

The Flight Home Effect:

Evidence from the Syndicated Loan Market During Financial Crises

Mariassunta Giannetti
(Stockholm School of Economics and CEPR)

Luc Laeven*
(International Monetary Fund and CEPR)

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Abstract: In the context of the global market for syndicated bank loans, we provide evidence that the collapse of international markets during financial crises can in part be explained by a *flight home* effect. We show that the home bias of lenders' loan origination increases by approximately 20 percent if the bank's country of origin experiences a banking crisis. This flight home effect is distinct from a *flight to quality* effect because borrowers of different quality (or from countries with different degree of investor protection) are similarly affected by lenders rebalancing their loan portfolios in favor of domestic borrowers. Banks with less stable funding sources and larger losses, being more vulnerable to liquidity shocks, exhibit a stronger flight home effect. Overall, the results indicate that the home bias of international capital allocation tends to increase in the presence of adverse economic shocks affecting the net wealth of international investors. We provide evidence suggesting that the degree of proximity to the domestic market affects the perceived risk and expected returns of banks experiencing negative shocks.

Keywords: Financial crisis; Home Bias; Flight to quality; Syndicated loans

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* Giannetti is Professor of Finance, Stockholm School of Economics, Research Fellow at CEPR, and Research Associate ECGI. Contact information: Stockholm School of Economics, PO Box 6501, Sveavagen 65, S 11 383 Stockholm, Sweden, E-mail: mariassunta.giannetti@hhs.se. Laeven is Deputy Division Chief, Research Department, International Monetary Fund, Professor of Finance, Tilburg University, Research Fellow at CEPR, and Research Associate ECGI. Contact information: International Monetary Fund, Research Department, 700 19th Street, N.W., Washington, DC, 20431, United States, E-mail: LLaeven@imf.org. We are grateful to an anonymous referee, Malcolm Baker, Ralph DeHaas, Linda Goldberg, Pierre-Olivier Gourinchas, Harrison Hong, Esa Jokivuolle, Sebnem Kalemli-Ozcan, Simi Kedia, Samuli Knupfer, Alok Kumar, Isabelle Mejean, Vincenzo Quadrini, Helene Rey, Silvana Tenreyro, Greg Udell, Deniz Yavuz, and seminar and conference participants at the Banff Frontiers in Finance Conference, the CEPR/LBS Workshop on Macroeconomics of Global Interdependence, Cass School of Business, the DNB/EBC Conference on Banking and the Globalization of Finance, the European Bank for Reconstruction and Development, the Helsinki Finance Summit, and the 2011 SFS Finance Cavalcade at the University of Michigan for comments. Giannetti acknowledges financial support from the Jan Wallander and Tom Hedelius Foundation and the Bank of Sweden Tercentenary Foundation. The views presented in this paper are those of the authors and should not be attributed to or reported as reflecting the position of the IMF, or its Executive Directors.

1. Introduction

During financial crises, international markets often collapse. For instance, during the Japanese banking crisis of the nineties, Japanese banks and firms retracted from international financial and good markets, including the United States (Peek and Rosengren, 1997 and 2000; Klein, Peek, and Rosengren, 2002; Amiti and Weinstein, 2009). The recent global financial crisis that started in the summer of 2007 in the United States was no different. It was accompanied by a collapse of global trade (Levchenko, Lewis and Tesar, 2010), a reduction in gross capital flows (Broner et al., 2010), a reversal of capital flows from advanced economies to emerging markets (Tong and Wei, 2010; Milesi-Ferretti and Tille, 2010), and a decline in international bank lending (Cetorelli and Goldberg, 2010).

Existing research has shown that banks transmit negative shocks to their capital both domestically (Kashyap and Stein, 2000) and internationally (Peek and Rosengren, 2000; Cetorelli and Goldberg, 2009 and 2011; Popov and Udell, 2009; Schnabl, 2011) and some contraction in international bank lending following the global financial crisis was therefore to be expected. In this context, the reduction in international credit during financial crises can be viewed as a reflection of the reduction in the overall supply of credit owing to capital constraints. Importantly, the international transmission of shocks may happen simply because banks choose not to alter the mix of domestic and foreign loans in their portfolios and borrow from (lend less to) foreign subsidiaries to counterbalance the effect of capital shortages in their domestic market. The transmission of shocks and resulting decrease in international lending would then be a consequence of integration in international credit markets.

The dramatic collapse of international lending markets during 2008, however, raises the question whether lenders retract disproportionately from international markets to the advantage of domestic markets at times of crises, when uncertainty and risks increase and capital constraints become binding for many lenders. In other words, following negative

shocks, banks may alter their loan mix in a way that decreases the level of credit market integration.

In this paper, we study whether lenders, when hit by shocks that negatively affect bank wealth in their home market, have a tendency to rebalance their portfolio away from international markets to their domestic market. We explore this *flight home* effect in the context of the syndicated loan market, a highly internationalized market, in which it is common for large banks to offer loans to a variety of borrowers in a broad set of countries. After carefully controlling for the effect of contemporaneous demand shocks in host countries, we explore whether foreign lenders not only transmit shocks to host markets, as highlighted in previous literature, but also whether they further amplify these effects by substituting foreign loans for domestic loans. To establish whether this is the case, we not only compare to what extent a bank's foreign loans are affected by negative shocks in the bank's country of origin relative to loans extended by domestic banks in the host country, as in most of the existing literature on the international transmission of shocks to bank lending, but also analyze how the relative importance of domestic and foreign loans of a given bank varies following negative shocks.

Our results are consistent with the existence of a *flight home* effect. The proportion of loans granted to domestic borrowers increases by approximately 20 percent if the country of origin of the bank experiences a banking crisis, or more generally, if the stock prices of banks in the home country show a large decline. Lenders with less stable funding sources, being more vulnerable to negative liquidity shocks (Demirgüç-Kunt and Huizinga, 2010; Ivashina and Scharfstein, 2010a), exhibit a stronger flight home effect. Overall, the results indicate that the home bias in the international allocation of syndicated loans increases in the presence of adverse economic shocks affecting the net wealth of international lenders. Put

differently, the extent of integration of the syndicated loan market is positively related to the financial conditions of the participating banks.

The flight home effect coexists with, but is distinct from the *flight to quality* effect highlighted in previous literature. Bernanke, Gertler and Gilchrist (1996) and Lang and Nakamura (1995) argue that during recessions the share of credit flowing to borrowers with more severe asymmetric information and agency problems, such as small firms, decreases. The flight home effect does not appear to be driven by international banks' desire to rebalance their portfolios towards higher quality borrowers when faced with negative shocks. Banks rebalance their portfolio away from foreign borrowers, irrespective of whether these borrowers are affected by a banking crisis in their home country or not. Furthermore, when their country of origin experiences a banking crisis, lenders grant fewer loans to foreign borrowers in advanced economies and emerging markets alike. Similarly, the flight home of international lenders does not appear to be limited to borrowers with lower credit ratings or to countries with weak creditor protection. Also, the institutional environment in the origin countries of the lenders appears not to influence our findings: Banks rebalance their portfolios towards domestic borrowers independently from whether their country of origin has weak or strong institutions.

We provide empirical evidence suggesting that the degree of proximity to the domestic market affects the perceived risk and expected returns of banks experiencing negative shocks for the following reasons. First, the cost of negotiating and monitoring syndicated loans may be higher for foreign loans. Therefore, when reducing exposure in response to negative shocks, banks may revert to more profitable domestic markets. Second, banks that extend more domestic loans, especially to government and government-owned firms, may be more likely bailed out. Thus, banks may increase the proportion of domestic loans they extend in an attempt to increase the bailout probability. Finally, in response to

negative shocks, banks face increased uncertainty regarding their ability to meet their capital requirements and, as a result, their effective risk aversion increases. If banks are also less able to evaluate foreign borrowers and view them as riskier, they may as a consequence of negative shocks choose to extend fewer foreign loans, as models of home bias based on ambiguity aversion would imply (Epstein 2001).

Our work complements and expands over a number of dimensions studies of the syndicated loan market during the 2007–08 crisis. Ivashina and Scharfstein (2010a and b) and Santos (2011) explore the effect of the 2008 crisis on the syndicated loan market in the U.S. to show that this market experienced a sharp decline in loan supply and an increase in loan spreads.¹ In contrast to these other papers, we study not only the U.S. syndicated loan market, but also foreign syndicated loan markets. Moreover, unlike these other papers, we incorporate both global and domestic shocks to bank capital into our multi-country analysis.

The distinction between shocks affecting the banks' country of origin (and ultimately banks' net wealth) and shocks affecting the banks' host countries (and therefore borrowers' net wealth) is similar to Morgan, Rime and Strahan (2004) who explore how banking system integration affects the evolution of business cycles, without considering the effects on bank loans. Their conclusion that banking system integration mitigates the effect of home-grown shocks on business cycles fluctuations but contributes to the transmission of foreign shocks on domestic business cycles is consistent with our findings.

Our work is also related to a vast literature on the home bias in the global allocation of capital (Lewis, 1999). The presence of home bias has been documented across countries with diverse institutional environments (Chan, Covrig and Ng, 2005), within countries because investors exhibit a preference for geographically proximate (domestic) assets (Coval

¹ Other studies of the syndicated loan market include Giannetti and Yafeh (2011) who indicate that familiarity biases are relevant in the international syndicated loan market, and De Haas, Van Horen and Zettelmeyer (2011) who find that lending to relationship borrowers was less affected during the 2008 financial crisis.

and Moskowitz, 1999, 2001; Grinblatt and Keloharju, 2001), and for different assets including bonds (Butler, 2008). While the presence of home bias in international capital allocation has been well documented in the literature, we are the first to show that home biases vary over time depending on the net wealth of investors.

Theory offers alternative explanations for the existence of a home bias, including informational advantages for domestic investors (Brennan and Cao, 1997; Ahearne et al., 2004; Portes and Rey (2005); Van Nieuwerburgh and Veldkamp, 2009; and Andrade and Chhaochharia, 2010) and biases arising from familiarity considerations (Grinblatt and Keloharju, 2000; Huberman, 2001; Seashole and Zhu, 2010).²

The observed increase in the home bias may come from a change in any of these underlying factors. Informational advantages could change at during financial crises, but it is unclear why during such times it should become costlier to screen foreign borrowers than domestic borrowers, especially if foreign borrowers are less affected by negative shocks resulting from a domestic financial crisis. Furthermore, the empirical evidence we present indicates that international banks extend fewer loans to foreign borrowers independently of their level of opacity, credit risk, and institutional environment, suggesting that informational asymmetries alone cannot explain our findings. We further surmise and test that closer bank relationships with domestic borrowers (for which informational asymmetries tend to be lower) may be driving our results, but find little evidence to support this.

Familiarity considerations, such as those based on borders, physical proximity or cultural affinity, also do not change much over time. However, their relevance may increase when investors experience negative shocks both for rational (e.g., binding capital

² There are other possible explanations for the home bias that appear less relevant in our context. For instance, while transaction costs could in theory explain a home bias in investments, actual transaction costs are insufficiently high to warrant such an explanation (French and Poterba, 1991).

requirements) and behavioral reasons. We argue that this and other non-mutually exclusive mechanisms can help explain our findings.

Several other papers have explored how the behavior of international investors changes over time and depending on economic conditions. For instance, Bohn and Tesar (1996) and Kim and Wei (2002) show that U.S. investors chase returns when they allocate their international equity portfolio, while Curcuru, Thomas, Warnock and Wongswan (2011) question these findings. Gelos and Wei (2005) find that global emerging market funds have a greater propensity to exit nontransparent countries during crises affecting those countries. Instead of highlighting economic conditions in host countries or differences across host countries, our paper stresses economic conditions in the home country of the investors.

The rest of the paper is organized as follows. Section 2 introduces the empirical strategy. Section 3 describes the data and some stylized facts. Section 4 describes the main results and several robustness tests. Section 5 considers possible mechanisms leading to the flight to home effect, and Section 6 concludes.

2. Empirical Methodology

During banking crises, banks experience negative shocks due to actual or anticipated losses and liquidity problems. Our goal is to explore how the negative shocks to bank net wealth affect bank lending and in particular whether the lending behavior of foreign banks during banking crises differs from that of domestic banks. Thus, we investigate whether the allocation of banks' loans during those periods favors domestic borrowers. In particular, we model the portfolio share of syndicated loans issued by bank i to borrowers in country j during month t as follows:

$$\begin{aligned}
 Loanshare_{ijt} = & \alpha_1 Foreign Loan_{ij} + \alpha_2 Foreign Loan_{ij} * Shock Bank Country_{it} + \\
 & + \alpha_3 Foreign Loan_{ij} * Shock Borrower Country_{jt} + \Gamma X_{ijt} + \varepsilon_{ijt} \quad (1)
 \end{aligned}$$

where $Foreign\ Loan_{ij}$ is a dummy variable that takes a value of 1 if the nationality of bank i is different from the nationality of the borrower, and zero otherwise; $Shock\ Bank\ Country_{it}$ measures shocks affecting the country of origin of the bank; $Shock\ Borrower\ Country_{jt}$ measures shocks affecting the country of origin of the borrower; X_{ijt} is a vector of control variables; and ε_{ijt} is an error term.

It is important to note that our dependent variable captures the geographical distribution of new loans (with respect to the total amount of loans issued by a given bank) rather than the total amount of loans in the bank's portfolio. Since by definition the portfolio share is standardized by the bank's supply of loans during month t , our dependent variable is unaffected by shocks changing the bank's overall supply of loans and instead captures how the bank's supply of loans is allocated, given the economic conditions. Precisely for this reason, we do not analyze the effect of the shocks per se, but only differences in the effect of the shocks across banks using interaction terms.³

A negative coefficient α_1 implies that banks systematically issue fewer loans to foreign countries, indicating that there is a home bias in banks' loan portfolios. Our main coefficient of interest is α_2 : A negative sign here implies that banks reallocate the supply of loans towards domestic borrowers when their home country experiences a negative shock. In the empirical analysis, we measure $Shock\ Bank\ Country_{it}$ using different proxies capturing not only cross-sectional differences in the shocks to bank net wealth in different countries of origin, but also differences in the intensity of shocks across banks arising from their exposure to the shock within a given country (in that case, $Shock\ Bank_{it}$ would be a more accurate notation).

³ In other words, since not all loan shares of bank i can drop at time t , our results cannot be driven by an overall shrinkage of the bank's supply of loans and the direct effect of the shock is zero by construction.

The interaction term $Foreign\ Loan_{ij} * Shock\ Borrower\ Country_{jt}$ allows us to capture any differential behavior of foreign banks when negative shocks hit host countries, increasing the risk of the borrowers located in these countries; α_3 is expected to be positive if, as argued in previous literature (Goldberg, 2009), foreign banks provide insurance against home-grown shocks. Importantly, this term also captures the possibility that uncertainty regarding these borrowers' creditworthiness may increase during banking crises, leading foreign banks to withdraw from the country, akin to a flight to quality effect. In contrast, a negative coefficient for our variable of interest, α_2 , would indicate that banks issue more loans to domestic borrowers when their risk is higher, namely during a banking crisis.

The vector of control variables, X_{ijt} , includes year-month fixed effects capturing time-specific changes in the syndicated loan market. Also, in most specifications, we include deal nationality fixed effects to control for time-invariant differences in the demand for syndicated loans. Importantly, we control for demand shocks in the borrower's country by including the proportion of loans issued by the domestic banks to that country with respect to the total loans issued in the syndicated loan market in that period. To further address any concerns that our results may be driven by differences in demand for loans from borrowers in different countries, we make sure that our estimates are invariant when we use a within-country estimator, and control for time-varying differences in the demand for loans across countries, by including interactions of month and destination country fixed effects. Since banks' portfolio allocation exhibits geographical specialization and is therefore correlated over time, we cluster standard errors at the bank level.

While a negative coefficient on our variable of interest, α_2 is consistent with a flight home effect, it could also be driven by other forces. An obvious alternative explanation is that a negative α_2 signifies a *flight to quality* effect. For example, it could be that most lenders are from advanced economies and retract from emerging markets that are perceived to be riskier

in the event of adverse economic shocks. The difference between the flight home effect and the flight to quality effect is that a flight home effect arises from banks' rebalancing of their loan portfolios towards domestic borrowers, while the flight to quality effect arises from banks' rebalancing of their portfolios towards higher quality borrowers. The latter would imply a larger bias towards advanced countries from countries with weaker institutional environments or riskier economies, rather than an increase in the home country bias. In other words, a flight to quality would imply an accentuation of the "high-quality" country bias that Forbes (2010) and Giannetti and Koskinen (2010) find to exist for some portfolio investors in the equity and bond markets in normal times.

We adapt our empirical strategy to disentangle the flight home effect from a potential flight to quality effect. Besides analyzing the response of syndicated bank lending to adverse shocks while distinguishing between shocks that affect the bank's country of origin and shocks that affect the borrowers' country, as we explain in more detail in Section 4, we also explore how the foreign banks' response to negative shocks varies across countries and borrowers using a variety of measures of perceived risk (including proxies for their creditworthiness, opacity and institutional environment). If we find that lenders that experience a banking crisis in their countries of origin retract to their home markets independently from the perceived risk of their own countries and the perceived risk of the countries of the borrowers they retract from, then the results are unlikely driven by a flight to quality effect alone and support the existence of a flight home effect.

3. Data and Descriptive Statistics

3.1. Data

To explore how negative shocks to banks' net wealth affect their supply of domestic and foreign loans, we resort to data from the international syndicated loan market. A

syndicated loan is jointly extended by a group of banks, including one or sometimes a couple of lead banks and many participant banks. Prior to signing the loan contract, lead banks assess the quality of the borrowers and negotiate terms and conditions. Once the main terms are in place, lead banks invite participant banks to acquire a stake of the loan, but they remain responsible for the monitoring of the borrower.

Syndicated loans represent a significant part of international bank claims (Gadanecz and Von Kleist, 2002). We choose to explore the flight home effect in the context of the international syndicated loan market not only given its importance and high level of internationalization, but mainly because this is a context in which one can observe how individual banks extend credit to borrowers in a variety of countries, allowing us to differentiate the flight home effect from the well-established flight to quality effect. The BIS Consolidated International Banking Statistics are an alternative data source that is often used in related studies (e.g., Cetorelli and Goldberg, 2010). These data provide only aggregate amounts of the loans that borrowers in country j obtain from *all* banks from country i during quarter t . For our purposes, it is important to have data that are disaggregated at the bank level. Otherwise, we would not be able to rule out that banks that are more internationalized could simply have taken more risks and therefore be more exposed and respond stronger to negative shocks. Using aggregate data, an increase in the proportion of domestic loans extended in the aggregate by the banks in the country experiencing the shock could just indicate that the worse hit international banks are extending fewer domestic and foreign loans. If the less internationalized banks decrease their supply of loans to a lower extent, we would observe a decrease in the proportion of foreign loans extended by banks in country i , although no individual bank is altering its loan mix. This would clearly inhibit a clear interpretation of our findings.

There are several other reasons why the international syndicated loan data are preferable to the BIS banking statistics for our purposes. First, outstanding bank claims may be highly heterogeneous across banks and depend on banks' ability to adjust the amounts of different claims over time. Changes in the mix of outstanding loans could then be due to exogenous constraints, such as the difficulty of withdrawing long-term loans from domestic borrowers or the inability of domestic borrowers to repay loans during a banking crisis. The syndicated loan data allow us to focus on new lending. The extension of new loans is more likely to capture lending decisions of the bank at a given time and gives us better insights into how the mix of domestic and foreign loans varies under different economic conditions. Most importantly, as we explain in detail below, the disaggregated nature of the syndicated loan data allow us to shed light on the mechanisms leading to the flight home effect by exploring how different types of borrowers are affected and whether the flight home effect affects also the foreign subsidiaries of a bank, something that cannot be assessed with aggregate data on bank claims.

We obtain data on syndicated loans from Dealogic's Loan Analytics Database (previously named Loanware), which provides information on borrowers, lenders, and loan price and non-pricing terms at origination. This database is widely used for studying the international syndicated loan market (see, e.g., Esty and Megginson, 2003; and Carey and Nini, 2007). We extract information on loan contracts from the period 1997 to 2009, which covers the recent global financial crisis as well as a number of banking crises in a variety of countries around the world.

While the dataset provides loan level information, similarly to Ivashina and Scharfstein (2010a), we aggregate loans extended by a given bank during a month at the country level. The main reason for aggregating the loan level information is that, as we show, declines in the loan supply are mainly driven by a reduction in the number of loans that are

issued. Thus, changes in the total amount of loans that are extended give us a better picture of changes in the supply of credit than changes in the amount of each loan that has been granted.

Also following Ivashina and Scharfstein (2010a), we measure bank lending as the dollar amount of loans in which a bank is lead originator. If a given loan is extended by more than one lead bank, then we assume that each lead bank extends the loan pro rata.⁴ We construct banks' portfolio shares as follows: We first compute the total amount of loans that a bank issues during a month. Next, we compute the share of loans that bank i issues to country j as the proportion of all loans issued by bank i during month t . We similarly compute the proportion of loans issued to different categories of borrowers (such as investment grade, unrated, corporate, *et cetera*).

We attribute to each bank (including subsidiaries) the nationality of its parent bank, as is standard in the literature (e.g., Mian, 2006). A loan is considered foreign if the nationality of the borrower is different from the nationality of the (parent) bank. Our sample includes 256 (parent) banks from 55 countries, extending loans to borrowers in 192 countries. Together, these banks extended nearly 250,000 loans over the period 1997–2009, with a median loan value of US\$ 200 million. Clearly, banks exhibit geographical specialization and not all banks are active in all markets. We exclude observations that refer to countries in which a bank has never lent during the sample period. Also, our sample of 256 banks includes only banks that have extended at least one foreign loan during the sample period.

Our main control variable for demand conditions in the host country is the total amount of loans issued by domestic banks during a month, standardized by the total amount of loans issued in the syndicated loan market during the same period.

⁴ To make sure that our results are unaffected by changes in syndicate composition, in what follows, we show that our results are invariant if we measure new lending as the number of loan syndications of which a bank is lead originator. In addition, we show that there is no evidence that syndicate composition is differently affected for domestic and foreign lead banks when negative shocks occur.

Since our objective is to study bank behavior during banking crises, we obtain start and ending dates of systemically important banking crises from Laeven and Valencia (2010). They consider a banking crisis to be systemic if there are strong signs of financial distress in the banking system (as indicated by major bank runs, bank losses, and bank liquidations) and there are significant government interventions in response to such financial distress.⁵ They use the first year that both conditions are met as the starting year of the banking crisis. The end of the crisis is defined as the year before both real GDP growth and real credit growth are positive for at least two consecutive years, truncating the maximum end year of a crisis at 5 years from the start of the crisis. In case the first two years record growth in real GDP and real credit, the crisis is dated to end the same year it starts.

For the purpose of the empirical analysis, we distinguish between crises that affect the bank's home country and crises that affect the borrower's country of origin. When hit by a banking crisis in their home country, banks are likely to experience or anticipate negative shocks to their net wealth, while banking crises in host countries impair the ability of host country borrowers to access credit from domestic banks. Furthermore, negative shocks in a borrower's home country may have stronger negative consequences for such a borrower's investment opportunities and demand for credit. Starting from 1997, our sample includes 43 episodes of banking crises that occur in banks' home countries and 44 crisis episodes in bank's host countries. Besides the countries affected by the 2007–08 financial crisis, these episodes include mostly banking crises associated with the Asian financial crisis in 1997, the Russian default crisis in 1998, and the Japanese financial crisis of the 1990's. While there is overlap between banking crises affecting the countries of origin of the banks and the host

⁵ Policy interventions in the banking sector are considered to be significant if at least three out of the following six measures have been used 1) extensive liquidity support (5 percent of deposits and liabilities to nonresidents); 2) bank restructuring costs (at least 3 percent of GDP); 3) significant bank nationalizations; 4) significant guarantees put in place; 5) significant asset purchases (at least 5 percent of GDP); and 6) deposit freezes and bank holidays.

countries, for each of the episodes, we have banks' countries of origin and host countries that are unaffected in our control sample.

As an alternative measure of the economic conditions in which the bank operates, we use stock market returns that we obtain from Datastream. In particular, to capture shocks to the banking system in the country of origin of the bank on a monthly frequency, we use monthly stock returns of the banking industry (specifically, stock returns on an index of banking stocks) in that country during the previous month. This variable captures changes in lending policies following negative and positive shocks to bank net wealth. Similarly, we capture shocks to general economic conditions in the host country using the monthly return on the country's stock market index, which we also obtain from Datastream.

We merge the Loan Analytics database with Bankscope to obtain information on bank characteristics, including the total assets, which proxies for bank size, and the proportion of liabilities not funded by deposits.⁶ Deposits, being implicitly or explicitly protected by deposit insurance, are a source of funding that is generally considered more stable than other sources of debt (Demirgüç-Kunt and Huizinga, 2010). Moreover, as Ivashina and Scharfstein (2010a) argue, during periods of financial turmoil, banks may experience difficulty rolling over their non-deposit debt because of concerns about their solvency and liquidity. Using information on these and other bank characteristics, we can explore how the flight home effect depends on bank specific conditions.

Finally, we obtain data on a host of country characteristics from a variety of sources. These include annual data on GDP per capita, trade openness, and financial and institutional development from the World Bank's World Development Indicators; information on country level creditor rights from Djankov et al. (2007); data on law and order tradition in the country

⁶ Since there is no common identifier between Loan Analytics and Bankscope, the matching of banks was done using the first 15 letters of the bank name and the name of the home country (where the headquarters are located) of the bank. All matches were verified and some names had to be matched manually. Moreover, when the matching generated more than one Bankscope bank for a given Loan Analytics bank, the latter was matched to the largest Bankscope bank in terms of assets.

from the ICRG database, maintained by Political Risk Services; and data on a country's sovereign credit ratings from Standard and Poor's. The latter refer to the sovereign's long-term credit rating for external debt. We obtain data on the distance between the capital cities in each pair of countries in our dataset from Rose (2004) and data on export and import volumes (in US dollars) between countries from the IMF's Direction of Trade Statistics database. Finally, we collect information on each country's capital account restrictions from the IMF's Annual Report on Exchange Arrangements and Exchange Restrictions database. Table 1 describes the main variables we employ in the empirical analysis.

3.2. Stylized Facts

While the size of the global syndicated loan market was more or less constant during the period 1997 to 2001, it grew rapidly over the period 2002 to 2006, increasing from a total amount of loan issuances of slightly less than US\$ 2 trillion in 2002 to US\$ 5 trillion in 2006 (Figure 1).⁷ During 2007, this growth came at a halt as the ensuing financial crisis in the U.S. deteriorated global lending conditions. Starting in 2008, the global syndicated loan market collapsed and reached a volume of US\$ 2.3 trillion in 2009, a decline of more than 50% from its peak. These patterns over time at a global level are similar to those found by Ivashina and Scharfstein (2010a) for the United States. The aggregate effect on the syndicated loan market of the 2008 global financial crisis is therefore evident in the data.⁸

During this decline, foreign lenders rebalanced their portfolio away from international markets, and as a result, the yearly fraction of syndicated loan volume issued by foreign lenders decreased by almost 5 percentage points from 48.3% of the total volume in

⁷ According to Dealogic, the sample covers over 90% of the volume of syndicated loans worldwide and over 95% of the volume of cross-border syndicated loans.

⁸ The BIS consolidated banking statistics show a comparable pattern over time with total international banking claims increasing from US\$ 8 trillion in 1999 to a peak of US\$ 28 trillion in 2007, and then steadily declining to US\$ 25 trillion in 2009.

2007 to 43.5% in 2009 (Figure 2). In other words, while lending collapsed in both foreign and domestic markets, the collapse was more pronounced in foreign markets.⁹

While these findings are consistent with a *flight home* effect, one cannot rule out from this descriptive evidence that this effect is not driven by a flight to quality. For example, it could be that most lenders are from advanced economies and retract from emerging markets that are perceived to be riskier in the event of adverse economic shocks. In the empirical analysis, we distinguish the flight home effect from such a flight to quality effect by differentiating between destination countries (borrowers) that owing to their institutional environment are expected to be more or less affected by flight to quality, and further by incorporating local shocks that affected banks and borrowers in a subset of countries.

4. Empirical Evidence

4.1 Main Results

The estimates in Table 2 demonstrate that there exists a home bias in bank loan portfolios because foreign banks are found to extend systematically fewer loans to foreign borrowers. The effect is economically significant. Based on the estimates in column 1, being a foreign bank decreases the share of the bank's loans extended to the country by 0.51, which is economically sizeable compared to a standard deviation of the loan share variable of 0.38. More interestingly, it emerges from the analysis that when the bank's country of origin experiences a banking crisis, the home bias increases by nearly 20 percent. This is unlikely to be explained by demand effects, not only because we control for this possibility using the amount of loans extended by domestic banks as control variable, but also because negative demand shocks should be more likely in the bank's country of origin, which is experiencing a

⁹ The BIS consolidated banking statistics show a similar pattern over time, with the average fraction of international banking claims in total banking claims (as computed by adding the difference between private credit and local claims to international claims—see section 4.3.1 for details) dropping from a peak of 42 percent in 2007 to 38 percent in 2009.

banking crisis, than in foreign unaffected countries. Similarly, one would expect that the credit risk of borrowers in countries directly affected by the banking crisis increases to a larger extent than for borrowers in countries that are not directly affected.

The effect is robust when we use alternative estimation methods, when we use alternative control variables, or when we estimate the regression model over different subsamples. For instance, although the portfolio shares vary between 0 and 1, we estimate the regression model using ordinary least squares because the high number of dummy variables we progressively include as control variables may create problems with maximum likelihood estimation. Nevertheless, in column 2, we include a minimum set of controls (as in column 1) and take into account that the dependent variable is truncated using a tobit model. The estimates are similar to the ones we obtain using ordinary least squares.

The estimates are also qualitatively similar when we include deal nationality fixed effects (column 3) and control for differences in foreign banks' lending policies when shocks affect the host countries (column 4). The coefficient of the new interaction term indicates that foreign banks indeed provide insurance against home-grown negative shocks, consistent with findings in the existing literature (see Goldberg, 2009). The increase in the proportion of loans extended by foreign banks when the host country experiences a banking crisis also indicates that foreign banks are scarcely concerned of being treated unfavorably in comparison to domestic claimants in case of defaults. Thus, these concerns are unlikely to explain the flight home effect.

In column 5, we consider that our results may be driven by the fact that foreign banks retract from countries that are marginal for their activities when they are hit by a crisis in their home countries. While this would be consistent with a flight home effect, the result would be less striking. We thus include only observations from countries in which banks have been the lead bank for a total of at least 10 syndicated loans. Our results remain

qualitatively similar, suggesting that our finding is more general and foreign banks do not retract only from marginal foreign markets.

In column 6, we focus on the last crisis by restricting the sample to bank loan portfolio shares starting from 2006 and continue to find strong evidence in favor of the flight home effect. Our results are similarly unaltered when we exclude loans issued in 2008 and 2009, in other words, the time-period surrounding the Lehman Brothers' bankruptcy, indicating that our results are not driven by unusually large negative shocks. We then ask whether our finding depends on the behavior of the US and the UK banks that may have retracted to the domestic credit market during the last financial crisis. The estimates in column 7, where we exclude US and UK banks, indicate that the flight home effect is a far more general feature of bank lending policies and provide an initial indication that our results are unlikely to be driven by a flight to quality effect.¹⁰

A possible concern regarding our estimates so far is that we have captured changes in the demand for loans using changes in the volume of domestic loans. To eliminate any concern that the flight home effect is due to unobserved changes in the demand for loans across countries, we use a within-country estimator. Specifically, we include interactions of host country and month of the year fixed effects into the regression. This allows us to test whether foreign banks experiencing a banking crisis decrease the proportion of loans to a given country more than other banks. The estimates are reported in column 8 of Table 2 and fully support our previous results.

Another concern may be that our results depend on the monthly frequency of the observations. For this reason, we reconstruct the dataset by aggregating loans issued during a quarter rather than during a month. The estimates in column 9 of Table 2 show that our

¹⁰ The results are similarly unchanged if we also drop banks from other financial center countries, such as Switzerland and Luxembourg.

results are both quantitatively and qualitatively invariant when using quarterly observations on syndicated loans.

4.2. Other Measures of Shocks and Home Bias

So far, we have identified banking shocks using binary variables for whether a given country has experienced a banking crisis. However, the intensity of banking crises and their negative impact on bank net wealth may vary. Moreover, negative shocks to the banking system may affect bank behavior even when a country does not experience a systemic banking crisis. For this reason, in column 1 of Table 3, we measure shocks to a bank's health using the stock return of the banking industry in the country of origin of the bank and economic conditions in the host country using the return on the stock market index in that country. The estimates fully support our previous findings: The home bias in bank portfolios appears to decrease when the return of the banking industry in the country of origin of the bank is higher, suggesting that bank health is associated with more international investment. Also, foreign banks seem to lend more when the stock market of the host countries experiences lower returns.

Not only may the intensity of banking crises vary across countries, but the exposure of banks within a country to a crisis may differ. If negative shocks to bank net wealth are indeed at the origin of the flight home effect, we would expect that the increase in home bias is larger for banks that are more exposed to the banking crisis. For this reason, we interact our dummies for banking crises in the bank's and the borrowers' home countries, respectively, with the proportion of non-deposit liabilities in total liabilities. Since non-deposit liabilities (especially wholesale funding) are a less stable source of funding for banks than traditional deposits, this proxy captures the possibility that a bank may experience liquidity pressures during a banking crisis. In column 2, our estimates indicate that the flight home effect is more

pronounced for banks with a larger proportion of non-deposit liabilities. Interestingly, in normal times and when banking crises affect the host country, banks with a higher proportion of non-deposit liabilities extend more foreign loans, suggesting that they may be more flexible in expanding their assets. The bank-specific exposure to the banking crisis is positively related to the flight home also in column 3 of Table 3, where we use the proportion of bank losses in terms of loan charge-off rates as a proxy.

In column 4 of Table 3, we reformulate the dependent variable in a way that is common in the literature on the home equity bias. A bank without home bias would be expected to extend loans to borrowers in a country in proportion to the importance of this country in the international syndicated loan market. Following Ahearne, Grier and Warnock (2004), we define the home bias of bank i with respect to country j as, where $Bias_{ijt} = 1 - \left(\frac{Loanshare_{ijt}}{Sharecountry_{jt}} \right)$, where $Loanshare_{ijt}$ is as defined in equation (1) and $Sharecountry_{jt}$ is the proportion of the loans issued in country j at time t with respect to the total amount of loans issued in the syndicated loan market at time t . In these specifications, the flight home effect would imply a positive and significant coefficient for the interaction term $Foreign Loan_{ij} * Shock Bank Country_{jt}$. The estimates indicate that the home bias increases by over 75 percent when the bank experiences a banking crisis. We find no changes in home bias when host countries experience banking crises.

To provide further evidence of the flight home effect, we consider that home bias is associated with proximity and familiarity, as in Coval and Moskowitz (1999). Thus, an increase in home bias should imply not only more lending to domestic borrowers, but also to borrowers in proximate countries. Consistently, we find that banks decrease their loans to distant borrowers to a larger extent when they experience banking crises in their domestic country (column 5). We also find that banks tend to extend fewer loans to remote borrowers.

Next, we test whether there exists evidence of flight home using the BIS banking statistics. While as explained earlier concentrating on syndicated bank loans allows us to gain deeper insights in the factors driving the flight home effect, this is an important robustness test because it allows to evaluate whether a flight to home emerges when we consider the mix of outstanding loans (a stock variable) rather than new loans (a flow variable), a broader class of international bank claims, and a measure of outstanding loans that takes into account loan repayments and does not depend on the syndicate loan composition.

We construct the dependent variable as the fraction of international banking claims from banks in country i on host country j in total banking claims from banks in country i . We compute international banking claims using the bilateral foreign and international banking claims from Table 9b of the BIS Consolidated International Banking Statistics. Total banking claims are computed as the sum of international banking claims and domestic banking claims. The latter are not directly available from the BIS dataset and following Cetorelli and Goldberg (2010) are proxied using the difference between domestic credit from banks to the private sector—computed by aggregating figures from lines 22A through 22D from the IMF’s IFS database—and local banking claims—computed as total local currency claims on local residents by foreign banks from Table 9a1 of the BIS Consolidated International Banking Statistics. In those few cases where the amount of local banking claims exceeds domestic credit to the private sector, we set observations to missing. We also limit the sample to the same set of countries and time period as that used in our main regressions using syndicated loan data. In this specification, we control for demand shocks in the host country by including interactions of deal nationality and time fixed effects. Estimates in Column 6 of Table 3 fully support the existence of a flight home effect.

4.3. Bank Parents, Subsidiaries and Borrower Types

An advantage of syndicated loan data is that we observe detailed bank and borrower characteristics on the loans, including whether loans are extended by the parent bank or by a subsidiary and whether the borrowers are private industrial corporations, sovereign or state-owned companies, or financial companies. Exploring bank lending in these different segments of the syndicated loan market can help to shed light on the sources of the flight home effect.

Some of the loans that we classify as foreign are issued by the subsidiaries of the banks in the country of the borrower. In the BIS international banking statistics, these loans would not be classified as international capital flows, but would be considered domestic loans. Furthermore, Cetorelli and Goldberg (2011) show that international banks obtain liquidity from their subsidiaries during times of strict monetary policies. Thus, one may wonder whether the increase in home bias of new loans we find depends on the fact that banks' foreign subsidiaries having to transfer resources to their parents are able to grant fewer loans. In column 1 of Table 3, we test whether we still find a flight home effect once we only include loans directly issued by parent banks. We continue to find evidence of a flight home effect when we focus on the loans directly granted by the bank parents.

Interestingly, in column 2 of Table 4, when we focus on the loans granted by the subsidiaries, we find that they too increase the proportion of loans they grant to borrowers from their parents' country of origin. This may depend on the fact that they increase the loan they grant to foreign subsidiaries of the firms from the origin countries of their parents. Also, it appears plausible that in normal times, the (foreign) subsidiaries of global banks extend mostly foreign loans and exhibit a foreign bias rather than a home bias.

Having established that our results do not depend on whether loans are granted by the parent or the foreign subsidiaries of global banks, we turn to analyze different types of borrowers: non-financial firms, other financial institutions, and sovereign states (including

state-owned enterprises). In these specifications, we control for demand effects using the loans granted by the domestic banks in the host country to each of these types of borrowers.

For all borrower types, we find evidence of flight home, whether we distinguish between domestic and foreign loans or use measures of familiarity based on the physical distance between the country of origin of the bank and the host country. The great majority of loans in the syndicated loan market are granted to corporate borrowers. Thus, it is unsurprising that when we focus on loans granted to corporate borrowers (columns 3 and 4 of Table 4) the estimates are very similar to the ones shown before. Interestingly, the flight home effect appears somewhat more pronounced when we focus on loans granted to sovereign states and state-owned enterprises (columns 7 and 8 of Table 4). This may be related to the banks' attempt to increase the probability of a bail out. We revisit this argument in Subsection 5.4.

Finally, it is interesting to note that during banking crises affecting the host countries foreign banks extend larger loans to private companies as well as to government-owned enterprises, but not to other financial institutions, which during a banking crisis represent worse credit risks.

4.4. Robustness Tests

4.4.1. Borrower and Loan Heterogeneity

Syndicated loans are extended not only for real investment, but also for highly cyclical restructuring activities, such as leverage buyouts, merger and acquisitions and stock repurchases. The demand for the latter type of loans may be lower during periods of financial turmoil, even if the borrower's country does not experience a banking crisis. If more foreign loans were extended for restructuring activities compared to domestic loans, a drop in the

demand of the more cyclical loans could explain the flight home effect, which would then be unrelated to negative shocks to the bank's net wealth.

Loan Analytics provides information on the purpose of the syndicated loan. We can thus perform our analysis focusing on loans that are intended for real investment (i.e., loans whose use is general corporate purposes or working capital). Results in column 1 of Table 5 show clear evidence of a flight home effect even if we restrict our attention to less cyclical loans. The estimates are not only statistically, but also economically invariant.

Another possibility is that the clients of domestic and foreign banks within a country differ. Any ex ante differences in the clients of domestic and foreign banks within a country should be reflected in the loan contracts they were offered. For instance, riskier borrowers with more cyclical demand presumably paid a higher interest rate on their loans. In column 2 and 3, we include controls for the average contract terms offered by each bank to borrowers in each country during the prior 12 months. Although our sample is reduced because of missing observations on contracts terms for loans in some countries, we continue to find clear evidence of a flight home effect. Like our previous results which distinguish among loans with different credit ratings, these findings indicate that the flight home effect is not due to ex ante differences between the clients of domestic and foreign banks.

Next, we consider that domestic and foreign loans may not be substitutes. In particular, they may be complementary especially if some foreign loans are used to fund domestic financial institutions. In this respect, it is reassuring that our results are robust when we exclude loans to other financial institutions and when we concentrate on loans that are used for real investment. To further mitigate these concerns, we exploit the fact that our control sample for banks experiencing a banking crisis includes the foreign loans of banks in countries that do not experience negative shocks at the same time. Thus, we exclude domestic loans from the sample and absorb demand shocks in the host country by including

interactions of deal nationality and time fixed effects. The estimates in column 4 of Table 5 are still strongly supportive of the flight home effect and suggest that if, anything, the complementarity between domestic and foreign loans may lead us to slightly underestimated its magnitude.

4.4.2. Trade Openness and Financial Integration

The flight home effect could simply be an artifact of a country's openness to trade. For instance, international trade is known to drop during financial crises. Although syndicated loans are rarely used to fund exports, it could be that international loans closely follow the pattern of real transactions. The flight home of international banks could then depend on a decline in the real integration. However, the estimates in column 5 of Table 5 indicate that there is strong evidence of a flight home effect even after controlling for the evolution of trade flows between the country of the bank and the country of the borrower. Since we can relate trade flows only to observations that include loans to foreign countries, we omit the share of loans to domestic borrowers from this specification. Thus, a negative effect of the dummy Shock Bank Country indicates that the share of loans extended to each of the foreign countries in the bank's portfolio decreases. The effect is quantitatively similar to the regression specifications in which we do not control for trade flows. This suggests that the flight home effect is not driven by changes in the degree of real economic integration.

In columns 6 and 7 of Table 5, we consider whether fears that host countries may place restrictions on capital outflows during periods of financial turmoil abroad determines the behavior of our sample of internationally active banks. We conjecture that these concerns may be more relevant for countries that are less integrated with the rest of the world and use measures of *de jure* and *de facto* financial integration (notably an index of capital account restrictions and the ratio of foreign bank claims per capita) to capture the degree of financial integration of host countries. Unsurprisingly, the home bias in banks' portfolios is more

pronounced towards countries with less open capital accounts and less pronounced in countries with more foreign bank claims per capita. The flight home effect, however, does not appear to depend on the extent of financial integration of the host country with the rest of the world.

4.4.3. *Syndicate Composition*

So far, consistent with previous literature, we have assumed that the lead bank is the lending bank. This measures the extent to which a bank is involved in originating new loans. However, after negotiating the loan with the borrower, the lead bank retains a fraction of the loan (generally 1/3) and sells the remaining part to participant banks and other investors. Lead banks are expected to retain a larger share of the loan when their access to privileged information increases with respect to participant banks (Gorton and Pennachi, 1995).

If during a downturn the share of the loan retained by the lead bank increases, as the findings of Ivashina and Scharfstein (2010b) for the US suggest, then we could observe that the lead bank originates less credit in terms of overall lending volume, while the amount of loans that the lead bank offers to each borrower need not decrease. This could affect our results only if the syndicate composition varies differently for domestic and foreign loans. If this were the case, one would expect that during a downturn the information asymmetry between lead banks and other participants in the syndicate is higher for domestic borrowers, because domestic banks tend to have privileged access to information on domestic borrowers. In this case, if the bank preferred not to change the geographical distribution of its loan exposure, we should observe that the lead bank originates a smaller amount of loans to the domestic country, *ceteris paribus*. In fact, we find the contrary.

Nevertheless, to mitigate concerns that our results are affected by the syndicate composition, we evaluate whether our estimates are robust if we focus on the fraction of the number (as opposed to the amount) of new loans that the bank originates in different

countries. Column 1 of Table 6 shows that our results remain unaltered when we consider the number of loans: the proportion of new loans granted in foreign countries decreases when banks experience banking crises in their country of origin.

The regressions in Columns 2 and 3 of Table 6 consider the syndicate composition that we observe for slightly less than half of the loans in our sample. We explore whether the average number of participants and the average share of the loan retained by the bank for loans issued by bank i in country j at time t vary differently for foreign and domestic loans during banking crises. We find no evidence that the composition of syndicates led by foreign banks is affected differently when the banks experience banking crises in their country of origin: foreign banks retain a larger share of the loan in host countries that are experiencing banking crises, supporting our earlier finding that in these situations unaffected foreign banks are inclined to provide insurance and consistent with the notion that information asymmetries and agency problems become more severe when borrowers incur negative shocks.

Overall, the fact that the structure of the syndicate is unaffected when banking crises affect the country of origin of the banks fully supports our interpretation of the empirical evidence that banks hit by negative shocks have a tendency to concentrate on the domestic market, resulting in a flight home effect.

5. What Explains the Flight Home Effect?

This section considers potential explanations for the increase in home bias in loan origination when banks experience negative shocks using detailed bank and borrower characteristics. We suggest that higher expected returns of domestic loans and an increase in risk aversion can explain the flight home.

5.1. Flight to Quality

Previous literature highlights that during financial crises investors, and banks in particular, tend to rebalance their portfolios in favor of safer and less opaque assets, a phenomenon that is generally referred to as flight to quality. We thus explore to what extent our findings may be a consequence of a flight to quality.

A possibility could be that in periods of market turmoil banks from advanced economies retract from emerging markets, which are considered riskier or less transparent. We could then erroneously interpret the desire to hold safer and more transparent assets as a desire to hold domestic assets. This is unlikely to be the case because in column 7 of Table 2 we have already shown that the flight home effect arises even if we exclude banks from the U.S. and the U.K., whose home countries are arguably the two countries in our sample with the strongest and most transparent institutional environments to which investors revert during periods of financial turmoil. We also test whether our results hold if we include only observations from borrowers in countries that are not directly affected by a banking crisis in their home country and that are consequently unlikely to have become less creditworthy than borrowers in the bank's country of origin. The estimates which we omit for brevity are fully consistent with our previous results.

To further mitigate concerns that our results are due to a flight to quality effect, in column 1 of Table 7, we include a dummy that takes a value of one for emerging markets¹¹ and interact it with our main variables of interest capturing the reaction of banks to banking crises in the country of origin and in the host country. Our premise is that if a flight to quality effect dominates, then the withdrawal from foreign lending markets following a banking crisis should be more pronounced for emerging markets where on average borrowers tend to have lower credit quality than borrowers in advanced economies. Instead, we find that, while foreign banks tend to decrease the amount of loans they allocate to foreign borrowers when

¹¹ Since the World Bank classification of emerging markets varies over time depending on economic development of the country, this dummy variable varies over time for some emerging markets.

they experience a crisis in their country of origin, this effect is not more pronounced for foreign loans to emerging markets. This suggests that the flight home effect is not a consequence of flight to quality.

We do find evidence of flight to quality when host countries experience banking crises. When the banking crisis occurs in a host country that is an advanced economy, foreign banks appear to provide insurance by increasing the share of loans that they allocate. This is no longer the case if an emerging market experiences a banking crisis as the coefficient of *Shock Borrower Country*×*Emerging Market Loans*×*Foreign Loan* is negative, significant and (statistically) equal in absolute value to the positive coefficient of the *Shock Borrower Country*×*Foreign Loan* variable.

The distinction between emerging markets and advanced economies is a crude proxy for the risk of extending credit to borrowers in a country. For this reason, we consider different country level proxies for institutional development and risk and explore whether the flight home effect is driven by the fact that banks retract from countries with weak institutions and higher risk. Consistent with our previous results, we find that having strong institutions helps mitigate the effects of home-grown shocks, as foreign banks are more inclined to provide insurance, while having strong institutions appears to be irrelevant or even counterproductive for shocks affecting foreign banks. In columns 2 and 3 of Table 7, we interact our proxies for shocks in the bank's and the borrower's countries with an index of protection of creditor rights from Djankov, McLiesh and Shleifer (2007) and an indicator of law and order. While the latter seems to leave the flight home effect unaffected, it appears that the flight home effect is more pronounced from countries with stronger creditor protection, possibly because credit expansion is larger in these countries during good times.

In column 4 of Table 7, we interact our banking crises dummies with the difference between the S&P sovereign credit ratings of the bank's and the borrower's home country,

respectively. Once again it appears that when their country of origin experiences financial turmoil, foreign banks distinguish only between domestic and foreign borrowers; foreign borrowers are granted less credit independently from their country's credit rating. Foreign banks appear to increase the proportion of loans they extend to countries that experience banking crises to a larger extent if these countries have higher sovereign credit ratings than their own country. This confirms that foreign banks tend to insure host countries against negative shocks to their banking systems, but only if these countries have stronger institutions and relatively lower risk. Interestingly, banks extend a larger proportion of loans to borrowers in countries with lower credit ratings, possibly suggesting that a higher level of debt decreases these countries' credit ratings.

Finally, we test whether the flight home effect is more pronounced for banks from strong institutional environments, which would suggest that the flight home and flight to quality effects are closely intertwined. Estimates in column 5 of Table 7 show that the flight home does not depend on the quality of institutions in the country of origin of the bank thus confirming that the effect we uncover is distinct from a flight to quality effect.

A possible limitation of the results presented thus far in Table 7 is that country risk and institutional development may not fully capture the quality of bank loans. For instance, the quality of the clients with access to foreign banks may be lower in riskier and less developed economies. This is unlikely because existing literature suggests that if foreign banks extend credit to more creditworthy and transparent borrowers. Nevertheless, to address these concerns, we note that information asymmetries and agency problems between banks and their borrowers vary across different segments of the syndicated loan markets. Therefore, in the remainder of Table 7, we split the sample depending on whether the borrower is rated or not. As rated borrowers tend to be investment grade, and borrowers without rating are more subject to asymmetric information, the existence of a credit rating is a proxy for loan

quality. The estimates in column 6 of Table 7 reveal that the home equity bias is economically smaller for rated loans (i.e., higher quality loans). While on average foreign banks' loan portfolio shares are 50 percentage points smaller than those of domestic banks, we find that for rated borrowers, the portfolio shares are only 7 percentage points smaller. However, when the bank's country of origin experiences a banking crisis, the home bias in banks' portfolios increases by 15 percent, an increase that is only slightly smaller than the one obtained for the whole sample. For unrated loans (column 7 of Table 7), which are the most frequent in the syndicated loan market, the magnitude of the effects is similar to what we obtain for the whole sample.

Since borrowers with no credit ratings are more subject to information asymmetries, these results indicate that the home bias in the syndicated loan market is in part driven by asymmetric information. However, the comparable magnitude of the increase in the home bias when banks experience a banking crisis in their country of origin across rated and unrated loans suggests that information asymmetries are unlikely to be the main factor driving the flight home effect.

5.2. Bank Relationships

If banks had close relationships with domestic borrowers but not with foreign borrowers, their favorable treatment of relationship borrowers could explain why the home bias in their loan portfolios increases in periods of financial turmoil. For example, Bae, Kang and Lim (2002) show that firms with closer relationships to their banks benefited from easier access to credit during the Korean financial crisis of 1998. Thus, we explore to what extent foreign banks refrain from extending loans to borrowers with which they have no established relationship following a financial crisis, but continue to extend loans to relationship borrowers independently from whether they are domestic or foreign.

We consider loans to borrowers that did not receive a loan from a particular bank before as loans to first time borrowers and loans to borrowers that have received previous loans from this bank as relationship loans (to define previous loans we consider loans extended since 1990).¹² In columns 1 and 2 of Table 8, we present estimates for first time borrowers and relationship borrowers, respectively. The magnitude of the coefficient is similar in the two samples, indicating that a different treatment of relationship borrowers cannot explain the flight home effect. In unreported specifications, we also find that results are invariant if we increase the number of loans that a borrower must have received from a given bank for the borrower to be considered a relationship borrower.

To the extent that banks should have better information on repeated borrowers, these results also suggest that information asymmetries are unlikely to be at the origin of the flight home effect.

5.3. Government Interventions

Banks that benefit from government interventions during banking crises may be subject to conditions or moral suasion by politicians or the government to lend to domestic borrowers, possibly at the expense of foreign borrowers. Such pressures may be particularly pronounced when government interventions take place in the form of capital injections or outright bank nationalizations. These political influences associated with government bailouts of banks could drive the portfolio rebalancing of banks towards domestic loans.

To test this hypothesis, we obtain data from Laeven and Valencia (2010) on the list of intervened banks benefiting from government bailouts during the 2007–08 financial crisis. We define a dummy variable that takes value equal to 1 for banks that were nationalized or received government support in the form of capital injections or asset guarantees, and

¹² We only consider lead banks to define relationships. It would be incorrect to consider also other participants in the syndicate, as these have no direct relation with the borrower.

consider the period surrounding the latest banking crisis (2006–09), for which we observe all the interventions, to test whether government intervened banks drive our results. Column 3 in Table 8 presents the results. We find no evidence that these banks rebalance their portfolio towards domestic borrowers to a larger extent than other banks. Interestingly, banks that are intervened by the government have a higher proportion of foreign loans prior to the banking crisis, suggesting that they may have taken more risks. Overall, it appears that political factors related to government interventions cannot explain the flight home effect, as is consistent with the findings of Rose and Wieladek (2011), who show that the response of bank lending policies to government interventions varies not only across different types of government interventions, but also across different countries.

5.4. Core Business, Diversification, and Expected Returns

French and Poterba (1991) argue that investors' preferences for domestic assets are such that investors in each country expect significantly higher returns in their domestic asset markets compared to foreign asset markets. In a similar vein, our results suggest that banks' preferences for domestic loans become stronger when they experience negative shocks.

Expected returns on domestic loans can be higher because of several factors, including diseconomies of scale, higher costs of producing foreign loans, and non-pecuniary benefits related to the probability of a bailout. First, banks' desire to revert to their core business in the domestic market is consistent with the earlier work showing that due to the lack of economies of scale, diversification of the loan portfolio does not lead to higher profitability for banks (DeLong, 2001; Acharya, Hasan and Saunders, 2006; Laeven and Levine, 2007).¹³ Moreover, Giannetti and Yafeh (2011) suggest that contracting costs are higher for loans to distant borrowers. Having experienced negative shocks to their net wealth,

¹³ Asset diversification can also proxy for agency problems like empire building, resulting in lower profit margin investments (Laeven and Levine, 2007).

banks have to shrink their loan portfolio and are likely to cut their least profitable loans first, which this literature suggests are foreign loans and loans to the least proximate borrowers.

Such an interpretation implies that banks that have to scale down their activities to a larger extent exhibit a stronger flight home. This is consistent with the previously shown empirical evidence that banks with more non-deposit liabilities, which are more likely to be redeemed during a banking crisis, and larger bank losses exhibit a stronger flight home effect (column 2 and 3, Table 4). This line of argument would also imply that, *ceteris paribus*, banks that are more diversified and that presumably have extended relatively less profitable loans to foreign borrowers should exhibit a stronger flight home. Following Laeven and Levine (2007), we measure a bank's product diversification using $1 - \left| \frac{L_t - OEA_t}{EA_t} \right|$, where L denotes the bank's total net loans, OEA denotes earning assets other than loans (such as securities and other investments), EA denotes total earnings assets (the sum of loans and other earning assets), and $|\cdot|$ denotes the absolute value indicator. This variable measures how much a bank is diversified in activities other than lending, and is increasing in diversification. On the basis of this proxy, we define a dummy variable that takes value 1 for banks with diversification above the median. Column 5 of Table 8 provides evidence that the flight home is indeed stronger for the most diversified banks.¹⁴

Extending loans to domestic borrowers could also entail higher non-pecuniary benefits during banking crises. By maintaining exposure to domestic loans especially to the government and to government-owned enterprises while cutting back on foreign loans, banks may increase their importance for the domestic real economy and increase the probability of being bailed out if needed (as in Farhi and Tirole, 2009). To the extent that loans to

¹⁴ Results (not reported) are qualitatively similar if we use the number of markets in which the bank extended syndicated loans during the previous year as an alternative measure of diversification.¹⁵ See Vayanos (2004) for a model in which an investor's effective risk aversion increases following weak performance due to the higher probability of withdrawals and termination.

government and government-owned firms are more effective in attracting the favors of politicians, the finding that the flight home effect is more pronounced for these loans supports the conjecture that domestic loans may involve non-pecuniary benefits. Moreover, focusing on domestic loans, we find that banks increase the percentage of loans they grant to the government and government-owned firms when their country experiences a banking crisis.

This interpretation is also consistent with the finding that the flight home effect is stronger for banks with more non-deposit liabilities or larger loan charge offs (column 3 and 4, Table 4). These banks are more likely to need a bailout during banking crises when non-deposit funding markets turn shallow and loan losses are realized, and may value more the implicit insurance associated with domestic loans. Furthermore, the finding that larger banks, often deemed too big to fail, exhibit a less pronounced flight home effect (column 4 of Table 8) can be interpreted along the same lines: Since *ceteris paribus*, smaller banks are less likely to be bailed out, they attempt to increase this probability by extending more domestic loans.

5.5. Risk Aversion

When banks experience negative shocks their effective risk aversion increases, because their license is subject to termination if they fail to meet minimum capital requirements.¹⁵ Although loans to domestic borrowers may hardly be considered less risky during a banking crisis, banks may be able to better evaluate their risk. As in Epstein (2001), they may thus consider loans to domestic borrowers less ambiguous and increase their proportion after experiencing negative shocks. An increase in the risk aversion of global banks could also have behavioral origins. For example, Barberis (2010) suggests that after

¹⁵ See Vayanos (2004) for a model in which an investor's effective risk aversion increases following weak performance due to the higher probability of withdrawals and termination.

suffering losses, even the professional decision makers employed by institutional investors or global banks may prefer to operate in more familiar environments.¹⁶

Interpretations of the empirical evidence based on an increase in risk aversion are also consistent with the previously reported evidence that banks more exposed to the shock exhibit a stronger flight home. Moreover, the flight home should be more pronounced for banks with lower tier 1 capital, for which fears of termination due to further negative shocks should be stronger and that theoretically are expected to have larger effective risk aversion. While the tier 1 capital does not appear to affect the magnitude of the flight home in the whole sample, our conjecture is confirmed if we restrict the sample up to 2007. Since the severity of the 2007–08 crisis was unprecedented, one may argue that any buffer was perceived to be too small for insuring banks from failure.

To provide additional empirical evidence that the flight home effect may depend on the fact that domestic and foreign banks have different views about the risk of the same borrower, we concentrate on exchange rate risk and specifically the currency of denomination of the loans. After experiencing negative shocks to their net wealth, foreign banks may want to decrease their exposure to exchange rate risk, especially if loans are extended in currencies other than the domestic currency.

While the currency of denomination of the loan is often a variable of choice when the contract terms are established, in some markets, banks may have less flexibility in issuing loans in their domestic currency. For instance, it is unlikely that US borrowers would accept loans in a currency other than the US dollar. To capture the bank's flexibility (or lack thereof) to issue loans in domestic currency in different markets, we measure the fraction of loans extended in the bank's home country currency during the prior 12 months to borrowers in

¹⁶ Behavioral studies support this mechanism. Heath and Tversky (1991) present a theory in which the extent of familiarity biases varies depending on how competent an individual feels about the decision that needs to be taken. After good performance, agents who feel competent at analyzing the situation at hand may venture in unfamiliar environments, but they revert to the most familiar domestic market when negative shocks to their portfolio undermine their confidence.

each host market. We surmise that banks may be less able to issue loans in domestic currency to borrowers in countries where generally a lower proportion of loans was issued in this currency and test whether the flight home effect is more pronounced from these host markets.

Estimates in column 6 of Table 8 show that banks that have experienced a banking crisis in their country of origin decrease their loan exposure to a lesser extent to countries where they tend to extend loans in their domestic currency. In particular, the flight home effect decreases by 30 percent if the proportion of loans extended by a bank in its home currency increases by a one standard deviation. This supports the conjecture that banks view differently the risk of domestic and foreign loans and that this may affect their lending decisions when they experience negative shocks and their effective risk aversion increases.

6. Conclusions

In the context of the international syndicated loan market, we provide evidence that the collapse of international markets during financial crises can be explained by a flight home effect. We show that the home bias of lenders' loan portfolios increases by approximately 20% if the country of origin of the bank experiences a banking crisis. The flight home effect is distinct from a flight to quality effect because borrowers in countries with varying economic development are equally affected by banks' portfolio rebalancing in favor of domestic lenders. Similarly, the flight home of international lenders does not appear to be limited to countries with weak investor protection or to borrowers with lower credit ratings. Instead, it appears that after experiencing negative shocks to their net wealth, banks prefer the risk and return profile associated to domestic loans, compared to foreign loans, due to low expected returns from diversification in banking and higher probability of a bailout associated with domestic lending. We also argue that increased risk aversion by lenders following

banking crises helps explain the decreased appetite for foreign loans, whose returns are more difficult to evaluate and are generally perceived as riskier.

We view our contribution as twofold. First, studying bank lending in the international syndicated loan market, we contribute to the literature on the transmission mechanism of shocks to bank lending and establish that banks decrease foreign loans to a larger extent than domestic loans when they are affected by negative shocks. Second, our paper suggests that the home bias increases when investors are subject to negative shocks. We believe that investigating the time series variation in the home bias for different types of investors and asset classes is an exciting area for future research, that could further improve our understanding of the home bias in international capital allocation, one of the most studied puzzles in international finance.

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Figure 1. Total amount of syndicated loans issued (US\$ billions), 1997–2009

This figure displays total gross amount of syndicated loans issued worldwide in US\$ billions in a given year over the period 1997–2009. Authors’ calculations based on data from Dealogic’s Loan Analytics Database.



Figure 2. Syndicated loan volume issued by foreign lenders, fraction of total, 1997–2009

This figure displays the yearly amount of syndicated loans issued by foreign lenders as a fraction of the yearly total amount of syndicated loans issued over the period 1997–2009. Authors’ calculations based on data from Dealogic’s Loan Analytics Database.

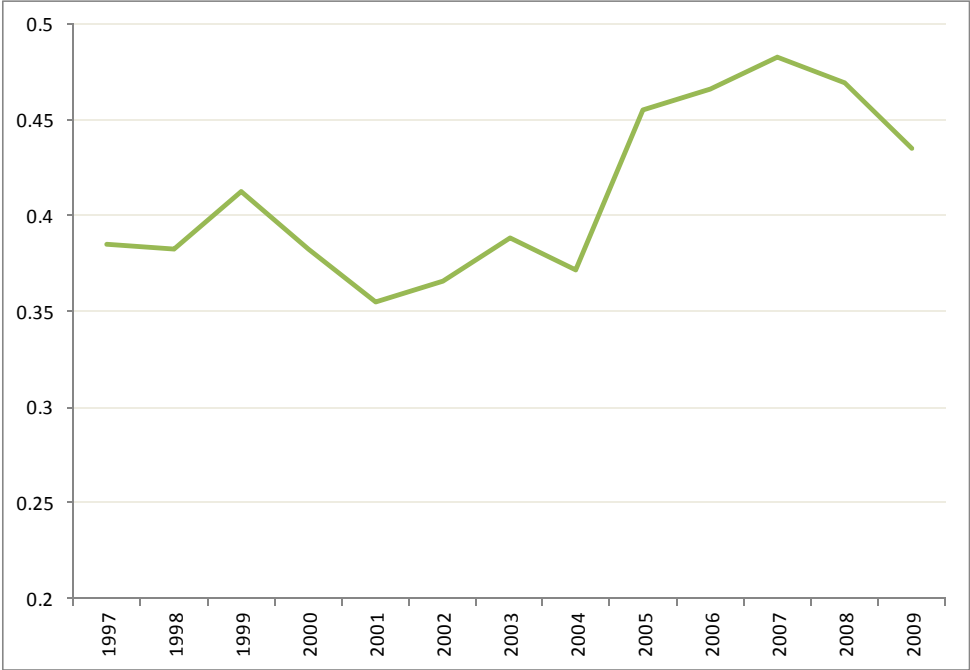


Table 1. Descriptive Statistics

This table displays summary statistics of the main regression variables. Syndicated loan variables are computed by the authors using data from Dealogic’s Loan Analytics Database. Bank specific variables are computed using Bankscope, unless indicated otherwise. Country variables are from the World Bank’s World Development Indicators database, unless indicated otherwise.

Variable	Definition	Mean	St. Dev.	Median	N
<i>Bank-country-time specific variables</i>					
Loan Share	Loans extended by bank <i>i</i> to borrowers in country <i>j</i> at time <i>t</i> /Total loans issued by bank <i>i</i> at time <i>t</i>	0.30	0.38	0.08	50710
Loan Share-Quarterly Data	Defined as above, but time <i>t</i> signifies a quarter instead of a month.	0.22	0.34	0.03	35235
Bias	$Bias_{ijt} = 1 - \left(\frac{Loanshare_{ijt}}{Sharecountry_{jt}} \right)$, where the $Sharecountry_{jt}$ is the proportion of the loans issued in country <i>j</i> at time <i>t</i> with respect to the total amount of loans issued in the syndicated loan market at time <i>t</i> .	203.79	3,903.91	-5.44	50704
Loan Share-BIS data	The fraction of international banking claims from banks in country <i>j</i> on host country <i>i</i> in total banking claims from banks in country <i>i</i> from the BIS Consolidated International Banking Statistics and IMF IFS database	0.03	0.13	0	17937
Loan Share-Bank Parents Only	Loans extended by the headquarters of bank <i>i</i> to borrowers in country <i>j</i> at time <i>t</i> /Total loans issued by the headquarters of bank <i>i</i> at time <i>t</i>	0.3	0.38	0.08	50430
Loan Share- Subsidiaries Only	Loans extended by the subsidiaries of bank <i>i</i> to borrowers in country <i>j</i> at time <i>t</i> /Total loans issued by the subsidiaries of bank <i>i</i> at time <i>t</i>	0.14	0.34	0	14939
Corporate Borrowers Loan Share	Loans extended by bank <i>i</i> to corporate borrowers in country <i>j</i> at time <i>t</i> /Total loans to corporate borrowers issued by bank <i>i</i> at time <i>t</i>	0.28	0.38	0.04	47817
Financial Institutions Loan Share	Loans extended by bank <i>i</i> to financial institutions in country <i>j</i> at time <i>t</i> /Total loans to financial institutions issued by bank <i>i</i> at time <i>t</i>	0.18	0.34	0	36819
Government Loan Share	Loans extended by bank <i>i</i> to the government and government-owned firms in country <i>j</i> at time <i>t</i> /Total loans to governments and government-owned firms issued by bank <i>i</i> at time <i>t</i>	0.15	0.33	0	30549
Loan A&B Share	Loans extended by bank <i>i</i> to A & B borrowers in country <i>j</i> at time <i>t</i> /Total loans issued by bank <i>i</i> at time <i>t</i>	0.06	0.17	0.00	50710
Loan Unrated Share	Loans extended by bank <i>i</i> to unrated borrowers in country <i>j</i> at time <i>t</i> /Total loans issued by bank <i>i</i> at time <i>t</i>	0.25	0.36	0.04	50710
Loan First-Time Share	Loans extended by bank <i>i</i> to first time borrowers in country <i>j</i> at time <i>t</i> /Total loans issued by bank <i>i</i> at time <i>t</i>	0.15	0.27	0.02	50710
Loan Relation Share	Loans extended by bank <i>i</i> to previous clients in country <i>j</i> at time <i>t</i> /Total loans issued by bank <i>i</i> at time <i>t</i>	0.15	0.26	0.01	50710

Variable	Definition	Mean	St. Dev.	Median	N
Loan Share Real Investment	Loans whose purpose is working capital or general corporate purposes issued by bank i to borrowers in country j at time t/Total loans whose purpose is working capital or general corporate purposes issued by bank i at time t	0.23	0.38	0	41,172
Loan Share-Number of Loans	Number of loans extended by bank i to clients in country j at time t/Total number of loans extended by bank i at time t	0.3	0.35	0.12	50720
Average Lead Bank Share	Average share of the loan retained by bank i for loans to borrowers of country j at time t	0.23	0.2	0.17	18068
Average Number of Participants	Average number of participants for syndicates led by bank i in country j at time t	9.17	8.4	7	43656
Average Loan Amount	Average amount of the loans extended by bank i to borrowers in country j at t-12	226.1	634.48	87.06	34,581
Average Interest Rate	Average interest rate of the loans extended by bank i to borrowers in country j at t-12	134.21	112.53	102.28	26,037
Average Maturity	Average maturity of the loans extended by bank i to borrowers in country j at t-12	1,248.90	1,435.03	793	9,772
Foreign Loan	Dummy variable that takes value 1 if bank i nationality is different from the nationality of the borrower; the variable equals zero otherwise	0.79	0.41	1.00	50725
Subsidiary	Dummy variable that takes value 1 if the bank has a subsidiary in the borrower's country; the variable takes value zero otherwise	0.05	0.22	0	50725
Proportion Loans in the Bank's Currency	Proportion of loans that bank i extends in country j at t-12 denominated in the domestic currency of the bank	0.1	0.29	0	50732
<i>Bank specific variables</i>					
Large Bank	Dummy variable that takes value equal 1 if the bank's total assets are above the mean and 0 otherwise	0.27	0.44	0	50732
Proportion of non-deposit liabilities	Ratio of non-deposit liabilities to total liabilities in a given year	0.92	1.92	0.35	26373
Bank's charge off	Proportion of nonperforming loans in the bank's assets in a given year	0.01	0.01	0.01	45412
Tier 1 Capital	The ratio of Tier-1 capital to risk weighted assets	0.088	0.052	0.082	18511
Asset Diversification	1 minus the absolute value of the ratio of loans minus other earning assets to total earning assets	0.68	0.26	0.74	24908
Government Intervention	Dummy variable that takes value equal to 1 if the bank was nationalized or received government support in the form of capital or asset guarantees between 2006 and 2009, and zero otherwise. Source: Laeven and Valencia (2010).	0.30	0.46	0	21694
<i>Country-time specific variables</i>					

Variable	Definition	Mean	St. Dev.	Median	N
Domestic Loans	Domestic loans in country j at time t/Total loans at time t	0.05	0.14	0.00	50732
Domestic Loans-Quarterly Data	Defined as above, but time t signifies a quarter instead of a month.	0.04	0.11	0	35252
Domestic Loans to Corporate Borrower	Domestic loans to corporate borrowers in country j at time t/Total loans to corporate borrowers at time t	0.14	0.24	0.03	45339
Domestic Loans to Financial Institutions	Domestic loans to financial institutions in country j at time t/Total loans to financial institutions at time t	0.12	0.25	0	33614
Domestic Loans to the Government	Domestic loans to the government and government-owned firms in country j at time t/Total loans at time t	0.13	0.27	0	25327
Domestic A&B Loans	Domestic loans to A& B borrowers in country j at time t/Total loans at time t	0.02	0.07	0.00	48488
Domestic Unrated Loans	Domestic loans to unrated borrowers in country j at time t/Total loans at time t	0.03	0.08	0.00	50732
Domestic First-Time Loans	Domestic loans to first time borrowers in country j at time t/Total loans at time t	0.02	0.03	0.00	34729
Domestic Relationship Loans	Domestic loans to previous clients in country j at time t/Total loans at time t	0.06	0.13	0.00	34729
Domestic Loans Real Investment	Domestic loans whose purpose is working capital or general corporate purposes issued by bank i to borrowers in country j at time t/Total loans whose purpose is working capital or general corporate purposes issued at time t				
Domestic Loans-Number of Loans	Number of loans in country j at time t/Total loans at time t	0	0	0	50732
Average Lead Bank Share	Average share of the loan retained by domestic lead banks in country j at time t	0.34	0.24	0.28	27044
Average Number of Participants	Average number of participants for syndicates led by domestic lead banks in country j at time t	7.45	5.17	6.08	29973
Shock Bank Country	Dummy variable that equals 1 if the country of origin of the bank experiences a banking crisis and equals zero otherwise	0.19	0.39	0.00	50732
Shock Borrower Country	Dummy variable that equals 1 if the country of origin of the borrower experiences a banking crisis and equals zero otherwise	0.14	0.34	0.00	50732
Banking Return in Bank's Country	Monthly return of the banking sector in the bank's country of origin from Datastream	-0.01	0.08	0.00	32768
Host Country's Mkt Return	Monthly market return in the country of the borrower from Datastream	0.00	0.06	0.01	28577
Emerging Market	Dummy variable that takes value 1 if the borrower's country has GDP per capita below USD 10000 and takes value zero otherwise	0.15	0.36	0.00	50732
Creditor rights	Index of creditor rights in the host country from Djankov et al. (2007)	2.05	1.12	2	29435
Law & Order	Index of law and order in the host country from ICRG	4.77	0.98	5	30018

Variable	Definition	Mean	St. Dev.	Median	N
Law & Order Home Country	Index of law and order in the country of origin of the bank from ICRG	5.16	0.60	5	33202
S&P Rating Borrower	S&P rating of the borrower country's government debt; lowest number denotes highest rating; data from Standard and Poor's	7.75	3.99	7	48148
S&P Rating Bank – S&P Rating Borrower	S&P rating of the bank country's government debt minus S&P rating of the borrower country's government debt; data from Standard and Poor's	1.06	4.05	0.00	47991
Capital Account restrictions	Index of capital account restrictions in the host country from IMF's AEREAR database	0.23	0.31	0.08	28235
Foreign Claims Per Capita	Foreign claims per capita in the host country	23020.33	69467.11	12716.54	30018
Distance	Log of physical distance in miles between the capital city of the bank's country and the borrower's country; the distance is zero for domestic loans	5.93	3.44	7.33	45349
Trade/Bank Country GDP	Exports to host country plus imports to home country of bank divided by GDP of home country of bank; data on bilateral exports and imports from IMF's Direction of Trade Statistics	1.77	5.50	0.25	38609

Table 2. Cross-Border Lending and the Flight Home Effect: Main Results

The dependent variable is Loan Share. Column 2 is estimated using a Tobit regression. Column 3 includes deal nationality fixed effects. Column 4 controls for differences in foreign banks' lending policies, when shocks affect the host countries. Column 5 only includes observations from countries in which banks have been the lead bank for a total of at least 10 syndicated loans. Column 6 limits the sample to bank loan portfolio shares starting from the year 2006. Column 7 excludes observations of US and UK banks from the sample. Column 8 includes interactions of deal country and month of the year fixed effects. Column 9 uses data aggregated at the quarterly level. All regressions include a constant and deal nationality and time fixed effects (not reported). Standard errors in parenthesis are corrected for heteroskedasticity and are clustered at the bank parent level. *, **, and *** indicate significant at 10 percent, 5 percent and 1 percent level.

	(1)	(2) Tobit	(3)	(4)	(5) Important markets only	(6) Latest crisis Only	(7) No US and UK banks	(8) Deal country x time fixed effects	(9) Quarterly Data
Foreign Loan	-0.507*** (0.0218)	-0.600*** (0.0292)	-0.506*** (0.0224)	-0.511*** (0.0224)	-0.497*** (0.0342)	-0.523*** (0.0252)	-0.523*** (0.0271)	-0.509*** (0.0233)	-0.580*** (0.0188)
Shock Bank Country* Foreign Loan	-0.0896*** (0.0210)	-0.0952*** (0.0234)	-0.0764*** (0.0207)	-0.0816*** (0.0214)	-0.0549** (0.0212)	-0.0942*** (0.0270)	-0.0629** (0.0307)	-0.0909*** (0.0259)	-0.0591*** (0.0155)
Shock Borrower Country* Foreign Loan				0.0355*** (0.0106)	0.0303* (0.0171)	0.0758*** (0.0162)	0.0339*** (0.0127)	0.0699*** (0.0230)	0.0373*** (0.00841)
Domestic Loans	0.501*** (0.0609)	0.580*** (0.0715)	0.499*** (0.0674)	0.533*** (0.0688)	0.549*** (0.0890)	0.629*** (0.0848)	0.693*** (0.0815)		0.580*** (0.0883)
Deal Country FE	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Deal Country FE* Time FE	No	No	No	No	No	No	No	Yes	No
Observations	50710	50710	50710	50710	18717	21684	34316	50710	35235
R-squared	0.404	--	0.429	0.429	0.566	0.482	0.370	0.508	0.501

Table 3. Other Measures of Shocks and Home Bias

The dependent variable is Loan Share with the exceptions of columns 4 and 6. In column 4, the dependent variable, Bias, is a measure of home bias in the portfolio of bank *i* respect to country *j*, defined as in Ahearne, Grier and Warnock (2004), and in column 6, the dependent variable is a measure of home bias using the BIS Consolidated International Banking Statistics. Column 1 uses the contemporaneous stock return of the banking industry in the country of origin of the bank as a proxy for the home country shock and the return on the stock market index in the host country as proxy for the host country shock. Column 2 includes interactions with the bank's proportion of non-deposit liabilities. Column 3 controls for the proportion of bank losses in terms of loan charge-off rates to proxy for bank-specific exposure to the crisis. Column 4 uses Bias as dependent variable, computed as 1 minus the ratio of the loan share and the Share Country variables, with the latter computed as the proportion of loans issues in country *j* at time *t* with respect to the total amount of loans issued in the syndicated loan market at time *t*. Column 5 controls for the distance between the bank and its borrowers. Column 6 uses the fraction of international bank claims on country *j* in total bank claims from banks in country *i* computed using BIS data, as dependent variable, and includes interactions of deal country times month of the year fixed effects to control for unobserved changes in the demand for loans across countries. All regressions include a constant and deal nationality and time fixed effects (not reported). Standard errors in parenthesis are corrected for heteroskedasticity and are clustered at the bank parent level. *, **, and *** indicate significant at 10 percent, 5 percent and 1 percent level.

	(1) Stock returns	(2) Non-deposit liabilities	(3) Charge-offs	(4) Bias	(5) Distance	(6) BIS data
Foreign Loan	-0.545*** (0.0226)	-0.533*** (0.0306)	-0.534*** (0.0279)	248.3*** (84.30)	0.128 (0.0797)	-0.618*** (0.00744)
Banking Return in Bank's Country * Foreign Loan	0.0988*** (0.0377)					
Host Country's Mkt Return	0.210** (0.0819)					
Host Country's Mkt Return * Foreign Loan	-0.239*** (0.0756)					
Domestic Loans	0.483*** (0.0688)	0.00272 (0.00342)	0.00574 (0.00358)		0.464*** (0.0664)	
Shock Bank Country * Foreign Loan				192.2** (95.99)		
Shock Borrower Country * Foreign Loan				-43.46 (36.50)	0.0111 (0.0102)	-0.00359** (0.00139)
Shock Bank Country * Foreign Loan * Distance					-0.00726*** (0.00220)	0.0624*** (0.00679)
Foreign Loan * Distance					-0.0805*** (0.0102)	
Shock Bank Country * Foreign Loan * Proportion of non-deposit debt		-0.0201***				

	(1)	(2)	(3)	(4)	(5)	(6)
	Stock returns	Non-deposit liabilities	Charge-offs	Bias	Distance	BIS data
Shock Borrower Country* Foreign Loan* Proportion of non-deposit debt		(0.00670) 0.0155** (0.00655)				
Bank's proportion of non-deposit liabilities* Foreign Loan		0.0279** (0.0117)				
Bank's proportion of non-deposit liabilities		-0.00453 (0.00787)				
Shock Bank Country * Foreign Loan * Bank's charge off			-4.413** (1.858)			
Shock Borrower Country * Foreign Loan * Bank's charge off			0.680 (1.132)			
Bank's charge off * Foreign Loan			3.386*** (1.009)			
Bank's charge off			0.382 (1.114)			
Deal Country FE	Yes	Yes	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes	Yes	Yes
Deal Country FE* Time FE	No	No	No	No	No	Yes
Observations	28485	26370	45398	50704	45338	11139
R-squared	0.440	0.498	0.425	0.033	0.475	0.918

Table 4. Sources of the Flight Home Effect: Different Segments of the Syndicated Loan Market

The dependent variable is Loan Share. In column 1 Loan Share is constructed considering loans from parent banks only. In column 2 Loan Share is constructed considering loans from subsidiaries only. In columns 3 and 4 Loan Share is constructed considering loans to non-financial corporate borrowers only. In columns 5 and 6 Loan Share is constructed considering loans to other financial institutions only. In columns 7 and 8 Loan Share is constructed considering loans to governments and state-owned enterprises only. All regressions include a constant and deal nationality and time fixed effects (not reported). Standard errors in parenthesis are corrected for heteroskedasticity and are clustered at the bank parent level. *, **, and *** indicate significant at 10 percent, 5 percent and 1 percent level.

	(1) Loans from parent banks only	(2) Loans from subsidiaries only	(3) Loans to corporate borrowers	(4) Loans to corporate borrowers	(5) Loans to financial institutions	(6) Loans to financial institutions	(7) Loans to the government or state-owned enterprises	(8) Loans to the government or state-owned enterprises
Foreign	-0.526*** (0.0218)	0.191*** (0.0557)	-0.510*** (0.0243)	0.0890 (0.0773)	-0.352*** (0.0271)	0.278*** (0.0876)	-0.372*** (0.0366)	0.125 (0.0821)
Shock Bank Country * Foreign Loan	-0.0785*** (0.0211)	-0.0659** (0.0311)	-0.0600*** (0.0191)		-0.0765*** (0.0195)		-0.102*** (0.0258)	
Shock Borrower Country * Foreign Loan	0.0372*** (0.0102)	-0.0228 (0.0196)	0.0374*** (0.0114)	0.0170 (0.0105)	-0.0421*** (0.0118)	-0.0588*** (0.0109)	0.0407*** (0.0127)	0.0266** (0.0128)
Domestic Loans	0.517*** (0.0750)	0.475** (0.193)	0.174*** (0.0354)	0.198*** (0.0341)	0.454*** (0.0349)	0.478*** (0.0370)	0.499*** (0.0353)	0.554*** (0.0397)
Shock Bank Country * Foreign Loan * Distance				-0.00498** (0.00195)		-0.00652*** (0.00209)		-0.00979*** (0.00251)
Foreign Loan * Distance				-0.0749*** (0.00991)		-0.0785*** (0.0111)		-0.0612*** (0.0108)
Deal Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	50430	12191	43324	40256	25531	23350	16491	14642
R-squared	0.434	0.241	0.446	0.484	0.318	0.354	0.335	0.367

Table 5. Loan and Borrower Heterogeneity and the Flight Home Effect

The dependent variable is Loan Share. In column 1, we only consider loans whose purpose is general corporate purposes or working capital to construct the loan specific variables based on data from Loan Analytics. In column 2, we control for the average loan amount offered by each bank to borrowers in each country during the prior year. In column 3, we control for the average contracts terms (loan amount, interest rate, and loan maturity) offered by each bank to borrowers in each country during the prior year. In column 4, we exclude domestic loans from the sample. Column 5 controls for trade flows between the home country of the bank and the home country of the borrower. Column 6 controls for de jure capital account restrictions in the host country using IMF AEREAR data. Column 7 controls for the ratio of foreign bank claims per capita in the host country using BIS data. All regressions include a constant and deal nationality and time fixed effects (not reported). Standard errors in parenthesis are corrected for heteroskedasticity and are clustered at the bank parent level. *, **, and *** indicate significant at 10 percent, 5 percent and 1 percent level.

	(1) Only loans for real investment	(2) Loan amount	(3) Contract terms	(4) Foreign loans only	(5) Trade flows	(6) Capital controls	(7) Foreign bank claims
Foreign Loan	-0.495*** (0.0296)	-0.536*** (0.0261)	-0.498*** (0.0345)			-0.443*** (0.0281)	-0.599*** (0.0345)
Shock Bank Country * Foreign Loan	-0.0528*** (0.0173)	-0.0435** (0.0192)	-0.0503** (0.0243)	-0.0901*** (0.0299)		-0.0886*** (0.0236)	-0.0793*** (0.0222)
Shock Borrower Country * Foreign Loan	-0.0152 (0.00964)	0.00404 (0.0163)	0.0449** (0.0207)			0.0456** (0.0193)	0.0392** (0.0153)
Domestic Loans	0.0129* (0.00754)	0.618*** (0.0694)	0.655*** (0.0948)		0.439*** (0.0806)	0.472*** (0.0691)	0.481*** (0.0689)
Average Loan Amount (in US\$ thousands)		-0.00198 (0.00675)	-0.0280** (0.0113)				
Average Interest Rate (in %)			0.0189*** (0.00558)				
Average Maturity (in years)			-0.0000168 (0.000975)				
Shock Bank Country					-0.0664** (0.0264)		
Shock Borrower Country					0.00691 (0.00811)		
Trade/Bank Country GDP					0.00925*** (0.00156)		
Capital Restrictions Index * Foreign Loan						-0.380*** (0.0693)	
Shock Bank Country * Foreign Loan * Capital Restrictions Index						0.0173	

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Only loans for real investment	Loan amount	Contract terms	Foreign loans only	Trade flows	Capital controls	Foreign bank claims
Shock Borrower Country * Foreign Loan Index * Capital Restrictions						(0.0194) -0.0459 (0.0332)	
Share Foreign Claims * Foreign Loan							0.408*** (0.153)
Shock Bank Country * Foreign Loan * Share Foreign Claims							-0.007 (0.005)
Shock Borrower Country * Foreign Loan * Share Foreign Claims							0.010 (0.007)
Deal Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Deal Country FE* Time FE	No	No	No	Yes	No	No	No
Observations	27536	24021	6422	39982	38606	28233	30016
R-squared	0.402	0.562	0.622	0.252	0.126	0.420	0.464

Table 6. Syndicate Composition and the Flight Home Effect

In column 1, the dependent variable is the number of loans that bank *i* issues to country *j* at time *t* with respect to the total number of loans that bank *i* issues at time *t*. In column 2, the dependent variable is the average share of the loan retained by lead bank *i* for loans issued in country *j* at time *t*. In column 3, the dependent variable is the average number of participants for loans that lead bank *i* extends in country *j* at time *t*. The regression in column 1 controls for the number of domestic loans issued in country *j* at time *t* relative to the total number of loans issued in the syndicated loan market at time *t*. The regression in column 2 controls for the lead bank's share in domestic loans in the country. The regression in column 3 controls for the number of participants in domestic loans in the country. All regressions include a constant and deal nationality and time fixed effects (not reported). Standard errors in parenthesis are corrected for heteroskedasticity and are clustered at the bank parent level. *, **, and *** indicate significant at 10 percent, 5 percent and 1 percent level.

	(1)	(2)	(3)
	Loan Share – Number of Loans	Average Lead Bank Share	Number of Participants
Foreign Loan	-0.479*** (0.0217)	-0.0709*** (0.00872)	1.549*** (0.201)
Shock Bank Country * Foreign Loan	-0.0817*** (0.0222)	0.00353 (0.00889)	0.00990 (0.256)
Shock Borrower Country * Foreign Loan	0.0313*** (0.0108)	0.0152* (0.00883)	-0.160 (0.278)
Number of Domestic Loans	4.761*** (0.848)		
Lead Bank Share in Domestic Loans		0.415*** (0.0245)	
Number of Participants in Domestic Loans			0.593*** (0.0245)
Deal Country FE	Yes	Yes	Yes
Time FE	Yes	Yes	Yes
Observations	50720	12365	29791
R-squared	0.455	0.279	0.257

Table 7. Flight to Quality and the Flight Home Effect

The dependent variable is Loan Share. Column 1 estimates differential effects for emerging markets and other markets. Column 2 controls for differential impact of the protection of creditor rights in the host country. Column 3 controls for differential impact of law and order tradition in the host country. Column 4 controls for the difference between the S&P sovereign credit ratings of the bank's and the borrower's home country, respectively. Column 5 controls for the law and order tradition in the home country of the bank. In column 6 Loan Share is constructed considering only loans to rated borrowers. In column 7 Loan Share is constructed considering only loans to unrated borrowers. All regressions include a constant and deal nationality and time fixed effects (not reported). Standard errors in parenthesis are corrected for heteroskedasticity and are clustered at the bank parent level. *, **, and *** indicate significant at 10 percent, 5 percent and 1 percent level.

	(1)	(2)	(3)	(4)	(5)	(6) Rated Loans	(7) Unrated Loans
Foreign Loan	-0.505*** (0.0229)	-0.586*** (0.0562)	-0.899*** (0.0737)	-0.511*** (0.0225)	-0.520*** (0.0239)	-0.0691*** (0.00900)	-0.442*** (0.0194)
Shock Bank Country * Foreign Loan	-0.0842*** (0.0216)	-0.0172 (0.0246)	-0.0710** (0.0339)	-0.0763*** (0.0207)	-0.0787*** (0.0220)	-0.0106* (0.00596)	-0.0649*** (0.0177)
Emerging Market Loans	0.180*** (0.0455)						
Shock Bank Country * Emerging Market Loans	0.0611 (0.0775)						
Emerging Market Loans * Foreign Loan	-0.211*** (0.0471)						
Shock Bank Country * Emerging Market Loans * Foreign Loan	-0.0395 (0.0795)						
Shock Borrower Country * Foreign Loan	0.0363*** (0.0111)	-0.0180 (0.0207)	-0.0511 (0.0579)	0.0451*** (0.0116)	0.0349*** (0.0104)	0.00650 (0.00419)	0.0204** (0.0101)
Shock Borrower Country * Emerging Market Loans * Foreign Loan	-0.0540* (0.0285)						
Domestic Loans	0.537*** (0.0687)	0.469*** (0.0695)	0.430*** (0.0681)	0.548*** (0.0685)	0.543*** (0.0711)		
Creditor Rights * Foreign Loan		0.0324 (0.0285)					
Shock Bank Country * Foreign Loan * Creditor Rights		-0.0317*** (0.00779)					
Shock Borrower Country * Foreign Loan * Creditor Rights		0.0333*** (0.00913)					
Law & Order * Foreign Loan			0.0742*** (0.0146)				

	(1)	(2)	(3)	(4)	(5)	(6) Rated Loans	(7) Unrated Loans
Shock Bank Country * Foreign Loan * Law & Order			-0.00286 (0.00628)				
Shock Borrower Country * Foreign Loan * Law & Order			0.0207* (0.0123)				
Shock Bank Country * (S&P Rating Bank – S&P Rating Borrower) * Foreign Loan				-0.00211 (0.00136)			
Shock Borrower Country * (S&P Rating Bank – S&P Rating Borrower) * Foreign Loan				0.00528*** (0.00192)			
S&P Rating Borrower				0.00152* (0.000860)			
Shock Bank Country * Foreign Loan * High Law & Order Home Country					0.0285 (0.0434)		
High Law & Order Home Country * Foreign Loan					0.0567* (0.0340)		
Domestic Rated Loans						0.756*** (0.0667)	
Domestic Unrated Loans							0.187*** (0.016)
Deal Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	50710	29433	30016	47982	50710	48477	48477
R-squared	0.430	0.461	0.461	0.438	0.431	0.128	0.368

Table 8. Transmission Channels of the Flight Home Effect

The dependent variable is Loan Share. All variables are defined in Table 1. Column 1 considers only loans extended to first time borrowers – borrowers that did not receive a loan from the bank before. Column 2 considers only loans extended to borrowers that have received previous loans from the banks. Column 3 controls for the impact of bank support from government interventions during the period 2006-2009. Column 4 controls for the differential effect of large banks as measured by the large bank dummy. Column 5 controls for the diversification of the parent bank using a dummy that takes value 1 for banks for which the measure of asset diversification in Laeven and Levine (2007) is above the median. Columns 6 and 7 control for the tier-1 capital ratio of the parent bank. Column 7 excludes observations from the global financial crisis years 2008 and 2009. Column 8 controls for the proportion of loans that bank *i* extended in domestic currency to borrowers in country *j* during the prior 12 months. All regressions include a constant and deal nationality and time fixed effects, whose coefficients are not reported. Standard errors in parenthesis are corrected for heteroskedasticity and are clustered at the bank parent level. *, **, and *** indicate significant at 10 percent, 5 percent and 1 percent level.

	(1) First time loans	(2) Relationship loans	(3) Government intervention	(4) Large banks	(5) Diversification	(6) Tier 1 capital– Whole sample	(7) Tier 1 capital– 1997– 2007	(8) Currency composition
Foreign Loan	-0.248*** (0.0122)	-0.261*** (0.0153)	-0.507*** (0.0302)	-0.462*** (0.0239)	-0.492*** (0.00564)	-0.569*** (0.00773)	-0.575*** (0.00785)	-0.511*** (0.0219)
Shock Bank Country * Foreign Loan	-0.0452*** (0.0146)	-0.0385*** (0.00999)	-0.0830** (0.0378)	-0.103*** (0.0242)	-0.0230*** (0.00841)	-0.0735*** (0.0203)	-0.143*** (0.0247)	-0.0878*** (0.0214)
Shock Borrower Country * Foreign Loan	0.0438*** (0.00995)	0.00915 (0.00825)	0.0793*** (0.0161)	0.0370*** (0.0124)	0.0348*** (0.00729)	0.0355*** (0.00842)	-0.0176 (0.0123)	0.0371*** (0.0107)
Domestic Loans	-0.0744 (0.0473)	0.120 (0.110)	0.636*** (0.0848)	0.541*** (0.0661)	0.487*** (0.0431)	0.579*** (0.0464)	0.592*** (0.0529)	0.531*** (0.0684)
Domestic First-Time Loans	0.715*** (0.120)							
Domestic Relationship Loans		0.509*** (0.133)						
Shock Bank Country * Foreign Loan * Government Intervention			0.0214 (0.0391)					
Shock Bank Country * Foreign Loan * Large Bank				0.0686*** (0.0217)				
Shock Bank Country * Foreign Loan * High Asset Diversification					-0.0302*** (0.00947)			
Shock Bank Country * Foreign Loan * Tier 1 Capital						0.285 (0.214)	0.689*** (0.261)	
Shock Bank Country * Foreign Loan								0.0911**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	First time loans	Relationship loans	Government intervention	Large banks	Diversification	Tier 1 capital– Whole sample	Tier 1 capital– 1997– 2007	Currency composition
* Proportion Loans in Domestic Currency								(0.0429)
Shock Borrower Country* Foreign Loan * Large Bank				-0.00757 (0.0161)				
Shock Borrower Country * Foreign Loan								-0.00647 (0.0522)
* Proportion Loans in Domestic Currency Foreign Loan * Government Intervention			-0.0814** (0.0386)					
Foreign Loan * Large Bank				-0.159*** (0.0300)				
Foreign Loan * High Asset Diversification					-0.0542*** (0.00421)			
Foreign Loan * Tier 1 Capital						0.525*** (0.0591)	0.488*** (0.0579)	
Foreign Loan * Proportion Loans in the Domestic Currency								-0.00724 (0.0491)
Deal Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	50710	50710	21684	50710	24906	14283	12018	50710
R-squared	0.215	0.316	0.486	0.451	0.488	0.623	0.651	0.430