Journal of Banking & Finance 50 (2015) 52–68

Contents lists available at ScienceDirect

Journal of Banking & Finance

journal homepage: www.elsevier.com/locate/jbf

Multinational banks in the crisis: Foreign affiliate lending as a mirror of funding pressure and competition on the internal capital market

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ARTICLE INFO

Article history:
Received 24 April 2013
Accepted 6 June 2014
Available online 24 July 2014

JEL Classification:
G21
F23
F34
E44

Keywords:
Multinational banks
Affiliates
Funding structure
Internal capital market
Intra-bank lending
Wholesale funding
Financial crisis

ABSTRACT

We investigate how the lending activities abroad of a multinational bank's local and hub affiliates have been affected by funding difficulties during the financial crisis. We find that affiliates' local deposits and performance have been stabilizing loan supply. By contrast, relying on short-term wholesale funding has increasingly proven to be a disadvantage in the crisis, which has seen inter-bank and capital markets freeze. By introducing a liable approximate measure for intra-bank flows, we detect competition for intra-bank funding between the affiliates abroad as well as an increasing focus on the parent bank's home market activities. In addition, the more an affiliate abroad relies on intra-bank funding in the crisis, the greater its dependence on its parent bank having a stable deposit and long-term wholesale funding position. We consider changes in long-term lending to the private sectors of 40 countries by the affiliates of the 68 largest German banks. To obtain a more precise picture, we clean our lending data from valuation effects.

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1. Introduction

In the financial crisis of 2007–2009, multinational banks' foreign positions have been declining amidst asset value losses, growing funding difficulties and increasing risk aversion. Lending by multinational banks' foreign affiliates, which in many economies is a mainstay of credit provision, has been particularly affected by the cutback. Foreign affiliates' lending has been found to develop differently from lending by domestic banks, especially during the financial crisis (see, for example, de Haas and van Lelyveld (2014)). A key structural difference arises in their options to fund lending activities. The funding by an affiliate is embedded in the financial management of the banking conglomerate, whereas domestic banks rely to a great extent on local funding. This may be a source of strength, but can also limit the scope of action of a foreign affiliate as it is dependent on the bank's decision on how to allocate funds internally.

In this study, we therefore ask about the relevance of a multinational bank's funding structure with regard to foreign affiliate lending during the financial crisis. Apart from external resources within a multinational bank, funds are distributed through the internal capital market, which creates a link between the financial resources of the affiliate itself, of the other affiliates and of the parent bank. Thus, using the example of German banks, we not only turn to the impact of various external funding sources such as deposits or wholesale on affiliate activity, but also identify and analyze the role of intra-bank funding during the crisis. For German banks, intra-bank flows prove to be an important means of affiliate funding. In the case of substantial intra-bank funding of the affiliate, the funding composition of the parent bank – where the bank's internal funds are primarily generated – and its resistance to crisis are found to be of major relevance for the affiliate's activities. However, affiliates' behavior may not be determined solely by their funding, but there may emerge competition among the affiliates too. For example, it is likely that better-performing units can keep lending more stable or even expand their activities, as their funding is guaranteed by the conglomerate. Moreover, a reduction in foreign affiliates' activities as a whole may reflect this

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http://dx.doi.org/10.1016/j.jbankfin.2014.06.005
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type of business having a lower weighting than the parent bank's exposure at home which has been kept quite stable for most German banks during the crisis.

We are the first to investigate affiliates' lending decisions as an outcome of the funding composition of the affiliate itself, the other affiliates and the parent bank. In doing so, we can take recourse to the affiliates' complete funding side, as we introduce an approximate measure for the internal funding of (German) affiliates at the bank level. This setting also allows us to address competition between affiliates for banks' internally available funds during the crisis. To cope with the complexity of a multinational bank, we distinguish between two types of affiliates: those which are active purely locally and those which engage in cross-border lending, thus serving as lending "hubs". Although such lending hubs which support or replace lending through local affiliates have a strong position in the foreign business of German banks, the role played by this type of affiliate in lending abroad has not been discussed before in the literature. Furthermore, we analyze whether, during the financial crisis, banks prioritize parent bank lending to the domestic private sector over foreign affiliate lending.

The micro data used in this study have been collected by the Deutsche Bundesbank. These comprise information on both lending and other balance sheet characteristics of German parent banks and of all their foreign affiliates. Furthermore, we are able to accurately address the bank's lending decisions by relying on purely transaction-induced changes in the bank's loan portfolio – excluding valuation effects which are commonly present in earlier studies relying on stock variations.

German banks' foreign lending with a prominent share provided by affiliates declined after the failure of Lehman Brothers.[1] Conversely, lending in Germany remained quite stable (see Fig. A.2 in appendix), which is consistent with UK banks' focus on the home market during the financial crisis (Rose and Wieladek, 2011).[2] Funding difficulties turned out to be the main cause of the reduced banking business in some areas. Cetorelli and Goldberg (2011b) provide direct evidence that the collapse of the asset-backed commercial paper market, together with the subsequent breakdown of external funding markets, played a major role with regard to changes in US banks' lending activities both at home and abroad.[3] de Haas and van Horen (2012) show that the curtailment of cross-border syndicated loan provision was related to shocks to the banks' capital and access to long-term debt. According to McCauley et al. (2010), who use BIS data, German banks' affiliates generally fund a substantial part of their lending activity by accessing the internal capital market, unlike the affiliates of most other European or US banks, which rely more on locally generated funds. Cremers et al. (2011) analyze one specific banking group and find that the parent bank largely contributes to the funding of its affiliates and its own funding by tapping the external capital market. Furthermore, in contrast to foreign affiliates of US banks (see Cetorelli and Goldberg (2011b)), affiliates of German banks continued, on aggregate, to be net borrowers from their parent banks during the crisis (see Fig. A.3), though heterogeneity across the affiliates increased. This underlines the strong need for considering affiliates' internal funds for financing especially during the crisis, which acknowledges our efforts to define a proxy for bank internal funding.

First, lending by affiliates located abroad depends on the stability and resources of the affiliate itself, but it is also found to be influenced by balance sheet characteristics of the parent bank. Evidence of the latter is provided for German banks by Buch et al. (2009), for European banks' activities in eastern Europe by de Haas and van Lelyveld (2006, 2010), as well as by Popov and Udell (2012) for the early period of the financial crisis, and for US banks, for example, by Ashcraft (2008). Focusing on liquidity and capital endowment, for US banks Houston et al. (1997) find an influence of both subsidiary and parent bank characteristics on subsidiary loan growth without addressing intra-bank flows directly. Furthermore, Peek and Rosengren (1997), find that Japanese bank branches in the US reduced their credit supply after their parent banks had been hit by a sharp drop in stock prices in 1990 in conjunction with stricter capital requirements. Moreover, the literature on the bank lending channel demonstrates the influence of parent banks' liquidity on their affiliates' activities (see for the US, for example, Houston and James (1998) and Kashyap and Stein (2000) as well as Campello (2002) and Cetorelli and Goldberg (2012)). Navaretti et al. (2010) conclude that, in financially integrated areas such as the EU, banks' internal capital markets are particularly active. It is likely that the parent bank's funding structure becomes especially relevant for an affiliate when the affiliate relies on internal funds to a large extent. By demonstrating this linkage, we also add substantially to the literature.

Our results show that locally active affiliates as well as affiliates serving as lending hubs, which can rely on their own strong local deposit funding and which have shown a relatively good performance in the period of distress, have been able to stabilize their loan supply. Furthermore, lending activities abroad increasingly depend on parent bank characteristics, the more the affiliates rely on funding via the internal capital market. Parent banks which were able to maintain their deposit funding and long-term wholesale funding proved to have a particular strong stabilizing effect on their affiliates. In the crisis, we find evidence of growing competition for internal funds between affiliates serving different countries and an increasing concentration of banks' resources on parent banks' lending to the home market.

The remainder of the paper is organized as follows. Section 2 provides detailed information on the data sources and introduces the analysis's empirical framework as well as estimation equations and variables. In Section 3 we present our estimation results and discuss their implications. Section 4 provides robustness tests, and Section 5 concludes.

2. Data and empirical approach

2.1. Data on banks lending abroad

The micro data which we use in this study have been collected by the Deutsche Bundesbank from all parent banks with a banking license in Germany. The figures on lending abroad comprise lending by these banks' foreign subsidiaries and by foreign branches alike.[4] Concerning the business activity of German banks' affiliates

[1] For the relevance of risk aversion and other bank-specific factors in the case of German banks, see Düwel et al. (2011). Liquidity measures, especially that of the US Federal Reserve, had some stabilizing impact on German banks' foreign activities and dampened the deleveraging of foreign assets in the crisis (Buch et al., 2011). In addition, the authors found that German banks step up their foreign activities after receiving support from the German government, but they did not expand relative to other banks. Given these insights, we attach limited importance to the aspect of government aid in this paper, especially as our sample terminates at end-2010 while the conditions imposed on the banks for receiving state aid have a much longer time horizon.

[2] In addition, in a study on international syndicated loans, Giannetti and Laeven (2012) find that the home bias of lenders' loan origination increased in the early stage of the crisis.

[3] Furthermore, Cetorelli and Goldberg (2011a) find that the more a country's aggregate banking system was vulnerable to the dollar prior to the crisis, the lower was its post-crisis growth in lending to emerging economies by parent banks and by affiliates. Aiyar (2012) finds that shocks to international funding dampen domestic lending.

[4] Subsidiaries are reported whenever a parent bank acts as majority shareholder, and they are distinct legal entities, whereas branches are not. There are no reporting thresholds for either type of affiliate.

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