

## Understanding Banking Sector Globalization

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*This article profiles the recent evolution and consequences of banking sector globalization. After presenting trends in international banking, the article overviews macroeconomic consequences of banking sector globalization, including the role of banks in the international transmission of shocks, comovements of business cycles, financial crises, and economic growth. Other consequences of banking globalization have parallels with the effects of real-side foreign direct investment, including technology transfers, productivity enhancements, and wage spillovers into the host country. Finally, the article provides arguments that banking globalizing can have important consequences for financial supervision and regulation. [JEL F3, G2] IMF Staff Papers (2009) 56, 171–197. doi:10.1057/imfsp.2008.31; published online 3 February 2009*

The past two decades have experienced a resurgence of international banking, continuing a well-documented general expansion of international financial integration within what has become known as the “second age of globalization” (Obstfeld and Taylor, 2004). The shares in country banking systems of banks with sizable foreign positions have grown tremendously. Moreover, the form of banking globalization is evolving, moving away from a system with primarily cross-border flows to a system with both cross-border transactions and more internationally diversified ownership of banks. Other types of international transactions also have been growing, including the transactions extended by the branches and subsidiaries of parent banks that are located in host country markets, derivative use, and other forms of international investments made by banks.

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All of these developments could have profound implications for the host countries receiving the services of globally oriented banks, and for the parent countries of these same banks. Some implications are immediately evident—for example, those related to the international transmission of shocks. Other implications are longer term and more structural by nature, such as those associated with productivity and technology spillovers, growth consequences, and institutional development. In this paper, we overview some of these key implications associated with banking sector globalization.

The discussion in this paper is divided into three main sections. The paper first profiles the recent evolution of international banking, focusing on trends in cross-border acquisitions, shifting ownership forms, composition of lending by banks, and the growth of derivatives exposures. This discussion highlights the evolving outward orientation of banks from countries with highly developed financial markets, and the differences across emerging market regions in patterns of state vs. private ownership of banks.

The paper then turns to the consequences of banking sector globalization. It primarily discusses the role of banks in the international transmission of shocks and comovements of business cycles. The main observation is that global banks enhance the international transmission of shocks through their activities, contributing to more integrated global business cycles. Indeed, this globalization of banking is consistent with observations that financial linkages are increasingly important in, and sometimes dominant channels for, international transmission of shocks.

The paper then explores other consequences of banking sector globalization, some of which are comparable to consequences of the more traditional topic of globalization via trade in goods and via foreign direct investment (FDI) in manufacturing and extractive resource industries. Many consequences of financial sector (FS) FDI and real-side FDI may be similar, including along the dimensions of technology transfers, productivity enhancements, and wage spillovers into the host country. Other consequences are likely to differ. In particular, FS-FDI is more likely to induce institutional changes in the host country, such as a strengthening of financial supervision when the host country markets have weaker institutions and supervisory regulations than those in the parent bank's market. FS-FDI also may have pronounced allocative consequences within the host country, as banks have the important function of intermediating capital from savers to borrowers across sectors of an economy.

The paper concludes with a focus on some potentially rich future areas of policy and research discussion. In particular, we argue that globalization of banking and other forms of financial services may influence regulatory and macroeconomic challenges for the countries involved.

### **I. Evolving Banking Sector Globalization**

In this section, we begin by highlighting some of the forces behind recent advances in banking globalization and then overview some of the resulting

international banking positions. Broader trends in global capital market integration have been discussed elsewhere in rich detail by Obstfeld and Taylor (2004) and in the empirical studies of Lane and Milesi-Ferretti (2001, 2006). More specific details on banking globalization in the latter part of the 20th century are nicely overviewed by Turner (2006).

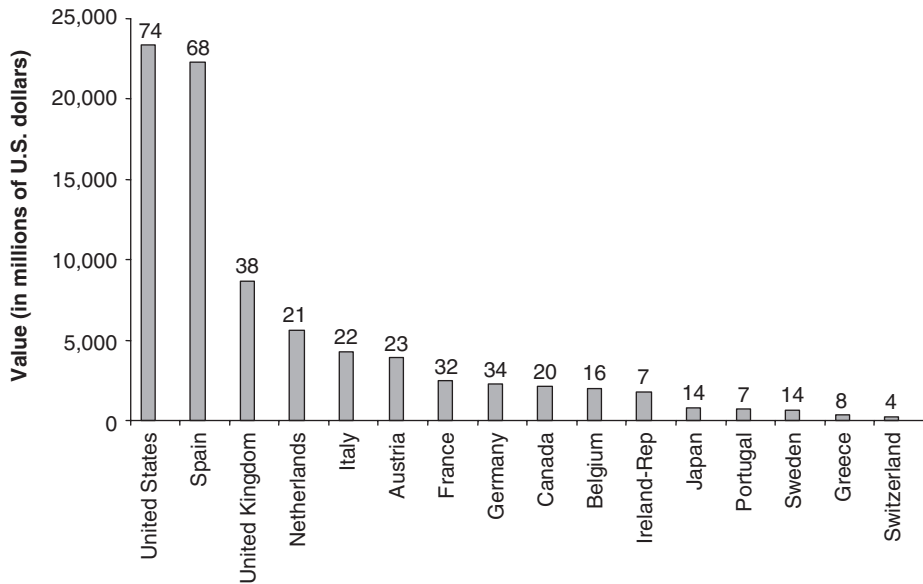
The impetus for the globalization of banking varies by player, by time, and by country. From the perspective of the parent bank, some episodes of enhanced international positions originate in bank-specific searches for yield and diversification opportunities. Other episodes have followed regulatory changes in the home of host country markets, which have increased the accessibility of expanding services to the host country, either as cross-border transactions or through establishing branches and subsidiaries in the host. Some cases of foreign bank entry into previously restricted markets have occurred in the aftermath of crises, or as a result of agreements made in conjunction with negotiations over international trade and specific forms of market access.

Particular episodes of expanded global banking include the period following the dissolution of the Soviet Union, when bank entry into central and eastern Europe in the early 1990s led to a rapid growth of foreign ownership in local banking systems. By the early part of the 21st century, foreign participation in the markets often exceeded 80 percent of local banking assets. Another episode of expansion occurred with the liberalization of FSs in Latin America through the mid to late 1990s. The first wave of liberalization was a follow-your-customer type, taking place in the aftermath of expanded FDI into manufacturing and resource extraction industries and enhanced competition that Latin American countries faced from Asian counterparts. Another burst of foreign banking activity within Latin America occurred as a result of financial crises of the mid to late 1990s, as countries sought to recapitalize their ailing banking systems and to improve the overall efficiency of their FSs.

Acquisition data present one window into the vibrant changes in international banking in recent decades. Figure 1 shows the value and number of acquisitions of banks in developing countries by source countries between 1990 and 2003. During this period, banks in countries with highly developed financial systems were the main sources of FS-FDI. Through this FS-FDI parent banks based in industrialized countries assumed substantial, if not majority, control of assets in host-country financial systems.

The United States and Spain were particularly active in their expansion into foreign markets this period, as measured in terms of either value of positions or numbers of acquisitions. Indeed, the result was substantial inroads into central and South America, as well as into Mexico by both U.S. and Spanish parent banks. By contrast, as we further elaborate below, the next most active group of banks in mergers and acquisition were the U.K. banks and those from other euro area countries. These banks took a regional focus, with targeted positions that were more concentrated across industrialized and developing Europe.

Figure 1. Value and Number of Acquisitions of Banks in Developing Countries by Source Country, 1990–2003



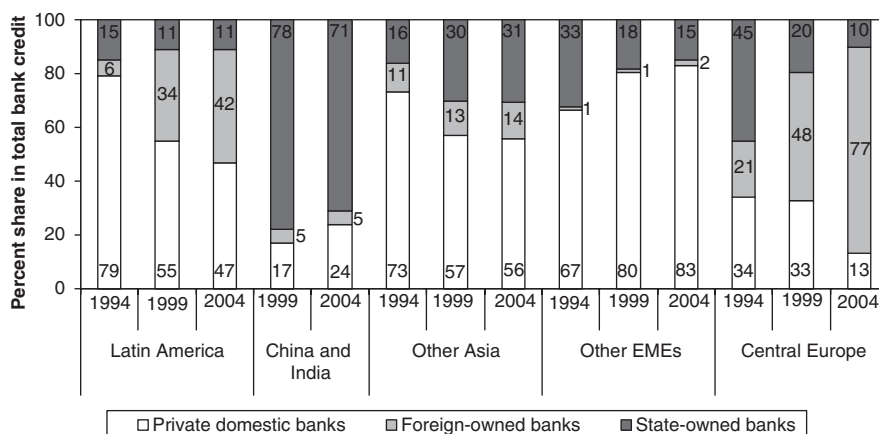
Sources: Soussa (2003); Bank of England; and Thompson Financial.

Foreign bank entry, and the regulatory evolution that often preceded it, altered the mix of public and private control over emerging market financial assets. These changes are illustrated in Figure 2, which shows the evolution of commercial banks by ownership between 1994 and 2004, and distinguishes between shares attributable to private domestic owners, private foreign owners, and state or public sector owners. In the early part of the 1990s, foreign control of banks was typically below 10 percent of banking system credit. By the late 1990s, foreign banks had made substantial inroads into markets in Latin America and central Europe, accounting for 34 and 48 percent of bank credit, respectively. Acquisitions of local banks continued through the early 2000s in both of these regions, significantly expanding foreign bank presence into majority ownership in many countries. Over this decade the largest change in bank ownership occurred in central Europe, where the foreign ownership share in the region rose to 77 percent.<sup>1</sup>

This pattern of FS-FDI was not mirrored in China, India, other Asian, and other emerging market economies. Through 2004, state-owned banks mostly dominated credit issuance in China and India. Yet, in recent years the prospects for change have accelerated. Globalization of banking has been evolving in these markets as well.

<sup>1</sup>For history and context, see the Bank for International Settlements (2006).

Figure 2. Commercial Banks by Type of Ownership



Source: Mihaljek (2006).

Note: EMEs, emerging market economies.

World Trade Organization (WTO) negotiations as part of the Doha round of trade talks led to a schedule of liberalized access of foreign banks to Chinese banking markets, phasing market access in stages. Upon accession to the WTO in 2002, the negotiated access provided for foreign banks to be able to engage in renminbi business with foreign customers in selected cities, to conduct foreign exchange business with Chinese citizens and companies, and to purchase minority stakes in mainland banks. According to the schedule, by 2007 the WTO provisions enabled foreign banks to engage in renminbi business in the local retail market and purchase full ownership stakes in local banks.

The evolution of banking in India has been slower. India’s public sector banks hold more than 75 percent of commercial bank assets. As of 2007, 8 of the 10 largest commercial banks in India were public sector banks, with the State Bank of India alone directly accounting for 17 percent of commercial bank assets. Although foreign banks currently have limited participation in Indian banking, in late 2007 the Reserve Bank of India announced pending phases of partial access with the first stage through March 2009, and a second phase thereafter. Meanwhile, foreign banks are increasing their nonbank businesses, expanding activities through consumer finance franchises.<sup>2</sup>

Data collected by Bank for International Settlements (BIS) facilitate perspectives from the vantage point of countries with large international banking positions. Thirty countries report national consolidated data to the BIS, consolidated across banks with international positions at quarterly

<sup>2</sup>Economist Intelligence Unit, *India Finance: Foreign Banks in India*, April 4, 2008.

frequency.<sup>3</sup> The data reflect banks' "on-balance-sheet" financial claims on the rest of the world, aggregated across all banks within each reporting country, covering contractual lending by the head office and all its branches and subsidiaries on a worldwide consolidated basis, that is net of interoffice accounts.

The types of claims reported to the BIS are organized under two headings: international claims and foreign claims. International claims encompass cross-border lending and the local claims extended by foreign affiliates of the parent bank that are denominated in foreign currency. Foreign claims are broader than international claims, in that they also capture local claims, which are loans extended by foreign affiliates of the parent bank and denominated in local currency terms.

To gauge the scale of global lending of those countries with large international banking positions, we begin with Table 1 that presents September 2007 information. The countries profiled are those with the largest absolute claims, whether on an immediate-borrower basis or on an ultimate risk basis. Germany, the United Kingdom, and France have the largest foreign claims on an immediate-borrower basis, although the composition of these claims differs substantially across countries. For example, the United Kingdom dominates this group in terms of local claims, whether reported on an ultimate risk basis or an immediate-borrower basis. By contrast, the international banking by Germany and Japan occurs largely through international claims. The positions of the United Kingdom, the Netherlands, and Switzerland are largely balanced across local currency vs. foreign currency lending, whereas the United States and France more often lend in a currency other than that of the local market. These types of claims may have different underlying motivations and different determinants. For example, Cetorelli and Goldberg (2006) show that cross-border claims of the United States tended to be more volatile than claims issued abroad by the branches and subsidiaries of the U.S. banks.

The second panel of Table 1 provides a decomposition of foreign claims by sector, with distinction made according to whether the claims are on counterparties that are banks, the public sector, or the nonbank private sector, with differing splits across bank and public sector borrowers. Japan has the highest share of claims extended to public sector counterparties. Germany is on the other end of the spectrum, with the lowest share to public sector borrowers, and the highest share to other banks.

Table 2 details the destination of claims extended by banks from different parent countries. The destinations are distinguished according to the level of development of the countries, whether the destinations are offshore centers, and by region. Although European banks together represent well more than half of the foreign claims on borrowers in all regions, individual countries have different regional footprints. German banks have the largest share of

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<sup>3</sup>See the Bank for International Settlements website at <http://www.bis.org/>.

Table 1. Global Consolidated Country Risk Exposures of Bank for International Settlements (BIS) Reporting Banks  
(In billions of U.S. dollars)

	France	Germany	Japan	Netherlands	Switzerland	United Kingdom	United States	Total of 24 Reporting Countries <sup>1</sup>
<b>Claims on immediate borrower basis</b>								
International claims <sup>2</sup>	2,095.4	3,539.2	1,839.9	1,307.2	1,466.0	1,911.1	1,052.9	17,593.9
+ Local claims <sup>3</sup>	1,241.1	724.2	298.5	1,156.6	1,212.1	1,971.1	691.6	10,435.5
= Foreign claims	3,336.4	4,263.3	2,138.3	2,463.8	2,678.0	3,882.8	1,744.5	28,029.5
Inward risk transfers	265.0	—	—	113.0	172.3	443.5	136.7	1,571.5
Outward risk transfers	393.0	—	—	112.3	185.7	254.4	196.3	1,760.0
Net risk transfers	-128.0	-203.8	-120.7	0.6	-23.5	189.1	-59.6	-523.9
<b>Claims on an ultimate risk basis<sup>4</sup></b>								
Foreign claims (after net risk transfers)	3,208.4	4,059.5	2,017.6	2,464.4	2,654.6	4,071.9	1,684.9	27,497.8
<i>By sector</i>								
Banks	1,195.8	1,327.1	365.4	758.4	503.7	1,134.7	360.5	7,871.9
Public sector	474.9	320.1	672.6	278.5	688.2	381.0	314.2	3,927.2
Nonbank private sector	1,537.6	2,412.3	979.6	1,427.5	1,358.7	2,556.2	1,010.2	15,503.5
Unallocated	0.0	—	0.0	0.0	103.9	0.0	0.0	195.2
<i>By type</i>								
Cross-border claims	2,112.2	2,900.4	1,716.6	1,097.0	1,317.6	1,948.1	849.3	15,666.3
Local claims	1,096.2	1,159.1	301.0	1,367.4	1,337.0	2,123.8	835.6	11,831.5
<b>Basis</b>								
Derivatives contracts <sup>5</sup>	265.7	799.6	28.7	110.6	440.9	692.8	137.4	3,074.6
Guarantees extended	886.9	340.0	66.8	67.8	1,022.4	851.3	2,426.5	6,867.4
Credit commitments	644.7	684.6	191.6	235.0	432.5	895.4	488.0	4,635.0

Sources: Table CB1 of “Global Consolidated Country Risk Exposures of BIS Reporting Banks: Domestically Owned Banks” at end-September 2007; and BIS International Consolidated Banking Statistics, March 2008.

<sup>1</sup>Includes data of Austria, Chile, Finland, Greece, India, Ireland, Norway, Spain, Sweden, Taiwan POC, and Turkey.

<sup>2</sup>Cross-border claims denominated in all currencies plus local claims of foreign offices denominated in foreign currencies.

<sup>3</sup>Local claims of foreign offices denominated in local currencies.

<sup>4</sup>Foreign claims on an immediate borrower basis and net risk transfers may not add up to foreign claims on ultimate risk basis as some of the reporting countries do not provide full vis-à-vis country positions of net risk transfers.

<sup>5</sup>Excluding Chile. Positive market values only.

<sup>6</sup>Excluding Chile.

Table 2. Location of Foreign Claims by 2007:Q3 by Nationality of Reporting Banks

<i>Borrowers in:</i>	Positions at End of Period							
	Foreign claims (in billions of U.S. dollars)	<b>U.S. banks</b> (in percent)	<b>Japanese banks</b> (in percent)	<b>Other banks</b> (in percent)	<b>European banks</b> (in percent)	French banks (in percent)	German banks (in percent)	U.K. banks (in percent)
All countries	28,456.2	6.1	7.5	5.7	80.6	11.7	15.0	13.6
Developed countries	22,423.8	4.9	7.1	5.6	82.4	12.5	16.0	12.5
Offshore centers	2,151.6	7.6	17.5	6.7	68.2	8.9	13.8	22.6
Developing countries	3,809.3	12.5	4.5	5.9	77.1	9.1	9.9	15.4
Africa and Middle East	460.0	7.7	3.7	3.1	85.5	19.6	11.4	38.3
Asia and Pacific	1,172.7	18.5	9.7	12.2	59.6	7.8	8.4	23.7
Europe	1,351.0	4.6	1.6	0.6	93.3	9.7	14.3	3.5
Latin America and Caribbean	825.6	19.6	2.4	7.2	70.8	4.2	3.9	10.5

Source: Table CB9, Overall Results by Nationality of Reporting Banks, March 2008, Bank for International Settlements; and BIS, International Consolidated Banking Statistics.

Note: Classification according to the location of the head office rather than location of the banking unit.



lending to developed countries and to developing Europe. U.K. banks are very active in offshore centers, and in developing Asia and Pacific, Africa, and the Middle East. U.S. banks have large shares in developing Asia and Pacific and in Latin America and the Caribbean. Japanese banks also play a large role in claims on offshore centers.

In recent years (since the first quarter of 2005), the BIS has been collecting information on bank exposures resulting from derivatives contracts, guarantees extended, and credit commitments. The data can reflect the fact that banks' country risk exposures can differ substantially from that of contractual lending due to the use of risk mitigants such as collateral. Table 3 presents total amounts of derivatives positions and the form of these positions. The top panel of the table provides values of outstanding over-the-counter (OTC) single-currency interest rate derivatives. The bottom panel provides values of OTC equity-linked and commodity derivatives. Notional amounts outstanding and gross market values of the positions are shown.

Although derivatives have risen in size in recent years, the vast majority of the activity remains in the form of single-currency interest rate derivatives. The counterparties to banks in these transactions are typically reporting dealers and other financial institutions. Swaps are the most common form of derivatives. The notional amounts of derivatives contracts outstanding in June 2007 were nearly \$350 trillion, compared with total foreign claims of banks that are approximately \$28 trillion. The gross market value of these contracts was approximately \$6 trillion across all BIS reporting banks.

Overall, these charts and forms of globalization of banking show the extensive evolution of global banking, raising the scope for dramatic changes in the potential for international spillovers and shock transmission to rise over time. In the sections below, a range of alternative forms of spillovers are explored with the goal of providing some perspectives on the consequences of banking sector globalization.

## **II. Globally Oriented Banks, Cyclical Lending, and International Linkages**

As banking becomes more globalized, the international comovement of business cycles of linked economies is potentially altered, along with the transmission of shocks across markets. In principal, with banks viewed as agents for international risk sharing, diversification, and financial intermediation, consequences for the host markets depend on whether the foreign bank is filling a gap and providing a service that previously was missing in the host market, and on whether the foreign bank's lending activities are financed with alternative source funds or on alternative terms compared with those in its absence. The globalized banks have business cycle consequences that also depend on whether host markets are served through cross-border flows or in the host markets by branches and subsidiaries of the parent bank.

Table 3. Bank for International Settlements (BIS) Reporting Bank Derivative Exposures, June 2007  
(In billions of U.S. dollars)

	Notional Amounts Outstanding				Gross Market Value			
	Total	Reporting dealers	Other financial institutions	Nonfinancial institutions	Total	Reporting dealers	Other financial institutions	Nonfinancial institutions
<b>Amounts outstanding of over-the-counter (OTC) single-currency interest rate derivatives</b>								
Total contracts	346,937	148,318	153,328	45,291	6,057	2,371	2,946	740
<b>Of which</b>								
Foreign exchange swaps	22,809	10,754	11,035	1,019	43	12	27	3
Currency swaps	271,853	111,095	123,875	36,883	5,315	1,978	2,661	675
Options	52,275	26,470	18,418	7,388	700	380	258	62
<b>Amounts outstanding of OTC equity-linked and commodity derivatives, June 2007</b>								
Total equity contracts	9,202	3,147	5,056	999	1,116	405	549	161
<b>Of which</b>								
Forwards and swaps	2,599	687	1,421	492	240	46	146	48
Options	6,603	2,460	3,635	508	876	359	403	113

Source: BIS Semiannual OTC Derivatives Statistics at end-June 2007, Tables 21A and 22A.

First, it is informative to consider how a change in the structure or ownership of banks in an economy may influence business cycles. There are lessons from a broader literature on banking, with the net effect on business cycles working in two general ways. As in the macrobanking model by Morgan, Strahan, and Rime (2004) used to study the implications of relaxed restrictions on cross-border banking within the United States, integration tends to dampen the effect of bank capital shocks within borders, but amplifies the effect of bank-specific shocks across borders.

A basic observation is that the availability of loanable funds via the deposit base contributes to procyclicality. If foreign-owned bank entrants are less reliant on host-country funding sources and more reliant on foreign sources than are their domestically owned counterparts, the procyclicality of their supply of loanable funds may be lower. Loan demand, too, can either be procyclical, as individuals or businesses borrow more to expand their holdings in prosperous times, or countercyclical, as individuals try to smooth consumption intertemporally. Although the existence of foreign banks per se may not influence local loan demand substantially, it is possible that foreign banks may have a different client base than domestically owned banks or offer different products. This potentially can give rise to an observation of altered cyclicity of loan demand.

Most empirical studies of these issues find that foreign banks, like domestic banks, are procyclical lenders. In Chile, Colombia, and Argentina, the lending patterns of private, domestically owned banks and longer-established foreign-owned banks were similar, especially when foreign bank entry occurred through acquisition of local banks (Crystal, Dages, and Goldberg, 2001). The cases of statistically relevant differences across banks were weak, but mainly observed when existing banks—foreign- or domestic-owned, were compared with newer foreign entrants. Although foreign banks had higher average loan growth, they did not add significant volatility to local financial systems or act as relatively destabilizing lenders.

Related evidence on the experiences of Argentina and Mexico in the 1990s found that foreign-owned banks did not necessarily rely on different funding sources when meeting loan demand needs in the host market (Dages, Goldberg, and Kinney, 2000). When a healthy bank acquired a healthy private sector counterpart in the Argentina and Mexico host country markets, on balance this did not lead to extensive changes in the patterns of borrowing and lending in the host market. In these cases, the cyclical lending behavior in the host market banks changed when the foreign bank acquired a lower health domestic bank, or acquired a previously state-owned bank that engaged in borrowing and lending at potentially nonmarket terms. A comparative study of bank behavior across 20 Asian and Latin American countries from 1989 through 2001 found only weak evidence that foreign bank entry into emerging markets contributed to altered credit market stability, especially as compared with domestically owned banks (Arena, Reinhart, and Vazquez, 2006). By contrast, Morgan and Strahan (2004) found no evidence that foreign bank integration had stabilized real activity,

on average, over the period 1990–97. Of course, the period of analysis of this latter study was quite short and coincided with some of the early years of entry in some markets and preceded broader opening.

The related issue for countries of international transmission of shocks and changes associated with financial globalization, and banking in particular, has been approached from different perspectives. As a first window into this theme, studies using macroeconomic aggregates as the main data provide ample evidence on international transmission of U.S. monetary policy shocks. However, most studies do not pin down the specific mechanisms for transmission.

Interdependence and transmission are evident in VAR frameworks (Kim, 2001; Bayoumi and Swiston, 2007). The latter study explores the responses of shocks to GDP across the United States, euro area, Japan, and an aggregate of small industrialized countries, with an interesting goal of identifying the major international channels through which shocks are propagated. The largest contributions to spillovers almost universally come from financial variables, as opposed to those from trade flows or through commodity prices. World interest rates also are found to be important for emerging market business cycles (Neumeyer and Perri, 2005), and U.S. shocks are clearly transmitted to Latin American countries (Canova, 2005). Financial integration raises business cycle synchronization among a sample of industrialized countries, even though countries also tend to be more specialized (Imbs, 2004).

In principal, the degree of monetary transmission across markets should be influenced by the monetary regimes in place in the host markets. Countries with *de jure* or *de facto* currency pegs with respect to the U.S. dollar have their interest rates moving largely in step with U.S. interest rates. The consequence is greater comovement of monetary stances, which also ties the broader business cycles more closely (di Giovanni and Shambaugh, forthcoming; Frankel, Schmukler, and Serven, 2004; Obstfeld, Shambaugh, and Taylor, 2005). Yet, despite establishing international transmission of shocks and policy-induced comovements, the literature on business-cycle comovements surveyed thus far is not predicated on a role for international banks in international linkages.

The specific role of banks is nicely demonstrated in analyses using bank-specific data and focused on establishing the consequences of foreign- vs. domestically owned banks for international linkages. Overall, these studies support an explicit role for foreign-owned banks in enhancing the transmission of monetary policy and interest rate shocks across markets. Seminal work documented that Japanese banks transmitted the shocks that hit their own capital bases, which arose from Japanese stock price movements, into the U.S. real estate market through Japanese bank branches operating in the United States (Peek and Rosengren, 1997, 2000). Recent concrete evidence of transmission through individual U.S. banks is established using individual bank balance sheet data for all U.S. banks with global operations between 1980 and 2006 (Cetorelli and Goldberg, 2008).

This analysis, which also considers the effect of banking globalization on the lending channel within the United States, demonstrates that not only is the lending of foreign offices of U.S. banks affected by U.S. monetary policy, but these foreign offices can rely less on support from parent bank balance sheets in times of tighter liquidity conditions in the United States.

Although the aforementioned studies emphasize business cycle comovements and interest rate transmission, banking globalization may reduce the magnitude of host-country cycles if the foreign bank involvement reduces the actual *incidence* of crises, and the sharp output contractions that typically are associated with such crises (Calvo and Reinhart, 2000). The boom-bust cycles in international capital flows are often derided as wreaking havoc on economies, with lending booms contributing to financial crises and leading to sudden stops. One criticism of financial liberalization is that, by giving banks and other intermediaries more freedom of action and allowing them to take greater risks, the financial fragility of an emerging market may increase especially in the absence of strong institutions necessary to support a well-functioning financial system (Demirgüç-Kunt and Detragiache, 1998, 2001). The degree of international diversification by foreign banks also could be important for performance during crisis. In the Malaysian case, banks with sufficient international diversification played a stabilizing role in host credit markets during the Asian crisis, whereas foreign banks that had a narrower focus on Asia behaved similarly to domestic banks (Detragiache and Gupta, 2004). In a wide sample of countries, the share of bank assets held by foreign owners is negatively correlated with the probability of a crisis (Levine, 1999). Foreign bank presence was found to have a negative and statistically significant coefficient in cross-country regressions on crisis probability, so that after controlling for other factors likely to produce banking crises, greater foreign bank participation is stabilizing and supportive of growth (Demirgüç-Kunt, Levine, and Min, 1998).

Choices by depositors on where to hold their funds during stable and crisis periods may contribute to this theme. Depositors recognize the differences in the health and efficiency of banks and move their assets to better functioning ones or demand higher deposit rates (Peria and Schmukler, 1999). If foreign banks keep resources in an economy that would otherwise contribute to capital flight, this might be a stabilizing influence on the economy. Moreover, if the foreign bank presence within a host market means that locally generated claims extended by these banks are substitute for cross-border flows, this might contribute to stability as local claims are more stable than the more volatile cross-border claims (Goldberg, 2002).

On the issue of crises, it is worth noting that foreign banks may contribute to domestic financial stability by operating within a country's borders rather than from abroad. If flight to quality occurs in stress periods, it may be better for domestic depositors to keep their money within the domestic financial system, to be reintermediated locally, rather than leave the country through capital flight. Cross-border claims by U.S. banks tend to

be more volatile than locally issued claims (Cetorelli and Goldberg, 2006). If locally issued claims replace cross-border claims, depository capture and more stable lending can contribute to domestic stability.

The specific role of banks transmission in shocks across borders is another issue that bears on financial crises. The common-lender effects occur when banks have significant exposures to financial crises and substantial potential losses (Masson, 1998). Bank actions to restore capital asset ratios have spillovers across other markets in which the bank networks operated, with a bank creditor withdrawing from a country in which it holds a position after experiencing an unexpected loss in another country. Interesting observations can be drawn from the behavior of international bank lending during alternative crises. Using a panel dataset of 11 creditor countries and 30 emerging market debtor countries in a period spanning the Mexican, Asian, and Russian currency crises, there was a large and statistically significant common-lender effect during the Thai crisis (van Rijckeghem and Weder, 2003). The effect was somewhat smaller in the Mexican crisis and not statistically significant in the Russian crisis. The policy conclusion reached by these authors was that emerging market economies could reduce their contagion risk by diversifying the sources of their funding and carefully monitoring their vulnerability through shared bank creditors.

### III. Globally Oriented Banks and Other Real-Side Consequences<sup>4</sup>

In this section we consider consequences for host markets of entry by foreign-owned banks. FS-FDI shares many of the consequences already established by analyses of FDI into manufacturing and extractive resource industries, as elaborated in Goldberg (2007). One caveat to the complete adoption of findings from “real-side” research on FDI is that studies seldom distinguish between FDI that arose via mergers and acquisitions and the FDI that arose via Greenfield investments. In the FS-FDI area, the analogies are between acquisitions of local banks and *de novo* investments in the financial services industry. In both FS-FDI and real-side FDI, the form of entry is relevant for measuring and interpreting the employment, growth, and efficiency consequences of FDI.

Below, the primary discussion focus is on the host-country implications of banking globalization, especially for emerging markets. Our main conclusions are that FS-FDI, like real-side FDI, can induce limited technology transfers and productivity gains for the host country. We conclude our expositions by considering the distinct concerns that FS-FDI pose for the host country, especially in terms of institutional development and crisis avoidance. Banks provide key financial intermediation services, and their activities have externalities for bank regulation and supervision

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<sup>4</sup>Parts of this section closely follow Goldberg (2007).

that cannot be overlooked and certainly have come to the attention of host countries.

### Technology Transfer and Productivity Spillovers

It has long been argued that the international investments by multinationals generate growth opportunities by transferring knowledge to countries and consequently filling an “idea gap” (Romer, 1993). Studies of technology transfer reach mixed conclusions on the extent to which the transfers and productivity spillovers have occurred as a result of FDI in manufacturing and extractive resource industries. Some conclude that domestic firms in sectors with greater foreign ownership are more productive than firms in sectors with less foreign participation. Others dispute the spillover benefits of FDI into local markets. Part of the disagreement arises when studies do not control for sample selection, that is, that foreign investment may enter sectors where firms are *ex ante* more productive. On balance, research on real-side FDI supports the finding of positive productivity and technology spillovers into host markets.

Lessons from real-side FDI include paying careful attention to the characteristics of the acquired operations. Small plants may have the largest productivity gains from foreign entry. Some local plants may lose workers and experience productivity declines. In some cases, the gains from foreign investment appear to be captured entirely by the joint ventures. Technology transfers can also flow into local industries that are not themselves direct recipients of foreign capitals.

Recent research on FS-FDI focuses on the altered *efficiency* of foreign- and domestically owned banks, as opposed to specifically on technology transfer. FS-FDI typically is found to enhance the efficiency of banks that remain in business in the host markets.<sup>5</sup> Foreign banks operating in developing countries appear to be more efficient than their domestic counterparts, whether those counterparts are privately or government-owned. Domestic banks are forced to become more efficient after foreign entry, especially in the business lines in which foreign banks choose to compete. Claessens, Demirgüç-Kunt, and Huizinga (2001), using data from a sample of 80 countries, show that foreign entry reduces the profitability of domestic banks but enhances their efficiency. Country-specific studies that mainly use bank balance-sheet data reach similar conclusions, such as work on Latin America by Crystal, Dages, and Goldberg (2001), on the Philippines by Unite and Sullivan (2001), on Colombia by Barajas, Steiner, and Salazar (2000), and on Argentina by Clarke and others (2000). Turner (2006) argues that the larger role of foreign-owned banks in Europe and

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<sup>5</sup>Efficiency calculations are performed by using data on overhead costs (the ratio of bank overhead costs to bank total assets) and bank net interest margin (bank interest income minus interest expense divided by bank total assets).

Mexico in the past decade has made the banking industry more efficient and improved credit allocation.

These FS-FDI studies do not identify whether the productivity enhancements that occur in banking are attributable to increased competition among banks or to technology transfers between foreign and domestic banks. This distinction is important for assessing whether FS-FDI is helping to close a knowledge gap between countries. The distinction may also help reconcile two potentially contradictory themes in discussions on FS-FDI. One such theme is that FS-FDI induces efficiency gains by changing an industry's competitive structure: foreign entry reduces the monopolistic excesses of domestic banks. Bank exits or mergers and acquisitions change local competitive structures in ways largely unparalleled in other sectors that have received FDI. Another theme is that the significant amount of bank consolidation during the past decade has been fostered by technological change and foreign entry into emerging markets. Interestingly, whereas such consolidation has been associated with efficiency improvements, it has not reduced competition in local financial markets (Gelos and Roldos, 2002). Foreign entry may be enhancing the productivity of other banks in the host market through the channel most often explored in real-side FDI research—technology transfers—instead of exclusively through competitiveness changes. This issue is interesting from a policy perspective: if the main channel is technology transfers, productivity transfers and gains can continue as long as the parent banks innovate, even if a stable ownership structure exists in the host-country banking industry.

### FS-FDI and Host-Country Workers

The productivity and technology transfer arguments lead directly to the question of whether foreign entry benefits local workers in terms of wages. When the foreign firm has some intangible productive knowledge, technology transfer and other training after entry should expand the human capital of the employees of the foreign firm within the host country. This expansion of human capital should manifest itself in greater worker productivity and be rewarded by higher wages.

Although studied extensively in the context of real-side FDI, these consequences are less extensively documented for financial service industries. Bank balance sheet data indicate that foreign bank operating costs are lower and that domestic bank costs are pushed down by foreign entry (Crystal, Dages, and Goldberg, 2001). In some cases, wage expenditures also decline. The analysis has not determined whether these cost reductions are due to decreases in the numbers of workers (often a result of acquisitions and consolidations of banks) without wage declines or to reductions in employment with higher wages paid to the remaining workers.

Employment consequences of FS-FDI are, in part, contingent on whether FDI takes the form of Greenfield (*de novo*) investments or occurs via mergers and acquisitions of existing plants (or banking networks).



Although *de novo* investments, where new banks are introduced, may generate increased host-country employment, the scale of increases might be strongest if the new bank does not compete directly with other local facilities that serve thin host-country markets. Net employment gains could also be strong if agglomeration externalities exist, so that the infrastructural improvements associated with FDI spill over to other local firms and all local producers gain.

The net employment effects of mergers and acquisitions FDI are less transparent. Mergers and acquisitions may trigger consolidation of an inherited bloated infrastructure, leading to job loss. Fewer individuals may be employed at higher wages in a plant or banking system that ultimately operates more efficiently. In the case of FS-FDI, evidence reported by the BIS (2006) shows that this type of investment is often made through acquisitions of host-country banks. If FS-FDI is followed by branch closures and reductions in wage bills after acquisition, it accords with this scenario. Yet such declines in employment by a bank do not necessarily imply reductions in total employment in host countries. The special role of banks in financial intermediation means that the employment consequences of FS-FDI may be broader, and more positive, than the consequences of FDI to the real economy. This could arise if intermediation is improved and financial capital is allocated more effectively in the host country.

### FS-FDI and Macroeconomic Growth

The spillovers and growth ramifications are expected to be strongest when foreign affiliates and local firms compete most directly with each other, as may be the case in previously protected industries. Positive threshold effects may exist between FDI and growth, with human capital accumulation in the host country needing to be sufficiently large before countries can reap the beneficial growth effects of the foreign inflows (Borensztein, DeGregorio, and Lee, 1998).

Studies of FS-FDI effects conclude that growth may expand both through the technology transfer channel and through improved intermediation of capital flows from savers to investment opportunities. A broad literature looks beyond FS-FDI and considers the growth implications of overall financial liberalization. The issue of FS-FDI, as opposed to portfolio investment or other forms of capital inflows, is not explicitly addressed. In this literature, financial liberalization events are usually defined in terms of regulatory changes, such as the relaxation of capital controls or the lifting of interest rate ceilings. Despite the considerable research undertaken, the extent of the long-term growth benefits of capital account liberalizations is hotly debated, and a consensus view has not emerged. Researchers have found sharply contrasting results owing to differences in country coverage, sample periods, inclusion of crisis controls, and indicators of financial liberalization.<sup>6</sup>

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<sup>6</sup>Edison and others (2002) and Prasad and others (2003) provide informative surveys.

Cross-country growth regressions reach the broader finding that financial development improves economic growth (Rajan and Zingales, 1998; Levine, Loayza, and Beck, 2000). However, other work finds no evidence that country differences in economic growth can be explained by distinguishing countries by type of financial structure, that is, bank-based vs. market-based structures (Demirgüç-Kunt and Maksimovic, 2002). Although the growth-volatility relationships were generally preserved in the 1990s, compared with prior decades, both trade and financial openness tended to attenuate the observed negative effects of volatility on growth (Kose, Prasad, and Terrones, 2006).

Microeconomic arguments for positive growth effects from FS-FDI are rooted in the idea that these banks can engage in more efficient credit allocation in host markets, with funds made more available for private sector use. Prior to FS liberalization and reform, some governments used the local banking system as a tool for providing directed credit to politically favored constituents or favored but loss-incurring sectors of the economy. In this type of scenario, the banks implicitly play a role in patronage and “development finance” and subsidize levels of activities that might not be viable on market terms. Suggestive evidence of the costliness of such strategies is found in La Porta, López-de-Silanes, and Shleifer (2002) who argue that a higher level of government ownership of banks is associated with lower growth of per capita income and productivity across countries. A fascinating study of state-owned banks in Italy concluded that public bank lending had a pattern of rewarding political supporters (Sapienza, 2004).

This type of directed lending crowds out intermediation to worthy private borrowers—with the types of classic principal-agent problems arising (Mishkin, 2005). If foreign banks operating in host markets were better regulated and subject to parent bank oversight, these banks might be able to more effectively resist local suasion. As such, the banks may more effectively discipline host-country fiscal or monetary “irresponsibility” by being less amenable to forced purchases of government bonds or forced lending to favored political constituents. Such outcomes would be auspicious for sustainable economic growth.

A related observation is that financial liberalization tends to relax financing constraints on producers in developing countries and make them less adversely influenced by financial crises (Galindo and Schiantarelli, 2003). Outside of crisis periods, foreign banks might be expected to contribute to growth by providing capital to worthy but previously credit-constrained borrowers, and by not crowding out credit provision to worthy borrowers that are outside the scope of their business model. During crises, foreign-owned banks may be destinations for local flight capital, preventing this capital from leaving the country and creating greater opportunities for these funds to continue to be intermediated locally.

There is a substantial amount of research activity that has focused on patterns of lending activity by individual banks in countries that have

permitted extensive foreign bank entry, generally concluding that FS-FDI fosters economic growth. One line of work finds that credit provision by U.S. banks to Latin American countries grew faster during the 1990s and was less sensitive to local cycles than credit provision by domestically owned banks (Crystal, Dages, and Goldberg, 2001).

Other lines of research address whether foreign bank entry alters the composition of private sector credit provision, raising the concern that small businesses relying on bank credit and potentially fueling growth might have constrained credit access following foreign bank entry. One argument, expounded in a model by Detragiache, Tressel, and Gupta (2006), is that if foreign banks have an advantage at monitoring high-end customers compared with their domestic bank competitors, the distribution of credit availability changes with foreign entry. Using a cross-country and dynamic specification, higher foreign bank presence in poor countries was actually associated with less credit growth and less private access to credit. Another argument, expounded by Mian (2006), is that greater cultural and geographical distance between foreign-owned banks and local customers places the foreign banks at a comparative disadvantage. Using detailed data from the Pakistani experience, foreign banks are found to engage in less lending to “soft information” firms, and appear to have more difficulty performing bilateral renegotiation and achieving bad loan recovery.

Conflicting evidence comes from other studies. In Latin America, foreign-owned banks appear to have been providing credit to local constituents in patterns similar to those of healthy domestically owned banks (Dages, Goldberg, and Kinney, 2000). Detailed evidence for Latin American countries shows that other than possible biases in borrower orientation often linked to bank size (large banks lend relatively less to small and medium-sized enterprises), there has been no systematic bias in orientation specifically associated with foreignness (Clarke, Cull, and Peria, 2001). Foreign banks in Argentina may have behaved significantly differently from local banks only when decision-making remained in foreign headquarters (Berger, Klapper, and Udell, 2001). In Mexico, foreign banks have been associated with expanded access to bank branches across municipalities, yet deposit and loan penetration in per capita terms declined, especially in poorer and more rural areas (Beck and Peria, 2008). In Eastern Europe (specifically, Hungary) foreign entry may even have been associated with expanded credits, in aggregate, to small and medium-sized enterprises when the domestic banks had to search more aggressively for a broader clientele for lending (Bonin and Abel, 2000). The Eastern European experience with foreign banks is argued to have benefited lending to all firms (Giannetti and Ongena, 2005).

Overall, these observations support the conclusion that FS-FDI should foster more rapid growth within economies. The conclusion is also supported by arguments based on better information processing, technology, and risk management practices.

## FS-FDI and Host-Country Institutional Development

Institutions in developing countries can respond positively to FS-FDI. Foreign-owned banks appear to contribute to the overall soundness of local banking systems by screening and treating problem loans more aggressively (Crystal, Dages, and Goldberg, 2001). If foreign entry spurs additional regulatory improvements, the risk of financial crisis declines. Numerous studies assert that FS-FDI spurs improvements in bank supervision, with regulatory spillovers. The entry into emerging markets of foreign banks that are healthier than domestic banks implicitly allows a country to import stronger prudential regulation and increase the soundness of the local banking sector. In Argentina, Chile, and Colombia, for example, foreign banks have contributed to enhanced domestic financial stability by engaging in more aggressive risk management techniques. Argentina's bank regulatory system in the late 1990s was arguably one of the most successful among emerging market economies (Calomiris and Powell, 2001). Reliance on market discipline was viewed as playing an important role in prudential regulation by strengthening risk management among banks.

Another institutional and regulatory challenge can arise if a country's financial services industry becomes highly concentrated, in which case banks may exert monopolistic pricing tendencies more extensively. If foreign banks are among the few surviving banks, local regulators may be tempted to conclude that these banks bear specific responsibility for adverse outcomes. Yet in many cases, foreign bank entry is part of a larger scale restructuring and recapitalization of the emerging market financial system. More concentrated market power may have occurred regardless of whether owners were foreign or domestic. Even with monopolistic pricing, there may be other benefits through scale economies and improved services that are by-products of consolidation. These issues challenge regulators to engage in careful cost-benefit analyses and policy reactions.

Foreign bank entry also raises issues of competition policy within host-country banking systems. Although the actual experiences of host countries have been researched extensively—see BIS (2001) and the volume's overview by Hawkins and Mihaljek (2001)—on average, evidence suggests that consolidation has been occurring without deterioration of the competitiveness of a country's financial services industry (Gelos and Roldos, 2002).

Financial globalization should be an important supporting force behind institutional reform (Mishkin, 2005). Domestic institutions, facing competition from abroad, will seek new customers to stay in business. For lending to be profitable, domestic banks will require information to screen and monitor their customers. Better accounting standards and disclosure requirements, as well as a more efficiently managed legal system, will be consistent with continued domestic bank profitability. Foreign-owned banks will also be a constituency supporting these positive reforms because, as outsiders, they would not have access to the same information as their domestic competitors.

The transition to improved local supervision, however, might be bumpy. Major international banks may try to build market share by offering a variety of new financial products, including OTC derivatives, structured notes, and equity swaps. These new derivative products can provide greater opportunities for hedging risks. Yet some new products may also be used to evade prudential regulations and take on excess risks, especially in countries with weak financial systems and underprepared supervisors (Garber, 2000). One clear implication is that local supervisors in emerging markets may have to invest in upgrading their skills in order to evaluate more efficiently the use and effects of new products. Other challenges for supervisors arise in the context of relationships with parent banks, and may depend on whether the foreign entry is accomplished through branches or subsidiaries.

Moreover, the path of regulation and supervision could be importantly influenced by the institutions and political arrangements within a country, as argued by Barth, Caprio, and Levine (2006) based on cross-country analysis using a new database on bank regulation and supervision. The extent to which regulation and supervision proceed, and the degree of harmonized versus market-specific progress, will certainly continue to be an important focus of policy community efforts (Caprio, Evanoff, and Kaufmann, 2006; Claessens, 2006; Moskow, 2006; Haines and Ho, 2007).

#### IV. Conclusions

In this article we have documented some of the recent evolution of the globalization of banking and overviewed some of the related consequences. These consequences are grouped into the international transmission of shocks and cycles, allocative efficiency of credit and growth, technology transfer and diffusion, wage and employment spillovers, and institution building.

First, we showed that banking globalization expanded rapidly in the 1990s. This occurred through acquisitions, which were impressive in their number and scale, and through new entry into foreign markets. In some markets the entrants displaced state-owned banks, but entry in other markets occurred via acquisitions of privately held banks. In the developing world, large strides were made in Latin America and developing Europe. Recently China has been making more progress in the area of banking openness, whereas India still has significant scope for private entry. The participation of foreign-owned banks in local markets has led to some substitution of cross-border lending that tends to be more volatile, in favor of locally generated claims.

The paper also has presented evidence that bank globalization has been changing international transmission and business cycles. General changes in cyclicity of lending depend on what type of bank is being displaced when a foreign bank enters a host market. A change in loan volumes and cyclicity is not a generalized feature when a foreign owner purchases a healthy bank

that is either foreign- or domestically owned. The change in behavior arises when the bank that is acquired is a troubled entity or is a previously state-owned bank. Another key feature of banking globalization is that it has been associated with a reduced incidence of financial crises in emerging market economies, and thereby with a reduced incidence of the sharp output contractions that accompany such crises. So, although foreign bank entry into emerging markets reduces the incidence of crises, it enhances the potential for greater contagion through common-lender effects. The contagion problem is reduced when foreign banks have a stronger subsidiary presence, as opposed to supporting local markets through cross-border flows. Bank globalization alters shock transmission across international markets, both through the internal capital markets of banks and their foreign subsidiaries, and also through what has been described as common-lender effects across the markets in which foreign banks have staked out positions.

Some of the consequences of bank globalization for the real economy come under the headings of allocative efficiency, technology transfer, consequences for workers, and institutional and regulatory changes. FDI is typically associated with improved allocative efficiency. This improvement can occur when foreign investors enter industries with high entry barriers and then reduce local monopolistic distortions. The presence of foreign producers may also increase technical efficiency: heightened competitive pressure or some demonstration effect may spur local firms to use existing resources more effectively. FDI is also associated with higher rates of technology transfer and diffusion as well as with greater wages. Although there is evidence of technological improvements from FDI and a presumption that such investment will consequently stimulate economic growth, the strength of these effects is disputed. FDI into host countries also induces higher wages, although these wage effects are sometimes limited to the foreign-owned production facilities and do not spill over more broadly. The employment and growth effects of FS-FDI are more subtle than other effects, depending in part on whether the investment is Greenfield or mergers and acquisitions. In the latter case, the effects also depend on whether the acquired institution was financially sound or in need of restructuring, regardless of the nationality of the new owners. However, if financial intermediation improves, FS-FDI should support greater employment and growth prospects.

The institutional effects of FS-FDI are potentially clearer and quite positive. FS-FDI from well regulated and well supervised source countries can support emerging market institutional development and governance, improve a host country's mix of financial services and risk management tools, and potentially reduce the incidence of sharp crises associated with financial underdevelopment in emerging markets. Yet this type of investment can initially pose formidable challenges to local supervisors, who will need to develop expertise in the practices and products introduced into their economies.

Improved regulation and supervision occasionally occur with a lag, as supervisors in the host countries at first may not be prepared to evaluate the new products and processes introduced by foreign entrants. The path forward on regulatory and supervisory reform continues to be an important focal point in the policy community, with continued importance underscored both by trends in banking globalization and by recent events reinforcing the strength of international financial linkages across the industrialized and emerging economies of the world.

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