

The response of households to credit supply shocks

Massimiliano Affinito, David Loschiavo, Mirko Moscatelli, Alfonso Rosolia



Goal

The goal of this paper is to study whether and to what extent the bank lending channel produces real consequences for households

- following the global financial crisis of 2007-08 there has been considerable attention to the consequences of bank shocks for real outcomes of **non-financial firms**; much fewer papers have assessed how the crisis affected **households**
- we complement this small pool of studies by looking at how Italian households responded to a negative credit supply shock by adjusting their borrowing, expenditures, financial portfolios and labour supply

Identification

➤ Exogenous shock

- we use the **global financial crisis**, the consequent dry-up of the interbank market and Italy as a laboratory for our analysis
- following a relevant literature (limited to firms), we measure each bank exposure to the imminent financial crisis as the **weight of interbank funding for each bank** in the period preceding the shock

➤ Disentangle demand and supply effects

- including the **complete set of province fixed effects**. Provinces are Italian administrative “counties”, that is, administrative divisions of intermediate level that represent an ideal set to take into account demand differences, as Italian provinces are very heterogeneous in terms of economic and financial structure and development, as well as in terms of household and banking characteristics
- accounting for a very large set of confounding **pre-crisis individual characteristics, both on household and bank side**
- analysing pre-crisis observable characteristics of households in more and less exposed banks
- showing that pre-crisis trends in outcomes are parallel across households

b) Household-bank level analysis

$$\Delta_{2010-2008}(debt - to - income)_{h,b} = \beta \text{interbank exposure}_{b,2006} + \gamma H_{h,2008} + \lambda B_{b,2006} + \phi_p + \varepsilon_{h,b}$$

where $\Delta(debt - to - income)_{h,b}$ is the change between 2008 and 2010 of financial debts of household h , customer of bank b . The vectors $H_{h,2008}$ and $B_{b,2006}$ are vectors of characteristics, respectively, of household h and bank b measured in the pre-shock period. Each household h is resident in a province p ; the vector ϕ_p is a vector of all province fixed effects.

	(1)	(2)	(3)	(4)
Interbank share in 2006	-0.342** (0.168)	-0.291** (0.132)	-0.374*** (0.138)	-0.467*** (0.168)
HH debt in 2008 (Log of)		-0.009*** (0.000)	-0.009*** (0.000)	-0.009*** (0.000)
HH income in 2008 (Log of)		0.008** (0.004)	0.003 (0.003)	0.003 (0.003)
HH control variables	No	No	Yes	Yes
Bank control variables	No	No	No	Yes
HH sector of activity	No	No	Yes	Yes
Province fixed effects	No	No	Yes	Yes
Observations	3298	3298	3298	3298
R ²	0.002	0.193	0.236	0.239
Adjusted-R ²	0.001	0.192	0.206	0.207

Empirical approach

Our analysis is divided into two steps

- we investigate whether and to what extent funding shocks to banks affect **lending** to households
- we investigate whether and how these changes in lending supply translate into changes in **household real outcomes**

... and in two levels of analysis

a) analysis at **bank-province level**

supervisory data refer to all banks operating in Italy and virtually to all indebted households of Italy

b) analysis at **household-bank level**

data of Bank of Italy's Survey of Household Income and Wealth (SHIW) allow to match household detailed information with the identity of the primary bank of each household

Preliminary results

a) Bank-province level analysis

$$v_{gtp} = \alpha IS_g + \beta T_t + \gamma P_p + \delta G_g$$

where v_{gtp} is the percentage variation in loans to households over the period, IS_g is the interbank exposure of bank, T_t and P_p are loan type and province fixed effects, and G_g is a set of banking group controls.

	Dependent variable:			
	Percentage variation in household loans			
	2007-2006	2008-2006	2009-2006	2010-2006
Interbank share	-0.655*** (0.113)	-0.560** (0.223)	-0.834*** (0.300)	-2.012*** (0.540)
Control variables	Yes	Yes	Yes	Yes
Observations	5,522	5,522	5,522	5,522
R ²	0.123	0.147	0.189	0.197
Adjusted R ²	0.104	0.129	0.172	0.180
Province FE	Yes	Yes	Yes	Yes

Thank you!

massimiliano.affinito@bancaditalia.it