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Did the securitization market freeze affect bank lending during the financial crisis? Evidence from a credit register ☆

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ABSTRACT

Using data from the Italian Credit Register we identify the adverse effect of the freeze of the securitization market on bank lending during the crisis of 2007–2008. Applying a *differences-in-differences* estimation to data on firms that borrow from multiple banks, we single out credit supply by including firm fixed effects. Our results show that the degree to which banks tightened credit supply to nonfinancial firms is positively related to the share of loans they securitized before the crisis. The tightening translated into lower credit growth, higher interest rates, lower probability of accepting loan applications and higher probability of relationship termination. Firms were unable to fully compensate the negative credit supply shock, which suggests that the securitization freeze played a role in reducing aggregate credit availability.
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1. Introduction

The collapse of trading volumes and the increased price volatility in the Asset Backed Securities (ABS) market are distinctive features of the financial crisis of 2007–2008. Though the crisis originated in the United States subprime mortgage market, it quickly spread to Europe (Brunnermeier, 2009). Risk aversion and uncertainty led to a sharp rise in spreads and to a liquidity drought on the European ABS and short-term money markets during the summer of 2007. The turmoil culminated in a freeze after the default of Lehman.

While a growing empirical literature shows that the illiquidity of the interbank market contributed to the credit crunch, less attention has been devoted to assessing the consequences of the disruption of the ABS market. Stein (2010) argues that the implosion of the securitization market in the United States is possibly "one of the most damaging aspects of the crisis from the perspective of credit creation and impact on the rest of the economy". In Europe the lack of revival of securitization is considered by policy makers a major constraint to the ability of banks to expand credit to support the recovery (e.g. Bank of England and European Central Bank, 2014).

In the run up to the crisis securitization had become an important source of liquidity and funding for banks. Through securitization banks transform illiquid loans into marketable securities, thereby obtaining liquidity without having to raise deposits to fund loans (Greenbaum and Thakor, 1987). The liquidity generated through the sale of mortgages and consumer loans not only supports the origination of these kinds of loans but increases the willingness of banks to supply illiquid business loans (Loutskina, 2011).

In this paper we address the following questions. Did the freeze of the securitization market and the consequent inability of banks to securitize loans have an impact on credit supply? If so, did banks reduce credit commitments, increase the cost of loans, or do both? Did they limit quantities at the intensive and/or the extensive margin of lending? Finally, were borrowers able to replace lost loans with new credit relationships, or did the freeze of the securitization market have an aggregate effect on credit supply?

Establishing a causal link from the exposure to the freeze of the securitization market and bank credit supply poses several challenges. First, an exogenous and unanticipated shock to the ability of banks to securitize loans is required. Second, one needs to separate the changes in credit quantities and prices that are driven by the demand of firms from those that are driven by the supply by banks. Third, one needs to control for changes in the quality of borrowers. Since banks with a differential exposure to the freeze of the securitization market could be providing credit to different pools of borrowers, observed changes in lending could reflect changes in the balance sheet conditions of specific groups of borrowers that pair with specific banks.

We use data on individual bank-firm relationships from the Italian Credit Register to address these identification challenges. The Register contains comprehensive information on existing bank-firm relationships including credit commitments, loans disbursed, their cost and, finally, loan application data.

During the financial crisis two major shocks affected the European ABS market. The first shock is the rise in spreads on the secondary ABS market in August of 2007, together with the deterioration of liquidity conditions, following the eruption of the subprime crisis in the United States. The second shock is the spike in spreads and the de facto shut down of the ABS primary market in the aftermath of the default of Lehman Brothers in the autumn of 2008. Both shocks were the results of events that occurred outside Italy and can be regarded as exogenous to the conditions of the domestic economy and the country's banks. In the remainder of the paper we will refer to both shocks as *freezes* of the securitization market for the sake of brevity. We study the changes in lending supply by Italian banks relating them to the exposure to these shocks, captured by a bank-level measure of the incidence of loans securitized in the three years prior to the crisis.

Thanks to the availability of the Credit Register data on individual bank-borrower relationships and of a large number of firms borrowing from multiple banks, we can apply the *differences-in-differences* approach of Khwaja and Mian (2008) to address the other identification challenges we outlined above.[1] This approach consists of estimating a regression of the change in the loans provided (and rates

[1] A similar approach is followed also by Iyer et al. (2013) and Paravisini et al. (2014).

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