in of new private-bank credit; and positive spillovers to other firms

- **Private returns of the public credit facility are negative, while social returns are highly positive**

Summary

- **Great paper by Altavilla et al., with key contribution to the literature and policy**:
first to document substitution between guaranteed loans and pre-existing exposure, with very interesting and rich set results

- I offer some suggestions but the paper is already too polished and with many robustness checks

- I tried to add some complementary results and put the paper into the COVID context