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The Impact of the Global Financial Crisis on Banking Globalization

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Although cross-border lending has fallen sharply since the crisis, foreign bank presence—that is, "brick-and-mortar" operations—declined much less. While OECD banks reduced their presence (though they still control 89 percent of foreign banks' assets), non-OECD banks more than doubled theirs. Banks from countries facing systemic crises exited (more distant) markets and curtailed their subsidiaries' growth. Banks were more likely to sell smaller, more recent investments and enter closer and more important trading partners, shunning crisis and euro area countries. Lending locally grew more than cross-border claims did, but related to different factors. Altogether, the paper shows that global banking is not becoming more fragmented, but rather going through some important structural transformations with a greater variety of players and a more regional focus. [JEL F21, F23, G21]
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In the wake of the global financial crisis, many commentators have posited that global financial integration has reversed,[1] pointing to the collapse in cross-border bank flows globally (for example, Milesi-Ferretti and Tille, 2011) and the fragmentation of financial markets within the euro area (for example, ECB, 2014; IMF, 2015). Although the collapse in capital flows and signs of financial fragmentation in certain regions are well documented, the developments in local foreign bank presence (that is, "brick-and-mortar" operations) are not as well documented, creating some confusion on the actual facts. This paper shows that in terms of foreign bank presence, the global banking system has not become more fragmented. Rather, the crisis has accelerated a number of structural transformations, with banks from a larger variety of home countries active abroad and a system that, while globally less integrated, is regionally more integrated.

It should come as no surprise that the debate surrounding the impact of the crisis on global financial integration has focused almost entirely on the behavior of (large) European and U.S. banks. After all, these banks were the main vehicles through which financial systems became more integrated globally before the crisis and the ones most affected by the crisis. The need to restore balance sheets and profitability and meet stiffer capital requirements and other regulatory changes aimed at strengthening banking systems in the wake of the crisis have in turn incentivized many of these banks to reduce their international operations. But focusing solely on the behavior of European and American banks does not provide a complete picture of the global banking landscape, as banks from emerging markets and developing countries are important global players as well (Van Horen, 2011; Beck and others, 2014; BIS, 2014; Claessens and Van Horen, 2014a. Furthermore, developments in banking systems globally do not necessarily mirror developments in one region (for example, Europe).

In this paper, we examine how the crisis and other (secular) developments have affected the foreign activities of all globally active banks (that is, not just banks in advanced economies) in a large number of countries. Using an updated version of the bank ownership database of Claessens and Van Horen (2014a), we study changes in foreign bank ownership between 2007 and 2013 and analyze factors associated with these changes.[2] Furthermore, we examine how developments in local lending by subsidiaries compare with those in cross-border lending. With bank-level data on ownership and balance sheet information for 5,498 banks in 138 countries that widely differ in economic and financial development, the database is ideally suited to shed light on these issues.

Analyzing the information in the updated bank ownership database reveals that the global financial crisis has affected foreign bank presence in a number of important ways. First, while the crisis resulted in some retrenchment globally as the importance of foreign banks in local financial intermediation declined

[1]For example, "Financial Fragmentation: Too Much of a Good Thing?" *The Economist*, October 12, 2013.

[2]The original database covers the period 1995–2009.

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somewhat, these aggregate developments did not affect host countries uniformly. Although some host countries experienced a decline in foreign bank presence between 2007 and 2013, others saw the importance of foreign banks in their markets rise. Furthermore, while at the end of 2013 bank ownership by OECD home countries still represented 89 percent of foreign bank assets globally, this is 6 percentage points less than before the crisis, mostly on account of a retrenchment by crisis-affected Western European banks. To the contrary, banks from non-OECD countries more than doubled their presence, mainly in their own geographical region. As a result, the global banking system now encompasses a larger variety of players and has become regionally more integrated.

Examining the factors associated with these changes at the individual bank level, we find that banks from countries hit by a systemic crisis at home—particularly banks from the euro area—exited. Relatively small and recent investments were more likely divested, and banks from crisis countries were more likely to sell off their far flung investments but keep their subsidiaries in more important trading partners. In terms of growth of existing operations, banks with systemic crises at home expanded their foreign assets less, controlling for general asset growth in the respective host market. Foreign banks in euro area host countries, however, reduced their assets less than local banks did, suggesting that these banks acted as a source of stability. Although more recent entrants and banks with a small market share before the crisis grew their balance sheets more, distant foreign banks experienced lower asset growth. Entry by banks from home and in host countries facing a systemic crisis and from and in euro area countries was less likely. Entry was more likely in countries where the (bilateral) presence of foreign banks was already large and that were closer to, had more trade links with, and experienced faster growing trade with the banks' home countries.

Many of these patterns relate to the growing importance of foreign banks from non-OECD countries. When we compare developments for banks from OECD countries vs. banks from non-OECD countries, we find that the former tend to drive the exit results, while the latter tend to drive the entry results. Finally, we find (exit) decisions of foreign banks to be more strategic and somewhat more driven by euro area factors in the second part of our sample period (2010–12) than in the first part (2007–10). All in all, results show that exiting and limiting the expansion of foreign operations vs. expanding and entering new markets is not only about crisis vs. noncrisis home countries. Rather, a number of factors previously identified in the literature and dynamics between them relate to the shifts and refocusing of strategies of internationally active banks.

As the debate about financial fragmentation has mainly concentrated on cross-border banking, we also compare developments in foreign bank local lending with those in cross-border claims. We find that local lending declined less during the crisis than cross-border claims did, consistent with the notions that foreign bank presence has been a relative source of stability and that cross-border lending is more procyclical. The entry by banks from non-OECD countries with relatively stronger balance sheets and greater willingness to

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expand credit seems to have mitigated declines in local lending in some markets. And while there are some common drivers, in general, there is little relation between developments in foreign bank local lending and in cross-border banking claims, further suggesting that foreign banks' local activity is quite distinct from cross-border lending.

Our data collection and analyses relate foremost to the literature on how the structure of a banking system matters and how it can change over time, including due to a crisis. A large literature has studied how the structure of a banking system —including its concentration, the degree of competition, and the shares of private vs. state banks or domestic vs. foreign banks—relates to financial sector efficiency and stability, including the incidence of crises (for example, Claessens, Demirgüç-Kunt, and Huizinga, 2001; La Porta, Lopez-De-Silanes, and Shleifer, 2002; Beck, Demirgüç-Kunt, and Levine, 2006; Beck and Martinez Peria, 2010; Beck, De Jonghe, and Schepens, 2013).[3] So far, however, very few studies provide insights into how crises affect banking system structures. It is clear, though, that the recent crisis in particular has led to some profound changes in banking systems around the world. Concentration, which was already increasing in many advanced economies for some time, further increased after the crisis (Laeven, Ratnovski, and Tong, 2014), raising concerns of "too big to fail" problems worsening (Strahan, 2013). How the crisis has affected the structure of banking systems in terms of foreign banks is less clear. Given the important roles of foreign banks in many markets and of global banking networks, documenting and understanding these changes are important steps.

Second, our work relates to the more general literature on financial globalization and its postcrisis evolution. While before the crisis, most saw financial globalization as clearly beneficial, some highlighted that the balance of benefits and risks is not obvious and can depend on many factors, including borrowing country characteristics (see Kose and others, 2010, for a review).[4] The crisis revealed some of these risks as it came with an unprecedented collapse in capital flows (as well as trade). Contrary to past episodes, all countries were affected, although emerging economies experienced a shorter-lived retrenchment than advanced economies did, as shown by Lane and Milesi-Ferretti (2012).

[3]See Claessens and Van Horen (2013) for a review of the literature on the impact of foreign banks during tranquil and crisis times.

[4]Although in basic theoretical models financial globalization should enhance international risk sharing, reduce consumption volatility, and foster economic growth, in practice effects are found to be less clear-cut. Kose and others (2010) show that before the financial crisis, risk sharing typically increased somewhat for advanced countries—consistent with their greater levels of financial openness—but did not noticeably affect emerging market and developing countries. Although financial globalization did not increase macroeconomic volatility or crisis frequency in countries with well-developed financial systems and a relatively high degree of institutional quality, it did increase volatility for countries that failed to meet these preconditions or thresholds. The link between financial globalization and economic growth is also found to be complex. Although foreign direct investment and other nondebt-creating flows are found to be positively associated with long-run growth, the impact of debt flows seems to depend on the strength of a country's policies and institutions.

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More generally, both borrower and lender characteristics seem to have played a role in the decline of and shifts in (the structure of) capital flows in general and cross-border bank lending in particular (Degryse, Elahi, and Penas, 2010; Cetorelli and Goldberg, 2011; Popov and Udell, 2012; De Haas and Van Horen, 2013; Kalemli-Ozcan, Papaioannou, and Perri, 2013; Minoiu and Reyes, 2013; Cerutti, 2015; and Cerutti, Hale, and Minoiu, 2015). This paper adds to this literature by providing important insights into how the crisis has affected financial globalization and global banking structures.

Lastly, our paper relates to the literature on the effects of foreign banks on financial stability, including on how cross-border banking flows and local lending relate. Although foreign banks have been found to help diversify risks when the host country is hit by a systemic shock (Goldberg, 2009; De Haas and Van Lelyveld, 2010), they can also introduce instability as banks can have incentives to repatriate liquidity and capital from their foreign affiliates when in trouble at home (Cetorelli and Goldberg, 2012), which reduce their local lending (Peek and Rosengren, 1997, 2000a), especially when not financed by local deposits (De Haas and Van Lelyveld, 2014). This negatively impacts the performance of local SMEs, especially those with single bank relationships and limited tangible assets (Ongena, Peydro, and Van Horen, 2015). Studying changes in both cross-border lending and local lending by subsidiaries, Cetorelli and Goldberg (2011) show that dollar funding shortages induced a contraction in both. McGuire and von Peter (2009) find that local lending by subsidiaries is more stable compared with cross-border lending, while Cerutti and Claessens (2014) find that ex ante balance sheet vulnerabilities and creditor-borrower characteristics affected changes in cross-border and affiliate lending differentially, suggestive of some barriers to moving resources within banking groups. How individual countries are affected by external shocks, however, has been found to vary much, in part related to heterogeneity in banking systems and ownership structures (for example, Peek and Rosengren, 2000b; Buch and Goldberg, 2015). By combining our bank ownership database with (confidential) BIS bilateral data on cross-border bank lending, we add to this literature by providing some novel insights into how, in the face of a large global shock, changes in local lending by foreign affiliates compare with changes in cross-border lending.

The remainder of the paper is structured as follows. Section I describes the construction of the database. Section II provides an overview of how foreign bank ownership has changed in the wake of the global financial crisis. Section III examines in detail the key variables related to changes—exit, entry, and growth—among foreign banks globally for subgroups of banks and for different time periods, and the section also provides various robustness tests. Section IV studies how changes in local lending by foreign banks and changes in cross-border lending relate. Section V concludes.

I. Data

To examine how the global financial crisis has affected foreign bank ownership, we extend the bank ownership database of Claessens and Van Horen (2014a) by

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adding four years so that it now covers the 1995–2013 period.[5] In addition, Taiwan is added, making the database cover 138 countries. Furthermore, we double checked the information for the years 1995–2009 and carefully went through mergers that took place following the global financial crisis.[6] The updated database contains ownership information of 5,498 currently and previously active commercial banks, saving banks, cooperative banks, and bank holding companies that reported financial statements to Bankscope for at least one year between 1995 and 2013.[7] For a detailed description of the database and its construction, see Claessens and Van Horen (2014a).

For each bank, we provide the year the bank was established and (if applicable) the year it exited the market.[8] We then identify the bank's shareholders for each year it was active between 1995 and 2013. We call a bank foreign owned when 50 percent or more of its shares are held by foreigners. This cutoff, standard in the literature, captures major changes in ownership and also further reduces the scope for errors (it is nearly impossible to collect exact shareholder information and changes therein over time for such a large sample of banks over a long period). For each year the bank is active, it is coded as either foreign- or domestic-owned.[9]

Next, for each foreign bank we determine the home country of its largest foreign shareholder by summing the percentages of shares held by foreigners (by country of residence) with the country with the highest percentage of shares then considered the home country. The country of ownership is based on direct ownership (that is, we do not consider indirect ownership). We do, however, take into account that, in some cases, the direct owner is an entity purely established for tax or legal purposes. In such cases, we record the country of nationality of the ultimate owner as the home country (these cases typically involve entities registered in Luxembourg, Mauritius, and Panama).[10]

[5]The data, in the original database and this update, were manually collected using many sources. These include, but are not limited to, (parent) bank websites and annual reports, banking regulatory agency/central bank websites, reports on corporate governance, local stock exchanges, SEC Form F-20, newspaper articles, and country experts.

[6]Information on mergers and acquisitions was mostly obtained from banks' individual websites. Although the database does not provide a specific indicator for the occurrence of a merger or acquisition, where relevant (detailed) information is often provided in accompanying notes.

[7]We exclude the holding company if the bank itself is also reporting as a separate entity to Bankscope; if this is not the case, we keep the holding company.

[8]If the exact year of establishment could not be determined, but additional information indicated that the bank was in operation prior to 1995 (for example, the presence of financial statements), we code 1500 as the fictive year of establishment. In terms of exit, we use in general the year the bank became inactive in Bankscope as the moment of exit, but cross-checked this information when necessary.

[9]For domestic banks, we do not make a distinction between private and state-owned.

[10]Over time, identifying home countries and tracing ownership information becomes more complicated since more banks raise equity through public capital markets offerings, resulting in more dispersed ownership structures with many anonymous shareholders with no controlling stakes. We therefore only consider block shareholdings when determining the country of ownership. Note that while most often the case, these foreign block owners need not be banks.

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Although the coverage is comprehensive, a few limitations apply. First, as we only include banks that reported financial statements to Bankscope, we mainly cover foreign-owned subsidiaries and not foreign branches, which in general do not report separate balance sheet information.[11] Second, we only include host countries with more than five active banks reporting to Bankscope in 2013. In addition, for the advanced countries in our sample, we restrict our coverage to the 100 largest banks in each country in terms of 2012 assets, so smaller (typically regional) banks are not included in the database for these countries (which especially reduces the coverage of banks in the United States). Despite these restrictions, for all countries included in our database, banks account for at least 90 percent of the banking system in terms of assets.

The new database contains 5,498 banks, of which 3,853 were active in 2013. We determined the complete ownership structure for all the years the bank is active, including the home country of its largest foreign shareholder, for 5,427 of the 5,498 banks in the sample (that is, 99 percent). Only partial ownership could be determined for 16 banks, and no ownership could be determined for 55 banks. In addition to ownership information, for each bank in the database we provide its consolidated and/or unconsolidated index number as used by Bankscope to allow balance sheet information to be easily added. All in all, the data provide an almost complete picture of bank ownership around the world for the 1995–2013 period.

II. The Global Banking System Before and After the Financial Crisis

The State of Foreign Banking at the Onset of the Global Financial Crisis

In our earlier work (Claessens and Van Horen, 2014a), we documented a sharp increase in foreign bank ownership from 1995 leading up to the crisis, which affected a large number of countries. The 1995–2007 period saw a steady increase in the number of foreign banks, from 755 in 1995 to 1,249 in 2007 (Figure 1 and Table 1).[12] Also, as the number of domestic banks decreased, reflecting consolidation driven by technological changes and deregulation as well as the occurrence of financial crises, the relative importance of foreign banks increased substantially, from a share of 19 percent in 1995 to 32 percent in 2007. In terms of assets—and

[11]The bias of not covering branches in terms of (changes in) the structure of global banking is not obvious (see Fiechter and others, 2011, for an analysis of the choice of subsidiaries vs. branches; Schoenmaker, 2013, for an analysis of (changes) in the relative share of subsidiaries and branches in the EU; and Fáykiss, Grosz, and Szigel, 2013, for a case study of factors driving conversion from subsidiaries to branches in Hungary after the global financial crisis).

[12]While included in the database, we exclude from all further analyses eight offshore host countries (Antigua and Barbuda, Bahrain, Barbados, Cyprus, Mauritius, Panama, Seychelles and Singapore) and 13 offshore home countries (Andorra, Bahamas, Bahrain, Barbados, Bermuda, Cayman Islands, Cyprus, Liechtenstein, Mauritius, Netherlands Antilles, Panama, Singapore and British Virgin Islands) as foreign investments in and by banks from these countries are likely driven by specific considerations. Furthermore, Taiwan is excluded as balance sheet information is mostly unavailable for its banks. Together, this reduces the number of banks active in 2013 from 3,853 to 3,613.

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Figure 1. Number and Share of Foreign Banks, 1995–2013

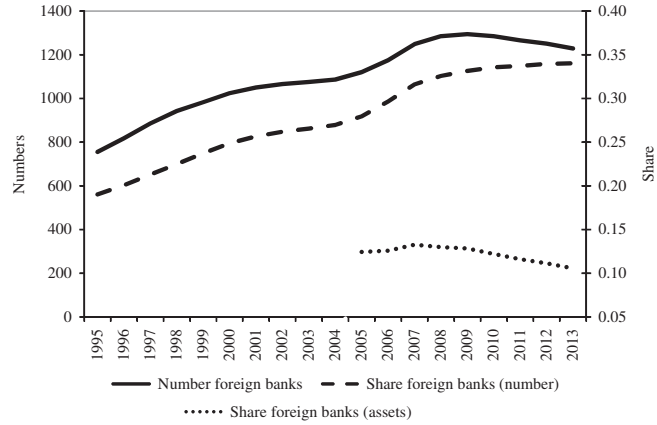

Table 1. Number and Assets of Banks by Host Country
(Aggregates by Income Level and Region)

	2007		2013		2007		2013	
	Number	Share	Number	Share	Asset	Share	Asset	Share
All countries								
Domestic	2,702	0.68	2,384	0.66	97,057	0.87	115,216	0.89
Foreign	1,249	0.32	1,229	0.34	14,850	0.13	13,590	0.11
Total	3,951	1	3,613	1	111,907	1	128,806	1
Income groups								
OECD								
Domestic	1,087	0.77	925	0.77	83,817	0.88	81,587	0.91
Foreign	319	0.23	280	0.23	11,385	0.12	8,409	0.09
Total	1,406	1	1,205	1	95,202	1	89,995	1
Non-OECD								
Domestic	1,615	0.63	1,459	0.61	13,240	0.79	33630	0.87
Foreign	930	0.37	949	0.39	3,465	0.21	5181	0.13
Total	2,545	1	2,408	1	16,705	1	38,811	1
of which:								
Other high-income								
Domestic	66	0.65	63	0.64	840	0.44	1344	0.41
Foreign	36	0.35	36	0.36	1,058	0.56	1911	0.59
Total	102	1	99	1	1,899	1	3,255	1
Emerging markets								
Domestic	1,045	0.66	933	0.64	11,855	0.84	31,589	0.91
Foreign	534	0.34	514	0.36	2,244	0.16	3,000	0.09
Total	1,579	1	1,447	1	14,099	1	34,589	1
Developing countries								
Domestic	504	0.58	463	0.54	545	0.77	696	0.72
Foreign	360	0.42	399	0.46	163	0.23	270	0.28
Total	864	1	862	1	708	1	966	1

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Table 1: (*Continued*)

	2007		2013		2007		2013	
	Number	Share	Number	Share	Asset	Share	Asset	Share
of which:								
East Asia and Pacific								
Domestic	297	0.79	285	0.74	7,532	0.96	22,834	0.98
Foreign	78	0.21	99	0.26	324	0.04	530	0.02
Total	375	1	384	1	7,856	1	23,364	1
Eastern Europe and Central Asia								
Domestic	432	0.54	375	0.53	1,474	0.57	2,890	0.70
Foreign	369	0.46	339	0.47	1,107	0.43	1,216	0.30
Total	801	1	714	1	2,581	1	4,106	1
Latin America and Caribbean								
Domestic	386	0.65	329	0.61	1,324	0.67	3,159	0.75
Foreign	210	0.35	207	0.39	652	0.33	1,062	0.25
Total	596	1	536	1	1,976	1	4,221	1
Middle East and North Africa								
Domestic	106	0.67	104	0.66	759	0.88	986	0.86
Foreign	53	0.33	53	0.34	99	0.12	157	0.14
Total	159	1	157	1	858	1	1,143	1
South Asia								
Domestic	148	0.89	142	0.88	882	0.93	1,966	0.95
Foreign	19	0.11	19	0.12	71	0.07	102	0.05
Total	167	1	161	1	953	1	2,068	1
Sub-Saharan Africa								
Domestic	180	0.52	161	0.45	429	0.74	451	0.69
Foreign	165	0.48	196	0.55	153	0.26	204	0.31
Total	345	1	357	1	582	1	654	1

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 and Poor's Emerging Market and Frontier Markets indices and that were not high-income countries in 2000. Developing countries includes all other countries. The regions represent the regional classification as used by the World Bank.

covering a shorter period due to more limited availability of balance sheet data—the foreign share equaled 13 percent in 2007, up slightly from 12.5 percent in 2005.[13]

There was much heterogeneity, however, in the (growth in) relative importance of foreign banks across host country and among home country of the parent banks. In the period leading up to the crisis, foreign bank presence was smaller and grew by much less in OECD countries than in non-OECD countries. In 2007, market shares in OECD countries equaled 23 percent and 12 percent in terms of number and asset shares, respectively, while in non-OECD countries, they equaled

[13]Balance sheet information in the current Bankscope database is very limited before 2005, making it impossible to provide reliable estimates of the asset share of foreign banks for earlier periods.

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Table 2. Number of Foreign Banks by Home Country
(Aggregates by Income Level and Region)

	2007		2013		2007		2013	
	Number	Share	Number	Share	Asset	Share	Asset	Share
All countries	1,249	1	1,229	1	14,850	1	13,590	1
Income groups								
OECD	873	0.70	747	0.61	14,116	0.95	12,041	0.89
of which:								
Western Europe	669	0.54	555	0.45	11,553	0.78	9,309	0.69
North America	165	0.13	148	0.12	2,061	0.14	1,953	0.14
Japan, Australia, and New Zealand	39	0.03	44	0.04	502	0.03	779	0.06
Non-OECD	376	0.30	482	0.39	734	0.05	1,549	0.11
of which:								
Other high-income	36	0.03	40	0.03	71	0.00	172	0.01
Emerging markets	243	0.19	316	0.26	602	0.04	1,278	0.09
Developing countries	82	0.07	109	0.09	46	0.00	65	0.00
of which:								
East Asia and Pacific	54	0.04	70	0.06	365	0.02	840	0.06
Eastern Europe and Central Asia	85	0.07	105	0.09	97	0.01	235	0.02
Latin America and Caribbean	47	0.04	64	0.05	23	0.00	89	0.01
Middle East and North Africa	49	0.04	62	0.05	52	0.00	65	0.00
South Asia	17	0.01	18	0.01	17	0.00	22	0.00
Sub-Saharan Africa	73	0.06	106	0.09	93	0.01	94	0.01

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 and Poor's Emerging Market and Frontier Markets indices and that were not high-income countries in 2000. Developing countries includes all other countries. The regions represent the regional classification as used by the World Bank. The sum of foreign banks in the different income groups does not completely correspond with the total number of foreign banks at the top of the table. This discrepancy is caused by the fact that when a foreign bank is owned by an international investor no home country has been assigned. In addition, for some foreign-owned banks no home country could be determined. Therefore those banks could not be assigned to an income group or region. The same holds for total assets. "Share" reflects the share with respect to the total number of foreign banks or total volume of foreign assets.

37 percent and 21 percent, respectively (see Table 1).[14] Although important country and regional differences exist (Tables A1 and A2 for detailed country-level data), in richer countries foreign banks tend to be small overall, while in poorer countries they tend to be larger.

Although foreign bank presence is, to a large extent, concentrated in non-OECD countries, most parent banks are headquartered in OECD countries. As shown in Table 2, in 2007 banks from OECD countries accounted for 70 percent of all foreign-owned banks and 95 percent of all foreign-controlled assets. However, a substantial

[14]The OECD group only includes the core OECD countries, and the non-OECD group includes all other countries. As such, current OECD countries like Hungary, Czech Republic, Korea, Poland, Slovakia, and Slovenia are included in the non-OECD group.

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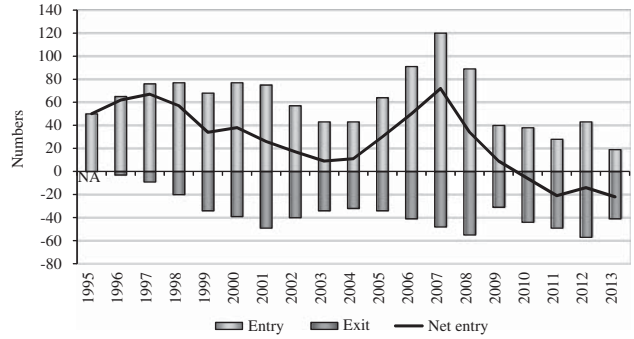
Figure 2. Number of Entries and Exits of Foreign Banks, 1995–2013



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

and growing number of foreign banks came from non-OECD countries, with banks from emerging markets (243) being the most active investors. Although quite substantial in numbers (30 percent), banks from non-OECD countries tend to be (very) small, however, representing only 5 percent of all foreign assets as of 2007.

The Impact of the Global Financial Crisis

Over the 2007–13 period, banking systems in many countries experienced important ownership transformations. This is not surprising, as a shock as severe as the global financial crisis is bound to have implications for the international expansion and investment decisions of globally active banks, especially those from countries heavily affected by the crisis. Yet, as some banks, either voluntary or forced, retrenched from foreign activities, others grasped opportunities to increase their market shares in foreign countries or expand abroad. The updated bank ownership database reveals that following the crisis, foreign bank presence has changed in four important ways.

First, the crisis led to some overall retrenchment as the importance of foreign banks in financial intermediation declined globally. Not surprising, the number of new foreign bank entries declined sharply in the years following the crisis (Figure 2). In 2013, only 19 foreign banks entered, about one-sixth as many as the peak of 120 in 2007. As the number of exits (that is, a sale to another foreign bank or domestic bank, or a complete closure) stayed roughly the same, net foreign bank entry turned negative in the years 2010-13 for the first time since 1995 (the year our database starts). As a result, the number of active foreign banks declined from 1,249 in 2007 (after peaking at 1,295 in 2009) to 1,229 in 2013 (see Figure 1 and Table 1). As the number of active domestic banks fell even more, from 2,702 in 2007 to 2,384 in 2013, the overall foreign bank share increased from 32 to 34 percent. However, since the overall balance sheets of foreign banks grew relatively less than those of domestic banks, the share of total assets controlled by

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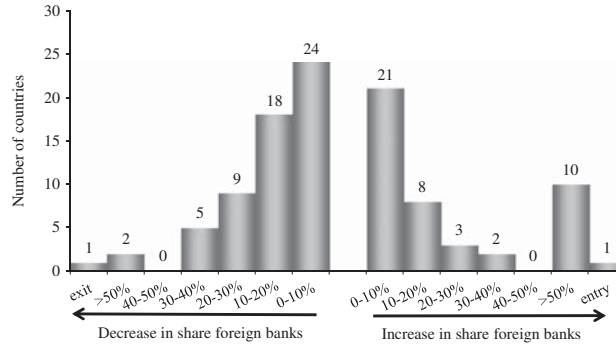
Figure 3. Change Share Foreign Assets, 2007–2013



Note: Only banks are included that have asset information for both years. 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.

foreign banks globally declined somewhat, from 13 percent in 2007 to 11 percent in 2013 (see Table 1).

Second, these aggregate developments did not affect all host countries uniformly. Figure 3 shows the distribution of the change in the asset share of foreign banks in each host country in which foreign banks were present in 2007.[15] Although all foreign banks in our sample only exited one host country over the past five years (Greece), in 58 countries foreign banks' role in financial intermediation decreased, with a median decline of 14 percent (an average of 16 percent). Over the same period, however, foreign banks' relative presence increased in 44 countries, with a median increase of 10 percent (an average of 42 percent). And in one host country with no foreign bank present in 2007, Oman, a foreign bank entered (due to the acquisition of Oman International Bank by HSBC).

Third, ownership shifted away from OECD toward non-OECD countries' parent banks. Between 2007 and 2013, the number of foreign banks owned by OECD countries decreased substantially from 873 to 747 banks, while at the same time the number of foreign banks owned by non-OECD countries continued to grow, even at a slightly accelerated pace, culminating in a total increase of 106 banks (Figure 4 and Table 2). While prior to 2002, OECD countries dominated net entry, and between 2003 and 2007 net entry was about equally divided between the two groups, in the wake of the crisis, the large net exit of foreign banks was completely on account of OECD countries, while banks from non-OECD countries still showed positive net entry in all years (Figure 5). As a result, banks from non-OECD countries saw the assets they controlled increase dramatically,

[15]To provide a meaningful comparison of the changes in the asset shares of foreign banks, we only include banks that have asset information for both years. Banks that are only active in 2007 or 2013 are also included, provided that asset information is available for all the years the bank is active. Countries in which less than 60 percent of the banks are covered this way are excluded from the sample altogether.

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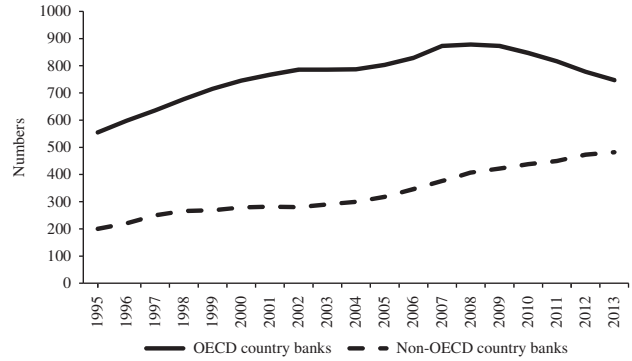
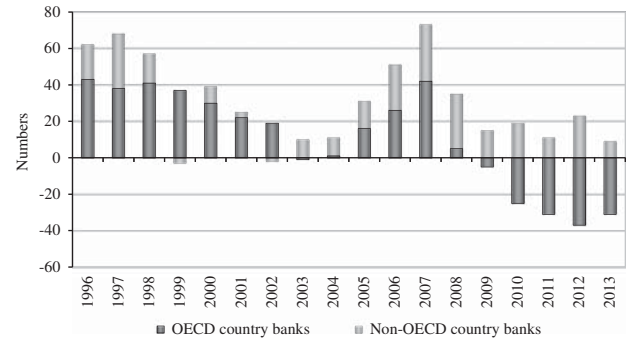
Figure 4. Number of Foreign Banks from OECD and Non-OECD Countries, 1995–2013



Note: OECD country banks includes foreign banks from all core OECD home countries. Non-OECD country banks includes all foreign banks from other high-income, emerging markets and developing country home countries. For exact country classification see the main text.

Figure 5. Number of Net Entries by OECD and Non-OECD Country Banks, 1996–2013



Note: Net entries reflect the number of entries minus the number of exits by banks from each country group. OECD country banks includes foreign banks from all core OECD home countries. Non-OECD country banks includes all foreign banks from other high-income home countries, emerging markets and developing countries. For exact country classification see the main text.

from $734 billion to $1,549 billion. Although still relatively small in terms of asset share, non-OECD banks now account for 11 percent of total foreign bank assets, a more than doubling compared with 2007. At the same time, OECD banks' controlled assets declined by some $2 trillion, or 6 percentage points.

Fourth, foreign bank presence has become less globalized and more regionalized. While in 2007, an average of 56 percent of foreign bank assets were owned by foreign banks headquartered in the same region as the host country, by 2012 it had increased to 60 percent (Figure 6). This increase happened in all regions (though less so in Europe, where foreign banking has traditionally been highly regional; see also ECB, 2013). Partly this relates to the (forced or voluntary)

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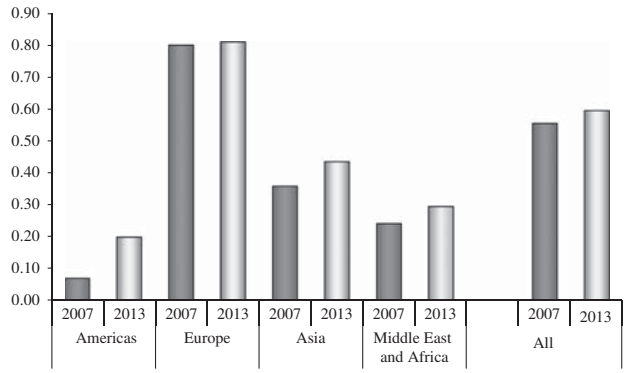
Figure 6. Share Foreign Banks from Within the Region
(by Region Before and After the Crisis)



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 American 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

sale of foreign operations by a number of crisis-affected European and American banks to some (well-capitalized) emerging markets' banks that were willing and able to seize investment opportunities within their own geographical region. For example, Russia's Sberbank bought the Central and Eastern European subsidiaries of Austria's Volksbank, Chile's Corpbanca bought the Colombian operations of Santander, and HSBC sold its operations in Costa Rica, El Salvador, and Honduras to Banco Davivienda of Colombia. However, it is also the result of some large acquisitions among OECD countries, like that of U.S. Commerce Bank by Canadian TD Bank.

Altogether these descriptive statistics show that the global financial crisis has been associated with important changes in global banking and patterns of foreign bank presence. While not more fragmented, global banking has gone through some important structural transformations with a greater variety of players and a more regional focus. In the next section, we will explore more in depth the factors associated with these changes.

III. Factors Associated with the Shifts in Global Banking

In this section, we exploit the unique bank-level information in our database to examine what factors at the individual bank, home country, host country, and home-host country pair levels are related to foreign bank exits, expansions, and entries in the wake of the global financial crisis.

Methodology

We focus on three questions: what factors relate to a bank from a particular home country's decision to exit a particular host country; what factors relate to the change

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in the size of a bank's balance sheet, provided that it remains present; and what factors relate to a bank from a particular home country's decision to enter a particular host country? In other words, in two questions we focus on the extensive margins and in one question we focus on the intensive margin. We study a number of variables that can be expected to relate to the decision of a foreign bank to retrench from a particular banking system in the wake of the crisis, to stay active in it and expand (or not), or to enter in it.[16]

Consistent with the three questions, we construct three dependent variables. The first one, *Exit*, is a dummy variable that is one if a bank z from home country i fully ends operations in host country j between 2007 and 2012 and zero when it remains present.[17] For this, we analyze in total 1,221 foreign banks from 80 home countries that were active in 116 host countries in 2007. Of these banks, 200 had exited by 2012. The second variable, *Growth*, equals the log change in the assets of foreign bank z from home country i in host country j between 2007 and 2012.[18] This variable is only calculated for those foreign banks that remain active in the host country (1,021 banks, of which 864 have asset information available in both years) and therefore only captures the organic growth of banks already present. There is big variation here: while on average, assets grew by 30 percent, 276 banks experienced negative growth. The third variable, *Entry*, is a dummy variable that is one if a foreign bank from home country i newly entered host country j by 2012 and zero if there was no new investment from a bank from home country i in host country j in 2012.[19] New entries occurred between 2007 and 2012 in 178 out of the 10,036 possible home-host country pairs.[20]

Our cross-sectional model for the three regressions is as follows:

$$\Delta Foreign_{i,j,z} = \alpha + \beta_1 X_i + \beta_2 M_j + \beta_3 Z_z + \beta_4 D_{i,j} + \varepsilon_{i,j,z},$$

where subscripts i and j denote the bank's home and host country, respectively, and subscript z denotes the individual bank. $\Delta Foreign_{i,j,z}$ is either *Exit, Growth,* or *Entry*; α is a constant and β_1, β_2, β_3, and β_4 are coefficient vectors; X_i is a matrix of various home country characteristics, M_j of host country characteristics, Z_z of bank characteristics, and $D_{i,j}$ of home-host country pair variables; and $\varepsilon_{i,j,z}$ is the error term. We use probit for the *Exit* and *Entry* regressions and OLS for the

[16]As in the previous section, we exclude all home and host countries that are offshore centers. In addition, in this and the next section, we also exclude all host countries in which less than 60 percent of the banks have asset information available in 2007.

[17]As we conduct this analysis at the bank level instead of the host country or bilateral level, we focus on changes between 2007 and 2012 and not 2013 as a larger share of banks has balance sheet information available in 2012 as compared with 2013.

[18]We dropped outliers at the 1st and 99th percentile. Results are robust to winsorizing instead.

[19]In some cases, more than one bank from the same home country entered the same host country between 2007 and 2012. These cases (17 percent) are considered as one entry.

[20]We only consider as possible host countries those countries with at least one foreign bank present in 2007 and/or 2012 and as possible investors' only banks from home countries with foreign investment by at least one bank in 2007 and/or 2012.

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Growth regressions. All regressions include a constant. Standard errors are heteroscedasticity robust and clustered at the host country level.[21]

As Section II made clear, changes in foreign bank presence since the crisis differ importantly by host and home countries. The main differential characteristic seems to be whether the country experienced a systemic banking crisis or not. We therefore include the dummies *Home crisis*$_i$ and *Host crisis*$_j$, which are one if the home or host country experienced a banking crisis over the 2007–12 period as defined by Laeven and Valencia (2013). Naturally, we expect a crisis in the home country to negatively impact bilateral foreign presence (that is, more exit, less growth, and less entry) as banks from such countries likely face financial market and regulatory pressures at home, including pressures to pull back from foreign operations. We are more agnostic about the relationship with a crisis in the host country. On the one hand, a crisis in the host country could make foreign banks pull out, contract their balance sheets, and not start new operations in the country. On the other hand, parent banks, especially in home countries not affected by a crisis themselves, might support their local affiliates and weather the storm (De Haas and Van Lelyveld, 2010) or expand and even enter a market at the time of a crisis in order to gain market share afterwards.[22]

Since banks in the euro area were not only affected by the global financial crisis but also by the European sovereign debt crisis and in general tend to be more international, we also allow the home and host effects to vary for those banks from or investing in the euro area by including two additional dummies, *Home in euro area*$_i$ and *Host in euro area*$_j$. We expect banks from euro area countries to more likely exit, less likely expand their balance sheets, and less likely enter a new country. As a host, however, similar to the host crisis effect, euro area countries may see more or less exit, growth, and inward investments by foreign banks depending on whether parents (especially those less affected by the crisis) support their subsidiaries and/or consider this an opportunity to invest.

In addition, we explore the role of competition by foreign banks in the host country, but allow it to vary with respect to the home country of the foreign bank. *Foreign market share—Same country*$_{ij}$ captures the market share of foreign banks at the bilateral level and equals the sum of assets held by banks from home country i divided by total bank assets in host country j in 2007 (assets of the bank itself are excluded). And *Foreign market share—Other country*$_{kj}$ equals the sum of all assets held by foreign banks from other home countries ($k \neq i$), again divided by all bank assets in the host country j in 2007. A priori, the signs of these variables are not clear. As Claessens and Van Horen (2014a) show, lending by foreign banks tends to be more stable when foreign banks represent an important share of the local banking system. We can therefore expect foreign banks to less likely pull out, still

[21]In one of our robustness tests, we show that results are similar when clustering at both the home and host country levels.

[22]Since income levels in home and host countries are closely related to whether the country experienced a crisis recently or not (correlations of 0.63 and 0.66, respectively), we do not include income level in the regressions. Including the log of GDP per capita in 2007 of the host and home countries, however, does not alter the main regression results.

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grow their balance sheets, and more likely enter when their overall presence is larger. At the same time, higher foreign bank presence from the same or other host countries may indicate a more competitive environment, especially after the crisis, making exit more likely, and growth and entry less likely. In the growth regression, we also control for overall asset growth in the country, *Asset growth host*$_j$. Adding this control variable allows us to capture how the behavior of foreign banks compares with that of local banks and also to control for economic growth in the host country.

We next consider two bank-specific variables. One is the variable *Market share*$_{z,j}$, which equals the sum of the assets held by foreign bank z divided by all bank assets in the host country j in 2007. We expect banks that have a small market share themselves to more likely exit, in part because the crisis forces them to rationalize their (international) operations, making them sell or close smaller subsidiaries. At the same time, if they decide to stay put, such smaller banks may have more room to expand their balance sheets. We also consider the length of foreign presence using a dummy *Young*$_z$ which is 1 when the bank has been present for five years or less in the country. We expect younger banks to be easier shed, yet, when staying, to have greater scope for asset growth. Both market share and age variables are, of course, not applicable when analyzing entry.

Finally, we include a number of bilateral variables. We include *Distance*$_{ij}$, which equals the log distance between the home and host countries. Reflecting transaction costs and the degree of information asymmetries, distance has been found to importantly affect the presence of foreign banks (Buch and DeLong, 2004) and the probability of banks to reduce their cross-border lending after the Lehman bankruptcy (De Haas and Van Horen, 2013). Accordingly, we could expect banks to exit and possibly reduce their foreign presence more in those host countries that are further from the country where they are headquartered, and to more likely enter those countries closer to home. At the same time, as Claessens and Van Horen (2014b) show, the relationship between foreign bank presence and distance is complex, as distance relative to other competitors can determine entry (and exit) decisions. As such, the importance of distance itself is not obvious a priori.

In addition to distance, we also include trade between the home and the host countries at the start of the global financial crisis and its growth between 2007 and 2012, *Trade*$_{ij}$ and *Trade growth*$_{ij}$. This is to control both for the intensity of economic relationships between the two countries as well as for trade developments since the global crisis, which was accompanied by a general collapse in trade. To analyze whether these effects were stronger for banks from home countries that experienced a financial crisis, in additional regressions we interact these three variables with the home crisis dummy. Details on exact variable definitions and sources can be found in Table A3.

Main Results

Table 3 presents our main results. The first four columns show the results for the dependent variable *Exit*, the next four for the variable *Growth*, and the last four for the variable *Entry*. For each of the three variables, we first include the explanatory

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Table 3. Factors Associated with Changes in Foreign Bank Presence

	Exit				Growth				Entry			
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]
Asset growth host					0.699***	0.725***	0.727***	0.697***				
					(0.068)	(0.088)	(0.080)	(0.084)				
Home crisis	0.094***	0.093***	0.098***	–0.012	–0.260***	–0.271***	–0.229***	–0.463	0.020***	0.018***	0.005**	–0.018**
	(0.025)	(0.025)	(0.025)	(0.215)	(0.049)	(0.047)	(0.049)	(0.327)	(0.004)	(0.004)	(0.002)	(0.008)
Home in euro area	0.089***	0.079***	0.076***	0.078***	0.029	0.032	0.029	0.038	–0.002	–0.002	–0.004**	–0.004**
	(0.029)	(0.031)	(0.031)	(0.031)	(0.054)	(0.053)	(0.052)	(0.053)	(0.003)	(0.003)	(0.002)	(0.002)
Host crisis	0.021	0.002	0.014	0.024	–0.042	–0.029	–0.011	–0.010	–0.001	0.000	–0.006***	–0.005***
	(0.023)	(0.025)	(0.027)	(0.027)	(0.078)	(0.088)	(0.078)	(0.078)	(0.003)	(0.004)	(0.002)	(0.002)
Host in euro area	–0.037	–0.027	–0.030	–0.026	0.101	0.110	0.141*	0.149*	–0.008**	–0.008**	–0.007***	–0.007***
	(0.027)	(0.028)	(0.027)	(0.028)	(0.097)	(0.100)	(0.077)	(0.076)	(0.004)	(0.004)	(0.002)	(0.002)
Foreign market share		0.077	0.108	0.130		0.175	0.277	0.257		0.093***	0.029**	0.03**
—Same country		(0.099)	(0.103)	(0.104)		(0.198)	(0.226)	(0.219)		(0.018)	(0.013)	(0.012)
Foreign market share		–0.003	–0.043	–0.054		0.136	0.053	0.036		0.000	0.005	0.005*
—Other country		(0.035)	(0.043)	(0.044)		(0.098)	(0.086)	(0.091)		(0.005)	(0.003)	(0.003)
Market share		–0.575**	–0.716***	–0.756***		–0.567**	–0.750***	–0.747***				
		(0.230)	(0.259)	(0.264)		(0.227)	(0.242)	(0.242)				
Young		0.061***	0.052**	0.047**		0.127**	0.096*	0.093*				
		(0.022)	(0.023)	(0.024)		(0.052)	(0.052)	(0.052)				

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Table 3: (*Continued*)

	Exit				Growth				Entry			
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]
Distance			0.002	−0.037			−0.032	−0.071**			−0.007***	−0.008***
			(0.010)	(0.024)			(0.020)	(0.034)			(0.001)	(0.001)
Trade			−0.014***	0.005			−0.029***	−0.015			0.003***	0.003***
			(0.005)	(0.008)			(0.010)	(0.015)			(0.000)	(0.001)
Trade growth			−0.042	−0.010			0.134**	0.119			0.003**	0.001
			(0.030)	(0.058)			(0.062)	(0.103)			(0.001)	(0.002)
Distance×Home crisis				0.044*				0.052				0.003**
				(0.026)				(0.042)				(0.001)
Trade×Home crisis				−0.027***				−0.024				0.001
				(0.010)				(0.021)				(0.001)
Trade growth×Home crisis				−0.045				0.034				0.005*
				(0.067)				(0.108)				(0.003)
Number of obs.	1,221	1,145	1,129	1,129	864	863	848	848	10,036	9,751	9,052	9,052
(Adjusted) R^2	0.048	0.061	0.065	0.072	0.244	0.259	0.290	0.293	0.024	0.038	0.168	0.172

Note: The dependent variable *Exit* in columns (1)–(4) is a dummy which is one if a bank from home country *i* active in 2007 in host country *j* seized its operations in the host country by end 2012, and zero when it remained present. The dependent variable *Growth* in columns (5)–(8) equals the log change in assets between 2007 and 2012 of the foreign bank from home country *i* active in host country *j*. *Entry* in columns (9)–(12) is a dummy which is one if a foreign bank from home country *i* newly entered host country *j* by 2012, and zero if no new investment from a bank from home country *i* in host country *j* took place. All variable definitions and their sources can be found in Table A3. The models in columns (1)–(4) and (9)–(12) are estimated using probit and in columns (5)–(8) using OLS. All regression coefficients are marginal effects. Regressions include a constant and the standard errors are clustered at the host country level. Robust standard errors appear in parentheses and ***, **, * correspond to the 1, 5, and 10 percent level of significance, respectively.

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variables that capture home and host country characteristics (*Home crisis, Home in euro area, Host crisis* and *Host in euro area*, and *Asset growth host* in the growth regression). Next, we include the variables that capture competition by foreign banks in the host country (*Foreign market share—Same country* and *Foreign market share—Other country*) and the individual bank characteristics (*Market share* and *Young)* where applicable. We then include the bilateral variables *Distance, Trade*, and *Trade growth* in the third set of regressions. Lastly, we include, besides all other variables, the three bilateral variables interacted with the *Home crisis* dummy to determine whether a crisis in the home country affected the roles of these last three factors disproportionally.[23]

The base result for the exit regression (column 1) shows that banks from a particular home country are more likely to completely pull out when the country is experiencing a banking crisis and when it is from a euro area country.[24] A systemic crisis in the host country does not significantly affect exit, which could reflect opposing forces. On the one hand, foreign banks can support their subsidiaries when the host country is in crisis (and the home country is not), as De Haas and Van Lelyveld (2010) have found. On the other hand, a host systemic crisis makes for less profitability opportunities and therefore could increase a parent's willingness to exit the market. Overall, these two effects seem to have balanced each other out.

Competition from other foreign banks (column 2), proxied by foreign bank presence from the same or other home countries, does not play a significant role in a bank's decision to exit a market. Individual bank characteristics do matter, however. Notably, banks with smaller market shares and those more recently established are more likely to exit. As far as bilateral variables are concerned (column 3), few are significant: banks only exit less likely countries with greater trade links. However, once we allow the bilateral variables' effects to vary between banks from home countries that experienced a crisis and those that did not (column 4), we find that the former are more likely to withdraw from markets more distant and less important as trading partners.

In the next four columns, we study the growth in the foreign bank's local assets between 2007 and 2012 (that is, the organic growth of bank z from home country i already present in host country j in 2007). We find the adjustment in bank assets to relate importantly to the overall growth in host country banking assets (column 5), with a coefficient of about 0.7. This is not surprising given that the general growth of a banking system, including that of foreign banks, will to a large extent be driven by local host factors, including overall economic growth. In terms of home country characteristics, the growth of a bank's assets tends to be lower if the home country experienced a crisis, suggesting that such banks were less able (or willing) to

[23]We also examined whether the impacts of *Market share* and *Young* were different if the home country experienced a crisis. As this was not the case, we did not include these interactions in the regressions.

[24]Note that all euro area home countries experienced a banking crisis during the sample period, so the parameter captures an additional crisis effect for these countries.

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support their subsidiaries. Other home or host country characteristics and conditions, however, do not seem to be correlated with foreign banks' asset growth.

While competition by foreign banks in the host market does not play a role, individual bank characteristics do matter. We find that banks with a smaller market share and that are younger experienced higher asset growth (column 6). This suggests, as expected, that the scope for growth is higher for smaller and younger banks. It could also reflect that banks from OECD countries, typically larger, are retrenching, while banks from non-OECD countries, typically smaller, are increasing their market shares.

When we next include distance, trade, and trade growth (column 7), we find that distance has an (somewhat) adverse impact on asset growth, as does the degree of trade links. The distance result is consistent with the idea that banks have greater difficulty managing far-fetched subsidiaries. Furthermore, we find that trade growth and asset growth are positively correlated, in line with the finding of Claessens, Hassib, and Van Horen (2015) that the presence of foreign banks can facilitate trade. These bilateral effects are less robust, though, and do not differ for banks from crisis countries vs. noncrisis countries (column 8). Including these bilateral variables, however, makes the host euro area dummy significantly positive. Given that we control for overall asset growth, this suggests that foreign banks grew their assets in these countries more than domestic banks did, suggestive of a stabilizing role.

In columns 9–12, we study the entry decisions. Results show that the drivers of *Entry* are not always the same as those for *Exit* and *Growth*. We find, surprisingly, that the home crisis dummy is positive (column 9). However, this is largely due to the expansion of Russian Sberbank, which bought the Eastern European subsidiaries of Austrian Volksbank, and the pan-African expansion of Nigerian United Bank for Africa—banks from two crisis-affected countries. Without these two countries, the sign of the coefficient is negative (but statistically insignificant). In terms of host characteristics, being a euro area host country makes, unsurprisingly, for less entry. Competition by foreign banks has a positive impact, as entry tends to be higher when the foreign market share from the same home country is higher (column 10), perhaps as it reduces the degree of information asymmetries about opportunities in the country. It can, however, also reflect a desire of banks to redirect their business to fewer and more core markets.

We find that entry importantly depends on distance (column 11), in that faraway countries experience less entry. This is consistent with the general literature and with the fact that banks from non-OECD countries (responsible for the majority of entries over this period) tend to invest in their own geographical region. Bilateral trade and growth in such trade is also positively correlated with entry, presumably as they reflect greater familiarity and more economic opportunities.[25] Overall, distance between home and host, trade, and trade growth

[25]In addition, the positive correlation might be the result of the entry of a foreign bank facilitating trade as found by Claessens, Hassib, and Van Horen (2015).

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explain much as these bilateral variables add some 13 percentage points in explanatory power, R^2, the most of all sets combined. Lastly, we examine to what extent the importance of these distance variables differs between crisis and noncrisis home countries (column 12). We find for crisis countries the role of distance to be somewhat mitigated (but still overall negative) and trade growth to be more strongly correlated with entry.

Differences Across Home Countries

We next examine whether the importance of factors driving these developments varies by the home country of the foreign bank. In our sample, as of the end of 2007, 70 percent of the foreign banks were owned by a bank headquartered in an OECD country. At the same time, banks from these countries, and especially those from the euro area, were more affected by systemic crises. Furthermore, as previously noted, banks from non-OECD countries have become more important in foreign banking, reflecting their growing role in the world economy. Indeed, while OECD home countries account for 85 percent of the exits since 2007, they account for only 43 percent of the entries.[26] The subset of euro area home countries accounts for 61 percent of the exits and only 21 percent of the entries.

In the next set of regressions, we therefore split the sample into banks coming from OECD home countries vs. banks from non-OECD home countries and analyze separately the factors correlated with exit, growth, and entry decisions of banks from euro area home countries. We compare the behavior of these three types of banks using the baseline model without interactions (Table 3, columns 3, 7, and 11) as within these groups most foreign banks come from either a crisis country or a noncrisis country, generating multicollinearity problems by also including the interactions.

The results, reported in Table 4, show that in terms of exit, the group of OECD home countries determine almost all results in that all statistically significant coefficients are found for this subsample and only one (*Market share)* for the non-OECD home countries (columns 1 vs. 3). This is not surprising, given that most non-OECD banks were not selling their subsidiaries. Although operations with small market share were more likely abandoned by banks from all three types of home countries, trade linkages and the age of the foreign bank were especially importantly associated with exit decisions by banks from non-OECD countries. Furthermore, competition by other foreign banks appears to be a reason for banks to stay put, but this effect largely reflects the desire of banks to stay present in large financial centers like the United Kingdom, Luxembourg, and Switzerland.[27] Regression results for the euro area home countries (column 2) are largely similar to those for OECD home countries. Interestingly, the results show that foreign

[26]Note that these numbers differ somewhat from those provided in Section II. This is due to the smaller subsample of host countries that we use here as we drop those host countries where less than 60 percent of the banks have asset information available.

[27]When excluding these financial centers the parameter becomes insignificant.

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Table 4. Factors Associated with Changes in Foreign Bank Presence—Differences Across Home Countries

	Exit			Growth			Entry		
	OECD [1]	Euro area [2]	Non-OECD [3]	OECD [4]	Euro area [5]	Non-OECD [6]	OECD [7]	Euro area [8]	Non-OECD [9]
Asset growth host				0.741***	0.975***	0.675***			
				(0.114)	(0.181)	(0.134)			
Home crisis	0.154***		0.017	−0.248**		−0.140	−0.004		0.004**
	(0.030)		(0.637)	(0.077)		(0.099)	(0.007)		(0.012)
Home in euro area	0.073**			0.115*			0.005		
	(0.034)			(0.058)			(0.005)		
Host crisis	0.032	0.050	0.000	−0.046	−0.113	0.115	−0.005	0.005	−0.006***
	(0.036)	(0.052)	(0.047)	(0.100)	(0.104)	(0.153)	(0.006)	(0.009)	(0.002)
Host in euro area	−0.038	−0.088*	0.028	0.188**	0.263***	0.259	−0.014***	−0.015	−0.007*
	(0.030)	(0.045)	(0.071)	(0.077)	(0.086)	(0.232)	(0.004)	(0.010)	(0.004)
Foreign market share—Same country	0.152	0.305	0.062	0.200	0.165	1.709**	0.031	0.043	0.073***
	(0.113)	(0.182)	(0.330)	(0.229)	(0.332)	(0.711)	(0.029)	(0.043)	(0.022)
Foreign market share—Other country	−0.094*	−0.063	0.068	0.025	−0.065	0.109	0.018**	0.028***	0.002
	(0.054)	(0.081)	(0.060)	(0.121)	(0.168)	(0.143)	(0.009)	(0.010)	(0.003)
Market share	−0.816***	−2.095***	−0.665*	−0.557**	−0.624*	−1.186**			
	(0.316)	(0.517)	(0.373)	(0.249)	(0.369)	(0.465)			
Young	0.060**	0.026	0.030	0.066	0.099	0.112			
	(0.026)	(0.034)	(0.034)	(0.057)	(0.062)	(0.075)			

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Distance	0.004	0.000	−0.006	0.007	−0.046	−0.082*	−0.006**	−0.002	−0.006***
	(0.794)	(0.023)	(0.017)	(0.025)	(0.035)	(0.045)	(0.003)	(0.004)	(0.001)
Trade	−0.024***	−0.023*	0.002	−0.024	−0.024	−0.041*	0.008***	0.008***	0.001***
	(0.008)	(0.012)	(0.007)	(0.012)	(0.015)	(0.021)	(0.001)	(0.002)	(0.000)
Trade growth	−0.052	−0.027	−0.030	0.079	−0.135	0.181	0.012***	0.012*	0.001
	(0.039)	(0.075)	(0.043)	(0.061)	(0.109)	(0.124)	(0.004)	(0.007)	(0.001)
Number of obs.	816	473	313	595	334	253	2,314	1,213	6,738
(Adjusted) R^2	0.073	0.056	0.054	0.274	0.325	0.221	0.134	0.127	0.208

Note: In columns (1), (4), and (7) only banks are included where the home country is an OECD country. In columns (2), (5), and (8) only banks are included where the home country is a euro area country. And in columns (3), (6), and (9) only banks are included where the home country is a non-OECD country. The dependent variable *Exit* in columns (1)–(3) is a dummy which is one if a bank from home country *i* active in 2007 in host country *j* seized its operations in the host country by end 2012, and zero when it remained present. The dependent variable *Growth* in columns (4)–(6) equals the log change in assets between 2007 and 2012 of the foreign bank from home country *i* active in host country *j*. *Entry* in columns (7)–(9) is a dummy which is one if a foreign bank from home country *i* newly entered host country *j* by 2012, and zero if no new investment from a bank from home country *i* in host country *j* took place. All variable definitions and their sources can be found in Table A3. The models in columns (1)–(3) and (7)–(9) are estimated using probit and in columns (4)–(6) using OLS. All regression coefficients are marginal effects. Regressions include a constant and the standard errors are clustered at the host country level. Robust standard errors appear in parentheses and ***, **, * correspond to the 1, 5, and 10 percent level of significance, respectively.

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banks from euro area home countries pulled back less from euro area host countries, suggestive of a somewhat stabilizing influence of foreign banks within the euro area.

In terms of asset growth (columns 4–6), thus conditioning on staying in the country, we find in contrast that banks from non-OECD home countries also importantly drive developments as more factors are important for that sample. And not the same factors are equally important for the three sets of home countries. For example, foreign banks from OECD crisis countries grew their assets significantly less, while foreign banks from non-OECD crisis countries did not. Furthermore, being a foreign bank in a euro area host country is important for OECD countries (with the impact driven by euro area home countries), with these foreign banks experiencing stronger asset growth in these markets (since we control for overall host country asset growth, suggesting again a stabilizing influence), whereas this variable is not significant for non-OECD home countries. At the same time, while for all three types of home countries smaller banks tend to grow faster, competition faced from foreign banks of the same country and being at a greater distance have more importance for non-OECD home countries, suggesting that prior familiarity matters more for these banks.

For the decision to enter (columns 7–9), we find only trade to be similarly important across all three groups of countries. Whether the host country faces a systemic crisis has a deterring impact on banks from non-OECD home countries but does not matter for the other two groups of banks. However, both non-OECD and OECD home countries shy away from entering euro area host countries. And while OECD banks are more likely to enter host countries with a larger presence of foreign banks from all other home countries, banks from non-OECD countries are only more likely to enter a country with a larger presence of banks from their own country. At the same time, distance relates negatively to the decision to enter a market for banks from both OECD and non-OECD home countries, while it does not matter for euro area banks. When comparing the R^2 across the three regressions, it is clear that entry decisions of non-OECD banks are more importantly related to these factors than those of OECD and euro area banks.

Together, these exit, growth, and entry results suggest that, under pressure to consolidate, foreign banks from OECD countries pulled out of countries with whom they were less connected, where they had a small presence, and in which they had only recently invested (such cases include Italian Unicredit selling ATF in Kazakhstan and Dutch ING bank dissolving its subsidiary in Venezuela). Furthermore, while most banks understandably shied away from starting new operations in the euro area, foreign banks from OECD countries, and especially from within the euro area, grew their balance sheets relatively fast compared with domestic banks in euro area host countries, and as such seem to have acted as a stabilizing force in the euro area. At the same time, non-OECD banks, with only limited desire to exit in the first place, exited in less systematic ways. They also grew their balance sheets faster, in part as their operations were (still) small, and were more willing to enter new markets, provided markets were closer, had more trade links prior to entry, were not in a crisis or in the euro area, and already had

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some banks present from the same home country. These regression results thus confirm many of the trends noted in the raw statistics and highlighted in the earlier section.

Different Phases of the Crisis

The motivation of banks to pull out, adjust their balance sheets, or enter is clearly, in part, crisis-related. To investigate whether the patterns varied over time, we split our sample period into two: 2007–10 and 2010–12. The first period is when the globalization of banking phenomenon took a big reversal across many countries. The second period, which covers the European sovereign debt crisis, is more crisis-intense and specific to the euro area countries.

We use the same model as in columns 4, 8, and 12 of Table 3 to compare the two periods. The entry, exit, and growth variables are defined as before, but now reflect changes between 2007 and 2010 and between 2010 and 2012, respectively. Both crisis dummies are redefined to be one if a crisis took place in the home or host country within the stated time period. The market share of other foreign banks, the market share of the bank itself, the bank's age, and trade between the home and host countries are measured in 2007 for the first period and in 2010 for the second period. Trade growth is measured between 2007 and 2010 for the first period and between 2010 and 2012 for the second period.

Table 5 reports the regression results. For the exit regressions, the explanatory power is higher, and more variables are statistically significant for the second period than for the first period (column 2 vs. column 1). This could reflect that, as time passed, banks made more strategic choices as to whether to sell off or close. Also, for some European banks that were intervened and received state support, the EU competition policy agency dictated which subsidiaries had to be sold, and as such decisions made were less driven by bank, home, or host country characteristics. Maybe surprising, foreign banks from euro area countries were as likely to exit during the sovereign debt crisis as during the global financial crisis. However, during the sovereign debt crisis, foreign banks were less likely to exit euro area host countries and grew their balance sheets faster relative to their domestic peers in these countries (with both effects driven by euro area parent banks, as per the previous section), suggesting that foreign banks played a stabilizing role in the euro area during the sovereign debt crisis.

In terms of asset growth (columns 3 and 4), there are few differences between the two periods. Although in both periods banks with a smaller market share expanded faster, younger banks only grew faster in the first period. Otherwise, the results are qualitatively similar to the overall sample, but fewer variables are significant.

In terms of entry, we largely find the same results for both periods (columns 5 and 6). Banks were more likely to enter in both periods if the (bilateral) market share and trade were larger and distance was shorter. Also, hosts experiencing a crisis, whether euro area or not, saw significantly fewer entries in both periods. Banks headquartered in a country that experienced a crisis were less likely to

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Table 5. Factors Associated with Changes in Foreign Bank Presence—Different Phases of the Crisis

	Exit		Growth		Entry	
	2007–10	2010–2012	2007–2010	2010–2012	2007–2010	2010–2012
	[1]	[2]	[3]	[4]	[5]	[6]
Asset growth host			0.637***	0.684***		
			(0.119)	(0.091)		
Home crisis	–0.100	0.113	–0.316	–0.175	–0.019**	0.007
	(0.212)	(0.104)	(0.289)	(0.199)	(0.008)	(0.015)
Home in euro area	0.046**	0.045***	0.017	–0.001	–0.003**	–0.002*
	(0.020)	(0.017)	(0.046)	(0.031)	(0.001)	(0.001)
Host crisis	–0.028	0.031*	–0.040	–0.056	–0.004*	–0.002**
	(0.021)	(0.018)	(0.058)	(0.042)	(0.002)	(0.001)
Host in euro area	0.016	–0.024*	–0.024	0.105***	–0.006***	–0.002***
	(0.029)	(0.013)	(0.069)	(0.035)	(0.001)	(0.001)
Foreign market share—Same country	0.010	0.057	0.141	0.000	0.024***	0.010**
	(0.085)	(0.053)	(0.165)	(0.099)	(0.009)	(0.005)
Foreign market share—Other country	–0.024	–0.014	–0.058	0.098	0.002	0.003**
	(0.030)	(0.026)	(0.080)	(0.063)	(0.002)	(0.001)
Market share	–0.484**	–0.425**	–0.627***	–0.287***		
	(0.202)	(0.214)	(0.191)	(0.098)		
Young	0.022	0.022	0.092**	–0.001		
	(0.016)	(0.015)	(0.036)	(0.025)		
Distance	–0.002	–0.021	–0.032	–0.006	–0.006***	–0.002***
	(0.013)	(0.018)	(0.028)	(0.018)	(0.001)	(0.001)
Trade	–0.005	0.012**	–0.018*	0.001	0.002***	0.001***
	(0.005)	(0.005)	(0.010)	(0.008)	(0.000)	(0.000)
Trade growth	–0.060	0.016	0.063	0.037	0.000	0.001
	(0.052)	(0.039)	(0.070)	(0.052)	(0.001)	(0.001)
Distance×Home crisis	0.016	0.015	0.033	0.007	0.003***	0.000
	(0.018)	(0.019)	(0.035)	(0.023)	(0.001)	(0.001)
Trade×Home crisis	0.001	–0.024***	–0.005	–0.002	0.001*	0.000
	(0.006)	(0.006)	(0.015)	(0.011)	(0.001)	(0.000)
Trade growth×Home crisis	0.007	–0.025	0.004	0.086	0.005**	0.001
	(0.057)	(0.052)	(0.079)	(0.073)	(0.002)	(0.002)
Number of obs.	1,130	1,133	962	974	9,062	8,815
(Adjusted) R^2	0.062	0.104	0.257	0.196	0.171	0.169

Note: Columns (1), (3), and (5) focus on the global financial crisis and the sample period covers 2007–10. Columns (2), (4), and (6) focus on the European sovereign debt crisis and the sample period covers 2010–12. The dependent variable *Exit* in columns (1) and (2) is a dummy which is one if a bank from home country *i* active in 2007 in host country *j* seized its operations in the host country by end 2012, and zero when it remained present. The dependent variable *Growth* in columns (3) and (4) equals the log change in assets between 2007 and 2012 of the foreign bank from home country *i* active in host country *j*. *Entry* in columns (5) and (6) is a dummy which is one if a foreign bank from home country *i* newly entered host country *j* by 2012, and zero if no new investment from a bank from home country *i* in host country *j* took place. All variable definitions and their sources can be found in Table A3. The models in columns (1),(2), (5), and (6) are estimated using probit and in columns (2) and (3) using OLS. All regression coefficients are marginal effects. Regressions include a constant and the standard errors are clustered at the host country level. Robust standard errors appear in parentheses and ***, **, * correspond to the 1, 5, and 10 percent level of significance, respectively.

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enter any host country in the first period, but not so in the second period, except if from a euro area home country. Maybe surprisingly, in the first period, the negative impact of distance on entry was somewhat smaller when the home country experienced a crisis, while the positive influences of trade and trade growth were larger.

Robustness Tests

Lastly, we conduct a number of econometric robustness tests by using the base exit, growth, and entry regressions—Equation (1)—with the interactions with the home crisis dummy added. Table 6 reports the regression results. It first (columns 1, 5, and 9) reports again our baseline regression results (columns 4, 8, and 12 from Table 3). In the first robustness test (columns 2, 6, and 10), we exclude a number of financial centers—Hong Kong, Luxemburg, Switzerland, and the United Kingdom—as foreign banks in these countries often conduct different types of business (for example, wealth management) compared with foreign banks elsewhere. Offshore home and host countries (which include Singapore and financial center islands) are excluded throughout the analysis. In the second robustness test (columns 3, 7, and 11), we cluster by both home and host country, instead of by host country only, to take into account that some regressors vary at the home level.[28] Lastly, we include home and host country fixed effects (columns 4, 8, and 12) to verify that the impacts of our bank level and bilateral variables are not biased due to some omitted variables at the home or host country level.

In terms of exit, the main results from Table 3 are confirmed across all three robustness tests. Banks from euro area home countries and banks with a smaller market share and more recently present are more likely to exit, while greater distance and less trade between the home and host countries triggers exit for those countries with a crisis at home. Interesting, when financial centers are excluded, banks are more likely to exit those countries in which they face more competition from foreign banks from their own country.

In terms of asset growth, and controlling again for overall host banks' asset growth, almost all robustness regressions confirm that smaller and younger banks see more scope to grow, while distance deters growth. And foreign banks in the euro area tend to grow faster compared with their domestic peers. In terms of entry, we find again (for one out of two robustness tests) that being in a crisis and being from the euro area deter outward investments. We also find that host countries in crisis and from the euro area see less new entry, and entry is greater if there already is some (bilateral) foreign presence. And for all three robustness tests, distance again is negatively associated with entry (albeit less so for countries with a crisis at home), a larger trade link correlates positively with entry, and higher trade growth is associated with entry for those countries with a crisis at home.

In summary, our results show that a number of factors are associated with the changes in foreign bank presence globally. Exiting and limiting the expansion of

[28]We also clustered at the pair level and found results to be robust.

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Table 6. Factors Associated with Changes in Foreign Bank Presence—Robustness

	Exit				Growth				Entry			
	Baseline [1]	Excl. financial centers [2]	Cluster by home and host [3]	Home and host fe [4]	Baseline [5]	Excl. financial centers [6]	Cluster by home and host [7]	Home and host fe [8]	Baseline [9]	Excl. financial centers [10]	Cluster by home and host [11]	Home and host fe [12]
Asset growth host					0.697***	0.729***	0.697***					
					(0.084)	(0.088)	(0.069)					
Home crisis	−0.012	−0.002	−0.012		−0.463	−0.563	−0.463		−0.018**	−0.018**	−0.018	
	(0.215)	(0.221)	(0.247)		(0.327)	(0.350)	(0.409)		(0.008)	(0.008)	(0.018)	
Home in euro area	0.078***	0.056*	0.078*		0.038	0.022	0.038		−0.004**	−0.004**	−0.004	
	(0.031)	(0.032)	(0.043)		(0.053)	(0.058)	(0.070)		(0.002)	(0.002)	(0.004)	
Host crisis	0.024	0.045	0.024		−0.010	0.041	−0.010		−0.005***	−0.005***	−0.005***	
	(0.027)	(0.029)	(0.021)		(0.078)	(0.087)	(0.068)		(0.002)	(0.002)	(0.002)	
Host in euro area	−0.026	−0.009	−0.026		0.149*	0.173*	0.149*		−0.007***	−0.008***	−0.007***	
	(0.028)	(0.035)	(0.027)		(0.076)	(0.101)	(0.077)		(0.002)	(0.002)	(0.003)	
Foreign market share— Same country	0.130	0.214*	0.130		0.257	0.372*	0.257		0.03**	0.028**	0.030**	
	(0.104)	(0.125)	(0.148)		(0.219)	(0.198)	(0.205)		(0.012)	(0.012)	(0.012)	
Foreign market share —Other country	−0.054	−0.020	−0.054		0.036	0.109	0.036		0.005*	0.005*	0.005*	
	(0.044)	(0.054)	(0.037)		(0.091)	(0.104)	(0.096)		(0.003)	(0.003)	(0.003)	
Market share	−0.756***	−0.842***	−0.756**	−1.400***	−0.747***	−0.932***	−0.747***	−1.381***				
	(0.264)	(0.275)	(0.355)	(0.461)	(0.242)	(0.248)	(0.226)	(0.362)				
Young	0.047**	0.049*	0.047***	0.049*	0.093*	0.045	0.093*	0.106*				
	(0.024)	(0.026)	(0.017)	(0.032)	(0.052)	(0.049)	(0.053)	(0.057)				

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Distance	−0.037	−0.032	−0.037	−0.183*	−0.071**	−0.075**	−0.071*	−0.038	−0.008***	−0.008***	−0.008***	−0.011***
	(0.024)	(0.024)	(0.028)	(0.096)	(0.034)	(0.036)	(0.042)	(0.065)	(0.001)	(0.001)	(0.001)	(0.002)
Trade	0.005	0.009	0.005	0.065*	−0.015	−0.027*	−0.015	−0.006	0.003***	0.003***	0.003***	0.003***
	(0.008)	(0.008)	(0.009)	(0.034)	(0.015)	(0.015)	(0.022)	(0.042)	(0.001)	(0.001)	(0.001)	(0.001)
Trade growth	−0.010	−0.012	−0.010	0.056	0.119	0.036	0.119	−0.230**	0.001	0.001	0.001	−0.002
	(0.058)	(0.064)	(0.049)	(0.090)	(0.103)	(0.081)	(0.104)	(0.106)	(0.002)	(0.002)	(0.002)	(0.002)
Distance×Home crisis	0.044*	0.050*	0.044	0.222**	0.052	0.051	0.052	0.045	0.003**	0.003**	0.003*	0.002
	(0.026)	(0.027)	(0.032)	(0.092)	(0.042)	(0.046)	(0.048)	(0.067)	(0.001)	(0.001)	(0.002)	(0.002)
Trade×Home crisis	−0.027***	−0.034***	−0.027**	−0.074***	−0.024	−0.012	−0.024	−0.004	0.001	0.001	0.001	0.000
	(0.010)	(0.010)	(0.011)	(0.027)	(0.021)	(0.021)	(0.024)	(0.033)	(0.001)	(0.001)	(0.001)	(0.001)
Trade growth×Home crisis	−0.045	−0.051	−0.045	−0.125	0.034	0.121	0.034	0.228**	0.005*	0.006**	0.005**	0.005*
	(0.067)	(0.073)	(0.056)	(0.102)	(0.108)	(0.097)	(0.102)	(0.110)	(0.003)	(0.003)	(0.003)	(0.003)
Number of obs.	1,129	974	1,129	804	848	724	848	848	9,052	8,720	9,052	4,069
(Adjusted) R^2	0.072	0.074	0.074	0.186	0.293	0.293	0.293	0.509	0.172	0.174	0.174	0.333

Note: The table reports a number of robustness test for our baseline regression. Columns (1), (5), and (9) are the regression results from Table 3 (columns (4), (8), and (12)). In the first set of robustness tests a number of financial centers are excluded (Hong Kong, Luxembourg, Switzerland, and the United Kingdom). In the second set of robustness tests the standard errors are clustered by home and host country. And in the final set of robustness tests home and host country fixed effects are included. The dependent variable *Exit* in columns (1)–(4) is a dummy which is one if a bank from home country *i* active in 2007 in host country *j* seized its operations in the host country by end 2012, and zero when it remained present. The dependent variable *Growth* in columns (5)–(8) equals the log change in assets between 2007 and 2012 of the foreign bank from home country *i* active in host country *j*. *Entry* in columns (9)–(12) is a dummy which is one if a foreign bank from home country *i* newly entered host country *j* by 2012, and zero if no new investment from a bank from home country *i* in host country *j* took place. All variable definitions and their sources can be found in Table A3. The models in columns (1)–(4) and (9)–(12) are estimated using probit and in columns (5)–(8) using OLS. All regression coefficients are marginal effects. Regressions include a constant and the standard errors are clustered at the host country level, unless otherwise specified. Robust standard errors appear in parentheses and ***, **, * correspond to the 1, 5, and 10 percent level of significance, respectively.

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foreign operations is not only about crisis vs. noncrisis home countries. Rather, a number of factors previously identified in the literature and dynamics between them help explain the shifts and refocusing of strategies of internationally active banks. Important among these factors is the greater number of banks from non-OECD countries expanding abroad, notably to nearby markets. In the next section, we explore in depth how these changes have affected the local lending of foreign banks and to what extent patterns are mimicked by changes in cross-border lending.

IV. Local Lending by Foreign Banks and Cross-Border Banking

In this section, we examine how the crisis and associated changes in the global banking landscape have affected the behavior of cross-border lending and local lending by foreign subsidiaries. This will shed light on questions such as whether the retrenchment in cross-border bank lending has been compensated for by local lending of foreign banks—existing or newly entered—or whether both have declined, and what may relate to the differences between the two forms of lending. Unfortunately, bank-level data on (bilateral) cross-border exposures are not available, so we examine this question by comparing BIS data on cross-border bank lending with data on local lending by the foreign banks in our database. This allows us to examine the relationship of several host country, home country, and bilateral characteristics with the growth in the two types of international bank lending and the difference between the two in the wake of the crisis.

Data and Basic Statistics

To capture developments in cross-border lending, we use the BIS consolidated banking statistics at an ultimate risk basis (that is, claims are collected at the bank's group level and allocated to the country where the ultimate risk lies in a manner consistent with the bank's own system of risk management). These data capture lending directly from the home country banks to a foreign borrower without relying on any presence in the borrower country.[29] Using these (confidential) bilateral data, we then determine for each lender-borrower country pair the growth in cross-border lending by taking the log difference between 2007 and 2012 in gross cross-border claims between lender country *i* and borrower country *j*.[30]

To capture foreign lending by local subsidiaries, we sum local loans of all foreign banks in our database owned by home country *i* in host country *j* using data from Bankscope.[31] For each home-host country pair, we then take the log difference in loans, again between 2007 and 2012. As BIS data cover only

[29]As these are consolidated data, interbank positions are netted out.

[30]Even though we have access to confidential data, in some cases bilateral information is still restricted, at the discretion of the central bank providing the data, to protect the anonymity of their banks. Therefore, while we capture most cross-border lending, some lender-borrower pairs drop out of the sample as cross-border information is missing for 2007, 2012, or both years.

[31]As in Section III, when a foreign bank is active in both 2007 and 2012, we include data on its lending only if balance sheet information is available for both years. For banks only active in 2007 or 2012, lending data are included for the year the bank is active, provided it is available. Countries with less than 60 percent of banks covered this way are excluded from the sample altogether.

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22 creditor banking systems—mainly large OECD countries—the cross-border claims cover fewer and a more selected sample of home countries than our data on foreign bank presence do. To have comparable lender/home data, we therefore limit the sample of foreign banks to the subgroup of (banks from) OECD home countries, dropping all non-OECD home countries from our foreign bank lending data.[32]

Before examining the drivers behind the developments at the bilateral level in cross-border and foreign bank lending and differences between the two, it is insightful to first consider some basic statistics. The first three columns in Table 7 show that local lending by foreign affiliates was an important source of international bank lending in 2007 as it amounted to some U.S.$5.9 trillion (column 1). Although direct cross-border lending was overall the most important form, amounting to some U.S.$10.6 trillion (column 3) or 65 percent of total international lending in 2007, for non-OECD countries local lending by foreign banks was more important than cross-border lending. And comparing local lending by all foreign banks with that of foreign banks from OECD home countries only shows that, except for within OECD countries themselves, a substantial amount of local lending was done by non-OECD banks.

The next set of columns shows that foreign bank loans grew by 8 percent overall between 2007 and 2012, but by only 2 percent for OECD home country foreign banks (columns 4 and 5). This should not come as a surprise as many OECD banks faced balance sheet problems, while most banks from non-OECD countries did not. In terms of host groupings, there was some reduction in lending by foreign banks active in OECD countries, likely related to the recessions many of these countries experienced in the wake of the crisis. In all other income groups, loan growth was positive for both all foreign banks and for OECD home country only foreign banks. What is striking, though, is that loan growth for all foreign banks compared with the sample of foreign banks from OECD home countries is only higher in emerging markets and substantially so in developing countries. This reflects that foreign banks from non-OECD countries increased their local lending in these countries over this period more so than foreign banks from OECD home countries did.[33] Similar patterns prevail using country-based averages (columns 7 and 8), but at different levels. As such, it shows again that banks from non-OECD countries offset some of the slowdown in local markets due to the retrenchment of foreign banks from OECD countries.

We next compare the growth of foreign banks' local loans with the change in direct cross-border BIS claims for our set of host countries (columns 6 and 9).

[32]Even though four non-OECD countries also report to the BIS, we do not include these in our sample as they only have very limited foreign bank presence and analyzing only OECD creditor/home countries makes for a more homogenous group. The 18 home countries included are: Australia, Austria, Belgium, Canada, Finland, France, Germany, Greece, Ireland, Italy, Japan, Netherlands, Portugal, Spain, Sweden, Switzerland, the United Kingdom, and the United States.

[33]Loan growth of all foreign banks is quite close to that of OECD home country only foreign banks (correlation is 0.85). However, in quite a few host countries, where non-OECD banks are important, loan growth by all foreign banks differs substantially from that of OECD home country only banks as non-OECD banks have offset declines in local lending by OECD banks.

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Table 7. Local vs. Cross-Border Local Lending, Level, and Growth Comparison

	Lending 2007			Loan growth 2007–12					
				Group-based			*Country-based*		
	Foreign banks [1]	Foreign banks (OECD home countries) [2]	Cross-border [3]	Foreign banks [4]	Foreign banks (OECD home countries) [5]	Cross-border [6]	Foreign banks [7]	Foreign banks (OECD home countries) [8]	Cross-border [9]
All countries	5,906	5,520	10,632	0.08	0.02	–0.14	0.40***	0.14	0.15
Income groups									
OECD	4,203	4,096	9,566	–0.07	–0.08	–0.21	–0.20	–0.23	–0.27
Non-OECD	1,703	1,424	1,066	0.37	0.27	0.33	0.56***	0.24	0.26
of which:									
Other high-income	391	245	112	0.69	0.63	0.28	0.35	0.28	0.19
Emerging markets	1,226	1,114	902	0.23	0.17	0.35	0.36**	0.23	0.13
Developing countries	86	65	51	0.53	0.26	0.18	0.75***	0.25	0.38

Note: The numbers in the first three columns reflect total lending done through local lending by foreign banks or cross-border lending in 2007 in billion of U.S. dollars. The numbers in the other six columns reflect growth in both types of international bank lending between 2007 and 2012. To measure loan (growth) by foreign banks for foreign banks active in both 2007 and 2012 we only include data on their lending if loan information is available for both years. For banks only active in 2007 or 2012, loan data are included for the year the bank is active, provided of course it is available. Countries with less than 60 percent of banks covered this way are excluded from the sample altogether. Only host countries with at least one foreign bank active in 2007 are included. Cross-border lending is based on BIS consolidated statistics at ultimate risk basis; only lending by OECD reporting countries is included. 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 and Poor's Emerging Market and Frontier Markets indices and that were not high-income countries in 2000. Developing countries includes all other countries. Group-based figures represent the total loan growth in the income group and country-based figures are the simple average of the countries within a group.

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Not surprisingly, over this period, there was, on average, a large reduction in cross-border loans—14 percent on a group basis, compared with the 8 percent increase in local lending by the foreign banks in our database (and 2 percent for the foreign banks from OECD countries). This is largely due to OECD borrowing countries that reduced their cross-border lending by 21 percent on a group basis and 27 percent on a country average basis. Host countries in the other income groups, on average, experienced an increase in cross-border loans, making the overall country-based average still positive. Although OECD countries experienced a decline in both local lending by foreign banks as well as in cross-border lending, non-OECD countries saw both types of lending rise, with the former growing (much) faster. The differences in growth rates are statistically significant for all countries combined, and the subgroup of non-OECD countries (driven by emerging markets and developing countries), but only when comparing the growth in cross-border lending with that in local lending done by all foreign banks. These different growth rates translated into an increase of the share of local lending by foreign affiliates in total international bank lending with 5 percentage points, to 41 percent in 2012.

This comparison shows that foreign banks were a more stable form of financing during the crisis period. This is in line with other findings that cross-border bank claims tend to be more volatile compared with local lending by foreign affiliates (McGuire and von Peter, 2009). The difference could in part arise from a flight home (Giannetti and Laeven, 2012a and 2012b) or because local affiliates lend to a set of borrowers differentially affected by the crisis. It could also be that heightened intrabanking group frictions and specific regulatory actions, including ring-fencing, during periods of turmoil prevented banks from reallocating funds and capital optimally between their affiliates and headquarters, making cross-border bank lending behave differently than local lending for the same host country (this form of fragmentation is suggested by some analyses, for example, Cerutti and Claessens, 2014).[34]

These averages hide much heterogeneity at the host country level, however, as can be seen in Figure 7, which plots in Panel A the growth in cross-border loans (column 9 in Table 7) against the growth in loans provided by foreign banks (column 7 in Table 7) for each host country. We see a large variation: while in some cases cross-border lending decreased more than foreign banks' local lending did, there are also many cases where the opposite happened. Furthermore, in a substantial number of countries, one type of lending decreased while the other type increased. The same picture emerges when we plot in Panel B the change in cross-border loans (column 9 in Table 7) against the change in lending by foreign banks from OECD home countries alone (column 8 in Table 7). Again, it shows that there can be large differences between the two. We next explore more in depth what factors may drive these trends and differences.

[34]Note that formal barriers to foreign entry, as reflected in commitments under the WTO agreement on financial services, have not increased after the crisis (see Claessens and Marchetti, 2013).

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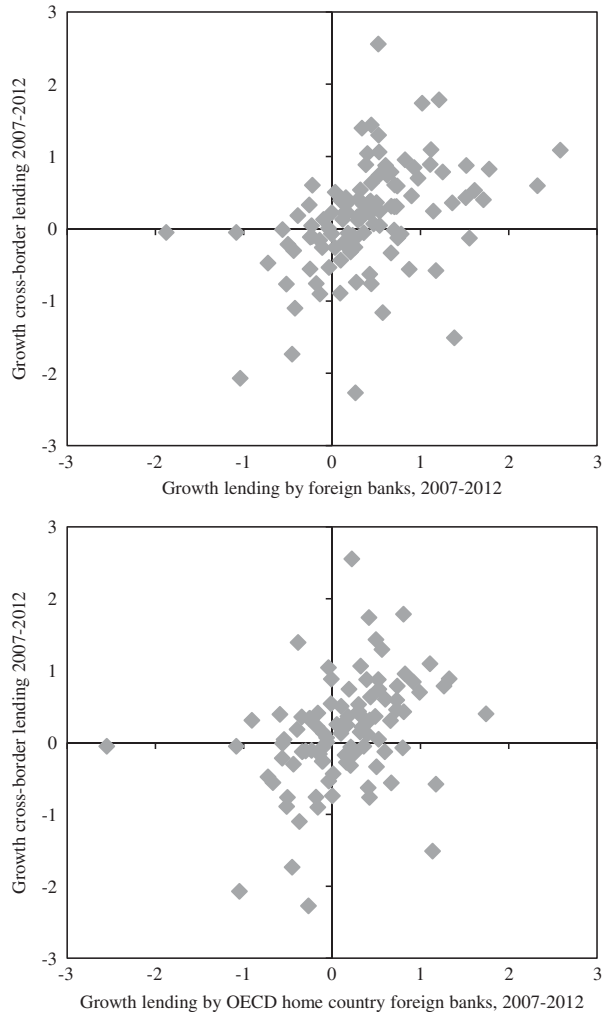
Figure 7. Comparison growth lending by foreign banks and cross-border lending



Note: To calculate loan growth of foreign banks only banks are included that have loan information for both years. Banks that were only active in 2007 or 2012 are also included if loan information is available for that year. Countries in which less than 60 percent of the banks qualify are excluded from the sample. Only host countries with at least one foreign bank active in 2007 are included

Drivers Behind Loan Growth of Foreign Banks and Cross-Border Loans

To examine what factors are associated with the growth rates in local and cross-border lending that we observe at the home-host country pair levels and their difference, we estimate a model similar to that used in the previous section for the exit, growth, and entry of foreign banks.[35] Our dependent variables this time are the *Growth in local lending*, defined as the log change in bank loans of foreign banks from home country *i* in host country *j*, the *Growth in cross-border lending*, defined as the log change in cross-border loans provided by banks from creditor country

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i to all borrowers in borrowing country *j*, both between 2007 and 2012, and the difference between the two (the growth in local lending minus the growth in cross-border claims). As we want to compare the same set of home-host country pairs for the three variables, we only include those pairs for which we have information on the growth in both local lending and cross-border claims. This leaves us with a sample of 95 host countries, 15 home countries, and 261 home-host country pairs.

Table 8 provides the regression results: in column 1 for the growth in local lending of foreign banks, in column 2 for the growth in cross-border lending, and in column 3 for the difference between the two. Comparing results in columns 1 and 2 shows that the factors associated with the growth rates in local and cross-border lending have some similarities, but also vary in many respects—variations that are largely confirmed in the regression that examines the differences in growth rates, column 3. In terms of commonalities, when local loan growth is higher, likely driven by growth in the real economy of the borrower/host country, so is the growth of foreign banks' local and cross-border lending, with the latter more sensitive, consistent with its greater procyclicality. Foreign banks from the same country capturing a larger share of the host market has a negative relationship with both the growth of local and cross-border lending, with the first significant. (Our earlier result—that when foreign banks from the same home country have a greater presence, asset growth and entry are more likely—was only found for non-OECD home countries; this sample includes only OECD home countries for which a large foreign market share likely meant a greater need to pull back after the crisis.)

Some important differences appear, though, between the drivers of local and cross-border lending. Although foreign banks from crisis-affected home countries were more likely to reduce their local lending, they did not necessarily cut cross-border lending to the same country, as the home crisis dummy is not statistically significant in column 2. At the same time, banks from euro area countries reduced their cross-border loans more, but not their local lending, reflecting in part the euro area financial markets' fragmentation over this period. Bilateral trade growth is positively correlated with local lending by foreign banks, which is intuitive, but negatively with cross-border lending. The latter may reflect that as banks from OECD home countries—euro area countries especially—faced crises, they redirected their cross-border lending away from more distant markets (as shown by De Haas and Van Horen, 2013), thus lending less to those (noncrisis) countries that experienced more growth in their trade. Distance itself is not significantly associated with growth in local or cross-border lending.

Interestingly, once we control for these home country, host country, and bilateral characteristics, we find that the growth in local lending is not affected by the growth in cross-border lending (column 1) or vice versa (column 2). This

[35]Kerl and Niepmann (2014) develop a theoretical model of how banks choose between lending internationally intrabank, interbank, and to foreign firms given among others, impediments to foreign bank operations, with supportive evidence for their model from German bank-level data.

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Table 8. Factors Associated with Changes in Growth of Foreign Banks' Loans and Cross-Border Claims

	Growth Local Lending	Growth Cross-Border Claims	Growth Difference (Local Lending Minus Cross-Border)
	[1]	[2]	[3]
Loan growth host	0.494***	0.958***	–0.451**
	(0.003)	(0.000)	(0.042)
Home crisis	–0.281*	–0.052	–0.212
	(0.094)	(0.708)	(0.284)
Home in euro area	0.086	–0.504***	0.559***
	(0.298)	(0.000)	(0.000)
Host crisis	–0.206	–0.000	–0.192
	(0.254)	(0.999)	(0.408)
Host in euro area	0.218	–0.011	0.213
	(0.181)	(0.933)	(0.318)
Foreign market share—	–0.359*	–0.169	–0.173
Same country	(0.098)	(0.647)	(0.658)
Foreign market share—	0.050	0.270	–0.210
Other country	(0.751)	(0.214)	(0.438)
Distance	–0.068	0.014	–0.077
	(0.166)	(0.801)	(0.319)
Trade	–0.024	–0.045	0.021
	(0.361)	(0.148)	(0.620)
Trade growth	0.257**	–0.396**	0.615***
	(0.014)	(0.017)	(0.001)
Growth cross-border claims	0.054		
	(0.344)		
Growth local lending		0.074	
		(0.309)	
Number of obs.	261	261	261
Adjusted R^2	0.217	0.349	0.137

Note: The table reports the results of a cross-section regression over a sample of 95 host countries, 15 home countries, and 261 home-host country pairs. The dependent variable *Growth local lending* in column (1) equals the log difference between 2007 and 2012 of the sum of loans extended by foreign banks from home country *i* active in host country *j*. The dependent variable *Growth cross-border claims* in column (2) equals the log difference between 2007 and 2012 of the cross-border loans extended by banks from home country *i* to borrowers in host country *j*. The dependent variable in column (3) is the difference between the two. All variable definitions and their sources can be found in Table A3. All models are estimated using OLS, include a constant and the standard errors are clustered at the host country level. Robust standard errors appear in parentheses and ***, **, * correspond to the 1, 5, and 10 percent level of significance, respectively.

suggests that at the margin, the two forms are neither complements nor substitutes and provides further evidence that the retrenchment witnessed in cross-border lending is quite distinct from changes in foreign banks' local activity.

These findings are confirmed when we examine to what extent the difference between changes in local and cross-border lending can be explained by the same factors (column 3). Local overall asset growth in the home country is again more important for cross-border than for local lending, while banks from the euro area tend to lend more locally than cross-border over this period. And trade growth

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affects the difference between growth in local and growth in cross-border lending positively. Other variables have no statistical significant relationships with the difference.

V. Conclusions

Our newly collected data show that as a result of the recent crises, banking in terms of foreign bank presence has become somewhat less global, but not more fragmented. Rather, reflective of the global financial and sovereign debt crises affecting banks—especially in advanced countries—and the increasing international expansion of banks from emerging markets and developing countries, the global banking system has gone through some important transformations with a greater variety of players and a more regional focus. While, as their banking systems restructure and economies recover, the trend of less internationalization by and in advanced countries could halt and possibly reverse itself, the increased importance of emerging markets and developing countries in foreign banking and the associated regionalization are likely to continue. This poses a number of challenges.

First, it is not clear whether more regionalized banking systems improve financial stability. From a regulatory and supervisory perspective, increased regionalization can have some benefits. One of the principal lessons of the crisis is that banks that are global in life are national in death. Over the course of the crisis, many governments had to support their banks (and banking systems more generally), in part due to losses on their international operations. Moreover, some national actions (or a lack thereof) had negative spillover effects on other countries. Therefore, international coordination in dealing with the supervision and failures of internationally active banks can provide large benefits. This international coordination is perhaps easier to achieve at the regional level, with the European banking union the prime example of improved regional coordination in many dimensions—regulation, supervision, and resolution.[36]

At the same time, regionalization could make the global banking system more prone to shocks, as diversification at the global level will be more limited. Furthermore, a shift toward a more regionalized banking systems may prevent the most efficient allocation of capital and know-how globally. Finally, increased regional regulation and supervision could also make policies and actions that amount to financial repression, ring-fencing, and fragmentation more likely, again with adverse consequences for risk-sharing and the efficiency of resource allocation. A priori, it is not clear whether the positive or negative factors dominate. As such, a better understanding of both the drivers of regionalization (and possibly related fragmentation) and the pros and cons of a more regionalized financial system is of the utmost relevance.

[36]Other recent, promising policy efforts include the adoption of the so-called FSB "Key Attributes of Effective Resolution Regimes for Financial Institutions" and other agreements to set out mechanisms to deal with global systemically important financial institutions that fail across some sets of specific jurisdictions. But much remains to be done here, including on modalities for burden sharing in case of actual failures where a need for government involvement in restructurings arises.

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Second, the rising importance of banks from emerging markets and developing countries that we document in this paper is a natural development that reflects their growing role in the world economy and global financial markets. As the trend is unlikely to reverse itself, it deserves more attention from a number of academic and policy perspectives.

For one, there is very limited understanding of the impact of these banks in their host countries. The literature has shown that the benefits and risks posed by foreign banks can differ substantially depending on host and home country characteristics and the business model employed. However, very little is known about the specific characteristics of foreign banks from emerging markets and developing countries and how these interact with the specific characteristics of the host countries in which they are active. For example, it is possible that they might bring technologies more adapted to the specific needs of the (typically emerging market and developing) countries in which they invest. Also, as they tend to invest in countries within their region, they may be better able to collect and process "soft" information and as such be better equipped to lend to more informationally opaque borrowers. At the same time, as these banks tend to be less sophisticated compared with their advanced country counterparts, their potential for improving the financial system of their host country through transfer of better banking technologies and know-how might be more limited. How these effects play out on net is not clear and warrants further research.

Furthermore, the growing role of these banks also suggests that data coverage on direct cross-border and affiliate lending has to expand to better gauge developments in global banking. Currently, data from the BIS on international banking activities cover only a few emerging markets and developing countries as creditor countries, thus not capturing the likely growing lending among emerging markets and developing countries as well as the lending from these countries to BIS-reporting countries themselves. As such, it is unclear whether the global financial crisis indeed caused a general retrenchment and fragmentation in cross-border lending, or that new players have filled the gap left by retreating banks. Their growing role also makes it more imperative that policymakers from emerging markets and developing countries are active participants in international deliberations about financial reforms, such as Basel III and international resolution modalities, so as to assure that reform models suit their (changing) circumstances. At the same time, it will be important that these countries adequately perform their roles as home regulator and supervisor of foreign branches and local subsidiaries, including by making sure that their banks are adequately capitalized and weak banks are quickly restructured and resolved.

Third, and more broadly, many questions remain about international banking in general and the role of foreign banks in particular. Given the findings in the literature on the importance of heterogeneity for assessing the effects of foreign banks, what do the ongoing shifts in the global banking system mean for financial sector development and stability, especially in those countries where profound changes have taken place? Specially, how do characteristics of newly entering foreign banks—like their home country, degree of funding, and business

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focus—relate to financial sector competition, efficiency, and access to financial services for SMEs and households? What does increased regionalization mean for bank efficiency? When do foreign banks add to financial stability and when do they introduce risks? Does it matter how much and what variation there is among foreign banks active in a particular country? Do the shifts in international banking networks and market structures lead to new risks? These issues raised by the recent developments are beyond the scope of the analysis here. The newly extended database, however, can be an input into further research and hopefully help address these and other questions.

APPENDIX A

Table A1. Percentage of Foreign Banks among Total Banks *(by country)*

Country	2005	2006	2007	2008	2009	2010	2011	2012	2013
EAP	18	19	23	25	27	28	28	28	28
Cambodia	42	38	46	53	59	61	61	61	61
China	6	6	15	18	19	21	21	20	20
Indonesia	33	35	46	48	50	47	48	48	48
Korea (South)	19	19	19	19	19	19	13	13	13
Malaysia	32	33	34	34	35	40	40	42	42
Mongolia	11	10	10	11	10	13	13	13	13
Philippines	14	15	15	15	13	11	11	12	12
Thailand	15	15	14	19	19	24	25	25	25
Vietnam	12	14	14	14	24	24	22	23	23
ECA	39	43	47	49	49	50	49	49	48
Albania	83	79	86	85	85	85	85	85	85
Armenia	50	64	64	69	75	80	80	80	80
Azerbaijan	10	10	9	14	14	14	14	14	14
Belarus	45	45	52	59	64	67	67	67	65
Bosnia-Herzegovina	54	56	63	61	61	61	61	64	64
Bulgaria	69	69	69	69	69	69	65	65	65
Croatia	33	37	46	46	44	44	48	50	52
Czech Republic	55	59	64	67	67	67	64	64	62
Estonia	71	75	75	75	75	75	75	75	75
Georgia	31	50	58	69	69	69	69	77	77
Hungary	86	88	87	87	82	82	81	81	80
Kazakhstan	30	33	37	39	39	36	36	36	33
Kyrgyzstan	63	63	75	75	75	83	83	83	83
Latvia	45	50	62	64	64	59	57	57	55
Lithuania	70	70	70	70	70	70	67	67	75
Macedonia	47	50	64	71	71	71	69	67	67
Moldova	31	38	41	41	44	44	44	50	50
Montenegro	50	75	88	88	88	88	88	88	88
Poland	77	76	75	76	77	74	75	77	76
Romania	70	81	81	81	79	79	79	82	82
Russia	15	15	17	20	20	20	19	18	17
Serbia	42	54	66	65	64	67	67	69	66

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Table A1: (*Continued*)

Country	2005	2006	2007	2008	2009	2010	2011	2012	2013
Slovakia	83	82	75	75	73	73	67	67	67
Turkey	23	34	39	39	39	39	36	35	38
Ukraine	28	34	43	48	50	52	51	44	39
Uzbekistan	18	18	24	24	22	24	25	25	20
LAC	37	38	40	41	41	41	42	42	42
Antigua & Barbuda	25	25	38	38	43	29	29	29	29
Argentina	32	32	32	33	33	33	33	32	32
Barbados	100	100	100	100	100	100	100	100	100
Bolivia	45	40	40	40	40	30	30	30	30
Brazil	34	35	36	38	37	38	38	39	40
Chile	39	39	45	45	43	43	41	41	41
Colombia	23	28	29	33	33	35	35	40	42
Costa Rica	23	22	23	20	22	22	22	20	21
Cuba	0	0	0	0	0	0	0	0	0
Dominican Rep.	9	7	5	5	5	5	8	8	8
Ecuador	15	15	15	16	20	25	25	25	22
El Salvador	64	82	90	90	91	90	91	91	91
Guatemala	23	26	42	44	47	47	47	53	53
Haiti	0	0	0	0	0	0	0	0	0
Honduras	38	38	56	53	53	53	53	53	53
Jamaica	71	71	71	75	75	75	75	75	75
Mexico	43	41	39	40	39	39	40	40	37
Nicaragua	40	67	67	67	67	60	60	60	60
Panama	61	63	64	65	69	68	69	70	69
Paraguay	62	62	62	62	58	58	64	64	64
Peru	54	54	64	67	67	67	67	69	69
Trinidad & Tobago	56	56	56	67	67	67	75	75	75
Uruguay	77	80	80	79	79	79	76	83	78
Venezuela	26	26	23	27	24	21	22	26	27
MENA	29	34	36	37	37	37	37	38	38
Algeria	53	53	60	60	60	60	60	60	60
Bahrain	58	58	57	60	60	67	67	71	71
Egypt	21	44	52	54	54	54	54	54	54
Iran	0	0	0	0	0	0	0	0	0
Jordan	30	30	30	40	40	40	40	40	40
Lebanon	34	35	40	37	37	36	36	36	36
Libya	0	0	0	0	0	0	0	0	0
Morocco	36	40	40	40	40	36	36	36	36
Oman	0	0	0	0	0	0	0	17	17
Saudi Arabia	0	0	0	0	0	0	0	0	0
Tunisia	50	50	50	50	47	47	47	47	47
Yemen	0	0	0	0	0	0	0	0	0
OECD	22	23	23	23	23	23	24	24	24
Australia	44	44	44	44	40	42	42	39	35
Austria	10	10	11	11	11	11	11	12	11
Belgium	39	39	39	40	43	43	43	43	46
Canada	41	41	40	40	38	39	39	37	37

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Table A1: (*Continued*)

Country	2005	2006	2007	2008	2009	2010	2011	2012	2013
Denmark	9	9	9	8	9	9	8	8	8
Finland	13	22	22	22	22	22	22	22	22
France	5	5	5	5	5	5	4	4	4
Germany	14	14	14	14	14	14	14	14	14
Greece	21	32	28	22	22	22	25	20	0
Iceland	0	0	0	0	0	0	0	0	0
Ireland	86	86	86	86	86	85	84	82	85
Italy	5	6	10	10	10	10	11	11	12
Japan	1	1	2	1	1	1	1	1	2
Luxembourg	96	96	96	96	96	96	96	95	95
Netherlands	44	44	44	41	42	45	45	43	47
New Zealand	78	78	78	78	78	78	78	78	78
Norway	2	2	2	2	2	2	2	2	2
Portugal	30	33	33	36	37	37	36	39	36
Spain	5	7	7	7	7	8	9	11	13
Sweden	1	1	1	1	1	1	1	1	1
Switzerland	21	23	23	23	23	21	20	20	20
United Kingdom	54	54	56	57	56	58	58	58	58
United States	24	24	26	28	31	32	33	31	31
OHI	38	37	37	37	37	36	37	37	38
Cyprus	60	60	60	60	60	56	59	59	63
Hong Kong	76	73	71	70	72	73	73	73	73
Israel	0	0	0	0	0	0	0	0	0
Kuwait	13	11	11	11	11	11	11	11	11
Qatar	0	0	0	0	0	0	0	0	0
Singapore	58	57	57	57	55	50	55	55	55
Slovenia	33	33	33	39	39	39	39	35	35
Taiwan	0	3	9	9	9	12	12	14	17
United Arab Emirates	18	18	18	21	22	22	22	22	22
SA	9	12	12	13	13	14	13	13	13
Bangladesh	3	3	3	3	3	3	3	3	3
India	9	11	11	12	12	12	12	12	12
Nepal	14	14	12	12	12	10	10	10	10
Pakistan	16	30	35	38	38	42	43	43	43
Sri Lanka	0	0	0	0	0	0	0	0	0
SSA	43	49	49	52	53	54	54	55	56
Angola	50	50	55	55	45	46	46	46	46
Benin	78	78	78	78	89	89	89	89	89
Botswana	63	56	56	60	60	60	60	60	60
Burkina Faso	88	89	89	100	100	100	100	100	100
Burundi	17	20	25	50	50	50	50	50	50
Cameroon	56	60	64	73	80	82	73	73	73
Congo, Dem. Rep.	57	63	63	70	73	75	83	83	83
Cote d'Ivoire	69	71	71	73	71	71	71	71	71
Ethiopia	0	0	0	0	0	0	0	0	0
Ghana	58	52	48	48	50	55	62	63	63
Kenya	28	28	25	31	31	29	29	29	32

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Table A1: (*Continued*)

Country	2005	2006	2007	2008	2009	2010	2011	2012	2013
Madagascar	100	100	100	100	100	100	100	100	100
Malawi	38	29	29	25	25	25	25	25	25
Mali	38	44	44	56	56	67	67	67	67
Mauritania	14	14	25	38	38	29	38	38	38
Mauritius	71	73	69	64	64	60	60	60	60
Mozambique	90	90	90	83	83	85	85	85	85
Namibia	43	43	43	43	43	43	43	43	43
Niger	83	86	86	86	86	86	86	71	71
Nigeria	11	15	15	15	15	15	20	28	28
Rwanda	38	38	38	50	50	50	50	50	50
Senegal	64	77	85	83	83	83	83	83	83
Seychelles	40	40	40	40	40	40	40	40	40
South Africa	21	22	22	23	23	24	24	24	24
Sudan	13	20	27	27	27	21	21	21	21
Swaziland	80	80	80	60	60	60	60	60	60
Tanzania	63	63	62	62	63	65	67	67	67
Togo	20	17	17	17	17	0	0	0	17
Uganda	71	79	79	76	83	83	79	83	83
Zambia	70	70	80	90	92	93	94	94	94
Zimbabwe	21	23	31	31	31	31	31	31	38
Total	30	32	33	34	35	35	35	36	36

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Table A2. Percentage of Foreign Bank Assets among Total Bank Assets *(by country)*

Country	2005	2006	2007	2008	2009	2010	2011	2012	2013
EAP	4	4	5	4	4	4	3	3	3
Cambodia	36	39	61	62	60	58	57	60	—
China	—	—	2	2	2	2	2	2	2
Indonesia	23	15	23	23	24	25	25	24	27
Korea (South)	16	13	12	13	12	11	8	7	7
Malaysia	18	18	19	18	17	17	17	17	17
Mongolia	9	7	7	—	—	—	—	—	—
Philippines	1	2	1	1	1	1	1	1	1
Thailand	3	2	5	7	6	6	6	6	7
Vietnam	2	2	2	2	4	5	5	5	5
ECA	42	44	43	42	40	37	34	31	30
Albania	—	—	93	94	92	90	90	90	89
Armenia	56	62	60	64	71	84	84	83	85
Azerbaijan	1	1	1	5	5	5	4	4	4
Belarus	14	13	19	19	24	27	31	33	31
Bosnia-Herzegovina	87	90	91	92	88	89	88	85	87
Bulgaria	76	77	79	82	82	79	73	70	62
Croatia	92	90	90	90	90	90	90	90	90
Czech Republic	83	84	85	84	83	83	82	81	85
Estonia	100	99	99	99	99	99	97	97	97
Georgia	32	66	66	66	67	65	62	64	64
Hungary	67	65	64	67	64	63	63	59	56
Kazakhstan	4	5	13	16	18	16	18	17	13
Kyrgyzstan	91	—	93	—	—	—	71	76	79
Latvia	58	64	65	67	68	66	60	60	58
Lithuania	92	92	92	93	92	90	89	94	91
Macedonia	54	56	63	69	68	67	65	66	68
Moldova	25	31	37	41	41	41	46	39	27
Montenegro	23	86	83	81	84	100	88	89	89
Poland	77	77	76	78	73	73	72	76	76
Romania	58	89	89	89	85	85	83	81	79
Russia	7	10	10	13	12	10	10	10	8
Serbia	74	85	84	76	74	73	76	76	75
Slovakia	92	90	89	90	86	86	87	78	75
Turkey	—	15	16	14	12	12	12	12	14
Ukraine	28	41	53	59	57	54	—	36	28
Uzbekistan	—	—	—	—	—	5	6	6	—
LAC	38	37	34	35	29	28	27	26	26
Antigua & Barbuda	—	—	—	—	—	—	—	—	—
Argentina	27	26	27	28	28	24	29	27	25
Barbados	100	100	100	100	100	100	100	100	100
Bolivia	37	18	18	16	15	15	13	13	16
Brazil	24	25	25	22	18	18	16	16	15
Chile	—	—	—	42	37	37	35	33	33
Colombia	21	17	14	13	12	11	10	13	15
Costa Rica	24	25	37	40	38	35	35	33	26
Cuba	0	0	0	0	0	0	0	0	0
Dominican Rep.	9	8	8	7	7	7	7	7	8

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Table A2: (*Continued*)

Country	2005	2006	2007	2008	2009	2010	2011	2012	2013
Ecuador	11	12	13	13	13	13	12	12	12
El Salvador	50	80	97	97	97	96	95	95	100
Guatemala	11	12	13	32	32	32	30	31	30
Haiti	0	0	0	0	0	0	0	0	0
Honduras	29	26	44	46	42	42	41	43	53
Jamaica	87	87	88	95	91	90	94	91	91
Mexico	83	81	78	75	73	73	74	71	70
Nicaragua	30	45	—	57	41	36	37	39	—
Panama	38	47	53	55	64	73	71	67	—
Paraguay	63	60	58	62	48	51	52	49	51
Peru	49	48	49	51	49	49	51	49	51
Trinidad & Tobago	13	13	14	56	56	56	57	—	—
Uruguay	75	87	47	48	55	57	55	54	92
Venezuela	30	29	25	26	—	15	14	16	18
MENA	15	17	19	17	16	16	16	16	17
Algeria	7	8	7	8	10	10	10	11	15
Bahrain	67	65	69	65	55	55	52	52	52
Egypt	12	21	25	25	25	24	25	23	21
Iran	0	0	0	0	0	0	0	0	0
Jordan	14	16	17	22	23	24	24	25	25
Lebanon	—	—	33	35	36	32	30	29	—
Libya	0	0	0	0	0	0	0	0	0
Morocco	—	—	19	18	16	16	18	19	19
Oman	0	0	0	0	0	0	0	13	11
Saudi Arabia	0	0	0	0	0	0	0	0	0
Tunisia	29	27	26	27	28	29	30	28	—
Yemen	0	0	0	0	0	0	0	0	0
OECD	11	11	12	12	12	11	11	10	9
Australia	—	7	7	5	3	3	2	2	2
Austria	22	19	26	28	26	23	23	26	26
Belgium	13	13	13	14	49	46	48	46	47
Canada	4	4	4	4	5	4	4	3	3
Denmark	20	19	18	18	20	20	18	17	18
Finland	72	85	85	84	82	85	88	85	84
France	5	5	6	6	6	6	6	6	5
Germany	24	14	11	12	12	11	11	11	13
Greece	4	13	14	14	14	13	9	7	0
Iceland	0	0	0	0	0	0	0	0	0
Ireland	40	43	42	36	35	36	35	40	36
Italy	1	3	7	6	6	6	6	6	6
Japan	—	—	1	1	1	—	—	—	—
Luxembourg	99	99	95	95	94	94	93	93	92
Netherlands	7	9	10	2	3	11	8	6	4
New Zealand	—	99	97	96	96	95	95	95	94
Norway	42	16	17	16	16	15	15	14	14
Portugal	16	24	24	24	25	24	23	23	23
Spain	2	2	2	2	2	2	2	2	—
Sweden	0	0	0	0	0	0	0	0	0

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Table A2: (*Continued*)

Country	2005	2006	2007	2008	2009	2010	2011	2012	2013
Switzerland	4	4	4	5	6	5	5	2	2
United Kingdom	12	12	14	19	15	15	15	15	14
United States	21	21	22	18	19	16	14	14	11
OHI	48	45	44	43	43	44	36	37	38
Cyprus	23	22	22	23	19	12	—	—	—
Hong Kong	92	91	91	91	92	92	92	92	92
Israel	0	0	0	0	0	0	0	0	0
Kuwait	12	10	8	7	7	8	8	7	7
Qatar	0	0	0	0	0	0	0	0	0
Singapore	—	10	10	3	7	6	—	—	—
Slovenia	25	24	24	26	25	24	24	26	25
Taiwan	0	—	—	—	—	—	—	—	—
United Arab Emirates	3	1	1	2	1	1	1	1	1
SA	5	7	8	7	7	6	6	5	5
Bangladesh	2	3	2	2	3	3	3	3	3
India	3	4	4	5	5	4	4	3	3
Nepal	14	20	16	14	13	13	13	12	11
Pakistan	23	48	50	51	52	51	50	51	52
Sri Lanka	0	0	0	0	0	0	0	0	0
SSA	25	26	28	26	29	29	33	33	32
Angola	48	49	50	52	54	53	54	54	54
Benin	90	92	92	92	98	—	—	—	—
Botswana	94	94	93	93	90	88	84	79	78
Burkina Faso	79	80	76	100	100	100	100	—	—
Burundi	36	33	58	64	66	69	71	71	73
Cameroon	71	74	71	82	80	75	77	76	—
Congo, Dem. Rep.	44	56	58	60	64	55	70	70	—
Cote d'Ivoire	90	—	—	—	—	—	—	—	—
Ethiopia	0	0	0	0	0	0	0	0	0
Ghana			57	58	61	64	68	69	—
Kenya	46	46	39	38	38	35	33	33	36
Madagascar	100	100	100	100	100	100	100	100	100
Malawi	31	30	29	31	29	28	29	34	34
Mali	28	30	40	52	48	61	—	—	—
Mauritania	3	—	4	10	4	7	17	4	—
Mauritius	44	58	74	66	70	69	63	63	55
Mozambique	99	99	100	99	99	99	98	96	94
Namibia	73	59	58	53	54	54	49	52	52
Niger	72	74	69	—	—	—	—	—	—
Nigeria	—	7	6	4	5	14	17	20	19
Rwanda	53	54	39	43	24	16	13	—	—
Senegal	62	68	93	93	86	85	94	94	—
Seychelles	52	57	60	65	61	63	67	65	—
South Africa	22	21	23	21	22	22	25	24	23
Sudan	—	8	19	20	19	9	9	—	—
Swaziland	80	81	83	81	88	84	76	78	100
Tanzania	92	93	87	56	54	45	40	39	47

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Table A2: (*Continued*)

Country	2005	2006	2007	2008	2009	2010	2011	2012	2013
Togo	—	—	—	—	—	0	0	0	—
Uganda	89	95	95	86	89	89	80	81	85
Zambia	69	70	88	99	100	99	99	99	99
Zimbabwe	—	—	—	—	45	41	37	36	—
Total	13	13	13	13	13	12	12	11	11

Note: Asset shares are missing if less than 60 percent of the banks active in the country have asset information available for that particular year.

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Table A3. Variable Definitions and Sources

	Definition	Source
Exit	Dummy that is one if bank *z* from home country *i* active in 2007 in host country *j* fully ends operations in host country *j* by end 2012, zero when it remains present.	Claessens and van Horen (bank ownership database)
Growth	Log difference between 2007 and 2012 of the sum of assets held by bank *z* from home country *i* in host country *j*.	Claessens and van Horen (bank ownership database)/Bankscope
Entry	Dummy that is one if a bank from home country *i* newly entered host country *j* by 2012, zero if no investment from a bank from home country *i* in host country *j* in 2012 took place.	Claessens and van Horen (bank ownership database)
Home/host crisis	Dummy that is one if the home/host country experienced a banking crisis in at least one year between 2008 and 2012.	Laeven and Valencia (2013)
Home/host euro area	Dummy that is one if the home/host country is part of the euro area.	—
Foreign market share —Same country	Assets held by all foreign banks from home country *i* active in host country *j* (excluding assets of bank *z* itself) divided by total bank assets in host country *j* (2007).	Claessens and van Horen (bank ownership database)/Bankscope
Foreign market share —Other country	Assets held by all foreign banks from all other home countries ($k \neq i$) active in host country *j* divided by total bank assets in host country *j* (2007).	Claessens and van Horen (bank ownership database)/Bankscope
Asset growth host	Log difference between 2007 and 2012 of the sum of assets held by all banks active in host country *j*.	Claessens and van Horen (bank ownership database)/Bankscope
Market share	Assets held by bank *z* from home country *i* active in host country *j* divided by total bank assets in host country *j* (2007).	Claessens and van Horen (bank ownership database)/Bankscope
Young	Dummy that is one when bank *z* has been present in host country *j* for five years or less (measured in 2007).	Claessens and van Horen (bank ownership database)/Bankscope
Distance	Distance in km between home country *i* and host country *j* according to the great circle distance formula (in log).	CIA World Factbook (2005)
Trade	Trade (export plus import) between home country *i* and host country *j* (2007).	IMF Direction of Trade Statistics
Trade growth	Log difference between 2007 and 2012 in trade (export plus import) between home country *i* and host country *j*.	IMF Direction of Trade Statistics
Growth local lending	Log difference between 2007 and 2012 of the sum of loans provided by foreign banks from home country *i* active in host country *j*.	Claessens and van Horen (bank ownership database)/Bankscope
Growth cross-border claims	Log difference between 2007 and 2012 of cross-border claims held by banks from home country *i* to firms in country *j*.	BIS consolidated banking statistics

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