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Foreign bank lending: Evidence from the global financial crisis☆

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ABSTRACT

We exploit highly disaggregated bank-firm data to investigate the dynamics of foreign vs domestic credit supply in Italy around the period of the Lehman collapse, which brought a sudden and unexpected deterioration of economic conditions and a sharp increase in credit risk. Taking advantage of the presence of multiple lending relationships to control for credit demand and risk at the individual-firm level, we show that foreign lenders restricted credit supply (to the same firm) more sharply than their domestic counterparts. A number of exercises testing alternative explanations for this result suggest that such more intense restriction also reflects the (functional) distance between a foreign bank's headquarter and the Italian credit market.

1. Introduction

Opening national financial markets to foreign intermediaries is known to deliver higher efficiency gains than autarky, as the resulting increase in competition leads to better and less expensive access to credit, greater financial depth and steadier growth (see Levine, 2005 and references therein). The events following the 2007/2009 global financial crisis, however, challenged this broad consensus. In particular, it has been argued that foreign intermediaries' unexpected retrenching away from the host markets contributed in a non-negligible way to heighten the procyclicality of financial markets in the host countries.[2]

Indeed, according to a few recent empirical works, multinational banks that received large liquidity and funding shocks during the global crisis restricted a credit in the host countries wherein they operate by more than local domestic banks, typically less directly affected by the crisis (Cetorelli and Goldberg, 2011, 2012a,b; De Haas and Van Lelyveld, 2011; Giannetti and Laeven, 2012; Puri et al., 2011; Popov and Udell, 2012). With the present paper we investigate this issue by analyzing credit supply of both domestic and foreign lenders operating in Italy in the aftermath of the collapse of Lehman Brothers.[3] In doing so, we contribute to the existing literature along the following dimensions.

First, thanks to our detailed dataset on bank–firm credit relationships, we can apply a robust methodology that allows us to estimate the restriction in credit supply that foreign banks operated on top of that perpetuated by their domestic counterparts, controlling for the effect of credit demand and borrowers' risk. This methodology, first employed by Gan (2007) and Khwaja and Mian (2008) in a context not related to the issue of multinational banks, crucially exploits the

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[2] Symmetrically, Borio et al. (2011) have also pointed out how, during boom periods, cross-border sources of credit tend to outgrow overall credit. For a broader discussion on financial markets procyclicality, see Panetta et al. (2009).
[3] For a comprehensive study on the retail activity of foreign banks in Italy see Infante and Rossi (2009).

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fact that firms borrow simultaneously from several banks. Here we take advantage of the fact that among the banks from which firms borrow there may be both foreign and domestic intermediaries.

Secondly, and perhaps most importantly, while we also consider the claim that foreign banks' larger credit restriction results from the propagation of financial distress from the headquarters to local affiliates, we explore other alternative possibilities. In particular, given that Lehman's collapse induced an unexpected and sharp downturn of the Italian economy, we study if the related quick deterioration of credit quality prompted different reactions from part of the two types of lenders. In particular, we consider the following three hypotheses: (*i*) the *organizational form* and business model of foreign intermediaries, likely different from that of the average domestic bank, may be connected with a different sensitivity of lending supply to credit quality shocks; (*ii*) as already mentioned, foreign banks' larger credit tightening may have resulted from the transmission of unexpected shocks to the consolidated balance sheet of foreign banks (*international propagation of shocks*[4]); (*iii*) finally, we conjecture that foreign intermediaries' behavior could have reflected their ampler (functional) *distance* from the Italian market, which is a factor influencing the ability of an intermediary to manage credit risk (Stein, 2002; Ruckes, 2004; Hauswald and Marquez, 2006; Alessandrini et al., 2009; Bolton et al., 2013; De Haas and Van Horen, 2013).

We investigate these hypotheses by exploiting a dataset consisting of all credit relations entertained by Italian firms with both foreign and domestic banks before and after the collapse of Lehman Brothers. We opt for focusing on the pre- and post-Lehman periods as the outburst of the global financial crisis, which was fully unexpected and certainly exogenous to the developments in credit supply in Italy – either from domestic or from foreign lenders – provides a quasi-experimental framework. This is also consistent with qualitative indicators obtained from what reported by the intermediaries interviewed within the Bank Lending Survey, showing that the peak of the restriction was reached in the two quarters after Lehman's collapse.

Our findings confirm that the post-Lehman contraction of the credit extended by foreign banks, sharper than that of their domestic competitors, reflects tighter supply dynamics and does not result solely from a stronger deterioration of the demand side. This is true both when we look at the total amount of credit granted and at the openings of new credit lines (i.e. the intensive and extensive margins). The more intense contraction of lending supply operated by foreign banks is rather widespread across borrowers, although it did not concern large borrowers as well as high-quality firms.

Turning to the explanations of foreign banks' larger restriction, our findings suggest that the hypotheses related to the organizational form and the international propagation of shocks cannot fully explain it. Instead, we find that the tightening is related to the functional distance between the intermediaries headquarters and Italy. More precisely, we show that the restriction has been predominantly operated by lenders with a higher ratio of loans extended in Italy to deposits also raised locally (the local funding gap). Similarly, it was almost entirely induced by branches of foreign banks rather than by foreign subsidiaries. We argue that in both cases the tightening banks can be thought of as being less deeply involved with the local economy. To corroborate the interpretation of these findings in terms of distance, we also show that the restriction was stronger for credit relationships in which the (foreign) bank is not the main lender of the borrowing firm.

Distance also influences the relationship between the financial condition of an intermediary's country of origin and lending supply in Italy. We document that among banks headquartered in distant countries the lending restriction operated in Italy was more intense for those intermediaries based in economies less hit by the crisis, while the opposite is true for closer economies. This evidence opens up for an interesting normative debate, as it suggests that the cross-border flows of credit among functionally close countries are coherent with some notion of risk sharing.

To conclude, we show that the restriction operated by foreign banks impaired Italian firms' access to credit, as these were only partially able to compensate it through a greater recourse to credit from domestic intermediaries.

The remaining of the paper is organized as follows. Section 2 reviews the relevant literature. Section 3 discusses the impact of the Lehman's bankruptcy on the Italian credit market, the aggregate response of foreign banks and its possible determinants. Section 4 explains our empirical methodology in detail. Section 5 presents the dataset, which was constructed specifically for this work. Section 6 illustrates the empirical results. Section 7 concludes.

2. Review of the literature

Our work nests in the literature that studies foreign banks' lending behavior in periods of financial turmoil, following up the seminal contribution of Peek and Rosengren (1997), who document how the unexpected decline in Japanese stock values between 1989 and 1992 provoked a sizeable, direct restriction in the lending supply of Japanese banks' branches operating in the US.

In the aftermath of the Lehman collapse, a number of papers resumed this line of research with a more specific focus on the global financial crisis. These works provide evidence that capital flows from foreign intermediaries to their affiliates (intra-group lending) and from foreign affiliates to borrowers in the host markets came to a sudden halt during that period. For instance, Cetorelli and Goldberg (2011) show that multinational banks that received negative liquidity shocks during the 2007–2009 financial crisis cut both intra-group lending and lending to local borrowers in European, Asian and Latin American emerging markets. The transmission of funding shocks regarded also developed markets. The same authors have documented large intra-group liquidity withdrawals for affiliates operating in the United States from part of their distressed international parent banks, which translated in a restriction of local lending from these banks (Cetorelli and Goldberg, 2012a,b). These findings are in line with what is documented by Claessens and Van Horen (2012), Allen et al. (2011b), De Haas and Van Lelyveld (2011), Puri et al. (2011), Ongena et al. (2013), who all document foreign banks' quick asset transfers away from host markets in the aftermath of the global crisis. Regarding the extensive margin of credit, Popov and Udell (2012) show that foreign banks operating in central and eastern Europe have increased their rejection rates of loan-applications after the crisis.

Part of the literature has focused on investigating more in depth which bank balance-sheet items are mainly related with the documented credit flows' restrictions. Allen et al. (2011a) find that higher loan loss provisioning as well as higher dependence on the interbank market at the headquarters' level increase the likelihood of credit tightening at the affiliate level.

Claessens and Van Horen (2012) find that foreign banks have continued lending in those host markets where they relied most on host-country deposit funding, especially when their share of the market was predominant. De Haas and Van Horen (2013) use data on syndicated loans and show that foreign banks operated less of a restriction in lending to geographically closer countries and in cases where the bank had a well-established experience with co-lenders and borrowers, suggesting that factors related to the functional distance between the headquarters and the host country have affected the dynamics of lending. Giannetti and Laeven (2012) also study lending supply dynamics in the syndicated loan market and document a "flight home" effect, according to which banks that operate internationally, when faced with financial difficulties, restrict credit supply more to foreign than to domestic borrowers, with an intensity related to the proximity of foreign markets to the headquarters.

Even beyond the scope of international financial intermediation, functional distance is well known to exercise a negative impact on the

[4] The literature has also referred to this channel as the international bank-lending channel.