

# Migration and cross-border banking: The missing link?

Alexandra O. Zeitz<sup>1</sup> and David Leblang<sup>2</sup>

What explains global patterns of cross-border banking? Banking integration is a key part of global financial integration, facilitating international economic exchange and making capital available for investment. Existing research on causes of cross-border banking explains why some jurisdictions are better at attracting investment than others, but does less to explain why some pairs of countries become connected by cross-border banking, while others do not. We argue that cross border banking connections can be understood through the lens of migrant networks. Migrant networks incentivize banks to move across borders, with banks following migrants to provide them local banking services and to channel remittances back to their country of origin. Using bank-level data, we investigate a more complete set of banking connections than much of the existing literature, including South-South links among emerging economies. This bank-level data reveals the role of migration in fostering links between jurisdictions. We not only show that migrants are important for foreign banks to “discover” new markets, but also that migrants act as a bulwark against disintegration: in dyads with more migration, cross-border banking is less likely to recede in response to banking crises.

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<sup>1</sup> University of Oxford [alexandra.zeitz@politics.ox.ac.uk](mailto:alexandra.zeitz@politics.ox.ac.uk)

<sup>2</sup> University of Virginia [dal7w@virginia.edu](mailto:dal7w@virginia.edu)

## 1. Introduction

Cross-border banks provide the financial infrastructure that underpins global economic integration. These transnational banks facilitate cross-border transactions including international trade, foreign direct investment, sovereign debt issuance, portfolio investment and remittances. And yet, cross-border banks also carry risks, acting as vectors of crisis that transmit financial instability from one country to another. Despite the substantive importance of cross-border banking, we know surprisingly little about why foreign banks establish operations in other countries and particularly why certain dyads in the global economy come to be connected by banking links.

We draw attention to one important driver of banking internationalization: migration. The case of Italian banks in the United States at the turn of the 20<sup>th</sup> century is illustrative of the connection between migration and cross-border banking. Intesa Sanpaolo is one of the largest banks in Italy today. In the early 1900s it opened offices in New York, establishing trust companies to incorporate as a fully capitalized bank in the United States and be able to take deposits. The head of the Intesa Sanpaolo archives explains this process as follows: “The most important factor at the outset [of the twentieth century] was the focus on Italian migrants and the emergence of numerous Italian colonies in the United States” (Costa 2017). Today, similar dynamics are at work where there are large migrant populations. FBN Bank UK is a London-based subsidiary of one of Nigeria’s largest banks. It advertises itself on its website as “the London bank for Nigerians, either resident in the UK or simply visiting”.<sup>3</sup> The Taiwanese bank CTBC owns a subsidiary bank in Canada and three of its four offices are in Vancouver, British Columbia, where the majority of the Taiwanese diaspora in Canada has settled.

We thus extend the literature on international banking by investigating the relationship between international migration and cross-border banking, testing whether banking links are more likely for those dyads with high volumes of migration. The literature on migration and economic integration has highlighted the role that migrants play in trade and investment between their countries of origin with their destination countries. In most cases, migrants are seen as providing crucial information that facilitates investment from their destination country to their country of origin; migrants’ access to context-specific information about their country of origin enables them to better price risk. By contrast, we focus on migrants’ role in attracting investment from their home country into their destination country.

A common assumption in the literature on international banking is that banks follow their customers. This is usually understood in terms of banks’ corporate clients. When firms expand operations abroad, the expectation is that banks from the home country will be incentivized to follow these corporations to the new jurisdiction to provide them with banking services. In the process, this expands the bank’s reach. Does the same apply for migrants? In other words, do banks follow migrants?

We suggest there are two main reasons that banks would follow migrants. First, providing remittance services to migrants can be an attractive business opportunity for banks from the migrants’ home country. This is not only because of the fees that remittance transfer attract, but also because the process of transferring remittances can connect banks to new customers in the host country. If migrants send money back to relatives in their country of origin with a home country bank, these relatives are likely to establish accounts and draw on other services with the bank in question, expanding the customer base of the bank in the home country. Second, migrants might pose a particularly attractive customer base for a home

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<sup>3</sup> FBN Bank UK. <http://www.fbnbank.co.uk/>

country bank seeking to expand operations abroad. Especially if migrants are not be able to meet all their banking needs with existing banks in their destination country, home country banks might find migrant populations an attractive customer base.

Furthermore, we expect that banking ties that arise in response to migrant populations are more likely to be resilient in the face of crisis. Banks that expand into a jurisdiction to meet the banking needs of co-ethnics are more likely to have a long-term investment interest than speculative foreign investors. Additionally, foreign banks that rely on co-ethnics' deposits as a funding base are more likely to have a stable funding base that would allow them to better weather phases of volatility and decreased interbank liquidity.

We use bank-level data on foreign bank ownership 1995-2013 from Claessens and van Horen (2015) to identify dyadic banking connections and test whether a greater number of migrants from country *i* in country *j* are associated with a greater likelihood of a bank from country *i* owning a subsidiary in country *j*. Next, we investigate if migrants aid with the "discovery" of new markets, i.e. whether migrants are important in creating banking links for dyads where there was no previous banking connection. Finally, we test whether foreign owned banks are less likely to withdraw in the face of crisis if there are more migrants from the host country in the home country. We find support for our expectations. Banking links from country *i* to country *j* are in fact more likely when there is a greater number of migrants from country *i* living in country *j*. Furthermore, banking links are more stable in the face of crisis when there are more migrants from country *i* in country *j*.

These findings have implications for the literature in international political economy on financial integration and economic globalization. They highlight the relationships between different forms of global integration. In some cases, human mobility creates paths investment and global capital mobility. Furthermore, they reveal the extent of banking integration among countries outside of the financial core, which are less well explained by existing theories about which jurisdictions are best able to attract investment into the financial sector.

The paper proceeds as follows: The next section describes the role of cross-border banks in the global economy and introduces conventional explanations of cross-border expansion of banks. The third section explains our argument for the link between migration and banking, outlining why we expect to see banks following migrants. The fourth section introduces the data we use, the fifth section describes our estimation strategy and results. The sixth and final section concludes by outlining avenues for future research.

## 2. Cross-border banking and the global economy

Transnational banks are key actors in international economic integration, facilitating most cross-border transactions, including international trade, foreign direct investment, sovereign debt issuance, portfolio investment, and remittances. Cross-border banking offers clear benefits, facilitating the allocation of capital from willing investors to those in other countries seeking investment. Furthermore, transnational banks sustain global payment systems that allow trading partners to conduct international trade, trusting they will be paid for the goods and services they deliver.

However, cross-border banking also brings risks, since banks can act as vectors of instability, transmitting crisis from one jurisdiction to another. The 2007-2008 global financial crisis drew attention to globally systemically important banks, enormous financial institutions that connect financial sectors at the heart of the global economy and risk imperiling the global financial system when they encounter difficulties. Cross-border banking also happens on a

much smaller scale than the globally systemic important banks at the core of the international financial system, especially within regions.<sup>4</sup> Even on this smaller scale, transnational banks raise challenges for regulators, who are faced with the risk that crisis will be transmitted from other jurisdictions and the political challenge of overseeing a bank that is based in another country.

Banks can expand across borders through two different mechanisms: setting up a foreign branch or a foreign subsidiary. A branch remains part of the parent bank and must abide by the regulations governing the parent bank in its home country. By contrast, a subsidiary is a legally separate entity incorporated in the host country but majority-owned by the bank in the home country. A subsidiary by definition falls under the purview of the regulators in the host jurisdiction: it must apply for a banking license in the host jurisdiction, comply with the host country's banking regulations, laws, and taxation, and hold capital in the host jurisdiction to meet the requirements of the host country's banking laws.

This creates a trade-off between efficiency and financial stability in choosing between branch and subsidiary banking, as Fiechter et al. (2011) point out. Since applying for a banking license requires holding capital in-country, large banks may prefer to enter new jurisdictions through branches, which allows them to more efficiently use capital across their global operations without tying up capital in separate subsidiaries.<sup>5</sup> However, this greater capital efficiency may come at the cost of financial stability, as branch banks can more easily withdraw capital from their host jurisdictions during periods of uncertainty than subsidiaries. While capital efficiency considerations may lead banks to prefer entering new jurisdictions as branches, banks may on the other hand be incentivized to enter a new jurisdiction through a subsidiary if the host country has attractive tax rates, as is the case, for example, in the UK, since the subsidiary will be required to comply with host, rather than home, tax rates.<sup>6</sup>

Regulators have their own preferences regarding subsidiarization. Regulators often prefer banks enter their jurisdictions as subsidiaries, since this gives them more control over the conduct of the bank and facilitates resolution processes if the bank becomes insolvent. To encourage this, host regulators restrict the activities of branches, only allow banks from countries perceived to be well-regulated to enter as branches, or require that all foreign banks enter as subsidiaries. In the United States, if a foreign bank wishes to attract retail deposits and for those deposits to be protected by the Federal Deposit Insurance Corporation, it must establish a subsidiary.<sup>7</sup>

In this paper, we focus on cross-border banking in the form of foreign subsidiaries rather than branches. This is because subsidiarization is a costlier form of banking internationalization, given the start-up costs associated with acquiring a bank license and the capitalization requirements for subsidiaries, and therefore more likely to reflect long-term business interests. Previous research has shown that banks interested in "penetrat[ing] host

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<sup>4</sup> Recent research has drawn attention to the expansion of pan-African banks, for instance. In particular, banks from Togo and Morocco have expanded operations across sub-Saharan Africa. Beck and Cull (2015).

<sup>5</sup> This is especially true for banks relying on a wholesale funding model, where capital may therefore be scarcer.

<sup>6</sup> Cerutti et al. (2007) find that banks are more likely to enter countries as branches when those countries have higher tax rates, indicating that reducing tax bills can shape foreign banks' organizational form.

<sup>7</sup> Scott (2014) p. 38 <http://www.nortonrosefulbright.com/files/20140401-non-us-banks-operating-in-the-united-states-the-federal-reserve-as-gatekeeper-123124.pdf>

markets by establishing large retail operations” are more likely to establish subsidiaries than branches.<sup>8</sup> As such, it is a better test of our theory, which we elaborate below.

Despite the cost of establishing subsidiaries, this form of cross-border banking is not uncommon. In 3.51% of the 22,952 dyads for which we have data in 2013 (the most recent year with available data), there is at least one bank from country *i* owning a subsidiary in another country *j*. Crucially, these connections are not only between countries at the core of the global financial system, although the densest connections are between jurisdictions with well-established and deep financial sectors. Among the eight dyads with 8 or more foreign subsidiaries in 2013 (the top 1% percentile) are Germany-Luxembourg (16 foreign-owned subsidiaries), US-UK (10), France-Luxembourg (8), and Italy-Luxembourg (8). However, dyads with dense subsidiary connections also include countries outside the financial core, such as Colombia-Panama (9).

The patterns of these connections become clearer when they are mapped as networks. Figure 1 and Figure 2 below show the global network of cross-border connections in 2013. In Figure 1 node size is relative to the number of inward connections, revealing that most banking investment is into global financial centers, particularly the United States, United Kingdom, and France. While Figure 1 shows that there are relatively few hubs attracting a great number of inward investing banks, Figure 2 reveals a far greater diversity of countries with outward investment, i.e. with banks owning foreign subsidiaries. Financial hubs such as the United Kingdom and Luxembourg again stand out, as do offshore financial centers such as Panama, but there are also many smaller economies with a number of outward investments, including Tanzania, Macedonia, and Guatemala.

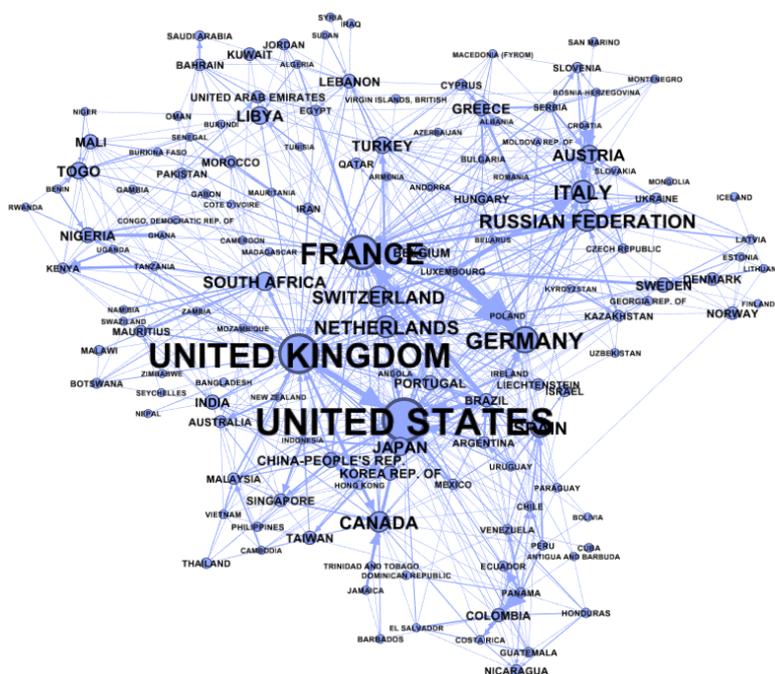


Figure 1 - Foreign subsidiary connections as of 2013. Node size scaled by the number of inward connections. (Data: Claessens & van Horen 2015)

<sup>8</sup> Cerutti et al (2007), p. 1669.



Figure 2 - Foreign subsidiary connections as of 2013. Node size scaled by the number of outward connections. (Data: Claessens & van Horen 2015)

It is not only the home and host jurisdictions of foreign subsidiaries that are diverse, but also the banks themselves. Large banks from international financial centers do make up the majority of banks operating as foreign subsidiaries, but the dataset on foreign bank ownership also includes a substantial number of smaller banks from developing and emerging economies that own subsidiaries, whether in other developing countries or advanced economies. For instance, there are seventeen Malaysian-owned foreign banks in the dataset, which covers the period 1995-2013. This includes CIMB group, a Kuala Lumpur-based large Malaysian bank, which owns subsidiaries in Cambodia, Indonesia, and Thailand. That such a large bank would have a number of subsidiaries in the region is perhaps not surprising. However, the dataset also includes TA Antarabangsa Finance, the small international banking wing of a Malaysian company, which owns a subsidiary in South Africa. Establishing a foreign subsidiary is costly, but not so costly that only large banks from global financial centers can do so.

What causes banks from certain countries to establish connections to other countries? Despite the implications for economic integration, there is surprisingly little research on this international political economy. More recently, scholars have focused on the choices that domestic regulators make to open or close their domestic banking sectors to foreign investors. Grittersová (2017) explains that developing countries are incentivized to attract multinational banks as a signal of the credibility of their monetary regime. Since foreign banks are able to punish host governments by withdrawing capital, governments that host foreign banks are able to commit more credibly to certain monetary policies, winning the approval of international markets. Grittersová's argument focuses on the ability of large multinational banks from well-regulated jurisdictions to transfer legitimacy to their host countries, explaining why developing countries are willing to allow foreign banks headquartered in financial centers to enter their jurisdictions. However, it does not directly speak to the ties that emerge between less well-regulated or less well-developed jurisdictions.

Other research in international political economy has focused on the effects, rather than drivers, of foreign banking. Epstein (2017) finds that foreign bank ownership in East and Central Europe reduces the pressure on banks to engage in politically-influenced lending (since ties between the government and bank management are less close) and also reduces demands on governments to provide bailouts in times of crisis. She argues that foreign banks were less destabilizing, at least in East and Central Europe, during the global financial crisis than is generally assumed, since these Western European banks saw their host countries as a “second home market” and were thus unlikely to pull out during the crisis. Epstein points to the privatization of banks in East and Central Europe in the 1990s and the creation of the European Banking Union to explain why rates of foreign bank ownership are so high, but does not put forward an argument for why banks from particular countries came to own banks in other countries. The 2014 special issue of the *Review of International Political Economy* similarly offers helpful perspectives on the consequences of foreign bank ownership, but few perspectives on how or why particular connections emerge.

Finally, there is a substantial literature in international political economy that considers the *governance* of international banking. In particular, scholars have focused on the negotiation and diffusion of and compliance with the Basel banking standards (Jones and Zeitz 2017; Simmons 2001; Singer 2004; Walter 2008; Wilf 2016). However, this work usually takes the existence of cross-border banking connections as a given and explains preferences around regulation and governance of banking standards as a consequence of interdependence (or competition), rather than explaining how the network of transnational banking comes into being.

The literature on the drivers of foreign banking is more developed in economics, and we therefore build on findings in this literature to develop our expectations about the determinants of foreign subsidiaries<sup>9</sup>. Most of the findings of this literature identify host-country and bank-level attributes that make internationalization more likely. Banks are more likely to expand into jurisdictions that are experiencing economic growth, have not experienced recent banking crisis, have less developed banking markets, and have better market infrastructure, including credit reporting bureaus (Cerutti 2015; Claessens & van Horen 2015; Lehner 2009; Tsai et al 2011). Furthermore, banks that are more profitable and efficient are more likely to expand abroad (Buch et al. 2014; Focarelli & Pozzolo 2001). Recently, work has also drawn attention to the importance of global liquidity conditions and uncertainty in shaping cross-border banking, though mostly in terms of cross-border lending and deposit-taking rather than investment in foreign subsidiaries (Bremus & Fratzscher 2015; Cerutti et al 2014).

With respect to dyadic factors that are associated with foreign subsidiaries, the financial economics literature mostly draws on insights from gravity models of trade and FDI and finds that geographic proximity, legal and cultural similarity, and shared institutions such as EU membership increase the likelihood of cross-border banking in a pair of countries (Heuchemer et al. 2009; Claessens & van Horen 2014b; Sander et al 2013). Furthermore,

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<sup>9</sup> Note, however, that much of the literature in financial economics focuses on globalized banking in the form of cross-border lending, rather than cross-border operations. In part, this is driven by data availability: The Bank for International Settlement’s consolidated banking statistics have made it possible to study the cross-border lending and deposit exposures of banks. While these ties are certainly important for international financial integration, they do not capture the full extent of banking globalization, since banks from emerging economies are often prevented by regulatory restrictions from lending across borders to clients in advanced economies, and must instead establish subsidiaries.

Claessens and van Horen find that host jurisdiction's remoteness from potential competitors for investment is positively associated with attracting foreign bank investment.

A repeated claim in the literature on foreign banking is that banks "follow their customers". This is the notion that banks acquire or set-up foreign subsidiaries to serve their home-country existing customers in new, foreign jurisdictions. Seth et al (1998) describe it as "one of the most widely held beliefs that banks rely on a strategy of "following the customer abroad" (2). In the main, this is conceived in terms of banks establishing operations in countries where home-country firms have large foreign operations, in order to offer these corporate customers with integrated banking services in the home and host country. Buch (2000) tests this expectation with data on German banks and finds that German banking FDI is in fact positively associated with non-bank FDI, supporting the claim that banks follow their customers. Seth et al (1998) find mixed evidence in the United States, showing that while German banks in the US mostly lent to German corporations with operations in the US, British and Japanese banks in the United States made the majority of their loans to non-home country corporations. While "following their customers" could have been the initial motivation for these banks to enter the United States, their subsequent lending expanded beyond home-country clients.

What the claims about "following the customer" often neglect, however, is consumer or retail banking rather than corporate or commercial banking. Many banks build their business models on retail banking, i.e. serving individual consumers and small businesses through deposit and loan services. Especially in emerging markets and developing economies, retail banking is a more common business model than corporate banking. If that is the case, then banks might be inclined to follow individual consumers, as well as large corporate clients, when these go abroad. In fact, for banks based in emerging economies with high volumes of outmigration, diaspora populations might be a more sizeable foreign customer pool than home-country corporations investing abroad. We therefore consider the relationship between migration and banking, explaining why we expect banks to follow individual customers into new jurisdictions.

### 3. Banking and migration: Do banks follow migrants?

We extend the literature on cross-border banking by arguing that migrants—populations living outside their country of birth—help shape the observed global pattern of subsidiaries. That migrants and migration influence flows of global capital is not new. It has long been understood that migrant networks help facilitate cross-border transactions through three channels. First, migrant networks often act as informal enforcement mechanisms, sharing information about the reliability and credibility of a contracting partner. This 'reputation' mechanism increases the costs associated with renegeing on a commitment—parties to the network could threaten collective punishment by all if even one of them defected (Greif 1989, 1993).

Migrant networks are also able to help investors overcome inefficiencies associated with incomplete information. The problem of 'home bias' in international investment arises when individuals and firms fail to exploit what the capital asset pricing model would suggest as an optimal portfolio: because of incomplete information, investors tend to invest a larger share of their portfolio in areas where they have more information, eschewing potentially larger returns (Ahearne, Grier, and Warnock 2004). Migrants and migrant networks can help decrease these information asymmetries by sharing knowledge about investment

opportunities, regulations and procedures, and customs which, in turn, can decrease the transactions costs associated with cross-border investment (Leblang 2010).

Finally, the literature has hypothesized that migrants increase global trade and investment through what we might call the 'taste' channel. Migrants may have a taste or preference for a commodity produced in their homeland and, either by themselves or through a conduit, may seek to import that product. Rauch and Trindade (2002), for example, find that exports of differentiated products from China hew closely to the location of the Chinese diaspora around the world. The importance of this channel has broader effects as well as it can influence the behavior of a larger network of coethnics. In *The Bamboo Network*, Weidenbaum and Hughes (1996) detail the comparative advantage overseas Chinese have when it comes to importing from China and argue that it goes well beyond commonality of language, knowledge of cultural and legal barriers, and preexisting familial connections. Wang's study shows how ethnic Chinese residing abroad provide a "linkage between China and the rest of the world [in that they] facilitate the understanding of and access to *guanxi* networks by other foreign investors. Without the agency of ethnic Chinese, it would have been much more difficult for foreign companies to use informal personal networks to complement and compensate for the weak formal legal institutions in China" (Wang 2000, p. 161).

These arguments suggest that a migrant from homeland *i* facilitates the movement of trade or investment from host country *j* into country *i*. We argue that migrants can also drive cross-border banking in the other direction: banks from country *i* are more likely to acquire subsidiaries in the countries *j* with larger diasporas. Put another way, we posit that banks from country *i* will follow migrants into country *j*. Banks have an incentive to follow migrants for two reasons. First, migrants are a source of capital and use banks to send remittances to family members back in their homelands, which can, in turn, connect banks to more customers in home country *i*. Second, migrants may have limited access to domestic banking services in their host country and foreign banks may be able to fill a gap in the market by providing loans or other services to this population of co-ethnics. We discuss these channels in turn.

Remittances, direct transfers of money from one individual to another across national borders, represent a massive share of global capital. Once a marginal financial flow, in 2015 remittances totaled \$431 billion, far outpacing foreign aid (\$135 billion) and nearly passing private debt and portfolio equity (\$443 billion). More than 70 percent of total global remittances flow into developing countries. In some low income countries, remittances comprise upwards of 40% of GNP (World Bank 2016).

Remittances represent one of the most common ways in which migrants re-engage with their homeland and alter both global income flows and distribution. Why do migrants surrender large portions of their new income, supposedly the very reason they migrated in the first place, to their families back home? New economics of labor migration (NELM) theory argues that immigration itself is motivated by a family's need/demand for remittances; that remittances are an integral part of a family's strategy for diversifying household financial risk (Stark and Bloom 1985). Remittances "are a manifestation of informal contractual agreements between migrants and the households from which they move," indicating that remitting is not an individual-level or purely altruistic action but rather occurs in a larger social context; the context of one's immediate or extended family (European Asylum Support Office 2016, p. 15).

Regardless of their rationale, because they are family-to-family transfers, remittances, unlike other financial flows are more impervious to economic crises, suggesting that they might be a countercyclical force to global downturns (Leblang 2017). Individuals transfer funds to family members in a number of ways: (i) direct person-to-person transfers, (ii) Hawala

financing via an intermediary<sup>10</sup>, (iii) transfers via a money transfer operator (MTO) such as Western Union or MoneyGram, and (iv) deposits in a bank with international subsidiaries. There is no way to measure either the number of remittances or the size of cash flows that occur via person-to-person transfers and Hawala; by definition they occur outside of the official banking sector.

Traditionally a minor player in the remittance landscape, formal banking institutions have become an increasingly important player in transferring money between migrants and their homelands (Orozco 2017). Migrants—especially those who have entered the host country illegally or have overstayed their visa—tend to be unbanked; that is, most don't have an account with a commercial bank, credit union, or other financial institution (Samuels 2003). And, until recently, most banks required official identification in order to open a bank account. The lack of a bank account meant that most remittances occurred via MTOs (McKenzie and Yang 2015) and not via banking channels.

Increasingly, however, banks have been able to compete with MTOs to acquire some of the remittance market. This has occurred because, relative to banks, MTOs charge often exorbitant fees to transfer funds across borders: estimates for 2017, for example, are that it costs an average of six percent to send five hundred US dollars by MTOs. This average, however, obscures the fact that prices between specific corridors can be much higher: sending two hundred dollars from South Africa cost an average of twelve percent while remittances sent from Russia average a charge of nine percent (World Bank 2017)<sup>11</sup>.

The high price of sending remittances via MTOs is not the only factor allowing subsidiary banks to capture some of the remittance market. Some host countries now allow banks to accept alternative forms of alien identification. Mexican consulates around the world, for example, issue the *matricula consular*—an identification card that certifies that the holder is a Mexican national who is residing outside of that country. The United States treasury currently allows banks domiciled in the United States to accept the *matricula consular* as a mechanism to allow Mexican immigrants access to the banking system (Amuedo-Dorantes and Bansak 2006)<sup>12</sup>. Access to formal banking channels significantly decreases the transactions costs associated with sending money home.

In addition to decreasing the costs associated with money transfers, banks provide migrant communities with a safer and more reliable mechanism for sending money home, an ability to keep money and other valuables in vaults (not at home) and a means to access services for bill paying and other services such as lines of credit and business loans.

Furthermore, banks are incentivized to offer remittance services to diaspora populations in the host country because this connects them to an expanding customer base in the home country. The transmission of funds back to the homeland means that the same bank can now provide financial services to communities and families in the home country that may not have heretofore had need for or access to formal banking channels. This allows the bank to increase the size of its domestic market, increase its deposit and lending operations, and overall increase its market share (Alberola and Salvado 2006).

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<sup>10</sup> See Jost and Sandhu (2010).

<sup>11</sup> It is worth noting that these prices are significantly lower than what MTOs charged even ten years ago. Whether the decline in MTO prices is a result of the entry of subsidiary banking is a question for future research.

<sup>12</sup> Providing undocumented migrants access to the banking sector enables financial authorities not only to collect information on the size of the migrant community but it also helps authorities monitor funds that might otherwise be circulate in the black market.

There is historical evidence that is suggestive of our hypothesized link between migrants and banks. The case of Italian banking entry into the United States is illustrative. By the turn of the twentieth century some thirteen million Italians had emigrated to North and South America. Worried that their expatriates would be taken advantage of in these foreign lands, Luigi Luzzatti, a financier who would go on to become Prime Minister of Italy in 1910, proposed that the Banco di Napoli—a bank chartered in the fifteenth century—establish seventy correspondent banks across North and South America, Europe, and North Africa so that emigrants could transfer money safely and securely back home (Choate 2008, p.61). Barbara Costa, head of the historical archives at Intesa Sanpaolo—the largest Italian Bank—explains the expansion of Italian banks to the United States: “The most important factor at the outset [of the twentieth century] was the focus on Italian migrants and the emergence of numerous Italian colonies in the United States.” This led Italian domiciled banks to adopt a strategy of subsidiaries rather than branch banking because of the need to comply with US domestic law to provide suitable services to Italian customers: “American law limited the activities that foreign-owned bank branches could perform. This affected the deposits of Italian emigrant communities. The Italian banks had to start trust companies to be on a par with their American counterparts” (Costa 2017).

The Italian case is illustrative but is not unique. Karafolas and Sariannidis (2009) use survey data to show that Greek and Italian migrants working in Albania have an affinity for banks domiciled in their homelands. Amuedo-Doranes and Pozo (2005) reach a similar conclusion for Mexican migrants residing in the United States but show that this affinity is limited to more highly educated migrants. That expatriates exhibit a preference for banks from their home country is consistent with the discussion above which documents the linkage between trade and capital flows from a migrant’s country of origin to the migrant’s host country.

If banks move into new jurisdictions to follow migrants from their home countries, how stable are these cross-border banking links? We suggest that migrant-related banking investment may be more resilient in the face of banking crises than other forms of foreign banking investment, especially more speculative banking investment. If it is the case that foreign banks follow migrants to provide banking services to co-ethnics, especially ones that are not well served by the banking sector in the host jurisdiction, then these banks should have access to a stable funding base in light of their somewhat captive market of depositors. Migrant depositors who bank with their co-ethnic bank because they do not access equivalent services with host-country banks will have fewer outside options for banking services and may therefore be less likely to withdraw deposits. Research on the Global Financial Crisis has highlighted that unstable funding models were a key contributor to banking failures; banks that relied on short-term funding in money and repurchase markets were more vulnerable to the sudden drying up of liquidity in these markets.<sup>13</sup> By contrast, we would expect that foreign banks with a retail banking business model relying on deposits from co-ethnics would not face similar liquidity pressures in a banking crisis and therefore be more resilient to crisis.<sup>14</sup>

We therefore expect both that banks will follow migrants to their host countries and that these links will be more resilient in the face of crisis:

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<sup>13</sup> Gorton and Metrick, 2012, “Securitized banking and the run on repo” *Journal of Financial Economics*.

<sup>14</sup> Note that while research on remittances has highlighted their countercyclical nature, this is usually with reference to crisis in the home country: migrants are more likely to send money home when economic conditions in the home country are poor and the needs of family members are greater. By contrast, we are emphasizing the role of migrants as stabilizing forces in the host country, providing a stable funding base for co-ethnic banks in the face of crisis in the host country.

H<sub>1</sub>: The **greater** the stock of migrants from country i in country j, the **more likely** that one or more banks from country i will own subsidiaries in country j, i.e. that there is a cross-border banking link from country i to country j

H<sub>2</sub>: The **greater** the stock of migrants from country i in country j, the **less likely** that banks from country i in country j will withdraw in response to a banking crisis in country j

#### 4. Data and Measures

Our main dependent variable is *Connected*, a binary variable equal to one in years that one or more banks in home country i own a foreign subsidiary in host country j. The data are taken from Claessens and van Horen's (2015) bank-level database of foreign bank ownership and recoded to be at the dyad-year level.<sup>15</sup> The data are available for the years 1995-2013. In robustness checks, we also use a variable *Connections* that counts the number of foreign subsidiaries from home country i in host country j to capture the intensity of the banking connection between two jurisdictions.

The key explanatory variable of interest is the migrant network. *Migrants (logged)*, measures the number (stock) of migrants born in country i who are living in country j at time t. This data, collected by the United Nations Population Division from national censuses, is measured every five years from 1990-2015.<sup>16</sup> For this reason, we collapse all other data into five-year periods and our unit of analysis is the dyad-period.<sup>17</sup> Below, we explain how we treat our covariates in these five-year periods (most continuous variables are simply averaged over the five years). For the dependent variable *Connected*, we treat a dyad as connected in a period if there is a banking link from country i in country j in *any* of the five years in the period. The alternative dependent variable *Connections* is simply summed over each five-year period.

To account for other cross-border economic activity that might be associated with foreign ownership of banking subsidiaries, we control for both dyadic investment and trade. Since we are interested in testing whether banks follow migrants as potential customers, we must account for other potential home-country customers that could encourage banks to expand abroad, namely corporate clients investing abroad (Seth et al. 1998, Buch 2000). We therefore control for *Investment (logged)*, a variable that captures the logged millions of US dollars of inward investment stock from country i in country j. The bilateral data is taken from the United Nations Conference on Trade and Development Bilateral FDI statistics.<sup>18</sup> The annual data is averaged over each five-year period.

Similarly, the international expansion of banks is likely to be associated with cross-border trade, with cross-border banks providing trade financing along trade routes. We therefore control for *Trade/GDP*, a variable that captures the total volume of dyadic trade in US dollars (imports plus exports) relative to the sum of country i and country j's GDP. This

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<sup>15</sup> Claessens and van Horen, 2015, "The Impact of the Global Financial Crisis on Banking Globalization", *IMF Economic Review*

<sup>16</sup> <http://www.un.org/en/development/desa/population/migration/data/estimates2/estimates17.shtml>

<sup>17</sup> These periods are 1990-1994, 1995-1999, 2000-2004, 2005-2009, and 2010-2014.

<sup>18</sup> UNCTAD's Bilateral FDI Statistics. <https://unctad.org/en/Pages/DIAE/FDI%20Statistics/FDI-Statistics-Bilateral.aspx>

dyadic data is taken from the UN Comtrade International Trade Statistics database.<sup>19</sup> The yearly data is averaged over each five-year period.

In addition, we include a number of gravity variables taken from the literature on international banking. First, *GDP per capita ratio*, the ratio of country i GDP per capita to country j GDP per capita. This is based on findings in the banking literature that banking investment moves from more developed to less developed jurisdictions (Claessens and van Horen 2015). This data comes from the World Bank’s World Development Indicators database and is averaged over each five-year period. Second, *Common language*, a dummy variable that captures whether country i and j share a common official or primary language. We expect that transaction costs for establishing a foreign subsidiary will be lower if two jurisdictions share the same official language, in line with findings in the banking literature that investment is more likely across culturally and legally similar jurisdictions. This variable does not change within the five-year periods. Third, *Distance (logged)*, which measures the logged population-weighted distance in kilometers between country i and country j. This variable does not change within the five-year periods. Fourth, *Contiguity*, a dummy variable equal to one if country i and j share a border, which does not change within the five-year periods. Fifth, *Colony*, a dummy variable that is equal to one if countries i and j ever had a colonizer-colony relationship. Given that many foreign banks in developing countries are successors to colonial banks established in the nineteenth or twentieth century, it is important to account for these historical relationships. This variable does not change within the five-year periods. All of these gravity variables are taken from the CEPII gravity dataset.<sup>20</sup>

Finally, to test our second hypothesis about migration and the resilience of banking connections in the fact of crisis, we interact *Migrants (logged)* with *Banking crisis*, a dummy variable equal to one in years in which there is a banking crisis onset in the destination country, country j. This data stems from Laeven and Valencia (2012). If country j has a crisis onset in any of the five years in the five-year period, it is coded as one for the entire period.

The summary statistics for these variables are reported in Table 1/Table 2.

Table 1 - Summary statistics (Full dataset)

|                      | Mean  | Standard Deviation | Minimum | Maximum |
|----------------------|-------|--------------------|---------|---------|
| Connected            | 0.036 | 0.186              | 0       | 1       |
| Connections          | 0.055 | 0.398              | 0       | 22      |
| Migrants (logged)    | 2.308 | 3.445              | 0       | 16.264  |
| Investment (logged)  | 1.272 | 2.404              | 0       | 13.171  |
| Trade/GDP            | 0.000 | 0.009              | 0       | 0.951   |
| GDP per capita ratio | 8.644 | 24.778             | 0.002   | 571.308 |
| Common language      | 0.130 | 0.337              | 0       | 1       |
| Distance (logged)    | 8.660 | 0.782              | 4.742   | 9.892   |
| Contiguity           | 0.021 | 0.142              | 0       | 1       |
| Colony               | 0.014 | 0.117              | 0       | 1       |
| Banking crisis       | 0.100 | 0.300              | 0       | 1       |
| N                    | 87024 |                    |         |         |

<sup>19</sup> UN Comtrade Database. <https://comtrade.un.org/data/>

<sup>20</sup> Head, Mayer and Ries, 2010, “The erosion of colonial trade linkages after independence” Journal of International Economics, 81(1):1-14.

Table 2 - Summary statistics (Observations in main models)

|                      | Mean  | Standard<br>Deviation | Minimum | Maximum |
|----------------------|-------|-----------------------|---------|---------|
| Connected            | 0.070 | 0.255                 | 0       | 1       |
| Connections          | 0.112 | 0.584                 | 0       | 22      |
| Migrants (logged)    | 3.003 | 3.729                 | 0       | 16.149  |
| Investment (logged)  | 1.305 | 2.460                 | 0       | 12.926  |
| Trade/GDP            | 0.001 | 0.013                 | 0       | 0.951   |
| GDP per capita ratio | 4.570 | 14.435                | 0.003   | 308.628 |
| Common language      | 0.120 | 0.325                 | 0       | 1       |
| Distance (logged)    | 8.655 | 0.833                 | 4.742   | 9.886   |
| Contiguity           | 0.025 | 0.157                 | 0       | 1       |
| Colony               | 0.019 | 0.137                 | 0       | 1       |
| Banking crisis       | 0.158 | 0.365                 | 0       | 1       |
| N                    | 26146 |                       |         |         |

## 5. Estimation Strategy & Results

Our dependent variable is dichotomous: connected is coded as one in years that one or more banks in home country  $i$  own a foreign subsidiary in host country  $j$ . Consequently we utilize logit models estimated via maximum likelihood and report standard errors clustered at the country-pair (dyad) level.

The dyadic nature of our data allows for any number of home or host country variable to influence the existence of a cross-border subsidiary in a given year. Ignoring or omitting these factors could end up biasing our results and yield incorrect inferences. We therefore use a very conservative estimation strategy and include an exhaustive set of host\*period and home\*period dummy variables in our model. These dummy variables account for any factor specific to a host-period or home-period associated with the establishment of a foreign subsidiary. This means that we can only estimate parameters for variables that vary across dyads. It also means that all host and home countries that have zero subsidiaries during our estimation period are dropped from the sample. This results in a decrease in the size of the estimation sample from 87,026 to 26,146. However, an examination of Tables 1 and 2 suggest that that this does not measurably alter the mean or variance of the majority of variables deployed.

Table 3 contains our main results. Column 1 contains the results for the full sample; we do not report the coefficients or standard errors for the dummy variables for ease of presentation. As expected, the probability a home country  $i$  having a subsidiary bank in host country  $j$  in period  $t$  is increasing with lagged connections, common official language, shared colonial heritage, bilateral trade, and bilateral migrants and the probability is decreasing as country pairs are more distant from one another and, interestingly, share a common border. It is hardly surprising that the largest substantive effect is on the lagged effect of connected—dyads with connections in the prior period are 67% more likely to continue those connections in period  $t$ . We explore this idea in more detail below.

The strength of bilateral economic connections are mixed. As noted, the effect of bilateral trade is positive and statistically significant as is the effect of bilateral migrants.

However, there is no statistically significant effect of bilateral FDI on the probability of banking connections between country pairs. By way of comparison, the marginal effect of bilateral trade on the probability of a banking connection is approximately one tenth of one percent while the marginal effect for migrant networks is about double that.<sup>21</sup> These results are consistent with the argument that banks are more likely to seek subsidiaries in host countries that provide access to immigrant populations; populations that may require home country financing and/or that are sources of substantial remittances.

Table 3: Main Results

|                                    | Full Sample          | OECD-> OECD-         | Non-OECD-> Non-OECD  | OECD-> Non-OECD      |
|------------------------------------|----------------------|----------------------|----------------------|----------------------|
| Connected <sub>t-1</sub>           | 8.020<br>(0.273)     | 8.706<br>(0.467)     | 16.79<br>(2.721)     | 10.44<br>(1.103)     |
| Log(Distance)                      | -1.582***<br>(0.115) | -1.100***<br>(0.184) | -6.189***<br>(1.176) | -2.614***<br>(0.320) |
| Common Border                      | -0.777***<br>(0.281) | -0.585<br>(0.457)    | -6.481***<br>(1.376) | 1.301<br>(0.798)     |
| Common Lang                        | 1.011***<br>(0.193)  | 0.478<br>(0.403)     | 3.689***<br>(0.721)  | 1.526**<br>(0.391)   |
| Colony                             | 0.719**<br>(0.308)   | 0.0921<br>(0.460)    | 5.874***<br>(1.903)  | 0.498<br>(0.598)     |
| Bilateral Trade <sub>t-1</sub>     | 9.058**<br>(4.456)   | 33.41***<br>(11.45)  | -1.281<br>(11.23)    | 15.04**<br>(5.406)   |
| GDP Difference <sub>t-1</sub>      | 0.00869<br>(0.00593) | -0.0125<br>(0.118)   | -1.768***<br>(0.572) | 0.122<br>(1.840)     |
| Bilateral FDI Stock <sub>t-1</sub> | 0.0639<br>(0.0423)   | 0.0567<br>(0.0638)   | -0.664<br>(0.473)    | 0.174<br>(0.115)     |
| Bilateral Migrants <sub>t-1</sub>  | 0.154***<br>(0.0260) | 0.281***<br>(0.0572) | 0.392***<br>(0.0877) | 0.0610<br>(0.0532)   |
| Constant                           | 5.356***<br>(1.445)  | 4.477**<br>(2.042)   | 36.10***<br>(8.610)  | 17.10***<br>(2.692)  |
| <i>N</i>                           | 26146                | 7899                 | 2153                 | 6426                 |

Logit coefficients estimated via maximum likelihood with robust standard errors clustered by dyad in parentheses

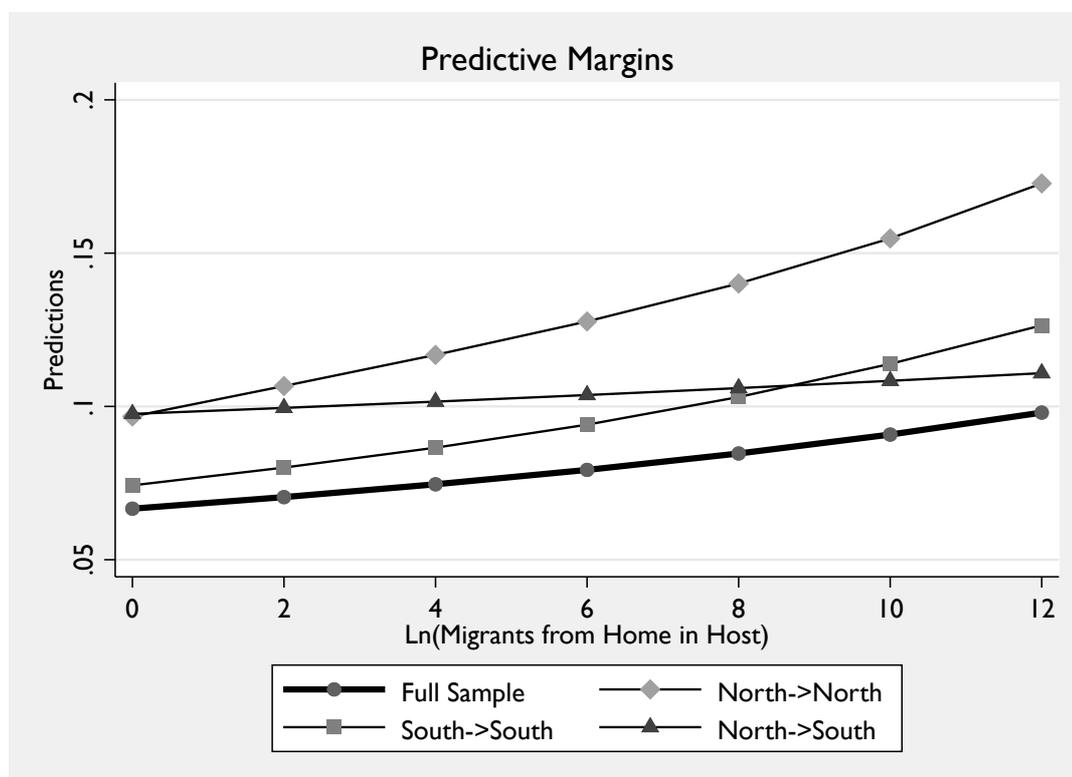
$p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

The remainder of Table 3 estimates the same model on various subsets of the sample. Column 2 limits the sample to OECD host and home countries, column 3 focuses on connections between non-OECD host and non-OECD home countries, and column 4 includes banks from OECD home countries with subsidiaries in non-OECD hosts. We do not include a sample where non-OECD home countries seek subsidiaries in OECD host countries as there is not sufficient variation to estimate the model on that sample.

We find substantially similar results regardless of the sample; the size of estimated parameters shifts due to the changing nature of the dyads in the sample. To aid in interpretation, we present the marginal effects of bilateral migration in Figure 1.

<sup>21</sup> We calculate the marginal effect for continuous variables as the change in one standard deviation from below the mean of the variable in question to one standard deviation above the mean. Unless noted, all reported marginal effects are statistically different from zero

Figure 1



Importantly, we find no statistically significant effect of bilateral migrants in the final column which focuses on migrants from OECD home countries living in non-OECD host countries. Indeed, it would have been surprising if we had found a statistically significant effect here: the vast majority of migrants who move to improve job prospects and/or increase wages move from poorer to richer countries—either within country group or between them—the number of migrants that relocate from rich to poor countries for wage maximization are likely few in number. Consequently, it would be surprising to find banks following migrants in that direction. What is unusual—and inconsistent with existing expectations—is the null effect of FDI on the likelihood of banking connections. Standard accounts of cross-national banking suggest that banks follow their corporate customers. With the growth of FDI moving from OECD origins to non-OECD destinations, it is surprising that the effect of FDI stock from home to host country is null across all country pairs.

In Table 4 we ask whether migrant networks have an impact on the ‘discovery’ of new host countries for subsidiary banks from specific host countries. Our approach to answering this question a variant of dynamic probit where we interact the lagged dependent variable with the variable measuring the log of migrants from country  $i$  living in country  $j$ . We expect that migrants should be far more important in connecting host and home countries when a subsidiary bank does not already exist; that is, we hypothesize no statistically significant effect of the interaction between connected in period  $t-1$  and bilateral migrants.

Table 4: Discovery

|  | Full<br>Sample       | OECD-><br>OECD-      | Non-OECD-><br>Non-OECD | OECD-><br>Non-OECD   |
|--|----------------------|----------------------|------------------------|----------------------|
| Bilateral Migrants $t_{-1}$                      | 0.156***<br>(0.0273) | 0.285***<br>(0.0636) | 0.498***<br>(0.0992)   | 0.0951*<br>(0.0554)  |
| Connected $t_{-1}$                               | 8.060***<br>(0.337)  | 8.767***<br>(0.674)  | 43.58***<br>(6.245)    | 11.11***<br>(1.042)  |
| Bilateral Migrants $t_{-1}$ * Connected $t_{-1}$ | -0.00702<br>(0.0432) | -0.00902<br>(0.0754) | -2.752***<br>(0.537)   | -0.165*<br>(0.0928)  |
| Log(Distance)                                    | -1.580***<br>(0.116) | -1.097***<br>(0.185) | -8.791***<br>(1.948)   | -2.604***<br>(0.321) |
| Common Border                                    | -0.778***<br>(0.281) | -0.588<br>(0.456)    | -9.212***<br>(1.893)   | 1.330*<br>(0.782)    |
| Common Lang                                      | 1.012***<br>(0.193)  | 0.478<br>(0.404)     | 3.641***<br>(0.890)    | 1.525***<br>(0.392)  |
| Colony   | 0.718**<br>(0.308)   | 0.0940<br>(0.459)    | 9.033***<br>(2.319)    | 0.570<br>(0.591)     |
| Bilateral Trade $t_{-1}$                         | 10.18**<br>(4.778)   | 35.02***<br>(12.06)  | 112.3**<br>(48.30)     | 16.55***<br>(6.395)  |
| GDP Difference $t_{-1}$                          | 0.00872<br>(0.00593) | -0.0139<br>(0.117)   | -2.012***<br>(0.775)   | 0.159<br>(1.789)     |
| Bilateral FDI Stock $t_{-1}$                     | 0.0644<br>(0.0422)   | 0.0567<br>(0.0638)   | -0.679<br>(0.416)      | 0.180<br>(0.114)     |
| Constant   | 5.342***<br>(1.446)  | 4.435**<br>(2.055)   | 45.91***<br>(12.90)    | 17.16***<br>(2.692)  |
| <i>N</i>   | 26146                | 7899                 | 2155                   | 6426                 |

Logit coefficients estimated via maximum likelihood with robust standard errors clustered by dyad in parentheses

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

The covariates in Table 4 are well behaved and have parameter estimates and standard errors similar to those obtained in Table 4. Our variables of interest are the lagged endogenous variable, Connected, the variable measuring bilateral migrants, and the interaction between the two. As anticipated, both lagged connected and lagged bilateral migrants have a statistically significant and positive effect on the likelihood that a bank in country  $i$  has a subsidiary in country  $j$ . The same is the case if we look at the probability of a connection between OECD host and home countries. Interestingly, we do estimate a statistically significant and negative interaction for banking linkages between non-OECD dyads. Not only is the interaction statistically significant but it is substantively large as well—for migrant linkages between countries of the global south, increasing the size of the migrant population between host and home country exhibits diminishing returns to scale.

Another way to get at discovery is to conceive of subsidiary banking in a different way. Banks can acquire subsidiaries in different ways: acquiring and then merging with existing banks in other countries (mergers and acquisitions or M&A) or through the creation of a subsidiary where none previously existed. This latter strategy—greenfield investment—provides a different lens through which to observe if and how banks follow migrants. In Table 5 we estimate the model using a sample of subsidiary acquisitions that occur via greenfield investment; note that this change decreases the sample size as greenfield investment occurs only about forty percent as often as M&A investment. We find, relative to the change in sample sizes, a larger effect of bilateral migrants on the creation of subsidiary banking through greenfield investment than we do in Table 4 which combines greenfield and M&A banking. This result is consistent with the idea that migrants can be “market-makers” in the sense that

banks are more willing to risk greenfield investment in areas where they can exploit the affinity—and need for banking services—from co-ethnics<sup>22</sup>.

Table 5: Greenfield Banking

|                                    | Full Sample          |
|------------------------------------|----------------------|
| Greenfield <sub>t-1</sub>          | 3.767***<br>(0.161)  |
| Log(Distance)                      | -0.595***<br>(0.129) |
| Common Border                      | -0.176<br>(0.192)    |
| Common Language                    | 0.900***<br>(0.155)  |
| Colony                             | -0.375*<br>(0.211)   |
| Bilateral Trade <sub>t-1</sub>     | -1.130<br>(0.807)    |
| Bilateral Migrants <sub>t-1</sub>  | 0.0899**<br>(0.0181) |
| GDP Difference <sub>t-1</sub>      | -0.00802<br>(0.0113) |
| Bilateral FDI Stock <sub>t-1</sub> | -0.00827<br>(0.0284) |
| Constant                           | 0.231<br>(1.078)     |
| <i>N</i>                           | 14997                |

Logit coefficients estimated via maximum likelihood with robust standard errors clustered by dyad in parentheses

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Our last analysis examines the effect of subsidiary banking during times of banking crises in host countries. We include a dummy variable which is coded 1 for periods when at least one banking crisis begins and zero otherwise.<sup>23</sup> Importantly, the inclusion of this variable necessitates that we alter our estimation strategy. No longer can we include a full battery of host\*period dummy variables as this would absorb all the variation associated with banking crisis. Our alternative is to include a set of dummy variables for host countries—a set of host fixed effects—and acknowledge that we may be omitting other time-varying host-specific variables that may be correlated with cross-border banking.

The first column of Table 6 includes just the banking crisis variable which is negative and statistically significant. The marginal indicates that, all else equal, home country banks are approximately seventeen percent less likely to establish subsidiaries in host countries that are experiencing a crisis. This is consistent with Claessens & van Horen (2015), who find that crisis in the host country reduces the likelihood of a foreign banking link.<sup>24</sup> This is likely due to the fact that banking crises in the host country will lower potential profits in the banking sector

<sup>22</sup> This result is consistent with the finding presented in Pandya and Leblang (2017) that greenfield investment often follows migrant networks.

<sup>23</sup> Data on banking crises is from Laeven and Valencia (2012)

<sup>24</sup> Note that Cerutti (2015) also finds that crisis in the home or creditor country reduces cross-border exposures.

as well as raising the price of capital in the interbank loan market, which squeezes returns for banks and makes a sector less attractive for investment.

In the second column of Table 6 we interact bilateral migrants with the existence of a banking crisis in the prior period. The interaction is individually significant and the combination of the three variables is statistically significant at the 0.05 level. To get a better handle on the combined effect, we graph, in Figure 2, the effect of bilateral migrants when there is and is not a crisis. This shows that for median levels of bilateral migrants, the negative effect of a banking crisis in the host no longer has a statistically significant or substantively important effect on the probability of a banking linkage.

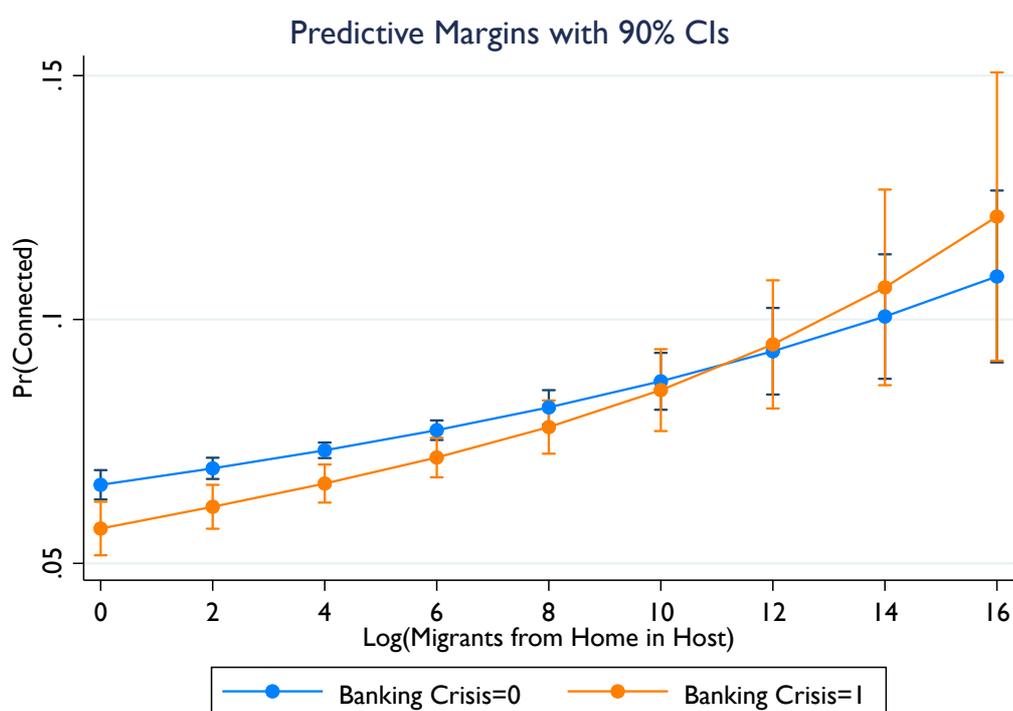
Table 6 – Banking Crisis

|                         | (1)       | (2)       |
|-------------------------|-----------|-----------|
| Banking Crisis          | -0.330*   | -0.778**  |
|                         | (0.184)   | (0.311)   |
| Log(Bilateral Migrants) | 0.140***  | 0.130***  |
|                         | (0.0246)  | (0.0254)  |
| Crisis*Migrants         |           | 0.0693*   |
|                         |           | (0.0373)  |
| Connected               | 6.862***  | 6.861***  |
|                         | (0.195)   | (0.194)   |
| Log(Distance)           | -1.451*** | -1.452*** |
|                         | (0.104)   | (0.104)   |
| Common Border           | -0.700*** | -0.707*** |
|                         | (0.262)   | (0.262)   |
| Common Language         | 0.914***  | 0.920***  |
|                         | (0.180)   | (0.181)   |
| Common Colony           | 0.681**   | 0.669**   |
|                         | (0.302)   | (0.301)   |
| Bilateral Trade         | 6.965**   | 6.856**   |
|                         | (3.326)   | (3.306)   |
| GDP Differential        | 0.00487   | 0.00503   |
|                         | (0.00534) | (0.00528) |
| Log(FDI Stock)          | 0.0660*   | 0.0649*   |
|                         | (0.0357)  | (0.0359)  |
| Constant                | 6.914***  | 6.906***  |
|                         | (1.550)   | (1.585)   |
| <i>N</i>                | 26965     | 26965     |

Logit coefficients estimated via maximum likelihood with robust standard errors clustered by dyad in parentheses

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Figure 2



## Conclusion

To understand what underpins the international expansion of banks, it is important to also consider the global movements of people. By demonstrating the relationship between migration and banking, this paper has argued for understanding how features of a globalizing economy move in tandem. We have shown that dyads with a greater number of migrants from the home in the host country have a greater likelihood of a bank from the home country owning a foreign subsidiary in the host country, even when controlling for other economic links between those jurisdictions that are likely to drive international banking. Furthermore, we have shown that migrants are particularly important for processes of market “discovery” and for greenfield investment, where the perceived risks of assessment are likely the highest. Finally, we demonstrate that foreign banks are less likely to withdraw in response to a crisis if there are a greater number of migrants from the home country in a host country.

Together, these results point to the overlooked role of migrants in contributing to bank internationalization, especially among economies in the global South, where banking globalization is less likely to be driven by financial innovation. They push forward the literature on the international political economy of banking, highlighting a key channel for bank

expansion that is neglected so far in the literature, namely that banks follow migrants. This has consequences for how we think about the positive externalities of migration, as well as under which conditions foreign banks should be seen as a source of instability and risk or foreign expertise and additional capital. The results on banking crisis suggest that when banks follow migrants they may be more likely to stay put when economic conditions worsen.

Future work should do more to probe the mechanisms for why migrants follow banks. We have suggested two: first, banks could be motivated to tap international remittance flows, providing a key service to migrants that also connects them to customers in the home country. Second, banks could have a competitive advantage in meeting the needs of migrant populations. Further research will further probe these mechanisms, potentially by using banks' balance sheet data to see how banks' business models differ when they "follow migrants".

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