FEDERAL RESERVE BANK *of* NEW YORK

SHARING THE PAIN? CREDIT SUPPLY AND REAL EFFECTS OF BANK BAIL-INS

by Da-Rocha-Lopes, Beck and Silva

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Joao Santos

Paper objective

- Paper aims to investigate the credit supply and real effects of a bail-in of a Portuguese bank.
- Uses data which combines firm-bank matched data on credit exposures and interest rates with balance-sheet information for the firms and their lenders.

Methodology

- Within-firm analysis

$$\Delta log(Credit)_{bi} = \beta(BankExposure_b) + \delta' X_b + \alpha_i + \varepsilon_{bi} \qquad (1)$$

- Cross-section analysis

$$\Delta log(Y)_i = \beta(FirmExposure_i) + \tau' F_i + \delta' \bar{X}_i + \hat{\alpha}_i + \varepsilon_i \qquad (2)$$

- Identification based on borrowers with multiple lending relationships

Main results

- Supply of credit from banks more exposed to bail-in declines
  - Concentrated in firms that had the bailed-in bank as their main lender and less pronounced for SMEs.
- Firms more exposed to the bail-in did not suffer a reduction of credit when compared to less-exposed firms.
  - However, when isolating granted credit lines from total committed credit, they find that SMEs more exposed to the resolution were subject to a contraction in funds available through lines of credit
- There is a negative adjustment of investment and employment policies at SMEs borrowing from more exposed banks prior to the resolution.

Is the BES arrangement representative of a bail-in?

- Contrary to debt issued after the introduction of bail-in arrangements, decision in Portugal was unexpected by debtholders
- Debtholders have challenged BoP’s decision and the processes are still running in courts
- The resolution involved a €4.6B capital injection from the Portuguese Bank Resolution Fund supported by a loan of €0.7B provided by 8 banks and a government loan of €3.9B
- Losses imposed on bondholders were only about €2.0B
- Countries have put in place regulations prohibiting banks from cross ownership of bailable-in debt.

Does the setting pose unique challenges?

- Most of the Portuguese banking system had been bailed out in the two years leading up to BES episode
- Portugal was experiencing a major economic recession and was under a strict support program provided by Troika
- BES was not a “typical” bank
  - Relationship with Portugal Telecom good example

Do the identifying assumptions hold?

- Core analysis relies on borrowers with multiple relationships
  - How are relationships defined? Do they require an "exposed bank"?
- "First, our quasi-experimental research design requires that in the absence of treatment, banks more exposed to the shock would have displayed a similar trend in terms of credit supply to that of other less exposed banks."
  - But more exposed banks were bailed out before BES collapse
- "Second, the implicit assumption behind using firm fixed-effects to control for idiosyncratic demand shocks …. is that individual firms take their multiple banks as providers of a perfectly substitutable good."
  - But some banks offer term loans while others offer credit lines together with term loans; some banks have an equity investment in the borrower while others don't; some banks combine lending with cash management others don't; some use their oversees branches to help borrowers……..

An alternative explanation

- Banks’ contributions likely positively correlated with bank size
- Half of the eight banks, including three of the largest banks in the country, that contributed to the resolution were bailed out in the two years leading up to BES resolution
- Bail-outs came with conditions and supervisory scrutiny which could have led to an adjustment in lending policies in the following years

Does it make sense to combine the bailed-in bank with the banks supporting the resolution arrangement?

- *Bank Exposure* is the percentage of assets that was effectively bailed-in for the resolved bank, the specific contribution to the ad-hoc loan granted to the Bank Resolution Fund for the participating banks (as a percentage of assets), and 0 otherwise.
- For the bailed-in bank that is a reduction in liabilities while for the others it is a "loan".
- The size of the ad-hoc loan is endogenous
- The bailed-in bank appears to be an outlier in that variable (6.8%) while participants banks have values ranging from (0.04% to 0.37%) and the remaining banks (how many?) have 0%.

Indeed, the bailed-in bank appears to drive the results

	$\Delta logTotalCredit_{bi}$								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Bank Exposure	-1.651**	-1.641*	-1.480*	-1.630**	-1.934**	-1.322	-1.842**	-1.605*	-0.439
	(0.827)	(0.834)	(0.811)	(0.800)	(0.817)	(0.808)	(0.837)	(0.821)	(0.830)
Bank Exposure × Firm Assets (D_i=Small)	0.650***								
	(0.213)								
Bank Exposure × Firm No. Employees (D_i=Small)		0.430**							
		(0.180)							
Bank Exposure × Firm Age (D_i=Young)			-0.117						
			(0.224)						
Bank Exposure × Firm Capital Ratio (D_i=Low)				0.230					
				(0.283)					
Bank Exposure × Firm ROA (D_i=Low)					0.817***				
					(0.292)				
Bank Exposure × Firm Current Ratio (D_i=Low)						-0.371			
						(0.278)			
Bank Exposure × Firm Interest Coverage Ratio (D_i=Low)							0.447		
							(0.335)		
Bank Exposure × Firm with a NPL in the Pre-Period								1.648**	
								(0.762)	
Bank Exposure × Firm Main Lender is the Bailed-in Bank									-3.132***
									(0.399)

Are all of the results consistent?

- The authors find that there is a negative adjustment of investment and employment policies at SMEs borrowing from more exposed banks prior to the resolution.
- However, they do not find that SMEs experience a reduction in the supply of credit (this effect is concentrated on SMEs with credit lines)

Are all of the results consistent (cont.)?

- Comparing the bailout with bail in
- “In summary, we find no evidence of a negative impact of the bank bail-out in 2012 on the relative credit supply by bailed-out vs. non-bailed-out banks.… Overall, this points to rather sharp differences between bail-out and bail-in of banks, with stronger negative effects of the latter for credit supply and real sector activity. **However, we urge caution in interpreting this comparison directly since the macroeconomic situation was considerably different during these two episodes** …..”
- But, throughout the paper the authors claim their methodology isolates the causal effect of the bail-in

Final remarks

- Nice paper on a novel and important topic
- With a wealth (too many?) results that take advantage of a comprehensive dataset
- Authors may want to separate the bailed-in bank from the participating banks throughout their analysis
- Provide more information about the relevant unique aspects of the Portuguese banking system, and the economic environment at the time