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GLOBAL BANKING: RECENT DEVELOPMENTS AND INSIGHTS FROM RESEARCH

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Abstract

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JEL Classification: F21, F23, F33, F36, F38

Keywords: global banking, capital flows, foreign banks, Resolution, Risk-Sharing

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1. Introduction

Global banking is going through some profound changes following the global financial crisis (GFC) and the subsequent euro-area crisis. The crises have led to large balance sheet impairments, notably for many banks in advanced countries. They have also led to a barrage of new regulations, tighter supervision and oversight, and some banks having to pay large penalties for past wrongdoings. And, to some degree, the crises have sharpened market discipline and have made investors and creditors more wary of banks' activities, including their international operations. Together, these developments have forced banks to raise new capital; deleverage their balance sheets, including international; and pare back cost structures by shedding activities and personnel and adjusting compensation. Other, more secular developments include new entries in financial services provision spurred by advances in delivering financial services using digital means, which are putting additional pressures on existing financial institutions. In addition, there has been a trend increase in the importance of emerging markets and developing countries in the world economy in general and in finance specifically, including through greater cross-border bank flows and direct foreign bank presence.

As these changes continue to unfold and institutions adjust, they are affecting the structure and industrial organization of global banking. In turn, they have consequences for the benefits and risks that global banking brings to financial systems and economies. As such, it is a useful time to take stock of what has changed in global banking since the GFC, what the (recent) literature has found regarding the benefits and risks of global banking, and what developments underway may mean for (possible changes in) regulation, supervision, and other policies so as to ensure that the best balance is struck between benefits and risks, considering also countries' characteristics and circumstances. This is what this paper sets out to do.

The paper starts by reviewing the forms in which trade in banking services can occur, narrowing the focus to two forms: direct cross-border bank lending and foreign bank presence ("bricks and mortar"). It then reviews the state of affairs in global banking in both forms, and the interactions between the two, before and since the GFC. Before the GFC, there was a sharp increase in global banking, in both capital flows and foreign bank presence, with many countries becoming financially more integrated. The clearest effect of the GFC has been on cross-border bank claims, with the overall stock some 20 percent lower, with this reduction the greatest in the euro zone. The trend in foreign bank presence differs. While many banks from advanced countries have closed or sold off their (far-flung) foreign subsidiaries, banks from emerging markets and developing countries often continue to invest abroad. Overall, foreign bank presence is not much less than before the GFC, and the effects of crises and underlying trends, although accelerated, have resulted in a more regionalized but not more fragmented system.

The paper then reviews the literature on the benefits and risks of global banking. Research has found that the benefits and risks of banking flows can vary by source, destination, and type of flow and that the benefits and risks of foreign banks can vary by bank, home, host, and bilateral characteristics. Similar to capital flows in general, if countries meet certain thresholds—macroeconomic, economic, and financial—banking flows are likely both greater and more beneficial. In terms of presence, foreign banks more likely have positive effects on financial systems and economies if they are more developed, with less barriers to capital flows and entry. Other thresholds exist, as when greater presence and foreign banks with larger market share mean greater beneficial effects, including on small and medium-sized enterprises' (SMEs) access

to finance. Also, healthier parent banks mean more and better local credit. And although foreign banks can “cherry pick” borrowers, as has been found for low-income countries, this is not the case when the foreign banks are from home countries close by and have a large presence locally.

In terms of possible adverse effects on overall financial and economic stability, the literature has highlighted that risk-sharing through global banking has two sides. On the one hand, local risks are more diversified internationally and global banks can support their foreign affiliates during periods of stress in the host market. But, on the other hand, (funding) shocks to parent banks and home countries can be transmitted, including to foreign affiliates, and negatively affect local lending and economic activity. Research shows that the degree of shock transmission varies importantly by host and home country circumstances and bank characteristics. When close by, for example, foreign banks tend to support local operations more when local shocks occur. And while foreign banks tend to cut back local lending more than domestic banks do during periods of global stress, they do not do so compared with internationally funded domestic banks, and lending is more stable when foreign banks are large locally and rely more on local deposit-taking.

The paper lastly reviews regulatory challenges regarding global banks highlighted by the GFC and the implications of the increased role of emerging markets’ and developing countries’ banks and the greater regionalization in banking. Although the trend remains for formally open markets in financial services, some countries have put in place regulatory limits on the movement of capital and liquidity within banking groups. Many new rules aimed at global systemically important banks (G-SIBs) have been enacted, international coordination in supervising G-SIBs has been enhanced, and, importantly, dealing with their potential failures is now recognized as crucial. With global banking becoming more regional, coordination in all of these dimensions—regulation, supervision, and resolution—could be easier, and the European Banking Union (EU) is a good example of progress. But much remains to be done, notably on resolution of internationally active banks, including on modalities for liquidity support and burden sharing.

The outline of the paper is as follows. Section 2 describes developments in global banking, covering both cross-border capital flows and foreign bank presence, as well as their interactions, before and after the GFC. It also reviews the literature on what has driven changes since the GFC, distinguishing supply, demand, and regulatory factors. Section 3 reviews the benefits and risks of global banking, analyzing, among other factors, effects on domestic financial development, access to finance, and relationships between local lending and cross-border banking flows. In terms of financial stability, it reviews evidence on risk-sharing covering both the exporting and importing of financial shocks. Section 4 reviews the policy agenda on why global banks can give rise to systemic risks, both national and cross-border, and what those risks imply for reforms. It reviews measures taken to reduce the systemic risks related to global banks, focusing on progress in resolving G-SIBs in distress and emphasizing the so-called financial trilemma—that is, the incompatibility between unrestricted cross-border banking, national financial and regulatory independence, and overall financial stability and the choices that consequently need to be made. Section 5 concludes and lists some outstanding research questions.

2. Developments in Global Banking, Pre- and Post-Global Financial Crisis

This section first reviews the state of global banking before the GFC, focusing on the two most important forms of trade in banking services, cross-border bank flows and foreign bank presence. It then describes how global banking has changed since the GFC, highlighting the large effects of balance sheet impairments and regulatory changes for banks from advanced countries and the more secular increase in the role of banks from emerging markets and developing countries.

When discussing global banking, it is useful to start with reviewing the forms in which trade in financial services can occur. As commonly used by the World Trade Organization, trade in (financial) services can encompass one of four forms: (1) cross-border claims/flows, e.g., lending and deposit-taking, but also (re-)insurance; (2) consumption abroad, including through the movement of consumers to the territory of suppliers, e.g., the purchase of financial services by consumers while travelling abroad; (3) financial foreign direct investment (FDI), in the form of a foreign bank, insurance, etc., which can be in the form of a subsidiary or a branch and materialize through mergers and acquisitions of existing banks or new investments; and (4) supply of services through the physical presence of persons, such as independent financial consultants or bank managers, of one country in another. Of these four modes, the second, consumption abroad, and the fourth, trade in person, are quantitatively of little importance for banking and also raise few policy issues. As such, research has focused on cross-border bank flows (mode 1) and foreign bank presence (mode 3), which is also what I do.

2.1 DEVELOPMENTS PRE-GFC

2.1.1 *Cross-Border Banking Flows*

The pre-crisis period saw a large increase in financial globalization, including through cross-border banking and foreign bank presence, which is well documented, notably by Lane and Milesi-Ferretti (2001, 2007) and subsequent updates to their database. Increases coincided with the general globalization over this period, including in trade and FDI in goods and services. Financial globalization reflected not only market forces, but also deregulation as countries, both emerging and developing, (further) opened their capital account (see Fernandez et al., 2015, for data on the evolution of countries' de jure capital account openness). Indeed, while countries that liberalized saw greater increases in cross-border assets and liabilities, those others that did not liberalize saw large increases as well. All in all, the stock of cross-border bank claims (in real 2007 dollars) increased twofold over the period 1995–2007. And, as Figure 1 using Bank for International Settlements (BIS) International Banking Statistics (IBS) data shows, international banking claims, including both direct cross-border lending and local lending by foreign banks' subsidiaries abroad, were on a sharply increasing trend just before the GFC.

The trend of increased financial globalization was not uniform, however, and there were distinct patterns in terms of lending and borrowing countries and bilateral and regional patterns. Clearly, banks in advanced countries were at the forefront of cross-border lending. Among these, U.S. banks were less aggressive over this period than in earlier periods, while many (smaller) European countries became large lenders. In terms of recipients, advanced countries were again the most important, and assets and liabilities among advanced countries often offset each other, i.e., while gross flows were large, net flows were much smaller. For emerging markets, offsets were much less, and many were net recipients of large capital flows, at least until the GFC.

In terms of bilateral patterns, distance—geographical, institutional, and cultural—has, similar to banks domestically, been found to be an important variable in explaining the pattern of bilateral bank flows (Portes et al. 2001) and other capital flows (Portes and Rey, 2005).¹ Physical distance explains in part the regional concentration in bank flows, but it can be a poor proxy for informational and other (financial) frictions, as the large flows among some advanced countries that are not physically—but, instead, institutionally—close show. And, regardless, “distance” is clearly not the only factor. The very large intra-euro bank flows, for example, reflect not just close distances, but also close economic, monetary, and political integration.

2.1.2 Foreign Bank Presence

Over this period, financial globalization increasingly happened through foreign bank presence (Figure 2), with increases in market share especially high in emerging markets and developing countries (Figure 3). Similar to the developments in bank flows, this trend was triggered by multiple factors (Claessens and Van Horen, 2014b). One specific factor was the banking system privatization in many regions and related sale of banks to foreigners. In East Asia and Latin America, this privatization happened following their crises in the late 1990s, whereas in Central and Eastern Europe, it followed their transition to market-based economies, as well as some crises, in the early 1990s.

As a consequence, foreign bank presence became very large in some emerging markets, with market shares (in terms of the number of banks) in 2007 exceeding 80% in 14 countries and more than 50% in 63 out of 118 countries. There was a large variation, though, as foreign market shares in some emerging markets were less than 10% (besides Cuba and Ethiopia, for example, Saudi Arabia and Haiti). Also, foreign bank presence remained low in many advanced countries—e.g., in half, it was less than 25 percent. In fact, host country’s gross domestic product (GDP) per capita and foreign bank presence are negatively correlated (-0.45). Moreover, when small in terms of number shares, foreign banks are more likely niche players, capturing an even smaller share of assets, whereas when large in terms of number shares, they are likely even more important with respect to financial intermediation, capturing a larger share of assets. This pattern reinforces foreign banks’ greater role in emerging markets compared with in advanced countries.

In terms of home countries, there has been a very high concentration, at least until the mid-2000s, as a few countries have large foreign bank “exports.” Notably, the majority (66%) of foreign banks as of 2007 were owned by banks from North America, mostly the United States, and Western Europe, mostly the United Kingdom. Nevertheless, already in 2007, parent banks from emerging markets and developing countries started to invest abroad, and their shares in numbers (19% and 7%, respectively) were non-negligible.

Research has identified several factors, besides differences in the removal of entry restrictions and privatizations, that help explain the degree of foreign bank penetration (Claessens and Van Horen, 2014a, review). Earlier studies found that investment tends to correlate with trade and general FDI flows, which can be multinational companies or other forms of FDI, indicating that

¹ A bank collects and processes various types of information to screen and monitor borrowers and projects for creditworthiness and riskiness and, more generally, to reduce agency issues. To allow a bank to offer customers financial services at better terms than other banks or providers can, it may need to be close to them (Rajan, 1992; Petersen and Rajan, 2002).

foreign banks tend to follow as well as lead their customers (for the latter relationship, see Poelhekke, 2015). Host country expected economic growth and local bank inefficiencies, as well as low costs and efficient regulations, are also important drivers. Also, as Niepmann (2015) models, banks might engage in cross-border banking vs. foreign bank presence given differences in relative factor endowments and the efficiency of banking sectors. Besides having access to clients with sufficient growth potential and an institutional environment where claims can be legally enforced, being able to acquire and use information efficiently has been found to be important. And a number of studies show foreign investment to be greater when countries are “closer”—either geographically, culturally, or institutionally—likely as it eases the ability to manage from afar and transfer soft information within the banking group.²

As with other capital flows, there are strong bilateral patterns in foreign investments. Table 1 shows that as of 2009, banks from OECD (Organisation for Economic Co-operation and Development) countries (the biggest investors) tend to invest mostly in other OECD countries or emerging markets. And banks from emerging markets tend to invest in other emerging markets or developing countries, while banks from developing countries tend to invest in other developing countries or emerging markets. So banks seem to seek out host countries that are relatively similar to or lower than, in terms of income levels and institutional development, their home market. A related finding highlights the strong regional patterns in foreign bank presence. Splitting countries into four broad geographical regions that cut across income groups (America, Asia, Europe, and the Middle East and Africa) shows that the majority of foreign banks come from within each region (Figure 4), with the highest intraregional share for the Middle East and Africa, more than 70%. Importantly, this pattern has become stronger over time.

2.2 DEVELOPMENTS POST-GFC

Post-GFC, a general view is that global banking has become more fragmented. This view is captured in headlines such as those of the *Economist*: “Since 2008 global financial integration has gone into reverse” (October 2013, special report on the World Economy). It is also evident in more in-depth analysis, such as that of the European Central Bank (ECB): “Some banks have resumed their cross-border activities, but the level of integration in the banking markets remains lower than before the financial crisis” (April 2014, page 28). Analyses, however, show that while increased fragmentation applies somewhat to cross-border claims, it is less relevant to foreign bank presence, where the GFC has rather accelerated a more secular trend.

2.2.1 Changes in Cross-Border Banking Flows

The crisis came with an unprecedented collapse and shifts in the structure of capital flows in general and cross-border bank lending in particular (see Figure 1). Contrary to past episodes, all types of countries were affected in the aftermath of the Lehman Brothers collapse (see De Haas and Van Horen, 2012, 2013), although emerging economies experienced a shorter-lived retrenchment in the capital inflows than advanced economies did, as shown by Milesi-Ferretti and Tille (2011) and Lane and Milesi-Ferretti (2012). The subsequent euro crisis put further

² However, in a multi-country world with many banks seeking opportunities, entry decisions are not made in isolation, and all (potential) competitors need to be considered. Consistent with this notion, Claessens and Van Horen (2014a) show that, besides distance, competitor remoteness—the weighted-average distance of all competing banks to a host country—also importantly drives location decisions, similar to how remoteness is useful in explaining the direction of trade flows.

strain on that region's banks, and intraregional private capital flows dropped sharply (see Bologna and Caccavaio, 2013, and Laeven and Tressel, 2013). The collapse in bank flows among advanced countries and the fragmentation within the euro zone was driven by European and, to a lesser extent, American banks and occurred for three reasons. First and foremost, markets and regulators wanted banks to restore their balance sheets and profitability. Second, banks cut back as demand for external financing abroad was less, and sovereign and other risks increased. And, third, over time, banks had to meet tougher regulations, including stiffer capital and liquidity requirements and other new rules, and some faced restrictions on moving capital and funds across borders.³

Evidence, some rigorous, other more anecdotal, suggests that all three—supply, demand, and regulatory factors—drove the decline in cross-border banking. In terms of supply, i.e., lender banks' balance sheet deterioration (e.g., capital shortfalls and liquidity strains) and a reshaping of global banking system, supportive evidence is that the cutbacks in cross-border banking claims varied greatly across lenders. In terms of demand, i.e., a weakening of demand among borrowers and increased default and country risks, supportive evidence is that the cutbacks greatly varied across borrowers. And in terms of regulatory changes, many—especially bankers, of course—mention the many new rules, including Basel III, new liquidity requirements (Liquidity Coverage Ratio (LCR) and Net Stable Funding Ratio (NSFR)), macroprudential policies, and other regulatory changes, as well as the more common stress tests, overall increased regulatory governance uncertainty, and various forms of home bias as restricting cross-border activities.

While identifying the relative importance of each of these drivers is hard, some analyses do provide insights. Observing bilateral changes allows for separating demand (borrower country) from supply (banking system) factors. Specifically, since at a given point in time (say, right after a shock) banking systems from various lender countries face similar demand from a given borrower country, relative differences in changes in bilateral lending likely reflect, except for specific lender-borrower relationships, supply-side differences. This identification strategy has been used first by Khwaja and Mian (2008) and subsequently by many others (Cetorelli and Goldberg, 2011; Popov and Udell, 2012; Kalemli-Ozcan et al., 2013; Minoiu and Reyes, 2013; Cerutti, 2015; and Cerutti, Hale and Minoiu, 2015).⁴

Cerutti and Claessens (2016) use this method to tease out supply versus “frictions” as drivers of flows during the period following the Lehman bankruptcy (see also Van Rijckeghem and Wederdi-Mauro, 2014). They show that banks' cutbacks were driven by their (perceived) capital at risk. Interestingly, market indicators of vulnerabilities were less important for European banks and more so for U.S. and Asian banks, suggesting market or regulatory disciplines varied in forcing banks to deleverage. And accounting supply variables were not significant in predicting

³ Forbes (2014) distinguishes six factors affecting changes in capital flows, which can grouped in similar ways under the three headings of supply, demand, and regulatory changes: 1. a. higher cost for banks to go abroad; b. reduced access to wholesale funding; c. weakness in individual bank balance sheets; 2. weakness in the demand for loans; 3. a. repercussion of crisis-resolution packages; b. regulatory changes.

⁴ Econometrically, if lenders all face similar demand, borrower country fixed effects (if using an event) or country interacted with time fixed effects (if using a panel with multiple periods) suffice to control for demand, i.e., changes in economic activity and prospects in the borrower country. While often used, analyses do assume that all lenders face the same demand, but there can be bilateral (lender- and borrower-specific) demand curves. For this reason, some papers analyze changes in cross-border lending at the firm rather than country level (e.g., De Haas and Van Horen, 2012, 2013).

deleveraging, sometimes even providing “wrong” signals. Furthermore, for affiliates’ lending, capital at risk in headquarter (HQ) banks was not as important, suggesting some insulation from shocks, or increases in internal market or regulatory frictions. Still, a systemic crisis at home did trigger declines in affiliates’ claims as well, a form of home bias following the often massive public support. Also, banks decreased lending to high exposures and cut back more to “farther” countries.

Other evidence suggests that changes in borrowing country demand and country risks played large roles, notably within the euro area. Bologna and Caccavaio (2013) find increased borrowing country and sovereign risks to be the main determinants of banks’ retrenchments within the zone, especially after 2010, when the euro crisis peaked. Also, Laeven and Tressel (2013) show that host sovereign and bank credit default swap (CDS) spreads explain a large share of the decline in intra-euro-area claims during 2010:Q1–2012:Q2. Other evidence finds that the degree of deleveraging was affected by the relative reliance on cross-border credit versus affiliates’ lending. For many foreign banks, local funding sources proved to be relatively stable during the GFC. Reflecting this stability, the relative reliance on foreign versus domestic funds predicted to some degree which countries experienced sudden withdrawals after the financial turmoil started in 2007 (Cerutti, 2015) and which countries were at risk of banking outflows during the European crisis in 2010 (Cerutti et al., 2014).

2.2.2 *Changes in Foreign Bank Presence*

There have been considerable shifts in foreign bank presence since the GFC (Claessens and Van Horen, 2015). While the number of foreign banks exiting markets remained more or less the same, there was much less entry after the crisis: only about one-fifth as many foreign banks entered compared with the peak year, 2007, just before the crisis. As the number of exits was similar, net entry became negative for the first time since 1995, i.e., there was some retrenchment (Figure 5). As the number of domestic banks declined as well, the overall market share of foreign banks in numbers remained at about 34 percent at the end of 2013 (see Figure 2). The asset share declined, however, as domestic banks overall grew their balance sheets faster than foreign banks did, in part as governments encouraged local (government-owned) banks to continue to lend after the GFC, while many parent banks saw their balance sheets impaired. Yet foreign banks still accounted for some 11 percent of global bank assets as of the end of 2013, down only slightly from a peak of 13 percent in 2007.

These aggregate trends hide some important differences—both among host and, even more so, among home countries—and reflect shifts in global economic and financial powers. While for 59 host countries foreign bank presence declined, for 45 countries it actually increased (Figure 6). Although the number of foreign banks declined somewhat, much activity has been in the intensive margin, as some banks were sold to other foreign parents. Using the bilateral changes, which were large (Figure 7), analysis by Claessens and Van Horen (2015) reveals a number of factors behind these changes. For one, banks more likely completely pull out when their home country experiences a crisis, especially when it is a euro-zone country. A systemic crisis in the host country does not affect exit, which could reflect opposing forces. Foreign banks may be willing to support their subsidiaries when the host country is in crisis (and the home country is not). But a host crisis makes for less profitable opportunities and therefore could increase exits. Overall, these effects seem to have balanced each other out. Competition from other foreign banks, from the same or other home countries, does not seem to play a significant role in a

bank's decision to exit. Individual bank characteristics do matter, however. Notably, banks that have smaller market shares and were more recently established more likely exit. And banks from home countries with a crisis more likely withdraw from markets more distant and less important as trading partners. Also, (exit) decisions tend to be more strategic and somewhat more driven by euro-zone factors in the later (2010–2012) than in the early part (2007–2010) of the period.

Examining the drivers of changes in individual banks' balance sheets, Claessens and Van Horen (2015) find that banks from countries hit by a systemic crisis at home expanded their foreign banks' assets less, controlling for general asset growth in the respective host market. Foreign banks in euro-zone host countries reduced their assets less than local banks did, suggesting that they acted there as sources of stability. While more recent entrants and banks with small foreign presence before the crisis grew their balance sheets more, distant foreign banks had lower asset growth. In terms of entry, fewer banks entered from home and in host countries facing a systemic crisis and from and in euro-zone countries. Entries were greater where the (bilateral) presence of foreign banks was already large and where such banks were closer to, had more trade links with, and experienced faster growing trade with the banks' home countries.

Many of these changes relate (again) to the problems banks in many advanced countries faced following the GFC. But they also relate to the growing importance of banks from emerging markets and developing countries, reflecting trend changes in global banking. Notably, emerging markets and developing countries continued their foreign bank expansion, representing close to 60 percent of the new entries. Indeed, while banks from OECD countries tend to drive exits, banks from non-OECD countries tend to drive entries. Although bank ownership by OECD countries as of the end of 2013 still represented some 89% of foreign bank assets globally, this share was some 6 percentage points below that before the GFC, mostly on account of a retrenchment by crisis-affected Western European banks. As a result, the global banking system now encompasses a larger variety of players. And foreign bank presence, already regionally concentrated, has become even more regional, with the average intraregional share increasing by some 4 percentage points, largely on account of emerging markets and developing countries, including them buying banks previously owned by OECD countries.

2.2.3 Changes in Interactions between Banking Flows and Foreign Bank Presence

Following the GFC, developments in cross-border claims have varied from those in foreign bank presence and related local lending, as there were sharper cutbacks in cross-border than in foreign banks' local lending (Figure 8). This result maintains when controlling for the behavior of general domestic credit, supporting the notion that foreign bank presence has been a relative source of stability for most markets and cross-border lending being more procyclical. Also, the entry by banks from emerging markets and developing countries with relatively stronger balance sheets and greater willingness to expand has mitigated declines in local lending in some markets. At the same time, how local and cross-border banking lending has changed at the country level varies much. Besides home and host developing countries' characteristics, and strategic choices by banks as to which borrowers to prioritize, (changes in) internal market and regulatory frictions, including limits to movements of capital, underlie differences.

A test of the importance of various factors can be constructed by looking at whether cutbacks differed between direct cross-border and affiliates' claims in the face of shocks to home banking

systems, assuming demand and risk at the host country level was similar for both forms.⁵ Several scenarios can occur. In one scenario, internal capital markets are unconstrained and, accordingly, transmit shocks equally across all parts of the banking group, leading both forms of lending to decline (proportionally). In another scenario with some internal frictions and “ring fencing,” including forms of capital or banking controls, a supply shock to the parent bank triggers a larger reduction in direct cross-border lending than in affiliates’ lending, as HQ banks cannot tap into the liquidity and capital of the affiliates. In another scenario, also with limits on moving capital and funds internally, banks actually increase affiliates’ lending as a way of bypassing limits on moving funds to the parent and then lending from there. In practice, any of these scenarios (or combinations thereof) may prevail for individual banks in specific home-host pairs. Analyzing variations among bilateral (source-destination) deleveraging after the Lehman shock, 2008:Q2–2009:Q2, Cerutti and Claessens (2016) find that direct cross-border and local affiliates’ lending differs by the size of shocks to lender country banking systems. Specifically, more vulnerable home-banking systems saw less substitution between the two, suggesting some unwillingness or inability to engage in intrabanking systems’ transfers due to (greater) internal market or regulatory frictions post-GFC.

2.2.4 *Summing Up*

Post-GFC, there have been large reductions in cross-border bank flows, driven both by adverse supply and demand factors and by regulatory changes. With much fewer entries and the same number of exits, the number of foreign banks worldwide has declined, but not relative to the number of domestic banks, as that declined more. Cross-border lending has been more volatile than local lending activities of foreign banks. Much of these changes reflect market and regulatory forces, notably European and U.S. banks’ retrenchment in the aftermath of their crises, and the growing role of emerging markets and developing countries in global banking. But there is also some evidence of increased internal market and regulatory barriers post-GFC.

3. Global Banking: Benefits and Risks

This section reviews research on the benefits and risks of capital flows in general and of cross-border bank flows and foreign bank presence specifically. It also discusses the interactions between cross-border bank flows and foreign bank presence. It highlights how the GFC has led to much new research, with additional findings and qualifications to past findings.

3.1 THE GENERAL BEHAVIOR AND EFFECT OF CAPITAL FLOWS

To evaluate the effects of the (ongoing) changes in global banking on related benefits and costs, the starting point is to draw on the findings of the (extensive) literature on financial globalization and to consider how it has evolved over time. It was clear even before the GFC that financial globalization has both benefits and risks. Conceptually, the possible benefits are, foremost, that

⁵ Some differences in the type of borrowers financed by cross-border versus foreign affiliate loans could explain variations in responses. For example, cross-border bank claims may be mostly financing large corporations, banks, and sovereigns, whereas local affiliates could cater more to retail borrowers for consumer and residential credit. If a shock affects these two classes of borrowers differently, changes in these two modes of lending could vary, even if they are done by the same bank or banking system.

capital is allocated globally more efficiently and that risk-sharing is enhanced (Kose et al., 2009 and 2010, review the extensive academic literature written before 2008; for a related policy-based review, see IMF, 2007). External financing may increase with a more open capital account, and domestic resource allocation may be improved with the importing of better know-how and skills and improved access to specialized technology, such as for trade finance. Pressures from foreign capital may discipline policymakers' macroeconomic and financial management, while entry of foreign financial institutions may help with enhancing competition and upgrading of regulation and supervision. These developments may all lead, directly and indirectly, to more capital and financing, greater allocative efficiency, and thereby higher economic growth. And in terms of economic and financial stability, risks can be exported and shared more efficiently.

There were always reasons for caution, however. Borrowing from abroad comes with its own specific risks, such as increased foreign exchange exposures and other mismatches. To the extent that global finance is more procyclical than domestic finance, the risk of (bad) booms followed by busts can increase. A greater role of foreign financial markets and institutions can lead to more cherry-picking, reduce the franchise value of domestic players, and possibly adversely affect overall local credit extension. And (systemic) risks can be imported, as when foreign banks hit by shocks at home (have to) cut back on lending to and withdraw from markets.

The view before the crisis was that the balance between the benefits and risks of capital flows was favorable in general and more so if (or provided that) the country met some "thresholds." Notably, the literature highlighted the following factors: good macroeconomic management, a well-developed and sound institutional environment, trade openness, and a relatively large financial sector. For countries above some thresholds, financial globalization was generally thought to reduce volatility and the risk of crises. For countries below, typically emerging markets, the balance was considered more ambiguous. It was increasingly acknowledged that these countries both were not necessarily going to receive more external financing (the "Lucas paradox") and could import financial volatility, as they generally did not meet thresholds.⁶

This distinction did not prove valid before the GFC, when capital flows did not necessarily add to economic growth for countries that were otherwise well developed, and during the GFC, when capital flows were very volatile for all types of countries. Subsequently, research has focused more on understanding the factors behind the low growth effect of large capital inflows, emphasizing the misallocation toward non-tradables, notably real estate (e.g., Benigno et al., 2015), and within the manufacturing sector (see, e.g., Gopinath et al., 2015, for the case of southern Europe). And in terms of capital flow volatility, the literature now emphasizes, besides differences between gross and net flows and variations in types and destinations, the exact

⁶ The Lucas (1990) paradox is the observation that capital, on average, flows from poor to rich countries, rather than from rich to poor countries. Prasad et al. (2007), besides finding support for it, note that the Lucas paradox has intensified over time and there is no clear relationship between stock or flow measures of capital flows or financial liberalization and growth. Furthermore, Gourinchas and Jeanne (2013) find a negative long-run correlation between productivity growth and net capital inflows across non-OECD countries. They dub this the "allocation puzzle" and find that it is mostly a feature of public flows, with international reserve accumulation playing an important role. Alfaro et al. (2008) find evidence that institutional quality is the leading explanation. Others, such as Stulz (2005), pointed out the limits of financial globalization in relation to (corporate) governance.

sources of financing (“investor bases”) as important in affecting volatility. Raddatz and Schmukler (2012) and Puy (2016) document that international fund flows—in particular, to and from emerging markets—tend to be highly procyclical with financial conditions at home and often independent of borrowing countries’ fundamentals. Also, Jotikasthira et al. (2012) find that funding shocks in funds domiciles can translate into fire sales (and purchases) for countries included in global mutual funds’ portfolios—in particular, emerging markets. Overall, while before the GFC the effect of capital flows on the real economy and financial stability was already realized to be complex, events since then have added some further caveats (for further details, see IMF, 2011, 2013a).

3.2 THE BEHAVIOR AND EFFECT OF CROSS-BORDER BANKING FLOWS

One aspect of bank flows highlighted for some time has been that its volatility can be higher than that of other flows. Early on, Claessens et al. (1996) found that capital flow “labels” do not closely correspond to time-series properties such as volatility or persistence, and they questioned the common presumption that short-term bank flows are the more volatile type. However, several later studies (Levchenko and Mauro, 2007; IMF, 2011) suggest that banking flows tend to be more volatile than other flows (FDI flows are the least volatile) and have low persistence (albeit more than portfolio debt flows), especially for emerging markets. Relatedly, higher procyclicality of debt flows with respect to domestic financial and economic aggregates has been documented, notably for emerging markets and developing countries.⁷

The GFC has confirmed but has also disproven some of these properties. Advanced countries with generally better macroeconomic, financial systems and institutional environments experienced as much or more volatility in (gross and net) bank flows as emerging markets did. And the “flight home” during the GFC was general as banks retreated back to major investor and creditor countries, even though many of these countries were themselves subject to systemic financial crises (Giannetti and Laeven, 2012; De Haas and Van Horen, 2012, 2013).

Yet flows to banking systems, especially those from other banks, were the more volatile and declined post-GFC the most, more so than flows to non-financial corporations. This greater volatility of bank flows has since, in part, been related to the fact that banks are more affected by global financial and monetary policy conditions. Bruno and Shin (2015a, 2015b) document how internationally active banks expand and contract their cross-border claims in part in response to monetary policy and banking system conditions in advanced countries (see also Shin, 2012). Relatedly, also taking the recipient country perspective, Cerutti, Claessens and Puy (2015) show that capital flows for those emerging markets relying more on international banks are more sensitive to global factors.

3.3 THE BEHAVIOR AND EFFECT OF FOREIGN BANKS

While not always done, the starting point for an empirical analysis of the role of foreign banks and whether and how they affect domestic financial systems and economies is comparing their behavior with that of domestic banks. Do foreign banks and domestic banks behave in the same

⁷ Contessi et al. (2013) analyze the second moments and cyclical properties of disaggregated gross capital flows with respect to three macro variables: GDP, investment, and real interest rates. They find in most countries that debt is the most volatile and debt inflows are procyclical with respect to all three macro variables except for advanced countries between 1992 and 2005. See also Broner et al. (2013).

or different ways? Are foreign banks' activities complements to or substitutes for those of domestic banks? Do they provide the same or different types of financial intermediation services? From there follow questions about how the behavior of foreign banks affects that of domestic banks and the overall domestic financial system. Do they encourage more efficient banking systems? How do they affect the real economy, i.e., how does foreign bank presence affect access to finance for firms and households and in turn their performance? And what are the links between foreign bank presence and financial stability, including financial booms and busts and volatility in capital flows? I will review the evidence on each of these issues next.

3.3.1 Behavior of Foreign Banks Compared with That of Domestic Banks

Foreign banks differ from domestic banks in terms of business models, as much anecdotal evidence suggests, and balance sheets (solvency, liquidity risks, and otherwise). How pervasive these differences are and how they vary by the country in which the bank operates, and possibly by the bank's home country, are less clear. Using financial statements, Claessens and Van Horen (2012) show that in advanced countries, foreign banks are less involved in traditional forms of financial intermediation (i.e., deposit-taking and lending) and more involved in investment banking and other, less traditional forms. In emerging markets, the reverse is true: foreign banks tend to be more active in lending. In terms of capital and liquidity, foreign banks in general tend to be less leveraged and have higher capital and liquidity ratios than domestic banks do, i.e., they are more conservative than domestic banks are. While evidence that globally active banks have special skills is mostly anecdotal (see Levine, 1996, for some examples), Claessens et al. (2016) show that foreign banks facilitate trade over and beyond what domestic banks do.

The differences in terms of asset mixes, funding structures, and activities mean the performance of foreign banks differs from that of domestic banks, with these differences also varying by host country and by home country and bank characteristics. For the United States, studies find that foreign-owned banks perform significantly worse than domestic U.S. banks do (Goldberg and Grosse, 1991). DeYoung and Nolle (1996) and Mahajan et al. (1996) also find that foreign banks underperform domestic banks in high-income countries. Other studies, however, find that foreign banks perform better than or not differently from domestic banks. For emerging markets and developing countries, findings vary.

Claessens and Van Horen (2012), studying the performance of foreign relative to domestic banks in 74 countries from 1999 to 2006, find that foreign banks, on average, outperform domestic banks, with profitability some 0.3 percentage point higher than the mean profitability of 1.6 percent. It can take some time, though, for foreign banks to outperform domestic banks. As Correa (2009) shows, banks acquired by foreigners do not perform better than domestic banks in the first two years after the acquisition. Foreign banks are especially profitable in developing countries and less so in emerging markets. Also, in countries where the cost of contract enforcement is relatively high or the availability of credit information low, foreign banks are more profitable. Profitability is especially high in countries where foreign banks do not dominate, not where they dominate, consistent with other studies (e.g., Claessens and Lee, 2003). Foreign banks from high-income countries also perform better, suggesting know-how and access to capital matter, and when their home country has the same language and similar regulation as the host country or is close by, suggesting closeness eases the collection of soft information and its internal transmission.

3.3.2 Effect of Foreign Banks on Local Banking Markets

The general consensus pre-GFC was that the effect of foreign banks on host countries was, overall, mostly positive, with multiple factors driving these benefits (see review papers by Levine, 1996; Clarke et al., 2003; Claessens, 2006; and Chopra, 2007). Foreign bank presence can mean additional external financing, especially for activities that need global networks and specialized skills, such as trade finance or investment banking-type activities, and for specific types of firms, such as large, multinational corporations. Foreign bank presence can enhance competition, leading to lower rents, higher efficiency, and lower intermediation costs. As foreign banks bring with them improvements in products and superior technology and know-how, spillovers to domestic banks can occur, leading to better overall financial intermediation. Foreign banks can also pressure governments to improve their regulation and supervision, increase transparency, and more generally catalyze domestic reforms (Mishkin, 2007), including by helping reduce the often close and perverse links between local banks and politicians. All of these improvements can in turn lead to increases in access to financing for and improved performance of final borrowers.

Many empirical studies have documented some of these effects before the GFC, although specific evidence for spillovers is scarce. Early studies (e.g., Claessens et al., 2001; Mian, 2003; and Berger et al., 2005) found that greater foreign bank presence coincides with lower overall costs of domestic financial intermediation (measured by, among other metrics, margins, spreads, and overheads). In terms of competition, Claessens and Laeven (2004) show that it does not require a large foreign bank presence; what is more important is that the local banking system is contestable, i.e., without entry restrictions. However, direct and spillover effects can depend on conditions in the host country. Limited general development and entry barriers seem to hinder foreign banks' effectiveness (Garcia-Herrero and Martinez Peria, 2007; Demirguc-Kunt et al., 2004). Also, with more limited presence, fewer spillovers arise, suggesting a threshold effect (Claessens and Lee, 2003).

Evidence also exists of better-quality lending with greater foreign bank presence, e.g., lower loan-loss provisioning and better-performing borrowers (Martinez and Mody, 2004). In terms of access to finance, however, results vary by bank and firm characteristics. Beck et al. (2004) and Berger et al. (2004) conclude that a larger foreign presence leads to a greater availability of credit for SMEs. Clarke et al. (2002) find that foreign bank entry improves financing conditions for enterprises of all sizes, although larger firms benefit more. Brown et al. (2011) find evidence of greater access to finance for more transparent firms only. Giannetti and Ongena (2012) show that greater foreign bank presence increases the probability that all types of firms get access to bank loans, even though large and foreign firms more likely have a relationship with a foreign bank and small firms with private domestic banks.

One concern has been that foreign banks would cherry-pick borrowers, negatively affecting overall private credit as they worsen the credit pool remaining for domestic banks, especially so in countries where relationship lending is important. Indeed, Detragiache et al. (2008) find that in low-income countries, where relationship lending is more important, greater foreign bank presence is associated with less overall credit. However, Cull and Martinez Peria (2011) show that this effect disappears, or even reverses, once crisis-induced acquisition of (distressed) banks by foreigners is accounted for. And while Claessens and Van Horen (2014b), as in Detragiache et al. (2008), find a negative effect of foreign bank presence on private credit for developing

countries, they find no adverse effects in emerging markets and high-income countries. The negative effect also occurs only when foreign banks have a limited market share, enforcing contracts is costly, and credit information is limited. These results suggest that certain market characteristics, not the general income level, make foreign banks cherry-pick customers.

Evidence also shows that banks' home conditions matter for lending in foreign markets, including that regulations can make banks look for risks abroad. Ongena et al. (2013) show that lower barriers to entry, tighter restrictions on bank activities, and higher minimum capital requirements at home are associated with lower bank lending standards abroad. They also find stronger effects when banks are less efficiently supervised at home, which are not offset by host country regulation. And Houston et al. (2012) find that banks transfer loanable funds to markets with fewer regulations when there is an effort by domestic regulators' ability to limit bank risk-taking. Also, more internationalized economies and those with a larger foreign (bank) presence, most typically emerging markets, are more affected by global monetary conditions (Cetorelli and Goldberg, 2012c). Evidence for Mexico shows that the monetary policy stances in the United States, United Kingdom, and euro zone affect the local credit supply of the foreign affiliates of parent banks from those countries (Morais et al., 2015).

In summary, while, in general, foreign banks have many benefits for host economies, these can depend on certain conditions. Lower general development and larger barriers, including a weaker institutional environment, can hinder positive effects. There can be a threshold effect, where, with limited entry, fewer spillovers arise. In contrast, greater presence and a larger footprint (more branches) mean more likely greater access to external financing, including for SMEs. Relatedly, while foreign banks can cherry-pick borrowers and even lower overall credit, this practice mainly arises in low-income countries and not so when banks are large in the market and from home countries that are close. And while risks can be imported from abroad, healthier (parent) banks from "better" home countries are associated with more and higher-quality credit.

3.3.3 Effect of Foreign Banks on Financial Stability

The role of foreign banks with respect to financial stability was high on the policy and research agenda before the GFC, and it has been even more so since then. As a start, it is important to realize that international risk-sharing has several sides. As theoretical models point out, multinational banks can mitigate local financial shocks, transmit foreign financial shocks, and exacerbate shocks to the real economy. Foreign banks can help with financial stability in that they can export risks away from the host country, with the risk-sharing coming about in part as they have easier access to global funds and capital in times of stress in the local economy or financial system. But foreign banks can also import shocks to the host market, as has become clear with the GFC.

Models acknowledge these effects and make clear that effects can vary by bank and shock, with much depending on the functioning of banking groups' internal capital markets. In Kerl and Niepmann (2014), banks choose between lending internationally intrabank, interbank, and to foreign firms. Given, among other factors, impediments to foreign bank operations, this means responses to shocks will vary among banks, which is consistent with German bank-level data they review. Blas and Russ (2013) contrast the competitive effects from cross-border bank takeovers with those of cross-border lending, and find that the former not to be adding to competitive pressures, but the latter reducing markups and interest rates. And the behavior of banks will differ depending on whether they are faced with a real-economic shock or a financial

shock. In Morgan et al.'s (2004) two-country model, for example, cross-border banking integration increases (decreases) output co-movement after asymmetric shocks to the financial (real) sector. Using a general-equilibrium model of international business cycles with multinational banks, Kalemli-Ozcan et al. (2012) come to a similar conclusion (see also Kollman et al., 2011).

In terms of empirics, several papers have highlighted that foreign banks indeed can enhance financial stability when there is stress or a crisis in the host country as parent banks support their subsidiaries. This has happened in many cases, notably in the fall of 2008, when foreign banks supported their international operation in Central and Eastern Europe (De Haas and Van Lelyveld, 2014; EBRD, 2015). In Eastern Europe, as shocks coming from abroad were large and many firms became more credit constrained, spillovers were also the focus of policy. The Vienna Initiative (VI) specifically aimed to address this issue, with benefits (De Haas et. al., 2015, show that banks participating in the VI were relatively stable lenders; for further details, see EBRD et. al., 2015).

But also earlier, foreign banks were a source of financial stability as they reallocated funds and liquidity across locations in response to host country crises. This result has been shown directly for U.S. banks and indirectly by investigating the performance of foreign affiliates and domestic banks. Studying episodes in (mainly) emerging markets and developing countries, Crystal et al. (2001) and De Haas and Van Lelyveld (2006) show that thanks to the support of their parent banks, foreign affiliates did not need to rein in credit during a crisis in the host country, while domestic banks did contract their lending. But the degree of such benefits can vary. De Haas and Van Lelyveld (2010) compare foreign banks with large domestic banks and find that subsidiaries were more stable lenders during the crisis in case other subsidiaries in the same group were more liquid or held more capital. They take this finding as evidence of multinational banks operating an internal capital market through which they reallocate liquidity and capital in response to shocks.

While findings on exporting risks are thus favorable in general, the flip side of risk-sharing is that when faced with shocks at home, foreign banks might withdraw from cross-border banking activities and redirect lending to home. Shocks (capital or funding) to parent banks or their home markets more generally can be transmitted to foreign affiliates, negatively affecting their local lending and activities. Also, parents may repatriate capital and liquidity from their foreign affiliates, which in turn can negatively affect their supply of credit in the host market. The seminal studies of Peek and Rosengren (1997, 2000) show indeed that (funding) shocks to (Japanese) parent banks were transmitted to their foreign (U.S.) branches, with negative consequences for their lending in the United States and with real economic costs. Effects can vary, too. Schnabl (2012) shows that while the negative liquidity shock resulting from the Russian default in the late 1990s led international banks to reduce lending to both domestic and foreign-owned Peruvian banks, which in turn reduced their lending to Peruvian firms, parent banks continued to support their own Peruvian affiliates.

Studying recent crises, analyses have also found that foreign banks can import risks, with studies suggesting that at the height of the crisis, global banks transmitted shocks across borders through their affiliates. Cetorelli and Goldberg (2011), in their analysis using BIS data for globally active banks in 17 source countries, document spillovers to emerging markets but also transmission of bank distress to firms' access to external financing. Cetorelli and Goldberg (2012a) show that

foreign banks with a high exposure to the subprime crisis transmitted stress into U.S. markets by reducing net internal funds available for their U.S. branches and then having these branches engage in less lending. These transmissions have had real economic consequences. Popov and Udell (2012) show that if banks in the vicinity of the firm were experiencing distress at the onset of the GFC, the likelihood of a firm being credit constrained increased, with this transmission also taking place when shocks occurred to the balance sheet of the parents of subsidiaries.

As for other cases, evidence for the GFC shows differences in shock transmissions. De Haas and Lelyveld (2014) do not always find evidence of an active internal capital market, whereas Cetorelli and Goldberg (2012b) show that U.S. banks adjust their interoffice liquidity and claims in response to variations in domestic liquidity (although the evidence is not as strong after the Lehman bankruptcy).⁸ Cull and Martinez Peria (2012) show that while in Central and Eastern Europe loan growth by foreign banks fell more than that of domestic private banks during the crisis, foreign banks in Latin America did not contract their loans at a faster pace. The distinction seems to be driven by the fact that these banks were mostly funded through domestic deposits with most lending in domestic currency, in part forced by host regulatory requirements, which allowed them to maintain lending even when their parent banks were hit by funding shocks. In contrast, in Central and Eastern Europe, subsidiaries were mostly funded through wholesale funding, including from internal capital markets, which was more volatile.

Experiences thus do not easily generalize, and, as other recent studies suggest, with respect to financial stability, similar to access to finance, one cannot look at foreign subsidiaries as a homogeneous group. Claessens and Van Horen (2013) investigate how bank and other (country) differences influenced the degree to which shocks to parent banks during the GFC affected local lending. Considering all countries analyzed (some 100), the authors found that foreign banks reduced credit by 6 percentage points more in 2009 compared with domestic banks (Figure 9). This difference is large, as the mean credit growth was only 5 percent. However, only for developing countries and emerging markets was there a significant difference between foreign and domestic banks, but not for advanced countries. And while in countries where foreign banks hold less than 50 percent of domestic assets, the loan growth of foreign banks in 2009 was 7 percentage points less than that of domestic banks; when foreign banks dominate, there was no difference. They also find differences to vary more for countries where foreign banks are distant and close.

A large variety in banks' responses to liquidity shocks is also found in the 11-country case studies of how liquidity risks are transmitted from global banks to local markets, conducted under the International Banking Research Network (IBRN) and published in the *IMF Economic Review* (2015). The overview paper by Buch and Goldberg (2015) summarizes the findings as follows (in its abstract, page 377): "First, liquidity conditions affecting parent banks transmit into both the domestic and foreign lending of these banks. Second, the ex-ante balance sheet

⁸ At the same time, Cetorelli and Goldberg (2012b) show that, when faced with a funding shock, global banks tend to reallocate capital within the holding toward "important" subsidiaries. While they do not study the lending behavior of subsidiaries, their results suggest that some affiliates might be forced to curb lending because of a reduction in funding from the parent, whereas other affiliates do not feel this pressure or might even be in a better position compared with domestic banks to continue to extend credit. See Correa et al. (2015) for an analysis of the internal market operations of U.S. global banks and related effects on lending growth, also in comparison with domestic U.S. banks.

composition of banks and banks' business models influence their responses to liquidity risk. No single balance sheet characteristic consistently plays a role in liquidity risk transmission. Third, internal liquidity management within multinational banks can alter the domestic lending effects of liquidity risk. Fourth, the availability of official sector liquidity tends to reduce the adverse consequences of private liquidity conditions for bank lending during stress periods and to weaken the impact of bank balance sheet constraints."

While studies indicate that it is important to account for heterogeneity across banks and (home and host) countries when examining foreign banks' (crisis) behavior, a recurrent finding of what matters for the stability of lending is having access to local, stable deposits (as Correa et al. (2015) show, reliance on volatile wholesale deposits makes branches (or subsidiaries) of foreign banks, like domestic banks, subject to runs with adverse financial stability implications). In principle, the relationship can go two ways. On the one hand, foreign banks that are large local, stable deposit-takers might be less affected by shocks to their parent's balance sheets, as they have their own funding markets. On the other hand, parent banks faced with funding shocks might be inclined to transfer funds from those subsidiaries more active in local deposit-taking. Cetorelli and Goldberg (2011) show that while on a host country level there is no difference with respect to having access to local deposits, at the bank level, foreign banks that have a strong deposit base reduce credit significantly less than other banks. This finding shows again the importance of stable local funding structures for credit provisioning when parent banks are hit by a shock.

These findings put into perspective other recent studies and confirm why in Eastern Europe, foreign banks contracted more, but not in Latin America. They also concur with Ongena et al.'s (2015) finding that in Eastern Europe, foreign banks reduced lending more than locally funded domestic banks, but not compared with domestic banks that had financed their pre-crisis lending by borrowing from international capital markets. It is also consistent with De Haas and Van Horen's (2012, 2013) finding that, when faced with a funding shock, banks reduce their cross-border lending but are more likely to stay committed to countries in which they have a subsidiary, especially in countries with weak institutions.

In summary, foreign ownership can help with a host country's financial stability since parents can and do support their affiliates in times of stress, especially when they made a commitment in terms of a (large) brick-and-mortar presence. Furthermore, when present locally, global banks' cross-border lending is more stable during a host country crisis than when banks are not present. While when parents are faced with a funding shock this can adversely affect the lending of their subsidiaries, whether this transmission indeed takes place depends importantly on local conditions and the business model of the subsidiary. Foreign banks are less likely to contribute to financial stability (1) in emerging markets and developing countries, (2) where they capture less of the domestic market, and (3) when they are less reliant on local funding. Collectively, these results point again to the importance of considering heterogeneity when analyzing foreign banks' effect.

3.4 THE EFFECT OF FOREIGN BANK PRESENCE ON OVERALL FOREIGN FINANCING AND DOMESTIC CREDIT

Foreign bank presence and cross-border bank flows can interact to affect overall external financing and domestic credit conditions. At the microlevel, interactions will reflect the operations of internal capital markets between parents and local affiliates where liquidity and

capital are allocated in response to relative demand and supply, and considering regulatory frameworks. But local affiliates may also screen and monitor (new) clients, yet (large) loans may be booked on the parent's balance sheet (e.g., to address large-exposure limits and other regulations that apply to the subsidiaries). There can also be macroeconomic interactions. Greater local presence can, on the one hand, increase current account deficits but can also, on the other hand, lead to more domestic savings and less net capital flows. Presence could affect the composition of capital flows and lead to more "good" or "bad" forms of foreign financing, i.e., less or more (bank) debt. More generally, presence could affect the degree of procyclicality and the occurrence of domestic (bad) booms and busts. Many of these questions have not been analyzed, in part because one needs to consider many other policies—including monetary and fiscal policies, interest rate differentials and exchange rate movements, and macroprudential and capital flow management policies—as those importantly can drive and affect both capital flows and domestic credit developments.

While there can be many (common) drivers, in practice, there appears to be little relation between developments in foreign bank local lending and aggregate cross-border capital flows. Consider, for example, foreign bank presence in and capital flows to Central and Eastern Europe and within the euro zone. Before the GFC, some countries—e.g., the periphery countries in the euro zone—had small foreign bank presence and large current account deficits, while others, such as in Central and Eastern Europe, had large foreign bank presence and large current account deficits (IMF, 2013b). The form of financial integration can matter, though, for the type of capital flows. Before the crisis, as Laeven and Tressel (2013) show, emerging European countries, with large foreign bank presence and large cross-border intragroup capital flows, experienced a significantly faster buildup of foreign liabilities than other European Union (EU) countries did. Also, in other cases, there were perverse links between foreign bank presence and the type of capital flows, as argued by Shin (2010) for the case of Korea, where branches of foreign banks engaged in large-scale carry-trades borrowing short-term, making interest rates and exchange rates more volatile. As such, foreign bank presence can alter cross-border bank flows.

There is also some evidence that (certain types of) foreign banks can affect general local credit booms. Analyzing pre-GFC credit booms, Claessens and Van Horen (2016) find overall foreign presence to have little relationship with the size of domestic booms. Controlling for aggregate domestic credit expansion and investigating the role of individual banks show that foreign banks add more than domestic banks do to local booms, but mainly because they have better financial conditions. Foreign banks do import in part a banking boom at home to the host country, however, and add more to a boom if from less well-regulated systems. Supportive of this finding, Mehigan (2015) finds that foreign banks from home countries with lower capital requirements had significantly higher local loan growth in the years leading up to the GFC.

At the same time, foreign bank presence can help stabilize overall capital flows after a shock. Laeven and Tressel (2013) show that after the GFC, emerging European countries, on average, experienced a slower reversal in capital flows, accounting for other determinants and home country factors (but not formally for internal market frictions or regulatory measures). In the euro zone itself, in contrast, fragmentation increased, with lending interest rates diverging for an extended period, largely because of cutbacks in cross-border flows. While foreign banks also cut back on lending, their presence within the euro zone was relatively limited, much less than in emerging Europe, and thus not a stabilizing force. Heterogeneity in the form of financial

integration (e.g., high local presence, only partially funded by intragroup flows, compared with large cross-border flows between unrelated lenders and borrowers) thus matters both for global banks' role in adding to local vulnerabilities and for their role in post-crisis busts.

3.5 SUMMARY AND IMPLICATIONS

The benefits and risks of global banking depend on a number of factors, including the structure of global and local banking systems, which makes assessing the overall benefits of foreign banks complex. As the global banking landscape is changing following the GFC, the nature of potential gains and risks going forward are also altering. Understanding both the drivers of reshaping and what these may mean for the functioning of the global banking system is thus important from economic, financial, and policy angles as well as for guiding future research. In the meantime, there are some issues, on which policy decisions are currently being made. I review these issues and try to clarify them in light of existing research.

4. Global Banking: Regulation and Policies

The agenda for reforming the international financial architecture, broadly understood as the mechanisms that facilitate the smooth and efficient flow of financial services and capital across countries and ensure global financial stability, is large (see Obstfeld, 2013, and Eichengreen, 2016, for reviews). It involves issues such as redesigning the global safety net, possibly including a larger International Monetary Fund with greater emergency financing facilities and greater use of (bilateral) central bank swap lines; revisiting the degree of capital account liberalization and, relatedly, the use of capital flow management and macroprudential policies; and possibly designing mechanisms aimed at addressing international spillovers from (unconventional) monetary policy. The focus of this section is on the much narrower topics of the rules for trade in banking services and how to deal with global banks in terms of regulation, supervision, and resolution. Even then, many issues arise, and only a few have received much analysis. One of the principal lessons of the GFC is that banks are "global in life, but national in death" (as per then Bank of England Governor Mervyn King). Many governments had to support their banks (and banking systems more generally), even when losses were largely due to their international operations. Moreover, some national actions (or a lack thereof) negatively affected (banking systems of) other countries. I will therefore focus mostly on changes being made to improve the regulation, supervision, and resolution of internationally active banks.

4.1 CHANGES IN OPENNESS AND OTHER BARRIERS TO TRADE IN FINANCIAL SERVICES

4.1.1 *Trade in Financial Services*

Although the crisis has led to a reevaluation of the risks and benefits of international banking and a tightening of domestic financial regulations, it did not discourage countries—in particular, emerging markets, usually already open and large hosts—from formally further opening up (Claessens and Marchetti, 2013). In fact, there was a general further elimination of restrictions on market access and discriminatory measures (which favor domestic over foreign firms) in banking, securities, and insurance markets, as well as a consolidation of previous reform efforts. In addition, countries continued to enter preferential trade agreements, which most often also give financial institutions easier access to one another's markets. Some 52 such agreements

became effective from the onset of the crisis until mid-2013, two times more than between 2000 and September 2008. And although the so-called Doha Round of global trade negotiations made little progress in increasing market access and reducing barriers to trade in financial services, several liberalization initiatives have emerged over the past few years. Three of those initiatives hold the promise of further—and possibly significant—liberalization, including in financial services: the 13-nation Trans-Pacific Partnership; the Transatlantic Trade and Investment Partnership between the EU and the United States; and the Trade in Services Agreement, which involves 21 economies and the EU.

4.1.2 Other Regulatory Changes

While countries still opened up their markets de jure, this fact should be balanced with other, sometimes more anecdotal, evidence that rules on cross-border flows have been tightened and informal barriers have increased. Regulatory measures here include both those aiming to reduce the risks of crises and those adopted during a period of financial turmoil or crisis to reduce adverse effects. While both can affect the de facto openness of financial markets, effects can go various ways. Take the case where a country tightens its macroprudential policies by, say, increasing capital requirements. In the absence of full reciprocity by foreign authorities (i.e., if they do not also put similar restrictions on lending to the country), cross-border inflows could increase if borrowers go directly to international financial markets rather than borrow from local banks. There is evidence for this scenario. Aiyar, Calomiris, and Wieladek (2014) show that foreign bank branches increased their lending in the United Kingdom in response to tighter measures applied to local banks, a sign of cross-border competition and regulatory arbitrage. Cerutti et al. (2016) document that greater use of macroprudential policies increases the ratio of cross-border to local lending. And Akinci and Olmstead-Rumsey (2015) find leakage effects in that total credit, which includes non-resident lending, is less responsive to macroprudential policies than local credit is. Other (regulatory) characteristics of the home country likely matter here.

Spillovers can also arise outward, i.e., when institutions adjust to local restrictions by decreasing or increasing their cross-border activities. Macroprudential policies, for example, can lead domestic banks to become less active internationally. Aiyar et al. (2014) show that, because during the 2000s supervisors required U.K.-based banks and subsidiaries to meet higher capital requirements, local banks lent less abroad, which may or may not have been optimal. Additionally, when policies at the source country do not effectively stem risks related to outflows, recipient countries may be negatively affected. Country and financial market characteristics matter here again, as the scope for avoidance and barriers is not equal everywhere. Cerutti et al. (2016) find, for example, that leakage of macroprudential policies is larger in more developed countries, maybe as borrowers find it easier to tap alternatives.⁹ But measures can also amount to restricting access to a market in case they end up weighing heavier on non-

⁹ In IBRN-coordinated analyses, the spillovers of macroprudential policies were analyzed using microdata and were generally found to be relatively small (Buch and Goldberg, 2016, provide the overview; for specific country examples, see Reinhart and Sowerbutts, 2015, and Nociola and Żochowski, 2015). Besides macroprudential policies, other regulatory actions can have (unintended) side effects reducing (the benefits of) financial integration, including possibly amounting to financial protectionism. For further details, see Beck et al. (2015) for a classification of such policies and Ostry et al. (2011) on the links between macroprudential and capital flow management policies.

residents than on residents. For example, increased reserve requirements on foreign exchange deposits adopted for macroprudential objectives may disproportionately affect foreigners. Indeed, Bruno et al. (2016) document for 12 Asia-Pacific countries how changes in reserve requirements, as macroprudential measures, affect capital inflows.

In terms of regulatory actions after the GFC, there is anecdotal evidence and some research on ring-fencing. Cerutti and Schmieder (2014) and D’Hulster (2014) document additional limits on outflows and regulatory actions in a number of markets, both developed countries and emerging markets (for further details, see IMF, 2015). And banks that received government support may have been incentivized to reduce their international activities (more)—including in the form of selling subsidiaries.¹⁰ Also, the EU competition policy agency asked some European banks that were intervened and received state support to divest activities and sell subsidiaries (Boudghene and Maes, 2012). As such, retrenchment decisions made were driven not only by bank choices, but also by home country and supranational factors. Overall, while countries continue to further open de jure, macroprudential policies and other (regulatory) actions, including some ring-fencing, likely led to some barriers and increased home biases.

4.2 REGULATIONS AFFECTING GLOBAL BANKS

While global banks have many benefits, they can also introduce risks, in part as they are hard to manage and difficult for markets to discipline. Important from a global perspective is that risks can spill across borders. The cross-border vulnerabilities of global banks can be easy to ignore, especially during booms, but home-host conflicts easily arise in times of stress. And, as the GFC showed, cross-border banks are difficult to resolve. Many improvements can be and are being made in the (international) regulation and supervision of global banks to address these issues. In the end, though, as this section will argue, the fundamental issue is about resolution where choices have to be made. I will discuss and review the related literature from this perspective.

4.2.1 *Management, Governance, and Regulations of Cross-Border Banks*

The governance of banks is arguably more challenging than that of non-financial corporations (see Laeven, 2013, and De Haan and Vlahu, 2013, for reviews). Banks are “special” in a number of respects: they are highly leveraged; have very diffuse debt holders; are opaque and can adjust their balance sheets quickly; and, while closely regulated, benefit from a public safety net, some in the form of deposit insurance. While differences can be overstated—and, indeed, as Laeven (2013) argues, many of the “good” corporate governance principles for non-financial corporations also apply to financial institutions—there are complications nevertheless. Relatedly,

¹⁰ As part of government support, banks were often asked to focus on domestic lending. For example, French banks that tapped government assistance pledged to increase lending by 3–4 percent annually, and ING announced that it would extend €25 billion to Dutch businesses and consumers when it received another round of government assistance (World Bank, 2009, page 70, footnote 9). Also, support measures that ended up going to foreign banks were criticized ex post by politicians. Rose and Wieladek (2015) and Kleymenova et al. (2015) find some evidence of protectionism using U.K. and U.S. bank data in that banks lend more at home and in similar ways after the GFC. As the literatures on home-bias and bank-sovereign links make clear, however, it is hard to separate the various motives for increased lending to local firms, households, and sovereigns. These include, besides protectionism, banks having greater information about borrowers closer by, internal market frictions, and banks’ preferred risk-return tradeoffs, some of which may appear as nationalism (e.g., buying risky own sovereign bonds; see Acharya and Steffen, 2015).

the Basel Committee on Banking Supervision (BCBS, 2015) and others (Bank of England, 2015) have issued guidelines on bank corporate governance that (implicitly) acknowledge these complexities and that the best policy responses are not obvious.

The internal and external corporate governance and related market discipline challenges are even larger as banks expand across borders. Managing a large systemic, cross-border bank is clearly very complicated. These banks can be very international: as of 2010, the top 30 banks had, on average, 53% of their assets and earned 56% of their income abroad. The number of subsidiaries further shows the complexities: the top 30 had, on average, close to 1,000 subsidiaries, of which 68% operated abroad and 12% in offshore financial centers (for additional information, see Claessens et al., 2010, and Carmassi and Herring, 2015). Logic suggests that management and governance would be even harder in these banks than in others. Challenges compound, as many of these banks are, to various degrees, “too big to fail,” i.e., they are global systemically important banks (G-SIBs). Ex ante, this means that they benefit from an implicit subsidy, which (further) distorts their shareholders’ and management’s incentives and complicates their governance. Before the GFC, the “subsidy” from expected bailouts reflected in their cost of funds was estimated to be about 45–80 basis points for G-SIBs (IMF, 2014). Importantly, in spite of reforms and changes in bank behavior, this subsidy was still large (estimates vary, but Ueda and Weder-di-Mauro, 2013, find it to be between 60 and 80 basis points).

In response to the GFC, many new regulations have been announced (for details, see the latest Financial Stability Board (FSB) progress report to the Group of Twenty, FSB, 2015a), with many specifically to affect global banks. G-SIBs (as well as domestic systemically important banks, or D-SIBs) are being identified annually. The new Basel III capital requirements include systemic risk-varying surcharges for G-SIBs. Another important new rule requires higher loss absorbency capacity for G-SIBs (so-called Total Loss-Absorbing Capacity, or TLAC) in case of financial distress.¹¹ While not specifically aimed at G-SIBs, the new liquidity standards—the LCR and the NSFR—affect G-SIBs more than other banks. And there is more intense supervision in most countries, including through supervisory colleges (established for almost all G-SIBs). More is needed, however, to strengthen supervisory cooperation, which will importantly depend on progress in cross-border resolution of G-SIBs.

4.3 RESOLUTION OF CROSS-BORDER BANKS

Resolution of banks differs from that of non-financial corporations. Whereas bankruptcy and subsequent restructuring of corporations can extend over considerable periods, a timely solution is of the essence for banks, given the risks of runs by depositors and other creditors and the associated loss of value. A systemically important bank (SIB), however, is by definition hard to resolve: its typically large size, extensive connections, and sometimes unique role in providing essential services make it hard to close or liquidate quickly and without disruptions to the rest of the system. When SIBs run into difficulties, resolution therefore often requires government

¹¹ TLAC comes in the form of debt that can be written down and has to satisfy some other conditions, in part to avoid contagion in case of write-downs. It requires banks to have prepositioned enough debt at the holding company and at its various entities so as to increase the chances it can be “bailed in” and continue its businesses. As the FSB (2015b) states in its press release on November 9, 2015, “The TLAC standard is designed to ensure that if a G-SIB fails it has sufficient loss-absorbing and recapitalization capacity available in resolution to implement an orderly resolution that minimizes impacts on financial stability, ensures the continuity of critical functions, and avoids exposing public funds to loss.”

support. Indeed, few SIBs are resolved quickly normally, and none in a systemic crisis. These issues get amplified for G-SIBs. During the GFC, some G-SIBs “failed” outright, and more ran into trouble in 2008–09 than in the prior two decades. As they did, governments provided large support to them: of all the banks that ran into trouble, G-SIBs represented just 16% of the assets but received 54% of the support (see data from Laeven and Valencia, 2013). While ongoing reforms aim to reduce the presence and adverse effects of G-SIBs, the question of how to avoid governments being coerced into providing a bailout because of fear of creating a systemic crisis remains.

The supervisory and resolution challenges for a G-SIB relate in large part to coordination problems. A weakly supervised G-SIB and its failure pose adverse cross-border effects, but these are often ignored by authorities, as their accountability is typically national (as that is how they are organized and funded). Also, most legislations and procedures for insolvency and restructuring are national and can vary considerably. Asymmetries in domestic and international activities, both assets and liabilities, then mean that national interests can diverge, as the model of Freixas (2003) shows. For a G-SIB active in two countries but large in both, incentives are more likely to be aligned, as both countries’ supervisory agencies would want to intervene in case of financial stress. For a G-SIB large at home but small in the host country, however, conflicts are likely, as the home supervisory agency is less interested in preserving financial intermediation in the host country. When the G-SIB is systemic in the host country but not necessarily large in the home country, a case many emerging markets and developing countries face, the home country may have little interest in intervening, yet the failure can cause major havoc for the host country. These differences are exacerbated when fiscal, financial, and supervisory capacities are not commensurate with the scale and scope of activities of G-SIBs in each country. For these and other reasons, authorities face imperfect incentives and incomplete tools in dealing with G-SIBs.

Beck et al. (2013) document formally some of these biases. They find, using the CDS prices of large (mostly cross-border) banks three days before their interventions during the 2008–09 crisis, that there were stronger incentives to intervene if their equity was owned by foreigners, and weaker incentives if assets were lent or invested abroad and deposits were owned by foreigners. Put differently, national supervisory agencies were more willing to intervene when there were adverse consequences for domestic depositors and the local economy and when the costs of doing so—by “wiping out” equity holders—were more likely to be borne by foreign owners.

While supervisors knew before the GFC that the cross-border bank resolution framework was not perfect, the expectation was that memorandums of understanding (MoUs) between supervisory agencies and so-called colleges of supervisors (designed to jointly oversee specific institutions) would suffice. This approach clearly did not work, since during the GFC there was little de facto cooperation (in part as most MoUs actually had a clause making them not binding in some extreme state of nature) and most cross-border resolutions were poor. Some examples include—besides, of course, Lehman Brothers—Dexia, Fortis, and Icelandic banks as well as American International Group, Inc., or AIG (see Claessens et al., 2010, and Schoenmaker, 2013, for in-depth reviews of these and other cases). In each case, resolution was, out of necessity, improvised. In some cases, it succeeded in limiting spillovers, but at substantial cost to local taxpayers. In other cases, it protected domestic interests with little regard to international spillovers. At times, the model being followed became unclear itself, e.g., as an “improvised” cooperation raised questions about how other banks might be handled. Since then, it is

acknowledged that improving cross-border intervention and resolution in case of stresses is key, also to enhancing regulation and supervision beforehand.

4.3.1 Financial Trilemma

The proximate reasons for these poor resolutions are multiple and (with the benefit of hindsight) understandable: limits on financial and supervisory resources, poor information, and uncertainty about what causes a G-SIB failure and what the consequences of a failure would mean for the global financial system. The deeper causes for the problems lie with the *financial trilemma*, first coined by Schoenmaker (Schoenmaker, 2011) and subsequently used by Obstfeld (2015) and others. Conceptually, it builds on other trilemmas well known in economics, e.g., the so-called impossible trinity of capital mobility, fixed exchange rate, and independent monetary policy, as well as others that have recently been extended, especially in the context of the euro zone.¹² The financial trilemma is that three policy objectives—maintaining global financial stability, fostering cross-border financial integration, and preserving national resolution authority—do not easily fit together: any two of the three objectives can be achieved with relative ease, but achieving all three is difficult, particularly within a monetary union. The trilemma forces policymakers to make choices, which can be done using one of two corner approaches, *universalism* or *territoriality*, or an intermediate approach, the one discussed here being called *modified universalism*.¹³ Implementing any of these approaches will be complex and has to recognize the ongoing shifts in global banking.

4.3.2 Universalism

This term, used for non-financial corporations' bankruptcies, involves an equitable distribution of the estate, regardless of the location of the subsidiaries of the firm. Applying this model to G-SIBs would mean that the bank would be subject to a single resolution conducted by the country where the G-SIB is headquartered. While universalism creates clarity in that the home authority is in charge, it does not avoid all conflicts since asymmetries can remain. For example, when the subsidiary is systemic in the host country but the parent bank is not systemic at home, the home country may not intervene "enough" from the host's perspective. Ideally, this model then also has unified regulation and supervision; a universally recognized mechanism for liquidity support; and the ability and willingness, if needed, to engage in cross-border burden sharing. Lacking some of these elements, conflicts can remain (for additional information, see Hüppkes, 2005, 2016).

¹² Bordo and James (2014) added three: the incompatibility of fixed exchange rates and capital mobility with financial stability; the potential incompatibility of fixed exchange rates and free movement of capital with democracy; and the incompatibility of capital flows, democracy, and a stable international political order. Since, as cross-border financial integration progresses, policymakers will have less scope for independent policymaking, including fiscal independence, Rodrik (2007) questioned the combination of nations (sovereignty), democracy, and globalization. Pisani-Ferry (2011) questioned, in the context of the euro area, the combination of a monetary union, national banking systems, and a lack of common fiscal responsibility, which is close to the financial trilemma. For further details, see Obstfeld (2015) and Rey (2013).

¹³ Maximizing global welfare can mean considering not only global financial stability, but also other global objectives, such as the reliability of financial contracting and the efficiency of global allocation of funds, which can raise other tradeoffs. These are not reviewed here.

To make the universal model work will require a predetermined agreement regarding the sharing of burdens in case of losses. While various models for loss-sharing can be considered, the key is to do this *ex ante* rather than to improvise *ex post*—as generally has happened to date. Doing this *ex ante* has the main benefit that the countries involved have greater incentives to make sure that each makes adequate supervisory investments in order to minimize the possibility that a G-SIB would get into difficulties. While this approach can lead to free riding, having clarity on resources at risk in general increases accountability and enhances incentives to critically evaluate home and host country supervision and increase cooperation, including through better information sharing, and thereby reduce overall risks and costs.

4.3.3 Territoriality

Under the territorial approach, which is a non-cooperative solution, there would be no presumption of sharing of assets internationally in case (parts of) a G-SIB were to become distressed. Each unit of a G-SIB would be resolved according to local laws and considering only local assets and liabilities. Since markets anticipate these actions, as soon as there are stresses, there could be runs at parts of the group, not just in the particular country facing stress. Countries would therefore require units in their jurisdictions to ring-fence all of their activities under a particular authority's domain so as to ensure that *ex post* resolution can be done on a standalone basis. Concretely, this ring-fencing often means full subsidiarization of all foreign affiliates.¹⁴

The advantages of this approach are no need for international burden sharing, as all units are fully resolved domestically, and better incentives for local supervision, as responsibilities are clearly assigned, with less scope for conflicts. The disadvantages are that global banks, since they will have to use the subsidiary model in every jurisdiction, will have the additional costs of tying up and not being able to easily use and allocate capital and liquidity globally, which can be especially costly in times of stress.¹⁵ A more general worry with this model is that local authorities will have no or little concern for global interests and (even) less incentives for cooperation on supervision, even though some spillovers will likely remain. It can even lead to perverse actions in times of financial turmoil. Regulators may, for example, want to ensure sufficient assets in their jurisdiction to cover domestic liabilities in the event of failure (e.g., asset pledge requirements) and call for more ring-fencing of assets in case of stress, which may drive early intervention in other jurisdictions and lead, ironically, to a “regulators’ run on the bank.” Also, under the model, supervisory agencies will become closer to their domestic banks and

¹⁴ The G-SIB’s organizational structure that fits best with this paradigm is where each subsidiary is also functionally independent, i.e., it has its own treasury and other critical functions, since this independence makes institutions easily resolvable locally not only because they are operating in each jurisdiction through separately incorporated entities, but also because they do not depend on other entities in the group for critical functions.

¹⁵ Restrictions on shifting funds could cause unnecessary runs and insolvencies in some parts of the group as global banks become strapped for cash (capital) even though the group as whole may be liquid (solvent). Also, under this model, some channels for international spillovers would still remain. For example, the insolvency of a subsidiary of a G-SIB operating under the same name as its parent could affect the ability of the rest of the group to attract funds, even without direct financial spillovers. Moreover, cross-border banking and other forms of capital flows would presumably still be allowed, with associated risks affecting banks.

related narrower national interests, creating not just regulatory risks, but also broader political economy concerns: will this model undermine the support for (financial) globalization?

4.3.4 Trend and Choices

Before the GFC, there were some moves toward universality (e.g., EU directives and the UNCITRAL (United Nations Commission on International Trade Law) model law for insolvency of non-financial corporations). Clearly, since then, national and territorial approaches are more in vogue.¹⁶ As noted, there have been cases of ring-fencing and supervisory agencies using moral suasion to make sure lender banks continue to support their local operations. And some new regulations (e.g., the 2014 U.S. foreign banking organization rules and the Volcker, Vickers, and Liikanen rules) could, even if not so intended, encourage more local approaches (for further details, see IMF, 2015). As such, the universal approach is (even) less likely going forward. It also makes many demands—notably, fully integrated regulation and supervision and centralized resolution with full burden sharing—and may even be unwise if it leads to free riding or is adopted inconsistently. Yet some universal elements could still be adopted. For example, procedures to be followed in case of resolution and restructuring could be harmonized. But these improvements would not suffice in times of crises.

For some countries, however, the universal approach, or a version thereof, is realistic. This is especially so for closely integrated countries, such as the EU or, more narrowly, its euro-area members. Triggered in part by various crises, EU countries have adopted the BU, which is a universal model within the euro area, as it integrates regulation and supervision (through the Single Supervisory Mechanism, located at the ECB), resolution (through the Bank Recovery and Resolution Directive, with a Single Resolution Board), and deposit insurance mechanisms (for additional information, see Goyal et al., 2013).¹⁷ While not all three elements are fully in place—notably, rules for burden sharing, including fiscal backstops, and deposit insurance are still being determined and implemented—it represents a big step forward.

4.3.5 Intermediate Approach, Modified Universalism

For those other countries that reject the territoriality approach but, for various economic, financial, or political economy reasons, cannot sign on to universalism, there can be *intermediate* approaches. One form would be a new international agreement, a “Concordat.” It would build on

¹⁶ And even earlier, there were notable exceptions, where local claims were often satisfied first, such as the case of the Bank of Credit and Commerce International. A related case is the U.S. deposit preference rule, which makes U.S. deposits trump other claims in bankruptcy. The United States generally follows a territorial approach with regard to U.S. branches of foreign banks: it conducts its own insolvency proceedings based on local assets and liabilities. Assets are transferred to the home country only if and when all local claims are satisfied. As Baxter et al. (2004, p. 61) note, in the United States, although the nationality of creditors is irrelevant, “only creditors of the local branch of the insolvent firm may participate. . . . On the asset side, the insolvency official asserts jurisdiction over all local assets and assets outside the jurisdiction that are ‘booked’ to the jurisdiction.”

¹⁷ Note that there was an earlier proposal called the European Bank Charter (EBC) (Chihak and Decressin, 2007; see also Decressin et al., 2007). The EBC was meant as a new regime, where mainly cross-border (EU) banks could apply and be rechartered as an EU bank, i.e., in one jurisdiction and legal form. They would be subject to a single supervisory authority and presumably equipped with all of the necessary tools, including resolution authority and possibly some burden sharing. Although it was intended to be phased in, as it still had many institutional demands, this model did not get much traction.

the home-host principle that underlies the Basel supervisory framework, but it would focus on crisis management. Importantly, the Concordat would have explicit incentives built in for collaboration. It would stipulate that for banks to have access to foreign markets, there needs to be in place, besides effective supervision at home (as in the current home-host supervisory accord), credible resolution processes and clarity on cost sharing in any resolution, including forms of (public) burden sharing.¹⁸ If the home country cannot meet these criteria, the host country would be allowed to take actions, including limiting entry or imposing restrictions on the activities of existing foreign banks.

The benefits of this approach are threefold. First, it acknowledges that effective cooperation requires all three elements—regulation, supervision, and resolution—but in ways less demanding than the universal approach. It would also build on the many already existing forums to enhance cooperation—including, besides the supervisory accord, the supervisory colleges and crisis management and financial stability groups—but acknowledge that these do not suffice, since their focus is still largely on supervision. Second, it would stress more the need to harmonize rules for resolution, neglected in the past, which would help reduce the scope for conflicts, thereby enabling better cross-border resolutions. Third, and most important, it would create incentives for de facto supervisory cooperation by more explicitly using sticks and carrots. By including resolution and requiring minimal cooperation, as countries can limit entry, it would move from “can authorities cooperate” (using MoUs) to “will authorities cooperate” (using incentives and agreements).

4.3.6 Effect of Changes in Global Banking Structures

The changes underway in the global banking system have (additional) policy implications. The rise of emerging markets’ and developing countries’ banks abroad means they need to adequately regulate their foreign affiliates and local subsidiaries. It also means they should (be allowed to) become more active in international deliberations about and decisions on financial reforms, also to give more legitimacy to these bodies and rules. And, as they become more important creditor and home countries, it will be important for them to (better) monitor cross-border lending and local lending by their foreign active banks. This monitoring will require better data to gauge developments in global banking, including whether there is indeed a general retrenchment and fragmentation in cross-border lending or whether new players are filling the gap left by retreating banks.¹⁹

¹⁸ The international standard is the so-called Key Attributes of Effective Resolution Regimes (KA); for further details, see IMF (2010) and FSB (2014). The KA is a non-binding set of principles, with the objectives to resolve financial institutions in an orderly manner while minimizing the costs for taxpayers from rescues and ensuring continuity of critical economic functions. It is being used to assess countries’ resolution regimes (see IMF, 2014) and accords with the resolution approach underlying TLAC. Complementarily, it will be necessary to improve the structures of G-SIBs and enhance the ability to wind them down in an orderly way in case of weaknesses. And it would require greater convergence in many other national practices and rules besides resolution, including those covering definitions of capital (adequacy); contingent capital, such as TLAC; and associated (regulatory) triggers.

¹⁹ For example, the BIS IBS data include only a few emerging markets as reporting creditor countries, so they cannot capture the likely growing emerging markets’ and developing countries’ lending (for additional information, see Cerutti et al., 2014, on the BIS IBS data).

The increase in regionalization is another important development with benefits, but also risks. With more regionalization, coordination in supervising and dealing with the failures of internationally active banks could be easier, with the European BU the prime example of the potential, but many other regions have yet to formalize deep cooperation in all elements. More regionalization could also increase financial stability by leading to more local funding and greater commitments. Increased regional coordination, however, could also lead to (as well as be caused by) policies and actions that amount to financial repression, ring-fencing, and fragmentation, with adverse consequences for risk-sharing and financial stability. As such, regionalization will have to be accompanied by assurances of countries to maintain open borders.

So far, few countries have reneged on their commitments to liberalize their markets to others. But more is needed, as many, often subtle, barriers still hinder the operations of financial firms across borders, in spite of numerous initiatives. Conversely, without further detailed agreements, it may be difficult to ensure that any beneficial influences of the newly adopted macroprudential tools, such as the countercyclical capital buffer, are not being negated by foreign banks and other financial institutions in jurisdictions not subject to such rules. Coordination more generally can be needed so that policies, including macroprudential and capital flow management, create neither adverse spillovers to other financial markets nor undue barriers to cross-border banking.²⁰

4.3.7 *Summing Up*

A globally universal approach to resolution is not likely soon or necessarily wise. For some closely integrated groups of countries, however, a near-universal approach is possible and, indeed, being phased in for the euro zone in the form of the BU. Some other countries could choose to adopt an intermediate approach, possibly in the form of a new Concordat, which offers sticks and carrots to make it effective. For most others, it will be important to avoid a race to the bottom, with the biggest risk being wide-scale adoptions of the territorial approach. That would be an overall adverse outcome, given its ring-fencing, more home bias, fragmentation, and perverse political economy dynamics. And, with respect to ongoing reforms, the changes in global banking make it important to take greater account of emerging markets' and developing countries' positions.

5. Conclusions and Areas for Possible Research

There are both benefits and risks associated with global banking, with the exact tradeoffs varying by many factors. While in some areas conclusions can be drawn, there are many remaining questions. I organize the state of knowledge and questions under three headings: efficiency, financial stability, and regulation. I discuss these in general and with specific reference to the ongoing changes in global banking that highlight some old and some new issues.

²⁰ Even though the scope for (policy) spillovers is large, the case for international coordination and cooperation requires, of course, the presence of negative externalities, which are less obvious, and, to date, there has been limited analysis of welfare gains from coordinating macroprudential policies (see Jeanne and Korinek, 2014).

In terms of efficiency, including access to finance and economic growth, the literature has made clear that to analyze and then to weigh the benefits and risks of global banking, it is important to consider explicitly heterogeneity. Country conditions, institutional development, and economic circumstances—as well as the source, destination, type, and form of capital flows and foreign bank presence—crucially affect global banking’s effect on domestic financial systems and economies. Research, especially from before the GFC, suggests that “better” countries tend to get both more growth and risk-sharing benefits from global banking. So it is important for countries to ensure that they have the right regulations and infrastructure (e.g., supervision, information, and property rights) in place. While the risk-sharing aspect of this view has been questioned post-GFC, as advanced countries saw greater volatility in capital flows, many elements likely remain valid for assessing the economic growth benefits. Research also suggests that it is important to consider the origins, types, and forms of capital flows and foreign banks present. Some flows, like FDI, are more likely beneficial than short-term debt flows. Larger banks and those that are closer, with a greater share of domestic financial intermediation, including in deposit-taking, tend to provide better access to finance for SMEs and are less likely to engage in cherry-picking. And the spillovers to the domestic system are also larger, the greater foreign banks’ local footprint.

In terms of financial stability, one of the main lessons, especially since the GFC, is that global banking has two sides: risks can be exported at times but be imported at other times. As such, the net risk-sharing benefits of global banking have to be analyzed over a full cycle. And, similarly to the lessons on the effects on efficiency, it is important to consider heterogeneity since the forms and types by which global banking occurs matter for stability. Some flows, such as short-term bank debt, are more volatile, and some types of investors, such as mutual funds and international banks, are more affected by global financial and monetary conditions, exposing countries more to volatility. While countries can mitigate them, including by stricter regulations, they cannot fully eliminate the effect of global conditions unless they also give up on capital account openness. In general, foreign banks tend to support local operations when those are faced by a domestic or external shock. Research does suggest, however, that banks with greater “commitment,” as reflected, among other factors, in being relatively close to headquarters, having larger local market shares and more local funding strategies, and being less engaged in transaction types of intermediation activities, are more willing to incur the temporary costs when faced with (external) shocks, maintain their operations, and support the local economy. At the same time, while there can thus be preferences for the forms in which capital flows and foreign bank presence occur, how to encourage them without creating distortions is challenging.

In regulation and supervision, in light of experiences and lessons, there has been progress in adapting paradigms so as to maximize the benefits and limit the risks of global banking. Countries now more closely monitor capital flows, not just for their type—e.g., debt versus equity—and destination—banking system versus corporate sector—but also as to which are the final investors—e.g., banks versus institutional investors or mutual funds. Relatedly, many supervisory agencies no longer rely only on the home supervisor of the local foreign affiliates. In terms of foreign banks’ regulations, there has been a trend toward a more standalone model, through subsidiarization and capital and liquidity requirements on branches. Even with better monitoring and microprudentially motivated supervisory actions, though, risks will remain with global banking, including higher chances of financial booms and busts. For many countries, macroprudential policies can help reduce these risks. For some countries, well-designed capital

flow management tools are, in addition, possibilities to reduce remaining risks. For others, options can be more circumscribed—for example, as they are part of a currency union or have free trade and other agreements that limit the use of capital flow management policies.

At the global level, the need for more reforms is also recognized. Important enhancements to the international financial architecture are needed—notably, regarding the global safety net and liquidity support mechanisms for countries running into balance-of-payments difficulties. There is also the need to enhance the framework for resolving large cross-border banks. The policy issues and choices regarding global banks, especially G-SIBs, are complex, however. While there are various, not completely exclusive, possible approaches, internal consistency is key. Regardless, a combination of national and international policy responses will be needed to ensure that global banking develops in the most beneficial way.

Besides the many issues policymakers have to confront, recent developments raise many new research issues. One is the growing importance of emerging markets' and developing countries' banks. Entry of these banks could increase local competition and access to financial services. Importantly, as these banks invest in countries within their region and of similar (institutional) development, they may become better at collecting and processing soft information and, as such, lend more and better to informationally more opaque borrowers in these countries, especially SMEs and households. At the same time, entry of these banks, as well as more regionalized banking systems—not only in Europe, but also elsewhere—may not allow for the globally best banking technology and know-how to be employed in every market and for capital to be allocated most efficiently. Related are questions on financial stability. When do the newly entering foreign banks add to financial stability, and when do they introduce risks? Specially, are these new owners better or worse capitalized than the traditional, advanced countries' owners? Do they have less or more access to intrabank and other funding markets to smooth local and global shocks? How do their characteristics—like their home country, degree of funding, and business focus—matter for financial stability? Are the relevant home-host regulatory and supervisory frameworks up to par? Many of these effects are not clear a priori, and specific research, especially in those countries with profound changes, has to await more data.

More generally, there are many issues to be investigated related to the ongoing shifts and the (evolution of the) structure of global banking. An incomplete list includes the following. Are the newly emerging global network structures more or less resilient to shocks? Do the shifts in global banking networks and market structures lead to new risks? Does it matter what types of foreign banks and how much variation in foreign banks from within and outside the region there are for a particular country? If regionalization means less risk-sharing and makes the global system more prone to shocks, can a larger variety of parent banks improve diversification at the host country level and make the global banking system less prone to shocks? Is there a “preferred” mix of local banks, foreign banks from “close” countries, and global banks? The starting point for many of these questions will have to be a better understanding of the drivers of the changes in global banking, including regionalization (and possibly related fragmentation), since only then can the advantages and disadvantages of the ongoing changes be properly assessed.

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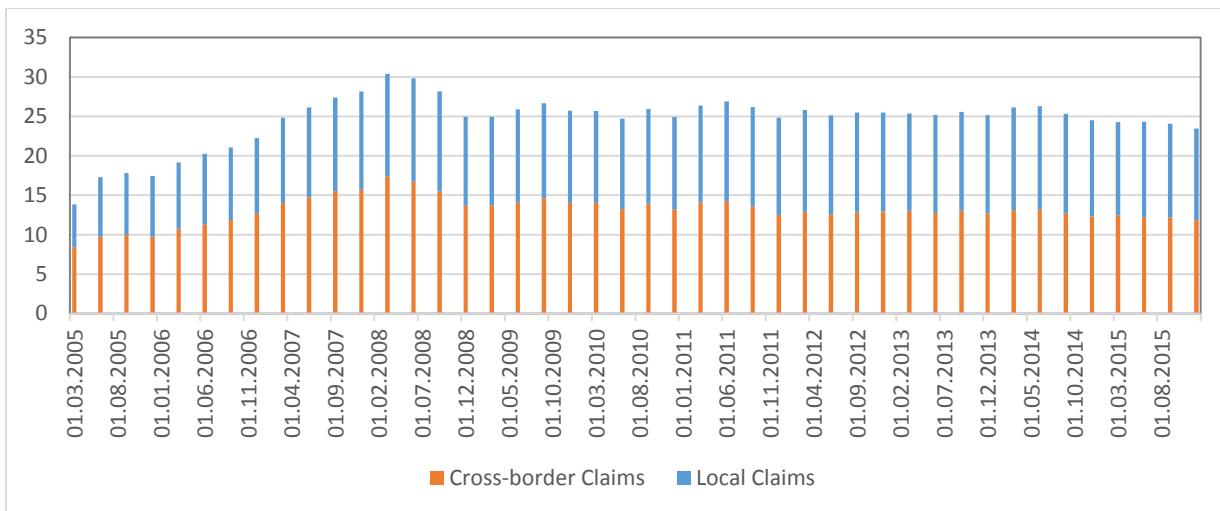
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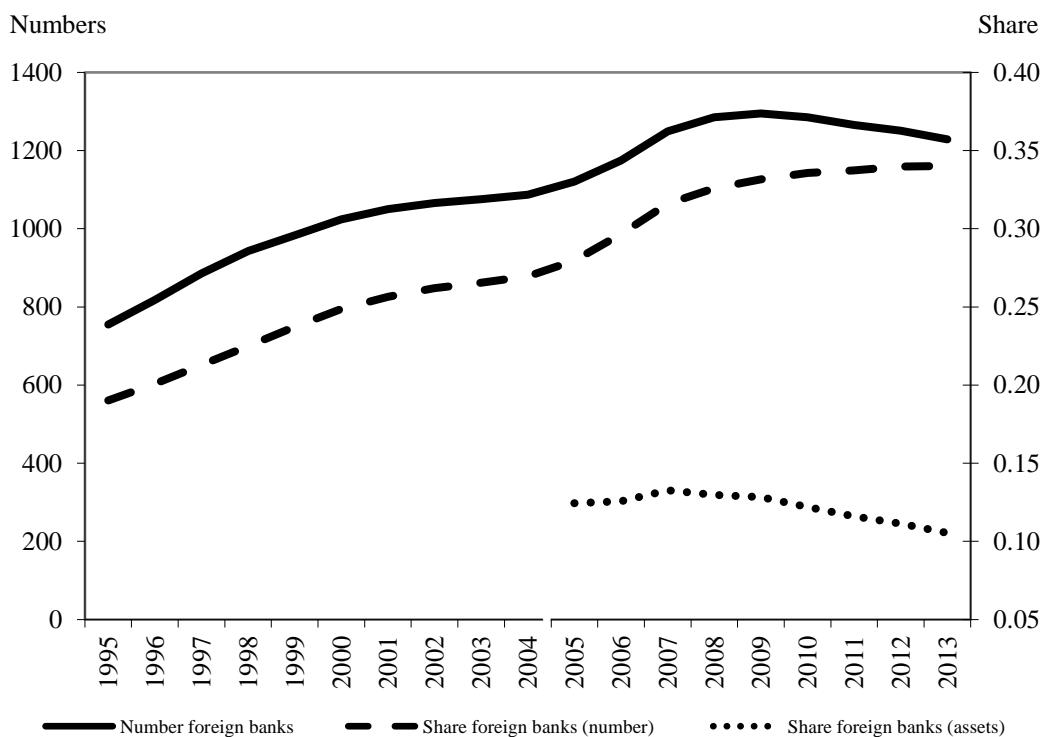
Figure 1: Cross-border and local claims (Trillions USD).



Source: BIS International Banking Statistics, consolidated data on an ultimate risk basis.

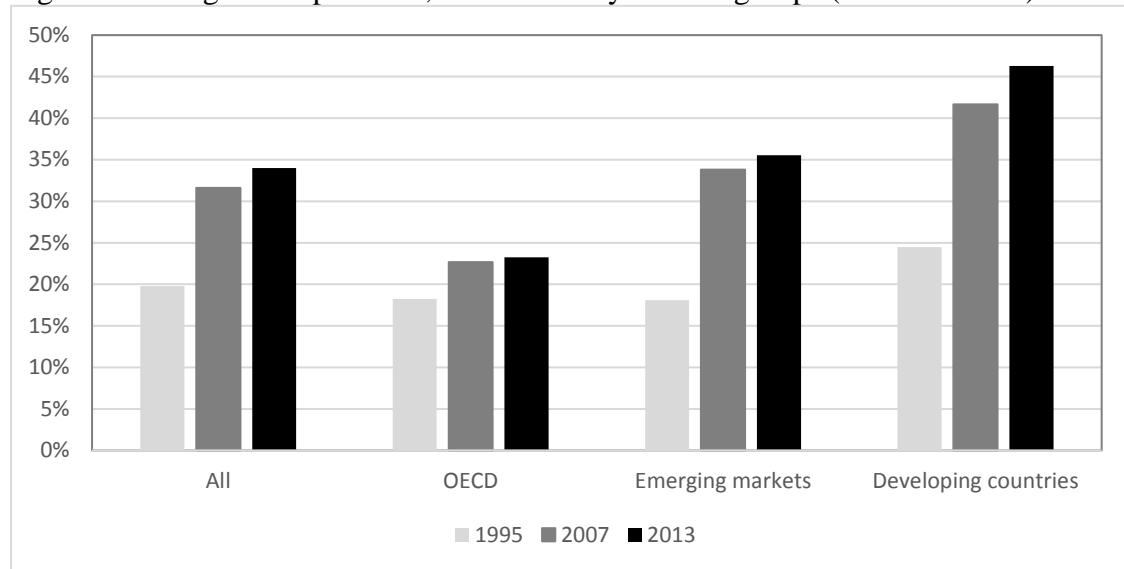
Notes: Local claims are claims of foreign banks' affiliates, including subsidiaries and branches. Claims can be in foreign and local currency.

Figure 2: Numbers, and number and asset shares of foreign banks.



Source: Claessens and van Horen (2015).

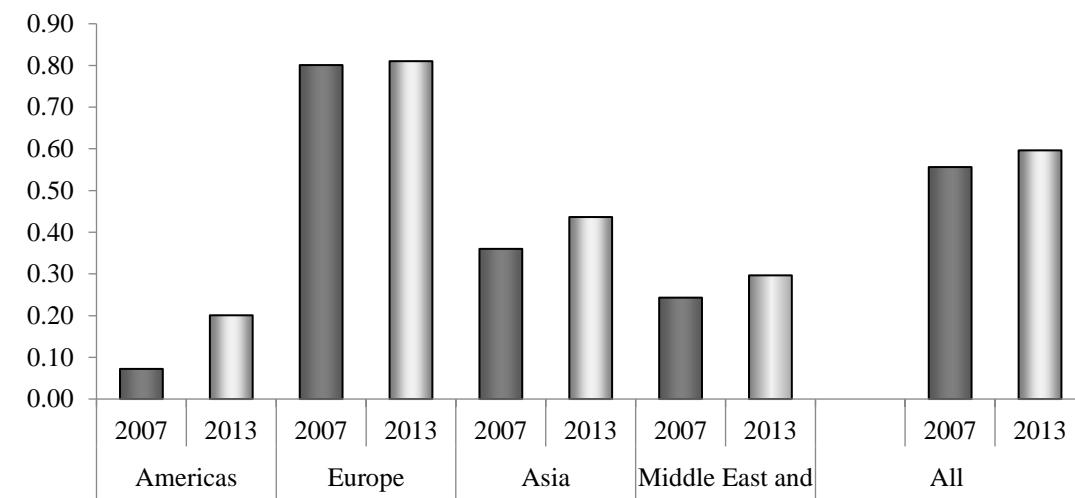
Figure 3: Foreign bank presence, overall and by income groups (number shares).



Source: Claessens and van Horen (2015).

Notes: “OECD” includes all core OECD countries. “Emerging markets” consists of all countries that are included in the Standard & Poor’s Emerging Market and Frontier Markets indexes and that were not high-income countries in 2000. “Developing countries” includes all other countries.

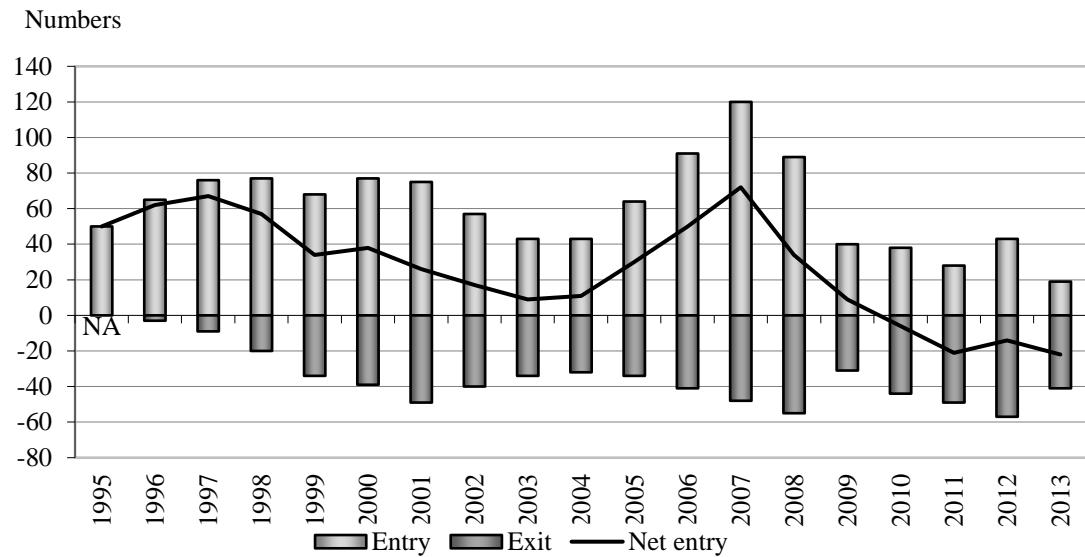
Figure 4: Regional asset shares, 2007 and 2013.



Source: Claessens and van Horen (2015).

Note: Countries are grouped in four geographical regions irrespective of the income level of the countries. “America” includes Canada, the United States, and all countries in Latin America and the Caribbean; “Europe” includes all Western and Eastern European countries; “Asia” includes all countries in Central, East, and South Asia and the Pacific countries including Japan, Australia, and New Zealand; “Middle East and Africa” includes all countries in the Middle East and North and Sub-Saharan Africa.

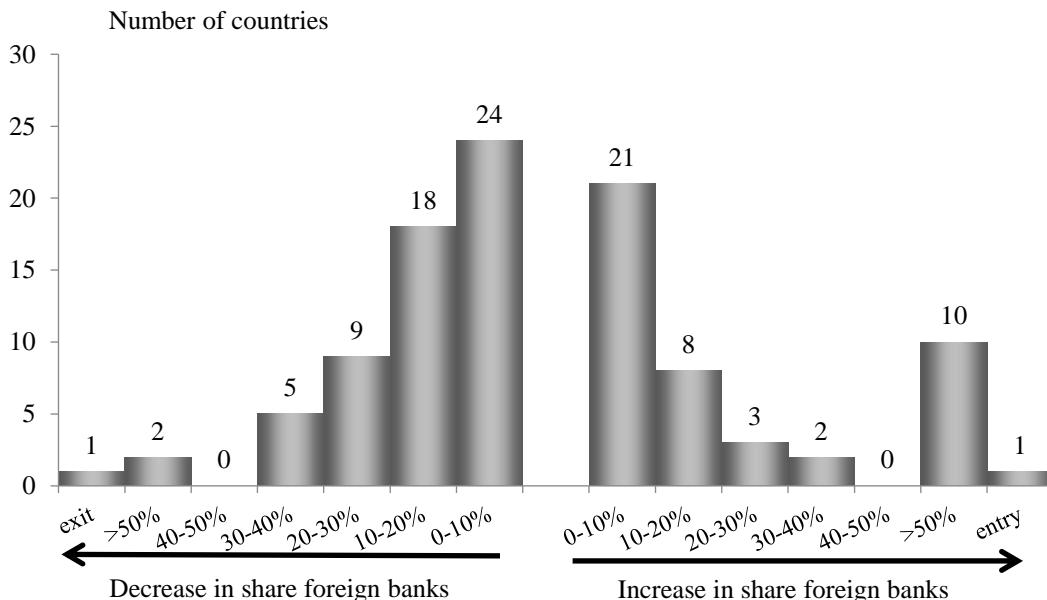
Figure 5: Entry and exit of foreign banks, 1995–2013.



Source: Claessens and van Horen (2015).

Note: As the database starts in 1995, the number of foreign banks that exited the market in that year cannot be determined.

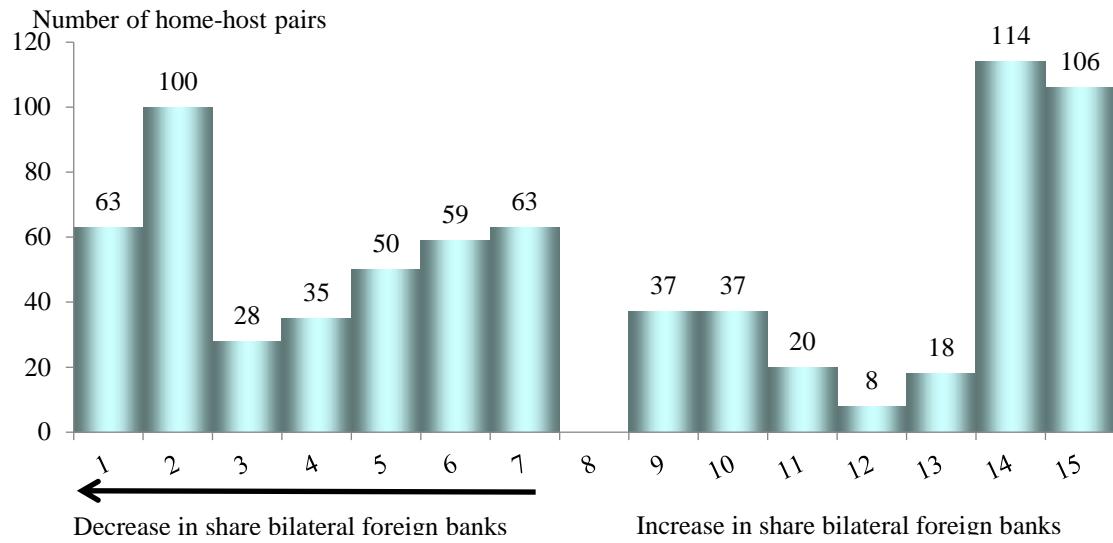
Figure 6: Change in the share of host country level of foreign assets, 2007–2013.



Source: Claessens and van Horen (2015).

Note: Only banks that have asset information for both years are included. Banks that were only active in 2007 or 2013 are also included if asset information is available for the year the bank is active. Countries in which less than 60 percent of the banks qualify are excluded from the sample altogether.

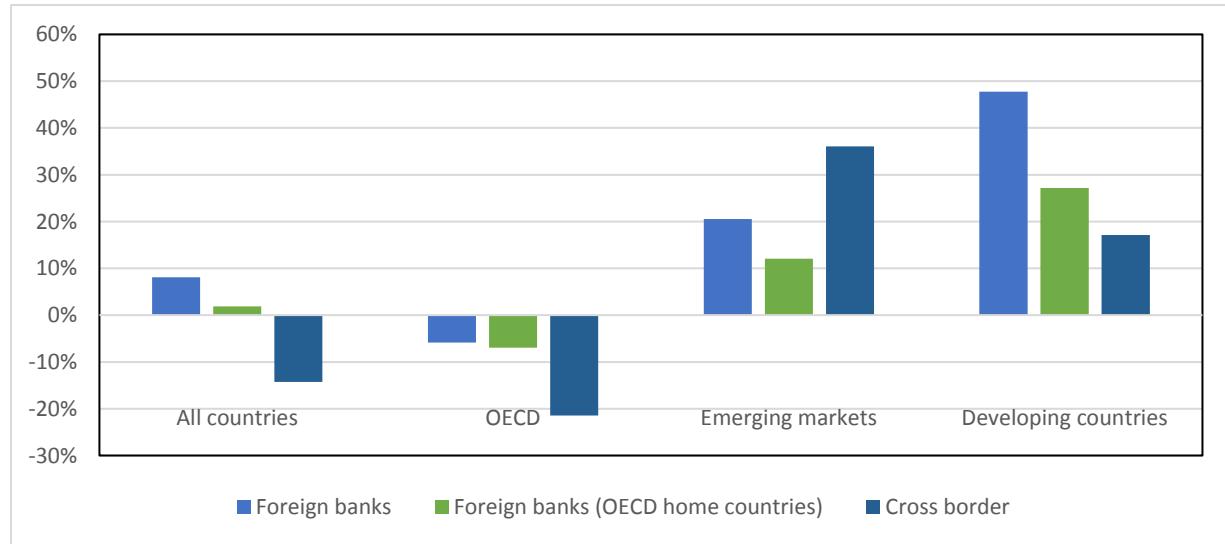
Figure 7: Changes in bilateral shares of foreign banks assets, 2007–2013.



Source: Claessens and van Horen (2015).

Note: Only banks that have asset information for both years are included. Banks that were only active in 2007 or 2012 are also included if asset information is available for the year the bank is active. Countries in which less than 50 percent of the banks qualify are excluded from the sample altogether. Only host countries and home-host pairs with at least one foreign bank active in 2007 and 2012 are included.

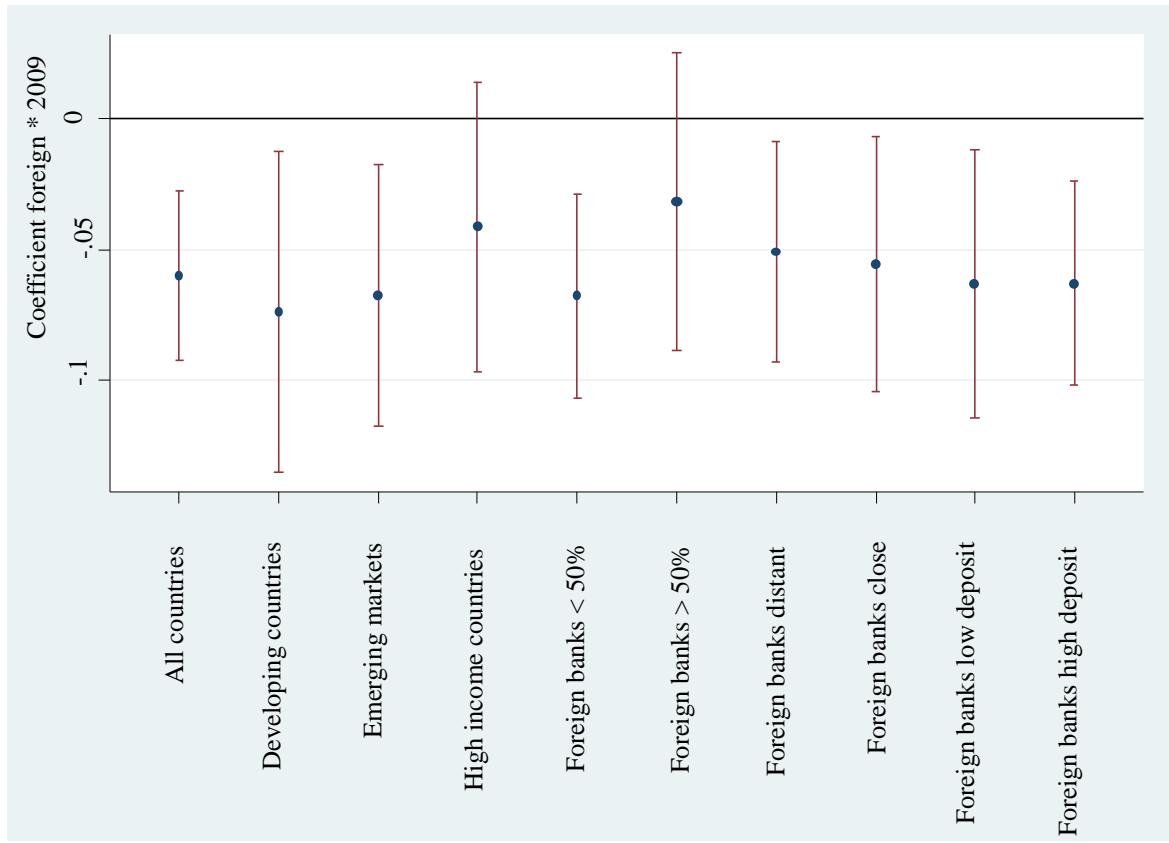
Figure 8: Growth rates of cross-border and local claims, 2007–2012.



Source: BIS IBS and Claessens and van Horen (2015).

Note: The chart shows growth rates over 2007–2012 in local lending of all foreign banks and of foreign banks from OECD home countries, and in cross-border lending. Local lending data are from Bankscope. Cross-border lending is based on BIS consolidated banking statistics on an ultimate risk basis; only lending by OECD reporting countries is included.

Figure 9: Credit growth during the global financial crisis, foreign vs. domestic banks.



Source: Claessens and van Horen (2013).

Note: The figure shows the point estimates and 5 and 95 percent confidence intervals of a foreign ownership dummy interacted with a dummy that is 1 if the year is 2009 in panel regressions estimated using different country samples. All regressions include several bank-level controls and bank and country-year fixed effects.

Table 1: Number and share of foreign banks from the home country group present in the host country group.

	2009									
	<i>Host income group</i>									
	<i>OECD</i>		<i>OHI</i>		<i>EM</i>		<i>DEV</i>		Total	
	Nr.	Share	Nr.	Share	Nr.	Share	Nr.	Share	Nr.	Share
<i>Home income group</i>										
<i>OECD</i>	272	0.31	18	0.02	413	0.47	180	0.20	883	1
<i>Other high-income</i>	10	0.14	4	0.06	38	0.54	18	0.26	70	1
<i>Emerging markets</i>	40	0.15	17	0.06	94	0.35	117	0.44	268	1
<i>Developing countries</i>	7	0.07	2	0.02	25	0.26	63	0.65	97	1

Source: Claessens and van Horen (2014b).

Note: “OECD” includes all core OECD countries. “Other high-income countries” includes all countries classified as high income by the World Bank in 2000 but not belonging to the OECD. “Emerging markets” includes all countries that are included in the Standard & Poor’s Emerging Market and Frontier Markets indexes and that were not high-income countries in 2000. “Developing countries” includes all other countries.