

# Bank Ownership

## Trends and Implications

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## Abstract

This paper presents recent trends in government and foreign bank ownership across countries and summarizes the evidence regarding the implications of bank ownership structure for bank performance and competition, financial stability, and access to finance. The evidence reviewed suggests that foreign-owned banks tend to be more efficient than domestic banks in developing countries, promote competition in host

banking sectors, and help stabilize credit when host countries face idiosyncratic shocks. But there are trade-offs, since foreign-owned banks can also transmit external shocks and might not always contribute to expanding access to credit. The record on the impact of government bank ownership suggests few benefits, especially for developing countries.

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## **Bank Ownership: Trends and Implications**

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## 1. Introduction

The rise in financial globalization since the 1990s led to significant changes in bank ownership structures around the world.<sup>2</sup> Across both developed and developing countries the share of banks owned by foreigners increased, while at the same time government ownership of banks declined. The recent Global Financial Crisis (GFC) reignited the debate on the ownership structure of the banking sector and its consequences for financial intermediation. Some have pointed to the presence of foreign-owned banks in developing countries as a key mechanism for transmitting the 2008–2009 crisis from advanced to developing countries (e.g., IMF, 2009). At the same time, developing countries such as Brazil, China, and India, where government-owned banks are systemically important, recovered quickly from the crisis, generating interest in the potential mitigating role that these banks can play during periods of financial distress.<sup>3</sup>

The rationale for, and impact of, government and foreign bank ownership is a controversial subject. There are two benign views of government-owned banks. The “social” view stresses that by helping to overcome market failures and taking advantage of externalities, government-owned banks can promote socially desirable welfare enhancing investments (Atkinson and Stiglitz, 1980; Stiglitz, 1993). The related “development” view underscores that government-owned banks can play a crucial role in allocating resources to strategically important industries that the private sector is unable or unwilling to finance, hence helping to jump start economic development (Gerschenkron, 1962). In contrast, there are two views that stress that

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<sup>2</sup> Broader trends in global capital market integration are discussed by Lane and Milesi-Ferretti (2001, 2007) and Obstfeld and Taylor (2004).

<sup>3</sup> See for example the discussion in the following articles: “They Must Be Giants,” *The Economist*, May 15, 2010. “Falling in Love with the State Again,” *The Economist*, April 3, 2010. “Not Just Straw Men,” *The Economist*, June 20, 2009.

government bank ownership can lead to resource misallocation and inefficiencies. According to the “agency view,” even when the government has the best of intentions, the agency costs associated with a government bureaucracy (i.e., the conflict of interest between the government and the bureaucrats designated to manage government-owned banks) can give rise to operational inefficiencies and misallocation (Banerjee, 1997; Hart et al., 1997). The “political” view suggests that government-owned banks are a mechanism for politicians to pursue their own goals (e.g., reelection, personal profit, etc.) resulting in resource misallocation (e.g., financing of supporters or of those willing to pay the highest bribes) and economic inefficiency (Shleifer and Vishny, 1994; Shleifer, 1998).<sup>4</sup> Related to this view, political economy models suggest that politicians are more likely to favor government bank ownership when public accountability and judicial independence are low, since politicians can extract benefits with no personal consequences (Perotti and Vorage, 2010).

The main arguments in support of foreign bank ownership are that foreign banks can bring capital, technical skills, and product innovation (in particular to developing countries), fostering increased competition and improvements in the efficiency of the banking sector (Levine, 1996; Goldberg, 2004).<sup>5</sup> On the other hand, the commonly mentioned criticism of foreign-owned banks is that they can destabilize the local banking sector by transmitting external shocks and threatening the survival of local banks by increasing competition (Stiglitz, 1994).<sup>6</sup>

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<sup>4</sup> Perotti (1994) describes how by reducing the effective control of politicians over banks, privatization helps to depoliticize bank lending and resource allocation. Even when politicians may still intervene to pressure privatized firms, privatization establishes some restraint as it transfers a set of residual rights to the private owners.

<sup>5</sup> Despite the potential benefits of foreign bank ownership, most accounts of the political economy of banking market opening stress that governments that allow foreigners to hold a significant share of banking system assets do so under duress (Epstein, 2014). They may, for example, be undergoing a severe banking crisis (Haber, 2005; Martinez-Diaz, 2009), trying to gain international credibility or generally in need of international assistance (see Epstein 2008, Stein 2010).

<sup>6</sup> They can either import shocks from their home countries and/or spread shocks from other developing countries in which they operate.

Finally, foreign-owned banks can lead to reduced access to finance for a majority of domestic firms and consumers if they only concentrate on the least risky and most transparent segment of the market (Detragiache et al., 2008).

This paper describes the recent changes in bank ownership and summarizes the evidence on the impact of different bank ownership structures. Because empirical studies analyzing the consequences of bank ownership do not always distinguish between private domestic, government- and foreign-owned banks, it is hard to compare results across studies that only compare government- or foreign-owned banks to all other banks. Hence, in each section, we summarize the evidence on foreign and government bank ownership separately.

The remainder of the paper is organized as follows. Section 2 discusses the trends and regional patterns in foreign and government bank ownership. Section 3 summarizes the literature on bank ownership, performance, and competition. Section 4 presents the existing evidence on whether bank ownership structures affect financial stability. The literature on the impact of bank ownership on access to finance is presented in Section 5. Finally, Section 6 concludes.

## **2. Trends in bank ownership**

Today foreign-owned banks play a dominant role in many banking systems across the world. In contrast, government-owned banks are key players in many fewer countries, though a handful of them (China, India, the Russian Federation) are large ones. Table A.1 in the Appendix shows the share of assets held by foreign- and government-owned banks in a sample of 91 countries across the world. On average, foreign-owned banks account for 43 percent of total banking assets across all countries. In contrast, government-owned banks represent only 18 percent of banking system assets. Beyond these aggregate statistics, however, ownership

structures vary substantially across economies. Countries tend to share common structural features within regions: while foreign-owned banks play strong roles in Latin America, Sub-Saharan Africa, and Eastern Europe & Central Asia, government-owned banks are prevalent in South Asia and the Middle East & North Africa.

Changes in bank ownership structures followed more or less monotonic trends from the 1990s up to the GFC. Foreign bank participation increased uninterruptedly in the context of the post-communist transition, waves of bank privatizations, liberalization reforms, and rapid financial globalization. For developing countries, the median (average) share of assets owned by foreign banks rose from 8 (16) percent in 1995 to 35 (40) percent at the end of the 1990s and reached 52 (50) percent in 2008. Across high-income countries, the median (average) share of assets held by foreign-owned banks rose from 5 (15) percent in 1995 to 12 (28) percent by the end of the decade, reaching 27 (43) percent in 2008 (Figure 1.1). In contrast, the asset shares of government-owned banks followed a downward trend in all regions. Developing countries experienced a decline in the median (average) share of bank assets held by government-owned banks from 40 (40) percent in 1995 to 8 (17) percent in 2008. Among high-income countries, the median (average) share of assets held by government-owned banks fell from 30 (36) percent in 1995 to 4 (10) percent in 2008 (Figure 1.2).

The GFC disrupted the trends discussed above. Between 2008 and 2010, the average (median) share of assets held by foreign-owned banks fell by 0.2 (3.1) percentage points in developing countries and by 1.6 (2.2) percentage points in high-income countries (Figure 1.1).<sup>7</sup> This retrenchment at the onset of the crisis can be explained in part by the propagation of shocks

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<sup>7</sup> Claessens and Van Horen (2015) document that the share of foreign banks in the total number of banks remained constant in the wake of the GFC.

across borders by global banks, but also by the fact that many financial institutions from crisis-affected countries repatriated their funds from abroad to make up for capital losses and to meet higher capital requirements that were imposed on them. In contrast, South-South cross-border investments in banking not only held up during the GFC, but grew subsequently. Banks from non-OECD countries recorded positive net foreign entries in every year between 2009 and 2013 and more than doubled their presence abroad, mostly in their own regions (Claessens and Van Horen, 2015).

In contrast with foreign banking, there has been a regained interest in government-owned banks, as many high-income and developing countries recapitalized or nationalized troubled banks following the GFC. Notable cases include Iceland, Kazakhstan, the United Kingdom, and the República Bolivariana de Venezuela, where the share of assets held by the government in the banking sector increased by more than 10 percentage points between 2008 and 2010 (again, see Table A.1 in the Appendix).

These general trends mask important disparities across countries, although commonalities within regions are strong (Figures 2.1 and 2.2). In Latin America, Spanish banks bought local banks and gained significant market shares in the 1990s, following a wave of bank privatizations. Foreign-owned banks represent a sizable share of banking assets in the region (roughly 40% over 1999-2010), while the share of government-owned banks (roughly 13% over 1999-2010) is just below the median for developing countries. The reliance of foreign-owned banks in Latin America on local funding and the relative independence of their subsidiaries explain their limited retrenchment at the onset of the GFC (Cull and Martinez Peria, 2013).



Banking systems in Eastern Europe and Central Asia are also characterized by high foreign bank and moderate government bank participation. The region recorded the world's fastest increase in foreign bank presence in the 1990s and early 2000s in the context of the massive privatizations of the post-USSR era. The median share of assets held by foreign-owned banks rose from 5 percent in 1995 to 60 percent by 2008. However, the foreign ownership share declined abruptly (from 60% in 2008 to 48% in 2010) as some Western banks faced drastic funding shortages and had to cut back their operations in the region. Government-owned banks filled part of this gap at the onset of the crisis. Their median asset share increased by 5 percentage points between 2008 and 2010 in Eastern Europe and Central Asia, the highest for any region.

In Sub-Saharan Africa, foreign-owned banks have been present since the colonial era and their participation increased following reforms that liberalized financial sectors in the 1990s and early 2000s. In particular, the median share of assets held by foreign-owned banks rose from 34 percent in 1995 to 66 percent in 2008. In 2010, the region had the highest median foreign bank share (73 percent) and lowest median government bank share (8 percent) in the developing world. The fast expansion of banks from developing countries - in particular Pan-African banks headquartered in South Africa, Nigeria, Morocco, Kenya and Togo (Beck et al., 2014) - explains why foreign bank participation is still high after the progressive retrenchment of the old (predominantly Western) players from the region in the aftermath of the GFC.

On the other side of the spectrum, South Asia has the lowest share of foreign-owned banks and the highest share of government-owned banks among all regions across all years. Foreign bank participation in South Asia increased gradually beginning in the late 1990s (from 1 percent of banking assets in 1995 to 15 percent in 2008), when countries reduced government

ownership and liberalized their banking sectors (Klapper, et al., 2014), but it still remains limited outside of Pakistan and the Maldives. Government bank ownership dropped substantially and uninterruptedly in South Asia from 72 percent in 1995 to 39 percent by 2010.

In the East Asia and Pacific region, the crisis of the late 1990s forced governments to clean up, restructure, and open up their banking systems. In China, banking reforms introduced in 2001 also led the way to greater foreign bank participation. Across the region, the median share of assets held by foreign-owned banks rose from 8 percent in 1995 to almost 30 percent before the GFC. While the region suffered from sudden stops in capital flows during the recent crisis, global banks did not reverse their brick-and-mortar operations to the same extent as in other regions between 2008 and 2010.<sup>8</sup> At the same time, the share of assets held by government-owned banks fell from 23 percent in 1995 to 13 percent by 2008.

### **3. Bank ownership, performance and competition in the domestic banking sector**

#### *The evidence on foreign bank ownership*

The entry of foreign banks can affect the efficiency of the domestic banking sector. If foreign-owned banks are more efficient than domestic banks, competitive pressures may force the latter to lower their spreads and rationalize their cost structure, making them more efficient. A plethora of studies - at least fifty - compare the performance of foreign and domestic banks, with mixed results. Those results are sensitive to the estimation method (data envelopment,

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<sup>8</sup> Data from the World Bank Regulation and Supervision surveys document a slight increase in foreign ownership between 2008 and 2010. Figure 2.1 does however show a substantial decline in the share of assets held by foreign banks in East Asia and the Pacific from 2010 to 2012-13. As explained in the notes to the figure, the 2012-2013 numbers come from a different source than those for 2010, and cover fewer countries than the numbers for 2008 and 2010. We cannot therefore reliably claim that there was a substantial retrenchment in foreign bank presence in East Asia and the Pacific from 2010 to 2012-2013.

distribution free approaches or stochastic frontier analysis for the most part), but also to the multitude of performance measures (profitability ratios, cost and profit efficiency measures, and stability indicators).

Regional and country-level studies focusing on high-income countries mostly suggest that domestic banks outperform foreign banks (Berger et al., 2000; Miller and Parkhe, 2002), in particular in the United States (DeYoung and Nolle, 1996; Hasan and Hunter, 1996; Chang et al., 1998; Peek et al., 1999). In contrast, the majority of studies focusing on developing countries finds that foreign-owned banks perform better than the other types of banks in terms of cost and profit efficiency. This is the case in Eastern Europe and Central Asia where a considerable number of regional studies derive results consistent with that proposition (Bonin, Hasan and Wachtel, 2005; Fries and Taci, 2005; Grigorian and Manole, 2006; Havrylchuk and Jurzyk, 2011),<sup>9</sup> as do country-level studies of Poland and the Czech Republic (Weill, 2003; Matousek and Taci, 2004; Havrylchuk, 2006), Hungary (Hasan and Marton, 2003; Majnoni, Shankar and Varhegyi, 2003), Croatia (Jemric and Vujcic, 2002; Kraft et al., 2006) and Turkey (Isik and Hassan, 2002). Similarly, in Asia, country case studies for Malaysia (Detragiache and Gupta, 2006; Matthews and Ismail, 2006), Thailand (Chantapong, 2005), Indonesia (Mulyaningsih, 2015) and Pakistan (Bonaccorsi di Patti and Hardy, 2005) find that foreign-owned banks are better performers. The findings are more ambiguous in China (Wu et al., 2007; Berger et al., 2009) and India (Bhattacharya et al. 1997; Sensarma, 2006), where foreign bank participation remains limited. The conclusions of studies from Latin America in the 1990s, however, vary with the measure of efficiency employed (Barajas et al., 2000; Goldberg et al., 2000; Crystal et

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<sup>9</sup> On the contrary, Green et al. (2004a, 2004b) and Yildirim and Philippatos (2007) find no evidence or even counter-evidence that foreign-owned banks are relatively more efficient.

al., 2001; Berger et al., 2005). Due to the lack of data from Sub-Saharan Africa and MENA, evidence from these two regions is scant.<sup>10</sup>

Given the variability in results at the regional and country levels, studies based on large samples of countries are particularly helpful in this literature. Such studies find evidence that foreign ownership is associated with higher interest margins and profitability, and lower overhead costs, in developing host countries (Demirgüç-Kunt and Huizinga, 1999; Micco et al., 2007), while the opposite is true in high-income countries (Claessens et al., 2001).<sup>11</sup> Controlling for heterogeneity across banks and countries helps reconcile these contradictory findings: foreign banks are relatively more profitable when they are from a high-income country, when they share the same language and a similar regulatory and supervisory framework with the host country, when regulations in the host country are weak, and when the foreign bank is larger in size and market share (Claessens and Van Horen, 2012).

Another strand of the literature does not directly compare the performance of domestic versus foreign banks, but rather examines how the extent of foreign ownership in a country affects the performance of the domestic banking sector by exerting competitive pressures. These studies find a negative relation between foreign banking and the performance of domestic banks (see Demirgüç-Kunt et al., 1998; Claessens et al., 2001; and Bayraktar and Wang, 2004). Claessens and Lee (2003) find that similar results hold, on average, for the level of foreign bank participation, but also highlight threshold effects, showing that the effect of foreign bank

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<sup>10</sup> Farazi et al. (2013) is one notable exception.

<sup>11</sup> Mian (2003) finds no significant difference in profitability across different types of ownership, but does not control for bank characteristics.

presence on competitiveness is stronger in countries where foreign-owned banks have a higher market share.

Foreign entry may also affect the extent of competition in the domestic banking sector. Models of spatial competition have shown that foreign bank presence has a downward effect on the lending rate of local banks (Kaas, 2004; Park and Pennacchi, 2009), although specific market characteristics may lead both foreign and domestic banks to charge higher margins (Delis et al., 2016). The magnitude of the effect also depends on the mode of entry. Foreign bank participation should lead to fiercer price competition when foreign banks enter through greenfield investments, which increase the number of banks and decrease market power. In contrast, in some cases acquisitions by foreign banks can result in greater concentration and market power, and lower competition (Lehner and Schnitzer, 2008). Models of asymmetric information reach similar conclusions regarding the mode of entry by showing that competition depends on the distribution of information about incumbent customers between domestic and foreign banks (Van Tassel and Vishwasrao, 2007; Claeyns and Hainz, 2014).

A first approach in analyzing how foreign bank ownership affects the degree of competition in the domestic banking sector uses direct and nonstructural measures of competition like the Panzar-Rosse (1987) H-statistic. Early evidence from cross-country data sets suggests that there is a positive relation between foreign ownership and competition (Claessens and Laeven, 2004; Gelos and Roldos, 2004), while a subsequent study that focuses on Latin America yields opposite results (Levy-Yeyati and Micco, 2007). Controlling for banking system characteristics helps reconcile contradictory findings: the link between foreign bank participation and competition is found to be positive and more significant when the entering banks are more

efficient and less risky and when the host banking sector is less concentrated.<sup>12</sup> The mode of entry also matters: the positive effect of foreign bank penetration on competition is stronger with greenfield investments than with mergers and acquisitions (Jeon et al., 2011).<sup>13</sup>

Moving away from the analysis of competition using the H-statistic, a very recent paper (Delis et al., 2016) measures market power at the bank level via the Lerner index to examine the impact of the ownership status (foreign or domestic) of individual banks on their own market power (direct effect), as well as the impact of the ratio of the number of foreign-owned banks to the total number of banks in the industry (spillover effects). The study, which uses bank-level data for 131 countries over 1997-2009, finds no evidence of a direct impact of bank ownership on market power. On the other hand, it finds that greater foreign bank presence has a positive effect on overall levels of market power in the banking sector, an empirical result that the authors explain by the fact that foreign banks enter mainly through mergers and acquisitions rather than greenfield investments.

#### *The evidence on government bank ownership*

State ownership of banks also affects competition in the banking sector. It can in theory spur competition if state-owned banks are more efficient than private banks and push them to lower prices. However, the experience in developing countries is that high agency costs in state-owned banks lead to operational inefficiencies and low intermediation quality, which strongly limits their power to exert competitive pressures. The literature on government bank ownership

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<sup>12</sup> Efficiency and riskiness are respectively defined at the bank-level by the ratio of non-interest expenses to total assets and by the ratio of loan loss provisions to total loans.

<sup>13</sup> The intuition offered by the authors of this study is that greenfield banks tend to be more aggressive in terms of pricing when they enter new markets so as to gain market share.

and competition employs similar approaches to those used in the literature on foreign bank ownership and, likewise, yields mixed results. As in the literature on foreign bank ownership, some studies analyze the relative performance of government-owned banks while others investigate the impact of government bank ownership on the performance of domestic banks.

The first strand of the literature explores the link between government ownership and competition by looking at the performance of government-owned banks relative to privately-owned banks. Within this literature, regional studies present evidence that government-owned banks perform worse than both private domestic and foreign banks. Latin America is one of the regions where the difference is found to be the strongest (Micco et al., 2007). The relative efficiency (proxied by overhead costs, non-performing loans and returns) is particularly low in Colombia and Honduras, although the opposite results are found in Costa Rica (Levy Yeyati et al., 2007).

Government-owned banks are also found to underperform in South and South East Asia (Williams and Nguyen, 2005; Micco et al., 2007; Cornett et al., 2010). These findings are confirmed by case studies of Pakistan (Bonaccorsi di Patti and Hardy, 2005) and China (Berger et al., 2009), while the opposite results are found in India where government-owned banks represented 78 percent of banking system assets at the turn of the century (Sensarma, 2005).

In the MENA region, state-owned banks have lower interest margins, higher cost ratios, larger NPLs, larger loan loss provisions, and lower profitability than private domestic non-listed banks, a result that can be attributed to a combination of policy mandates and operational inefficiencies (Farazi et al., 2013). Regional studies of banks in Central and Eastern Europe in the 1990s find that government-owned banks are less cost efficient than private (domestic and

foreign) banks, but the pattern is reversed in terms of profit efficiency (Bonin et al. 2005a, 2005b; Yildirim and Philippatos, 2007).

Finally, government-owned banks in Western Europe exhibited lower profitability and cost efficiency than privately-owned banks from 1999 to 2004, despite lower costs of funding (Ianotta et al., 2007). In contrast, case studies of Germany (where government-owned banks represented 42 percent of banking assets in 2000) show that government-owned banks have a profit and cost advantage, which is not the result of their alleged unfair advantage in the cost of borrowing funds (Altunbas et al. 2001; Chakravarty and Williams 2006).

Studies based on large samples of countries also suggest that government-owned banks underperform in developing countries. This is consistent with the predictions of political economy models such as Perotti and Vorage (2010) (cf Section 1) and with the fact that the objective function of government-owned banks in developing countries is primarily to fulfill a development mandate rather than to maximize profits (Micco et al., 2007). Mian (2003) was the first to systematically compare the efficiency of government-owned banks, foreign-owned banks and domestic private banks in a large panel of emerging countries, finding that government-owned banks had a significantly lower return on loans and higher rates of loan default despite lower deposit costs. These results are confirmed by Micco et al. (2007), which reduces endogeneity concerns by including country fixed effects, and finds that the difference in profitability, nonperforming loans and overhead costs is significant only in developing countries. To our knowledge, no cross-country study to date analyzes in a systematic way how the relative performance of government-banks varies with home and host country conditions, as well as bank characteristics.



Another approach to studying the relative efficiency of government-owned banks focuses on estimating the efficiency gains or losses associated with bank privatizations.<sup>14</sup> Cross-country studies in South East Asia and in a panel of 22 developing countries suggest that bank privatization raises bank profitability and efficiency over time to levels in excess of pre-privatization bank performance, even when the acquirer is a foreign bank (Boubakri et al., 2005; Williams and Nguyen, 2005). Country case studies of Nigeria, Pakistan and China corroborate these results (Beck et al., 2005; Bonaccorsi di Patti and Hardy, 2005; Berger et al., 2009). Berger et al. (2005) propose a methodology to address the common misspecification issues in this literature and, applying this methodology to data from Argentina, confirm that privatizations are associated with significant improvements in bank performance.<sup>15</sup>

In another strand of the literature, which investigates the impact of government bank ownership on domestic banks, a first line of research focuses on efficiency. Studies from the early 2000s provide some evidence that government ownership is negatively associated with domestic banking sector efficiency, as measured by net interest margins and overhead costs (Barth et al., 2001; La Porta et al., 2002). However, controlling for cross-country differences in regulatory and supervisory characteristics such as capital regulations, official supervisory practices, incentives for private monitoring, and restrictions on bank entry and activities, leads to insignificant results (Barth et al., 2004).

An alternative line of research focuses on stock market performance. Case studies of two public banks in Hong Kong SAR, China, and Australia show that their privatizations had a negative impact on the stock market performance of their competitors in the private sector,

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<sup>14</sup> See Megginson (2005) and Clarke et al. (2005a) for detailed reviews of this literature.

<sup>15</sup> For example, Berger et al. (2005) shows that results are sensitive to whether all categories of bank ownership (foreign, private domestic, and government) and changes in bank ownership are controlled for in their regressions.

consistent with the hypothesis that government bank ownership undermines competition (Otchere and Chan, 2003; Chen et al., 2005). Another study analyzing abnormal returns in a cross-country setting comes to the same conclusion (Otchere, 2005).

#### **4. Bank ownership and banking sector stability**

##### *The evidence on foreign bank ownership*

In principle, foreign banks can have a stabilizing or destabilizing influence on the host banking sector, depending on the nature of the shocks that hit the host economy. If shocks are domestic in nature, then foreign banks can play a stabilizing role because they have access to liquidity and capital from their parents. Also, by virtue of having international operations, foreign banks are typically more diversified than domestic banks and, hence, should be less affected by domestic shocks.<sup>16</sup> At the same time, however, foreign banks can import shocks from abroad, either from their home country or from other countries where they have significant operations. This, in turn, can destabilize the host banking sector. Similarly, by increasing competition in the domestic sector, the presence of foreign banks could potentially increase instability by pushing domestic banks to riskier segments or out of business altogether.<sup>17</sup>

A number of empirical studies show that foreign bank participation can have a stabilizing impact on the host bank sector by reducing the incidence of crises or by continuing to extend credit during such episodes. Cross-country evidence from 80 developed and developing countries

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<sup>16</sup> Note that this statement presumes that the foreign banks entering the market are international banks with diversified operations and that domestic banks are exclusively local. The situation is different if both foreign and domestic banks are internationally diversified or have regional exposures, since then both domestic and foreign banks would be less exposed to domestic shocks.

<sup>17</sup> See discussion in section 3.

over 1988-1995 suggests that greater foreign bank presence is associated with a lower probability of systemic banking crises in the host country (Demirguc-Kunt et al., 1998). Subsequent research on a broader sample of 107 countries shows that official barriers to foreign bank entry are associated with measures of banking system fragility (Barth et al., 2004).

Another strand of the literature focuses on the response of foreign banks during crises in host countries. Bank-level studies find that in Eastern European countries (De Haas and Van Lelyveld, 2006), as well as in a broader sample of countries (De Haas and Van Lelyveld, 2010),<sup>18</sup> credit growth by greenfield foreign banks is more resilient than that by (private) domestic banks during domestic crisis episodes. Similarly, in Latin America and Asia over 1989-2001, research shows that foreign banks' lending and deposit rates are less volatile than those of domestic banks in times of crisis (Arena et al, 2007).

Studies focusing on foreign banks' actions in specific countries and during particular host country crises confirm the cross-country finding that foreign banks can have a stabilizing influence. Case studies of Argentina, Brazil, and Mexico from 1994 to 1999 indicate that foreign banks do not pull back from host countries when these face economic problems, but rather view those difficulties as an opportunity to become more firmly rooted in those economies (Peek and Rosengren, 2000a). And in fact, in Argentina and Mexico, foreign banks had higher growth rates and lower volatility of lending than domestic banks during the crises of the mid to late 1990s (Dages et al., 2000). More generally, foreign banks in Latin American countries (Argentina, Brazil, Chile, Mexico, Peru, and the República Bolivariana de Venezuela) showed more robust loan growth, a more aggressive response to asset deterioration, and greater ability to absorb losses than did domestic banks during this period (Crystal et al., 2001, 2002). A study of

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<sup>18</sup> The data set includes 45 multinational banks from 18 home countries with 194 subsidiaries across 46 countries.

Malaysian banks around the time of the Asian crisis comes to a more nuanced conclusion regarding the behavior of foreign-owned banks: diversified foreign banks played a stabilizing role during the crisis in Malaysia (Detragiache and Gupta, 2006). In particular, banks that were not specialized in Asia continued to lend and had substantially higher profits and less non-performing loans than domestic banks and foreign banks that were mainly active in the region.

While, as described above, many studies find that foreign banks can mitigate the impact of host-grown crises, the literature also suggests that foreign banks can act as external shock amplifiers. Exploiting the collapse in Japanese stock prices as an exogenous shock to the U.S. banking sector, Peek and Rosengren (1997, 2000b) were among the first studies to show that shocks can be transmitted across borders through global banks. In particular, in response to the decline in stock prices in Japan, these studies show that U.S. branches of Japanese banks reduced lending in the US. In the same vein, Chava and Purnanandam (2011) and Schnabl (2012) use the exogenous shock provided by the 1998 Russian crisis and derive similar results on the effects on bank lending to borrowers in the United States and Peru, respectively.<sup>19</sup>

The recent GFC offers a unique opportunity to ascertain how foreign bank lending reacted to a major, global external shock. Overall, the evidence suggests that foreign banks reduced their lending earlier and faster than domestic banks during the crisis (Aiyar, 2012; Fungáčová et al., 2013; de Haas and van Lelyveld, 2014, Claessens and van Horen, 2015; Choi et al., 2016), in particular within Eastern Europe (Mihaljek, 2011; de Haas et al., 2015). But there

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<sup>19</sup> A related literature analyzes the effect of banks' geographic expansion on stability in the context of the U.S. interstate banking deregulation process that started in the late 1970s. Consistently with the findings of the international banking literature, the U.S. laboratory provides evidence that banks can act as shock absorbers or shock amplifiers by moving resources across branches following local demand shocks (e.g. Cortes and Strahan, 2014; Gilje et al., 2016), and local supply shocks (e.g. Campello, 2001; Ashcraft, 2006; Huang, 2008). The effect of bank integration on state-level business cycle volatility and business cycle synchronization depends on the nature of the shock (Morgan et al., 2004; Goetz and Gozzi, 2014; Loutskina and Strahan, 2015).

are heterogeneous effects, depending on country- and bank-level characteristics. Evidence from cross-country studies suggests that the transmission of shocks is stronger in host countries that are less regulated (Anginer et al., 2017), more financially open, and where there is more competition in the banking sector (Jeon et al., 2013). The degree of transmission is also found to be stronger for foreign-owned banks with lower levels of capital, profitability, retail funding, and less independent management (Popov and Udell, 2012; Jeon et al., 2013; de Haas and Van Lelyveld, 2014, de Haas et al., 2015; and Anginer et al., 2017; Choi et al., 2016). Finally, the transmission of shocks is stronger when banks entered host markets via greenfield investment rather than M&A (Jeon et al., 2013).

Recent research has not only informed the debate on whether and when global banks transmit shocks, but has also furthered our understanding of how this happens. Studies such as Cetorelli and Goldberg (2012a, 2012b, 2012c) and Jeon et al. (2013) provide evidence of the existence of an active cross-border internal capital market, whereby global banks reallocate funds across their branches and subsidiaries to buffer shocks to the parent bank balance sheet.

#### *The evidence on government bank ownership*

The evidence on whether government bank ownership is directly related to the incidence of banking crises is limited and mixed. In a sample of 64 countries over 1980-1997, Caprio and Martinez Peria (2002) find that government bank ownership is positively associated with the likelihood of banking crises. La Porta, Lopez de Silanes and Schleifer (2002) also study the correlation between government bank ownership and the incidence of banking crises, but do not find significant results. Barth et al. (2004) find a positive bi-variate correlation between banking crises and government ownership, but this association does not survive after controlling for

regulatory and supervisory environment features. Since Barth et al. (2004) also find that bank regulations and supervisory practices are closely associated with the degree of government ownership of banks, the study argues that the induced multi-collinearity produces insignificant coefficients on government ownership.

The association between government bank ownership and other measures of financial instability appears to be more robust. In particular, a number of studies have found that government-owned banks operating in developing countries have a higher fraction of non-performing loans than privately-owned banks (Micco et al., 2004; IADB 2005; Iannotta et al., 2007; Berger et al., 2009; Farazi et al., 2011). Moreover, government-owned banks also tend to display a higher likelihood of default as captured by a lower Z-score.

There are also many studies that have found that government-owned banks can lead to a misallocation of resources, since they are subject to political manipulation and tend to increase lending to politically strategic sectors or regions near elections (see, e.g., Sapienza, 2004 for evidence on Italy; Khwaja and Mian, 2005 for evidence on Pakistan; Cole, 2009a,b for evidence on India; Carvalho, 2014 for evidence on Brazil). Moreover, there is also evidence that government-owned banks target firms that have political ties to the detriment of other firms (Khwaja and Mian, 2005; Claessens et al., 2008; Carvalho, 2014).

While the bulk of the evidence presented so far suggests that government-owned banks can have a destabilizing impact on the financial sector, there is also evidence that government bank lending could be beneficial during downturns. In particular, a number of studies have shown that government bank lending is less procyclical than private bank lending whether focusing primarily on the pre-GFC period (Micco and Panizza, 2006; Foos, 2009; Brei and

Schlarek, 2013; Onder and Ozyldirim 2013; Bertay et al. 2015; Duprey, 2015)<sup>20</sup> or analyzing specifically the behavior of government-owned banks during the GFC period (Leony and Romeu 2011; Cull and Martinez Peria, 2013; Coleman and Feler, 2015; De Haas et al., 2015; Chen et al., 2016; Choi et al., 2016; Allen et al., forthcoming). The evidence for the GFC period, however, is mixed when it comes to the behavior of government-owned banks in Eastern Europe (see Cull and Martinez Peria, 2013; De Haas et al, 2015; Allen et al., forthcoming).

## **5. Bank ownership and access to credit**

### *The evidence on foreign bank ownership*

A common assumption underlying theoretical work on foreign bank lending is that foreign banks are at an informational disadvantage relative to domestic banks in lending to local, and, in particular, informationally opaque borrowers in a host country. In other words, due to better knowledge of local and opaque borrowers, domestic banks are thought to have an advantage in using so-called ‘soft information’ in evaluating their creditworthiness.<sup>21</sup> In contrast, unless foreign banks acquire local resources or expertise (for example by entering through mergers or acquisitions), they are generally thought to lack soft information and are, consequently, assumed to rely more heavily on ‘hard information’ contained in credit histories, collateral registries, and audited balance sheets and income statements. Given this assumption, theory predicts that foreign bank participation can be associated with reduced access to credit for informationally opaque firms (Detragiache et al., 2008 and Gormley, 2014). Moreover, these

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<sup>20</sup> Micco and Panizza (2006), Bertay et al. (2015) and Duprey (2015) provide evidence on the countercyclical lending behavior of government-owned banks based on cross-country bank-level panel data, while results from Foos (2009) and Onder and Ozyldirim (2013) focus on the case of government-owned banks in Germany and Turkey, respectively.

<sup>21</sup> By soft information we mean knowledge of borrowers’ intangible traits (character, competence, work ethic, and so forth) and hard to quantify local business conditions.

studies also imply that, as foreign banks focus on lending to the largest and most profitable borrowers, their presence could be destabilizing for domestic banks, causing overall credit levels, or at least credit access for some market segments, to be reduced.

There is in fact cross-country empirical evidence indicating that foreign bank presence is negatively associated with private credit to GDP and private credit growth rates in low-income countries where information barriers are more severe (Detragiache et al., 2008; Claessens and Van Horen, 2014). Per capita income levels have also been shown to be strongly associated with broad measures of the quality of institutions (Knack and Keefer, 1995), which could in part explain why foreign banks might find it more difficult to lend in low-income countries. In fact, there is direct evidence that the negative association between private credit and foreign bank presence is found in countries where contract enforcement is costlier and access to credit information is limited (Claessens and Van Horen, 2014). Relatedly, Beck et al. (2011) find that the prevalence, pricing, and conditions on SME loans is tied to cross-country differences in the institutional and legal environment.

The context surrounding the entry of foreign banks is also likely to affect the relationship between their presence and credit levels. For example, Cull and Martinez Peria (2008) show that the negative relation between foreign bank presence and credit levels is driven by the non-random entry of foreign banks into banking markets that were in crisis or experienced large drops in credit levels prior to their entry.<sup>22</sup>

At the same time, evidence consistent with the notion that foreign-owned banks lend to larger, less informationally opaque borrowers has been found in a number of countries and

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<sup>22</sup> Foreign banks often were brought in to acquire failed domestic banks and thus re-capitalize banking sectors in the period that those authors study. Ridding the balance sheets of the non-performing assets of those target banks likely contributed to lower overall credit levels, but this could hardly be blamed on the foreign acquirers.



regions including Argentina (Berger et al., 2001), Mexico (Beck and Martinez Peria, 2010), Pakistan (Mian 2003, 2006), India (Berger et al. 2008; Gormley, 2010), and Central and Eastern Europe (Beck and Brown, 2015).<sup>23</sup> Yet, as argued by Berger and Udell (2006) lending to small businesses need not be predicated on soft information gained through local knowledge and relationships. Rather, improvements to the legal and regulatory environment can facilitate lending to small businesses using different lending technologies.

There is indeed evidence that despite potential disadvantages in relationship lending, foreign banks are developing new business models, new technologies, and risk management systems that facilitate arms-length lending to small firms (De la Torre et al., 2010). These include credit scoring, standardized risk-rating tools and processes, and special products such as asset-based lending, factoring, fixed-asset lending, and leasing. Consistent with that conjecture, Clarke et al. (2005b) find that large foreign banks, which are potentially more likely to adopt these business models than smaller ones, lent as much or more to SMEs as large domestic banks in four Latin American countries (Argentina, Chile, Colombia, and Peru). Using detailed credit registry data from Bolivia on the terms and pricing of loans, Beck et al. (forthcoming) provide further evidence in support of the Berger and Udell conjectures, showing that foreign banks are able to serve the same clientele as domestic banks by requiring collateral, imposing shorter maturities on loans, and basing their pricing on credit ratings and collateral pledges.

It is also possible that competition from foreign banks for large, informationally transparent borrowers leads some domestic banks to go down-market, increasing their lending to informationally opaque borrowers. Clarke et al. (2006) provide evidence for a sample of firms from developing and transition countries that foreign bank participation was associated with

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<sup>23</sup> Similar evidence has been provided in the context of interstate banking deregulation in the United States (e.g. Keeton, 1996).

improved financing conditions for all firms, but the effects were most pronounced for larger firms. Similarly, in Eastern Europe, foreign bank presence was not associated with reductions in access to credit for SMEs,<sup>24</sup> though foreign banks tended to lend more to larger, often multinational, businesses than domestic banks (De Haas et al., 2010; Giannetti and Ongena, 2012) and many SMEs were incorrectly anticipating that their loan application would be rejected by foreign banks (Brown et al., 2011).

Much of the evidence on how host country banking volatility shapes foreign banks' role in credit provision was covered in the previous section, and so we will not revisit it here. Instead, we focus on papers that assess the adaptability of alternative lending approaches over the business cycle. From a theoretical perspective, Bolton et al. (2016) show how banks that focus on relationship lending are better able to relax credit constraints during economic downturns than banks that rely on hard information lending approaches. They do so by charging higher intermediation spreads than other banks in normal times, which enables them to lend on more favorable terms during crisis times.<sup>25</sup> Using information on banks' lending techniques from face-to-face interviews with the CEOs of 400 banks across 21 countries in Eastern Europe and the Caucasus, Beck et al. (2014) confirm that firms located in areas with more relationship lenders faced less severe financial constraints than others during the crisis (2008), but not during the credit boom (2005). Even within individual countries, they find that relationship lending helped ease credit constraints to a greater extent in regions that experienced sharper economic downturns during the crisis. They also find that relationship lending was especially effective in

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<sup>24</sup> Consistent with these findings, several papers have documented that bank integration in the United States generated competitive pressures which increased access to credit for all firms, including for the less transparent ones (e.g., Black and Strahan, 2002; Cetorelli and Strahan, 2006; Kerr and Nanda, 2009; Rice and Strahan, 2010).

<sup>25</sup> Bolton et al. (2016) confirm the theoretical predictions using data from the Italian credit registry during the global financial crisis.

easing financial constraints faced by young, small, non-exporters that lacked tangible assets and had no other sources of external finance than bank lending during the crisis.

However, those interviews also reveal that in this region at least, the traditional depiction of foreign-owned banks as transaction lenders (relying on hard verifiable financial information and pledged assets in lending decisions) and domestic banks as relationship lenders did not hold. There were relationship and transaction lenders among both types of bank owners. This could reflect the fact that foreign banks pursue different strategies, and have different levels of commitment, within the same host countries. For example, Bonin and Louie (forthcoming) find that the ‘Big Six’ multinational European banks operating in a number of Eastern European countries maintained lending growth rates comparable to those of domestic banks during recent crisis periods. In contrast, the loan growth of the non-‘Big Six’ foreign banks exceeded that of domestic banks (and of ‘Big Six’ foreign banks) prior to the global crisis, but declined relative to that of other banks during the crisis period. They view that evidence as consistent with ‘Big Six’ banks treating these host countries as something akin to a second home market.

#### *The evidence on government bank ownership*

Credit market failures have long provided a key rationale for government-owned banks. Information asymmetries and/or weaknesses in the contracting environment make it less likely that private banks will serve some market segments such as small, informationally opaque borrowers. In principle, government-owned banks could step in to provide credit to disadvantaged (but creditworthy) borrowers, thus resolving market failures and expanding access to credit. In practice, however, the record of state banks in credit provision to the underserved has not been a strong one. Cross country evidence indicates that a higher share of government

ownership in banking is negatively associated with the presence of bank branches and ATMs, and not significantly linked to indicators of the prevalence of loans and deposit accounts (Beck et al., 2007). Moreover, proxies for barriers to access and use of banking services are also increasing with the level of government ownership in banking (and, conversely, decreasing with foreign bank participation levels). Finally, the negative effects of bank concentration on widespread access to credit have been shown to be more pronounced in countries with higher shares of state bank ownership (Beck et al., 2004).

In large part, the inability of government-owned banks to foster deeper access to financial services (particularly credit) stems from political influences on their lending decisions, as noted in section 4.<sup>26</sup> For example, Sapienza (2004) finds that government-owned banks in Italy charge lower interest rates to otherwise similar (or even the same) borrowers and lend more to politically affiliated firms in election years. In India, Berger et al. (2008) find that government-owned banks are more likely to maintain lending relationships with government-owned and rural firms, rather than the smaller, informationally opaque firms that many state banks are ostensibly designed to serve. Similarly, in China, the country with perhaps the highest level of state involvement in banking, government-owned firms have long received credit disproportionately to their profitability, as have individuals with affiliation to the Communist Party (see Cull et al., 2015, for a review of the literature).

At the same time, government-owned banks may have an important role to play in stabilizing credit flows during crises. Theoretical models suggest that state banks are better able

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<sup>26</sup> Private banks can also exert political influence. They can oppose the entry of new competitors, thus impeding financial development and access to finance (Kroszner and Strahan, 1999; Rajan and Zingales, 2003; Perotti and Volpin, 2007). They engage with depositors/debtors and the government in a “game of banks bargain” which also governs the pricing of credit and its terms, and the allocation of losses in case of a bank failure (Calomiris and Haber, 2014).

to provide loans to the real sector during crises, while private banks cut back lending and increase liquidity holdings (Brei and Schclarek, 2015). This is because state banks are assumed not to have pure incentives to maximize profits given risks, and are less likely to suffer withdrawals of deposits and bank runs because of the greater likelihood that they will be recapitalized than private banks. Bertay et al. (2015) provide empirical evidence consistent with those predictions, finding that lending by state banks is substantially less pro-cyclical than lending by private banks in countries with good governance (which could help negate political influence on lending decisions). State banks also expand their non-deposit liabilities more slowly than private banks during downturns and report more stable non-performing loan ratios over the business cycle. In short, the recent evidence is consistent with the notion that, at least in countries with good governance, state banks may be effective in stabilizing credit flows during crises.

## **6. Conclusions**

Since the mid-1990s, banking sectors around the world have experienced a significant transformation in terms of ownership structure: foreign bank participation has increased while, until the recent GFC, the presence of government-owned banks declined across most regions. This paper described in detail the changes and recent patterns in bank ownership around the world and summarized the empirical evidence on the impact of these changes for bank performance, competition, stability, and access to finance.

The evidence indicates that foreign-owned banks tend to be more efficient than domestic banks in developing countries, typically promote competition in host country banking sectors, and help stabilize credit when host countries face idiosyncratic shocks. But, as highlighted in

recent research since the GFC, there are trade-offs since foreign-owned banks can also transmit external shocks. In addition, they might not always contribute to expanded access to credit. But context matters. Access to credit increases with the level of competition in the banking sector when foreign banks entered and with a country's level of institutional development. And the negative relation between foreign bank presence and credit levels found in some papers could stem, in part, from the fact that foreign banks were brought in to recapitalize failing banking sectors.

Overall, there is little evidence that government bank ownership provides substantial benefits (relative to other types of ownership) to the banking sector, the real economy, or users of banking services, especially in developing countries. While there is some recent evidence that government-owned banks can help stabilize credit growth during crises, in general, they have had a negative impact on competition and banking performance and their record in expanding access to credit is, at best, mixed.

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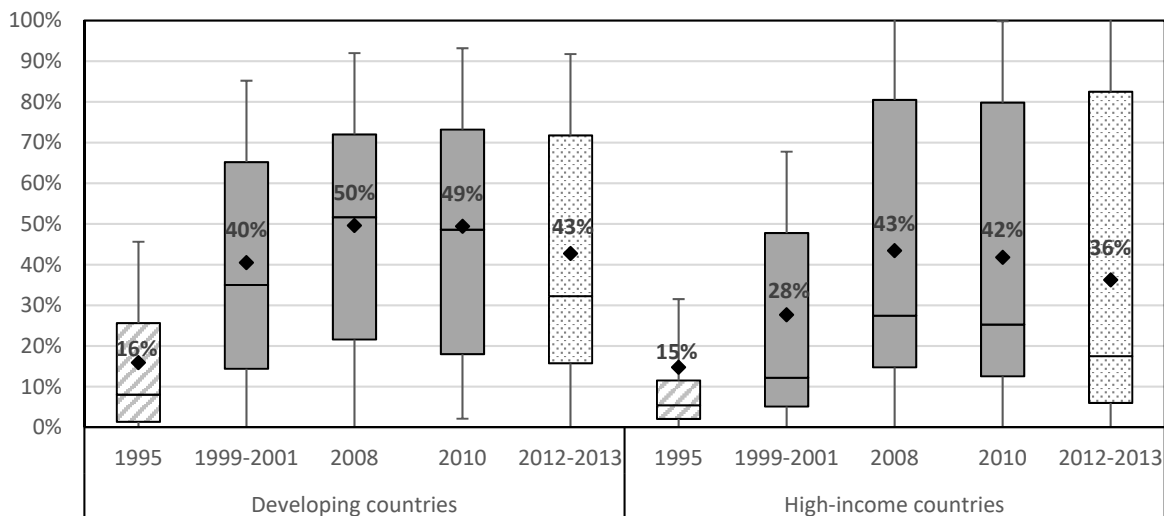
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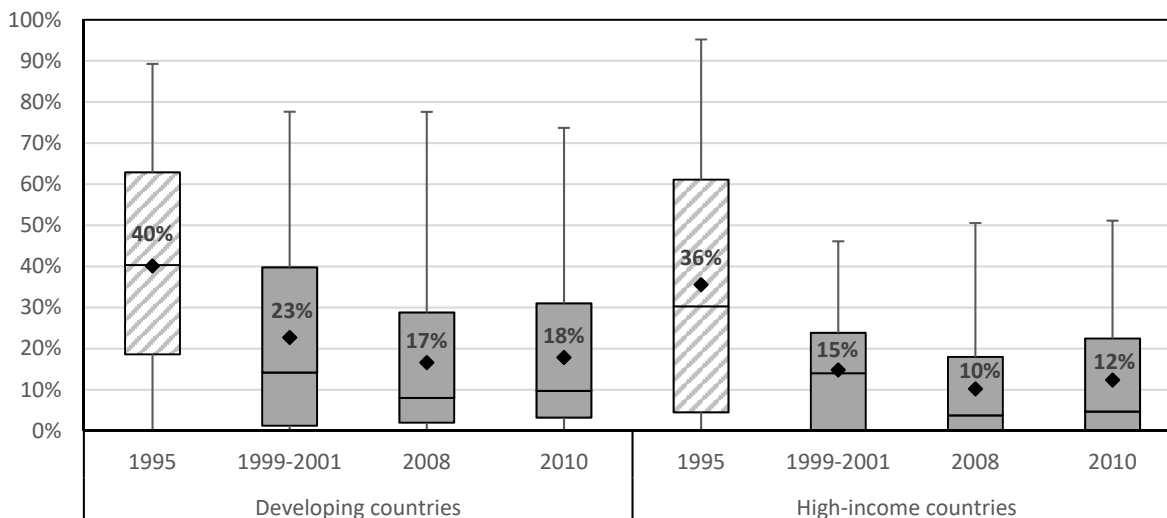
**Figure 1.1. Asset share of foreign-owned banks by income group, 1995-2013**



Note: The statistics are computed over country aggregates. The boxplots show the minimum, 25th percentile, median, 75th percentile and maximum, and the diamonds represent the average. Estimates for 1999-2010 are based on a balanced sample of 65 developing and 28 high income countries, while estimates for 1995 and 2012-2013 are based on a smaller sample of countries (cf list of countries in Table A.1 in Appendix). Ownership is defined as the asset share of banks that are more than 50% controlled by the foreign owners, except for 1995 where ownership reflects the actual share owned by foreign banks.

Sources: Micco et al. (2007) for 1995; Bank regulation and Supervision Surveys for 1999-2010; Claessens and Van Horen (2015) for 2012-2013.

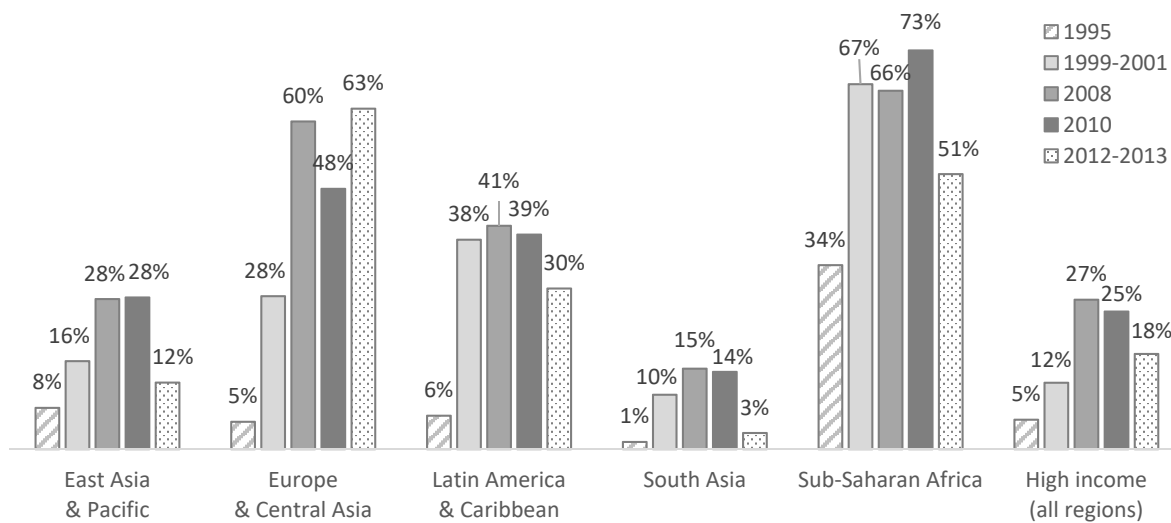
**Figure 1.2. Asset share of government-owned banks by income group, 1995-2010**



Note: The statistics are computed over country aggregates. The boxplots show the minimum, 25th percentile, median, 75th percentile and maximum, and the diamonds represent the average. Estimates for 1999-2010 are based on a balanced sample of 65 developing and 28 high income countries, while estimates for 1995 are based on a smaller sample of countries (cf list of countries in Table A.1 in Appendix). Ownership is defined as the asset share of banks that are more than 50% controlled by the government, except for 1995 where ownership reflects the actual share owned by the government.

Sources: Micco et al. (2007) for 1995 and Bank regulation and Supervision Surveys for 1999-2010.

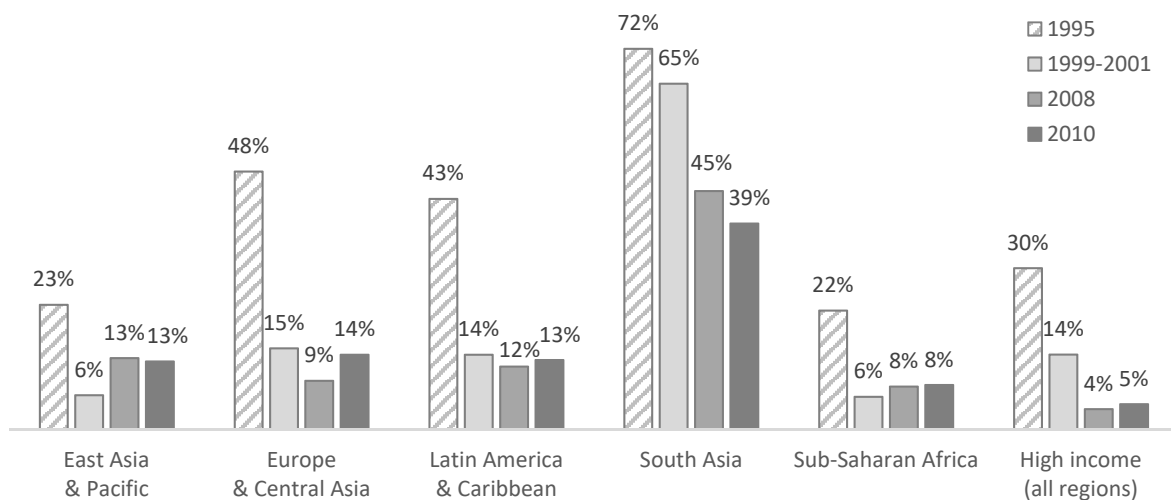
**Figure 2.1. Median asset share of foreign-owned banks in developing countries by region, 1995-2013**



Note: The bars represent the median country in each region. High-income countries are grouped together in one category and excluded from the five regions. Estimates for 1999-2010 are based on a balanced sample of 65 developing and 28 high income countries, while estimates for 1995 and 2012-2013 are based on a smaller sample of countries (cf list of countries in Table A.1 in Appendix). Ownership is defined as the asset share of banks that are more than 50% controlled by foreign owners, except for 1995 where ownership reflects the actual share owned by foreign banks.

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**Figure 2.2. Median asset share of government-owned banks by region, 1995-2010**



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Sources: Micco et al. (2007) for 1995; Bank regulation and Supervision surveys for 1999 onwards.

## Appendix

**Table A.1. Foreign and government ownership by country, 1995-2013**

	Income group	Foreign-owned banks					State-owned banks			
		1995	1999-2001	2008	2010	2012-2013	1995	1999-2001	2008	2010
<b>East Asia &amp; Pacific</b>										
Australia	HI	6%	17%	16%	13%	2%	44%	0%	0%	0%
Fiji	DVP		99%	100%	100%			1%	0%	0%
Indonesia	DVP	4%	7%	33%	34%	26%	64%	44%	38%	38%
Korea, Rep.	HI	2%	15%	77%	77%	7%	29%	35%	22%	22%
Malaysia	DVP	25%	19%	22%	22%	18%	3%	0%	0%	0%
New Zealand	HI	99%	99%	96%	95%	95%	0%	0%	2%	3%
Philippines	DVP	8%	14%	12%	12%	1%	29%	12%	13%	12%
Taiwan, China	HI	0%	0%	11%	11%		62%	35%	19%	18%
Thailand	DVP	7%	7%	6%	7%	7%	18%	31%	22%	18%
Tonga	DVP		100%	87%	87%			0%	14%	13%
<b>Europe and Central Asia (OECD)</b>										
Austria	HI	5%	5%	23%	18%	26%	22%	2%	5%	12%
Denmark	HI	1%	0%	18%	21%	18%	1%	0%	1%	1%
Estonia	HI	81%	92%	99%	99%	97%	0%	0%	0%	0%
Finland	HI	0%	7%	72%	74%	85%	32%	11%	0%	0%
Germany	HI	5%	4%	13%	12%	12%	27%	42%	35%	32%
Greece	HI	2%	8%	22%	21%	7%	86%	18%	10%	11%
Hungary	HI	22%	75%	85%	83%	59%	61%	6%	3%	4%
Iceland	HI	0%	0%	0%	0%	0%	95%	32%	28%	41%
Italy	HI	2%	5%	18%	18%	6%	34%	14%	0%	0%
Luxembourg	HI	76%	95%	95%	94%	93%	6%	5%	4%	5%
Norway	HI	5%	19%	33%	30%	14%	32%	0%	0%	0%
Poland	HI	4%	48%	67%	62%	76%	80%	34%	17%	22%
Portugal	HI	13%	15%	21%	22%	23%	25%	22%	21%	23%
Slovak Republic	HI	9%	71%	96%	94%	83%	84%	15%	1%	1%
Slovenia	HI	7%	13%	31%	28%	26%	48%	26%	51%	51%
Spain	HI	6%	10%	11%	8%	2%	3%	0%	0%	0%
Switzerland	HI	2%	10%	11%	12%	2%	21%	15%	13%	16%
Turkey	DVP	0%	35%	17%	17%	13%	54%	33%	31%	32%
United Kingdom	HI	7%	46%	24%	18%	15%	0%	0%	1%	26%
<b>Europe and Central Asia (Non-OECD)</b>										
Armenia	DVP		51%	60%	67%	84%		1%	0%	0%

Belarus	DVP	0%	14%	22%	27%	32%	71%	71%	78%	72%
Bosnia and Herzegovina	DVP		54%	93%	92%	86%		20%	1%	1%
Bulgaria	DVP	8%	74%	84%	81%	66%	70%	18%	2%	3%
Croatia	HI	10%	48%	91%	89%	90%	71%	21%	4%	4%
Cyprus	HI	28%	12%	44%	35%		2%	4%	1%	1%
Kazakhstan	DVP	13%	15%	13%	17%	15%	19%	1%	1%	23%
Kyrgyz Republic	DVP		25%	72%	46%	78%		15%	18%	20%
Latvia	DVP	18%	65%	68%	69%	59%	25%	3%	11%	16%
Liechtenstein	HI	0%	2%	6%	4%		39%	18%	30%	29%
Lithuania	DVP	19%	63%	86%	81%	93%	43%	28%	0%	0%
Moldova	DVP		35%	32%	42%	34%		10%	9%	13%
Romania	DVP	0%	28%	88%	84%	81%	89%	56%	6%	8%
Russian Federation	DVP	2%	9%	19%	18%	9%	54%	52%	38%	41%
Tajikistan	DVP		28%	7%	6%			6%	12%	14%
Ukraine	DVP	0%	11%	51%	48%	32%	35%	12%	12%	17%

#### Latin America and Caribbean

Argentina	DVP	26%	40%	31%	26%	27%	50%	31%	38%	44%
Belize	DVP		95%	100%	100%			0%	0%	0%
Brazil	DVP	9%	23%	21%	18%	16%	60%	42%	40%	44%
Chile	DVP	31%	39%	41%	39%	27%	19%	13%	15%	19%
Colombia	DVP	6%	22%	22%	20%	14%	37%	18%	6%	6%
Costa Rica	DVP	0%	23%	36%	31%	29%	78%	62%	50%	54%
Ecuador	DVP		70%	3%	2%	16%		14%	12%	17%
El Salvador	DVP	1%	12%	94%	93%	98%	31%	6%	5%	6%
Guatemala	DVP	6%	7%	11%	10%	31%	6%	5%	2%	2%
Guyana	DVP	0%	18%	57%	56%		59%	17%	0%	0%
Honduras	DVP	2%	10%	50%	50%	55%	0%	1%	2%	1%
Jamaica	DVP	24%	44%	94%	95%	93%	4%	56%	0%	0%
Mexico	DVP	2%	51%	84%	85%	71%	53%	13%	14%	13%
Peru	DVP	52%	41%	51%	49%	50%	28%	1%	0%	0%
Suriname	DVP		26%	25%	21%			31%	37%	33%
Trinidad and Tobago	HI	14%	5%	52%	46%		0%	15%	17%	24%
Uruguay	DVP	24%	43%	52%	54%	73%	63%	43%	48%	46%
Venezuela, RB	DVP	5%	38%	26%	17%	16%	63%	6%	12%	33%

#### South Asia

Bangladesh	DVP	0%	6%	8%	7%	3%	72%	70%	38%	34%
Bhutan	DVP		10%	0%	6%			65%	47%	48%
India	DVP	1%	4%	8%	7%	3%	77%	78%	70%	74%
Maldives	DVP		25%	55%	61%			75%	45%	39%
Nepal	DVP	39%	35%	18%	17%	12%	0%	20%	29%	24%
Pakistan	DVP	1%	20%	54%	59%	52%	76%	54%	21%	21%

Sri Lanka	DVP	2%	0%	15%	14%	0%	60%	28%	56%	59%
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### Sub-Saharan Africa

Benin	DVP	91%	66%	73%			0%	8%	8%	
Botswana	DVP	80%	99%	94%	93%	79%	4%	1%	7%	7%
Burkina Faso	DVP	56%	66%	73%			0%	8%	8%	
Burundi	DVP	39%	0%	12%	16%		19%	63%	49%	49%
Côte d'Ivoire	DVP	20%	84%	66%	73%		62%	11%	8%	8%
Gambia, The	DVP	86%	76%	80%			0%	0%	0%	
Ghana	DVP	28%	54%	53%	51%	69%	68%	25%	10%	10%
Guinea-Bissau	DVP	100%	66%	73%			0%	8%	8%	
Kenya	DVP	27%	39%	40%	37%	33%	15%	1%	5%	5%
Lesotho	DVP	75%	97%	97%			26%	3%	3%	
Madagascar	DVP	42%	68%	100%	100%	100%	42%	0%	0%	0%
Malawi	DVP	8%	30%	29%	34%		49%	8%	9%	
Mali	DVP	41%	67%	66%	73%		38%	22%	8%	8%
Niger	DVP	73%	66%	73%			0%	8%	8%	
Nigeria	DVP	10%	0%	4%	6%	18%	0%	9%	0%	0%
Senegal	DVP	79%	66%	73%	94%		0%	8%	8%	
Seychelles	DVP	60%	70%	69%	65%		40%	30%	31%	
South Africa	DVP	0%	6%	30%	28%	25%	2%	0%	0%	0%
Swaziland	DVP	86%	84%	84%	89%		14%	16%	16%	
Togo	DVP	18%	66%	73%	0%		51%	8%	8%	
Zimbabwe	DVP	46%	28%	84%	46%	36%	26%	6%	1%	8%

Notes: Income groups follow the 2010 World Bank analytical classification. Government (respectively foreign) ownership is defined as the asset share of banks that are more than 50% controlled by the government (respectively foreign owners), except for 1995 where ownership reflects the actual share owned by the government (respectively foreign owners).

Sources: Micco, Panizza and Yanez (2007) for 1995 data, Regulation and Supervision surveys (World Bank) for 1999-2010 data, Claessens and Van Horen (2015) for 2012-2013 data.