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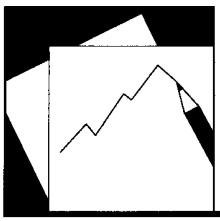

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The Impact of the Global Financial Crisis on Banking Globalization

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The Impact of the Global Financial Crisis on Banking Globalization

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Abstract

Although cross-border bank lending has fallen sharply since the crisis, extending our bank ownership database from 1995-2009 up to 2013 shows only limited retrenchment in foreign bank presence. While banks from OECD countries reduced their foreign presence (but still represent 89% of foreign bank assets), those from emerging markets and developing countries expanded abroad and doubled their presence. Especially advanced countries hit by a systemic crisis reduced their presence abroad, with far flung and relatively small investments more likely to be sold. Poorer and slower growing countries host fewer banks today, while large investments less likely expanded. Conversely, faster host countries' growth and closeness to potential investors meant more entry. Lending by foreign banks locally grew more than cross-border bank claims did for the same home-host country combination, and each was driven by different factors. Altogether, our evidence shows that global banking is not becoming more fragmented, but rather is going through some important structural transformations with a greater variety of players and a more regional focus.

JEL Classification Numbers: F21, F23, G21

Keywords: Foreign banks, financial globalization, global financial crisis, cross-border banking, financial fragmentation

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I. INTRODUCTION

In the wake of the global financial crisis many commentators have posed that global financial integration has gone into reverse.[2] The discussion has mainly focused on the collapse in cross-border bank flows globally (e.g., Milesi-Ferretti and Tille, 2011) and the fragmentation of financial markets within the euro zone (e.g., ECB, 2014). It is clear that the need to restore balance sheets and profitability, and meet stiffer capital requirements and other regulatory changes aimed at strengthening banking systems have incentivized European and, to a lesser extent, American banks to reduce their international operations. Increased sovereign and other forms of country risks have led to further financial fragmentation in some regions. While the collapse in capital flows and signs of financial fragmentation in certain regions are well documented, the developments in foreign bank presence have not, creating some confusion on the actual facts. This paper shows that in terms of local foreign bank presence, i.e., local "brick and mortar" operations, the global banking system has not become more fragmented. Rather, the crisis has accelerated a number of structural transformations, leading to a global banking system with a larger variety of home countries active abroad and one that while globally less, 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 American banks. After all, these banks were the main vehicles through which financial systems globally became more integrated before the crisis and the ones most affected by the crisis. But focusing solely on the behavior of these banks does not provide a complete picture of the global banking landscape. Even before the crisis, emerging market and developing countries' banks were expanding abroad, with some becoming important global players (Van Horen, 2011; Beck, Fuchs, Singer and Witte, 2014; BIS, 2014; Claessens and Van Horen, 2014a). Furthermore, developments in the global banking system do not necessarily mirror developments in one region, e.g., Europe. While undoubtedly the crisis has led to large changes, it is important to carefully examine shifts in foreign activities of all globally active banks, i.e., from both advanced and other economies.

This is what this paper aims to do. It starts by extending the bank ownership database of Claessens and Van Horen (2014a) up to 2013. This new database covers ownership information and changes therein of more than 5,498 banks active in 138 host countries for the period 1995-2013. For each year a foreign bank is active the database also provides information on the home country of the parent bank. The database is therefore ideally suitable to study how the crisis has affected global financial integration and banking structures and networks, and how these relate to developments in cross-border banking.

Our data show that after the crisis only about one-fifth as many foreign banks entered compared to the peak year just before the crisis. As exits remained similar, overall net entry became negative, i.e., there was some retrenchment in foreign bank presence. As the number of domestic banks declined as well, the aggregate market share of foreign banks in numbers

[2] E.g., "Financial fragmentation: Too much of a good thing" The Economist, October 12, 2013.

remained at about 35 percent as of end 2013. The asset share declined, however, as domestic banks grew their balance sheets faster than foreign banks did, in part as many parent banks saw their balance sheets impaired. Yet, foreign banks still account for some 11 percent of global bank assets as of end 2012, down only slightly from a peak of 13 percent in 2007.

These aggregate trends hide some important variations and differences, however, both among host and even more so among home countries, reflecting global shifts in economic and financial power. While for 66 host countries, foreign bank presence declined, for 48 countries it actually increased. Although the overall number of foreign banks has declined somewhat since the crisis, much activity has been in the intensive margin as most foreign banks were sold to other foreign parents. While bank ownership by OECD countries still represents 89% of foreign bank assets globally, this is 5% less than before the crisis, mostly on account of a retrenchment by crisis-affected Western European banks. Continuing an ongoing trend, banks from emerging markets and developing countries further increased their presence as they represented close to two-thirds of the new entries. As a result, the global banking system encompasses now a larger variety of players. And foreign bank presence has become more regional, with the average intraregional share increasing by some 5 percentage points.

Examining the underlying determinants of these changes, we find that countries hit by a systemic crisis at home are less represented abroad today and host countries growing slower saw their local foreign banks' assets grow less. Those home-host combinations representing far flung and relatively small investments saw more retrenchment, while those with large bilateral foreign bank presence before the crisis grew their balance sheets less. Conversely, entry was greater in host countries that were faster growing and closer to home. Many of these changes relate to the growing importance of foreign banks coming from emerging markets and developing countries. When we compare developments in foreign bank local lending to those in cross-border banking claims, we find that local lending declined less during the crisis than cross-border banking claims did, supportive evidence of the notion that foreign bank presence has been a relative source of stability. The entry of new banks from emerging markets and developing countries with relatively stronger balance sheets and greater willingness to expand credit has mitigated declines in local lending in many markets. And while there are some common drivers, in general, there is little relation between the developments in the two. This is further evidence of the fact that the retrenchment witnessed in cross-border lending is quite distinct from foreign banks local activity.

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 banking system structure, including its concentration, the degree of competition, and the share of private vs. state banks and domestic vs. foreign ownership relate to financial sector efficiency, stability and the incidence of crises (e.g., Beck, Demirguc-Kunt and Levine, 2006; Beck, De Jonghe, and Schepens, 2012). Specifically regarding foreign banks, their costs and benefits during non-crisis and crisis times have been found to vary with factors such as the home country of the banks, the distance between the

home and host country, and banks' balance sheets and other characteristics.[3] So far, however, very few studies provide insights into how crises can affect banking system structures in general. It is clear though that the recent crisis in particular has led to some profound changes. 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 foreign bank presence, however, has not been studied so far.[4] Given the important role of foreign banks in many markets and the shifts in global banking networks, documenting and understanding these changes is important.

Second, our work relates to the more general literature on financial globalization and its post crisis evolution. While before the crisis, most saw financial internationalization as clearly beneficial, some did highlight that the balance of benefits and risks is not obvious and can depend on many factors, including borrowing country characteristics (see Kose, Prasad, Rogoff and Wei, 2010 for a review).[5] The crisis revealed some of these risks as it came with

[3] In general, foreign banks have been found to lower the overall costs and increase the quality of financial intermediation, increase access to financial services, and enhance the financial and economic performance of their borrowers (Claessens, Demirguc-Kunt, and Huizinga, 2001; Clarke, Cull, Martinez Peria and Sanchez, 2003; Claessens, 2006). The presence and magnitude of these benefits seems to vary, however, by some conditions, including characteristics of the local market and the foreign banks themselves (Garcia-Herrero and Martinez Peria, 2007; Demirguc-Kunt, Laeven and Levine, 2004). Limited economic development and entry barriers can hinder the effectiveness of foreign banks and even lead to "cream skimming" (Detragiache, Gupta, and Tressel, 2008; Beck and Martinez Peria, 2007). Foreign banks also add less in countries where they have a limited market share, where enforcing contracts is costly, and where creditor information is limited available (Claessens and Van Horen, 2014a). Furthermore, foreign banks with assets in many countries tend to have lower market power at home, but banks with a higher share of foreign assets tend to exhibit more market power (Buch, Koetter and Koch, 2013).

[4] Existing literature, reviewed and extended in Claessens and Van Horen (2014b), has identified several factors that influence the location decisions of foreign banks in normal times: host country expected economic growth and local bank inefficiencies; (differences in) costs and regulations; bilateral trade and foreign direct investment linkages; geographical, cultural or institutional closeness; similarity in economic size and development; and competitive advantages related to the overall structure of the global banking system. Domestic financial development and the share of foreign banks have little relation, i.e., a country can be financially much (or little) developed with few or many foreign banks present. Furthermore, Karolyi and Taboada (forthcoming) find that (benign) regulatory arbitrage is an important driver of cross-border bank M&As.

[5] While in principle financial globalization should enhance international risk sharing, reduce consumption volatility, and foster economic growth, in practice effects were found to be less clear-cut. 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. While 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 was also found to be complex.

(continued…)

an unprecedented collapse in capital flows. Contrary to past episodes, all types of countries were affected, although emerging economies experienced a shorter-lived retrenchment than advanced economies did, as shown by Lane and Milesi-Ferretti (2012). More generally, both borrower and lender characteristics seemed to have played a role in the decline and shifts in (the structure of) capital flows in general and cross-border bank lending in particular (Degryse, Elahi, and Penas, 2010; Milesi-Ferretti and Tille, 2011; Cetorelli and Goldberg, 2011; De Haas and Van Horen, 2012; Kalemli-Ozcan, Papaioannou and Peydro, 2013; Minoiu and Reyes, 2013; Cerutti, 2014; and Cerutti, Hale, and Minoui, forthcoming). Understanding shifts in local foreign bank presence adds important insights into how the crisis has affected financial globalization and the structure of global banking.

Lastly, it relates to the literature on the effects of foreign banks on financial stability, including on how cross-border banking flows and local lending relate. While 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 from their foreign affiliates when in trouble at home (Peek and Rosenberg, 1997, 2000a; Cetorelli and Goldberg, 2012). Indeed on average, foreign banks, often from crisis-affected countries, reduced their local lending during the global crisis by some 8 percentage points more than domestic banks did (Claessens and Van Horen, 2013). This importantly affected local firms, especially small ones and those with limited tangible assets (Ongena, Peydro and Van Horen, 2013). Cutbacks did differ across banking systems, however. They were more likely when the foreign affiliate was not financed by local deposits (De Haas and Van Lelyveld, 2014) and equally strong for domestic banks funded through international capital market as for foreign banks (Ongena, Peydro and Van Horen, 2013). 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 (see also McGuire and von Peter 2009). Furthermore, 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. More generally, how countries are affected by shocks varies much, related in part to heterogeneity in banking systems and ownership structures (e.g., Peek and Rosenberg, 2000b; Buch and Goldberg, 2014).

We add to these strands in the literature in several important ways. By extending our database on bank ownership to cover the period 1995-2013, we can describe the changes in foreign bank presence around the world induced by the crisis. The bilateral nature of the database and its large coverage allows us to examine what factors account for these at the home country, host country and bilateral level. Furthermore, while many studies focus on one form of international bank lending, i.e., cross-border lending or local lending by foreign affiliates, there can be important interactions between the two. By combining our data with

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Although foreign direct investment and other non-debt creating flows were found to be positively associated with long-run growth, the impact of debt flows seem to depend on the strength of a country's policies and institutions.

BIS data on cross-border bank lending, we can provide insights into how the two types of flows have behaved in the wake of the crisis, also at the bilateral level.

The remainder of the paper is structured as follows. Section 2 describes the database. Section 3 provides an overview of how foreign bank ownership has changed in the wake of the global financial crisis. Section 4 examines in detail the key drivers of foreign bank changes – exit, entry and growth – in banking systems globally. Section 5 studies how changes in local lending by foreign banks and changes in cross-border lending relate. Section 6 concludes.

II. DATA

To examine how the global financial crisis affected foreign bank ownership we extend the bank ownership database of Claessens and Van Horen (2014a). The database contains ownership information of current and past active commercial banks, saving banks, cooperative banks and bank holding companies that reported financial statements to Bankscope at least one year between 1995 and 2009 in 137 countries.[6] Coverage is very comprehensive with banks included accounting for 90 percent or more of each country's banking system assets.[7] For a detailed description of the earlier database and its construction see Claessens and Van Horen (2014a).

We extend the database in a number of ways. Most importantly, we add four years so that the database now includes ownership information of banks active at least one year between 1995 and 2013. Furthermore, Taiwan is added, extending it to 138 countries. And we double check ownership information for the years 1995-2009 and carefully go through any mergers that took place following the global financial crisis and correct or adjust information when necessary. The new database contains 5,498 banks, of which 3,853 were active in 2013.

For each bank, we provide the year the bank was established and (if applicable) the year it exited the market. We then identify the bank's shareholders in each year it was active over 1995-2013. We call a bank foreign owned when 50 percent or more of its shares are held by foreigners. This cut-off, 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 and long period).

[6] Given that we want to link our database to Bankscope, we cover mainly foreign owned subsidiaries, but not bank branches as branches generally do not report individual balance sheet information and are therefore not included in Bankscope. The bias of not covering branches in terms of (changes in) the structure of global banking is not obvious however (see Fiechter et al., 2011, for 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).

[7] For emerging markets and developing countries all (active and inactive) banks present in Bankscope are included. For the advanced countries in the sample, coverage is restricted to the 100 largest banks in each country in terms of 2009 assets, so smaller (typically regional) banks are not included in the database for these countries (this reduces especially the coverage of banks in the United States).

For each year it is active, the bank is then coded as either foreign- or domestic-owned.[8] Next, we sum the shares held by foreigners by country of residence, with the country with the highest percentage of shares considered the home country.[9]

We can determine the complete ownership structure for all the years each bank was active, including the home country of its largest foreign shareholder, for 5,427 of the 5,498 banks in the sample (i.e., 99 percent). For 16 banks only partial ownership and for 55 banks no ownership could be determined. In addition to ownership information, we provide for each bank in our database 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 over the period 1995-2013.

Using this database, we next present a summary of the state of foreign bank ownership before the start of the global financial crisis, discuss how the crisis affected banking globalization through foreign ownership, and then analyze what were the key drivers of changes in foreign bank presence in the wake of the crisis.

III. THE GLOBAL BANKING SYSTEM BEFORE AND AFTER THE FINANCIAL CRISIS

A. 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 with that trend affecting a large number of countries. The fifteen year period saw a steady increase in the number of foreign banks, from 784 in 1995 to 1,301 in 2007 (Figure 1 and Table 1).[10] As also 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

[8] Note that for domestic banks we do not make a distinction between privately- or state-owned banks.

[9] The country of ownership is based on direct ownership, i.e., 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 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). Also over time, identifying home countries and tracing ownership information becomes more complicated since more banks raise equity through public capital markets offerings, resulting in much 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.

[10] We exclude from all further analyses eight offshore host countries (Antigua and Barbuda, Bahrain, Barbados, Cyprus, Mauritius, Panama, Seychelles, and Singapore) that are included in the database as foreign investment in these countries is driven by specific considerations. Furthermore, Taiwan is excluded as balance sheet information is hardly available for its banks. Together, this reduces the number of banks active in 2013 from 3,853 to 3,656.

terms of assets, and covering a shorter period due to more limited availability of balance sheet data, the foreign share equaled 13 percent in 2007, slightly up from 12.5 percent in 2005.[11]

There is much heterogeneity, however, in the 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 grew in OECD countries by much less than in emerging markets and developing countries. In 2007 market shares in OECD countries equaled 23 and 12 percent in terms of number and asset shares respectively (see Table 1; Appendix Table 1 and 2 provide for each country the number and assets shares respectively for the period 2005-2013).[12] Market shares in 2007 in emerging markets and developing countries were substantially higher, amounting to 35 and 43 percent respectively in terms of numbers and 16 and 24 percent in terms of assets. This shows that in richer countries foreign banks tends to be small, while in poorer countries they tend to be large. In the group of emerging markets and developing countries, Eastern Europe and Central Asia and Sub Saharan Africa have the highest foreign bank presence, with number (asset) shares in 2007 of 47 (43) and 49 (30) percent, respectively. South Asia is the region with the least foreign bank presence in 2007 in terms of numbers (12 percent) and East Asia and Pacific the region with the least in terms of assets (5 percent).

While foreign bank presence is to a large extent concentrated in non-OECD countries, most parent banks still tend to be headquartered in OECD countries. As shown in Table 2, in 2007 banks from OECD countries accounted for 67 percent of all foreign owned banks and 94 percent of all foreign-controlled assets. However, a substantial and growing number of foreign banks came from emerging markets (259) and developing countries (93), with banks headquartered in Eastern Europe and Central Asia (85) and Sub Saharan Africa (79) most active in terms of foreign investments. While quite substantial in numbers, these banks tend to be (very) small, representing only 4 percent of all foreign assets as of 2007.

B. The impact of the global financial crisis

Over the period 2007 to 2013, banking systems in many countries experienced some important ownership transformations in several dimensions. This is no surprise as a shock as severe as the global financial crisis is bound to have implications for the international

[11] Balance sheet information is very limited in Bankscope before 2005. Therefore it is not possible to provide reliable estimates of the share of foreign assets over total bank assets for a longer time period.

[12] The OECD group only includes the core OECD countries and other high-income includes all countries classified as high-income by the World Bank in 2000 but not belonging to OECD. This implies that current OECD countries like Hungary, Czech Republic, Poland, Slovakia and Korea are included in the emerging market group. Slovenia, which already was a high-income country in 2000, is included in the other high-income group. Emerging markets includes all countries that are included in the Standard and Poor's Emerging Market and Frontier Market indexes and that were not high-income in 2000. A number of countries that were low-income in 2000 but are present in the Frontier Market Index (Bangladesh, Cote d'Ivoire, Ghana, Kenya and Zimbabwe) are included in the developing countries group, as are all remaining countries.

expansion and investment decisions of globally active banks, many of which are based in crisis-affected countries. Yet, as some banks, either forced or voluntary, retrenched from foreign activities, others grasped opportunities to expand abroad or increase their market shares in foreign countries. A number of statistics capture these changes clearly.

First, on an annual basis, the number of new foreign bank entries declined sharply from before the crisis (Figure 2). In 2013, only 22 foreign banks entered, compared to a peak of 132 in 2007, or only about one-fifth as many. Of the remaining new entries, fewer were in the form of greenfields, five on average in the last three years, compared to a peak of 34 in 2007. While relatively much more entry occurred in the form of M&As, there were just 21 M&As in 2013, or less than one-quarter of their peak in 2007 (97). As the number of exits (implying a sale to another foreign bank, to a domestic bank, or a complete closure) did not increase sharply, with the lower entry, net foreign bank entry was negative in the years 2010-2013, for the first time since 1995 when our database starts.

With net exit occurring for the first time since 1995, there was a slight decline in the number of foreign banks active, with the number declining from 1,301 in 2007 (after peaking at 1,350 in 2009) to 1,272 in 2013 (see Figure 1 and Table 1). As the number of active domestic banks fell even more, from 2,704 in 2007 to 2,384 in 2013, the overall foreign bank share still increased from 32 percent to 35 percent. However, since foreign bank's balance sheets grew relatively less than those of domestic banks, the share of total assets controlled by foreign banks globally declined somewhat, from 13 percent in 2007 to 11 percent in 2012.[13]

Second, these developments were not uniform across the world. Grouping host countries on an income basis shows substantial differences. The retrenchment was the largest in OECD countries, where the number of foreign banks declined by 40, followed by emerging markets, where the decline in presence was only 19 banks. In developing countries, the number of foreign banks actually increased by 30. On a regional basis, the Eastern Europe and Central Asian region saw the largest reduction in foreign banks, as 29 banks left, while Sub-Saharan Africa experienced an increase of 31 foreign banks. As the number of domestic banks declined more in all groups, relative foreign bank presence generally increased, especially in developing countries. In terms of asset shares, however, as the (remaining) domestic banks generally grew faster, there was some decline between 2007 and 2012 for OECD countries and an even larger decline for emerging markets. Over the same period, however, there was an increase in asset share for other high-income and developing countries. Asset shares remained more or less stable in most regions, but declined substantially in the Eastern Europe and Central Asia and the Latin America regions.

Third, ownership structures have also shifted by home country income and regional grouping. While there was a significant reduction in foreign banks owned by high-income countries since 2007, the number of foreign banks from emerging market and developing

[13] When comparing the pre-crisis period with the post-crisis period in terms of assets we use end of 2012 information as balance sheet information for 2013 is missing for more than 25 percent of the banks in our sample.

countries continued to grow and its pace even slightly accelerated (Figure 3). Since 2007, the number of banks owned by OECD countries dropped sharply by 122 (Table 2). Of this drop, the largest number, 111, was on account of Western European banks that have been shedding subsidiaries (and assets), followed by North American banks. Only Asian OECD countries (Japan, Australia, and New Zealand) increased their ownership, by five banks. In contrast, banks from emerging markets increased their foreign presence by 70 banks and those from developing countries by 19 banks. Among these, banks from Sub Saharan African countries (including Ecobank, United Bank of Africa, and Bank of Africa) were the most important investors, adding 34 banks, followed by banks from Eastern Europe and Central Asia.[14]

Overall, emerging markets and developing countries further continued their trend of increased foreign bank ownership (see Figure 3). Altogether, of the new entries since 2007, more than two-third was on account of emerging markets and developing countries, the exact opposite of the pattern before the crisis. The increased role of emerging markets and developing countries is even clearer when depicting net entry (Figure 4). While prior to 2002, high-income countries dominated net entry, between 2003 and 2007, net entry was about equally divided between the two groups. However, in the wake of the global financial crisis, the large net exit of foreign banks was completely on account of high-income countries, while banks from emerging markets and developing countries still showed positive net entry in all years except 2013.

This increase in the importance of banks from these countries appears mainly the result of the need for crisis-affected advanced country banks to consolidate their operations abroad, while at the same time some well-capitalized emerging market and developing country banks were able to seize investment opportunities provided as a number of European and American banks (either forced or voluntary) needed to consolidate their foreign operations. To name a few: 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. In terms of assets, banks from emerging markets saw the assets they control increase from $365 billion to $728 billion (while OECD controlled asset declined with 6 percentage points). Although still relatively small in terms of asset share, these banks now account for 8 percent of total foreign bank assets, a doubling compared to 2007.

Fourth, foreign bank presence, which has been regionally concentrated, with the shares of foreign banks coming from countries within the same region more than 50 percent before the crisis, has as a result of abovementioned developments become even more regional. As Figure 5 shows, while in 2007 56 percent of foreign bank assets were owned by foreign banks headquartered in the same region as the host country, in 2012 this percentage has increased to 60. This increase is apparent in all regions but less so in Europe where foreign banking traditionally has been very large and regional (see also ECB, 2013). The breakdown of the origins of the foreign banks by level of home income per capita shows that the increase

[14] For a thorough analysis of changes in cross-border activity in Africa and its policy implications see Beck, Fuchs, Singer and Witte (2014).

has been largely on account of new entry by emerging markets and developing countries, including them buying banks previously-owned by high-income countries. The large change for the Americas, where the share of regional foreign banks increased almost threefold, from 7 to 20 percent, reflects in part the sale of subsidiaries of European banks to Latin American banks, but also large acquisitions among high-income countries, like that of US Commerce Bank by Canadian TD Bank.

So far we have documented that in the wake of the crisis foreign bank presence has declined somewhat, but with substantial differences across income groups and regions. Furthermore, banks from emerging markets and developing countries became more prominent as investors and foreign banking has become even more regional. These changes reflect substantial shifts in the presence of foreign banks at both the host country and bilateral levels. Figure 6, Panel A 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] In none of the host countries in our sample did all foreign banks completely exit. However, in 66 countries where foreign banks were active before the crisis, their role in financial intermediation decreased over the past five years, on average by 16 percent (a median of 11 percent). And in 47 countries their relative presence actually increased over the same period, on average by 61 percent (a median of 13 percent). And in the one host country without any foreign bank activity in 2007, Oman, a foreign bank entered (due to the acquisition of Oman International Bank by HSBC).

Panel B of Figure 6 depicts the distribution of the same change, but now at the bilateral level. In contrast to the changes at the host country level, we find that for a substantial number of home-host pairs (63 out of 576) there is no longer bilateral foreign bank presence after the crisis. As is the case at the host country level, however, there is no general retrenchment: while in 53 percent of the pairs in which at least one bank of the home country stayed present in the host country, the share of bilateral foreign assets decreased, in 47 percent it increased. Furthermore, after the crisis 106 new home-host country pairs came into existence, of which 59 percent involved investments by a bank from an emerging market or developing country home country and 93 percent involved investments in an emerging market or developing country host country. The difference between the host country and bilateral perspectives show that the substantial turnover at the bilateral level (Panel B) translated in less change at the host country level (Panel A) as foreign banks were acquired by other foreign owners, many of which from emerging markets and developing countries. The exact drivers of these changes we further explore in Section 4.

[15] To provide a meaningful comparison of the changes in the asset shares of foreign banks we only include data on assets if a foreign bank is active in both 2007 and 2012 if balance sheet information is available for both years. For banks only active in 2007 or 2012, asset data is included for the year the bank is active, provided of course it is available. Countries in which less than 50 percent of the banks are covered this way are excluded from the sample altogether.

IV. DRIVERS BEHIND THE SHIFTS IN GLOBAL BANKING

Altogether, the descriptive statistics so far show that the crisis has led to important changes in global banking and the pattern of foreign bank presence, with notable shifts at the home, host and bilateral level. In this section we exploit the unique bilateral feature of our database to examine what factors at the home country, host country and home-host country pair levels have been driving these exits, entries and expansions. We focus on the country level, i.e., analyzing the changes in foreign bank presence for the (bilateral) home-host combinations.[16]

A. Methodology

We start by identifying all host countries with foreign bank presence in 2007 and/or 2012 and all home countries with foreign investment in 2007 and/or 2012 and create pairs of all the possible home-host combinations. For each pair we sum for both 2007 and 2012 the assets of all the banks from that home country active in that host country (i.e., this means that foreign assets at the bilateral level can represent assets of one or of more banks). Since balance sheet information is not always available for each bank even when active in both years and to provide a meaningful comparison of changes in foreign presence, we only sum the assets of banks for which balance sheet information is available for both years. To account for entry and exit, however, banks that are only active in 2007 or 2012 are included (provided that balance sheet information is available). Host countries where more than 50 percent of banks have missing balance sheets data are dropped altogether. In total, our sample includes 108 host countries, 79 home countries, and 8,532 home-host country pairs.

We focus on three questions: what factors drive a complete end to the presence of banks from a particular home country in a particular host country, "exit;" what drives the start of a new bilateral banking link, "entry;" and what factors impact the change in the size of presence, provided that presence is not fully ended, "growth." In other words, the first two questions focus on the extensive margins and the third on the intensive margin, and all three are analyzed at the home-host country pair level.

To this end, we construct three dependent variables. The first one, *Exit*, is a dummy variable which is one if (all) the bank(s) from home country *i* fully end operations in host country *j* between 2007 and 2012, and zero when the home country remains present. This happens for 63 out of the 567 pairs where there was presence in 2007. The second one, *Entry*, is a dummy variable which is one if at least one foreign bank from home country *i* newly entered a host country *j* by 2012, and zero if there was no investment from home country *i* in host county *j* in both years. New entries occurred in 106 out of 7,965 pairs. The third variable, *Growth*, equals the log change in bilateral foreign bank assets from home country *i* in host country *j* between 2007 and 2012. This variable is only calculated for country pairs where foreign bank(s) from home country *i* remained active in host country *j* (504 pairs). As we examine growth in assets at the home-host country pair level, this captures both the organic growth of

[16] We study factors at the home country level and not at the (parent) bank level as our database only identifies the home country of the parent bank and not the parent bank itself.

banks from home country *i* already present in host country *j* as well as the new entries by or exit of banks from home country *i* in host country *j*. On average, bilateral assets grew by 34 percent, yet 335 country pairs experienced negative growth.

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

$$\Delta Foreign_{ij} = ß_1 M_i + ß_2 X_j + ß_3 Z_{ij} + \varepsilon_{ij}$$

where subscripts *i* and *j* denote the home and host country, respectively; $\Delta Foreign_{ij}$ is either *Exit*, *Entry*, or *Growth* all for home country *i* and host country *j*; $ß_1$, $ß_2$ and $ß_3$ are coefficient vectors; M_i is a matrix of various home country characteristics, X_j is a matrix of various host country characteristics; Z_{ij} is a matrix of various home-host country pair variables; and ε_{ij} is the error term. We use probit for the *Exit* and *Entry* regressions and OLS for the *Growth* regressions. All regressions include a constant. Standard errors are heteroscedasticity robust and clustered at the host country level. Details on variable definitions and sources are in Appendix Table 3.

We include a number of explanatory variables that can be expected to have an impact on the decision of foreign banks to stay active in a particular banking system or retrench from it in the wake of the global financial crisis. We start with *Host GDP/cap* and *Home GDP/cap*, the log of GDP per capita in 2007 of the host and home country, respectively, to capture differences in economic and institutional development of the home and host country. As Table 1 and 2 made clear, changes in foreign bank presence differ by host and home income groups. A number of factors may be behind these differences. It is possible that in times of crisis, foreign banks tend to withdraw more from poorer and smaller markets to focus on richer, larger and possibly less risky countries. At the same time, foreign banks, notably from non-OECD countries, might direct their business more to developing countries with high growth and, arguably, more potential growth opportunities in recent years.

We also consider the occurrence of a systemic crisis in the home or host country. Naturally, we expect a crisis in the home country to negatively impact bilateral foreign presence (i.e., more exit, less entry, and less growth) as banks from such countries likely face financial market and regulatory pressures to pull back from foreign operations. We are more agnostic on the effect of a crisis in the host country. On one hand, a crisis could make foreign banks pull out, not enter, or contract. 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, or enter that market, possibly to gain market shares afterwards (De Haas and Van Lelyveld, 2010). To investigate these possibilities, we include the dummies *Home crisis* and *Host crisis* which are one if the home or host country experiences a banking crisis over the period 2007-2012 as defined by Laeven and Valencia (2013). Since income levels in home and host country are closely related to whether the country experienced a crisis recently or not (correlations of 0.63 and 0.66), we include one of these two variables only in the regressions.

We explore the role of two additional host country variables. *Host foreign presence* equals the sum of all assets held by foreign banks divided by all bank assets in the host country in 2007. As Claessens and Van Horen (2013) show, lending by foreign banks tends to be more

stable when foreign banks represent an important share of the local banking system, so we expect foreign banks to less likely pull out and more likely to enter when their presence is large. *Host growth real GDP* equals the log difference of real GDP in the host country between 2007 and 2012. We expect banks less likely to exit, more likely to enter, and to stay put and expand their balance sheets in a country that experienced stronger economic growth in the wake of the crisis.[17]

Finally, we include two bilateral variables. *Bilateral market share* captures the foreign banks' market share 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. Similarly to *Host foreign presence,* we could expect banks to exit less likely from a country when their market share is large. At the same time, banks may be less willing to increase their balance sheets when their presence is already large. In addition, we include *Distance*, which equals the log distance between the home and host country. Reflecting the costs of transacting and the degree of information asymmetries across borders, distance has been found to importantly affect the presence of foreign banks (Buch and Delong, 2004; Claessens and Van Horen, 2014b) and the probability of banks to reduce their cross-border lending after the bankruptcy of Lehman Brothers (De Haas and Van Horen, 2013). Accordingly, we expect banks to exit and possibly reduce their foreign presence more in those host countries that are further from the country in which they are headquartered, and to enter more likely those countries closer to home.

B. Empirical results

Table 3 presents our results. The first 5 columns show the results for the variable *Exit*, the next 5 for the variable *Entry* and the last 5 for the variable *Growth*. For each of the three dependent variables we first include the explanatory variables that capture host country characteristics (*Host GDP/cap*, *Host foreign presence* and *Host growth real GDP*). Next we include the variables that capture home country characteristics (*Home GDP/cap*) and then the bilateral characteristics (*Bilateral market share* (except for the new entry regression as there is no bilateral presence yet) and *Distance*). In the fourth set of regressions we include all variables together to determine which ones matter most, while in the fifth set of regressions we replace GDP per capita in the home and host country with the respective crisis dummies.

The results show that banks from a particular home country are more likely to completely pull out of a particular host country when it is less developed, when the home country is more developed, when the home country banks only represent a small share of the host country banking system, and when the distance between home and host country is large. When looking at R^2s, the explanatory power of the bilateral variables is triple that of the home country variables, and four times that of the host country variables. These regression results suggest that, under pressure to consolidate, foreign banks from richer countries pulled out of countries where they only had a small presence, and out of poorer and more distant

[17] We do not include (changes) in financial development as the previous literature has not found a systematic relationship between financial development and (changes in) foreign bank presence.

countries (example of such are Italian Unicredit selling ATF in Kazakhstan and Dutch ING bank dissolving its subsidiary in Venezuela).

That the motivation of banks to pull out is indeed a crisis-related phenomenon is confirmed when we replace the host and home country economic development variables with the systemic crisis dummies and find that banks headquartered in a country that experienced a crisis more likely exited from any host country (column 5). Maybe surprisingly, banks more likely stayed if the host itself was in a crisis. This could reflect that foreign banks are more willing to 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. In this particular case, however, we expect this to reflect that banks from OECD countries were withdrawing from their marginal markets which happened to be countries that did not experience a banking crisis.

In columns [6]-[10] we study entry, defined here as the start of a new bilateral link between a home and a host country due to the entry of one or more banks. In terms of host characteristics, real GDP growth is the only important variable, positive, consistent with growing economies being more attractive destinations. Economic development of the home country is not important. While the home crisis dummy is surprisingly positive, 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, two crisis-affected countries; without these two countries, the sign of the coefficient is negative (but statistically insignificant). We do see that entry importantly depends on distance, in that far away countries experience less entry, consistent with the general literature (e.g., Claessens and Van Horen, 2014b). Overall, real GDP growth in the host country and distance between home and host are the variables that explain the most of entry, about 10 percent combined.

In the last 5 columns we study growth in foreign bank assets (i.e., organic growth of banks from home country *i* already present in host country *j* as well as the net entries by banks from home country *i* in host country *j*), thus conditioning on at least one bank from the home country present in the host country in 2007 and still being present in the host country at the end of 2012. The results show that the drivers of *Growth* are not always the same as those for *Exit* and *Entry*. We find the adjustment in bilateral foreign assets to be driven to a large extent by host country characteristics and conditions, as these explain about 17 percent of the variation. This is not surprising given that the general growth of a banking system, including of the assets of foreign banks, will to a large extent be driven by local, host factors. Indeed, real GDP growth is positive and significant at the one percent level. In addition, we find that bilateral foreign bank assets grow less when the host country is more developed, reflecting that, in addition to growth in advanced economies being lower over this period, more rich countries experienced a crisis (although insignificant, the crisis dummy in column 15 is negative). When foreign banks already capture a large share of the market, foreign assets also grow less, possibly as limits to expansion are being reached (albeit this variable is not significant when all variables are included in the regression).

In terms of home country characteristics, the growth of bilateral foreign assets is less if the home country has a higher income. This, as regression 15 shows, is in part driven by the fact

that many of these countries experienced a (severe) banking crisis, but also captures the growing importance of emerging market and developing countries in foreign banking. Maybe surprisingly, distance does not have an impact on the growth of foreign assets (although it affects the decision to entirely withdraw from a host country or enter into a new host country). Furthermore, while exit is less likely when the asset share held by banks from the home country is large, greater presence negatively impacts the growth of bilateral foreign assets. This last result is consistent with the idea that the typically larger banks from advanced countries are retrenching, while banks from emerging markets and developing countries, which are typically smaller, are increasing their market shares.

Next we examine to what extent the significance of these variables differs between OECD and non-OECD home countries. In our sample, 65 percent of the pairs involve a home country that is an OECD country. Furthermore, these home countries account for 76 percent of the exits that have taken place, but only 41 percent of the entries. The results, reported in Table 4, show that for the group of OECD home countries, host and home economic development play an important role in both the decision to exit as well as in the change in foreign assets, but not for the decision to enter (columns [1], [3] and [5]). For non-OECD home countries, few of these variables are important driving factors. However, for entry host country growth is important for both sets of home countries. Bilateral foreign presence has the same impact for OECD and non-OECD home countries: exits are higher when banks only have a small market share; and, at the same time, conditioning on staying in the country, asset growth tends to be higher when the market share is small. Furthermore, while distance importantly affects a decision to exit a market for OECD countries, this is not the case for non-OECD countries, possibly because these banks tend to have a stronger regional focus. Entry, however, is affected by distance for both groups.

Summarizing, our results show that a number of factors contributed to the changing landscape of global bank presence. It is not only a story about crisis versus non-crisis home and host countries exiting, but a number of factors previously identified in the literature and dynamics between them that help explain the shifts and refocusing of strategies. Important among these factors is the secular increase of foreign banks coming from emerging markets and developing countries. In the next section we will explore further 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.

V. LOCAL LENDING BY FOREIGN BANKS AND CROSS-BORDER BANKING

We next examine how the financial crisis and associated changes in the global banking landscape have affected the behavior of cross-border lending and local lending by foreign affiliates. This will shed led light on questions such as whether the retrenchment in cross-border banking lending has been compensated for by local lending of foreign banks, existing or newly entered, or whether both declined, and what drives the differences between the two forms of lending. We do so by comparing BIS data on cross-border bank lending with data on lending by the foreign banks in our database in 107 host countries and then examine the

impact of several host and home country and bilateral characteristics on the changes over time in the two types of international bank lending and the difference between the two.[18]

A. Data and basic statistics

To capture developments in cross-border lending, we use the BIS consolidated banking statistics at an ultimate risk basis (i.e., claims are collected at the bank's group level and allocated to the country where the ultimate risk lies in a manner consistent with 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. Using these (confidential) bilateral data, we then determine for each lender-borrower country pair the log difference between 2007 and 2012 in gross cross-border claims between lender country *i* and borrower country *j*.[19]

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 balance sheet data from Bankscope.[20] For each home-host country pair, we then take the log difference in loans, also between 2007 and 2012. As BIS data only cover 22 creditor banking systems, mainly large OECD-countries, the cross-border claims cover fewer home countries than our data on foreign bank presence do. To have comparable lender/home data for our set of borrower/host countries, we limit our sample to the sub-group of (banks from) OECD home countries, dropping all non-OECD home countries from our foreign bank lending data.[21]

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[18] Other questions of interest include whether the global financial crisis has led to changes in the network structure of global finance. While our data allows one to analyze changes in terms of the network of foreign bank presence, BIS data alone do not allow for a similar analysis for cross-border banking lending. For example, the (changing) role of banks in some financial centers as lead underwriters in syndications is not fully captured in BIS data. At the same time, combining various data sources, Cerutti, Hale, and Minoiu (forthcoming) have shown that the share of syndicated exposures in total cross-border loans increased during the crisis compared to tranquil times.

[19] 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.

[20] As in Section 4, 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 is included for the year the bank is active, provided of course it is available. Countries with less than 50 percent of banks covered this way are excluded from the sample altogether.

[21] 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 then: Australia, Austria, Belgium, Canada, Finland, France, Germany, Greece, Ireland, Italy, Japan, Netherlands, Portugal, Spain, Sweden, Switzerland, United Kingdom and the United States. There are differences

(continued…)

Before examining the drivers behind the developments at the bilateral level in foreign bank and cross-border lending and differences between the two, it is insightful to consider some basic statistics. The first three columns in Table 5 show that local lending by foreign affiliates was an important source of international bank lending in 2007 as it amounted to some 5.8 trillion US dollars. While direct cross-border lending was still the most important form overall, amounting to some 10.6 trillion US dollars or 65 percent of total international lending in 2007, for the non-OECD countries groups local lending was more important than cross-border lending. And comparing local lending by all foreign banks with that of OECD home country foreign banks only shows that a substantial amount of local lending was done by non-OECD banks in all income groups except for the OECD countries themselves.

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 (column 4 and 5). This should not come as a surprise as many OECD banks faced balance sheet problems, while most banks from emerging markets and developing countries were able to continue to grow. In terms of host groupings, there was some reduction in lending by foreign banks based 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 and OECD-only foreign banks. What is striking is that loan growth for the full sample of foreign banks compared to the sample of foreign banks from OECD home countries is only substantially higher in emerging markets and developing countries. This reflects that foreign banks from emerging markets and developing countries increased their local lending in these countries over this period more so than foreign banks from OECD home countries did.[22] Similar patterns emerge using country-based averages (columns [7]-[8]), but at different levels. As such, it suggests that foreign banks from emerging markets and developing countries offset some of the withdrawal by foreign banks from OECD countries.

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in data coverage and compilation between the BIS cross-border claims and our foreign banks' local lending data. BIS claims do not include claims on-lend to other countries (e.g., where the borrower whose ultimate risk does not reside in the host country), which the foreign bank data do include. Also BIS data are on a consolidated basis, meaning that cross-border claims extended by a subsidiary located in country A to residents of country B are attributed to the subsidiary's parent, say in country C, whereas our data assigns the lending of foreign banks in host country B to its direct owner, which could be a subsidiary in country A, even if that subsidiary itself is owned by a parent in country C. Neither the BIS cross-border claims data we use nor our data include lending by branches. To the extent, however, that foreign banks lend locally more (or less) after the financial crisis through their branches (when available) to offset changes in their direct lending, this could skew comparisons.

[22] As Appendix Figure 1 shows, loan growth of all foreign banks is quite close to that of OECD-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-only banks, in part as non-OECD banks offset declines in local lending by OECD-only banks.

We next compare the growth of foreign banks' local loans to the change in direct cross-border BIS claims for our set of host countries (column [6] and [9]). Not surprisingly, over this period there was on average a large reduction in cross-border loans, 14 percent on a group basis, compared to the 8 percent growth in lending by the foreign banks in our database (and for the set of foreign banks from OECD countries, local lending on average grew 16 percentage points more than cross-border lending). This is largely due to OECD borrowing countries that experienced a reduction in cross-border lending of 21 percent on a group basis and 27 percent on a country average basis. Host countries in the other income groups generally saw an increase in cross-border loans, making the overall country-based average still positive. However, except for emerging markets as a group, cross-border lending over the period 2007-2012 grew less compared to local lending by foreign affiliates. This difference is in line with other findings that cross-border bank claims tend to be more volatile compared to local lending by foreign affiliates (Peek and Rosengren, 2000b, Cetorelli and Goldberg, 2010, Buch and Goldberg, 2014), in part due to a flight home (Giannetti and Laeven, 2012a and 2012b) and potentially because local affiliates lend to a set of borrowers differently affected by the crisis. At the same time, it could be that heightened intra-banking group financial frictions and specific regulatory actions, including ring-fencing, during periods of financial turmoil prevented banks from reallocating funds and capital optimally between their affiliates and headquarters making cross-border bank lending behave differently than local affiliate lending for the same host country, as suggested by some analyses (e.g., Cerutti and Claessens, 2014).[23] Whatever the reasons, due to these different growth rates the share of local lending by foreign affiliates in total international bank lending increased by 6 percentage points to 41 percent by 2012.

These averages hide much heterogeneity at the host country level, however, as can be seen in Figure 7, which plots the growth in cross-border loans (column 6 in Table 5) against the growth in loans provided by foreign banks (column 4 in Table 5). We see a large variation (Panel A): while in some cases cross-border lending decreased more than foreign banks' local lending, 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 the change in cross-border loans (column 6 in Table 5) against the change in lending by foreign banks from OECD-only home countries (column 4 in Table 5) in Panel B. Again, there can be large differences between the changes in cross-border banking claims and those in foreign bank loans. We next explore more in depth what factors may drive these trends and differences.

B. Drivers behind loan growth of foreign banks and cross-border loans

To examine what factors explain the growth rates in cross-border lending and local 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 to explain the retrenchment of foreign

[23] 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, 2014).

banks.[24] Our dependent variables are the *Growth in local lending*, defined as the log change in bank loans for 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 *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 growth in both local lending and cross-border claims. This leaves us with a sample of 93 host countries, 15 home countries and 245 home-host country pairs. We use the same set of explanatory variables as before, except that we also investigate if the growth in local lending by foreign banks was affected by that in cross-border banking claims and vice-versa.

Table 6 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 regression results [1] and [2] shows that the drivers of the growth rates in lending by foreign banks and cross-border lending have some similarities, but also do vary in some respects, variations which are confirmed in the regression that examines the differences in growth rates, column [3]. In terms of commonalities, when foreign banks capture a larger share in the host market this positively impacts both the growth of local lending by foreign banks (from OECD home countries) and cross-border lending in similar ways. This suggests that when foreign banks have a greater presence, they are more committed to a market and continue lending even after a crisis. Obviously, both types of lending are also driven by the growth in the real economy of the borrower/host country, but only in a statistically significant way for local lending, reflective of the greater volatility in cross-border flows.

Some important differences appear though between the drivers of local lending by foreign banks and those of cross-border lending. While banks from richer home countries were reducing their local lending – possibly as many were hit by a crisis at home, they did not necessarily cut cross-border lending to the same country, as home GDP per capita is not statistically significant in column [2]. And when the bilateral market share captured by banks from the home country in the host country was larger, the growth in local lending by their foreign banks was less, but not the growth in cross-border lending. The latter is intuitive as local foreign bank presence does not need to relate to cross-border lending. At the same time, distance had a positive effect on cross-border lending, suggesting that banks from OECD countries re-directed their cross-border lending to non-OECD countries – which are generally further away, but distance was not a statistically significant factor in driving local lending by foreign banks. Interesting, once we control for these home, host and bilateral country characteristics, we find that the growth in local lending by foreign banks is not affected by the growth in cross-border lending nor vice-versa. As such, this suggests that at the margin

[24] Kerl and Niepmann (2014) model how international banks choose between international interbank lending, intrabank lending and cross-border lending to foreign firms given among others, impediments to foreign bank operations, with supportive evidence for their model from German bank level data.

the two flows 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 lending by foreign banks and changes in cross-border lending by banks from the same home country can be explained by the same factors (column [3]). The results show that distance between the host and home country reduces the difference as does the income level of the home country. Other variables appear to have no impact on the difference.

VI. CONCLUSIONS

Our newly collected data show that as a result of the recent financial crisis, banking in terms of foreign bank presence has become somewhat less global, but not more fragmented. Rather, reflective of the crisis being centered in many advanced countries and the increasing role of emerging markets and developing countries in the world economy in general, the global banking system has gone through some important transformations with a greater variety of players and a more regional focus. While our data and analyses suggest that when home and host banking systems restructure and economies recover, the trend of less internationalization by 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.

Our findings are important from a number of policy angles and for research. It is clear that the combination of national and international policy responses that can help ensure that financial integration takes forms that maximizes its benefits and minimize its risks for all countries will need to include assuring open financial borders. Here the record is good so far in that few countries have retracted on their commitments to liberalize their financial services' markets to others. But more is needed to assure an open and efficient global financial system, especially in the dimensions of cross-border regulation and supervision. While numerous initiatives are underway to improve the functioning of the global financial system, many difficult issues are still to be resolved. Many, non-tariff barriers still hinder the operations of financial firms across borders. And it will be difficult to assure without further detailed agreements that the moderating influences of the newly being developed macroprudential tools, such as countercyclical capital buffers, are not being negated by foreign banks and other financial institutions in jurisdictions not subject to such rules.

Resolution is another area recognized in need of reform. One of the principal lessons of the crisis is that banks which are global in life are national in death. Over the course of the crisis, many governments had to support their banks (and their banking systems more generally), even when the losses were largely due to their international operations. Moreover, some national actions (or a lack thereof) had positive and negative spillover effects on other countries. Therefore, dealing with the supervision and failures of internationally active banks are areas where the interests of national regulators can collide most forcefully with the hopes of international coordination. Recent policy efforts include the adoption of the so called FSB "Key Attributes of Effective Resolution Regimes for Financial Institutions" (which

signatories have agreed to implement before end-2015) and other agreements to set out mechanisms to deal with global systemically important financial institutions (G-SIFIs) 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 when a need for government involvement in restructurings arises.

With global banking becoming more regional, international coordination could become easier to achieve, with the European banking union as the prime example of the potential for improved regional coordination in all dimensions – entry, regulation, supervision and resolution. At the same time, regionalization could make the global banking system more prone to shocks, as diversification will be more limited. Furthermore, it may not allow for the best banking technology and know-how to be employed in every market and some newly emerging players may be less capitalized. Increased regional financial regulation and supervision could also lead to policies and actions that amount to financial repression, ring-fencing and fragmentation, with possible adverse consequences on risk-sharing and the efficiency of resource allocation. As such, better understandings of both the drivers of regionalization (and possibly related fragmentation) and the pros and cons of more regionalized banking systems are of the utmost relevance.

Part of the changes in the global banking system is the rising importance of banks from emerging markets and developing countries, through foreign presence (as shown) and very likely (although not verifiable with existing data) through cross-border lending. It is a favorable development as it reflects their growing roles in the world economy and global financial markets. At the same time, it raises some issues. For one, data coverage on direct cross-border and affiliate lending has to expand to better gauge developments in global banking, including whether there is indeed a general retrenchment and fragmentation in cross-border lending, or whether new players are filling the gap left by retreating banks. Currently data from the BIS only cover a few emerging markets and developing countries as creditor countries, thus missing out what are likely growing intra-emerging markets and developing countries' lending as well as lending from these countries to BIS-reporting countries themselves. The increased role of foreign banks from these countries also makes it more imperative that policy makers from these 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. It will also be important that these countries adequately perform in their role 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.

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 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 focus – relate to financial sector competition, efficiency, and access to financial services for

SMEs and households? When do foreign banks add to financial stability and when do they introduce risks? Does it matter how much and what type of 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? The newly extended database can be an input into such research and hopefully help address these and other questions.

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Figure 1
Number and share of foreign banks, 1995 - 2013

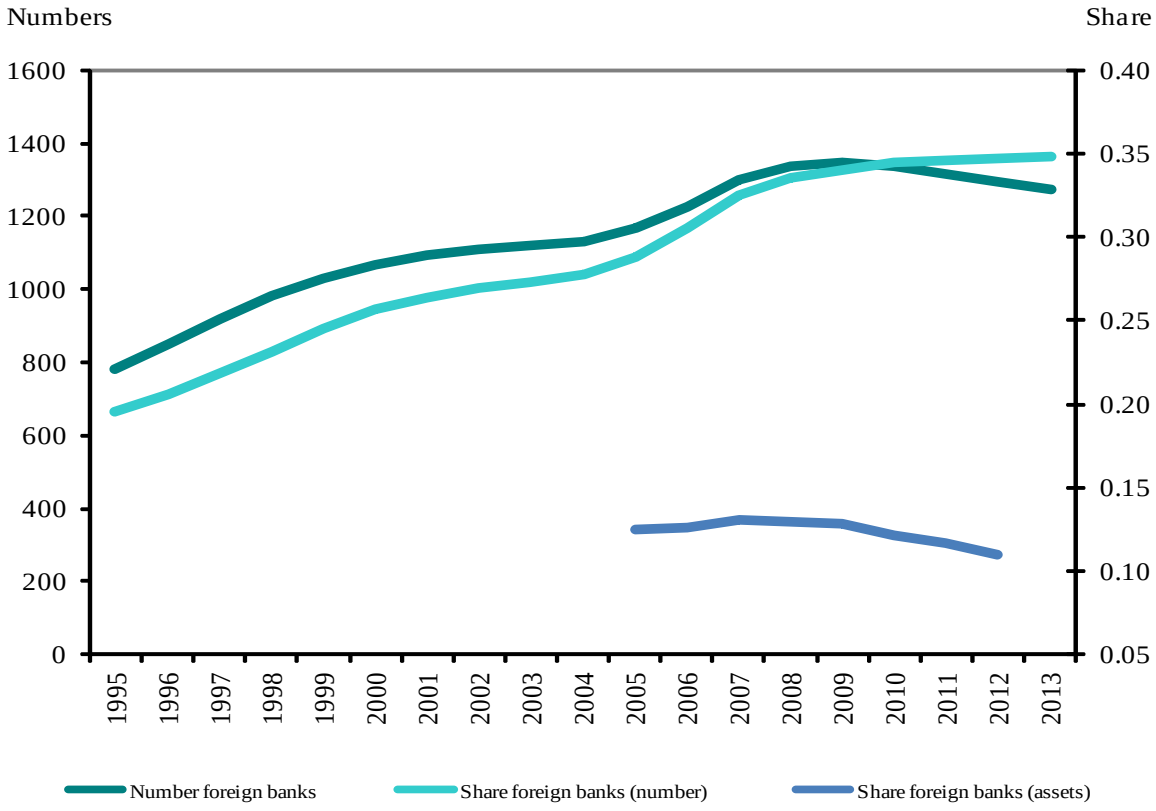
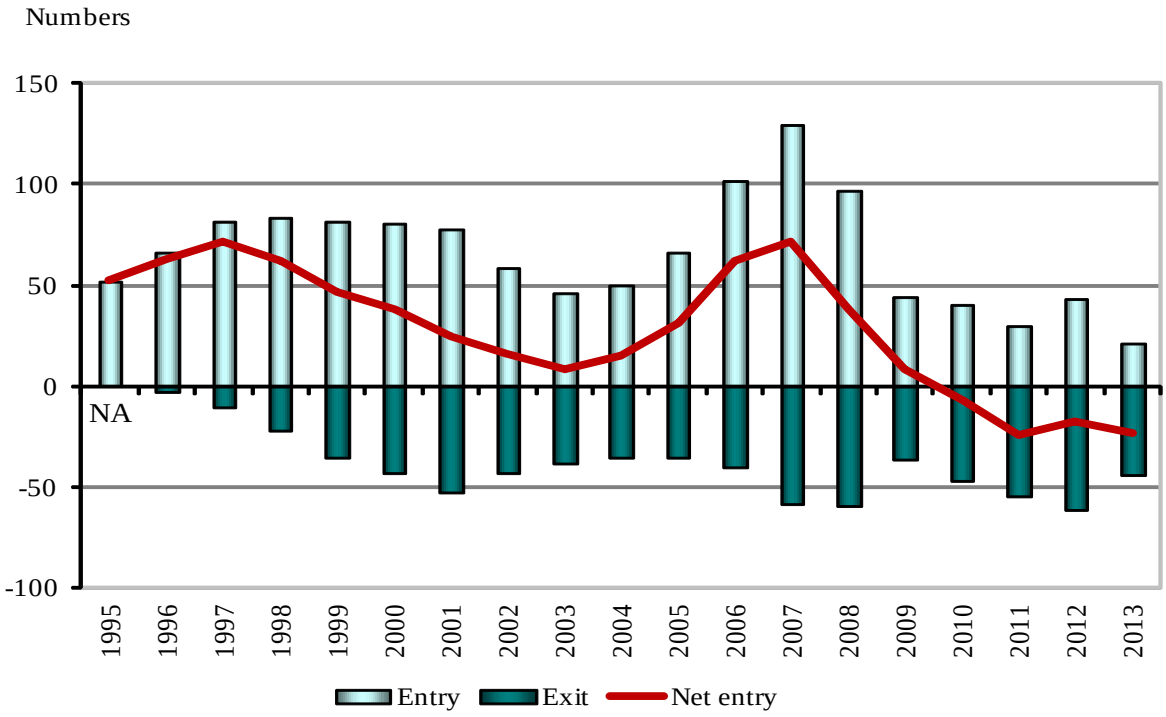
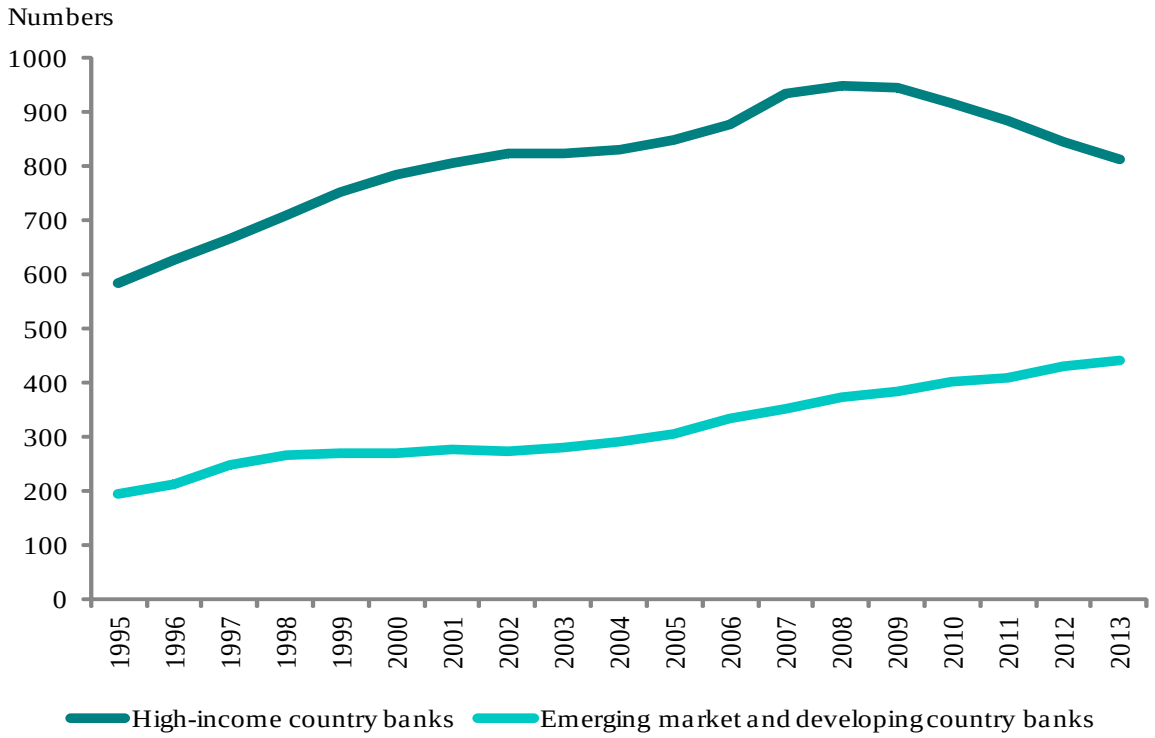


Figure 2
Number of entries and exits of foreign banks, 1995-2013



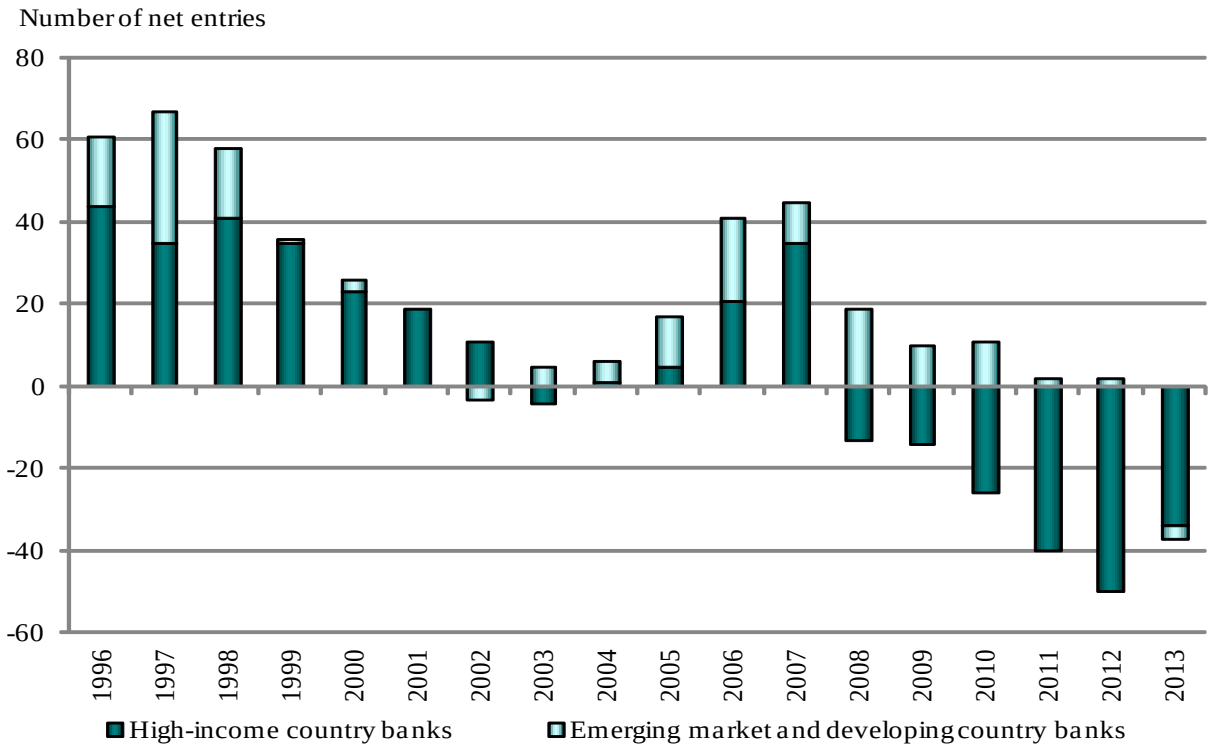
Note: As the database starts in 1995 the number of foreign banks that exited the market in that year cannot be determined.

Figure 3
Number of foreign banks by home country income group, 1995 - 2013



Note: High-income country banks includes foreign banks from all core OECD home countries and all other high-income home countries. Emerging market and developing country banks includes all banks from emerging market and developing country home countries. For exact country classification see main text.

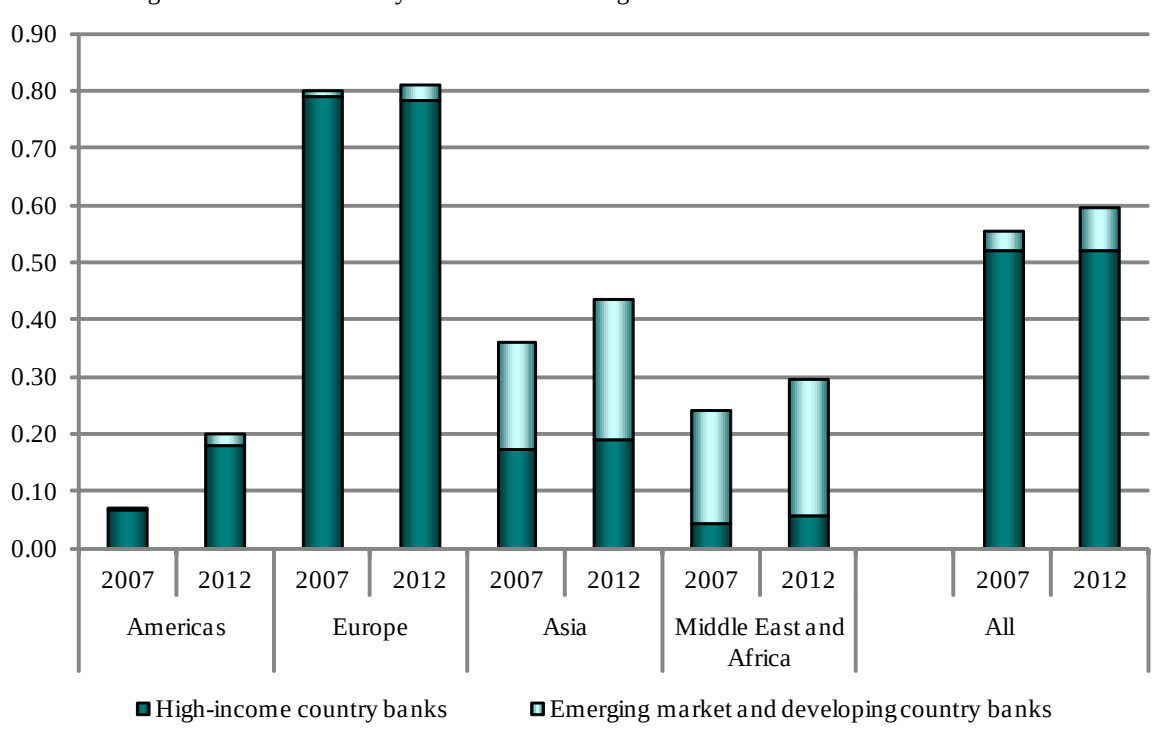
Figure 4
Number of net entries by home country income group



Note: Net entries refers to entries minus exits in the respective year. High-income country banks includes foreign banks from all core OECD home countries and all other high-income home countries. Emerging market and developing country banks includes all banks from emerging market and developing country home countries. For exact country classification see main text.

Figure 5

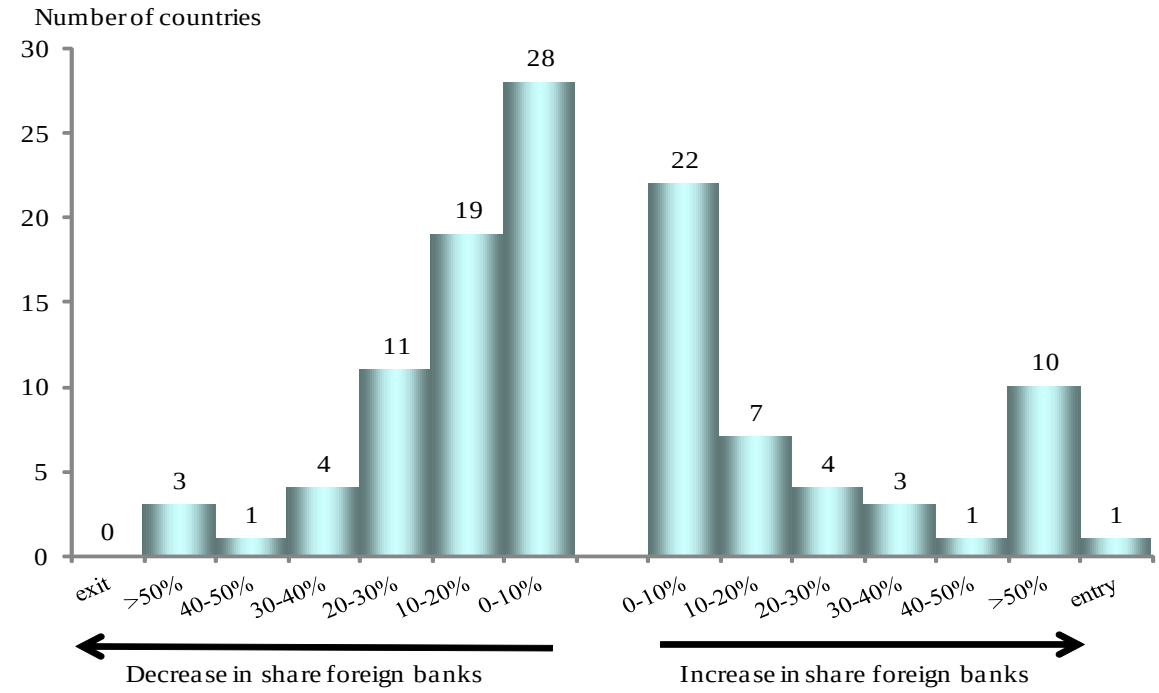
Share regional foreign banks before and after the crisis, by home country income group



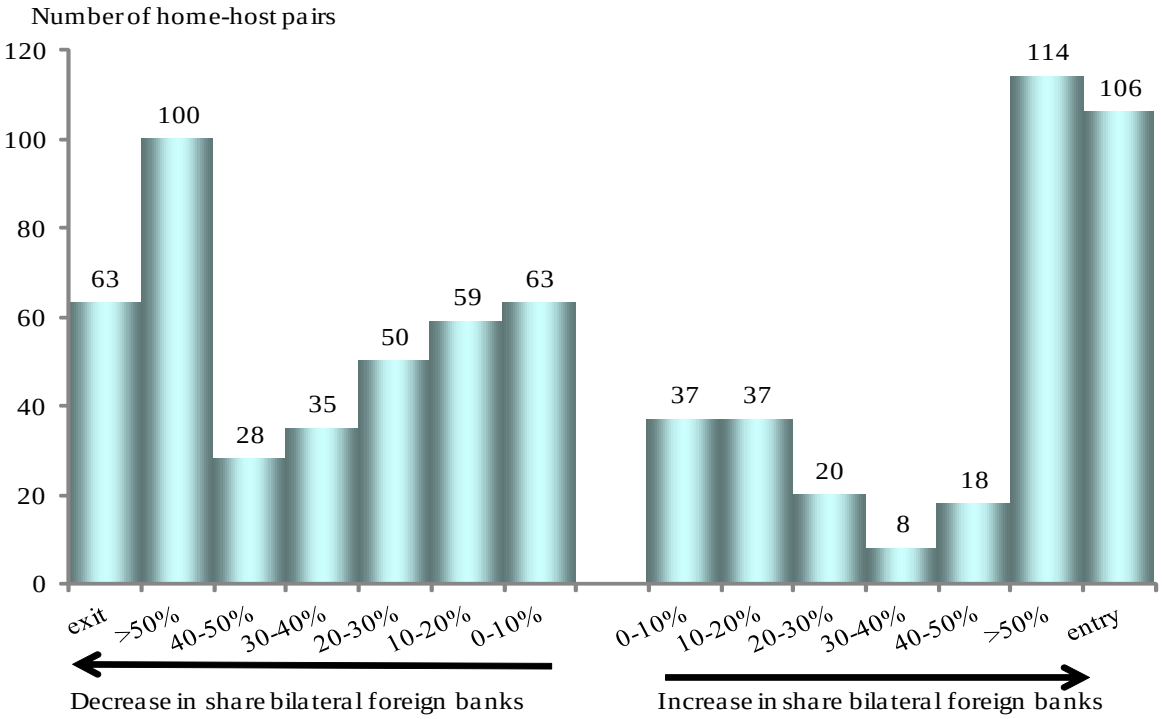
Note: Countries are grouped in four geographical regions irrespective of the income level of the countries. "America" includes Canada, United States and all countries in Latin American and the Caribbean, "Europe" includes all Western and Eastern European countries "Asia" includes all countries in Central, 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. High-income country banks includes foreign banks from all core OECD home countries and all other high-income home countries. Emerging market and developing country banks includes all banks from emerging market and developing country home countries. For exact country classification see main text.

Figure 6
Change share foreign assets, 2007-2012

Panel A: By host country

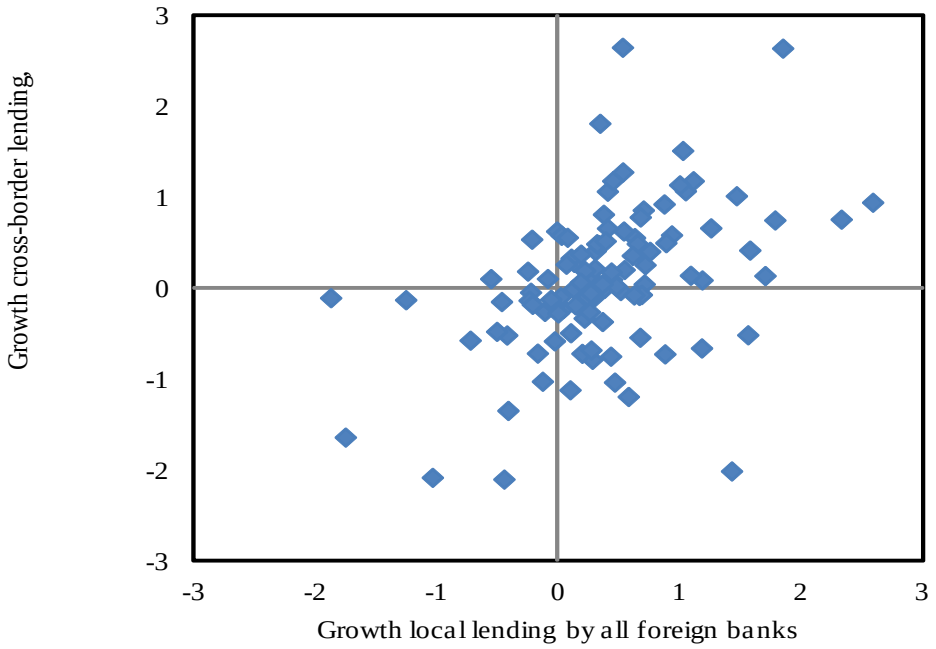


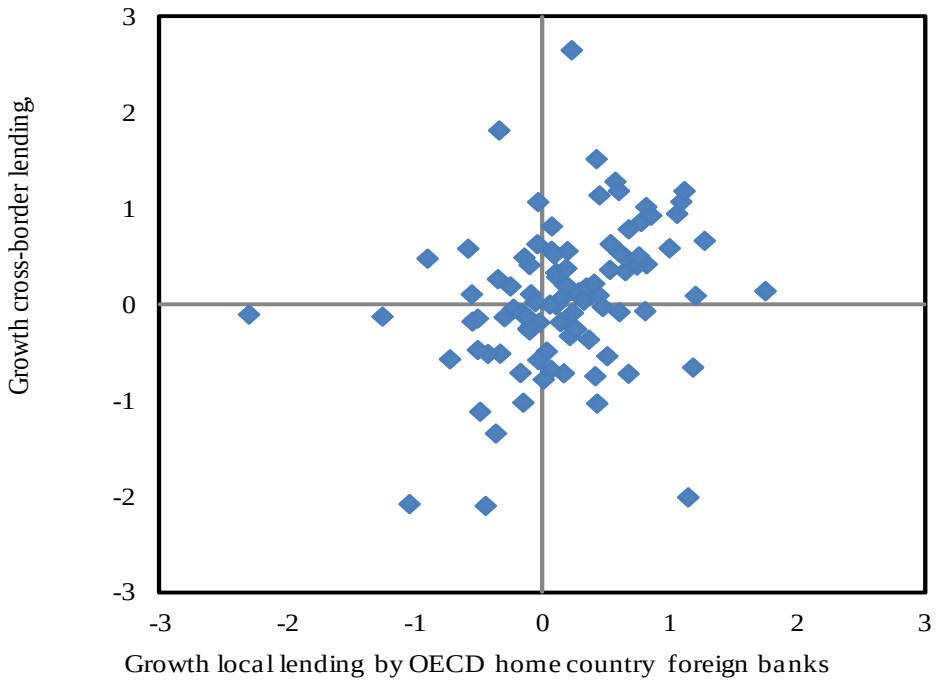
Panel B: By home-host country pair



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

Figure 7
Comparison growth local and cross-border lending, 2007-2012





Note: To calculate loan growth of foreign banks only banks are indcluded 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 50 percent of the banks qualify are excluded from the sample. Only host countries with at least one foreign bank active in 2007 are included.

Table 1

Number and assets of banks by host country, Aggregates by income level and region

	2007		2013		2007		2012	
	Number	Share	Number	Share	Asset	Share	Asset	Share
All countries								
Domestic	2,704	0.68	2,384	0.65	98,484	0.87	116,362	0.89
Foreign	1,301	0.32	1,272	0.35	14,774	0.13	14,786	0.11
Total	4,005	1	3,656	1	113,258	1	131,147	1
Income groups								
OECD								
Domestic	1,088	0.77	925	0.76	85,149	0.88	85,054	0.90
Foreign	326	0.23	286	0.24	11,242	0.12	9,589	0.10
Total	1,414	1	1,211	1	96,392	1	94,643	1
Other high-income								
Domestic	66	0.63	63	0.62	840	0.43	1,248	0.41
Foreign	38	0.37	38	0.38	1,096	0.57	1,811	0.59
Total	104	1	101	1	1,937	1	3,059	1
Emerging markets								
Domestic	1,046	0.65	933	0.64	11,971	0.84	29,234	0.90
Foreign	555	0.35	536	0.36	2,274	0.16	3,109	0.10
Total	1,601	1	1,469	1	14,245	1	32,343	1
Developing countries								
Domestic	504	0.57	463	0.53	523	0.76	827	0.75
Foreign	382	0.43	412	0.47	161	0.24	276	0.25
Total	886	1	875	1	684	1	1,103	1
Regions								
East Asia and Pacific								
Domestic	297	0.77	285	0.72	7,464	0.95	20,693	0.97
Foreign	91	0.23	111	0.28	367	0.05	629	0.03
Total	388	1	396	1	7,832	1	21,322	1
Eastern Europe and Central Asia								
Domestic	432	0.53	375	0.52	1,462	0.57	2,697	0.69
Foreign	376	0.47	347	0.48	1,086	0.43	1,212	0.31
Total	808	1	722	1	2,548	1	3,909	1
Latin America and Caribbean								
Domestic	387	0.64	329	0.61	1,319	0.67	3,233	0.75
Foreign	222	0.36	211	0.39	640	0.33	1,059	0.25
Total	609	1	540	1	1,959	1	4,292	1
Middle East and North Africa								
Domestic	106	0.65	104	0.65	766	0.88	1,082	0.87
Foreign	56	0.35	55	0.35	105	0.12	159	0.13
Total	162	1	159	1	871	1	1,240	1
South Asia								
Domestic	148	0.88	142	0.87	1,136	0.93	1,894	0.95
Foreign	21	0.12	22	0.13	91	0.07	108	0.05
Total	169	1	164	1	1,227	1	2,002	1
Sub Saharan Africa								
Domestic	180	0.51	161	0.44	347	0.70	462	0.68
Foreign	171	0.49	202	0.56	146	0.30	218	0.32
Total	351	1	363	1	493	1	680	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 indexes 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.

Table 2
Number of foreign banks by home country, Aggregates by income level and region

	2007		2013		2007		2012	
	Number	Share	Number	Share	Asset	Share	Asset	Share
All countries	1,301	1	1,272	1	14,774	1	14,786	1
Income groups								
OECD	869	0.67	747	0.59	13,914	0.94	13,181	0.89
of which:								
Western Europe	666	0.51	555	0.44	11,340	0.77	10,349	0.70
North America	164	0.13	148	0.12	2,062	0.14	2,053	0.14
Japan, Australia and New Zealand	39	0.03	44	0.03	512	0.03	779	0.05
Other high-income	65	0.05	67	0.05	181	0.01	342	0.02
Emerging markets	259	0.20	329	0.26	614	0.04	1,162	0.08
Developing countries	93	0.07	112	0.09	49	0.00	66	0.00
of which:								
East Asia and Pacific	54	0.04	70	0.06	365	0.02	728	0.05
Eastern Europe and Central Asia	85	0.07	105	0.08	89	0.01	218	0.01
Latin America and Caribbean	58	0.04	67	0.05	29	0.00	82	0.01
Middle East and North Africa	59	0.05	68	0.05	69	0.00	84	0.01
South Asia	17	0.01	18	0.01	18	0.00	21	0.00
Sub Saharan Africa	79	0.06	113	0.09	94	0.01	95	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 indexes 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.

Table 3
Drivers behind transformation

	Exit					Entry					Growth				
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12	[13]	[14]	[15]
	Host country	Home country	Bilateral	All		Host country	Home country	Bilateral	All		Host country	Home country	Bilateral	All	
Host GDP/cap	-0.109*			-0.181**		-0.018			-0.036		-0.121***			-0.113***	
	(0.063)			(0.071)		(0.035)			(0.042)		(0.035)			(0.038)	
Host crisis					-0.338*					-0.239*					-0.172
					(0.193)					(0.144)					(0.137)
Host foreign presence	-0.360*			-0.055	-0.059	0.129			0.055	0.022	-0.196*			-0.044	0.053
	(0.218)			(0.243)	(0.257)	(0.122)			(0.141)	(0.146)	(0.105)			(0.137)	(0.147)
Host growth real GDP	-0.459			-1.165	-0.182	0.786*			1.561***	1.637***	1.441***			1.376***	1.989***
	(0.677)			(0.757)	(0.635)	(0.466)			(0.548)	(0.416)	(0.335)			(0.372)	(0.370)
Home GDP/cap		######		0.169**			0.012		0.002			-0.159***		-0.089***	
		(0.072)		(0.081)			(0.032)		(0.035)			(0.030)		(0.027)	
Home crisis					0.583***					0.193**					-0.241***
					(0.176)					(0.079)					(0.069)
Bilateral foreign presence			-2.026**	-2.611**	-2.661**								-0.603***	-0.978***	-0.947***
			(0.845)	(1.090)	(1.159)								(0.213)	(0.289)	(0.263)
Distance			0.213***	0.148*	0.158**			-0.402***	-0.481***	-0.476***			0.051	-0.014	-0.032
			(0.071)	(0.078)	(0.078)			(0.041)	(0.045)	(0.045)			(0.039)	(0.036)	(0.034)
Number of obs	526	557	567	522	538	7,527	7,792	7,997	7,332	7,677	468	495	504	464	477
Adjusted R2	0.010	0.015	0.047	0.064	0.078	0.010	0.000	0.085	0.117	0.122	0.174	0.058	0.015	0.213	0.193

Note: The table reports the results of a cross-section regression over a sample of 107 host countries and 79 home countries. The dependent variable *Exit* in columns [1]-[5] is a dummy which is one if all banks from home country *i* active in 2007 in host country *j* seized their operations in the host country by end 2012, and zero if presence was continued. The dependent variable *Entry* in columns [6]- [10] is a dummy which is one if banks from home country *i* not active in host country *j* in 2007 started operations in host country *j* between 2008 and 2012, and zero if no activity was started. The dependent variable *Growth* in columns [11]-[15] equals the log difference between the sum of assets in 2007 and 2012 held by foreign banks from home country *i* active in host country *j*. All variable definitions and their sources can be found in Appendix Table 3. The models in the first ten columns are estimated using probit and in the last five columns using OLS. All 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 one, five and ten percent level of significance, respectively

Table 4
Drivers behind transformation, OECD versus non-OECD home countries

	Exit		Entry		Growth	
	[1] OECD home countries	[2] non-OECD home countries	[3] OECD home countries	[4] non-OECD home countries	[5] OECD home countries	[6] non-OECD home countries
Host GDP/cap	-0.215**	-0.038	0.070	-0.070	-0.125***	-0.081
	(0.097)	(0.139)	(0.077)	(0.047)	(0.046)	(0.055)
Host foreign presence	-0.166	-0.296	0.105	0.043	0.061	-0.195
	(0.336)	(0.409)	(0.252)	(0.164)	(0.185)	(0.161)
Host growth real GDP	-1.468	-0.523	2.233**	1.085**	1.239***	1.544***
	(1.069)	(1.644)	(1.119)	(0.529)	(0.447)	(0.573)
Home GDP/cap	1.110**	0.008	-0.176	-0.074	-0.345**	-0.040
	(0.445)	(0.116)	(0.160)	(0.050)	(0.141)	(0.044)
Bilateral foreign presence	-2.101*	-4.224*			-1.114***	-0.725**
	(1.148)	(2.557)			(0.382)	(0.341)
Distance	0.185**	-0.117	-0.274**	-0.565***	0.019	-0.082
	(0.092)	(0.141)	(0.112)	(0.050)	(0.048)	(0.051)
Number of obs.	345	177	1,682	5,650	300	164
Adjusted R2	0.096	0.041	0.041	0.168	0.160	0.157

Note: The table reports the results of a cross-section regression over different subsets of a sample of 107 host countries and 79 home countries. In columns [1], [3] and [5] only pairs are included where the home country is an OECD country (for exact definition see main text) and in columns [2], [4] and [6] only pairs are included where the home country is not an OECD country. The dependent variable *Exit* in columns [1] and [2] is a dummy which is one if all banks from home country *i* active in 2007 in host country *j* seized their operations in the host country by end 2012, and zero if presence was continued. The dependent variable *Entry* in columns [3] and [4] is a dummy which is one if banks from home country *i* not active in host country *j* in 2007 started operations in host country *j* between 2008 and 2012, and zero if no activity was started. The dependent variable *Growth* in columns [5] and [6] equals the log difference between the sum of assets in 2007 and 2012 held by foreign banks from home country *i* active in host country *j*. All variable definitions and their sources can be found in Appendix Table 3. The models in the first four columns are estimated using probit and in the last two columns using OLS. All 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 one, five and ten percent level of significance, respectively

Table 5
Local versus cross-border local lending, level and growth comparison

	Lending 2007			Loan growth 2007-2012					
	(US Dollar Billions)			*Group-based*			*Country-based*		
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]
	Foreign banks	Foreign banks (OECD home countries)	Cross border	Foreign banks	Foreign banks (OECD home countries)	Cross border	Foreign banks	Foreign banks (OECD home countries)	Cross border
All countries	5,819	5,383	10,627	0.08	0.02	-0.14	0.37	0.14	0.16
Income groups									
OECD	4,114	4,006	9,566	-0.06	-0.07	-0.21	-0.17	-0.21	-0.27
Other high-income	412	245	123	0.67	0.63	0.26	0.33	0.28	0.14
Emerging markets	1,206	1,070	885	0.21	0.12	0.36	0.34	0.22	0.15
Developing countries	88	63	52	0.48	0.27	0.17	0.66	0.27	0.37

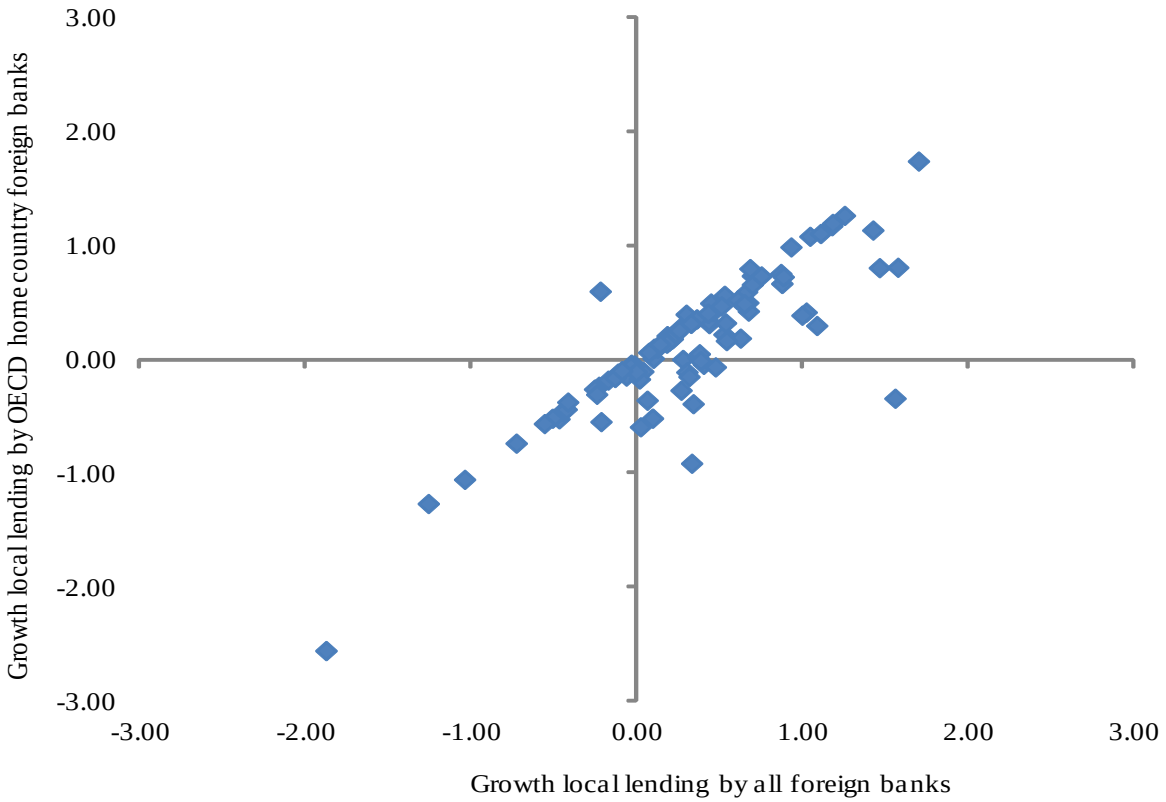
Note: The numbers in the first three columns reflect total lending done through local lending by foreign banks or cross-border lending in 2007 in billion of US dollars. The numbers in the other six columns reflect growth in both types of international bank lending between 2007 and 2012. To determine loan (growth) by foreign banks when a foreign bank is active in both 2007 and 2012, we include data on its lending only if loan information is available for both years. For banks only active in 2007 or 2012, loan data is included for the year the bank is active, provided of course it is available. Countries with less than 50 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 indexes 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.

Table 6
Drivers behind growth local and cross-border lending

	[1]	[2]	[3]
	Growth local lending	Growth cross-border lending	Growth difference (local lending minus cross-border)
Host GDP/cap	-0.014	-0.040	0.024
	(0.052)	(0.077)	(0.088)
Host foreign presence	0.412***	0.365**	0.033
	(0.154)	(0.181)	(0.215)
Host growth real GDP	2.202***	1.398	0.690
	(0.550)	(0.854)	(0.881)
Home GDP/cap	-0.479**	0.471	-0.871***
	(0.216)	(0.308)	(0.319)
Bilateral foreign presence	-1.144***	-0.439	-0.626
	(0.340)	(0.542)	(0.542)
Distance	-0.087	0.152***	-0.220***
	(0.062)	(0.051)	(0.085)
Growth cross-border claims	0.077		
	(0.050)		
Growth local lending		0.103	
		(0.075)	
Number of obs.	245	245	245
Adjusted R2	0.154	0.176	0.066

Note: The table reports the results of a cross-section regression over a sample of 93 host countries, 15 home countries and 254 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 lending* 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 Appendix Table 3. 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 one, five and ten percent level of significance, respectively

Appendix Figure 1
Growth local lending by foreign banks, 2007-2012



Note: Only banks are indcluded that have loan information for both years. Banks that were only active in 2007 or 2012 are also included if loan information is availalbe for that year. Countries in which less than 50 percent of the banks qualify are excluded from the sample.

Appendix Table 1 - 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	33	37	40	42	42	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	67	67	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
Romania	77	76	75	76	77	74	75	77	76
Russia	70	81	81	81	79	79	79	82	82
Poland	15	15	17	20	20	20	19	18	17
Serbia	42	54	66	65	64	67	67	69	66
Slovakia	83	82	75	75	73	73	67	67	67
Turkey	23	34	39	39	39	39	36	35	38
Ukraine	28	34	42	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	21	20	21	18	20	20	20	18	19
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
Guatamala	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	83	83	80	80	80	80

Appendix Table 1 continued

Country	2005	2006	2007	2008	2009	2010	2011	2012	2013
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**	**22**	**23**	**23**	**23**	**23**	**24**	**24**	**24**
Australia	40	40	40	40	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
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 Emirate	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

Appendix Table 1 continued

Country	2005	2006	2007	2008	2009	2010	2011	2012	2013
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	**42**	**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	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
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	10	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**

Appendix Table 2 - 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	61	59	58	59	..
China	..	..	2	2	2	2	2	2	1
Indonesia	23	16	24	22	23	23	24	24	27
Korea (South)	16	13	12	13	12	11	8	7	7
Malaysia	17	17	18	17	17	17	17	17	18
Mongolia	10	8	7	..	..	..	..	..	..
Philippines	1	2	1	1	1	1	1	1	..
Thailand	3	2	5	7	6	6	6	6	8
Vietnam	..	2	2	2	4	5	5	5	4
ECA	**42**	**43**	**43**	**42**	**40**	**36**	**34**	**31**	**29**
Albania	..	..	93	94	92	90	90	90	81
Armenia	56	62	60	64	71	84	84	83	85
Azerbaijan	1	1	1	5	5	5	4	4	4
Belarus	..	..	..	..	27	26	32	33	30
Bosnia-Herzegovina	87	90	91	92	88	89	88	85	86
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	63
Hungary	67	65	64	67	64	63	62	59	..
Kazakhstan	4	5	13	16	18	16	18	17	13
Kyrgyzstan	91	..	93	..	..	..	71	76	79
Latvia	57	63	65	66	67	66	60	60	58
Lithuania	92	92	92	93	92	90	89	94	91
Macedonia	54	56	63	69	68	67	65	66	66
Moldova	23	29	36	40	46	46	45	39	28
Montenegro	23	86	83	81	84	100	88	89	..
Romania	58	89	89	89	85	85	83	81	..
Russia	7	10	11	13	11	10	10	10	8
Poland	76	77	76	78	75	73	72	76	..
Serbia	75	86	85	76	74	73	76	76	74
Slovakia	91	90	89	90	85	86	87	78	87
Turkey	..	15	15	13	12	12	12	12	14
Ukraine	..	..	..	..	..	..	..	36	28
Uzbekistan	..	..	..	..	..	3	6	6	..
LAC	**38**	**36**	**34**	**35**	**29**	**28**	**27**	**26**	**25**
Antigua & Barbuda	..	..	..	..	..	..	..	..	..
Argentina	27	26	27	28	28	24	29	27	..
Barbados	100	100	100	100	100	100	100	100	100
Bolivia	37	18	18	16	16	15	13	13	16
Brazil	23	25	24	22	18	17	17	16	..
Chile	..	..	..	42	37	37	35	33	20
Colombia	20	17	14	12	11	11	10	13	15
Costa Rica	24	25	37	37	34	31	31	29	28
Cuba	0	0	0	0	0	0	0	0	0
Dominican Rep.	9	8	8	7	7	7	7	7	8
Ecuador	11	10	11	11	14	13	12	12	19
El Salvador	50	80	97	97	97	96	95	95	100
Guatamala	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	42	43	67
Jamaica	89	89	..	..	92	93	94	91	95
Mexico	83	81	78	75	73	73	74	71	70
Nicaragua	..	45	..	57	67	65	65	67	..

Appendix Table 2 continued

Country	2005	2006	2007	2008	2009	2010	2011	2012	2013
Panama	38	47	52	55	64	71	71	67	..
Paraguay	63	60	55	62	48	51	52	49	51
Peru	49	48	49	51	49	49	51	49	51
Trinidad & Tobago	13	12	13	59	56	56	57	..	..
Uruguay	75	87	47	48	55	57	55	54	92
Venezuela	42	29	25	27	..	15	14	16	16
MENA	**15**	**17**	**19**	**17**	**17**	**16**	**16**	**16**	**18**
Algeria	7	8	7	8	10	10	10	11	..
Bahrain	67	65	69	65	55	55	52	52	52
Egypt	12	21	25	25	25	24	24	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	18	17	20	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	..	4	5	4	3	3	2	2	2
Austria	23	19	27	29	26	23	23	26	..
Belgium	13	13	13	14	49	46	48	46	47
Canada	4	4	4	4	5	4	4	3	3
Denmark	20	19	17	17	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	12
Greece	4	13	14	14	14	13	9	7	
Iceland	0	0	0	0	0	0	0	0	0
Ireland	38	41	40	38	35	36	35	40	..
Italy	1	3	7	6	6	6	6	6	6
Japan	..	..	1	1	..	..	..	..	..
Luxembourg	99	99	95	95	94	94	93	93	..
Netherlands	7	9	10	2	3	11	8	6	4
New Zealand	..	99	97	97	96	95	94	95	94
Norway	42	16	17	16	16	15	15	14	14
Portugal	16	24	24	25	25	24	23	24	22
Spain	2	2	2	2	2	2	2	2	..
Sweden	..	..	..	..	..	..	..	..	..
Switzerland	4	4	5	5	6	6	5	2	2
United Kingdom	12	12	13	19	15	15	15	15	14
United States	21	21	22	18	19	16	14	14	10
OHI	**48**	**45**	**43**	**42**	**42**	**43**	**36**	**37**	**39**
Cyprus	22	21	17	17	13	6	..	..	..
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**	**7**	**7**	**6**	**5**	**6**	**5**	**5**
Bangladesh	..	..	..	..	..	..	..	..	3
India	4	4	5	5	4	4	4	3	3

Appendix Table 2 continued

Country	2005	2006	2007	2008	2009	2010	2011	2012	2013
Nepal	14	20	16	14	13	13	13	12	11
Pakistan	21	49	51	51	50	49	50	51	52
Sri Lanka	0	0	0	0	0	0	0	0	0
SSA	**28**	**31**	**32**	**32**	**31**	**31**	**33**	**33**	**33**
Angola	48	49	50	52	54	53	54	54	..
Benin	90	90	92	92	98	..	..	..	..
Botswana	94	94	94	93	89	87	83	79	78
Burkina Faso	79	80	76	100	100	100	100	..	..
Burundi	36	33	58	64	66	71	71	..	..
Cameroon	71	74	71	82	80	75	77	76	..
Congo	44	56	58	60	64	55	70	70	..
Cote d'Ivoire	90	100	..	..	..	..	..	..	..
Ethiopia	0	0	0	0	0	0	0	0	0
Ghana	..	..	59	61	61	64	67	69	..
Kenya	46	46	39	38	38	35	33	31	34
Madagascar	100	100	100	100	100	100	100	100	100
Malawi	31	30	29	31	29	28	29	34	33
Mali	28	30	40	52	48	61	..	..	..
Mauritania	3	..	4	10	4	7	18	4	..
Mauritius	46	67	73	68	66	68	63	63	59
Mozambique	99	99	100	99	99	99	98	96	94
Namibia	74	59	58	53	54	54	49	52	47
Niger	72	74	69	..	..	..	..	..	..
Nigeria	..	4	3	3	3	4	17	20	16
Rwanda	53	54	39	43	24	16	13	..	..
Senegal	62	68	93	93	86	85	94	94	..
Seychelles	52	57	60	65	61	63	68	65	..
South Africa	25	25	27	27	26	26	25	24	25
Sudan	..	8	19	20	19	9	9	..	..
Swaziland	80	81	83	82	82	82	78	78	100
Tanzania	93	93	87	56	54	45	40	39	46
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	..	..	..	..	61	57	55	36	..
TOTAL	**13**	**13**	**13**	**13**	**13**	**12**	**12**	**11**	**10**

Note: Foreign bank asset share is only reported when asset information is available in Bankscope for more than 60 percent of the banks active in the country in that year. Due to the substantial number of banks with missing asset information in 2013 we use the 2012 information in the paper.

Appendix Table 3
Variable Definitions and Sources

	Definition	Source
Exit	Dummy that is one if all banks from home country *i* active in 2007 in host country *j* seized their operations in the host country by end 2012, zero when the home country remained present.	Claessens and Van Horen (2014)
Entry	Dummy that is one if at least one foreign bank from home country *i* newly entered host country *j* by 2012, zero if there was no investment from home country *i* in host country *j* in both 2007 and 2012.	Claessens and Van Horen (2014)
Growth	Log difference between 2007 and 2012 of the sum of assets held by foreign banks from home country *i* active in host country *j*.	Claessens and Van Horen (2014)/Bankscope
Home/host GDP/cap	Gross domestic product per capita in current USD in home/host country (2007).	World Development Indicators,
Home/host crisis	Dummy which is one if the home/host country experienced a banking crisis in at least one year between 2008 and 2012.	Laeven and Valencia (2012)
Host foreign presence	Assets held by all foreign banks active in host country *j* divided by total bank assets in host country *j* (2007).	Claessens and Van Horen (2014)/Bankscope
Host growth real GDP	Log difference between 2007 and 2012 of gross domestic product measured at constant 2005 US dollars.	World Development Indicators, World Bank
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)
Bilateral market share	Assets held by foreign banks from home country *i* divided by total bank assets in host country *j* (2007).	Claessens and Van Horen (2014)/Bankscope
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 (2014)/Bankscope
Growth cross-border lending	Log difference between 2007 and 2012 of cross-border loans held by banks from home country *i* to firms in country *j*.	BIS consolidated banking statistics