

A low-angle, upward-looking photograph of several modern skyscrapers with glass facades, reaching towards a sky with soft, colorful clouds. The perspective creates a sense of height and scale.

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MCKINSEY GLOBAL INSTITUTE

THE NEW DYNAMICS OF FINANCIAL GLOBALIZATION

AUGUST 2017

MCKINSEY GLOBAL INSTITUTE

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THE NEW DYNAMICS OF FINANCIAL GLOBALIZATION

AUGUST 2017



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PREFACE

A decade after the beginning of the global financial crisis, the fallout continues to reshape the financial system. Gross cross-border capital flows are 65 percent lower in absolute terms than they were in 2007, representing a sharp break from the past. Roughly half of the decline is due to large European and US banks retrenching from foreign markets. But these developments do not signal an end to financial globalization—although there will be risks. Rather, we see a healthy correction from pre-crisis excesses, and a return to a potentially more stable and risk-sensitive era of financial globalization. Lessons have been learned. Moreover, we are beginning to see global finance broaden to a larger number of countries and players, many of them developing economies that are becoming more financially connected. Looking forward, we see that global finance is set for another major disruption. The increasing presence of new financial technologies, including digital platforms for financial transactions, blockchain, and machine learning, have the potential to reinforce financial globalization by making it faster and cheaper to transact across borders—but may also pose new challenges.

This report is the latest in our ongoing series on the evolution of global financial markets. It builds upon our long-standing research on the growth of financial markets in countries around the world and flows of capital between them, most recently *Financial globalization: Retreat or reset?* published in 2013. We also draw upon the expertise and research of our colleagues in McKinsey's Global Financial Services Practice. In this research, we look at shifts in the structure of cross-border capital flows and the stock of foreign investment, the changing roles of countries, regions, and regulators in global finance, and the role of digital technology in shaping the next wave of financial globalization.

This research was led by MGI partner Susan Lund, based in Washington, DC, along with McKinsey senior partner and MGI Council member Eckart Windhagen, based in Frankfurt; James Manyika, McKinsey senior partner and MGI chairman and director based in San Francisco; Philipp Härle, McKinsey senior partner in banking and risk management in London; and Jonathan Woetzel, McKinsey senior partner and MGI director in Shanghai. The research team comprised Diana Goldshtein and José Pablo Garcia. Thanks go to MGI senior editors Janet Bush and Mark A. Stein for their editorial support and to other members of the MGI communications, operations, and design team, namely Tim Beacom, Marisa Carder, Matt Cooke, Deadra Henderson, Julie Philpot, Rebeca Robboy, Margo Shimasaki, and Patrick White, for their many contributions.

We are grateful to the academic advisers and industry executives whose expertise enriched this work. Special thanks go to Hans-Helmut Kotz, senior fellow of the Center for Financial Studies and program director of the SAFE Policy Center at Goethe University, Frankfurt, as well as resident fellow at Center for European Studies and visiting professor of economics, both at Harvard University, who generously shared his insights and time with us.

We also benefited from input from Martin N. Baily, chair in Economic Policy Development and senior fellow and director of the Business and Public Policy Initiative at the Brookings Institution; Adair Turner, chairman of the Institute for New Economic Thinking and former chairman of the Financial Services Authority; and Laura Tyson, faculty director, Institute for Business & Social Impact, Haas Business and Public Policy Group.

We thank the many McKinsey colleagues in the Financial Services Practice around the world who provided helpful input, advice, and data. They include Miklos Dietz, Vito Giudici, Shikha Gupta, Szabolcs Kemeny, Pavan Kumar Masanam, Joseph Luc Ngai, and Irene Sun.

We are grateful for all of the input we have received, but the final report is ours, and all errors are our own. This report contributes to MGI's mission to help business and policy leaders understand the forces transforming the global economy, identify strategic locations, and prepare for the next wave of growth. As with all MGI research, this work is independent and has not been commissioned or sponsored in any way by any business, government, or other institution. We welcome your comments on the research at **MGI@McKinsey.com**.

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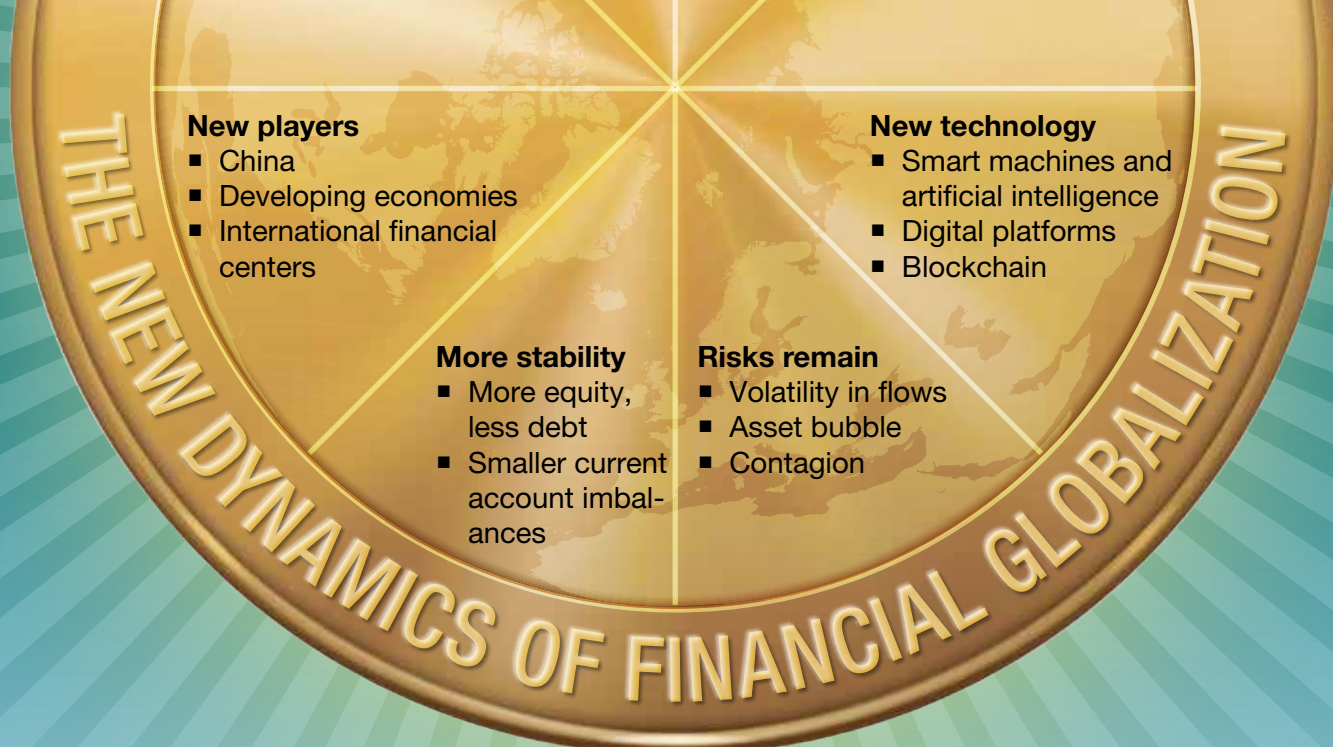
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IN BRIEF

THE NEW DYNAMICS OF FINANCIAL GLOBALIZATION

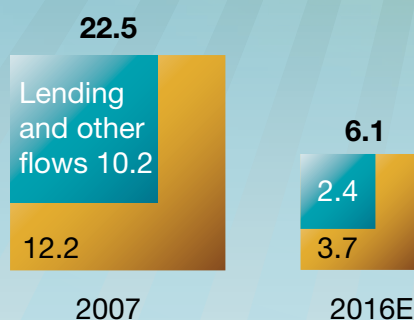
Since the global financial crisis began in 2007, gross cross-border capital flows have fallen by 65 percent in absolute terms and by four times relative to world GDP. Half of that decline has come from a sharp contraction in cross-border lending. But financial globalization is still very much alive—and could prove to be more stable and inclusive in the future.

- Eurozone banks are at the epicenter of the retreat in cross-border lending, with total foreign loans and other claims down by \$7.3 trillion, or by 45 percent, since 2007. Nearly half has occurred in intra-Eurozone borrowing, with interbank lending showing the largest decline. Swiss, UK, and some US banks also reduced their foreign business.
- The retrenchment of global banks reflects several factors: a reappraisal of country risk; the recognition that foreign business was less profitable than domestic business for many banks; national policies that promote domestic lending; and new regulations on capital and liquidity that create disincentives for the added scale and complexity that foreign operations entail. Some banks from developing and other advanced economies—notably China, Canada, and Japan—are expanding abroad, but it remains to be seen whether their new international business is profitable and sustained. Central banks are also playing a larger role in banking and capital markets.
- Financial globalization is not dead. The global stock of foreign investment relative to GDP has changed little since 2007, and more countries are participating. Our new Financial Connectedness Ranking shows that advanced economies and international financial centers are the most highly integrated into the global system, but China and other developing countries are becoming more connected. Notably, China's connectedness is growing, with outward stock of bank lending and foreign direct investment (FDI) tripling since 2007.
- The new era of financial globalization promises more stability. Less volatile FDI and equity flows now command a much higher share of gross capital flows than before the crisis. Imbalances of current, financial, and capital accounts have shrunk, from 2.5 percent of world GDP in 2007 to 1.7 percent in 2016. Developing countries have become net recipients of global capital again.
- But potential risks remain. Capital flows—particularly foreign lending—remain volatile. Over 60 percent of countries experience a large decline, surge, or reversal in foreign lending each year, creating volatility in exchange rates and economies. Equity-market valuations have reached new heights. Financial contagion remains a risk. The rise of financial centers, particularly those that lack transparency, is worth watching.
- Looking forward, new digital platforms, blockchain, and machine learning may create new channels for cross-border capital flows and further broaden participation. Banks need to harness the power of digital and respond to financial technology companies or fintechs, adapt business models to new regulation, improve risk management, and review their global strategies. Regulators will need to continue to monitor old risks and find new tools to cope with volatility, while creating a more resilient risk architecture and keeping pace with rapid technological change.



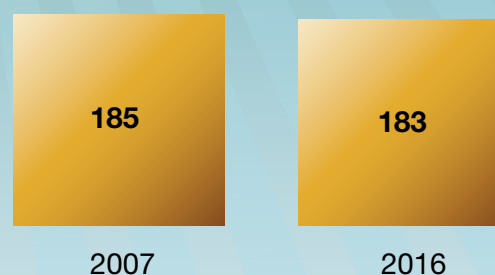
Cross-border capital flows are down, half of the decline due to lending...

Global gross cross-border capital flows to GDP, %



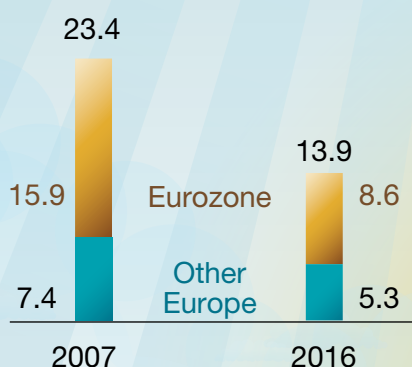
... but financial globalization is robust

Stock of global foreign investments to GDP, %



European banks are retrenching ...

Foreign bank claims, \$ trillion

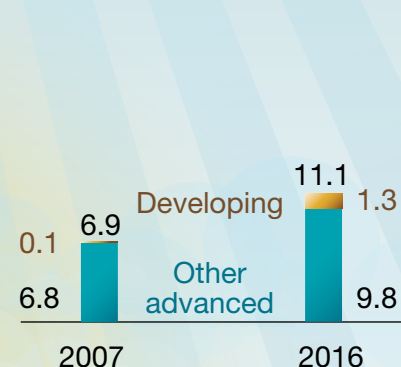


... as a result of ...

- Reappraisal of country risk
- Low profitability of foreign business
- National policies promoting domestic lending
- New global regulations

... while other banks are expanding overseas

Foreign bank claims, \$ trillion



Responding to the new era of financial globalization

- Regulators need new tools and approaches for new (and old) risks

- Banks need to adapt their global strategies to reflect new regulation and digitization



EXECUTIVE SUMMARY

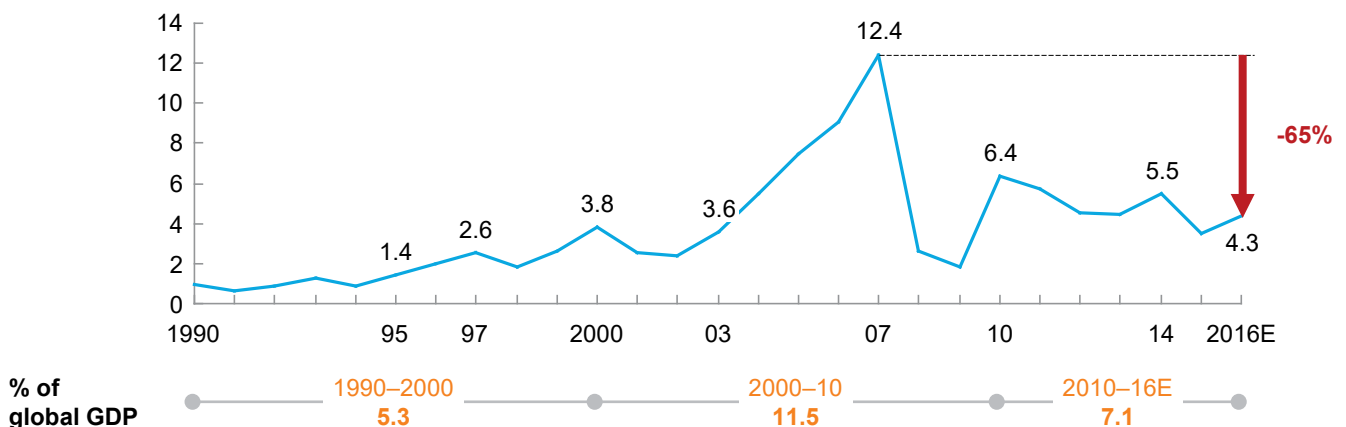
The difficult economic conditions that prevailed for many years after the global financial crisis in 2008 were bound to create a reaction against globalization. There has been a backlash against free trade among citizens and their governments. The World Trade Organization (WTO) said that between mid-October 2015 and mid-May 2016, G20 economies introduced new protectionist trade measures at the quickest pace seen since the financial crisis—five a week.¹ The United States withdrew from the Trans-Pacific Partnership trade agreement and has promised to renegotiate the North American Free Trade Agreement. Antiglobalization politicians have become more popular in many countries.

Nowhere has the reaction been more marked than in global finance. Before the crisis, gross cross-border capital flows surged as global banks lent to each other and expanded abroad, institutional investors diversified their portfolios internationally, and companies built global operations. Net financial- and capital-account imbalances soared, too, as countries with trade surpluses exported excess savings abroad to countries with deficits. However, these dynamics have now gone in reverse. Gross cross-border capital flows—annual flows of FDI, purchases of bonds and equities, and lending and other investment—have shrunk by 65 percent in absolute terms, returning to the level of global flows as a share of GDP last seen at the beginning of the 2000s (Exhibit E1).² The sharp contraction in gross cross-border lending and other investment flows explains half of the decline, and Eurozone banks are leading the retreat.

Exhibit E1

Global cross-border capital flows have declined 65 percent since the 2007 peak

Global cross-border capital flows¹
\$ trillion



1 Gross capital inflows, including foreign direct investment (FDI), debt securities, equity, and lending and other investment.

SOURCE: International Monetary Fund (IMF) Balance of Payments; McKinsey Global Institute analysis

¹ World Trade Organization, *Report on G20 trade measures*, June 21, 2016.

² The analysis in this report is based on many sources of data, but several primary ones stand out: gross cross-border capital inflows and outflows and net capital flows from national balance of payments; the stock of foreign investment assets and liabilities of countries, also from national balance of payments; and the stock of banks' foreign claims from the Bank for International Settlements (BIS). Balance of payments data come from the International Monetary Fund (IMF). For more detail on data definitions and sources, see Box 1 in Chapter 1.

Given these developments, are we to conclude that the era of financial globalization is over? Our answer is no. The world's financial markets remain deeply interconnected. The stock of foreign investment among countries compared with global GDP has changed little since 2007. Financial globalization is broadening as developing economies—with China at the forefront—become more connected.

Several characteristics of today's version of financial globalization suggest that it will be more stable in the future. Less volatile FDI is a larger share of total gross capital flows. Global imbalances in financial- and capital-account surpluses and deficits have shrunk. Banks and other financial-market participants are more accurately assessing risks. Nevertheless, potential sources of risk and volatility remain. Gross capital flows—particularly cross-border lending—remain volatile, and financial contagion is still a concern in a deeply interconnected system. Equity-market valuations in some countries are high despite weak economic growth, raising questions about whether a bubble is forming. The rise to prominence of financial centers, particularly those that lack transparency, bears some scrutiny.

This report builds on the McKinsey Global Institute's (MGI) previous research on global financial markets.³ It takes stock of the state of global financial market interconnections and how they have changed since the crisis, and uses microeconomic insights from the financial industry to explain the changes and how they might evolve in the coming years. We discuss the reasons for optimism that financial globalization may be more stable now than pre-crisis, and the risks that remain. We also discuss how emerging technologies such as digital platforms, blockchain, and machine learning may create new channels for global financial flows and open the door to new players. Banks that are still struggling to adapt business models to the new landscape also need to respond to the digital challenge. Regulators must avoid complacency and create a more resilient risk architecture while monitoring new market dynamics.

45%

fall in Eurozone
bank foreign claims
since 2007

MAJOR SHIFTS IN GLOBAL BANKING ARE UNDER WAY

The most dramatic change in the post-crisis global financial system has been in global banking. Banks from the Eurozone have led a retreat from foreign markets amid eroding trust in the health of other Eurozone financial institutions, a reassessment of profitability and risk, and a response to new regulation requiring them to rebuild capital. The largest global banks from Switzerland, the United Kingdom, and the United States have significantly reduced their presence in foreign markets for the same reasons. Meanwhile, banks from other advanced economies, notably Canada and Japan, and some developing countries, in particular China, have expanded into foreign markets. The central banks of advanced economies have also been playing a greater role in capital markets, providing capital and liquidity through unconventional monetary policies.

Eurozone banks have reduced foreign claims by \$7.3 trillion since 2007

After the creation of a single currency, Eurozone banks began expanding into other markets. The stock of their total foreign claims (including loans and other claims) grew from \$4.3 trillion in 2000 to \$15.9 trillion in 2007, making them the most globalized banks in the world. But now these same banks are shrinking their foreign operations, reducing cross-border assets, and retreating from short-term lending in interbank markets. Their foreign claims have declined by \$7.3 trillion, or by 45 percent, since 2007 (Exhibit E2).⁴ Nearly half of the reduction has been in claims on other Eurozone borrowers, particularly interbank lending.

³ See *Financial globalization: Retreat or reset?* McKinsey Global Institute, March 2013; and *Debt and (not much) deleveraging*, McKinsey Global Institute, March 2015.

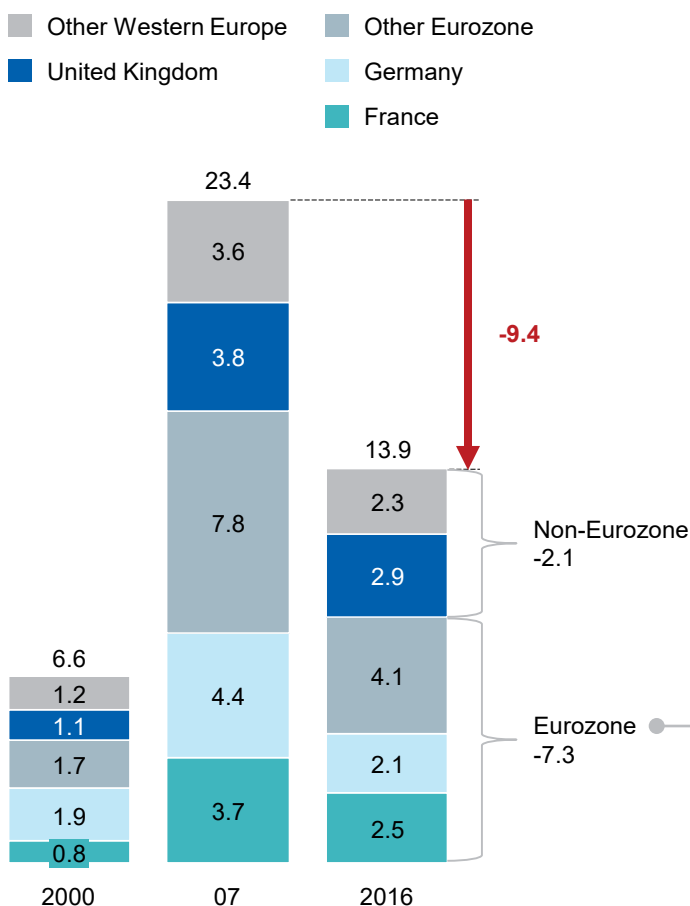
⁴ Part of the decline in the value of foreign claims reflects the depreciation of the euro against the dollar since 2007. We estimate that as much as two-thirds of the decline in foreign claims of Eurozone banks is attributable to changes in currency valuations.

Exhibit E2

Eurozone banks have reduced foreign claims by \$7.3 trillion, and other Western European banks by \$2.1 trillion

Foreign claims¹

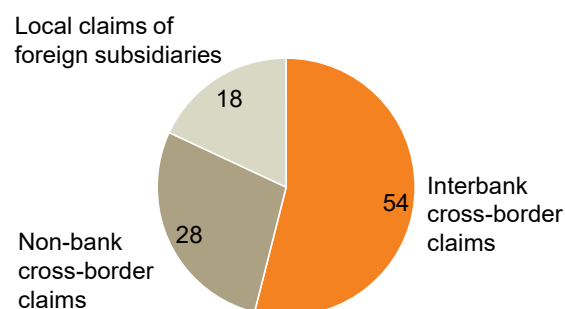
\$ trillion, annual nominal exchange rates



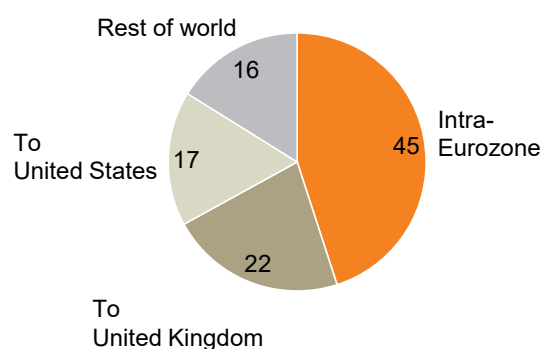
Decline in foreign claims of Eurozone banks, 2007–16

100% = \$7.3 trillion

By type



By region



¹ Foreign claims include cross-border claims and local claims of foreign subsidiaries. Claims include loans, deposits, securities, derivatives, guarantees, and credit commitments.

NOTE: Numbers may not sum due to rounding.

SOURCE: BIS; McKinsey Global Institute analysis

This could be a healthy development, given misconceptions about the risks of international banking before the crisis, when individual country risk within the Eurozone was largely ignored and country risk premia fell to historic lows.⁵ The decline in bank foreign claims also reflects banking decisions that led to large losses during the crisis. For instance, European (and US) banks bought US subprime mortgage-backed securities, overlooking their risk in part due to inaccurate credit ratings. Dutch, French, and German banks became directly and indirectly involved in Spanish real estate and suffered when the bubble burst. Austrian banks expanded far into Eastern Europe and even Central Asia, and Italian banks were heavily exposed in Turkey. In retrospect, these moves contained more downside risks than were appreciated. And there was an element of herd behavior—seeing some major banks aggressively expanding abroad in pursuit of high-margin business, many others followed.

⁵ One economist has called the tremendous growth in cross-border banking before the crisis the “global banking glut.” See Hyun Song Shin, “Global banking glut and loan risk premium,” *IMF Economic Review*, volume 60, number 2, 2012.

Today, foreign expansion has given way to renewed domestic focus among Eurozone banks. While foreign lending and other assets have shrunk, domestic credit volumes in many—although not all—Eurozone countries are now larger than before the crisis.

The retrenchment of global banks is not exclusively a Eurozone phenomenon. Swiss and UK banks together have reduced their combined foreign claims by \$2.1 trillion, or 32 percent.⁶ Similarly, some of the largest US banks have retreated, pruning foreign businesses and exiting some markets. Global banks are also trimming the number of their correspondent banking relationships, as the regulatory cost of maintaining them has increased.⁷

Reassessment of risk, profitability, and new regulations explain the retreat of global banks

\$2T

assets divested
by banks from
January 2007 to
December 2016

The broad retrenchment of global banks is explained by a combination of factors. Banks needed to regain financial health after the major losses incurred during the crisis. In order to meet stress tests put in place in the United States and later in Europe (and now to meet Basel III capital and liquidity standards), many banks chose to sell assets, including foreign assets, and reduce the size of their balance sheets. Sprawling global banks have realized that their margins on foreign business in markets where they lacked scale and expertise were lower than expected—and significantly less than what they earned in their home markets and in countries where they had a high market share. As a result, they have exited markets, pruned business lines, sold foreign assets, and stopped renewing foreign loans at maturity, allowing their balance sheets to shrink naturally. From January 2007 to December 2016, banks divested at least \$2 trillion of assets (often at the behest of supervisors), more than half of the total by European banks.

At the same time, changes in international banking regulations since the start of the financial crisis are more aligned with underlying risk. Some of these regulations have directly and indirectly made it less attractive for banks to maintain large foreign operations.⁸ Although some Basel III measures are not yet binding, banks have started increasing their capital base and liquid assets to meet the requirements as well as the expectations of their investors. The extra capital buffer that must be held by the largest systemically important financial institutions—“globally systemically important banks,” or G-SIBs—is an additional incentive for scaling back and reducing the complexity that global operations create. While the Basel III rules do not explicitly penalize foreign assets, the higher capital requirements (as well as investors’ demands) have prompted banks to scrutinize the profitability of their assets more closely. Growing internationally also increases the overall size and complexity of the balance sheet, making it more likely to incur the G-SIB surcharge.⁹

National regulations have also created incentives to focus on domestic activities rather than foreign lending. For instance, the UK Funding for Lending program has created an incentive to renew focus on providing funding to promote growth in domestic markets. The European Central Bank’s (ECB) Targeted Longer-Term Refinancing Operations program enables banks to receive as much funding with no interest as they need to support lending, provided they have eligible collateral.

⁶ The impact of the United Kingdom’s departure from the European Union (EU) on London’s financial services industry is unclear as we write this. See André Sapir, Dirk Schoenmaker and Nicolas Véron, *Making the best of Brexit for the EU 27 financial system*, Bruegel Policy Brief, issue 1/2017, February 8, 2017; and Simeon Djankov, *The City of London after Brexit*, policy brief, Peterson Institute for International Economics, February 2017.

⁷ See, for instance, Michaela Erbenová et al., *The withdrawal of correspondent banking relationships: A case for policy action*, IMF staff discussion note, June 2016.

⁸ For further discussion, see Kristin Forbes, Dennis Reinhardt, and Tomasz Wieladek, *The spillovers, interactions, and (un)intended consequences of monetary and regulatory policy*, National Bureau of Economic Research (NBER) working paper number 22307, June 2016.

⁹ Basel Committee on Banking Supervision, *Global systemically important banks: Updated assessment methodology and the higher loss absorbency requirement*, BIS, July 2013.

Banks in other advanced economies and developing countries have been expanding abroad

Banks in other countries—notably Canada, China, and Japan—have been expanding their foreign activity. However, it remains to be seen whether this overseas activity will prove profitable and be sustained.

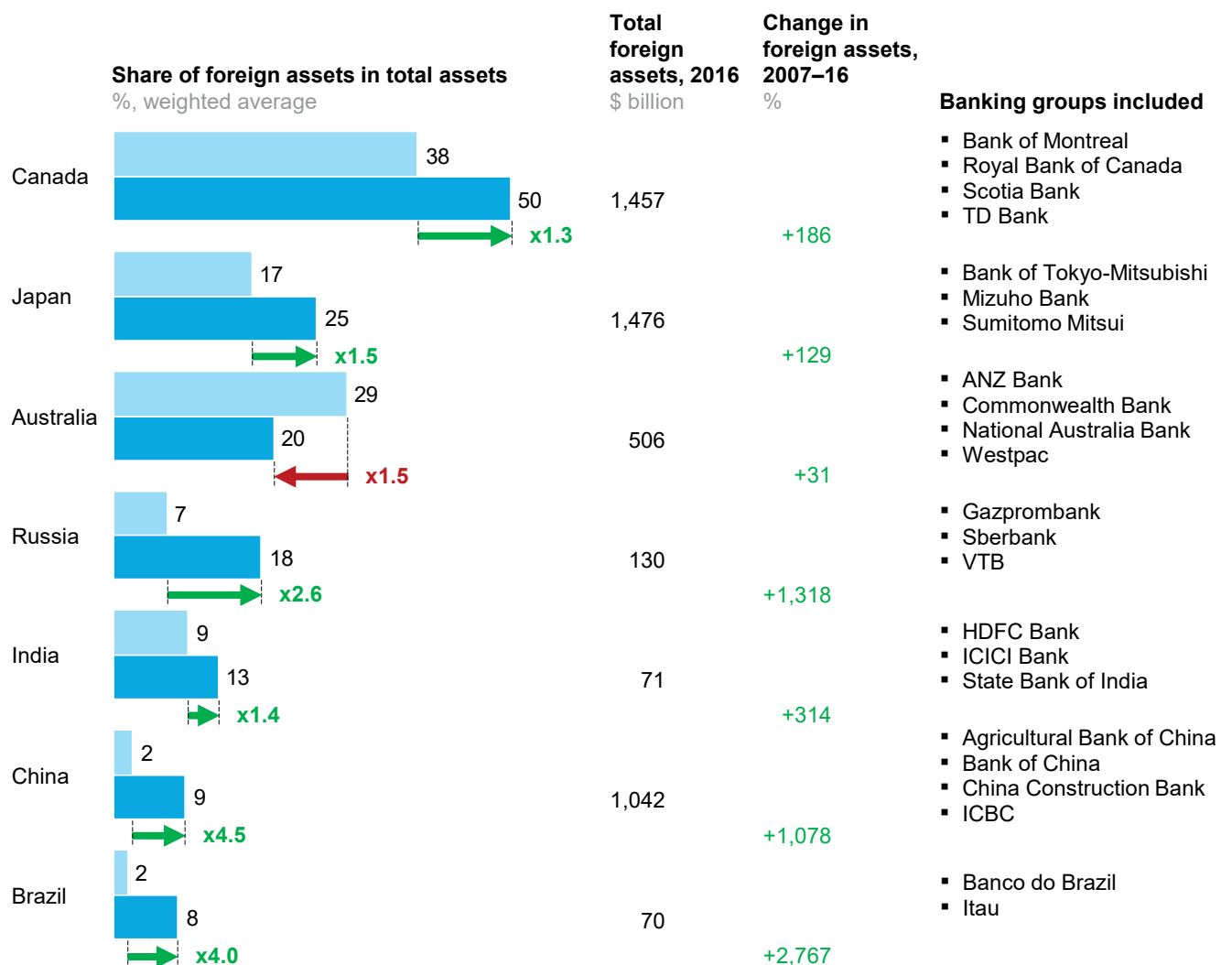
Canadian and Japanese banks have doubled their foreign claims since 2007 by a total of \$2.3 trillion. Canadian banks, faced with a saturated home market of limited scale, now have half of their assets in foreign markets, particularly in the United States (Exhibit E3). Japanese banks have also stepped up their international activity, including taking part in syndicated lending deals in the United States and expanding retail operations across Southeast Asia. China's four largest commercial banks have expanded their foreign activities rapidly, quadrupling their share of foreign assets since 2007. These four banks now have more than \$1 trillion of assets in foreign markets, which represents only 9 percent of their total assets. If Chinese banks were to move in the direction of banks in other advanced economies, whose foreign assets often make up 20 percent or more of total assets, this would imply tremendous further growth in the foreign activities of Chinese banks.

Exhibit E3

Some banks outside Europe are increasing their presence

Based on a sample of largest banks by assets

2007 2016



SOURCE: Bank financial reports; Capital IQ; Australian Prudential Regulation Authority; McKinsey Global Institute analysis

Central banks are playing a larger role in financial markets

In advanced economies, the role of central banks in banking and capital markets has grown in response to the crisis, reflecting unconventional monetary policies. The combined balance sheets of the Bank of England, the Bank of Japan, the ECB, and the US Federal Reserve expanded by \$9.7 trillion after 2007 to reach \$13.4 trillion in 2016. Their assets now equal 36 percent of the combined GDP of these four economies, triple the share in 2007. The Bank of Japan's assets are almost 100 percent of Japan's GDP.

Central banks have become major players in financial markets not by choice but by necessity. They have had to intervene to ensure sufficient liquidity to prevent an implosion of the financial system, and then to nurture slow economic recoveries. In the bank-oriented financial systems of the Eurozone, central banks pursued unconventional policies that have been called “enhanced credit support.” They provided direct funding to banks, replacing the cross-border interbank lending that had evaporated.¹⁰ In the capital-markets-oriented financial systems of the United Kingdom and the United States, most of the measures taken by central banks were in the form of interventions in money and capital markets, including government bonds but also mortgage- and asset-backed securities. Looking forward, steps by central banks to eventually tighten monetary policy and perhaps reduce the size of their balance sheets could unsettle markets.

In contrast to advanced economies, it is notable that the foreign reserve assets of central banks in developing economies have declined. After the 1997–98 Asian financial crises, these central banks accumulated large stockpiles of foreign reserve assets as a result of soaring commodity and manufacturing exports. Their reserve assets grew from \$313 billion (5 percent of GDP) in 2000 to a peak of \$7.5 trillion (28 percent of GDP) in 2013. These assets were invested abroad, mainly in liquid and safe (and therefore not very remunerative) assets such as US Treasuries and other government bonds. This created significant capital flows (and what Ben Bernanke, then a governor of the Federal Reserve, famously described as a “global savings glut”).¹¹ This trend has now reversed. Commodity prices and domestic growth have weakened in many developing economies, and some of these economies sold reserve assets to fund fiscal deficits and maintain stable exchange rates. China's foreign reserves, which peaked at \$4 trillion in June 2014, declined to \$3.2 trillion at the end of 2016. The foreign reserve assets of all central banks in developing economies declined to \$6.6 trillion, or 25 percent of GDP, in 2016.

FINANCIAL GLOBALIZATION CONTINUES

Despite the retrenchment of the largest global banks, it would be wrong to assume that financial globalization is over. Financial markets around the world remain deeply interconnected. The value of foreign investment as a share of global GDP has changed little since 2007, although its rapid growth pre-crisis has ended (Exhibit E4). Globally, 27 percent of equities around the world are owned by foreign investors, up from 17 percent in 2000. In global bond markets, 31 percent of bonds were owned by a foreign investor in 2015, up from 18 percent in 2000. Lending and other investment is the only component of the stock of foreign liabilities that has declined as a percentage of GDP since 2007.¹²

27%
of equities and
31%
of bonds owned by
foreign investors

¹⁰ A less known but crucial backstop from the central bank community was giving access to dollar funding to non-US, in particular European, banks.

¹¹ Ben S. Bernanke, *The global savings glut and the U.S. current account deficit*, remarks at the Sandridge Lecture, Virginia Association of Economics, Federal Reserve Bank of Richmond, March 10, 2005.

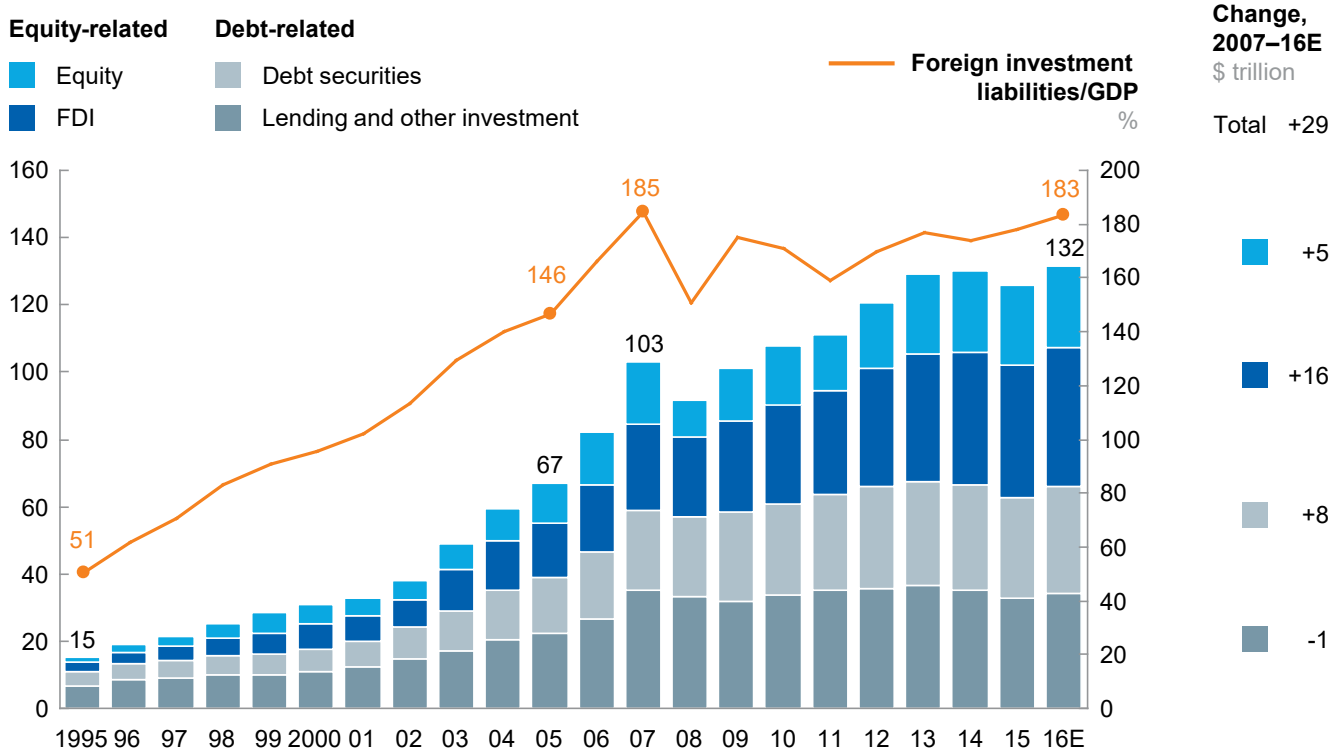
¹² See Philip R. Lane and Gian Maria Milesi-Ferretti, *International financial integration in the aftermath of the financial crisis*, IMF working paper number 17/115, May 2017.

Exhibit E4

The stock of global foreign investment relative to GDP has changed little since 2007

Stock of foreign investment liabilities

\$ trillion, annual (nominal) exchange rates



The new MGI Financial Connectedness Ranking of 100 countries by their total stock of foreign investment assets and liabilities shows how the financial connectedness of individual countries has changed since 2005 (Exhibit E5). Several notable insights emerge from this ranking (here we show 50 countries; for the full 100, please see the appendix).

- Advanced economies are the most integrated into the global financial system.** Topping the ranking are the United States, Luxembourg (a financial center), the United Kingdom, the Netherlands, and Germany. Of the top 20, only two (China and Brazil) are developing countries. This reflects the fact that advanced economies have built up large stocks of foreign investment assets and liabilities over many years, and have deeper domestic financial markets that can absorb and intermediate foreign capital flows. Developing countries have lagged behind on both counts.
- China's role in global finance is growing.** China rose from 16th place in 2005 to eighth in 2015, reflecting the rapid growth of its foreign investment assets and liabilities. But a shift is under way in how China is connected to the global system. Foreign reserve assets were China's largest type of foreign investment asset until 2016, when private foreign investment assets (\$3.4 trillion)—mainly foreign lending and FDI—surpassed foreign reserves (\$3.2 trillion) in value. China is now a significant investor in many developing markets, including Africa and Latin America. China's government has expressed an aspiration to internationalize use of the renminbi. China's prominence in global finance is likely to continue to increase.¹³

¹³ Eswar Prasad, "A middle ground," *Finance & Development*, volume 54, number 1, March 2017.

Exhibit E5
MGI Financial Connectedness Ranking, 2016E (ranking by stock of foreign investment assets and liabilities)

		Foreign assets and liabilities as % of GDP												Total foreign assets and liabilities/ GDP %
		>500 100–500 50–100 10–50 <10												
Rank <i>(change vs. 2005 rank)</i>	Country	Total \$ billion		Foreign assets % of GDP					Foreign liabilities % of GDP					
		Total foreign assets	Total foreign liabilities	FDI	Equity	Debt securities	Loans and other	Foreign reserve assets	FDI	Equity	Debt securities	Loans and other		
1	(—) United States	21,708	29,922	40	38	15	21	2	39	35	59	28	278	
2	(+4) Luxembourg	10,643	10,825	9,088	3,016	3,460	2,332	2	8,231	6,376	1,797	1,799	36,101	
3	(-1) United Kingdom	10,577	10,492	71	64	71	191	5	59	58	99	183	801	
4	(—) Netherlands	8,045	7,970	659	109	116	155	5	576	86	206	167	2,077	
5	(-2) Germany	8,064	6,617	57	29	57	84	5	42	20	61	68	424	
6	(+1) Japan	8,215	5,472	29	29	50	35	25	5	30	28	48	277	
7	(-2) France	6,149	6,983	66	30	72	76	6	44	35	109	96	533	
8	(+8) China	6,594	4,739	12	2	1	15	29	26	5	2	9	101	
9	(-1) Ireland	4,963	5,572	478	331	511	370	1	474	903	183	338	3,588	
10	(+4) Hong Kong, China	4,471	3,402	537	274	153	310	120	574	135	16	336	2,455	
11	(-1) Switzerland	4,290	3,537	232	93	98	125	103	192	145	16	183	1,186	
12	(+1) Canada	3,212	3,071	83	66	19	36	5	66	30	65	39	411	
13	(-4) Italy	2,713	2,878	34	43	33	28	9	26	10	66	53	302	
14	(+1) Singapore	2,976	2,350	230	174	171	344	83	359	52	13	368	1,793	
15	(-4) Spain	1,760	2,906	55	20	25	38	5	60	25	69	81	378	
16	(-4) Belgium	2,142	2,012	197	67	76	114	5	213	27	97	94	890	
17	(+1) Australia	1,471	2,277	35	32	18	27	4	51	30	69	31	298	
18	(-1) Sweden	1,414	1,448	94	81	25	65	12	81	49	95	58	560	
19	(+2) Norway	1,529	796	58	172	114	53	16	52	23	71	69	628	
20	(+7) Brazil	772	1,486	17	1	<1	4	20	43	14	13	13	126	
21	(-1) Russia	1,226	926	33	<1	5	28	29	32	11	4	25	168	
22	(+1) South Korea	1,218	928	22	13	9	17	26	13	27	13	12	152	
23	(-4) Austria	909	967	82	28	52	68	6	74	15	98	64	485	
24	(-2) Denmark	930	793	77	78	60	68	21	51	60	86	61	562	
25	(-1) Mexico	582	1,065	14	0	5	19	17	45	12	31	14	157	
26	(+3) India	540	933	6	<1	<1	2	16	14	7	4	17	65	
27	(-1) Finland	638	707	65	73	64	63	4	51	52	91	104	568	
28	(n/a) Saudi Arabia	930	304	13	17	12	20	84	36	3	<1	8	193	
29	(+7) Indonesia	296	669	8	<1	1	10	12	30	11	14	16	103	
30	(-5) Portugal	352	556	41	17	46	55	12	72	15	47	138	443	
31	(—) South Africa	409	414	59	48	3	13	16	48	50	24	19	280	
32	(+6) Thailand	379	433	23	4	5	18	42	51	25	9	22	200	
33	(-1) Poland	242	548	14	4	2	8	24	51	8	26	33	169	
34	(-4) Turkey	215	571	4	<1	<1	8	12	16	4	13	34	92	
35	(-7) Greece	247	517	15	6	61	41	4	16	6	18	226	393	
36	(n/a) Mauritius	379	357	1,687	992	92	362	40	2,142	195	71	577	6,158	
37	(-2) Malaysia	387	348	51	16	8	23	33	44	18	27	28	248	
38	(+2) Chile	329	379	48	41	19	10	16	99	10	24	20	287	
39	(-5) Israel	382	275	32	19	18	20	31	35	26	9	16	206	
40	(+1) Hungary	267	355	159	5	3	25	21	203	10	32	37	496	
42	(-9) Argentina	278	221	7	<1	<1	40	4	16	2	8	14	91	
44	(-1) Czech Republic	208	264	22	7	8	26	44	77	3	25	33	244	
46	(-4) Venezuela	251	116	11	<1	1	71	5	10	<1	6	25	128	
47	(-3) Philippines	162	193	15	<1	4	7	26	22	16	9	17	117	
50	(-4) Nigeria	131	182	3	6	1	16	6	23	<1	10	11	77	
52	(+2) Peru	104	180	1	14	2	5	31	50	5	17	20	146	
59	(-2) Morocco	38	107	5	2	<1	6	24	54	3	8	39	140	

1 Stock of foreign assets and liabilities/GDP > 1,000%.

SOURCE: IMF Balance of Payments; McKinsey Global Institute analysis

- **Financial ties of other developing countries are also growing.** Other developing countries have far smaller stocks of foreign investment than China or advanced economies, but that is changing. Although ranking in 20th place or below, Brazil, Malaysia, Mexico, Russia, Saudi Arabia, and South Africa all have stocks of foreign investment assets and liabilities greater than 100 percent of GDP. Together, developing countries now account for 14 percent of global financial assets and liabilities, up from 8 and 9 percent, respectively, in 2007. These countries are projected to generate the majority of long-term economic growth, and their prominence in global financial markets will rise.
- **International financial centers—established and new—are gaining prominence.** Ten such centers, defined as having foreign investment assets and liabilities of more than ten times their GDP, emerge in our ranking. They include Hong Kong, Ireland, Luxembourg, the Netherlands, Singapore, and Switzerland, but also newer hubs such as Bahrain and Mauritius. They account for roughly one-third of the growth in total global foreign investment since 2007. Each has its own story, but most have a combination of low tax rates, favorable regulation, and well-developed international banking industries.¹⁴ Some are centers for wealth management, others focus on banking, and still others attract corporate business. A common feature is that they act as hubs or waypoints, attracting foreign capital but then investing it abroad. This creates double counting in the size of global foreign investment. Nevertheless, excluding the foreign assets and liabilities of the ten financial centers from our data set would reduce the global stock of foreign investment only modestly, from 185 percent of world GDP to 140 percent.

THE FINANCIAL SYSTEM IS MORE STABLE, BUT RISKS REMAIN

The nature of global financial flows and connections has changed in ways that could promote a return to a more stable system. Importantly, under pressure from new regulations and from their creditors and shareholders, global banks have become significantly more capitalized and are subject to stress tests to gauge their resilience. The largest systemically important financial institutions must hold an additional capital buffer. All banks must hold a minimum amount of liquid assets.

The share of FDI and equity flows in cross-border capital flows is higher, and the share of cross-border lending and other debt flows is lower (Exhibit E6). FDI and equity flows now account for 69 percent of cross-border capital flows, up from 36 percent before 2007. This shift should promote much-needed stability in cross-border financial flows. Because FDI reflects companies' long-term strategies, it is, by far, the least volatile type of capital flow, while bank lending—particularly short-term lending—is the most volatile.¹⁵ In addition, remittances to developing countries from foreign migrants are relatively stable and have climbed steadily, reaching almost \$480 billion in 2016. That is equal to 60 percent of private capital inflows to developing countries, and three times official development assistance (ODA).

69%
of cross-border
capital flows are
FDI and equity,
up from
36%
before 2007

¹⁴ These are the same countries discussed in the Organisation for Economic Co-operation and Development (OECD) work on base erosion and profit shifting; see www.oecd.org/tax/beps/.

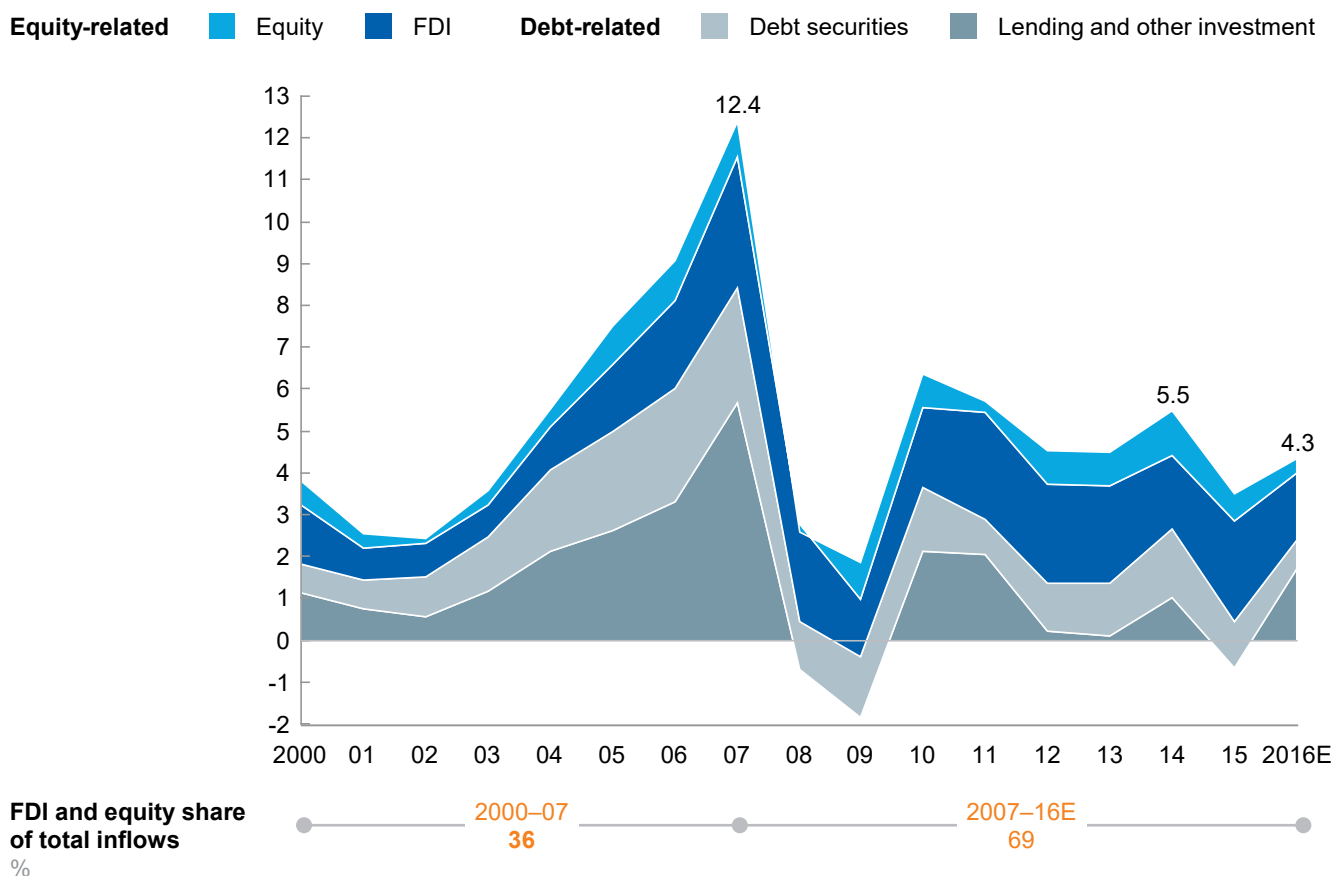
¹⁵ See, for instance, Maria Sole Pagliari and Swarnali Ahmed Hannan, *The volatility of capital flows in developing markets: Measures and determinants*, IMF working paper number 17/41, March 2017; Kristin J. Forbes and Francis E. Warnock, "Capital flow waves: Surges, stops, flight, and retrenchment," *Journal of International Economics*, volume 88, issue 2, November 2012; and Eugenio M. Cerutti, Galina Hale, and Camelia Minoiu, *Financial crises and the composition of cross-border lending*, IMF working paper number 14/185, October 2014.

Exhibit E6

Post-crisis, cross-border capital flows have more equity and less debt

Global cross-border capital inflows

\$ trillion, annual nominal exchange rates



NOTE: Negative flows imply decline in stock of foreign investment.

SOURCE: IMF Balance of Payments; McKinsey Global Institute analysis

In addition, global imbalances in financial- and capital-account deficits and surpluses have narrowed, and a wider range of countries are actively participating in the global reallocation of capital. The net capital flows to a country (that is, the difference between gross capital inflows and outflows) are reflected in the financial and capital account of a nation. Countries in which capital outflows exceed inflows are accumulating foreign assets and supply capital to the global system, while those that have larger capital inflows than outflows are net borrowers and accumulating foreign liabilities. The size of net capital deficits and surpluses declined from 2.6 percent of global GDP in 2007 (\$1.5 trillion) to 1.7 percent in 2016 (\$1.3 trillion), which should be positive for the stability of the system (Exhibit E7).

Another development that should promote stability is the fact that a larger set of countries is now actively contributing to the global reallocation of capital. In 2005, the United States was the primary net recipient of global capital, absorbing 67 percent of the total; by 2016, that share had fallen by half.¹⁶ Developing countries have become net recipients of global capital for the first time in a decade as their central banks' reserve outflows have dwindled or reversed. Among net capital suppliers, China stands out, accounting for 16 percent of

¹⁶ The deficit or surplus in a country's financial and capital account must also equal the deficit or surplus in its current account. The decline in the United States arithmetically reflects the smaller trade deficit, with stronger exports and fewer oil imports.

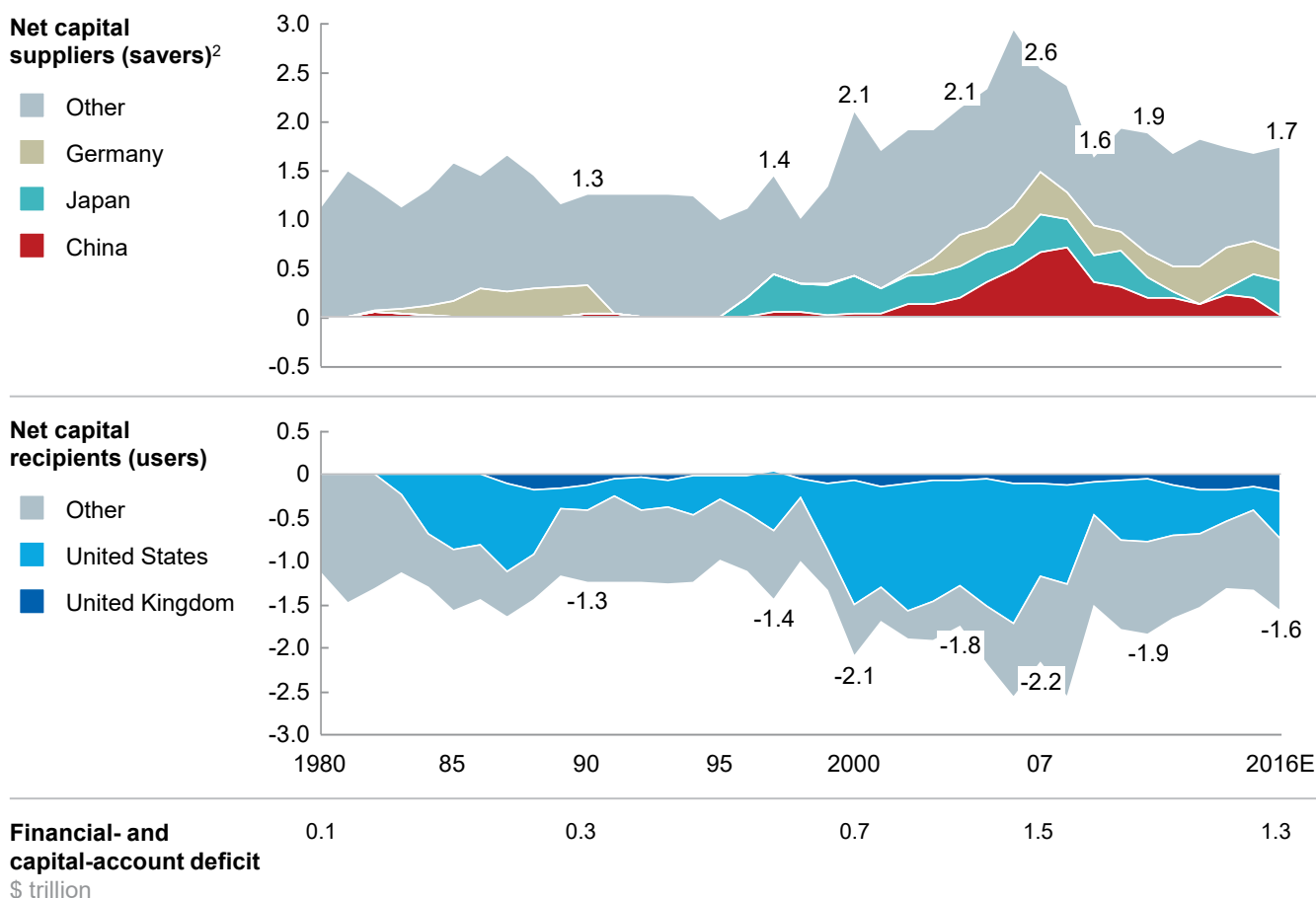
net global surplus capital in 2005 but only 1 percent in 2016. Germany and Japan are also large net capital suppliers, and their share has grown. But a wider range of other advanced economies are also supplying capital to the world.

Exhibit E7

Financial- and capital-account imbalances have declined relative to GDP since the crisis

Sum of financial- and capital-account deficits/surpluses to GDP¹

%



1 Countries with a financial- and capital-account deficit have net capital outflows (gross capital outflows larger than inflows); countries with a surplus have net capital inflows (gross capital inflows larger than outflows).

2 Data for other net capital suppliers 1981–2003 adjusted based on the total financial- and capital-account surplus due to large mismatch in deficit and surplus in these years.

NOTE: Sum of surpluses not equal to sum of deficits due to data errors and omissions.

SOURCE: IMF Balance of Payments; McKinsey Global Institute analysis

However, risks remain. Gross capital flows—particularly cross-border lending—remain volatile. Since 2010, in any given year one-third of developing and two-thirds of advanced economies experience a large decline or surge in total capital inflows. The median change is equivalent to 6.7 percent of GDP for developing countries and 10.8 percent for advanced economies. These fluctuations create large swings in exchange rates and could reduce macroeconomic stability. Cross-border lending is particularly volatile. Over the past five years, more than 60 percent of developing countries and over 70 percent of advanced economies experienced a large decline, surge, reversal, or recovery in cross-border lending each year, making volatility the norm rather than the exception. New tools to cope with volatility are needed.

Equity markets in advanced economies have risen to new highs, despite disappointing medium-term economic growth prospects, raising the question of whether an equity-market bubble is emerging. As world finance remains a tightly interwoven and interdependent system, there is always a risk of financial contagion. And, while many financial centers have increased their transparency under pressure from regulators, some have not. It is still possible, for instance, that high levels of leverage could be hidden from regulatory scrutiny and could pose a systemic risk.

NEW DIGITAL TECHNOLOGIES COULD CHANGE THE DYNAMICS OF CROSS-BORDER FINANCE

Digital solutions could transform global finance.¹⁷ Digital players are starting to break the monopoly of traditional banks through applications and online services that answer increasing demand from customers for services available at any time on any device. Digital technologies will enable faster, lower-cost, and more efficient cross-border transactions, and therefore potentially accelerate growth in global capital flows.

Three types of new technology are worth highlighting. First are digital platforms that create new marketplaces for financial transactions. Lending platforms—for individuals and companies—are one example. Today, financial flows intermediated by digital platforms are only a small share of total global financial flows, suggesting huge potential for growth. People are increasingly using digital platforms such as Kiva, Kickstarter, and Zopa to raise (often cross-border) money and loans.¹⁸ In price, speed, and efficiency of cross-border payments, these digital platforms are superior to traditional banking methods. TransferWise offers cross-border payments in one business day, at a fraction of the cost of traditional players. Platforms for trade finance are also emerging.

Second, blockchain technology has the potential to make global cross-border financial transactions quicker, cheaper, and more secure. The technology is an encoded distributed ledger that contains a digital log of all transactions shared across a public or private network. It is well suited for applications requiring a rapid, permanent time and date stamp, including a range of payments and transfers of financial assets.¹⁹ For instance, McKinsey estimates that achieving clearing and settlement via blockchain could save between \$50 billion and \$60 billion in business-to-business cross-border payment costs. Its most prominent application has been for the bitcoin cryptocurrency, but the technology has many other potential uses. Blockchain can also enable peer-to-peer (P2P) lending and remittance flows on both a national and international scale.

Finally, smart machines, cognitive agents, and artificial intelligence (AI) have the potential to generate enormous efficiencies in financial services. While most of the impact will be felt in the domestic operations of banks, these solutions may also improve foreign operations and cross-border transactions. These technologies are already generating significant value. For example, a digitized valuation process reduced the cycle time by four-plus days and automated 90 percent of the manual tasks. McKinsey has found that using robotics to download, validate, and analyze trade positions to calculate overall exposure to trading risk cut the process to 20 minutes and the hours needed from more than 3,000 to only

¹⁷ For more on these technologies and their role in finance, see, for example, *Digital finance for all: Powering inclusive growth in emerging economies*, McKinsey Global Institute, September 2016; David Schiff and Adele Taylor, *Key trends in digital wealth management—and what to do about them*, Digital McKinsey, October 2016; and Dorian Pyle and Cristina San Jose, “An executive’s guide to machine learning,” *McKinsey Quarterly*, June 2015.

¹⁸ Jacques Bughin, Susan Lund, and James Manyika, “Harnessing the power of shifting global flows,” *McKinsey Quarterly*, February 2015.

¹⁹ Blockchain technology is a distributed ledger that enables the permanent and immutable transparent recording of data and transactions. It can be used to securely exchange any number of things that have value, whether actual items or payments, without the need for intermediaries.

160.²⁰ Investing in foreign markets has long been constrained by lack of detailed information on the performance of companies. But machine-learning algorithms that can learn from data without relying on rules-based programming and that can extract meaning from unstructured information offer a new solution to information asymmetry. These AI programs can churn through mountains of tax filings, social media postings, and other online information to provide detailed profiles of companies, how their customers perceive them, and how they stand compared with competitors.

BANKS AND REGULATORS NEED TO ADAPT AND RESPOND

Global banks and regulators need to continue to develop ways to manage risks associated with international as well as domestic business. At the same time, they will need to respond to the sweeping opportunity and challenge of digitization.

Global banks must adapt their business models to regulation and digitization

It is uncertain how long the ongoing retrenchment of European and US global banks will persist, but it is likely that it will not be reversed in the foreseeable future. Global banks will have to rely much more than before the crisis on domestic deposit liquidity, because the opportunities for cross-border interbank lending have shrunk. Banks clearly face a panoply of new regulation, which acts as a disincentive to foreign operations. Even without the challenge of such regulation, banks have come to the realization that their operations in foreign countries where they have a low market share are typically less profitable than those in home markets, and also often return less than the cost of equity. Moreover, many banks face slowing returns and revenue, compressing margins, as well as strategic uncertainty. All of this is deterring banks from extensive foreign operations.

To date, the industry's efforts to restructure since the crisis have not produced healthy long-term performance. Banks therefore need to make careful choices about how to rebuild their international strategies. A model that can work, and that some banks are now pursuing, is operating exclusively as a universal bank (with businesses across retail banking, private banking, and corporate and investment banking) in very few markets. Ideally, banks will book their domestic and international business on one balance sheet through foreign branches, avoiding subsidiaries with their own balance sheets. New capital and liquidity regulations often cause "trapped capital" if groups are organized by subsidiaries, since subsidiaries' balance sheets need to originate their own funding and liquidity. Outside their home markets, banks should avoid subscale retail operations, which can rarely be made to work. Corporate customers can be served profitably outside home markets, but not if they are purely lending clients, given the low returns on that business.

Banks have transformed their risk management over the past decade but most will need to do more. About half of risk-management staff are currently engaged in risk-related operational processes such as credit administration, with a further 15 percent involved in analytics. McKinsey research suggests that these proportions should be reversed, with 25 percent in operations and 40 percent in advanced risk analytics by 2025.²¹ Particularly important will be monitoring risks in international operations. Banks that use digital technologies in risk modelling earn higher post-risk returns in foreign markets, putting themselves at a competitive advantage.

Addressing rising customer expectations fueled by digital technologies while reducing cost substantially is becoming the top strategic priority for many banks. Banks are well aware that transforming themselves into digital players in only one market is a complex and challenging task. Doing so across many markets is extremely difficult. The intensity of this

²⁰ For a general discussion on automation, see Michael Chui, James Manyika, and Mehdi Miremadi, "Four fundamentals of workplace automation," *McKinsey Quarterly*, November 2015.

²¹ Philipp Härle, Andras Havas, and Hamid Samandari, "The future of bank risk management," *McKinsey on Risk*, number 1, summer 2016.

challenge is reflected in the fact that only banks that have focused acutely on this priority are well advanced with their digital transformation.

Regulators need to continue efforts to manage the risks associated with cross-border capital flows

Macroprudential regulation, monitoring of systemic risk, and bank stress testing have become the norm, but more can still be done to complete the world's global financial architecture and to monitor and manage risks. While there are debates about whether the new capital requirements, stress tests, and other regulations are too little or too much, there is an emerging consensus that the system has been improved.²²

More measures can be considered to enforce and complete the risk architecture. For instance, Basel III has not been adopted by all countries even as Basel IV is being considered. Given the continuing retrenchment of intra-Eurozone banking since the crisis and the erosion of trust across countries, the overhaul in the regulatory and supervisory framework in Europe needs to continue. Regulators need to respond to dynamic changes in the way that global finance is conducted. New tools and policies could help countries cope with the macroeconomic consequences of continuing volatility in gross capital flows. Many countries now believe that financial- and capital-account opening needs to be done gradually to avoid instability, but we still have an incomplete understanding about how to liberalize in a staged way.

Finally, digital technologies offer huge opportunities for more efficiency and for facilitating cross-border capital flows, but they could also bring new risks. Money laundering and terrorism financing will be of acute concern to regulators. There are questions about what “know your customer” regulations are appropriate. There are concerns about the potential for volatility from high-speed and algorithmic trading, and questions about whether digital finance will affect the transmission of monetary policy, and how.

...

Ten years after the start of the global financial crisis, new dynamics of financial globalization are emerging. The confident expansion into foreign markets by large Western banks has been replaced by retrenchment, conservatism, and a renewed domestic focus. Some banks from other countries have swum against the tide, but not in sufficient numbers or strength to outweigh the general retrenchment. But it would be a mistake to infer that financial globalization has lurched into reverse gear. The stock of foreign investment among countries compared with the size of the global economy has changed little since 2007 and stands at close to twice global GDP, reflecting the intricate web of financial ties that bind countries. If anything, financial globalization is broadening as developing economies—most notably China—become more connected. Furthermore, lessons have been learned from the crisis, and regulators have stepped in to restore stability. Old risks remain, and new ones are coming as digital technologies are set to create a very different form of financial globalization. Regulators need to keep pace, and banks need to reconsider traditional models if they are to thrive in the years to come.

²² See William Cline, *The right balance for banks: Theory and evidence on optimal capital requirements*, Peterson Institute for International Economics, 2017.





1. MAJOR SHIFTS IN GLOBAL BANKING ARE UNDER WAY

Fallout from the economic crisis that began nearly a decade ago is still working its way through the global financial system.²³ Nowhere is that more clearly seen than in the flow of foreign investment across borders. Gross cross-border capital flows, which include flows of bond and equity, FDI, and cross-border lending and other investment, have shrunk by 65 percent in absolute terms since their peak in 2007, from \$12.4 trillion to \$4.3 trillion in 2016 (see Box 1, “Data sources and definitions”).²⁴ The decline relative to world GDP is even more dramatic. Gross flows peaked in 2007 at 23 percent of world GDP and have since fallen to an average of 7 percent, a level last seen in the early 2000s.

²³ For more on this, see *Financial globalization: Retreat or reset?* McKinsey Global Institute, March 2013; and *Debt and (not much) deleveraging*, McKinsey Global Institute, March 2015.

²⁴ This measures the gross annual capital inflows reported by countries. At the global level, this should equal gross capital outflows, although errors and omissions in reporting create differences.

Box 1. Data sources and definitions

We use four primary types of data in our analysis of cross-border financial ties (see the appendix for more detail).

- **Gross cross-border capital inflows and outflows.** These measure the annual foreign capital inflows and outflows for a country. They include FDI, foreign purchases of equities, foreign purchases of bonds, and lending and other investment. Data on capital outflows include central bank foreign reserve asset purchases, too. Annual gross capital flows reveal how a country is currently participating in global capital markets. Gross flows can be quite volatile—surging or declining sharply from year to year, and even reversing in direction (in which case the flow has a negative sign). They are therefore an important lens through which to assess financial stability.
- **Net cross-border capital flows.** These are the value of all capital inflows to a country minus the value of capital outflows. Countries with positive net inflows are net recipients of capital from the rest of the world; those with negative net inflows are providers of capital to the rest of the world. In the balance of payments, net capital flows of a country are reflected in the financial and capital account, which must equal the current-account balance (mainly trade balance), but with the opposite sign. Over time, a country with persistent net capital inflows (that is, a financial- and capital-account surplus and current-account deficit) will build up large net foreign investment liabilities, which may be unsustainable and put the country at risk of a sudden stop or rapid reversal in capital flows.
- **Stocks of foreign investment assets and liabilities.** Foreign investment liabilities measure the value of foreign investment in a country, and foreign investment assets measure the outstanding value of a country's investment abroad. Both include the four types of capital flows noted, plus central bank reserve assets. The stock of foreign investment changes slowly over time, and the ratio of stock of foreign investment to GDP indicates the degree to which a country is integrated into global financial markets.
- **Stocks of a country's total foreign bank claims.** Data from the Bank for International Settlements (BIS) are collected for each country on the foreign claims reported by its banks. These include both cross-border loans and other bank claims (for instance, purchases of equities, bonds, and other assets) and claims of its banks' foreign affiliates. These data are important because they give a more detailed picture of the foreign holdings of a country's banks.
- **Stocks of individual bank foreign assets.** We also collect data from individual banks on their foreign assets, including loans and purchases of other assets such as bonds, equities, other securities, and real estate. Compared with their overall balance sheet, these data reveal the importance of foreign business to individual banks and how it changes over time.

Half of the decline in gross cross-border capital flows is due to falling cross-border lending and other investment (Exhibit 1). This largely reflects retrenchment from overseas operations by large European and US banks.

Exhibit 1

Half of the decline in cross-border capital flows reflects a reduction in cross-border lending and other investment

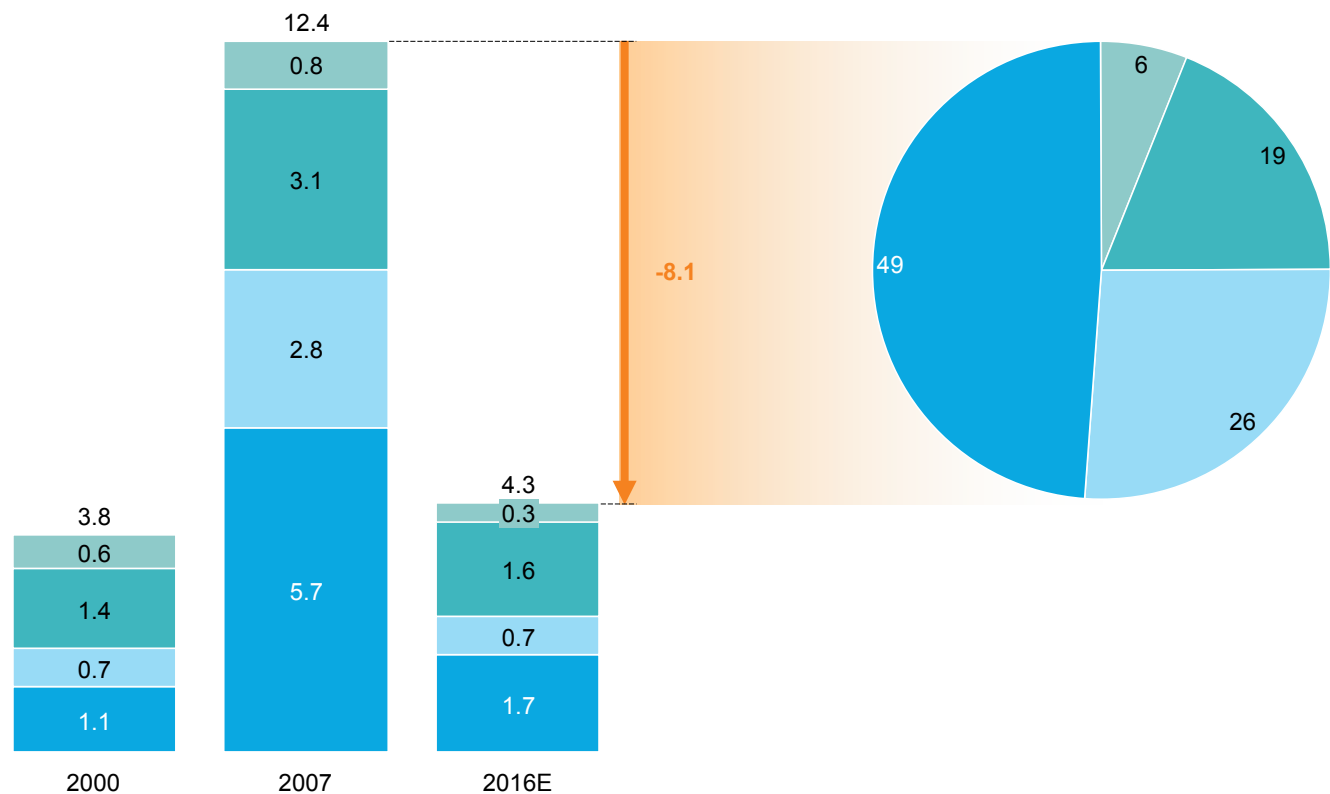
Equity-related Equity FDI **Debt-related** Debt securities Lending and other investment

Global cross-border capital inflows

\$ trillion

Change in cross-border capital inflows

100% = \$8.1 trillion



NOTE: Numbers may not sum due to rounding.

SOURCE: IMF Balance of Payments; McKinsey Global Institute analysis

Eurozone banks are at the epicenter of this retrenchment. They have pulled back from cross-border activity within the single currency area, and with banks in the United Kingdom and the United States.²⁵ Swiss, UK, and some US banks have also retreated. New regulations, the realization that foreign activities were often unprofitable, and shareholder pressures explain the retrenchment. However, in contrast, some banks from other countries—particularly Canada, China, and Japan—are expanding their foreign operations. Whether these banks are successful in their foreign expansion in the long term remains to be seen. At any rate, the increased overseas activity of these banks is far smaller—and in different markets—than the broad retrenchment of global banks. In this chapter, we look in more detail at these trends in the global banking landscape and the reasons behind the retrenchment. We also note the increasing role of central banks in financial markets and the areas in which their activities are substituting for private banking flows.

²⁵ See, for instance, Robert Neil McCauley et al., *Financial deglobalisation in banking?* BIS working paper number 650, June 2017.

EUROZONE BANKS LEAD THE RETREAT

Eurozone banks are leading the retreat from foreign markets including, most notably, other markets within the single currency area. Their total foreign bank claims (including loans and other claims) have declined by \$7.3 trillion, or 45 percent, since 2007 (Exhibit 2).²⁶ While the total foreign claims of Eurozone banks are still larger than they were in 2000 when the euro was introduced—and the size of foreign claims of Eurozone banks relative to GDP is five times higher than that of US banks—the reversal has been striking.

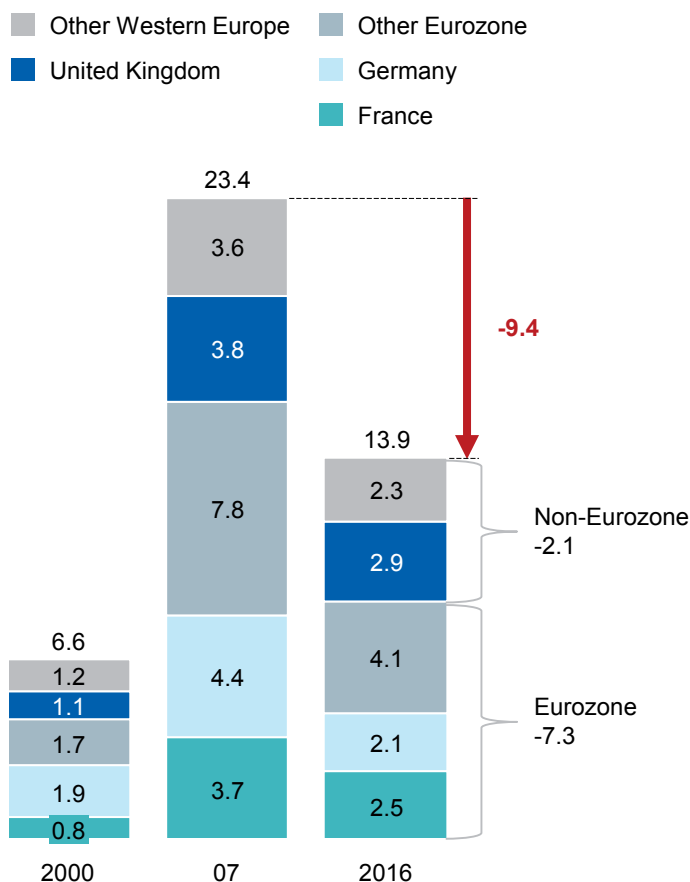
Exhibit 2

European banks are leading the retreat, while banks from Japan and Canada are increasing foreign presence

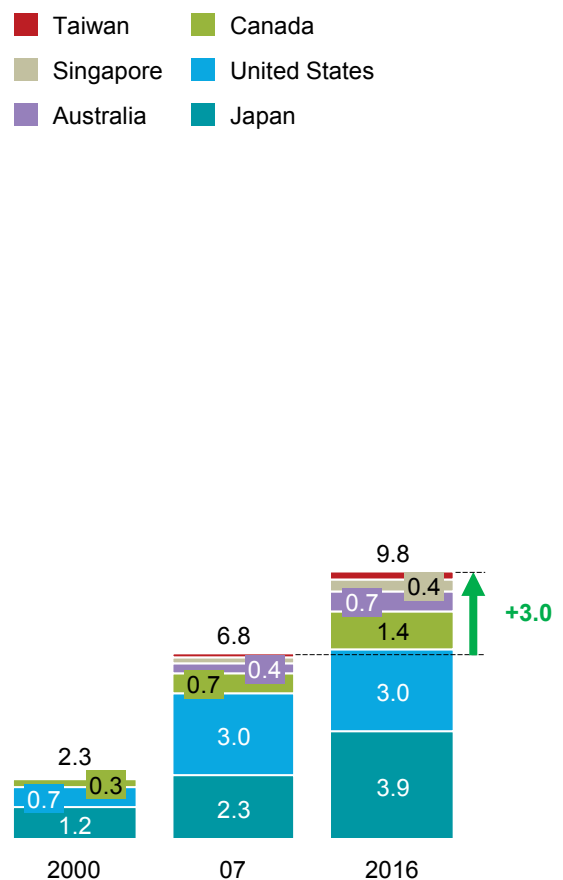
Foreign claims¹

\$ trillion, measured at nominal exchange rates

Western Europe



Other advanced economies



1 Foreign claims include cross-border claims and local claims of foreign subsidiaries. Claims include loans, deposits, securities, derivatives, guarantees, and credit commitments.

NOTE: Numbers may not sum due to rounding.

SOURCE: BIS; McKinsey Global Institute analysis

Global banking may summon images of financing projects in distant corners of the world, but 45 percent of the decline in cross-border claims of Eurozone banks has come from reduced cross-border activity within the Eurozone itself, and another 22 percent from cross-border activity with the United Kingdom (Exhibit 3). Some of the intra-Eurozone

²⁶ Some of the decline is due to the depreciation of the euro vs. the dollar since 2007. Because we do not have the currency composition of foreign assets, we cannot measure the exact extent to which currency fluctuations explain the results. Our estimates suggest that almost two-thirds of the decline in Eurozone foreign bank claims are due to the fact that the data, from the BIS, are expressed in dollars rather than local currency.

retrenchment may prove to be a healthy shift that more appropriately reflects underlying risks. In retrospect, it is clear that some cross-border bank activity conducted before the crisis was not sufficiently sensitive to country risk within the Eurozone, and eventually imposed large losses on some Eurozone banks. Attracted by higher interest rates in the European periphery, major banks in the core countries of the Eurozone lent to smaller domestic banks and other borrowers in Greece, Ireland, Portugal, and Spain. In Spain and Ireland, larger banks often lent to smaller domestic banks that, in turn, engaged in significant real estate lending. This left the larger banks badly burned when the real estate bubbles in those markets burst. Some banks, notably in France, Germany, and the Netherlands, bought US subprime mortgage-backed securities, collateralized debt obligations, and other complex securities with opaque (and sometimes misstated) risks. They were attracted by the high returns and seemingly low risk as reflected in credit ratings and in credit default swap premia assessments that proved inappropriate.

54%
of decline in
Eurozone banks'
foreign claims
was from
interbank lending

Banks expanded their physical operations, too. Cross-border bank mergers and acquisitions (M&A) surged, within the Eurozone and beyond, and banks set up foreign affiliates to conduct local business. The value of cross-border bank M&A deals involving Eurozone players reached €100 billion in 2007, compared with less than €10 billion in 2002 and 2003.²⁷ Austrian banks expanded far into Eastern Europe and even Central Asia, and some Italian banks were heavily exposed in Turkey. However, these forays were not wholly successful. Overlooking the underlying risk in cross-border activity even extended to retail borrowers. For instance, some individuals in Hungary, Poland, and Romania took out mortgages denominated in Swiss francs to take advantage of lower interest rates, apparently oblivious of the currency

risk. Many of these individuals then defaulted when the Swiss franc appreciated. There was an element of herd behavior among the major banks, too—seeing competitors going for seemingly high-margin business in other countries, others followed.²⁸ As a result of risk reassessment post-crisis, the value of Eurozone bank cross-border M&A deals has returned to pre-crisis levels, staying at €10 billion or below since 2009.²⁹

More than half (54 percent) of the decline in foreign claims of Eurozone banks was due to a sharp drop in interbank lending. This reflected a sudden reassessment of risks within the Eurozone by banks. After the crisis hit, trust between banks in their capacity to honor even short-term obligations evaporated. The ECB stepped in to provide banks with liquidity, substituting for the interbank market. Instead of borrowing in interbank markets to fund their balance sheets, banks have also shifted to more stable deposit funding. As a result of heavier reliance on deposit funding, the loan-to-deposit ratio in Eurozone countries decreased from 134 percent to 106 percent between 2007 and 2016. Another 28 percent of the decline in Eurozone bank foreign claims was in cross-border lending to commercial borrowers and other claims (such as bonds), and the remainder came from less local lending by foreign affiliates.

Eurozone banks have reduced lending by a smaller margin in foreign countries where they have established a local presence. The portfolio of their foreign affiliates' assets is down by \$1.3 trillion, or one-third, in nominal terms since 2007, compared with a \$6 trillion, or 50 percent, decline in cross-border lending. Most banks are not abandoning foreign markets entirely; rather, they are participating in markets more selectively, selling some

²⁷ *Financial integration in Europe*, European Central Bank (ECB), May 2017.

²⁸ One economist has called the tremendous growth in cross-border banking within the Eurozone and European banks' lending to US borrowers after around 2003 a "global banking glut" or banking overcapacity (as opposed to the so-called "savings glut" diagnosed at the time by Ben Bernanke, then a member of the Federal Reserve System Board of Governors). See Hyun Song Shin, "Global banking glut and loan risk premium," *IMF Economic Review*, volume 60, number 2, 2012.

²⁹ *Financial integration in Europe*, ECB, May 2017.

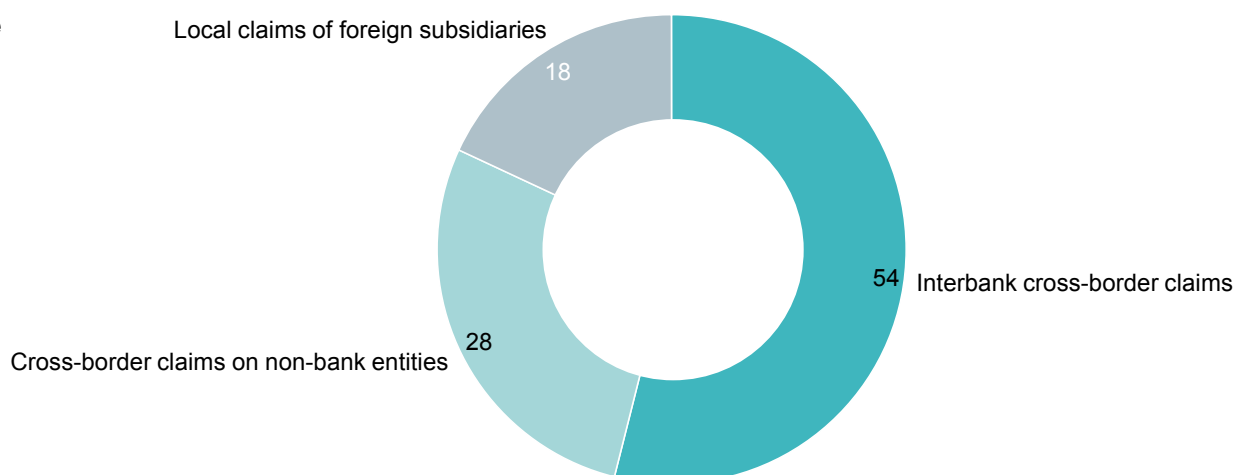
underperforming assets but keeping other operations. Looking at individual institutions, we find that, on average, Europe's top banks reduced the number of foreign markets with retail operations in which they operate from 48 in 2007 to 43 in 2016.

Exhibit 3

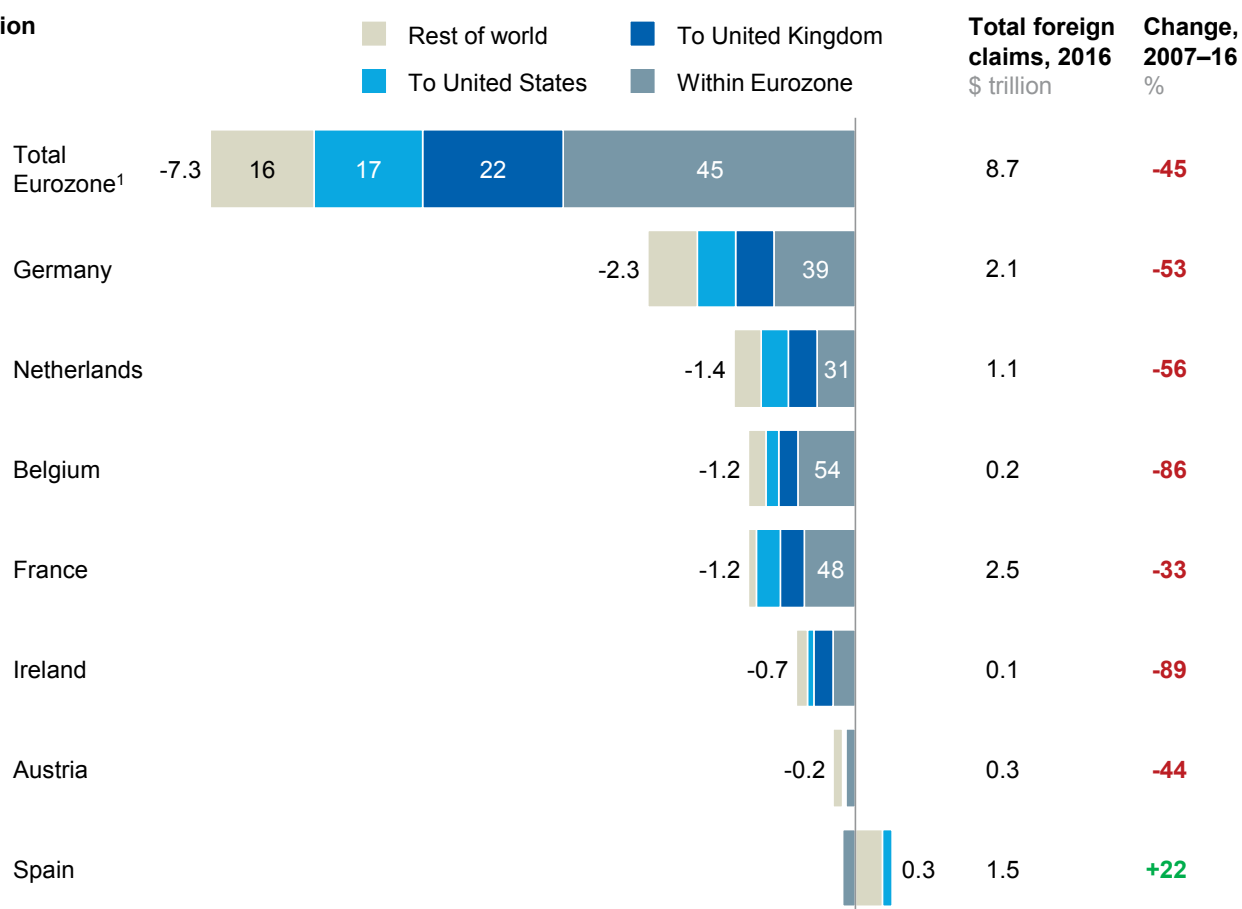
Decline in interbank lending explains 54 percent of the fall in foreign claims of Eurozone banks, while almost half of this decrease is within the Eurozone

Decline in foreign claims of Eurozone banks, 2007–16
100% = \$7.3 trillion

By type



By region



¹ Extrapolation to total Eurozone based on data on Austria, Belgium, France, Germany, Greece, Ireland, Netherlands, and Spain (due to limited data availability).

NOTE: Numbers may not sum due to rounding.

SOURCE: BIS; McKinsey Global Institute analysis

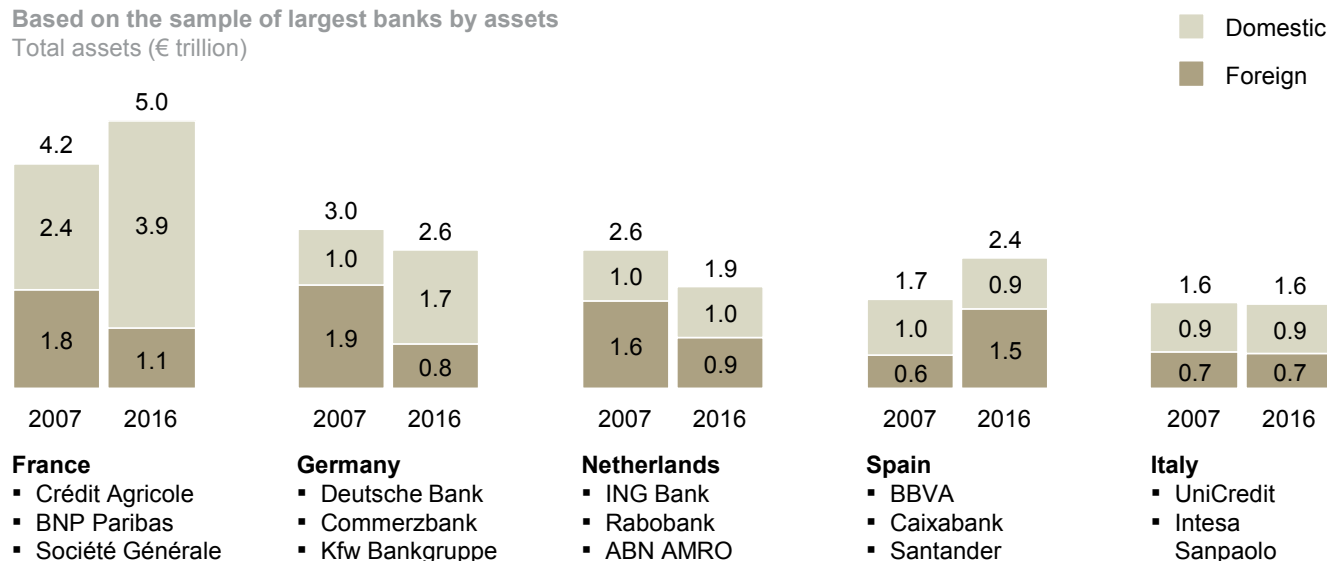
While most Eurozone banks have been retreating from foreign markets, many have simultaneously increased domestic lending and other domestic activities. For instance, the largest banks in Germany and France that experienced a significant decline in foreign assets—by almost 40 and 60 percent, respectively (€1.7 trillion combined)—have expanded their domestic assets since 2007 by €2.2 trillion combined, or 69 percent and 64 percent, respectively (Exhibit 4). In contrast, the three largest Spanish banks have more than doubled foreign assets since 2007, mainly by increasing their long-standing presence in Latin America, where they have a large market share and healthy businesses.³⁰

Exhibit 4

Foreign assets of Eurozone banks are declining, while domestic assets have increased

Based on the sample of largest banks by assets

Total assets (€ trillion)



NOTE: Numbers may not sum due to rounding.

SOURCE: Bank financial reports; Capital IQ; McKinsey Global Institute analysis

\$900B
reduction in UK
bank foreign assets
since 2007

OTHER EUROPEAN AND US BANKS ARE ALSO SCALING BACK FOREIGN OPERATIONS

Retrenchment from foreign markets is not exclusively a Eurozone bank phenomenon. Under pressure from regulators, UK banks have collectively reduced foreign assets by \$900 billion since 2007, and Swiss and other non-Eurozone Western European banks have cut foreign assets by \$1.3 trillion. While some of this decline reflects movements in exchange rates, there has clearly been a retrenchment. As with Eurozone banks, much of the decline has been in interbank lending.

The United Kingdom's decision to leave the European Union (EU) in a referendum in June 2016—known popularly as Brexit—could prompt a further reduction in banking claims between the United Kingdom and the Eurozone. The largest banks in the United Kingdom have already reduced their foreign bank assets by one-quarter since 2007. Gross inflows of loans and other investment to the United Kingdom were negative over the past three years (2014 to 2016), indicating that foreigners are withdrawing capital. Gross loan outflows from the United Kingdom were negative in 2012, 2013, and 2015, indicating that UK-based lenders (including foreign subsidiaries of European and US banks based in London) were

³⁰ In the case of Spain's largest banks, BBVA and Santander, around 25 percent of their assets are in Latin America. These operations enabled them to withstand the crisis better than Spain's domestic regional banks, or *cajas*. The latter were heavily exposed to Spain's real estate bubble and most have since gone bankrupt or been acquired. BBVA and Santander illustrate the potential benefits of risk diversification that can come from effective and prudent internationalization.

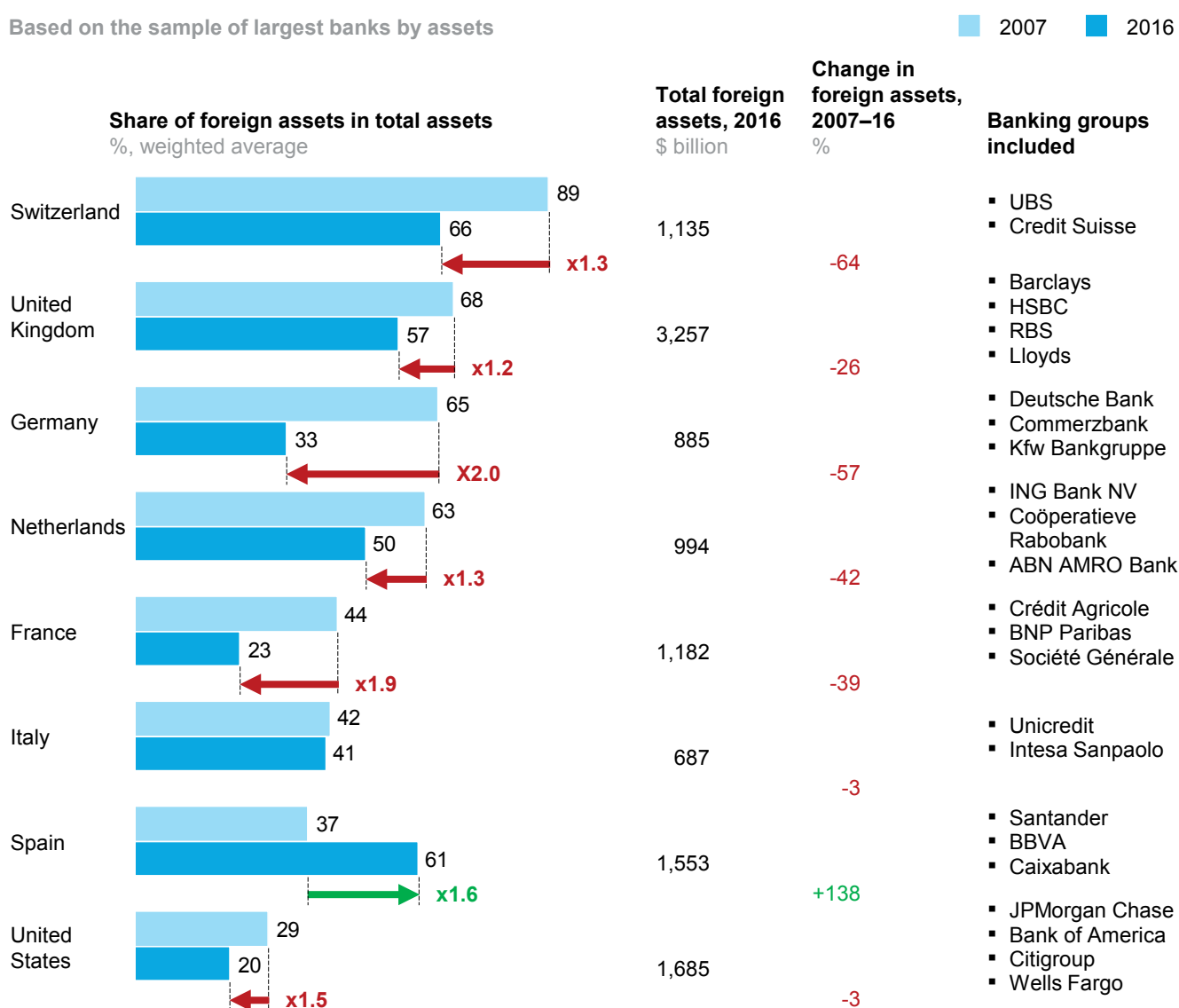
reducing their stock of foreign loans. The City of London has shed jobs. Much will depend on how Brexit negotiations proceed and on what access banks based in London will have to EU markets.³¹

As a group, US banks are not as internationally focused as European banks, given the huge US domestic market. Even at their peak in 2007, the foreign assets of four of the largest US banks (Bank of America, Citigroup, JPMorgan Chase, and Wells Fargo) amounted to only about 30 percent of total assets (Exhibit 5). At that time, the foreign assets of the largest banks in Germany, the Netherlands, and the United Kingdom were around 65 percent of total assets, but they have declined considerably since then. Overall, the total foreign assets of all US banks have held stable over the past decade (see Exhibit 2), although the share of foreign assets in their overall balance sheets has declined as domestic assets have grown.

Exhibit 5

US banks have not been as internationally focused as European players

Based on the sample of largest banks by assets



SOURCE: Bank financial reports; Capital IQ; McKinsey Global Institute analysis

³¹ The impact of the United Kingdom's departure from the EU on London's financial services industry will not be fully clear until Brexit negotiations are completed. Many organizations have warned that the City will lose business to the EU, and many jobs will be lost. For more on this, see, for instance, André Sapir, Dirk Schoenmaker and Nicolas Véron, *Making the best of Brexit for the EU 27 financial system*, Bruegel Policy Brief, issue 1/2017; and Simeon Djankov, *The City of London after Brexit*, policy brief, Peterson Institute for International Economics, February 2017.

There is evidence that some of the most international US banks have retreated from foreign markets. For example, Citigroup had retail banking operations in more than 50 markets in 2007; today, that number is only 19. Nevertheless, the total foreign claims of US banks have been stable since the crisis. This may reflect a decision to focus on, and increase volumes in, a core group of countries, while leaving marginally profitable markets. In addition, global banks on both sides of the Atlantic are reducing the number of correspondent banking relationships as the regulatory costs of maintaining them have risen (see Box 2, “The decline of correspondent banking”).³² Daily foreign-exchange-trading volumes also declined for the first time since 2001.³³

THE RETREAT OF GLOBAL BANKS REFLECTS FINANCIAL HEALTH AND A RESPONSE TO REGULATORY PRESSURE

The retreat from foreign markets by the largest global banks reflects a need to rebuild and repair the damage done by the crisis and its aftermath, and a response to both international and national regulatory pressure.

Bank margins on foreign business were lower

Largely under pressure from shareholders, most large European and US banks needed to rebuild their balance sheets and capital bases after the losses incurred during the crisis and in the adverse economic conditions that followed. In order to do this, many banks sold assets—including foreign assets—to raise their capital and funding base. In deciding what to sell, they exited non-core markets and business lines, especially markets where they faced a decline in demand for external lending.³⁴ Many banks found that, overall, their risk-adjusted margins on foreign business were lower than they had expected during years of global expansion, and lower than those earned in home markets where they had a high market share. The exception has been cases in which banks enjoy high market shares in attractive overseas markets. Examples include the high market shares that Spanish banks BBVA and Santander have in Latin America. Spanish banks are alone in the Eurozone in expanding their foreign assets after the crisis.

In a reassessment of expected net foreign margins, banks started accounting more accurately for country risk spread based on reviews conducted by rating agencies. The estimated average country risk of Greece, Ireland, Italy, Portugal, and Spain, as well as the Eurozone as a whole, jumped from below 1 percent pre-crisis to 6 percent in 2008. The risk spreads in Greece, Ireland, Italy, Portugal, and Spain stand at 2 percent to 3 percent in 2017, half the level that prevailed during the crisis.³⁵ While these risk spreads continue to rise and fall based on economic news, they are likely a better reflection of actual country risk than the very low levels that persisted before the crisis. From January 2007 to December 2016, banks divested around \$2 trillion of assets (often at the behest of supervisors), and European banks divested more than half of the total (Exhibit 7). The United Kingdom alone divested \$316 billion during this period. Among US banks, the foreign assets divested totaled \$430 billion.

³² See, for instance, Michaela Erbenová et al., *The withdrawal of correspondent banking relationships: A case for policy action*, IMF staff discussion note, June 2016.

³³ Michael Moore, Andreas Schrimf, and Vladyslav Sushko, “Downsized FX markets: Causes and implications,” *BIS Quarterly Review*, December 2016.

³⁴ See, for instance, Stijn Claessens, “Global banking: Recent developments and insights from research,” *Review of Finance*, volume 21, issue 4, July 2017.

³⁵ Average country risk premiums estimated by Aswath Damodaran are based on Moody’s Investors Service’s country rating and the default spread for that rating (US corporates and country bonds) over the US Treasury bond rate (<http://pages.stern.nyu.edu/~adamodar/>).

Box 2. The decline of correspondent banking

As the world's largest global banks retrench, they are cutting back on their correspondent banking relationships with local banks in other countries, particularly developing countries.

Correspondent banking relationships enable cross-border payments and other financial transactions in countries in which a bank does not have its own branch operations. The largest global banks have typically maintained hundreds and even thousands of these relationships to ensure that they could facilitate business in far corners of the world. These services have been essential for enabling trade financing flows and remittances, expanding the web of potential economic interactions, and enabling developing countries to gain much-needed access to key currencies. After the financial crisis, however, global banks began applying a stricter cost-benefit analysis to these relationships, largely due to a new assessment of risks. Enhanced regulations regarding money laundering, economic sanctions, and terrorism financing—particularly US regulations with extraterritorial global reach—have added to the cost of maintaining correspondent banking relationships. Uncertainty exists over the extent to which “know

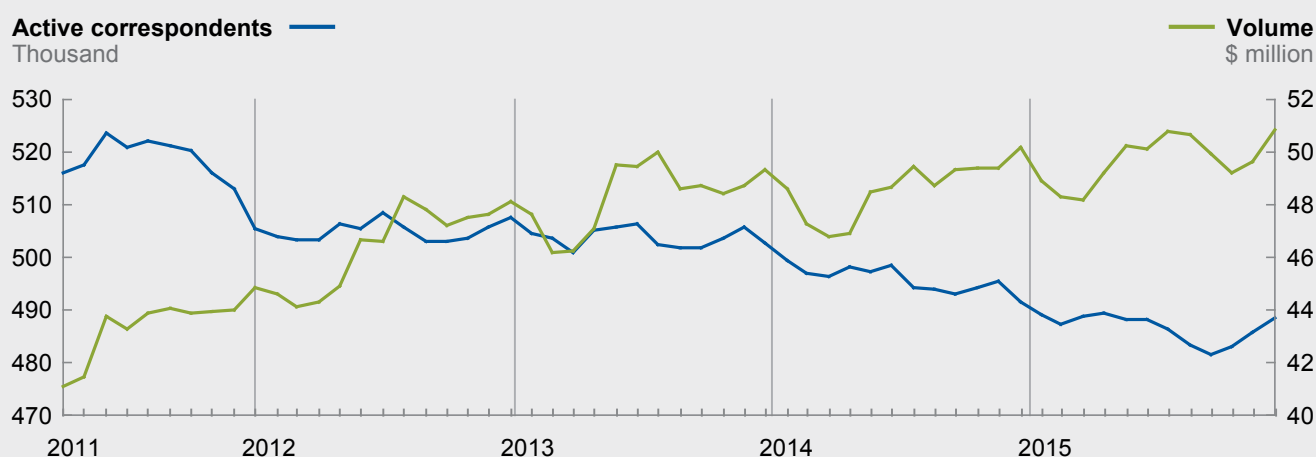
your customer” regulations apply to the customers of correspondent banks, potentially opening global banks up to fines and regulatory measures relating to customers of far-flung correspondent bank branches.

As a result, global banks have reduced the number of correspondent banking relationships they maintain, particularly in low-income economies. Banks have cut back services for correspondent banks that do not generate sufficient volume to counteract rising compliance costs, which are located in jurisdictions perceived as too risky or which provide payment services to customers where the necessary information for risk assessment is not available.¹ Sixty percent of local banks in one survey reported a decline in correspondent banking relationships, with particularly significant declines in Africa, the Americas, Europe, and Central Asia.² SWIFT data show that correspondent banking activity is becoming more concentrated. While volumes have been stable or rising, the number of correspondent banking relationships has fallen (Exhibit 6). This could have a negative impact on capital flows as well as remittances and money-transfer services.

Exhibit 6

The number of active correspondent banks has declined, while volumes have risen

Number of active correspondent banks and correspondent banking volumes across all corridors
Three-month moving average



SOURCE: Deutsche Bundesbank; SWIFT Watch; BIS; McKinsey Global Institute analysis

¹ Committee on Payments and Market Infrastructures, *Correspondent banking*, BIS, July 2016.

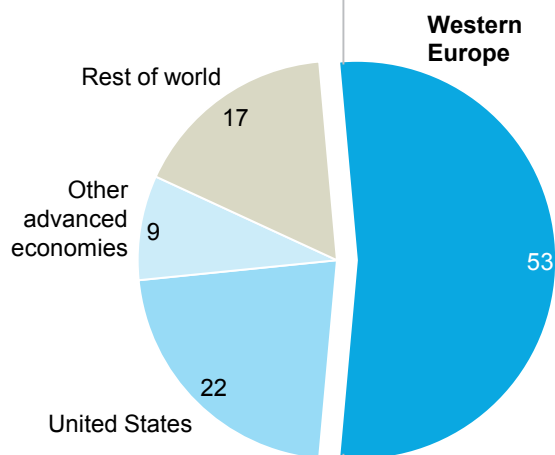
² Michaela Erbenová et al., *The withdrawal of correspondent banking relationships: A case for policy action*, IMF staff discussion note, June 2016.

Exhibit 7

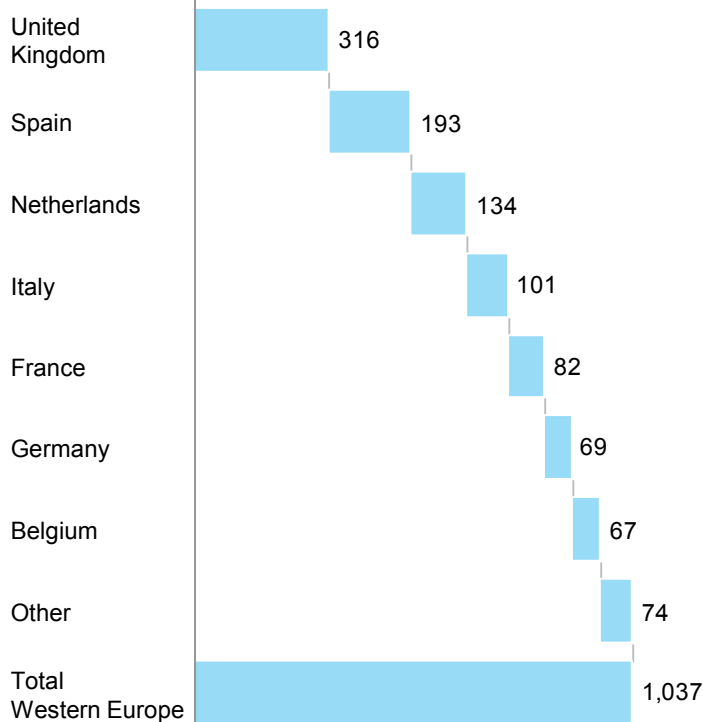
Banks have sold at least \$2 trillion of assets since 2007, with over half coming from European banks

Divestitures, January 2007–December 2016¹

Cumulative deal value
100% = \$1.96 trillion



Cumulative deal value in Western Europe
\$ billion



¹ Deal value of some divestitures not reported.
NOTE: Numbers may not sum due to rounding.

SOURCE: Dealogic; McKinsey Global Institute analysis

International regulations have deterred banks from having large foreign operations

Changes in global banking capital and liquidity requirements since the start of the financial crisis have aligned them more closely with underlying risk, and have made it less attractive for banks to maintain large foreign operations.³⁶ One example is the new Basel III regulatory framework that governs the amount of capital and liquid assets that banks must hold. In the wake of the global financial crisis, G20 governments and finance ministers urged the Basel Committee on Banking Supervision to revise its regulations governing bank capital adequacy. The result was the Basel III regulatory framework (updated from the Basel II rules). Basel III regulations raised the amount of capital that banks must hold and set explicit minimums for the amount of the most resilient forms of capital. Core Tier 1 equity must equal 4.5 percent of the risk-weighted assets of the bank. Basel III also imposed an additional 2.5 percent buffer, bringing the total requirement to 7 percent.³⁷

³⁶ For further discussion, see, for example, Kristin Forbes, Dennis Reinhardt, and Tomasz Wieladek, *The spillovers, interactions, and (un)intended consequences of monetary and regulatory policy*, NBER working paper number 22307, June 2016; and Stijn Claessens and Neeltje van Horen, "The impact of the global financial crisis on banking globalization," *IMF Economic Review*, volume 63, issue 4, November 2015.

³⁷ Basel Committee on Banking Supervision, *Global systemically important banks: Updated assessment methodology and the higher loss absorbency requirement*, BIS, July 2013.

>12%
average Tier 1
capital ratio for
US and European
banks in 2016 vs.

<4%
in 2007

In practice, most banks now have Core Tier 1 ratios above the regulatory minimum, reflecting pressure for prudence from their shareholders. A new market standard seems to have emerged.³⁸ For instance, the Tier 1 capital ratio has risen from less than 4 percent on average for US and European banks in 2007 to more than 12 percent in 2016, which should enable them to more effectively withstand future volatility in funding liquidity or loan losses. Despite the higher capital requirements of Basel III, some argue that the standards should be made even higher.³⁹

In addition, G-SIBs are required to hold supplementary capital equal to between 1 percent and 2.5 percent of their assets. This brings the total capital requirement for these large global banks to between 8.0 percent and 9.5 percent of their assets. This extra capital buffer is an additional incentive for scaling back and reducing the complexity global operations create. From the point of view of regulators, this has lowered the “too big, too complex to fail” subsidy that had been in place.

While the Basel III rules do not explicitly penalize foreign assets, the higher capital requirements (as well as investors’ demands) have prompted banks to scrutinize the profitability of their assets more closely. Growing internationally also increases the overall size and complexity of the balance sheet, making it more likely to incur the G-SIB surcharge. Larger reserves may make banks more stable in a crisis, but some experts believe that it can come at a cost. For instance, Bank of England researchers have found that each additional percentage point increase in capital requirements is associated with a 5.5 percentage-point reduction in the long-run growth rate of cross-border lending.⁴⁰ MIT economist Kristin Forbes and co-authors estimate that the impact of an additional percentage point of capital requirements results in a 3.4 percentage-point reduction in growth of cross-border lending globally, and that the effect is amplified by some national regulations (as discussed below).⁴¹

Another Basel III mandate is the Liquidity Coverage Ratio, which requires banks to hold enough high-quality liquid assets to cover 80 percent of net cash requirements for 30 days (rising to 100 percent in 2019). The requirement must be met at the group level, but also by each separate legal foreign subsidiary, requiring banks that have assets in foreign currencies to also hold liquid assets in that currency. Intragroup funding and asset and liability management are still possible yet limited, and this makes it more difficult to access deposits in other markets. Managing this adds complexity and transaction costs even if they are justified by the foreign-currency-funding problems that arose during the financial crisis. Another planned (but not yet introduced) measure is the Net Stable Funding Ratio, which also must be calculated on a group level and on the local level. It addresses problems potentially lurking in maturity mismatches—long-duration assets should enjoy stable, diversified funding sources.

The Basel III rules are a global, voluntary regulatory framework but have been adopted by most G20 countries.⁴² They must be phased in by March 31, 2019. Nonetheless, the largest

³⁸ See William R. Cline, *The right balance for banks: Theory and evidence on optimal capital requirements*, Peterson Institute for International Economics, 2017.

³⁹ See, for instance, Morris Goldstein, *Banking’s final exam: Stress testing and bank-capital reform*, Peterson Institute for International Economics, May 2017. There is also a debate around whether the current Basel III regulation contributes to more stability in global banking. See, for instance, Natasha Sarin and Lawrence H. Summers, “Have big banks gotten safer?” BPEA Conference draft, *Brookings Papers on Economic Activity*, September 15–16, 2016.

⁴⁰ Shekhar Aiyar, Charles W. Calomiris, John Hooley, Yevgeniya Korniyenko, and Tomasz Wieladek, *The international transmission of bank capital requirements: Evidence from the United Kingdom*, Bank of England working paper number 497, April 2014.

⁴¹ Kristin Forbes, Dennis Reinhardt, and Tomasz Wieladek, *The spillovers, interactions, and (un)intended consequences of monetary and regulatory policy*, NBER working paper number 22307, June 2016.

⁴² The United States is an exception, but it has created national bank regulations that in some ways could be considered more rigorous than Basel III.

global banks have already raised substantial amounts of capital to comply with the rules, in part pressured by shareholders, creditors, and national regulators, in particular through stress testing.

National regulations have played a role, too

Mervyn King, former governor of the Bank of England, famously said during the crisis: “Banks are global in life, but national in death.” The large taxpayer bailouts for banks during the crisis—and the unpopularity of those bailouts among citizens—spurred regulators to create national rules under which banks operate in addition to the Basel III reforms.

These national rules can add to capital requirements, and they sometimes create direct and indirect incentives for domestic rather than foreign lending. One example is the UK Funding for Lending Scheme, introduced by the Bank of England in July 2012. It was designed to provide UK lenders with below-market-rate funding to ensure that any UK borrower that qualified would be able to find a loan. The program lowered the funding costs of participating institutions and likely lowered the overall interbank funding rate at the time. Participating institutions were required to lend the funds to private non-financial businesses or households (the program was revised in January 2014 to remove household and individual forms of credit). This created incentives—although not necessarily those intended by regulators—for financial institutions to prioritize domestic lending over foreign lending.⁴³ For instance, after the first phase of the scheme, which lasted from July 2012 to January 2014, the level of UK foreign lending decreased by 30 percent.⁴⁴

The ECB launched a similar program in the Eurozone to provide banks with much-needed liquidity, with the three-year Long-Term Refinancing Operation that began in 2011, followed by the Targeted Longer-Term Refinancing Operation. These programs provided banks with zero-interest-rate loans with maturities of three or four years, as long as certain requirements in terms of additional loans were fulfilled. The funding is intended to support banks’ own lending operations and balance sheets. Roughly €500 billion of funds has been outstanding since 2014 in these programs.

Another example of national policies that have inadvertently put international lending at a disadvantage is the UK requirement that banks “ring fence” core activities—that is, isolate basic banking businesses from riskier trading or investment banking units—in order to ensure that “as far as reasonably practicable the carrying on of core activities by a ring-fenced body is not adversely affected by the acts or omissions of other members of its group.” Ring-fenced banks and large building societies are required to have higher levels of capital and are subject to an additional leverage ratio buffer rate. Cross-border lending falls outside the ring fence, making it more difficult to fund such activities.

Switzerland has set higher capital-buffer requirements for its global banks, notably Credit Suisse and UBS, which have combined assets of \$1.7 trillion (1.8 trillion Swiss francs), or almost three times Switzerland’s GDP (and were even larger before the crisis). Given their size relative to the Swiss economy—and in view of the bailout of UBS during the crisis—the Swiss government revised its systemically relevant bank framework. It subjects these banks to a total loss-absorbing capacity (instruments that can be written down or converted into equity in case of resolution, including capital and long-term unsecured subordinated and senior debt) of up to 28.6 percent of their risk-weighted assets.⁴⁵

Finally, local regulators have introduced stress testing for banks to protect domestic taxpayers from needing to provide bailouts in the future, but that indirectly stimulated them

⁴³ Rohan Churm et al., “The Funding for Lending Scheme,” Bank of England *Quarterly Bulletin*, 2012 Q4.

⁴⁴ Kristin Forbes, Dennis Reinhardt, and Tomasz Wieladek, *The spillovers, interactions, and (un)intended consequences of monetary and regulatory policy*, NBER working paper number 22307, June 2016.

⁴⁵ UBS’s response to evolving regulatory requirements addressing “too big to fail,” UBS, 2016.

to decrease their foreign business. Stress tests assess the positions of players on several dimensions of risk, including credit, market, and liquidity risk, and aim to assess the ability of banks to withstand tough economic conditions. In order to meet stress tests put in place in the United States and later in Europe (and now to meet Basel III capital and liquidity standards), many banks chose to sell foreign portfolios, including loan portfolios, bonds and other securities, and real estate. They also chose to stop rolling over corporate loans at maturity, allowing their balance sheets to naturally shrink over time. In some countries, they sold entire operations, such as retail banking. Stress tests are now commonplace around the world.

OTHER BANKS ARE EXPANDING ABROAD, ALTHOUGH ON A SMALLER SCALE

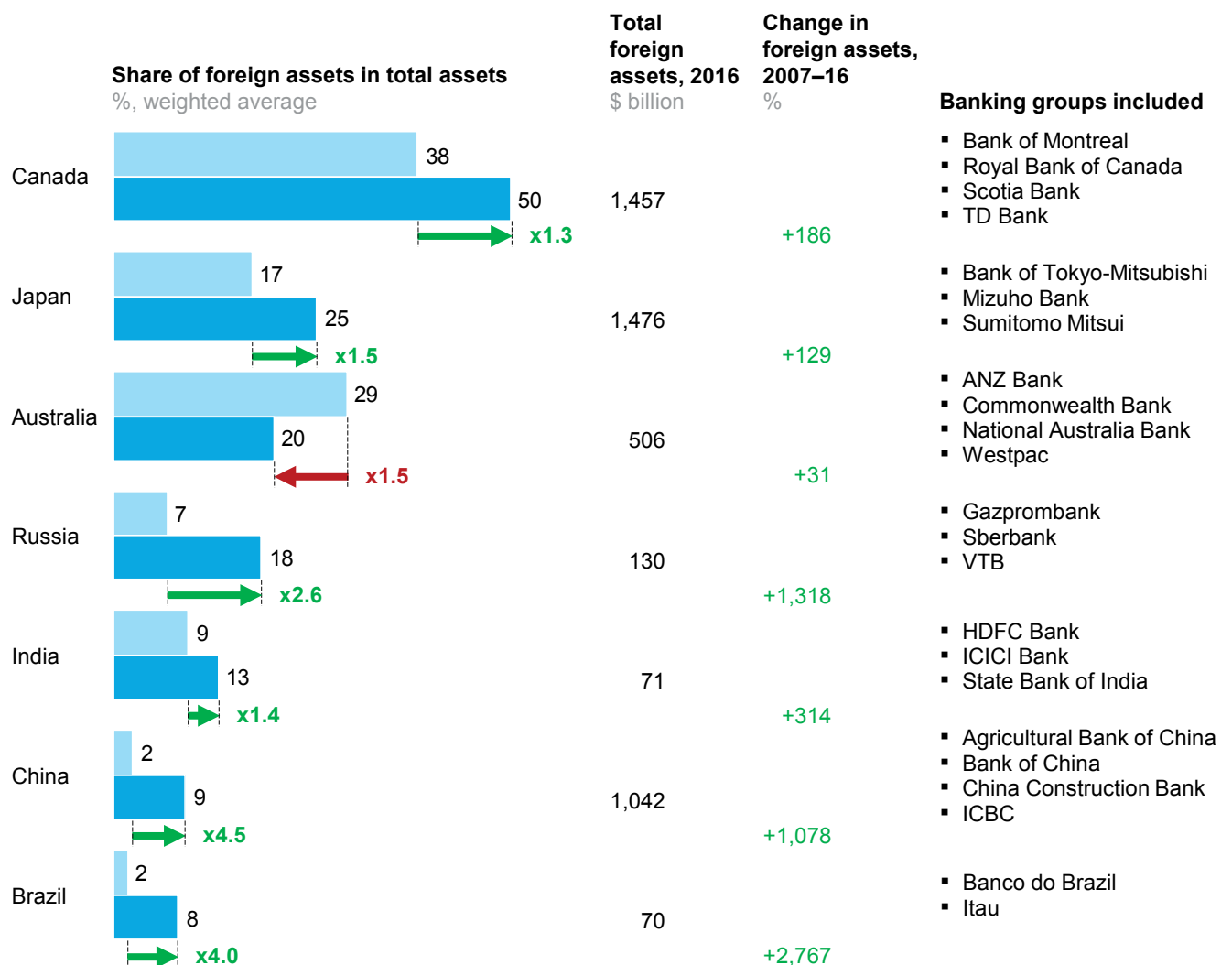
While large European and some US banks have retrenched from foreign markets, banks from other countries, in particular Canada, China, and Japan, have been expanding their foreign activity (Exhibit 8). This has been, however, on a much smaller scale in aggregate than the retrenchment elsewhere, and in different markets and business lines. It remains to be seen whether this overseas activity will prove profitable and be sustained.

Exhibit 8

Some banks outside Europe are increasing their presence

Based on a sample of largest banks by assets

2007 2016



SOURCE: Bank financial reports; Capital IQ; Australian Prudential Regulation Authority; McKinsey Global Institute analysis

12x

increase in total foreign assets of largest Chinese banks since 2007

The foreign claims of banks from advanced economies outside of Europe increased by around \$3 trillion between 2007 and 2016, half of which came from rising lending by foreign affiliates in overseas markets. Increased cross-border activity by Canadian and Japanese banks explains the majority of the increase during this period, although these banks have taken different paths:

- **Canada.** Canadian banks are highly international, with half of their total assets in foreign markets. This reflects the saturation of the home market and consequent limited opportunities for growth. The willingness to make forays into foreign markets even while others are retreating also reflects the strong core operations and digital capabilities of Canadian banks. They largely avoided the US subprime crisis, incurred smaller losses during the crisis, and therefore have stronger balance sheets today. Foreign claims of Canadian banks have nearly doubled since the financial crisis in nominal terms, rising from \$0.7 trillion or 49 percent of GDP in 2007 to \$1.4 trillion or 92 percent of GDP in 2016. About three-quarters of that growth came in lending (primarily mortgage and corporate lending, largely conducted through foreign affiliates) in the United States.⁴⁶ TD Bank, for instance, has expanded its network of retail operations significantly in the United States over the past seven years. Latin America and the Caribbean are other core markets for Canadian banks that are expanding overseas, led by Scotia Bank.
- **China.** China's leading banks demonstrated the largest relative increase in the share of foreign assets in total bank assets among advanced and developing economies—from 2 percent in 2007 to 9 percent in 2016. The stock of foreign assets of Chinese banks has increased 12-fold since 2007, albeit from a low starting point, exceeding \$1 trillion by the end of 2016. This reflects partial relaxation of restrictions on cross-border capital flows and the global expansion of Chinese companies. Moreover, as part of the Chinese government's One Belt, One Road initiative, Chinese banks have made loans in developing markets in the Middle East and West Asia.
- **Japan.** Japanese banks have increased their foreign claims since the crisis by more than two-thirds, from \$2.3 trillion or 51 percent of GDP in 2007 to \$3.9 trillion or 80 percent in 2016. The main reasons for this expansion include low growth, margins, and returns on investment at home, and the opportunity to support large Japanese companies operating overseas. Overall, 25 percent of Japanese banks' assets are foreign, much lower than Canadian banks', reflecting the size of Japan's home market. About half of the growth in Japanese foreign lending has been in the United States, largely in the form of syndicated lending deals in which Japanese banks have participated. For instance, Mitsubishi UFJ Financial Group, owner of Bank of Tokyo-Mitsubishi in Japan, operates in the US market through Union Bank, which is ranked 25th by assets in the United States. Japanese banks have also been expanding in Southeast Asia, particularly in retail banking. For instance, Sumitomo Mutsui Banking Corporation has increased its presence in China, Indonesia, and Vietnam. Southeast Asia is an attractive market because of significant room for growth.

The largest banks from Brazil, India, and Russia are also stepping up their foreign presence and seeking growth abroad. While the share of their foreign assets relative to total assets is under 20 percent in all cases, the growth of their foreign activities has been very rapid. Although they are still small players in foreign markets compared with European and US global banks, we are likely to see more foreign market expansion from banks in these countries in the years to come.

⁴⁶ We compared data in 2016 with those in 2010 because data on Canadian lending to the United States are not available from the Bank for International Settlements before 2010.

\$9.7T

expansion of
balance sheets of
four major central
banks since 2007

CENTRAL BANKS ARE PLAYING A LARGER ROLE IN BANKING AND FINANCIAL MARKETS

The role of central banks in banking and financial markets has grown—not by choice but by necessity, because of the urgent requirement to bolster the liquidity and stability of the financial system. Some markets, notably the short-term money market, almost imploded in the early days of the crisis, and central banks were forced to step in and create a substitute interbank lending market.

Central banks not only continue to support domestic credit and bond markets, but are also partly filling the liquidity gap left by banks retreating from cross-border lending. The balance sheets of the Bank of England, the Bank of Japan, the ECB, and the Federal Reserve have together expanded by \$9.7 trillion since 2007 (Exhibit 9). They have quadrupled in the case of the Federal Reserve and tripled in the case of the ECB. The assets of these four central banks now equal 36 percent of the combined GDP of their host economies, triple the share in 2007.

Unconventional monetary policies have varied. The policies of the ECB were initially enhanced credit support schemes that provide liquidity to banks to support their lending. The Federal Reserve and the Bank of England have relied mainly on asset purchases, or quantitative and qualitative easing. But they have also backstopped credit and bond markets. Moreover, during the financial crisis, there was a substantial cross-border dimension to containing the risk of contagion. In particular, European banks were stranded without access to dollar funding for their dollar assets. Central bank funds partly filled the gap resulting from a decline in foreign bank lending, and, in the European case, especially short-term interbank lending.

A less known but crucial backstop provided by central banks was granting access to US dollar funding for non-US, in particular European, banks. Those banks had funded long-term US claims with short-term US funds. But during the crisis, US money-market funds and foreign-exchange swap markets (allowing for converting or swapping euros into dollars) became dysfunctional, and banks were thus dependent on the support of central banks. The ECB, in effect, functioned as an intermediary between the Federal Reserve and Eurozone banks, underwriting the dollar funding of these institutions with assets in the United States.

More evidence of central bank involvement in cross-border interbank capital flows appears in the Eurozone Target2 balances outstanding between the ECB and national central banks. These were negligible until the start of the crisis and have grown substantially, peaking in 2012 when concerns about a breakup of the Eurozone were at their height resulting in a lack of trust in interbank credit markets. Notably large creditors include Germany, Luxembourg, and the Netherlands, while large borrowers include Italy, Portugal, and Spain. Target2 balances closely correlated with market perceptions of Eurozone breakup risk. Most recently, they also reflect the ECB's version of quantitative easing, its asset-purchase programs.⁴⁷

In the Eurozone, another major component of the ECB's unconventional measures has been the Long-Term Refinancing Operation followed by the Targeted Longer-Term Refinancing Operation. As we have noted, these programs provided banks with zero-interest-rate loans with maturities of three or four years, provided they had eligible collateral and met certain requirements in terms of additional loans. These are a direct substitute for interbank lending.

⁴⁷ See "ECB's asset purchase programme and TARGET balances: Monetary policy implementation and beyond," ECB *Economic Bulletin*, issue 3, May 2017; and Philippine Cour-Thimann and Bernhard Winkler, "The ECB's non-standard monetary policy measures: The role of institutional factors and financial structure," *Oxford Review of Economic Policy*, volume 28, number 4, winter 2012.

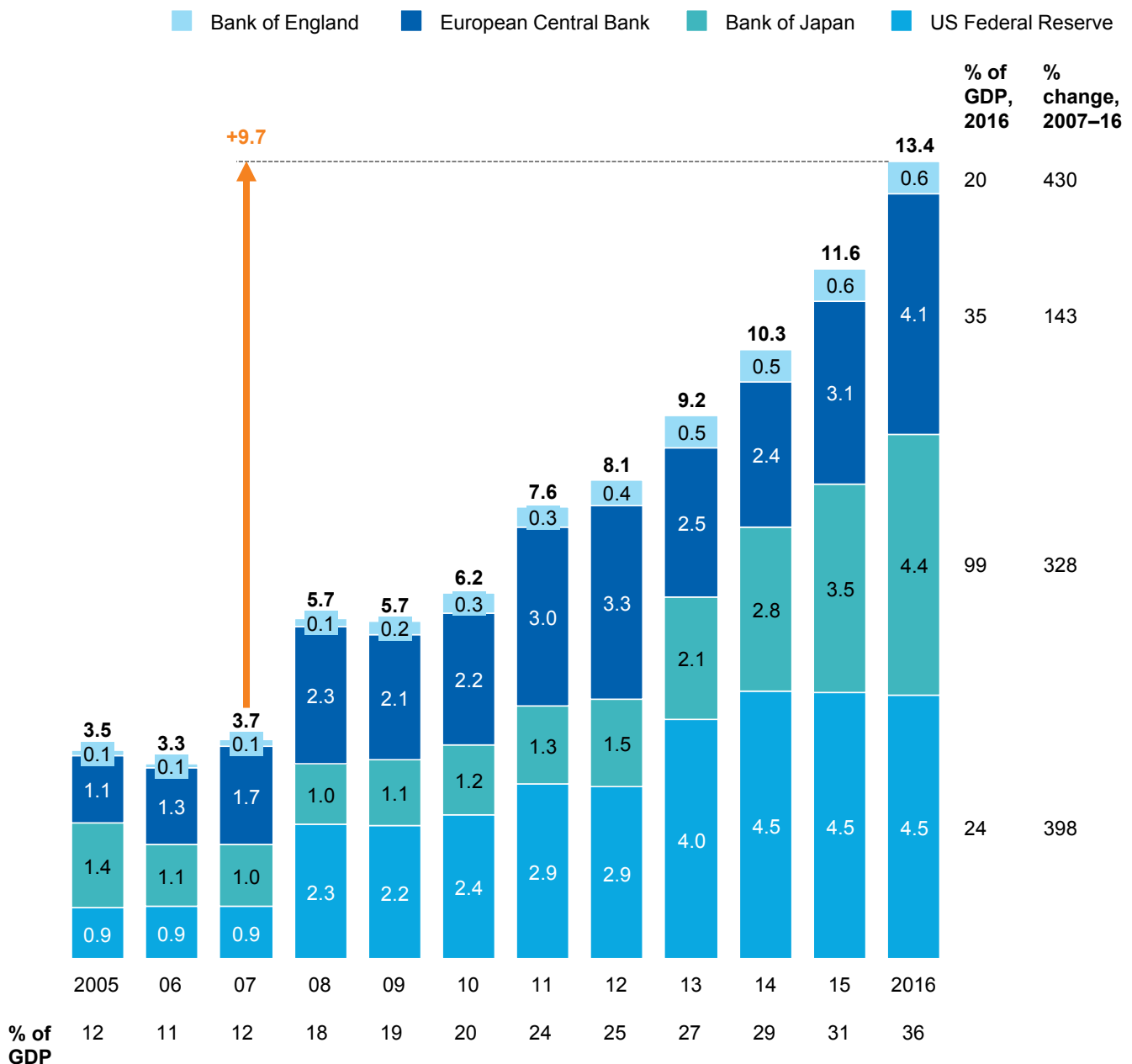
In the United Kingdom, the Bank of England's Funding for Lending Scheme played a similar role. The purpose of both policies was to relaunch lending to the corporate sector.

Exhibit 9

Central bank balance sheets have increased by \$9.7 trillion since 2007

Total assets on central bank balance sheets

\$ trillion, constant exchange rates 2016



SOURCE: Central banks; McKinsey Global Institute analysis

In the United States, unlike Europe, unconventional measures tended to take place in capital markets. One component of the Federal Reserve's quantitative easing has been purchases of mortgage-backed securities from Fannie Mae and Freddie Mac. This directly backstopped mortgage markets and indirectly supported bank liquidity. Commercial banks sell mortgages they originate to Fannie and Freddie, which, in turn, create mortgage-backed securities from these mortgages. Roughly half of the asset purchases under quantitative easing have been mortgage-backed securities.

Asset purchases by central banks may be substituting for foreign purchases of bonds in some countries, particularly from developing country reserve assets. Since 2007, global gross cross-border purchases of debt securities have fallen from \$2.8 trillion to \$0.7 trillion. Some of this decline reflects the ending of reserve asset accumulation by the central banks of developing economies that had invested in US and other low-risk government bonds. But asset purchases by the central banks of advanced economies may be substituting for this. The Federal Reserve now holds \$2.5 trillion of US Treasuries, or 7 percent of bonds outstanding. The Bank of Japan owns an astonishing \$3.8 trillion of Japan government bonds, or 34 percent of bonds outstanding. The ECB now holds €1.6 trillion of euro-denominated securities for monetary-policy purposes, 10 percent of the total securities outstanding.

The ending of foreign reserve asset accumulation by developing economies since the crisis is a marked shift (Exhibit 10). In the wake of the Asian financial crises of 1997–98, the central banks of developing economies started to accumulate large stockpiles of foreign reserve assets, as a result of growing commodity and manufacturing exports, as well as to create a buffer against volatility in capital flows. Collectively, their foreign reserve assets grew from \$0.3 trillion in 2000 (5 percent of their GDP) to a peak of \$7.5 trillion in 2013 (28 percent of GDP). These assets were invested abroad, mainly in low-risk and liquid sovereign debt, particularly US and other government bonds. This created significant capital flows (and what Ben Bernanke, at the time a governor of the Federal Reserve, famously described as a “global savings glut”).⁴⁸

This trend has now reversed. Commodity prices and domestic growth have weakened in many developing economies, and their central banks have sold foreign reserve assets to reduce or close fiscal deficits and stabilize currencies. China’s foreign reserves, which peaked at \$4 trillion in June 2014, fell to \$3.2 trillion at the end of 2016. Saudi Arabia’s foreign reserves fell from a high of \$730 billion in 2014 to \$535 billion in 2016. The same trend was evident in other resource-dependent economies. Venezuela’s foreign reserves peaked at \$43 billion in 2008 but then plunged to \$13 billion in 2016. Nigeria’s foreign reserves peaked at \$43 billion in 2012, then dropped by almost to \$24 billion in 2016. Russia’s foreign reserves totaled \$538 billion in 2012 and fell by 40 percent to \$378 billion just four years later.

The large presence of central banks in global banking and capital markets is likely to persist for several reasons. First, the very large balance sheets and positions that have been built up since the financial crisis will take many years to unwind. In a speech in June 2017, Federal Reserve Governor Jerome H. Powell said that it was hard to see the Federal Reserve’s balance sheet getting below a range of \$2.5 trillion to \$3 trillion, which implies a decline of 30 to 50 percent from the current level.⁴⁹ How quickly the process of reducing the size of balance sheets can proceed will depend on the ability of capital markets to absorb the shift. There may be some volatility as financial markets adjust. The strong reaction of institutional investors withdrawing money from developing economies in 2013 when Ben Bernanke, then the Federal Reserve’s chairman, suggested that its asset purchases would be tapered (the so-called “taper tantrum”) is one example. This suggests a better course may be to taper reinvestment gradually and predictably.⁵⁰ In addition, central banks may decide to maintain

⁴⁸ See Ben S. Bernanke, *The global savings glut and the U.S. current account deficit*, remarks at the Sandridge Lecture, Virginia Association of Economics, Federal Reserve Bank of Richmond, March 10, 2005; Ben S. Bernanke, *Shrinking the Fed’s balance sheet*, Brookings Institution, January 26, 2017; and William C. Dudley, *The importance of financial conditions in the conduct of monetary policy*, remarks at the University of South Florida Sarasota-Manatee, March 30, 2017.

⁴⁹ Jerome H. Powell, *Thoughts on the normalization of monetary policy*, speech at the Economic Club of New York, June 1, 2017.

⁵⁰ William C. Dudley, *The importance of financial conditions in the conduct of monetary policy*, remarks at the University of South Florida Sarasota-Manatee, March 30, 2017.

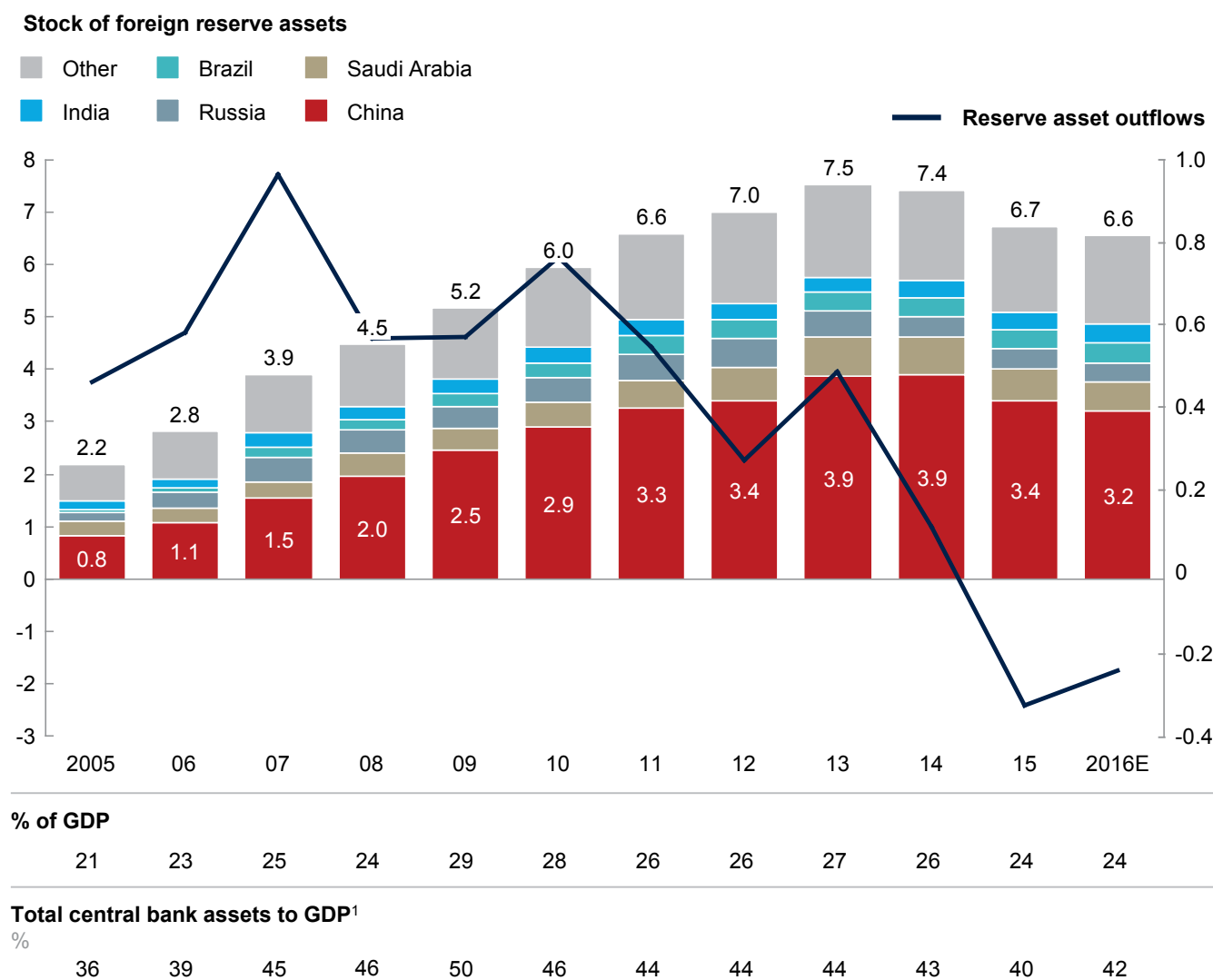
larger balance sheets than they did before the crisis to maintain financial stability, making this a permanent feature of the new financial environment.⁵¹

Exhibit 10

Foreign reserve assets in developing economies have declined in recent years, and net new purchases have been negative

Stock of foreign reserve assets and reserve asset outflows in developing economies

\$ trillion



1 Based on a sample of countries: Brazil, China, India, Indonesia, Russia, Saudi Arabia, and South Africa.

SOURCE: IMF Balance of Payments; central banks; McKinsey Global Institute analysis

⁵¹ For a discussion of why larger central bank balance sheets may be appropriate, see, for instance, Robin Greenwood, Samuel G. Hanson, and Jeremy C. Stein, *The Federal Reserve's balance sheet as a financial stability tool*, paper presented at the Jackson Hole Economic Symposium, August 2016; and Benjamin M. Friedman, "Has the financial crisis permanently changed the practice of monetary policy?" *The Manchester School*, volume 83, issue supplement S1, June 2015.

...

The global financial crisis has significantly altered the global banking landscape for the foreseeable future. The broad-based expansion into foreign markets by many of the largest global banks has been replaced by retreat, retrenchment, conservatism, and a renewed domestic focus. This was a natural response to the new environment after the crisis that was characterized by heightened uncertainty and less willingness to accept risk. Some banks have swum against the tide, but not in sufficient numbers or strength to outweigh the general retrenchment. One might be tempted to infer that financial globalization has lurched into reverse gear. In the next chapter, we show that this misreads the landscape, and describe a system that remains global but is more likely to be stable after the extreme stress of the past ten years.



2. FINANCIAL GLOBALIZATION IS NOT DEAD

Despite the sharp decline in cross-border capital flows and the retrenchment of some global banks, it would be wrong to conclude that financial globalization has gone into reverse. The value of total foreign investment compared with the size of the global economy has changed little since 2007, reflecting the intricate web of financial ties that binds countries.⁵² If anything, financial globalization is broadening as developing economies—most notably China—become more connected.

In this chapter, we analyze how the different types of financial connections among countries are evolving. We find that advanced economies dominate the world's financial connections, and foreign investment remains highly concentrated in just ten countries. Nonetheless, this is starting to change. China and other developing countries are becoming more financially connected to the global system. Today, for the first time in a decade, developing countries in aggregate are net recipients of capital flows. The growing role of international financial centers in the global system is also evident, reflecting differences in tax policies, the ability of global corporations to shift assets and operations to the most favorable locations, and beneficial conditions for banking and wealth management.

183%
of GDP: value
of global foreign
investment in 2016

GLOBAL FINANCIAL MARKETS REMAIN DEEPLY INTERCONNECTED

The degree to which financial markets remain connected can be measured by the stocks of foreign investment between countries. By 2016, the total value of foreign investment reached \$132 trillion, or 183 percent of world GDP (Exhibit 11). The size of foreign investment relative to global GDP has changed little since 2007.

What has changed is the speed of financial globalization. The emergence of information and communication technology, or ICT, in banking and financial markets, along with the liberalization of financial and capital accounts that allows foreign investors into more countries, unleashed a huge wave of foreign capital movements starting in the 1980s. Between 1990 and 2000, the stock of foreign investment liabilities relative to GDP more than doubled, from 42 percent of world GDP to 96 percent. Between 2000 and the financial market peak of 2007, the figure nearly doubled again to reach 185 percent. Now the rapid pace of financial integration has waned but continues. Financial globalization is arguably more stable, because the bubble in cross-border lending and other debt flows has ebbed, more countries are participating in capital reallocation, and risk-related regulation has become stricter (see Chapter 3 for further discussion).

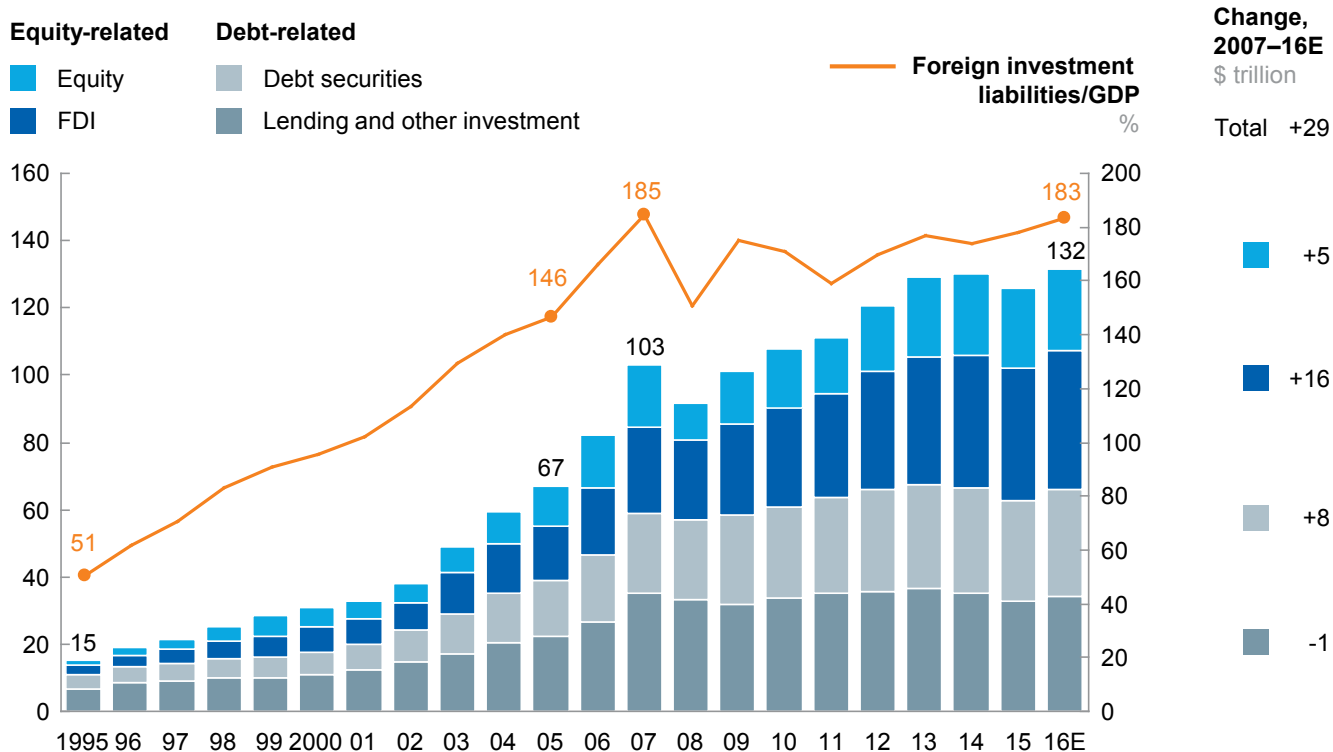
⁵² See, for instance, "Understanding globalisation," *87th annual report, 2016/17*, BIS, June 2017.

Exhibit 11

The stock of global foreign investment relative to GDP has changed little since 2007

Stock of foreign investment liabilities

\$ trillion, annual (nominal) exchange rates



NOTE: Numbers may not sum due to rounding.

SOURCE: IMF Balance of Payments; McKinsey Global Institute analysis

Foreign loan liabilities are the only type of financial connection that has declined

The level of financial interconnectedness varies among asset classes. Lending and other investment as a share of GDP is the only component of the stock of foreign liabilities that has declined significantly since 2007, falling from 63 percent of world GDP to 48 percent.⁵³ Today, foreign loans make up 39 percent of all loans outstanding, compared with 46 percent a decade ago.⁵⁴

As discussed in Chapter 1, the decline has been centered in the United Kingdom and Western Europe, with foreign loan liabilities declining by 39 percent from \$7.8 trillion to \$4.8 trillion, and by 12 percent from \$15.8 trillion to \$13.9 trillion, respectively, since 2007. In both cases, this decline largely related to a reassessment of intra-European risks. In the United States, the stock of foreign loans has changed very little since 2007. In Australia, however, the stock has almost doubled, from \$210 billion to \$389 billion. China's stock rose from \$378 billion to \$989 billion over the same period, while in Japan the stock more than doubled, from \$1 trillion to \$2.4 trillion.

Despite the decline in foreign lending, developing countries have continued to receive a significant amount of such lending. In contrast to advanced economies, their foreign loan liabilities have been flat, at around 20 percent of GDP (although they have grown in absolute

⁵³ See, for instance, Philip R. Lane and Gian Maria Milesi-Ferretti, *International financial integration in the aftermath of the financial crisis*, IMF working paper number 17/115, May 2017.

⁵⁴ The stock of domestic loans is based on McKinsey Panorama's Global Banking Pools data. The limitation of this analysis is that the stock of foreign loans also includes other investment (see the appendix for more details), and therefore the two data sets are not fully comparable.

Global FDI stock increased from

46%

to

57%

of GDP from 2007 to 2016

terms, from \$3 trillion in 2007 to \$4.7 trillion in 2016). Much of the growth in foreign lending to these countries—and other foreign investment in developing economies—has reflected a search for yield on the part of institutional investors faced with very low interest rates (and in some countries negative rates in real and nominal terms) in advanced economies.

Foreign investors own growing shares of equities and bonds

While foreign loan stocks are declining, foreign participation in equities and bond markets is rising. Globally, 27 percent of equities around the world are owned by foreign investors, up from just 17 percent in 2000. In global bond markets, 31 percent of bonds were owned by a foreign investor in 2016, up from 18 percent in 2000. However, these figures differ substantially among countries. European nations have the highest share of foreign ownership of bonds and equities, reflecting lower transaction costs and the adoption of common rules for financial markets since the creation of the single currency (Exhibit 12). Although developing countries still heavily rely on domestic financial markets, the role of foreign investors in the supply of capital has grown substantially. For instance, the share of foreign ownership of debt securities in developing economies increased significantly over the past decade, from 22 percent in 2005 to 29 percent in 2016. Advanced economies seem to have reached a plateau, with almost no change in their share of foreign ownership since 2005.

The stock of global FDI is also growing

The global stock of FDI has increased from 46 percent of world GDP in 2007 to 57 percent in 2016 (\$25 trillion to \$41 trillion). All regions have experienced robust growth. However, it is important to distinguish among three types of FDI to understand this growth. The first type is “greenfield” investment in which a company builds a new foreign operation abroad. The second comes through M&A and purchases of equities; this is a change of ownership that may or may not lead to more net investment in the receiving country. A third type of FDI is through the creation of “special purpose vehicles,” typically within international financial centers.⁵⁵ It is the latter type that has shown particular growth over the past decade.

The share of FDI liabilities of the ten global financial centers in our database grew from 31 percent in 2007 to almost 40 percent in 2016. Funds channeled through special purpose entities, defined as offices without significant employment, tend to be recorded as FDI.⁵⁶ These vehicles are conduits, receiving funding from outside the financial center, and then investing in assets abroad. Many global firms also locate their global and regional headquarters in financial centers to optimize tax bills, and this is recorded as FDI. While the global stock of FDI has increased by \$16 trillion since 2007, almost 45 percent was due to the growth of FDI in financial hubs. The economic impact of this type of FDI is likely to be negligible, particularly compared with greenfield FDI that is a new investment.

While developing countries receive only a modest share of global FDI, the evidence largely suggests that FDI is positive for these receiving economies, because the investment brings new capital, technologies, and management expertise that increase competition and, in turn, productivity and growth.⁵⁷ Compared with domestic firms, multinationals and their affiliates are larger, make more abundant use of skilled workers, invest more in physical and intangible capital, and pay higher wages. However, the type of FDI also matters for the growth benefits it generates. New greenfield investment in building factories and expanding capacity has a larger short-term impact on GDP and job creation than FDI that occurs

⁵⁵ “Understanding globalisation,” *87th annual report, 2016/17*, BIS, June 2017.

⁵⁶ See Philip R. Lane and Gian Maria Milesi-Ferretti, *International financial integration in the aftermath of the financial crisis*, IMF working paper number 17/115, May 2017.

⁵⁷ See, for instance, Laura Alfaro, “Gains from foreign direct investment: Macro and micro approaches,” *World Bank Economic Review*, volume 30, supplement 1, March 2017; and Silvio Contessi and Ariel Weinberger, “Foreign direct investment, productivity, and country growth: An overview,” *Federal Reserve Bank of St. Louis Review*, volume 91, number 2, March/April 2009.

through M&A (although the latter may have significant benefits in the long term that come through increasing productivity and forcing incumbent firms to adapt). FDI in sectors of the economy with low competitive intensity can also generate high benefits by forcing inefficient incumbent firms to adapt or lose market share. In addition, research suggests that different economies benefit from FDI to varying degrees. One study found that financially well-developed economies experience growth rates that are almost twice those of economies with poor financial markets.⁵⁸

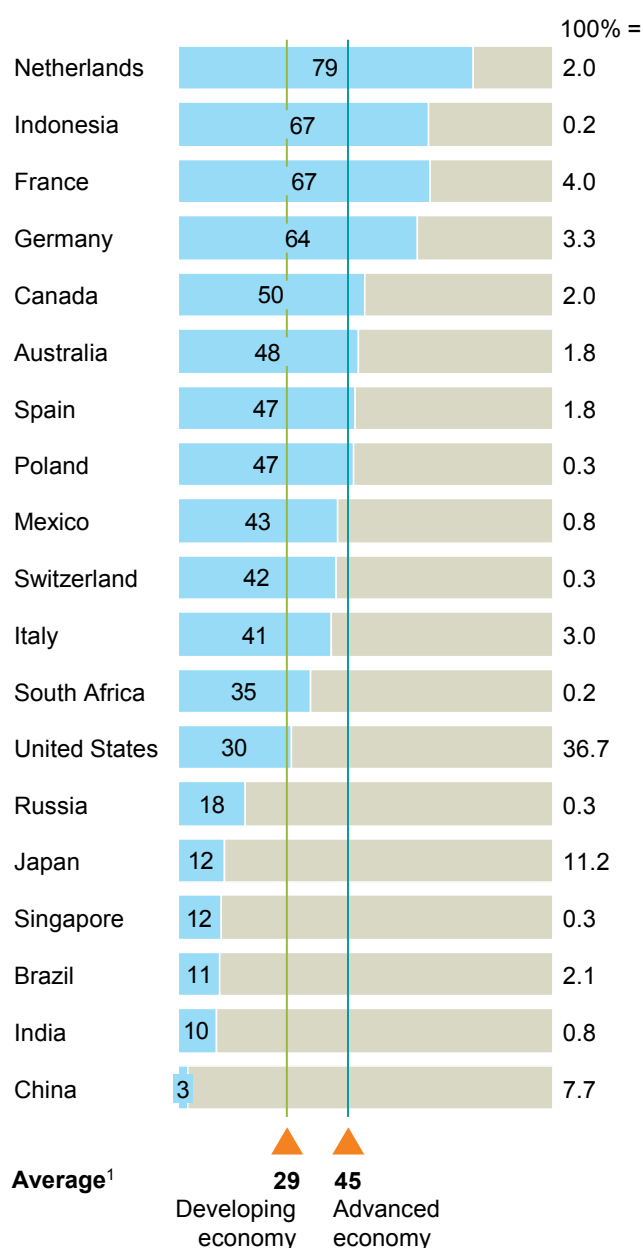
Exhibit 12

Foreign ownership of bonds and equities varies by region

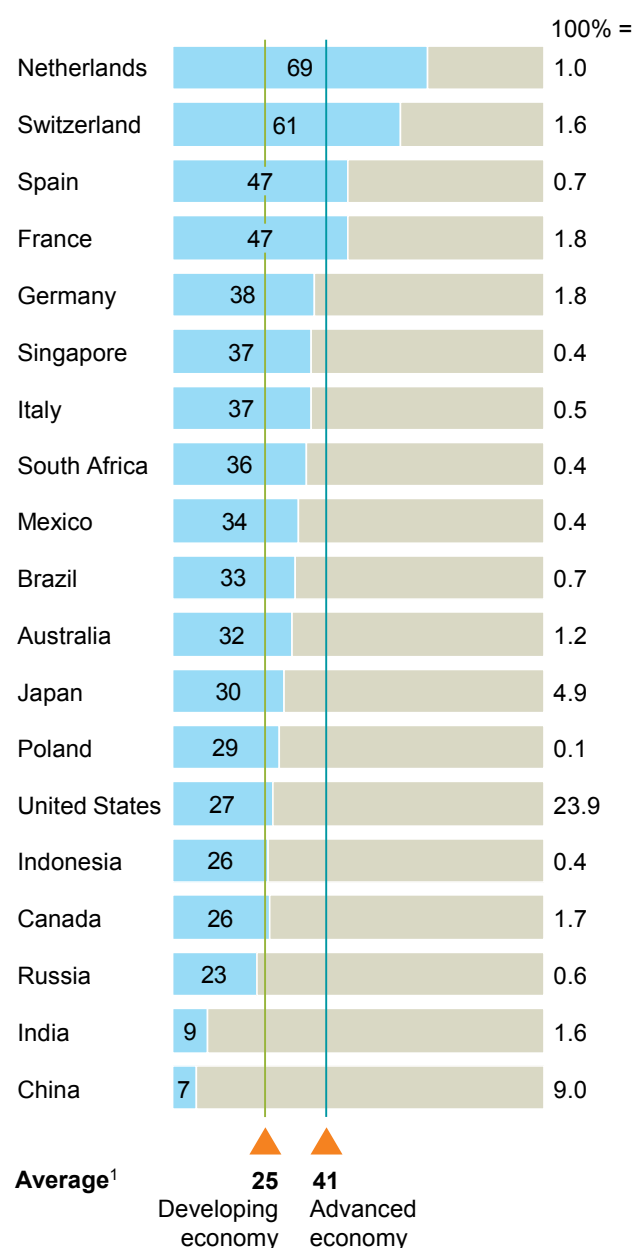
%; \$ trillion

Foreign ownership Domestic ownership

Stock of government and corporate debt securities by issuer, 2016E



Stock of equity securities issued by a country's companies, 2016E



¹ Arithmetic average of countries listed.

SOURCE: IMF Balance of Payments; MGI Financial Assets database; Capital IQ; McKinsey Global Institute analysis

⁵⁸ Laura Alfaro et al., "Does foreign direct investment promote growth? Exploring the role of financial markets on linkages," *Journal of Development Economics*, volume 91, issue 2, March 2010.

85%

of global foreign investment assets and liabilities still held by advanced economies

FINANCIAL CONNECTIONS AMONG COUNTRIES ARE GROWING AND DISPERSING

Foreign investment has been—and remains—highly concentrated in a few advanced economies. But the dominance of these economies is slowly starting to wane. In 2005, only 46 countries had foreign investment assets plus liabilities that exceeded \$100 billion, and in only 28 countries did these assets and liabilities exceed 200 percent of GDP. By 2016, these figures grew to 62 and 58 countries, respectively.

Exhibit 13 provides a snapshot of how countries are connected to the global financial system. It orders countries by the value of their foreign investment assets (investment made by residents of the country abroad) and liabilities (investment made by foreigners in the country) in 2016 using balance of payments data from the International Monetary Fund (IMF).⁵⁹ For each country, we show the size of specific types of foreign investment relative to the country's own GDP, including FDI, portfolio equities, bonds, foreign lending, and other investment. We also highlight which countries are net providers of capital to the global system (that is, foreign investment assets exceed liabilities) and those that are net recipients (foreign liabilities exceed assets). Finally, we note countries that serve as international financial centers, whose stock of foreign investment assets and liabilities is more than ten times larger than their economy. Several key findings emerge from this picture.

Advanced countries are the most financially connected

Reflecting their high incomes and well-developed financial markets, advanced economies are not surprisingly much more financially connected than developing countries. Collectively, advanced economies account for 85 percent of global foreign investment assets and liabilities. The top five countries account for half of global investment assets and liabilities, and the top ten countries (which includes one developing country, China) account for 70 percent.

The countries with the largest foreign investment include a mix of large, advanced economies and international financial centers. Among the top five countries, the United States and Germany have large economies and strong financial ties to the rest of the world. Luxembourg and the Netherlands, in contrast, have large stocks of foreign investment assets and liabilities because they are international financial hubs. The United Kingdom contains both elements, with London as a financial hub but also with a sizable domestic economy with strong financial ties.

The nature of global financial connections varies among countries. For instance, the United Kingdom and the United States are both large economies with very well-developed financial markets. In the case of the United States, FDI and equity dominate foreign investment assets, reflecting the expansion of US corporations abroad and the desire of investors to diversify their equity portfolios internationally. The largest US foreign liability is debt securities, reflecting large purchases of US Treasury bills and other bonds by central banks and large investors around the world. In contrast, in the United Kingdom, foreign loans and other investment is the largest category of both foreign assets and liabilities. This reflects the role of London as a global banking hub, particularly for European companies and financial institutions.

⁵⁹ For a related assessment, see Philip R. Lane and Gian Maria Milesi-Ferretti, *International financial integration in the aftermath of the global financial crisis*, IMF working paper number 17/115, May 2017.

Exhibit 13

MGI Financial Connectedness Ranking, 2016E (ranking by stock of foreign investment assets and liabilities)

		Foreign assets and liabilities as % of GDP												Total foreign assets and liabilities/GDP %
		>500 100–500 50–100 10–50 <10												
Rank <i>(change vs. 2005 rank)</i>	Country	Total \$ billion		Foreign assets % of GDP					Foreign liabilities % of GDP					
		Net capital provider	Net capital recipient	Financial center ¹	Total foreign assets	Total foreign liabilities	FDI	Equity	Debt securities	Loans and other	Foreign reserve assets	FDI		Equity
1	(—)	United States	21,708	29,922	40	38	15	21	2	39	35	59	28	278
2	(+4)	Luxembourg	10,643	10,825	9,088	3,016	3,460	2,332	2	8,231	6,376	1,797	1,799	36,101
3	(-1)	United Kingdom	10,577	10,492	71	64	71	191	5	59	58	99	183	801
4	(—)	Netherlands	8,045	7,970	659	109	116	155	5	576	86	206	167	2,077
5	(-2)	Germany	8,064	6,617	57	29	57	84	5	42	20	61	68	424
6	(+1)	Japan	8,215	5,472	29	29	50	35	25	5	30	28	48	277
7	(-2)	France	6,149	6,983	66	30	72	76	6	44	35	109	96	533
8	(+8)	China	6,594	4,739	12	2	1	15	29	26	5	2	9	101
9	(-1)	Ireland	4,963	5,572	478	331	511	370	1	474	903	183	338	3,588
10	(+4)	Hong Kong, China	4,471	3,402	537	274	153	310	120	574	135	16	336	2,455
11	(-1)	Switzerland	4,290	3,537	232	93	98	125	103	192	145	16	183	1,186
12	(+1)	Canada	3,212	3,071	83	66	19	36	5	66	30	65	39	411
13	(-4)	Italy	2,713	2,878	34	43	33	28	9	26	10	66	53	302
14	(+1)	Singapore	2,976	2,350	230	174	171	344	83	359	52	13	368	1,793
15	(-4)	Spain	1,760	2,906	55	20	25	38	5	60	25	69	81	378
16	(-4)	Belgium	2,142	2,012	197	67	76	114	5	213	27	97	94	890
17	(+1)	Australia	1,471	2,277	35	32	18	27	4	51	30	69	31	298
18	(-1)	Sweden	1,414	1,448	94	81	25	65	12	81	49	95	58	560
19	(+2)	Norway	1,529	796	58	172	114	53	16	52	23	71	69	628
20	(+7)	Brazil	772	1,486	17	1	<1	4	20	43	14	13	13	126
21	(-1)	Russia	1,226	926	33	<1	5	28	29	32	11	4	25	168
22	(+1)	South Korea	1,218	928	22	13	9	17	26	13	27	13	12	152
23	(-4)	Austria	909	967	82	28	52	68	6	74	15	98	64	485
24	(-2)	Denmark	930	793	77	78	60	68	21	51	60	86	61	562
25	(-1)	Mexico	582	1,065	14	0	5	19	17	45	12	31	14	157
26	(+3)	India	540	933	6	<1	<1	2	16	14	7	4	17	65
27	(-1)	Finland	638	707	65	73	64	63	4	51	52	91	104	568
28	(n/a)	Saudi Arabia	930	304	13	17	12	20	84	36	3	<1	8	193
29	(+7)	Indonesia	296	669	8	<1	1	10	12	30	11	14	16	103
30	(-5)	Portugal	352	556	41	17	46	55	12	72	15	47	138	443
31	(—)	South Africa	409	414	59	48	3	13	16	48	50	24	19	280
32	(+6)	Thailand	379	433	23	4	5	18	42	51	25	9	22	200
33	(-1)	Poland	242	548	14	4	2	8	24	51	8	26	33	169
34	(-4)	Turkey	215	571	4	<1	<1	8	12	16	4	13	34	92
35	(-7)	Greece	247	517	15	6	61	41	4	16	6	18	226	393
36	(n/a)	Mauritius	379	357	1,687	992	92	362	40	2,142	195	71	577	6,158
37	(-2)	Malaysia	387	348	51	16	8	23	33	44	18	27	28	248
38	(+2)	Chile	329	379	48	41	19	10	16	99	10	24	20	287
39	(-5)	Israel	382	275	32	19	18	20	31	35	26	9	16	206
40	(+1)	Hungary	267	355	159	5	3	25	21	203	10	32	37	496
42	(-9)	Argentina	278	221	7	<1	<1	40	4	16	2	8	14	91
44	(-1)	Czech Republic	208	264	22	7	8	26	44	77	3	25	33	244
46	(-4)	Venezuela	251	116	11	<1	1	71	5	10	<1	6	25	128
47	(-3)	Philippines	162	193	15	<1	4	7	26	22	16	9	17	117
50	(-4)	Nigeria	131	182	3	6	1	16	6	23	<1	10	11	77
52	(+2)	Peru	104	180	1	14	2	5	31	50	5	17	20	146
59	(-2)	Morocco	38	107	5	2	<1	6	24	54	3	8	39	140

1 Stock of foreign assets and liabilities/GDP > 1,000%.

SOURCE: IMF Balance of Payments; McKinsey Global Institute analysis

European countries remain highly connected to other countries and the global financial system, despite the retrenchment of their banks in recent years. Twelve of the top 20 countries in the ranking are in Europe (in order, Luxembourg, the United Kingdom, the Netherlands, Germany, France, Ireland, Switzerland, Italy, Spain, Belgium, Sweden, and Norway). Together, European countries account for half of the global stock of foreign investment. Excluding European financial centers such as Luxembourg, the value of foreign investment assets and liabilities averages 524 percent of GDP, compared with 278 percent for the United States and 277 percent for Japan.

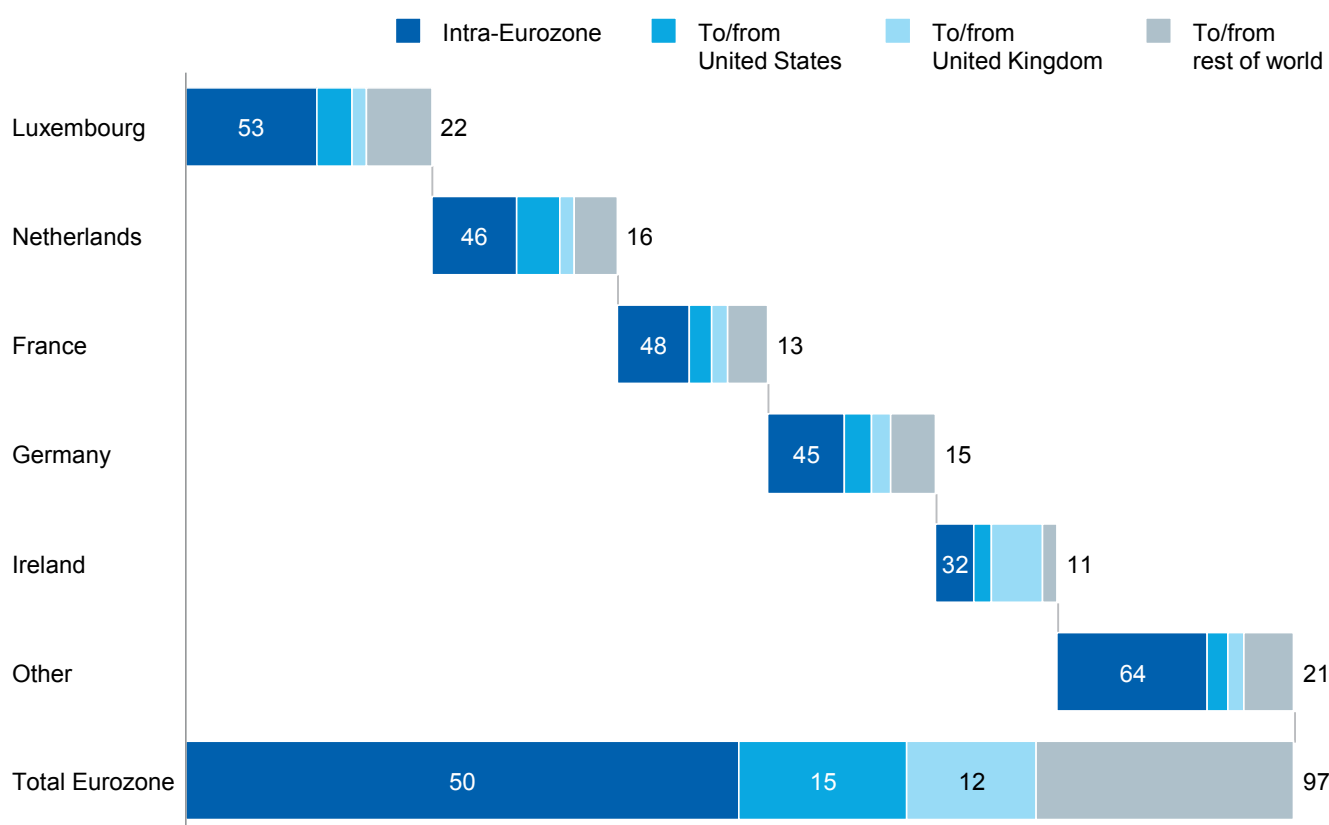
We also note that European economies rank highly on financial connectedness because of the large cross-border investment made within Europe (Exhibit 14). Among Eurozone countries, half of all cross-border investment is in other Eurozone countries, 15 percent is with the United States, and another 12 percent is with the United Kingdom. If we excluded cross-border investment and focused only on the financial connections between the Eurozone and the rest of the world, its financial connectedness would be similar to that of the United States, with total foreign investment assets and liabilities equal to 309 percent of Eurozone GDP.

Exhibit 14

Half of Eurozone cross-border investment is within the region

Stock of foreign investment of Eurozone countries, 2016E¹

%; \$ trillion



¹ Foreign investment liabilities and private foreign investment assets (excluding central bank reserve assets).

SOURCE: IMF; BIS; UNCTAD; Economist Intelligence Unit; OECD; McKinsey Global Institute analysis

Nevertheless, over the past ten years, many European countries have slipped down our ranking while developing countries have risen. Finland, Ireland, and the United Kingdom have fallen by one notch; France and Germany by two; Austria, Belgium, Italy, and Spain by four; Portugal by five; and Greece by seven. This reflects the sharp decline and, in some cases, reversal of gross capital flows over the past five years, and the erosion of trust among Eurozone counterparties. Despite the decline in their position in global finance, advanced economies (including financial centers) still account for roughly 85 percent of the global stock of foreign investment.

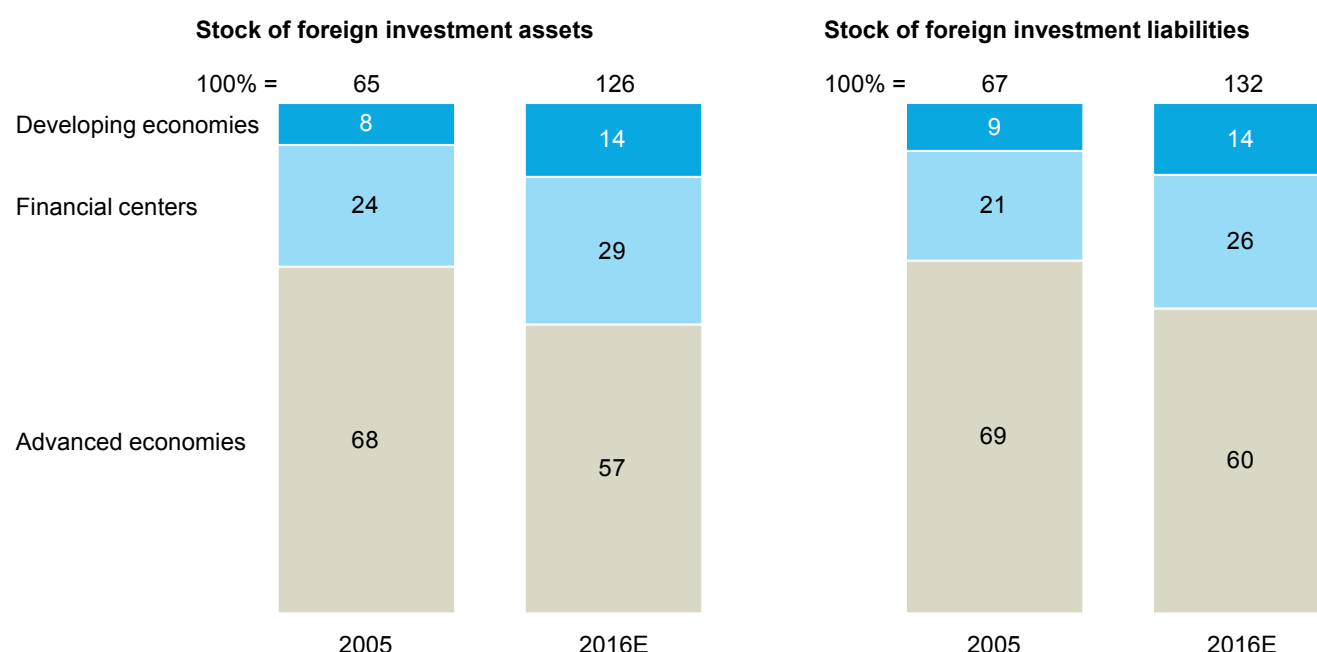
International financial centers are growing in importance

The role of international financial centers is growing (Exhibit 15). We define financial centers as those countries that have foreign investment assets plus liabilities of more than ten times their GDP. Most have net positions that reflect their role as hubs that attract foreign capital, which they then invest around the world. Ten are prominent. Luxembourg and the Netherlands are second and fourth, respectively, on MGI's ranking, and depending on how the United Kingdom's Brexit negotiations evolve, their role could grow further. Hong Kong, Ireland, Singapore, and Switzerland also rank in the top 20.

Exhibit 15

Developing countries and financial hubs account for a larger share of global foreign investment assets and liabilities

%; \$ trillion



NOTE: Numbers may not sum due to rounding.

SOURCE: IMF Balance of Payments; McKinsey Global Institute analysis

However, these ten international financial centers are a diverse group, each playing different roles in global finance, and sometimes combining several functions. For instance, Hong Kong, London, and Singapore are home to major capital markets and securities trading, with significant investment banking. The Channel Islands, Dubai, Luxembourg, Mauritius, and Switzerland have prominent wealth-management services. Bahrain, Luxembourg, Switzerland, and the United Kingdom are major offshore banking centers. The Cayman Islands, the Channel Islands, and Luxembourg are centers for mutual funds, and the latter two also specialize in trusts and foundations. Ireland, Luxembourg, and the Netherlands

are magnets for corporate headquarters because of their relatively low corporate taxes and flexible supervision.

Along with large, well-established financial centers, relatively new hubs have also gained traction. Among them are Bahrain (ranked 49th), which has served as a regional banking and financial hub in the Gulf region but has lost some of its prominence due to political turmoil. Mauritius, conveniently situated at the crossroads of Africa and Asia, has been favored by Indian companies and now holds the second-largest stock of FDI relative to the size of its economy in the world, after Luxembourg. We note that India and Mauritius have recently revised their tax treaties, eliminating traditional tax advantages by 2019.⁶⁰ Cyprus built a position as a financial center that was particularly popular among wealthy Russians. However, in recent years Cyprus' high exposure to the troubled economy of Greece chronically weakened the island's banks, requiring an international bailout and dimming its role as a financial center.

1/3

of total growth in foreign investment since 2007 reflects investment going through international financial centers

Other countries that do not appear in our ranking also serve as financial centers but do not report data. They sometimes play the role of tax havens for smaller companies, most often coming from specific geographies. Bermuda, which is popular among US clients, imposes no taxes on profits, income, dividends, or capital gains, has no limit on the accumulation of profit, and has no requirement to distribute dividends. The Cayman Islands, which are used by UK companies, impose income tax only on those companies doing local business. Jersey (one of the Channel Islands) has eliminated nearly all taxes for corporations doing business on the island. The exceptions are financial services firms, which are taxed at 10 percent, and utilities, rentals, and development projects, which are all taxed at 20 percent.

The scale of finance that flows through these hubs—and the potential risks—has been highlighted by the United Nations Conference on Trade and Development (UNCTAD), among others. In 2015, UNCTAD estimated that around 30 percent of cross-border corporate investment stock (FDI plus investment through special purpose entities) was being routed through conduit countries before reaching its destination.⁶¹ To take one example, in 2012 the British Virgin Islands was the fifth-largest recipient of FDI in the world, with inflows of \$72 billion—higher than those of the United Kingdom (\$46 billion), which has an economy 3,000 times larger.⁶²

The intermediation role of financial centers creates “double counting” that may overstate the actual size of foreign investment assets and liabilities. For example, if a German investor places funds in a Luxembourg-based investment fund that then uses the money to buy French government bonds, this is reported as a foreign investment asset for Germany and for Luxembourg. (It also creates a foreign investment liability for France and for Luxembourg.) Unfortunately, there are no alternative figures netting out such intermediation effects at either the country or the global level. The ten financial centers in our ranking collectively have \$36 trillion in foreign assets and \$35 trillion in liabilities. If we exclude these on the assumption that those funds are only passing through the financial center, we find that global foreign investment would total 140 percent of GDP in 2016, rather than 183 percent. Moreover, we calculate that one-third of the total growth in foreign investment since 2007 can be attributed to increased investment going through international financial centers.

⁶⁰ *Protocol amending the convention between the government of Mauritius and the government of the republic of India: For the avoidance of double taxation and the prevention of fiscal evasion with respect to taxes on income and capital gains and for the encouragement of mutual trade and investment*, Republic of Mauritius, May 2016.

⁶¹ See *Special purpose entities*, Technical Committee of the International Organization of Securities Commissions, April 2007 (www.iosco.org/library/pubdocs/pdf/IOSCOPD243.pdf).

⁶² *World investment report 2015: Reforming international investment governance*, United Nations Conference on Trade and Development, 2015.

Developing economies are becoming more financially connected, although starting from a low base

Developing economies have far more tenuous connections to the global financial system, as we have noted. Apart from China, none has foreign investment that exceeds 1 percent of the global total. Together, they account for only around 15 percent of global foreign investment assets and liabilities.

Nonetheless, as these countries grow, their financial connectivity is increasing, too. China, Brazil, Russia, and Mexico are all in the top 25 of our ranking. Brazil has moved up seven places since 2005, reflecting strong capital inflows (particularly FDI flows). Indonesia and Thailand have risen seven and six places, respectively, during this period, while India has moved up three places. Impending action by the US Federal Reserve to reduce the size of its balance sheet (see Chapter 1) may dampen growth in foreign investment in developing countries, but the long-term trajectory is undoubtedly upward. This is partly because of increased financial connections among developing countries—so-called South-South flows. Although South-South flows now account for an insignificant portion of the total stock of foreign investment in developing economies—6 percent of FDI stock and 4 percent of stock of foreign equity and bonds—their share of total flows to developing economies has more than doubled compared with the pre-crisis period.⁶³

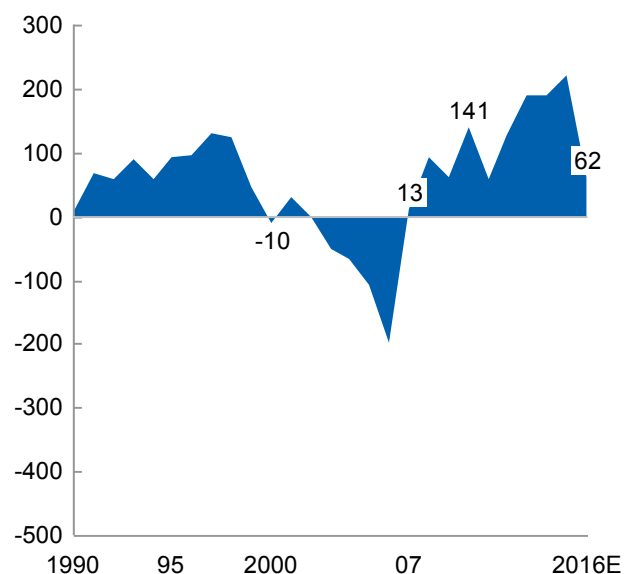
Developing countries (excluding China) became net recipients of global capital rather than net providers in the aftermath of the crisis (Exhibit 16). If we include China in the picture, developing countries reached this milestone only a few years ago.

Exhibit 16

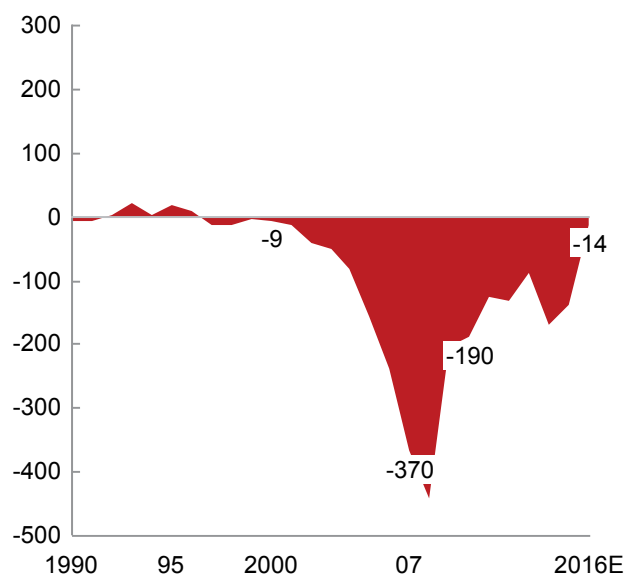
Developing countries have become net recipients of foreign capital flows

Net cross-border capital inflows to developing countries: inflows minus outflows, including reserve assets
\$ billion, annual nominal exchange rates

Developing countries excluding China



China



SOURCE: IMF Balance of Payments; McKinsey Global Institute analysis

⁶³ *Capital flows to emerging markets: Brighter outlook*, Institute of International Finance, June 5, 2017.

This is a sea change from the recent past. Classical economic theory predicts that diminishing returns on capital should prompt investors from rich countries to seek the higher returns available in poorer countries that have lower stocks of capital. Net capital flows should go from rich countries to poor ones. However, the opposite has often proven to be the case—developing countries provided more capital to the global system than they received. This trend was dubbed the Lucas Paradox or “capital flowing uphill.”⁶⁴ Robert Lucas explained that higher sovereign risk, asymmetric information, and incomplete markets all limit the appetite of global investors for projects in developing countries, and also reduce the ability of developing countries themselves to absorb the foreign investment effectively. For many years, developing countries including China and major oil producers such as Algeria, Iraq, Mexico, and Saudi Arabia had large export surpluses, leaving them with a surplus of foreign capital. Central banks in these countries invested the surpluses in safe, liquid global assets such as foreign currency, US Treasuries, and other bonds. In recent years, however, with lower commodity prices and a smaller trade surplus in China, the capital outflows from their central banks have dwindled and the trend has reversed.

CHINA'S ROLE IN THE GLOBAL FINANCIAL SYSTEM IS GROWING

The world's second-largest economy, China, is gaining prominence in the global financial system. China ranked eighth on foreign investment assets and liabilities in 2016, eight places higher than in 2005. And it has significant room to further expand foreign investment. The value of its total foreign assets and liabilities is equal to 101 percent of its GDP, far smaller than the assets and liabilities of advanced economies (that average over 350 percent of GDP), and even lagging behind the share in some developing countries, including Brazil, Mexico, and Russia.

China's participation in the global financial system has gone through several distinct phases. Its journey began with its decision to open up and liberalize its economy in 1978. This opened the door to foreign trade, and China developed special economic zones for manufacturing companies to export to the world. Throughout the 1980s and 1990s, China's main connection with global finance was through inward FDI, as foreign companies set up local joint ventures to target China's billion-person consumer market and to produce for export markets. While the absolute amount of FDI in China funded only a small fraction of total domestic investment, FDI flows were important in spurring domestic competition and introducing new technology.

In 2001, China joined the WTO and began developing a large current-account surplus. To soak up the excess foreign currency and maintain a stable exchange rate against the US dollar and other major global currencies, the central bank began actively managing China's exchange rate, building up foreign reserve assets in the process. China's reserve assets grew from \$171 billion in 2000 to \$831 billion in 2005, and peaked at \$4 trillion in June 2014. During this period China became a large net supplier of capital to the global system, as its capital outflows—mainly central bank reserve asset purchases—far exceeded its foreign capital inflows.

Since the mid-2000s, China has started gradually removing some restrictions on capital inflows and outflows and assuming a more diversified role in the global financial system. This has ushered in a new era of more diverse financial ties to the global system. For instance, the government has set up a number of programs that allow overseas investors to put their money into China's stock and bond markets. The number of qualified foreign institutional investors approved by Chinese regulators to participate in local stock and bond markets grew from only 31 in 2005 to 305 in 2016; they include investors participating in both the

305

qualified foreign
institutional
investors approved
by China in 2016
vs.

31

in 2005

⁶⁴ See Robert E. Lucas Jr., “Why doesn't capital flow from rich to poor countries?” *American Economic Review*, volume 80, number 2, May 1990, and Eswar Prasad, Raghuram Rajan, and Arvind Subramanian, “The paradox of capital,” *Finance & Development*, volume 44, number 1, March 2007.

>20x
increase in
Chinese FDI assets
2005–16

A-share and B-share equity markets.⁶⁵ Regulators also are giving registered foreign funds more latitude to invest their holdings of offshore renminbi in China's domestic capital markets. Both moves have further opened the door to foreign participation in those markets.

The moves to liberalize China's capital account and gradually open up to foreign equity and bond investors while allowing Chinese residents to invest abroad continues. In June 2017, the economy reached an important milestone when MSCI admitted Chinese A-shares into its global benchmark equity index for the first time, effective June 2018. This means that investment funds that track the index will be obliged to buy the Chinese shares. Moreover, in July 2017, the Chinese government launched its Bond Connect program enabling foreign investors to buy and sell Chinese bonds. HSBC Holdings and an asset-management unit of Bank of China became the first institutions to trade using the scheme, with about \$300 million of bonds purchased in early trading.⁶⁶

China's government and central bank have also diversified their foreign holdings. While the State Agency for Foreign Exchange manages the bulk of the country's foreign reserve assets, in 2007 the government created the China Investment Corporation. This is now one of the world's largest sovereign-wealth funds, with assets at the end of 2015 of more than \$810 billion. The fund's holdings include shares in many of the world's blue-chip companies; mining, energy, and infrastructure projects; global real estate; and even a stake in London's Heathrow Airport.

Outward capital flows from China have also diversified, with (largely state-owned) companies and banks expanding their activities abroad. In 2016, total foreign investment assets (including lending, FDI, and portfolio investment) exceeded the value of central bank reserve assets for the first time, at \$3.4 trillion and \$3.2 trillion, respectively (Exhibit 17). China's total foreign loan assets grew from \$216 billion in 2005 to \$1.6 trillion in 2016. Many of the loans have been used to finance FDI from Chinese companies or to build related projects such as infrastructure. From 2005 to 2016 alone, the stock of Chinese FDI assets increased more than 20-fold, from \$64 billion to \$1.38 trillion, as Chinese companies invested heavily in overseas markets. Roughly 55 percent of this investment was in advanced economies, with 45 percent in developing countries.

Some \$32 billion has been invested in Africa, where China is currently the fourth-largest—but fastest-growing (at 40 percent a year)—source of FDI (Exhibit 18). New research from McKinsey estimates that there are 10,000 Chinese companies now operating in Africa across all sectors.⁶⁷ China is the largest source of bilateral infrastructure financing on the continent, with \$21 billion outstanding.

⁶⁵ Chinese companies issue different classes of stocks for different types of investors. Traditionally, only local investors could buy A-shares, denominated in renminbi, while foreign investors could purchase B-shares, valued in dollars. Recent changes have enabled approved foreign investors to participate in the A-share market, too.

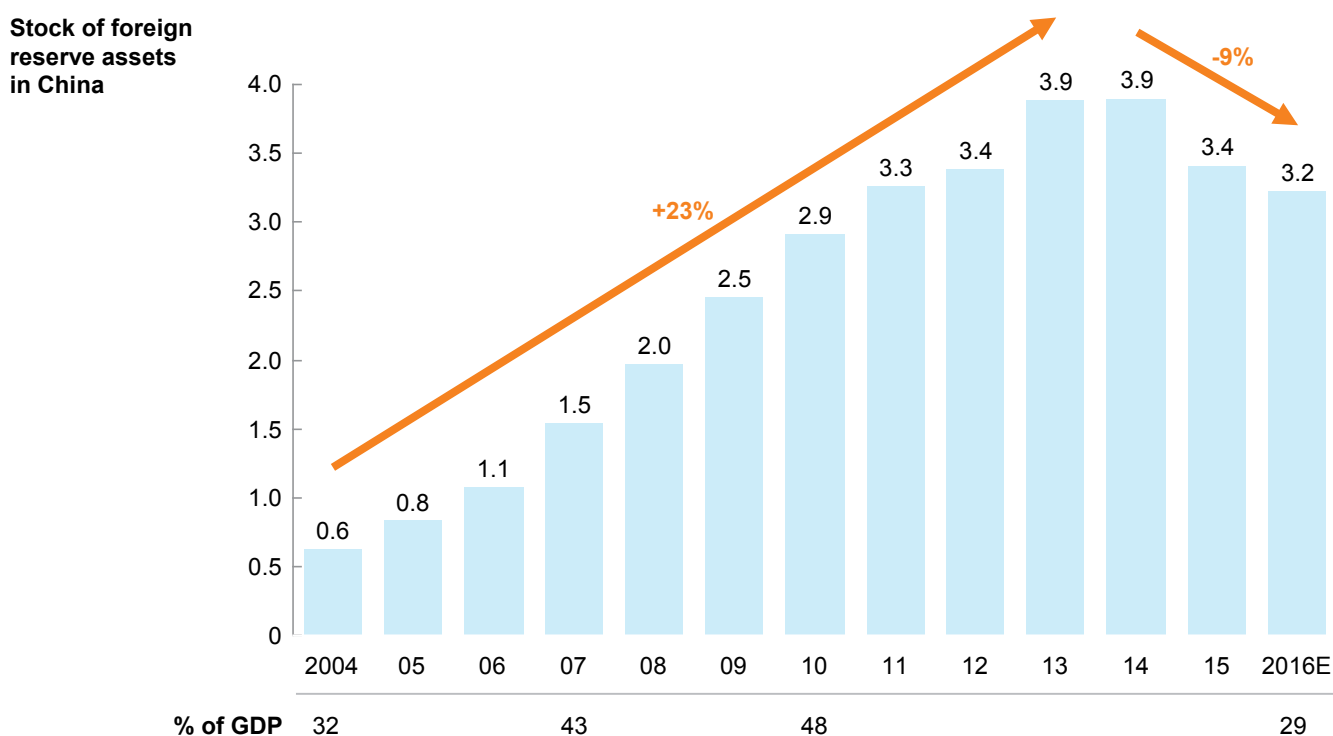
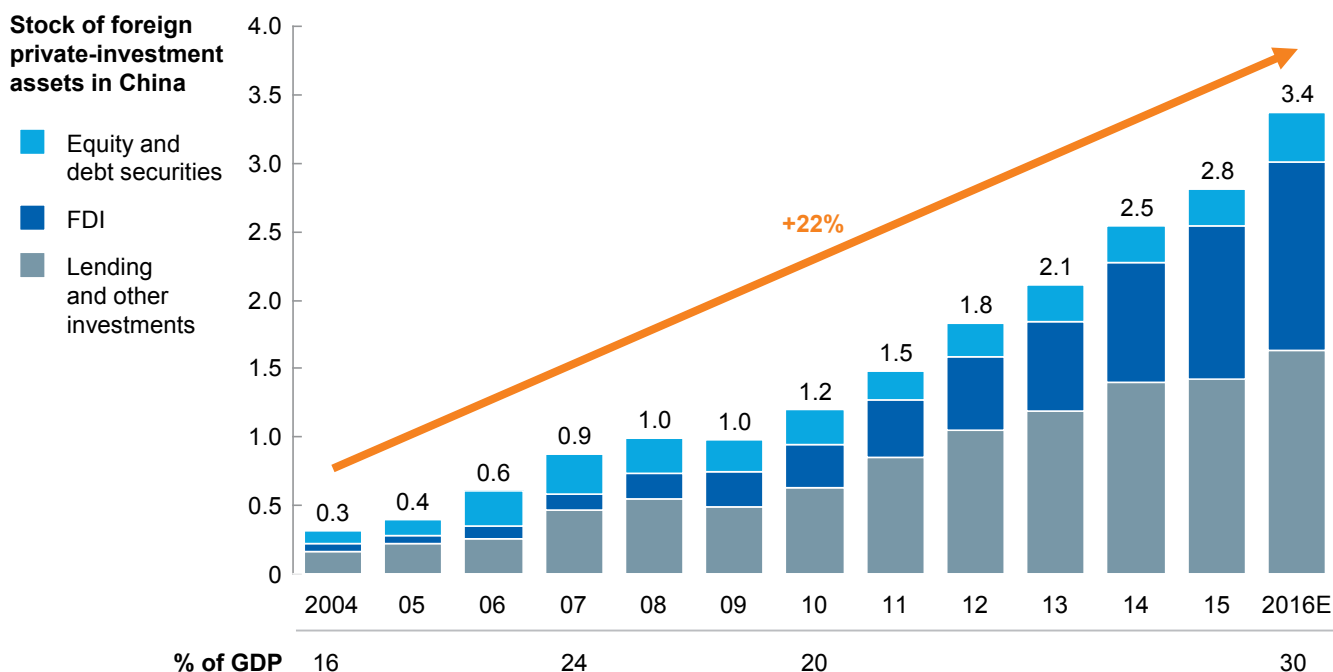
⁶⁶ Simon Atkinson, "China's \$9tn bond market opens up to foreign investors," BBC, July 3, 2017.

⁶⁷ See *Dance of the lions and dragons: How are Africa and China engaging, and how will the partnership evolve?* McKinsey & Company, June 2017.

Exhibit 17

Chinese private foreign investment assets are growing rapidly, while foreign reserve assets are declining

\$ trillion, annual nominal exchange rates

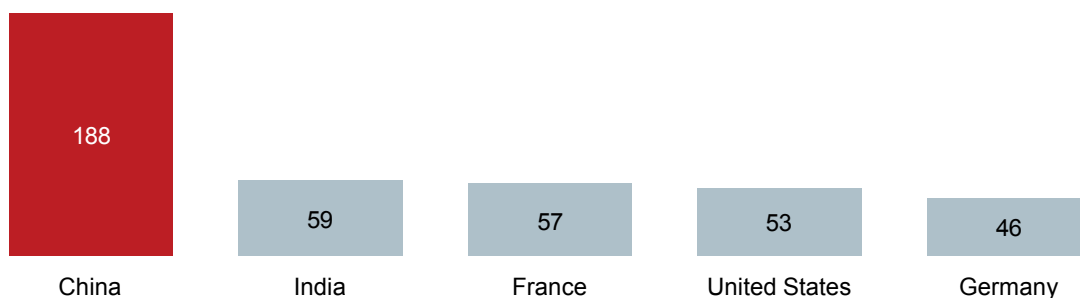


SOURCE: IMF Balance of Payments; McKinsey Global Institute analysis

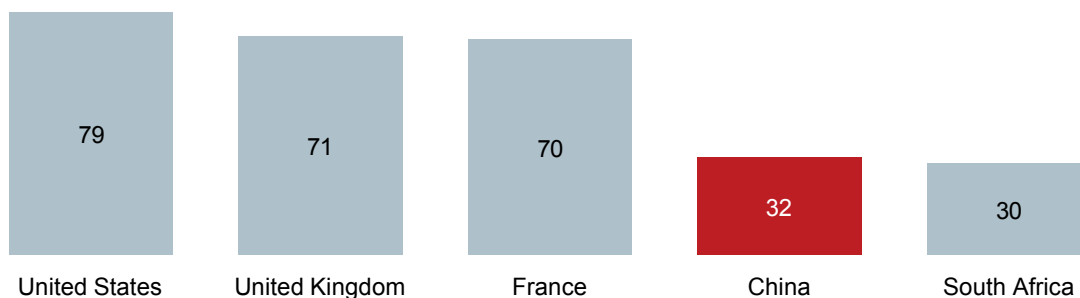
Exhibit 18

China is becoming one of Africa's largest economic partners

Goods trade, 2015
\$ billion



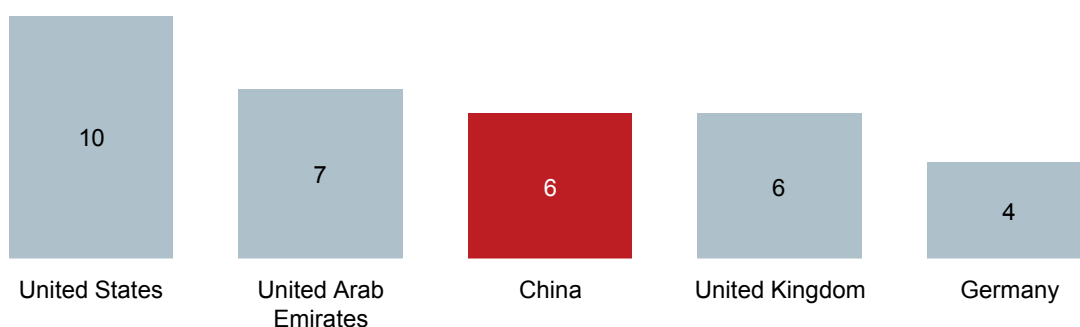
FDI stock, 2014E¹
\$ billion



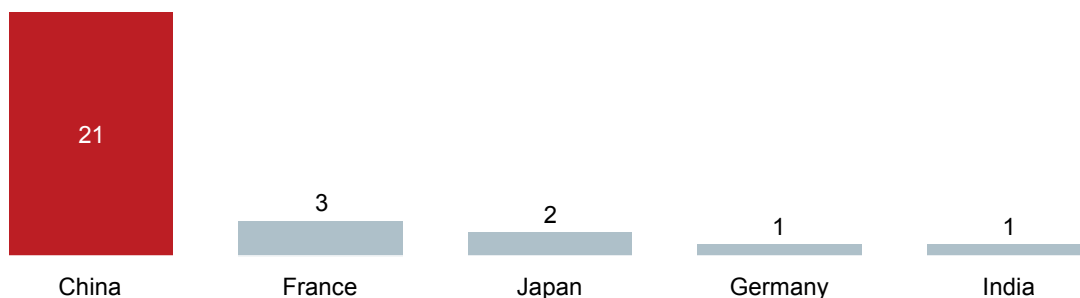
FDI growth, 2010–14²
%



Aid³
\$ billion



Infrastructure financing, 2015
\$ billion



¹ Estimated according to compound annual growth rate from 2009 to 2012.

² For countries other than China, we made projections using historical data.

³ ODA and Other Official Flows, 2015 for OECD countries, 2012 for China.

NOTE: Not to scale.

SOURCE: *Dance of the lions and the dragons*, McKinsey & Company, June 2017; McKinsey Global Institute analysis

China's currency, the renminbi or yuan, is becoming more widely used in global trade. After the financial crisis, China created swap lines to supply renminbi to 15 foreign central banks, including those of Australia and Singapore. As a result, use of the renminbi in China's trade has grown from around 3 percent in 2008 to an estimated one-third today.⁶⁸ In a major step of international recognition, in September 2016 the IMF included the renminbi for the first time in its basket of special drawing rights, joining the dollar, euro, yen, and pound sterling. For this to happen, China had to liberalize bank deposit interest rates and remove some restrictions on capital flows. To become a true international currency, the renminbi will need to be fully convertible, meaning that any individual or company must be able to convert it into foreign currencies for any reason and at any bank or foreign-exchange dealer. China's central bank has acknowledged that the time has come to move in this direction and to accelerate financial- and capital-account liberalization, and it has created both short- and long-term road maps for this process.

...

Financial globalization is far from dead. The global stock of foreign investment remains high, although it is growing at a far slower pace than in the years preceding the global financial crisis. Despite the retrenchment of global banks, financial connections among countries are growing, reflecting more engagement in global finance by developing economies, China most notably, and the rise of international financial centers. In the next chapter, we explore in more depth the changing dynamics of global finance, focusing on the restoration of stability in some respects, but also on the potential for new risks to emerge.

⁶⁸ Eswar Prasad, "A middle ground," *Finance & Development*, volume 54, number 1, March 2017.

6/T	8421/T	8685/T	8803/T	9005/T	9062/T	9301/T	9502/T
住友	信金中	AIG	平和不	東急	日通	三菱倉	中部電
77000	334000	156	235	415	378	1070	2725
23000	+1000	-8	+4	+10	+1	+10	+5
11/T	8424/T	8725/T	8815/T	9007/T	9064/T	9401/T	9503/T
美銀	芙蓉リース	三住海上	東急不	小田急	ヤマトHD	TBS	関西電
509	1634	2450		763	1171	1271	2600
+9	-134	-60		+8	-12	-15	-25
2/T	8425/T	8755/T	8830/T		9101/T	9412/T	9531/T
兵銀	興銀リース	損保JPN	住友		郵船	スカパーJ	東ガス
530	1486	535	1		528	38350	450
-5	+5	-2			-13	+600	+2
5/T	8591/T	8766/T	8829/T		9104/T	9432/T	9532/T
同銀	リックス	東京海上	船井財産		商船三井	NTT	大ガス
1026		2615	4015		576	460000	392
+25		-35			-9	-5000	-3
2/T	8601/T	8795/T				9433/T	9602/T
信	大和証G	T&DHD				KDDI	東宝
482	467	328				613000	1881
+20	+11	+5				+21000	+18
4/T	8604/T	8801/T				9437/T	9613/T
ほ信	野村HD	三井				NTTドコモ	NTTデータ
108	659	147				173100	371000
+2	+25	+5				-3200	+3000
1/T	8806/T	8802/T				9501/T	9671/T
住友	新光証	愛地所				東電	よみラト
	181	147				2910	273
	0	+5				-50	-3

3. MORE STABILITY, BUT RISKS REMAIN

A new dynamic of financial globalization is emerging that has a number of characteristics that could improve stability but also bring potential risks. We explore both in this chapter.

A number of factors suggest that future financial globalization may be more stable than it was in the past. First, gross cross-border capital flows today are more likely to be in the form of more stable FDI flows than in more volatile cross-border lending flows. Much of the drop in gross capital flows was short-term interbank lending and other purchases of complex debt securities that fueled the global credit bubble; today these have contracted sharply. In addition, net financial- and capital-account imbalances have declined, lessening the risk that sudden changes in capital flows will create a balance-of-payments crisis. The outsized role of China's surplus and the US deficit have both diminished, and today the global financial system reallocates capital and risk among a wider range of net savers and net borrowers. Finally, as we noted in Chapter 1, banks today have more robust capital bases and liquidity, reflecting new regulations put in place since the crisis.

Nevertheless, potential risks remain. Gross capital flows—especially loan flows—have been quite volatile for both advanced and developing economies, which has created large fluctuations in exchange rates. There is some concern that the beginnings of an equity-market bubble are evident. As we write this report in mid-2017, equity-market valuations have reached new heights. Broader financial connectedness is positive for economies now involved in the global system and for the reallocation of capital around the world. However, the active presence of more countries also means that scope for financial contagion (where losses in one country prompt investors to sell good assets in unrelated markets) remains. The rise of international financial centers—particularly those that lack transparency and oversight and therefore may be enabling highly leveraged banks and other financial institutions to thrive—is worth watching. Many of these hubs have become more transparent under pressure from regulators, but not all.

TODAY'S GLOBAL FINANCIAL SYSTEM HAS A NUMBER OF CHARACTERISTICS THAT SHOULD PROMOTE STABILITY

Possible sources of stability include the fact that the FDI and equity share in gross cross-border capital flows has risen while the share of debt-related flows has fallen, and imbalances in net capital flows have declined.

Cross-border capital flows have more FDI and equity, and less debt

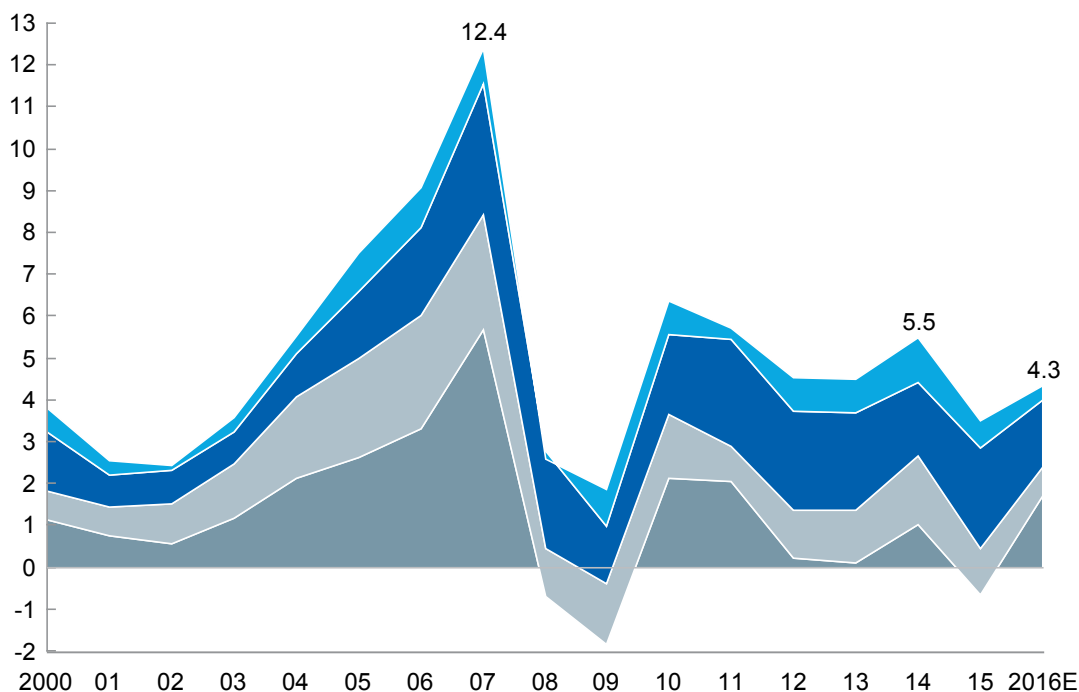
Since the financial crisis, cross-border flows of FDI have held up better than cross-border lending and bond purchases, raising the share of equity and reducing the share of debt in these flows (Exhibit 19). Although gross FDI inflows declined by half from \$3.1 trillion in 2007 to \$1.6 trillion in 2016, they still account for a larger share of capital flows today than they did in 2007. Cross-border equity flows—or foreign purchases of equities—have retreated the least of all international capital flows in absolute terms since the financial crisis, from \$830 billion to \$330 billion.

Exhibit 19

Post-crisis, cross-border capital flows have more equity and less debt

Global cross-border capital inflows
\$ trillion, annual nominal exchange rates

Equity-related ■ Equity ■ FDI **Debt-related** ■ Debt securities ■ Lending and other investment



**FDI and equity share
of total inflows**
%



NOTE: Negative flows imply decline in stock of foreign investment.

SOURCE: IMF Balance of Payments; McKinsey Global Institute analysis

The shift to more FDI and equity flows and smaller cross-border lending and bond flows should bring more stability to cross-border capital flows.⁶⁹ FDI flows are by far the least volatile type of flows, since they often reflect long-term strategies of corporations on their global footprint and operations (Exhibit 20). Short-term cross-border lending is the most volatile type of capital flow, subject to sudden reversals that can cause abrupt shifts in currency valuations, which can impose enormous economic damage on small countries. In the 1990s, short-term foreign lending inflows in Southeast Asia were often channeled through domestic banks and funded construction and real estate bubbles. When the magnitude of the overcapacity was recognized, a reversal of these flows sparked the 1997 Asian financial crisis, causing massive currency depreciations and domestic banking crises.⁷⁰

⁶⁹ See, for instance, Maria Sole Pagliari and Swarnali Ahmed Hannan, *The volatility of capital flows in developing markets: Measures and determinants*, IMF working paper number 17/41, March 2017; Kristin J. Forbes and Francis E. Warnock, "Capital flow waves: Surges, stops, flight, and retrenchment," *Journal of International Economics*, volume 88, issue 2, November 2012; and Eugenio M. Cerutti, Galina Hale, and Camelia Minoiu, *Financial crises and the composition of cross-border lending*, IMF working paper number 14/185, October 2014.

⁷⁰ There is rich academic literature on this point. See, for instance, *Banks and cross-border capital flows: Policy challenges and regulatory responses*, Committee on International Economic Policy Reform, Brookings Institution, September 2012; and Kristin J. Forbes and Francis E. Warnock, *Capital flow waves: Surges, stops, flight, and retrenchment*, NBER working paper number 17351, August 2011.

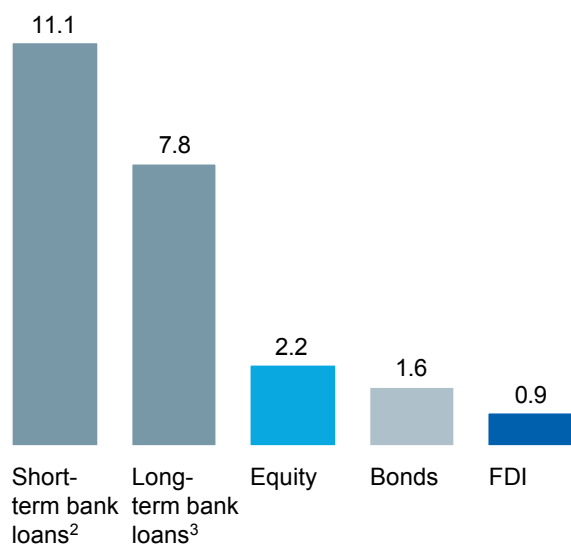
Exhibit 20

Cross-border lending is the most volatile cross-border capital flow, and FDI is the least volatile

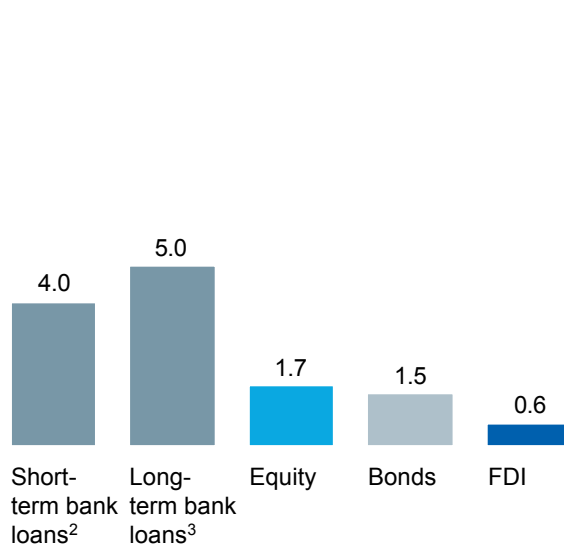
Coefficient of variation of inward cross-border flows by maturity, 2000-15¹

Equity-related Equity FDI **Debt-related** Debt securities Lending and other investment

Advanced economies



Developing economies



¹ Coefficient of variation defined as standard deviation normalized by the mean; calculations are made on yearly data.

² Maturity less than or equal to two years.

³ Maturity more than two years.

SOURCE: BIS; IMF Balance of Payments; McKinsey Global Institute analysis

For developing countries, another type of relatively stable cross-border financial flow is growing steadily and becoming more important: remittances from overseas workers.⁷¹ By 2016, their value for developing countries stood at \$477 billion, up from \$275 billion in 2007 (Exhibit 21). This is 40 percent lower than total capital inflows to developing countries (including FDI, equity and bonds, and foreign lending), but more than twice as much as ODA. By value, the largest recipients of remittance flows are China and India, given their size. But for some countries, remittances are much larger than all other foreign capital flows combined. For instance, in the past three years, inward remittances in the Philippines were, on average, six times higher than cross-border capital inflows, while remittances in Pakistan were more than three times higher than capital inflows.

Global remittance flows are far more stable than cross-border lending and portfolio flows, and, unlike other capital flows, they cannot be withdrawn and create a large outflow. These can act as a major counter-balance when capital flows sharply decline or reverse. There is evidence that remittances are positive for the economic growth of the country receiving them, particularly in helping to alleviate poverty.⁷²

⁷¹ Unlike the other capital flows discussed in this report—FDI, equity and bond flows, and cross-border lending—remittances are not included in the financial and capital account of the national balance of payments. Instead, they are recorded in the current account as a form of international income flows. Conceptually, they differ from other capital flows as they are typically used to fund consumption rather than investment (although this line is blurring).

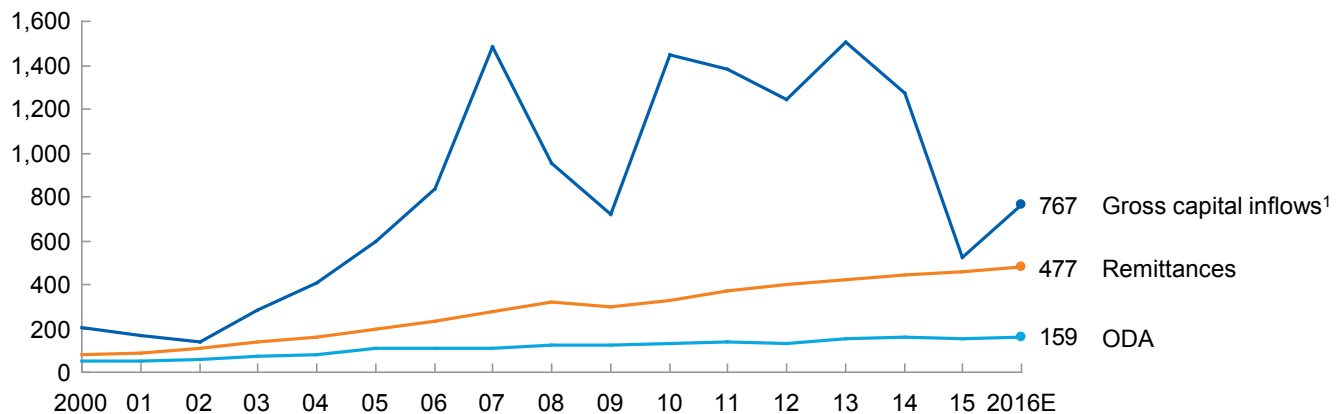
⁷² See, for instance, Dietmar Meyer and Adela Shera, "The impact of remittances on economic growth: An econometric model," *Economia*, volume 18, issue 2, May-August 2017; and Dilip Ratha, *The impact of remittances on economic growth and poverty reduction*, Migration Policy Institute, policy brief number 8, September 2013.

New technologies such as mobile-money platforms are reducing the cost and increasing the ease of sending international remittances. Blockchain technologies could be even more transformative, enabling individuals to transfer money abroad directly without going through a provider with high transaction costs. Combined with larger numbers of international migrants, remittance flows may well continue to grow in coming years, providing another stable source of foreign funding for developing countries in addition to FDI.

Exhibit 21

Remittances to developing countries have grown steadily, reaching \$480 billion in 2016

Cross-border financial flows to developing countries
\$ billion



¹ FDI, equity, debt securities, and lending and other investment.

SOURCE: IMF Balance of Payments, McKinsey Global Institute analysis

Financial- and capital-account imbalances have declined, and the system is reallocating capital among a wider range of countries

Net financial- and capital-account imbalances grew sharply prior to the crisis, peaking at 2.6 percent of global GDP (\$1.3 trillion) in 2007 (Exhibit 22).⁷³ Since the crisis, the imbalances have ebbed to 1.7 percent of global GDP (\$1.5 trillion). Smaller gross and net imbalances leave countries less at risk of balance-of-payments crises that stem from sudden reversals of foreign capital.⁷⁴

Even more striking than the decline in the size of overall net financial- and capital-account surpluses and deficits is the change in their composition. In the years prior to 2007, the global financial system was dominated by the large and growing financial- and capital-account deficit in China and the huge surplus in the United States. China's deficit reached 9.7 percent of GDP at its peak in 2008, or 31 percent of the global total, while the US surplus hit 0.9 percent of GDP in its peak at 2006 and was more than two-thirds of the total global surplus across countries. Ben Bernanke pointed to this "global savings glut" (surplus savings in search of safe assets) as a factor in the financial crisis, as a large share of the capital surpluses was invested in US Treasuries and other government bonds.⁷⁵ This put

⁷³ The deficit or surplus in a country's financial and capital account must also equal the deficit or surplus in its current account. The decline in the United States arithmetically reflects the smaller trade deficit, with stronger exports and fewer oil imports.

⁷⁴ Balance of payments problems can also arise from vulnerable gross flows, even if imbalances (differences between inflows and outflows) are insignificant.

⁷⁵ Ben S. Bernanke, *The global savings glut and the U.S. current account deficit*, remarks at the Sandridge Lecture, Virginia Association of Economics, Federal Reserve Bank of Richmond, March 10, 2005.

downward pressure on interest rates, led to portfolio reallocation and helped fuel the credit bubble that ultimately evolved into the crisis.

Since then, the deficit in China and the surplus in the United States have both declined substantially, to just 0.1 percent of China's GDP and 2.2 percent of US GDP in 2016.⁷⁶ The dominance of "Chimerica," as it has been called, in global finance has been substantially reduced.⁷⁷

Exhibit 22

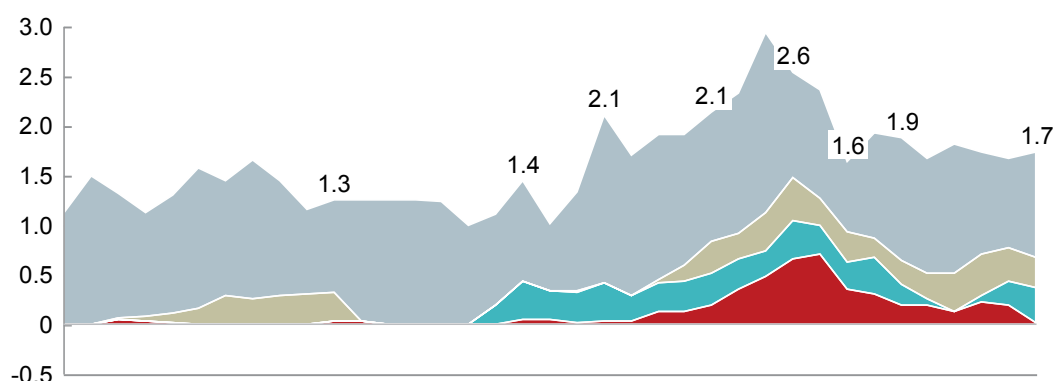
Financial- and capital-account imbalances have declined relative to GDP since the crisis

Sum of financial- and capital-account deficits/surpluses to GDP¹

%

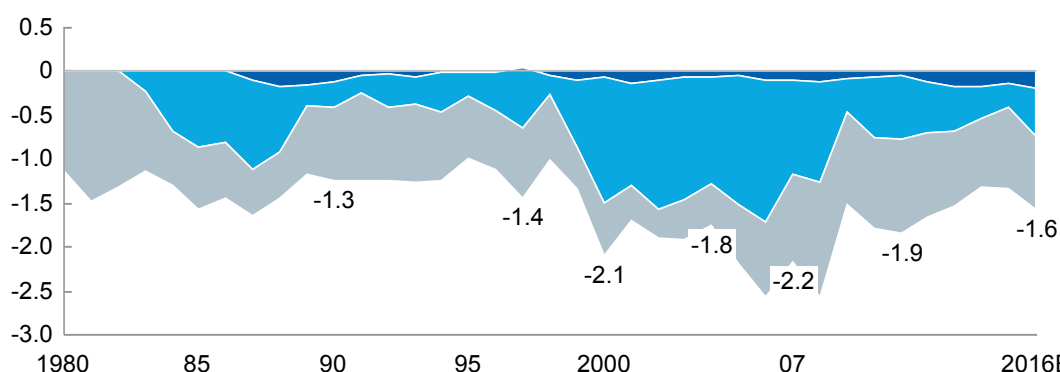
Net capital suppliers (savers)²

- Other
- Germany
- Japan
- China



Net capital recipients (users)

- Other
- United States
- United Kingdom



Financial- and capital-account deficit

\$ trillion

0.1 0.3 0.7 1.5 1.3

¹ Countries with a financial- and capital-account deficit have net capital outflows (gross capital outflows larger than inflows); countries with a surplus have net capital inflows (gross capital inflows larger than outflows).

² Data for other net capital suppliers 1981–2003 adjusted based on the total financial- and capital-account surplus due to large mismatch in deficit and surplus in these years.

NOTE: Sum of surpluses not equal to sum of deficits due to data errors and omissions.

SOURCE: IMF Balance of Payments; McKinsey Global Institute analysis

⁷⁶ Recent studies have pointed out that the US trade deficit might be smaller than official numbers suggest because imports are overstated and exports understated. See, for instance, Fatih Guvenen et al., *Offshore profit shifting and domestic productivity measurement*, NBER working paper number 23324, April 2017.

⁷⁷ Niall Ferguson and Moritz Schularick, *The end of Chimerica*, Harvard Business School BGIE Unit working paper number 10-037, November 2009.

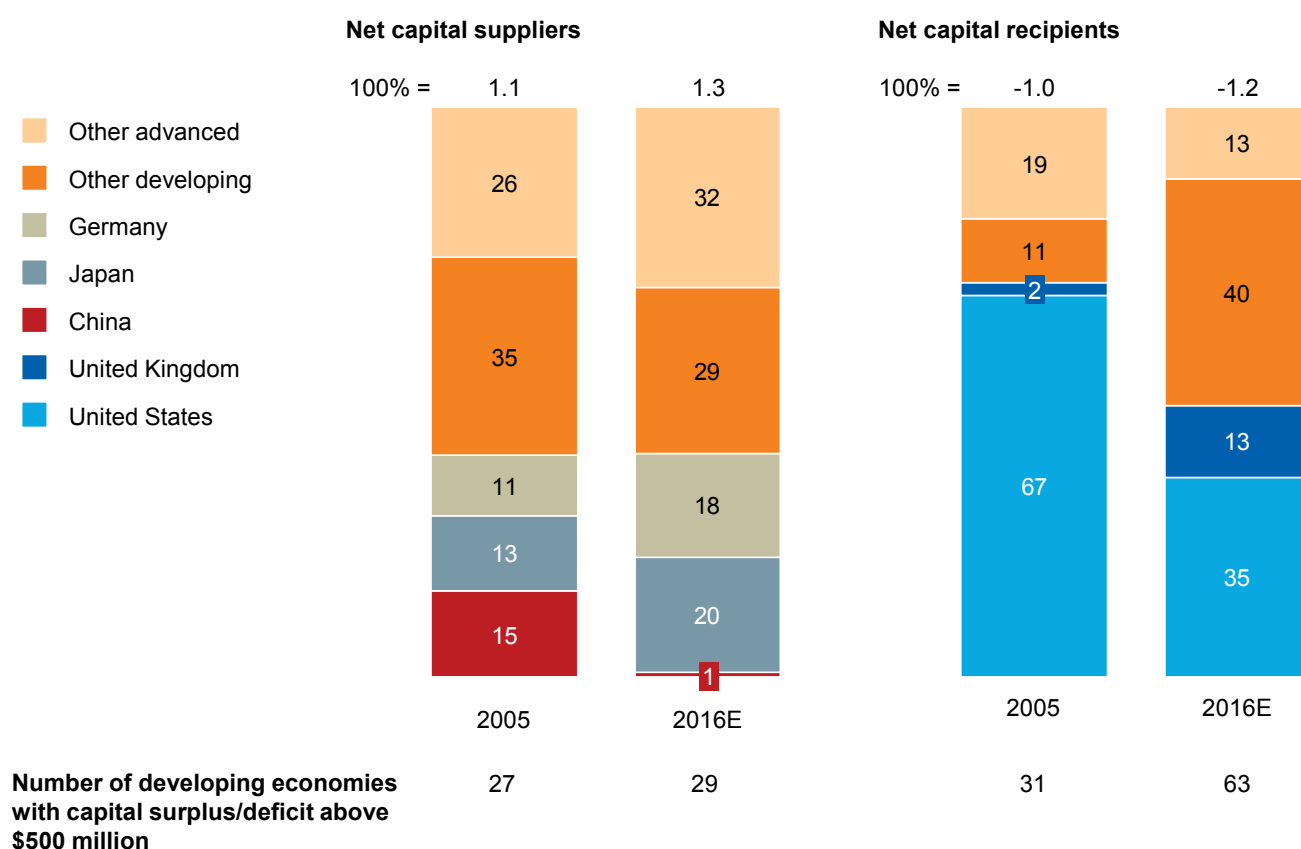
In its place, a range of other countries now play larger roles (Exhibit 23). Japan and Germany continue to be large capital suppliers to the global system, and Germany's role has notably increased (opening it up to some criticism in mid-2017 from the IMF). But a range of other countries also are net savers in the global system, including Italy, Malaysia, Russia, Singapore, South Korea, Spain, and Thailand. Among net capital recipients, a larger range of countries now participate. The United Kingdom's financial- and capital-account surplus has grown, from 0.9 percent of GDP in 2005 to 5.5 percent in 2016.⁷⁸ It now accounts for 13 percent of the capital surpluses in the system. But a host of other countries (from Australia and Canada to Brazil and Mexico) have also had growing financial- and capital-account surpluses; together their share rose from just 30 percent in 2005 to more than half in 2016. Financial globalization is broadening and diffusing.

Exhibit 23

A wider range of countries now have financial- and capital-account surpluses and deficits

Financial- and capital-account deficit/surplus (annual flow)

%; \$ trillion



NOTE: Numbers may not sum due to rounding.

SOURCE: IMF Balance of Payments; McKinsey Global Institute analysis

⁷⁸ This can serve as an early warning. Similar trends were evident in the run-up to the Asian financial crisis. For instance, the current-account deficit (and financial- and capital-account surplus) in Thailand was over 6 percent of GDP every year in the early 1990s. In Malaysia, the current-account deficit was more than 10 percent of GDP in 1993, and in the Philippines around or above 5 percent of GDP.

65%
of advanced
economies and
33%
of developing
countries
experience a
large fluctuation in
capital flows in any
given year

Do continuing global financial imbalances pose a threat to global financial stability?⁷⁹ Some argue that they pose macroeconomic risks, particularly for countries that build up large foreign investment liabilities. This could lead to a national balance of payments crisis if capital flows reversed suddenly. However, another interpretation of net surpluses and deficits across countries is that the global financial system is operating as a national financial system does, taking excess savings from some countries and channeling them to countries with savings deficits. If the capital reallocation is efficient, meaning that it is channeled to the funding of profitable investment, this will enhance sustainable global economic growth. Prior to the crisis, the main problem with imbalances was that they channeled vast quantities of global savings largely into several specific asset classes: US Treasuries, as well as real estate and structured credit, helping fuel a real estate bubble, particularly in subprime, which collapsed and triggered a crisis.⁸⁰

POTENTIAL SOURCES OF RISK AND VOLATILITY REMAIN

More stable and globally diversified cross-border capital flows would have significant benefits for the world economy, enhancing competition, stimulating domestic financial markets, enabling financing of infrastructure projects in developing countries, and pushing regulators to develop a more advanced legal base and supervision.⁸¹ However, regulators, governments, and investors cannot afford to be complacent. As countries become more connected to the global financial system, there is a danger that capital flows—always volatile—could prove so again. There is a possibility that high equity values may manifest eventually as an unsustainable bubble. As world finance remains a tightly interwoven and interdependent system, there is always a risk of financial contagion. And the increasing prominence of international financial centers, some of which are not transparent enough and may enable institutions with very high levels of leverage, is another risk.

Gross capital flows remain volatile

While the shift in capital flows toward more FDI is a welcome change, it is worth noting that gross capital flows can still be quite volatile, creating significant repercussions in exchange rates and asset prices that have reverberations throughout the economy. This is true for both advanced economies and developing countries.

Exhibit 24 shows the average share of developed and developing countries that experience a large capital flow fluctuation in any year—a large decline, reversal (from positive to negative), large surge, or recovery (from negative to positive). Indeed, 33 percent of developing countries and 65 percent of advanced economies experience a large fluctuation in total capital inflows in any given year. The median change is equivalent to 6.7 percent of GDP for developing countries and 10.8 percent for advanced economies. An astonishing 90 percent of all countries will experience volatility in at least one type of capital inflow each year, making volatility the norm rather than exception.

Looking at specific flows, we see that lending and other investment flows are also hugely volatile. In any year, 62 percent of developing countries will experience a large fluctuation in lending flows: 32 percent a large decline or reversal, and 30 percent a surge or recovery. The median size of those changes is equal to 3 percent of the country's GDP. The volatility of lending flows for advanced economies is even more staggering: 72 percent of countries will experience a large fluctuation, and the median size of the change is equal to 7.7 percent of GDP.

⁷⁹ See Maurice Obstfeld, "Does the current account still matter?" *American Economic Review*, volume 102, number 3, May 2012.

⁸⁰ Claudio Borio and Piti Disyatat, *Global imbalances and the financial crisis: Link or no link?* BIS working paper number 346, May 2011.

⁸¹ See, for instance, Stijn Claessens, "Global banking: Recent developments and insights from research," *Review of Finance*, volume 21, issue 4, July 2017.

Exhibit 24

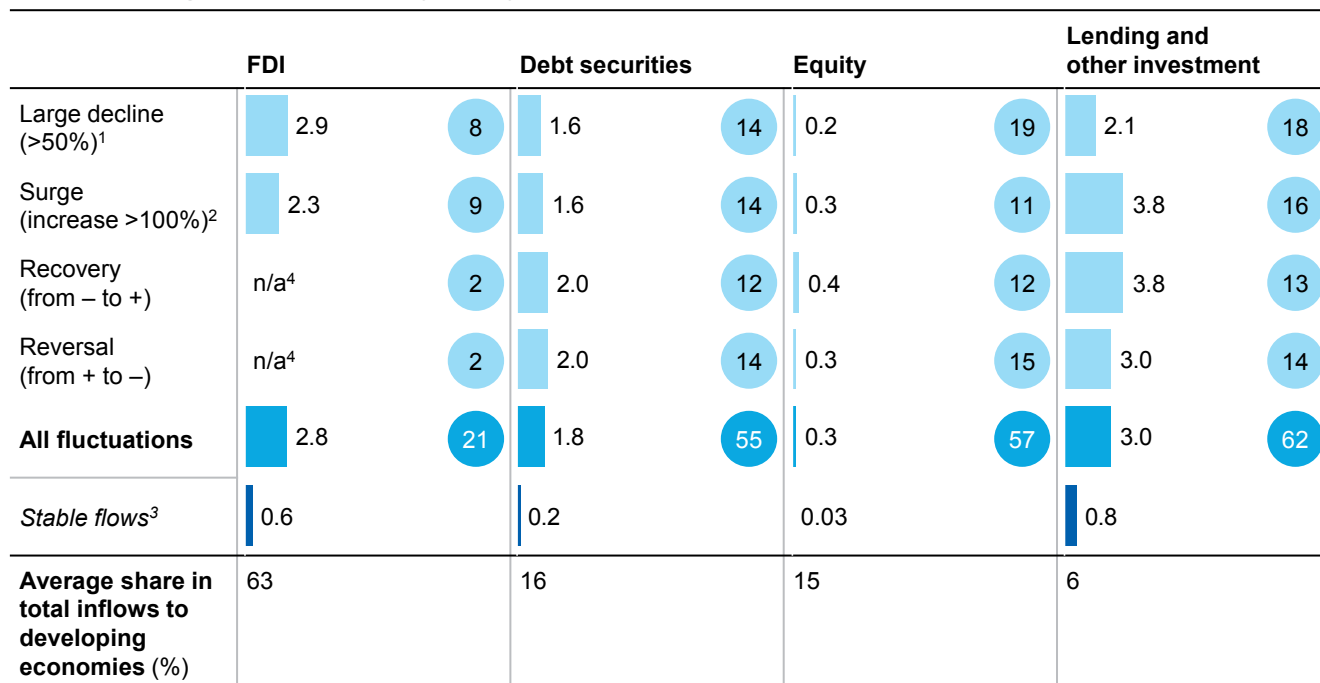
Lending flows to both advanced and developing economies are the most volatile

2011–16

● Annual average share of countries demonstrating particular dynamics of flows (%)

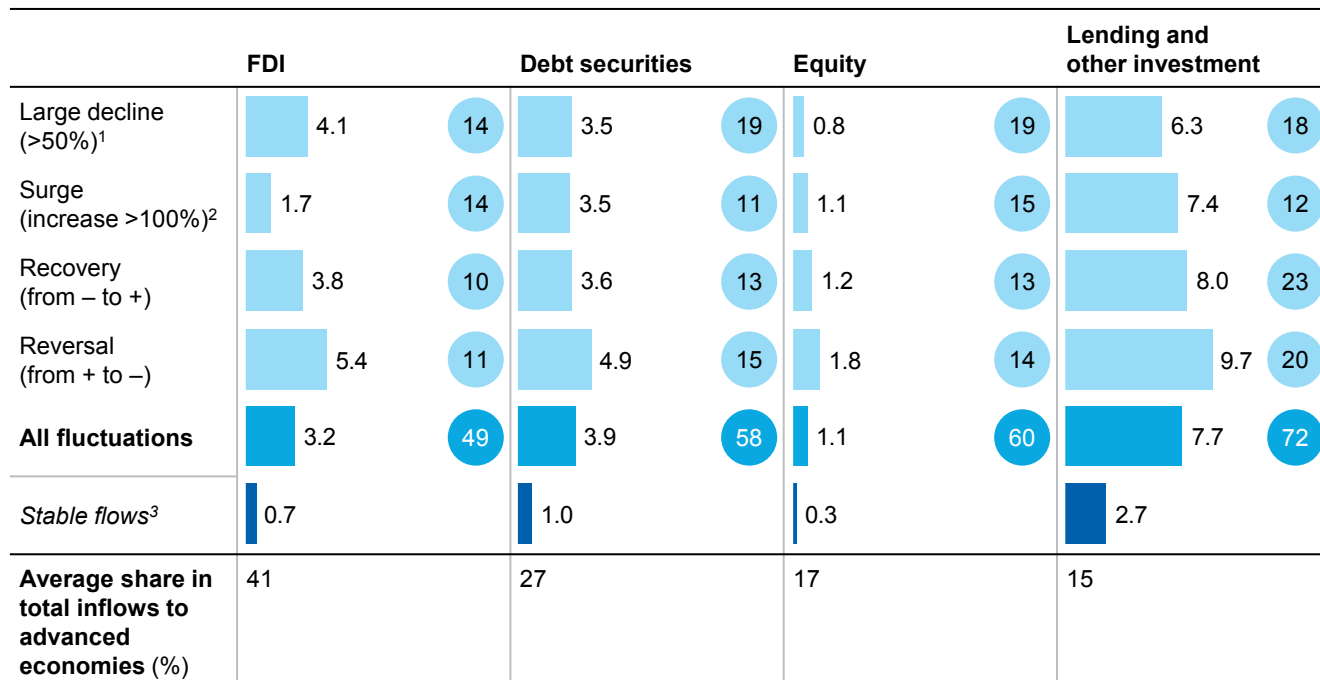
Absolute change in capital inflows to GDP to **developing economies**

Median of change in inflows to GDP by country (%) (n = 69 countries)



Absolute change in capital inflows to GDP to **advanced economies**

Median of change in inflows to GDP by country (%) (n = 33 countries)



1 From positive to positive and from negative to negative.

2 From positive to positive only.

3 Flows that show no significant change.

4 Limited sample—no more than three cases in any year.

SOURCE: IMF Balance of Payments; McKinsey Global Institute analysis

While cross-border capital flows—especially FDI and equity—can have a positive impact on economic growth, volatility of these flows can undermine economic stability, especially in developing countries that are less prepared to manage such fluctuations.⁸² Macroeconomic stability can also be undermined by exchange-rate fluctuations resulting from volatility in cross-border capital flows. Periods of reduced cross-border capital inflows to GDP are associated with currency depreciation, while increased flows to GDP result in appreciation of the local currency.⁸³ For countries that are highly dependent on foreign capital, a sudden stop or reversal in capital flows from abroad can create abrupt changes in exchange rates, asset prices, and real economic growth. In addition, BIS research shows that the most volatile debt-related flows are largely procyclical, which can exacerbate domestic economic cycles.⁸⁴

Equity-market valuations are reaching new peaks

Equity-market capitalization to GDP ratio rose to

99%

in 2016, from

67%

Another sign of a potential stock market bubble in some economies is a rise in the valuation of equities compared with corporate earnings. The cyclically adjusted price-earnings ratio, or CAPE, devised by Robert Shiller compares a company's stock price with the past ten years of earnings.⁸⁶ By July 19, 2017, this measure exceeded 30 in the case of the S&P 50 in the United States, a peak not seen since 2002 after the internet bubble had begun to deflate. Another measure of valuation compares the price of stocks with future expected earnings. On this metric, the US forward price/earnings (P/E) ratio reached 18 by the end of 2016, which is well above the long-term average (Exhibit 25).

⁸³ Jean-Louis Combes, Tidiane Kinda, and Patrick Plane, *Capital flows, exchange rate stability, and the real exchange rate*. IMF working paper number 11/9. 2011.

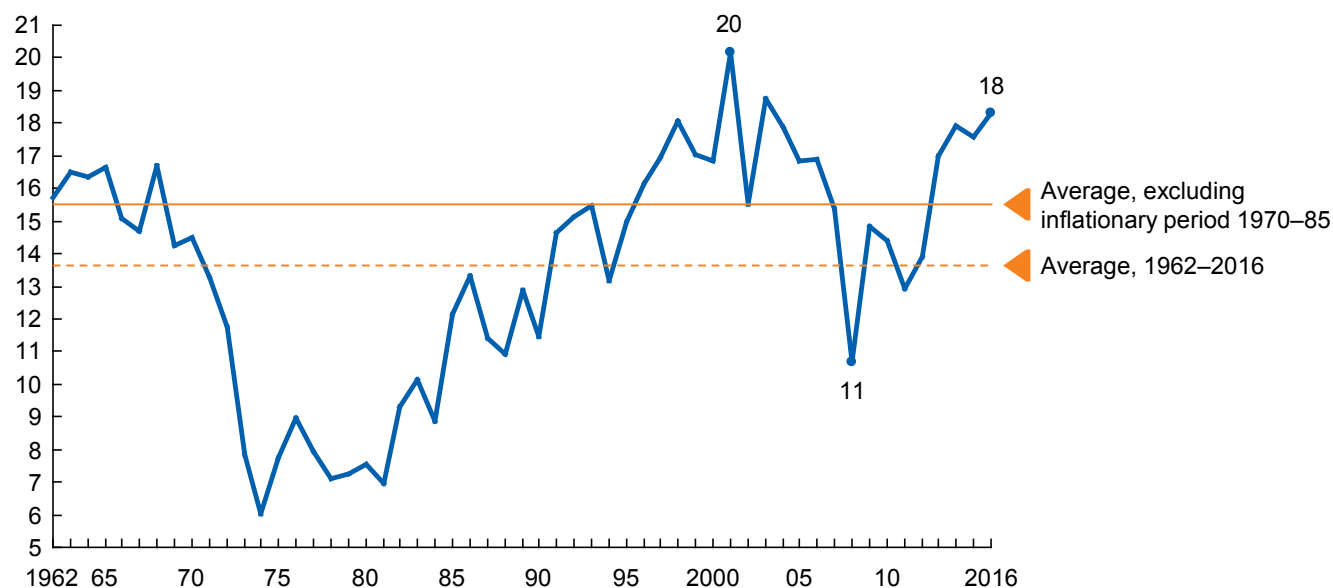
⁸⁵ Market capitalization to GDP is “probably the best single measure of where valuations stand at any given moment,” according to US investor Warren Buffett; it is often called the Buffett Indicator.

McKinsey Global Institute

Exhibit 25

US forward price-earnings (P/E) ratio is well above the long-term average

Forward P/E ratio, United States



SOURCE: McKinsey Corporate Performance Analysis Tool; McKinsey Global Institute analysis

Some analysts say that the speed at which equity prices are increasing—“acceleration”—is another early warning sign that an equity bubble is forming, although the evidence on this currently is mixed. Another potential sign is “issuance,” or the share of firms in an industry that have issued equity in the past year.⁸⁷

Regulators in some geographies were beginning to sound warning bells in mid-2017. The Federal Reserve said that equity prices and price-to-earnings have risen “above historical norms,” and agreed that “some participants viewed equity prices as quite high relative to standard valuation measures.”⁸⁸ However, despite dramatic growth in the United Kingdom’s FTSE 250, members of the Bond Market Contact Group organized by the ECB meeting in mid-2017 did not observe an equity bubble in the Eurozone. They explained their judgment by citing the fact that net equity inflows were small in 2015 and 2016, and attributed high equity prices primarily to low interest rates rather than market overheating.⁸⁹ Some market professionals have expressed concern: 34 percent of global respondents in a 2017 Bank of America Merrill Lynch fund manager survey said that equities were overvalued, the highest share seen since the survey began 17 years ago.⁹⁰

A sudden correction in the equity markets of any of the largest countries would have global reverberations. While financial globalization may be entering an era characterized by more stability, the potential for equity-market crashes—and the second-order selling of other assets it could spark—remains a risk.

⁸⁷ See Robin Greenwood, Andrei Shleifer, and Yang You, *Bubbles for Fama*, NBER working paper number 23191, February 2017.

⁸⁸ *Minutes of the Federal Open Market Committee, March 14–15, 2017*, Board of Governors of the Federal Reserve System, April 5, 2017.

⁸⁹ Mariano Bengoechea, Andreas Gruber, and Natasha Brook-Walters, *Impact of the ECB’s asset purchase programme: BMCG meeting, 7 February 2017*, J.P.Morgan and Allianz, 2017.

⁹⁰ Bank of America Merrill Lynch fund manager survey 2017.

Financial contagion is still a risk

Future instances of financial contagion also cannot be ruled out. If anything, as financial connections broaden across more countries, the risk may be higher. The volatility of cross-border capital flows that we have discussed can serve as a transmission mechanism to spread shocks to countries that are integrated in the global financial system.⁹¹ The world has experienced many instances of financial contagion, most recently during the global financial crisis.

Recent research points out that equity-related capital flows that contain elements of risk sharing cause less risk of contagion than debt-related flows. Reversals and sudden stops in lending flows that are the most volatile can lead to a decline in domestic credit supply and liquidity, which results in increased interest rates and might lead to a slowdown in economic growth. The role of banks in causing contagion can be aggravated by their degree of leverage and the short maturity of cross-border lending flows.⁹² It is not only type of flows that affect the level of contagion risk but also where they take place. There can be a strong “neighborhood” effect in which countries close to the source of instability are likely to be most vulnerable. Today China has rapidly rising levels of debt that increase the risk of a financial crisis.⁹³ Any crisis in China could spill over to neighboring economies, as well as all the foreign countries in which it has invested.

Developing economies that lack the institutional and structural readiness to absorb capital inflows may be particularly vulnerable.⁹⁴ However, the challenge is one not only of establishing the right institutions, but also of ensuring that these institutions take a balanced approach to regulating domestic financial systems on both the macroeconomic and microeconomic levels.

Since the global financial crisis of 2008, both national and international regulators have focused on monitoring and managing systemic risk. Traditionally, bank regulation and supervision focused on the stability of individual banks. But in a world of complex networks and financial connections, what is good for individual banks may not be good for the system as a whole. The banking system can be modeled as a network that becomes denser with increased bank interaction. As the network grows larger, cycles (in credit, housing, or other sectors) emerge, and can cause distress to spread quickly through the network.⁹⁵ Since the crisis, monitoring systemic risk has been a top priority for all national financial regulators. The Financial Stability Board, the IMF, and the Basel Committee have all contributed to the issue as well, providing new data and policy recommendations for macroprudential policies. The Eurozone has created the European Systemic Risk Board. Detecting and preventing systemic issues such as financial contagion has been high on the agenda of financial regulators for almost a decade now.

⁹¹ See IRC Task Force on IMF Issues, *Dealing with large and volatile capital flows and the role of the IMF*, ECB, occasional paper series number 180, October 2016; and Kristin Forbes, *Capital flow volatility and contagion: A focus on Asia*, November 2012.

⁹² See Kristin J. Forbes, *Capital flow volatility and contagion: A focus on Asia*, MIT Sloan research paper number 4979–12, December 2012; and “Financial contagion in the era of globalised banking?” OECD, *OECD Economics Department Policy Notes*, number 14, June 2012.

⁹³ See *Debt and (not much) deleveraging*, McKinsey Global Institute, March 2015.

⁹⁴ See, for example, Padma Desai, *Financial crisis, contagion, and containment: From Asia to Argentina*, Princeton University Press, 2014.

⁹⁵ Ben S. Bernanke, *Financial regulation and supervision after the crisis: The role of the Federal Reserve*, speech delivered at the Federal Reserve Bank of Boston 54th Economic Conference, Chatham, Massachusetts, October 2009. See, in particular, Claudio Borio, “Implementing the macroprudential approach to financial regulation and supervision,” Banque de France, *Financial Stability Review*, September 2009; and Markus Brunnermeier et al., *Banks and cross-border capital flows: Policy challenges and regulatory responses*, Brookings Institution, September 2012.

International financial centers facilitate cross-border capital flows but may pose some risks

As we noted in Chapter 2, financial centers are becoming ever more prominent features of the global financial landscape. Do they pose any systemic risk to the global financial system?

UNCTAD has noted that these conduit countries often lack transparency and effective exchange of information. Other critics charge that before the crisis, many financial vehicles, including hedge funds, were operating offshore and off balance sheet, and that this concealed the risks that banks were facing and made responding more difficult for regulators.⁹⁶ While regulators have made significant efforts since the crisis to increase transparency and decrease the level of risk associated with international financial centers, there is room for more action.

Individual international financial centers differ in the level of risk they pose to the global financial system. Those that offer wealth-management services often pose little systemic risk, unless they enable highly leveraged transactions. Private and institutional investors use hubs providing wealth-management services for a number of reasons. For instance, high-net-worth individuals channel funds to these hubs to diversify risk, obtain access to attractive products, gain tax advantages and flexibility, and lower costs. Institutional investors use these centers for their cluster expertise. For instance, mutual funds registered in Luxembourg use the Undertakings for Collective Investment in Transferable Securities regulatory regime, which enables them to manage funds in Europe and sell them worldwide under unified legal requirements. Where possible, players such as hedge funds exploit efficient tax structures. International financial centers are almost never the final recipient of the capital flows; funds from investors are channeled to their final destination mainly through investment vehicles such as funds, trusts, family offices, and company structures (for instance, a wealthy investor from the Middle East may hold property in London through a trust located in an international financial center).

Financial centers that have large banking activities compared with the size of their host economies could pose systemic risk, particularly for the host country. Examples include Switzerland, the United Kingdom, Bahrain, and Singapore; these four centers have stocks of foreign loan assets of 125 percent of GDP, 191 percent, 325 percent, and 344 percent, respectively. Any significant losses suffered by those banks would create huge losses for the taxpayers of the country, and disrupt foreign markets as well. This argues for more transparency of financial centers so that some risk can be contained.

Some companies use financial centers to minimize tax burdens, using special purpose entities, special purpose vehicles, or shell companies aimed at tax and risk minimization. They imply legal structures that have little or no employment, operations, or physical presence in the jurisdiction in which they are created, and they serve as vehicles for channeling funds. UNCTAD estimates that 19 percent of corporate investment from advanced economies and 10 percent from developing economies is channeled through special purpose vehicles.⁹⁷

But tax avoidance poses not so much systemic risk as lost revenue for governments. The OECD is clear about the economic damage of tax avoidance, saying that it threatens government revenue and means “fewer resources for infrastructure and services such as education and health, lowering standards of living in both developed and developing economies.”⁹⁸ In 2011, the OECD calculated that, at an aggregate global level, up to half of the additional resources needed each year to achieve the first six Millennium

⁹⁶ See, for instance, Sol Picciotto, “How tax havens helped to create a crisis,” *Financial Times*, May 5, 2009.

⁹⁷ *World investment report 2015: Reforming international investment governance*, United Nations Conference on Trade and Development, 2015.

⁹⁸ OECD, *Fighting tax evasion* (www.oecd.org/ctp/fightingtaxevasion.htm).

Development Goals could be recovered just by improving the collection of tax revenue in developing economies.⁹⁹

Since the crisis, regulators have stepped up efforts to force financial centers into information sharing in order to boost the fiscal contribution of multinational corporations and private individuals, notably through the G20's project on base erosion and profit shifting led by the OECD.¹⁰⁰ Other regulations have had similar intentions. For instance, in the United States, the Foreign Account Tax Compliance Act requires foreign financial Institutions and certain other non-financial foreign entities to report on the foreign assets held by their US account holders or be subject to withholding on payments. The HIRE Act also contained legislation requiring US individuals to report, depending on the value, their foreign financial accounts and foreign assets. Such efforts have led to higher levels of transparency and automatic information exchange. Most international financial centers have significantly increased the level of cooperation, and tax evasion has become much more difficult. However, pockets of resistance and some questionable standards remain.

...

The regulatory response to the crisis has been robust, and there has, without doubt, been a return to more normal conditions after a period of extreme instability. Today, we observe several signs that could indicate more stability in financial globalization in the years ahead. However, regulators and market players need to be aware of risks that remain. There is no room for complacency among regulators or banks themselves. In the final chapter of this report, we look at what market participants and regulators can do to fully leverage the benefits of global financial connections.

⁹⁹ Vararat Atisophon et al., *Revisiting MDG cost estimates from a domestic resource mobilisation perspective*, OECD Development Center working paper number 306, December 2011.

¹⁰⁰ The strategy was to put alleged tax havens on a "gray list" and then delist those that agreed on a particular standard of information exchange and signed at least 12 bilateral tax information exchange agreements. For more, see the OECD Base Erosion and Profit-Shifting initiative (www.oecd.org/tax/beps/).



4. RESPONDING TO THE NEXT ERA OF FINANCIAL GLOBALIZATION

Financial globalization has reset after the fallout from the crisis a decade ago, with a new norm emerging for banks and other investors. Banks and regulators need to continue to develop ways to manage risks associated with cross-border capital flows. At the same time, they will need to respond to the sweeping opportunity and challenge of digitization that is already ushering in a new era of financial globalization.

New digital technologies may expand and accelerate cross-border capital flows. The increasing presence of fintechs and digital solutions such as blockchain and machine learning could revolutionize financial markets, revive growth in cross-border transactions, and further broaden participation in global finance. Fintech players in cross-border P2P lending, funding platforms, digital payments and transactions, and digital trade finance change the nature of financial connections.

Keeping pace with these changes will not be easy. Banks will need to adapt their business and risk models, not only to accommodate the new regulatory climate but also to respond to the digital opportunity. Regulators will need to keep an eye on old risks in financial markets while keeping pace with the new challenges that the digitization of global finance poses.

DIGITAL TECHNOLOGIES MAY ACCELERATE CROSS-BORDER FLOWS AND CHANGE THE NATURE OF FINANCIAL CONNECTIONS

Digital solutions have the potential to transform global finance.¹⁰¹ The user-friendly applications and online services that digital platforms offer are beginning to break banks' monopoly on customers, and banks will need to respond to customers' demands for access to services at any time on any device, personalized propositions, and instant decisions. In the years ahead, many of the new technologies will enable faster, lower-cost, and more efficient cross-border transactions, perhaps accelerating growth in global capital flows.

It is no secret that investment in new financial technologies by incumbents and new players alike is soaring. Venture capital players invested \$17.4 billion in fintech startups in 2016, according to PitchBook data, up 11 percent from the previous year. New players can build positions extremely quickly. Alibaba built a loan portfolio of \$16 billion in less than three years, becoming China's largest seller of money-market funds in just seven months.¹⁰² In the United Kingdom, the share of mortgage lending commanded by digital players outside the top six UK mortgage lenders jumped from 17 percent in 2011 to 29 percent only two years later. In October 2016, Facebook obtained an e-money license from the Central Bank of Ireland, which enables the company to issue e-money and provide payment services such as credit transfers to customers in all 27 EU member states.¹⁰³

\$17.4B
venture capital
invested in fintech
startups in 2016

¹⁰¹ For more on these technologies and their role in finance, see, for example, *Digital finance for all: Powering inclusive growth in emerging economies*, McKinsey Global Institute, September 2016; David Schiff and Adele Taylor, *Key trends in digital wealth management — and what to do about them*, Digital McKinsey, October 2016; and Dorian Pyle and Cristina San Jose, "An executive's guide to machine learning," *McKinsey Quarterly*, June 2015.

¹⁰² Wayne Busch and Juan Pedro Moreno, "Banks' new competitors: Starbucks, Google, and Alibaba," *Harvard Business Review*, February 20, 2014.

¹⁰³ James Barty and Tommy Ricketts, *Promoting competition in the UK banking industry*, BBA, 2014.

Three types of digital solution are worth highlighting: digital platforms that create new marketplaces for financial transactions; blockchain—or distributed ledger—technologies that offer a step-change improvement in the efficiency and security of transactions; and smart machines and AI that augment human decision making.

Digital platforms are changing the dynamics of cross-border finance

Digital platforms create two-sided markets for transactions, based on mobile phones or the internet.

Digital lending platforms

In financial markets, lending platforms for individuals and companies are one example of digital platforms. Although the financial flows intermediated by the platforms are only a tiny fraction of total global financial flows today, the potential is enormous. Digital platforms such as Kickstarter, Kiva, and Zopa are increasingly used to raise money and procure loans, often across borders.¹⁰⁴ Since launching its foundation in 2005, Kiva has facilitated loans worth nearly \$1 billion, reaching 2.4 million borrowers (mainly in developing countries) from 1.4 million lenders. Every week, \$2.4 million in new microloans is funded through the platform. Almost all of this volume is in the form of small financial transactions between people who have never met and who live thousands of miles apart.

In Asia, fintech P2P lending startups are proliferating, and many of them operate across borders. For instance, Kuala Lumpur-based Crowdo, which launched in 2013, now has more than 20,000 members, and offices in Jakarta and Singapore. Funding Societies opened an office in Singapore in 2015 and a second location in Jakarta in January 2016. Launched in 2006, CreditEase is one of China's biggest P2P lending and microfinance platforms. In 2016, CreditEase announced that it had raised \$80 million with plans to buy \$50 million of loans from leading US online lenders Prosper Marketplace and Avant. In Japan, CrowdCredit operates a cross-border lending platform for both individual investors and small- and medium-sized enterprises (SMEs) that can lend in Cameroon, Estonia, Finland, Italy, Peru, and Spain.¹⁰⁵

Some traditional banks are going into partnership with alternative lending platforms. In the United Kingdom, international crowdfunder Seedrs, which owns major P2P lender Assetz Capital, was invited to join the panel of alternative funding solutions run by NatWest and the Royal Bank of Scotland. Relationship managers of the two major banks offer their customers the option of seeking help from panel members when standard financial offerings are not suitable. Seedrs has already funded more than 500 investment rounds for fast-growing SMEs.¹⁰⁶

Platforms for digital payments and transfers

Traditional cross-border payments in most regions are typically expensive and slow, and customers increasingly expect real-time, digitally enabled cross-border payments, which are considerably cheaper.¹⁰⁷ A 2015 McKinsey survey found that consumers typically pay a fee of €20 to €60 on top of the prevailing foreign-exchange spread, and even this doesn't guarantee timely delivery of money. Theoretically, most cross-border payments could be executed within a day, but the survey revealed that the typical retail cross-border payment took three to five working days to complete.¹⁰⁸ Increasingly this is not good enough

¹⁰⁴ Jacques Bughin, Susan Lund, and James Manyika, "Harnessing the power of shifting global flows," *McKinsey Quarterly*, February 2015.

¹⁰⁵ "Asia's top 7 peer-to-peer lending platforms," *Fintechnews Singapore*, June 29, 2016.

¹⁰⁶ Tom Belger, "Major banks add crowdfunder to alternative lender panel," *Bridging & Commercial*, May 31, 2017.

¹⁰⁷ Except the EU's Single Euro Payments Area, which ensures that cross-border payments are fast and are subject to the same charges as domestic payments.

¹⁰⁸ Olivier Denecker et al., "Rethinking correspondent banking," *McKinsey on Payments*, volume 9, number 23, June 2016.

for customers, and new forms of competition are putting the traditional model under acute pressure.

Digital innovators are attracting customers with new platforms that outperform traditional correspondent banking on price, speed, and efficiency. For example, TransferWise, started in 2011, offers cross-border payments to countries around the world in one business day, at a fraction of the cost of traditional players. Serving tens of millions of customers who transfer £500 million monthly, it enables customers to send funds to individuals, bank accounts, and mobile-money providers. The promise of digital technologies to facilitate cross-border payments is clear. London-based Currencycloud, a fintech that helps businesses make cross-border payments, raised \$25 million in March 2017, money that will be used to expand its business in the United States and make its first foray into Asia.¹⁰⁹ In May 2017, AirWallex, a cross-border payment startup, received a major investment from Chinese internet giant Tencent to fund expansion in the Asia-Pacific region and into Europe. AirWallex targets businesses.¹¹⁰

As in digital lending platforms, partnerships are beginning to emerge in digital payments. JPMorgan Chase spent \$600 million in 2016 on fintech solutions to improve its mobile and digital services.¹¹¹ In January 2017, BBVA Bancomer, the largest financial institution in Mexico, acquired Openpay, a Mexican fintech payment startup. Before the acquisition, the bank and the fintech had been in a collaborative partnership.¹¹² In June 2012, a new person-to-person payments network called Zelle launched with the backing of 30 major US banks; the network rolled out to more than 86 million mobile-banking customers in the United States.¹¹³ TransferWise has started partnering with banks, too. In 2016, the company gained access to the United Kingdom's Faster Payments Service through a collaboration with Raphaels Bank. TransferWise has opened a regional headquarters in Singapore and in 2017 was planning a move to Hong Kong, too.¹¹⁴

Digital trade finance

The digitization of trade finance has lagged behind that of other parts of the financial system. However, a confluence of factors including the development of the right technical capabilities, a nearly ubiquitous shift to trade on open account terms, and greater acceptance of IT-enabled solutions is now creating some momentum.¹¹⁵ A number of fintechs already offer trade-finance services, including UK-based TradeRiver Finance and US-based Tradeshift, which is working with HSBC.

Trade-finance solutions are increasingly being developed using blockchain-based platforms (see the next section for more on blockchain). Blockchain is highly attractive for trade finance because this form of finance has traditionally been so inefficient, document-heavy, and open to fraud. The Euro Banking Association said in a summary of the results of a working

¹⁰⁹ Oscar Williams, "Fintech company Currencycloud raises £20 million from Google's VC arm," Business Insider, March 9, 2017.

¹¹⁰ Jon Russell, "Airwallex raises £13m led by Tencent to bring its cross-border payment service to Europe," TechCrunch, May 1, 2017.

¹¹¹ Grace Noto, *Chase spent \$600 million in fintech deals in 2016*, Bank Innovation, April 4, 2017.

¹¹² Samburaj Das, "Mexico's largest bank acquires fintech payments startup Openpay," CryptoCoinsNews, January 2, 2017.

¹¹³ Sarah Perez, "Zelle, a real-time Venmo competitor backed by over 30 U.S. banks, arrives this month," TechCrunch, June 12, 2017.

¹¹⁴ Matthew Arnold, "TransferWise to offer cross-border bank accounts," *Financial Times*, May 23, 2017.

¹¹⁵ See *Digital trade and trade financing: Embracing and shaping the transformation*, SWIFT & OPUS Advisory Services International, information paper, May 2016.

group on this issue that cryptotechnologies had the potential to transform the trade-finance industry.¹¹⁶

Large banks are moving rapidly into this space. In June 2017, IBM was chosen to build a blockchain platform for seven of Europe's largest banks to facilitate international trade for SMEs. The platform is expected to go live by the end of 2017. The solution will be called the Digital Trade Chain.¹¹⁷ In August 2016, HSBC, Bank of America Merrill Lynch, and the Infocomm Development Authority of Singapore said they were using a blockchain prototype to streamline the paper-heavy world of global trade. This consortium used the Linux Foundation open-source Hyperledger Project supported by IBM.

Blockchain technology could enable lower-cost, more secure cross-border financial transactions

Blockchain technology has the potential to make global cross-border financial transactions quicker, cheaper, and more secure. The technology is an encoded distributed ledger that contains a digital log of all transactions shared across a public or private network, enabling a permanent, immutable, and transparent recording of data and transactions. It can be used to exchange any number of things that have value, whether physical items or virtual payments, without need for intermediaries and in a secure way. It is well suited for applications requiring a rapid, permanent time and date stamp, such as a range of payments and transfers of financial assets.

For instance, McKinsey estimates that achieving clearing and settlement via blockchain could save between \$50 billion and \$60 billion in business-to-business (B2B) cross-border payment costs.¹¹⁸ Blockchain can also enable P2P lending on both a national and international scale. Transaction-banking experts interviewed by McKinsey said that they expect the greatest medium-term impact in blockchain technology will be in documentary handling and trade finance. The technology may also transform the business model for cash-management services, including domestic and cross-border payments and remittances.

Blockchain platforms are already emerging to enable person-to-person remittances at a fraction of the cost and time involved in traditional money-transfer systems. These technologies may be particularly important for developing economies, enabling them to leapfrog ahead in market architecture. In trade finance, large banks including Bank of America, Barclays, DBS, and Standard Chartered are working on proofs of concept to explore the use of blockchain.¹¹⁹ Wave, a blockchain-based startup in partnership with Barclays, is already using the technology to replace traditional shipping documents, track goods from port to port, and even make payments at some ports. The partners completed the first blockchain trade finance transaction in 2016.¹²⁰

\$50B-
\$60B
saving on B2B
cross-border
payments with
blockchain clearing
and settlement

¹¹⁶ The report said, "The exchange of trade data serves as the backbone for the trade finance workflow, making it an ideal starting point for the use of cryptotechnologies. The approval and matching of data found in trade documents such as invoices can be a trigger for events that follow such as the transfer of ownership or execution of a payment. By facilitating easy access to data and end-to-end transparency of the entire value chain, cryptotechnologies can create a level playing field for all parties involved in a trade transaction and facilitate improved exchange of trade information. The exchange of trade data and auditability of a participant's credit history can also help increase speed, efficiency, and security in financing between buyers, sellers, and their banks." See *Applying cryptotechnologies to trade finance*, Euro Banking Association, EBA Working Group on Electronic Alternative Payments information paper, May 2016.

¹¹⁷ Clare Dickinson, "Banks partner with IBM for blockchain-backed trade finance," *Financial News*, June 27, 2017.

¹¹⁸ *Technology innovations driving change in transaction banking*, McKinsey & Company, September 2016.

¹¹⁹ Pradeep Zaddu, "Blockchain: The next banking blockbuster?" *Finextra*, February 26, 2017.

¹²⁰ *Barclays and Wave complete world first blockchain trade finance transaction*, Barclays press release, September 7, 2016.

Full adoption of blockchain will require policy makers, regulators, and technology experts to work together over time to build common technology platforms and implement operational procedures compatible with this shared technology.

Smart machines and AI can augment human judgment in cross-border investing

Machine learning, cognitive agents, and workflow automation have the potential to generate enormous efficiencies in financial services. While most of the impact will be felt in banks' domestic operations, it may also improve foreign operations and reduce pervasive information asymmetries when operating in other countries.

These technologies are already generating significant value. For example, a digitized valuation process reduced the cycle time by four-plus days and automated 90 percent of the manual tasks. These technologies are already generating significant value. For example, McKinsey has found that a digitized valuation process reduced the cycle time by four-plus days and automated 90 percent of the manual tasks, and that the use of robotics cut the time it takes to download, validate, and analyze trade positions to calculate overall exposure from ten days to 20 minutes and the hours needed from more than 3,000 to only 160.¹²¹ Investing in foreign markets has long been constrained by lack of detailed information on the performance of companies. But machine-learning algorithms that can learn from data without relying on rules-based programming, and can extract meaning from unstructured information, offer a new solution to this information asymmetry. These AI programs can churn through mountains of tax filings, social-media postings, and other online information to provide detailed profiles of companies, how their customers perceive them, and how they stand compared with competitors. In Europe, more than a dozen banks have replaced traditional statistical modeling in domestic operations with machine-learning techniques and, in some instances, have experienced a 10 percent increase in sales of new products and 20 percent savings on capital expenditure.¹²²

The rise of the robo-adviser—digital advice offerings that replace the traditional investment adviser—may also facilitate international investing. Investment companies bringing these services to market include Betterment, Wealthfront, and FutureAdvisor. Although the assets under management of these three players have grown ten times and more since 2013, this use of technology is still in its infancy. However, clients of digital players report five to ten times the level of satisfaction expressed about “physical” wealth managers, suggesting that robo-advisers will pose considerable competition to incumbents taking a traditional approach.¹²³

GLOBAL BANKS MUST ADAPT THEIR BUSINESS MODELS TO NEW REGULATION—BUT ALSO TO DIGITIZATION

How long the ongoing retrenchment of European and US global banks persists is uncertain, but it is unlikely to be reversed in the foreseeable future. As discussed in Chapter 1, global banks will have to rely much more than before the crisis on domestic deposit liquidity as the opportunities for cross-border interbank lending have shrunk. Further, complex, internationally active banks face much higher regulatory scrutiny. But even if these regulatory disincentives for international banks did not exist, banks have realized that foreign operations in countries in which they have low market share are typically not only less profitable than their home markets, but often return less than the cost of equity.

¹²¹ For a general discussion on the potential impact of automation, see Michael Chui, James Manyika, and Mehdi Miremadi, “Four fundamentals of workplace automation,” *McKinsey Quarterly*, November 2015.

¹²² See Dorian Pyle and Cristina San Jose, “An executive’s guide to machine learning,” *McKinsey Quarterly*, June 2015.

¹²³ David Schiff and Adele Taylor, *Key trends in digital wealth management—and what to do about them*, Digital McKinsey, October 2016.

The need to revisit international strategies and focus on the most profitable locations is exacerbated by slowing returns and revenue, compressing margins, and lingering strategic uncertainty. In 2016, the global after-risk return on equity of banks was 8.6 percent, 1 percentage point lower than in either 2014 and 2015, and hardly enough to cover the cost of capital.¹²⁴ Revenue growth in 2016 before accounting for risk was half that of the previous five years at 3 percent. Global banking revenue margins have slowly declined over the past two years, due in part to competition from new digital entrants. For more than half of the largest banks around the world, the price-to-book ratio was less than one in 2016, meaning that investors value the company at less than its underlying assets on book value. Profits are likely to continue to be under pressure as margins are continuously squeezed, acquisition costs rise, and the industry experiences increased churn.¹²⁵ The inescapable reality is that the industry's restructuring efforts to date have failed to produce sustainable performance.

3%

banking-sector revenue growth in 2016, half that of the previous five years

Despite the retrenchment and challenges of European and US banks in foreign markets, as we have noted, some banks from other countries, including Canada, China, and Japan, are venturing abroad. Banks expanding into foreign markets need to make careful choices about how to rebuild their international strategies, learning lessons from the overreaching and ineffective risk assessment of the past that forced some major banks to retrench. It will be important for banks to review whether the added scale and complexity of foreign business justifies the potential G-SIB surcharge and the higher regulatory burden on large, complex banks.¹²⁶

A model that can work, and that some banks are now pursuing, is to operate exclusively as a universal bank with businesses across retail banking, private banking, and corporate and investment banking in very few markets. Ideally, banks will book as much as possible of their domestic and international business on one balance sheet through foreign branches, avoiding subsidiaries with their own balance sheets as much as possible. The new capital and liquidity regulations often cause capital and liquidity “waste” if groups are organized by subsidiaries. For each of their subsidiaries’ balance sheets, banks have to originate funding and liquidity. More focused strategies can avoid this.

Outside their home markets, banks should avoid subscale retail operations completely, as they can rarely be made to work. Corporate customers can be served outside home markets, but not if they are purely lending clients in the foreign markets, given the low returns on that business. Instead, these corporates must have some feature that enables the bank to compete effectively. For example, the client may be the subsidiary of a corporate customer that has its headquarters in the home market, or the client may demand specific products, such as cash management or trade-finance services, in which the bank is a leader. A model that has demonstrably not worked is having pure lending relationships with customers, because other products are needed to compensate for very low returns on loans. From a systemic perspective, this may be good news. During a crisis, banks withdraw liquidity from foreign markets primarily from these “pure lending” relationships in order to try to preserve broader and more profitable relationships as long as they can.

Addressing rising customer expectations fueled by digital technologies while reducing cost substantially is becoming the top strategic priority for many banks. Banks are well aware that transforming themselves into digital players in only one market is a complex and challenging task, and doing so across many markets is extremely difficult. The intensity of this challenge

¹²⁴ The after-risk return on equity varies significantly by region. Banks in North America, for instance, did not achieve a figure above 9 percent in 2016. However, in developing countries, return on equity tended to be much higher. Banks in Latin America achieved a return of 22 percent and banks in China 14 percent in that year.

¹²⁵ *Global banking annual review 2017: Mastering the ecosystem: Banking's next adaption*, McKinsey & Company Financial Services Practice, forthcoming.

¹²⁶ *The fight for the customer: McKinsey global banking annual review 2015*, McKinsey & Company Financial Services Practice, September 2015.

is reflected in the fact that only banks that have focused acutely on this priority are well advanced with their digital transformation.

There is no doubt that banks need to face up to the competitive challenge posed by fintechs. MGI has found that incumbents need to respond boldly and at scale, and embed digital strategy fully into broader corporate strategy. This approach pays off three times as much as medium reactions.¹²⁷ Increasingly, banks are developing partnerships with fintech players. Writing in the *McKinsey Quarterly*, Credit Suisse Chairman Urs Rohner said that the willingness and the ability of both incumbents and newcomers to collaborate will, to a large degree, determine each side's chances of longer-term success. He said, "I contend that disruption is more likely to open up new segments for partnerships between startups and incumbents than to usher in an era of head-to-head competition."¹²⁸ Fintechs do not aspire to be banks, but they do want to take over direct customer relationships and tap into the most lucrative part of the value chain—origination and sales. In 2014, these activities accounted for almost 60 percent of banks' profits. They also earned banks an attractive 22 percent return on equity, much higher than the gains from the provision of balance sheet and fulfillment, which generated a 6 percent return.¹²⁹

Banks' risk management has transformed over the past ten years largely in response to new regulations put in place after the financial crisis as well as pressure on margins. But for most banks, it will need to undergo further changes. About half of risk-management staff today are engaged in risk-related operational processes such as credit administration, with a further 15 percent involved in analytics work. But McKinsey research suggests that these proportions need to shift with around one-quarter of staff engaged in operational processes and 40 percent involved in advanced risk analytics.¹³⁰ This will be particularly important in monitoring the risks in international operations and far-flung markets. Banks that develop leading-edge capabilities in risk modeling may find that they are able to earn higher post-risk returns in foreign markets, creating a competitive advantage.

REGULATORS NEED TO CONTINUE EFFORTS TO MANAGE THE RISKS ASSOCIATED WITH CROSS-BORDER CAPITAL FLOWS

In the years since the crisis, macroprudential regulation, monitoring of systemic risk, and bank stress testing have become the norm, and a healthier and more stable financial system is likely to be the result. But more can still be done to monitor and manage risks, including, as we discussed in Chapter 3, the volatility of capital flows, the potential for an equity-market bubble, the continuing possibility of financial contagion, and excessive leverage that may be hidden in international financial centers that have not yet fully complied with regulators' demands for more transparency. Moreover, as the financial system changes, new risks may emerge that regulators need to take into account, for instance from new technologies that may disrupt market dynamics or alter the impact of traditional monetary policies.

More measures can be considered to enforce and complete the risk architecture. For instance, Basel III is not yet in place in all countries. While there are debates about whether the new capital requirements, stress tests, and other regulations are too little or too much, a consensus is emerging that the system has been improved.¹³¹

¹²⁷ Jacques Bughin and Nicolas van Zeebroeck, "The best response to digital disruption," *MIT Sloan Management Review*, April 6, 2017.

¹²⁸ Urs Rohner, "Why partnerships are appealing," *McKinsey Quarterly*, April 2016.

¹²⁹ *The fight for the customer: McKinsey global banking annual review 2015*, McKinsey & Company Financial Services Practice, September 2015.

¹³⁰ Philipp Härle, Andras Havas, and Hamid Samandari, "The future of bank risk management," *McKinsey on Risk*, number 1, summer 2016.

¹³¹ See William R. Cline, *The right balance for banks: Theory and evidence on optimal capital requirements*, Peterson Institute for International Economics, 2017.

Given the continuing retrenchment of intra-Eurozone banking since the crisis and erosion of trust across countries, the overhaul in the regulatory and supervisory framework in Europe must continue. In Europe, a banking union with common supervision, crisis resolution, and deposit insurance is gradually being put in place. For instance, the resolution mechanism in the Eurozone is working, and the necessary tools are now operational. In early June 2017, Spanish bank Banco Popular, which had been struggling with large losses associated with real estate, was taken over by Santander in a deal that was put together by Europe's new Single Resolution Board. Before Banco Popular's equity was transferred to Santander, under board rules, losses were imposed on shareholders and junior bondholders—the first time that losses have been forced on holders of alternative Tier 1 securities.¹³²

The ECB has been directly supervising the largest and systemically more important banks in the Eurozone through the Single Supervisory Mechanism since November 2014, but the remaining small and medium-sized banks remain under the supervision of national authorities. However, this inspection is implemented following a single rule book. Moreover, the Single Supervisory Mechanism has the capacity to take care of any troubled institution. The Five Presidents' Report in June 2015 emphasized the need to complete the banking union with a European deposit insurance scheme and, in November 2015, the European Commission proposed a program. However, critics argued that a mutualized scheme could not be in place until national-level banking risks had become contained. Full banking union is unlikely to be in place for some years.

Setting up a system of Eurozone-wide deposit insurance such as the ones put in place in the United States and many other countries after the Great Depression in the 1930s may be vital in the long term. Today, there are national deposit insurance schemes. Nevertheless, instability and a lack of trust remain in the Eurozone as there is a continuing belief that if a bank goes bust, the national government (that is, domestic taxpayers) will pay; if an Italian bank goes bust, Austria does not expect to pay.

In parallel, Europe should continue to progress toward the capital-markets union proposed by the European Commission in 2015 to be in place by 2019. The aim is to harmonize regulations and legislation governing securities, taxation, and insolvency and investor protection.¹³³ Europe's capital market today is fragmented because of different regulations covering such aspects as insolvency, company law, taxation, and securities law, and because of different market practices for products such as securitized instruments and private placements. As a result, financing conditions vary significantly among EU member states, and shareholders and buyers of corporate debt are sometimes reluctant to go beyond their national borders when investing. If European capital markets were to become more efficient, risk and capital allocation would be improved, ensuring funding at lower cost, and the financial system could potentially be more stable and resilient because it would be better able to absorb shocks.

In all geographies, regulators need to respond to dynamic changes in the way that global finance is conducted. Gross capital flows—particularly cross-border lending flows—remain volatile. As noted in Chapter 3, large fluctuations from year to year in the amount of cross-border loans are the norm, not the exception. More than 60 percent of developing countries experience one fluctuation each year, with the median equivalent to 3 percent of GDP. Cross-border lending flows are even more volatile in advanced economies. Many countries have come to believe that opening up their financial and capital account must be a gradual process in order to avoid huge swings in capital flows (from both foreign and domestic investors) that create exchange-rate volatility and damage the macroeconomic environment.

¹³² Martin Arnold, Tobias Buck, and Rachel Sanderson, "Why Santander rescue of Banco Popular is a European test case," *Financial Times*, June 7, 2017.

¹³³ European Commission, *Green paper: Building a capital markets union*, February 2015.

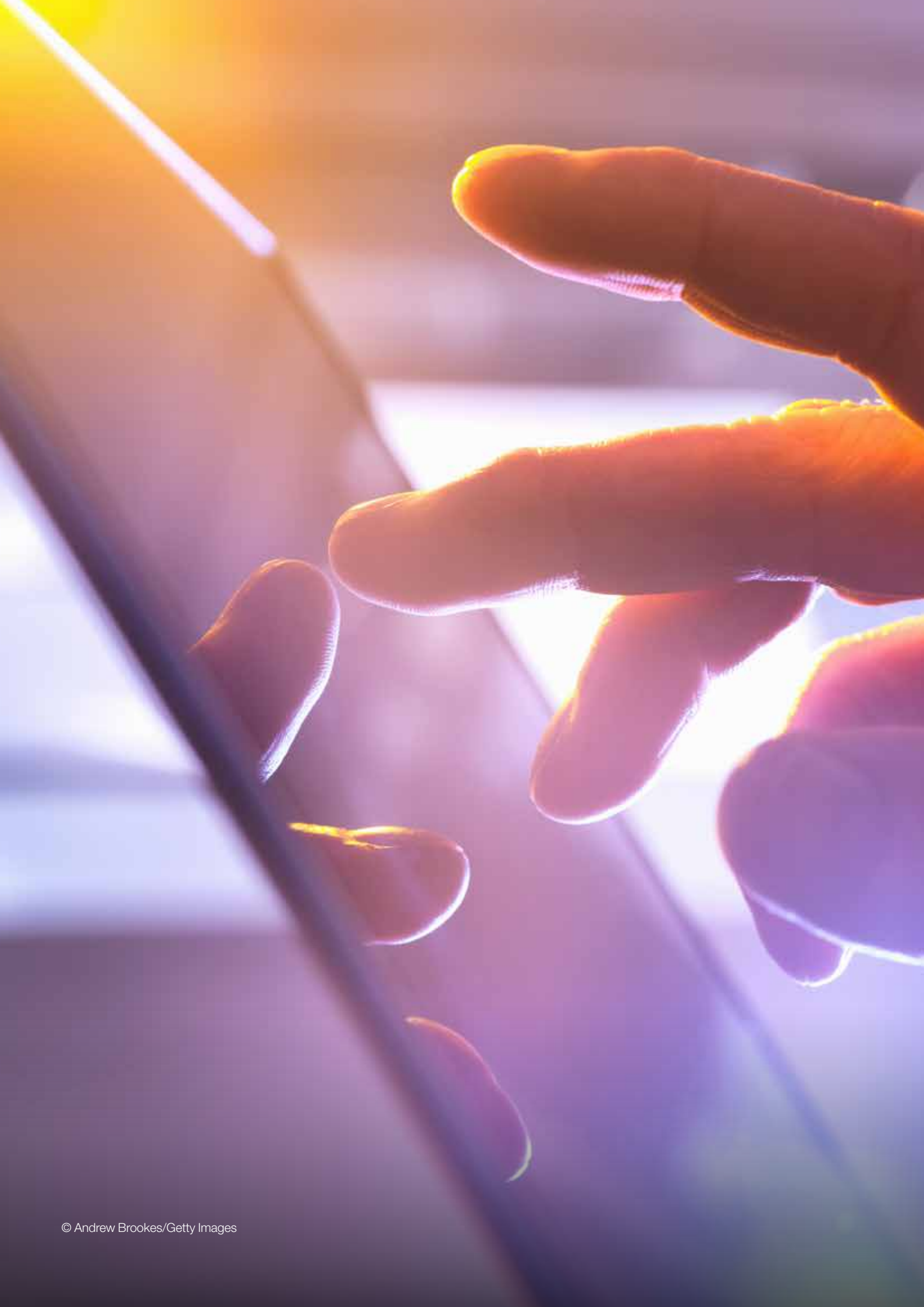
Yet our understanding of how to gradually liberalize the financial and capital account, and of tools to manage volatility in capital flows, is incomplete at best. More research on best practices and appropriate policy tools is needed.

Finally, while digital technologies offer a step change in efficiency and new ways to facilitate cross-border capital flows, they also raise questions. How can anti-money laundering regulations and efforts to combat terrorist finance be enforced? Regulators are already stepping up pressure on banks to take robust measures to reveal instances of such illegal cross-border transactions. What level of “know your customer” regulations is appropriate? Much has already been done by regulators to force international financial centers to share information and become more transparent, an effort that will need to continue. The “flash crash” of 2010, in which \$1 trillion of market value disappeared for 36 minutes, illustrates the potential for volatility from high-speed and algorithmic trading. How and whether digital financial solutions will affect the transmission of monetary policy are not fully understood. Regulators need to monitor these new dynamics and potential risks—and not fight the last crisis while ignoring the next one.¹³⁴



Much has changed in the decade since the crisis. Many large banks have withdrawn from foreign operations and rebuilt their capital. New players in advanced economies and, in particular, developing economies have come to prominence. Stability in the system is being restored, but pressure on profits and current business models remains, and new risks may emerge. The next disruption is on its way in the form of digital technologies that have the potential to utterly transform the way global finance is conducted. Banks and regulators need to be prepared. Ten years of change will be followed by many more of adaptation and new thinking.

¹³⁴ See, for instance, He Dong et al., *Fintech and financial services: Initial considerations*, IMF staff discussion note number 17/05, June 2017.



APPENDIX: TECHNICAL NOTES

This appendix provides more detail on some of the definitions and methodologies employed in this report. We address the following points.

1. Definitions of cross-border capital flows, stock of foreign investment, and stock of foreign banks' assets and claims
2. Country classifications
3. MGI Financial Connectedness Ranking

1. DEFINITIONS OF CROSS-BORDER CAPITAL FLOWS, STOCK OF FOREIGN INVESTMENT, AND STOCK OF FOREIGN BANKS' ASSETS AND CLAIMS

We use cross-border capital flows and stock of foreign investment as our primary metrics for quantifying financial globalization. To assess the level of globalization in the banking sector specifically, we used data on foreign banks' assets and claims.

Gross cross-border capital inflows and outflows

These measure annual foreign capital inflows and outflows between a country and the rest of the world. Gross cross-border capital inflows are the sum of all new investment made by foreigners to a country in a given year, less the sales of previous investment. Positive inflows add to a country's foreign investment liabilities. Negative inflows show that foreigners are withdrawing money from the country. Gross capital outflows from a country are defined as new purchases of foreign financial assets by residents of a country less the sales of previous investment. Positive capital outflows result in an increase in the foreign investment assets of the country. Negative capital outflows indicate that domestic investors are net sellers of foreign assets. Annual gross capital flows reveal how a country is currently participating in global capital markets. Gross flows can be quite volatile, declining in value and even reversing direction, and therefore are also important for assessing financial stability.

Gross cross-border capital flows include:

- **Foreign direct investment (FDI).** Investment that establishes at least a 10 percent stake in a foreign entity. Any subsequent lending between the direct investor and the capital recipient is also captured in this category.
- **Foreign purchases of equity.** Any equity or share purchased by an investor in another country that gives the investor no more than a 10 percent stake.
- **Foreign purchases of debt securities.** Any tradable debt security that is purchased by a foreign investor. This includes public and corporate (both financial and non-financial) bonds, mortgage-backed securities, other asset-backed securities, and collateralized debt obligations.
- **Lending and other investment.** Any other assets not classified in the three categories above. This includes loans, currency, pensions, standardized guarantee schemes, trade credit and advances, other accounts receivable/payable, and special drawing rights. This category does not include lending and funding through local affiliates of foreign banks.
- **Foreign reserve assets of central banks (captured in outflows only).** Assets acquired or held by monetary authorities in a foreign currency.

It is worth noting that total global capital inflows and outflows do not match exactly in most years. This reflects measurement errors in national data collection and gray-market transfers of money across borders, as well as the fact that the sample of reporting countries is not exhaustive.

Our data on cross-border capital flows are based on the International Monetary Fund's (IMF) balance of payments statistics. Given that data for the full year 2016 were not yet available for many countries at the time of writing in mid-2017, we estimated gross cross-border capital flows by country and type of flow using the following methodology:

- If data were available for three-quarters of the 2016 calendar year for a certain type of flow for a country, we estimated for the full year using historical contributions of three-quarters to full-year flows in 2013 to 2015, or applied direct annualization assuming that the fourth quarter would be equal to the average of the first three quarters of 2016.
- If annual data for a certain type of flow for a country were available for 2015 but no quarterly data were available for 2016, we estimated the full 2016 year using the compound annual growth rate of yearly flows from 2012 to 2015.
- If annual data for a certain type of flow for a country were available only for 2012, 2013, or 2014, we assumed that the flows in subsequent years were equal to those in the last available year.
- If annual data were missing for some years between 2010 and 2015 but were available for the other years in this period, we filled in the gaps using flows in the year preceding the gap.

Net cross-border capital inflows

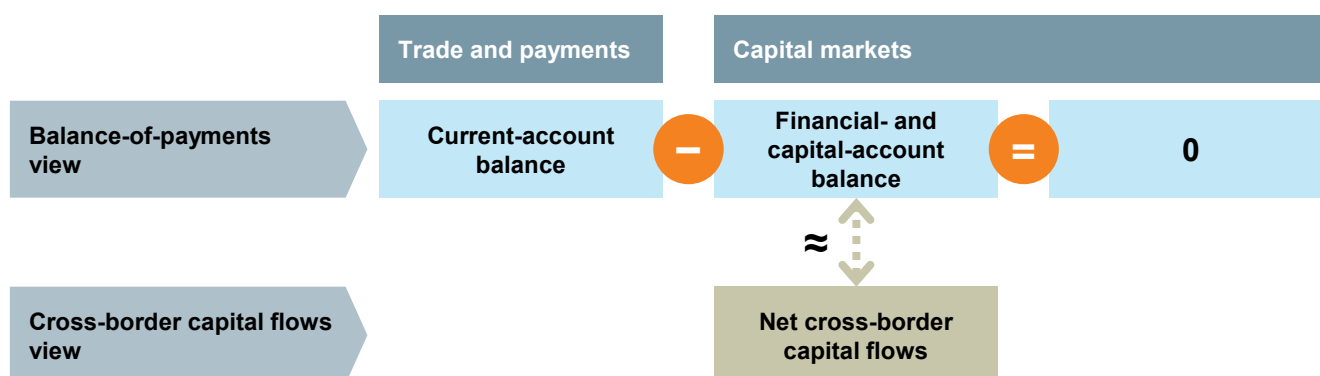
These are the value of gross capital inflows to a country minus the value of gross capital outflows. Countries with positive net inflows are net recipients of capital from the rest of the world; those with negative net inflows are providers of capital to the rest of the world. In IMF balance of payments data, net capital flows are reflected in the financial and capital account. The financial and capital account of a country includes the same components as net cross-border capital flows, namely net FDI, net equity purchases, net purchases of debt securities, net lending and other investment, and foreign reserve assets. The financial and capital account is the part of the balance of payments that we have focused on in this report.

The financial and capital account of a country must equal the current-account balance (mainly trade balance), but with the opposite sign (Exhibit A1). Besides the trade balance, the current-account balance includes net income (income received by country residents less income paid to foreigners), remittances from workers to their country, and asset income.

Countries with a trade surplus have a financial- and capital-account deficit and are providers of capital to the rest of the world; their gross cross-border capital outflows are higher than inflows. Countries with a trade deficit have a financial- and capital-account surplus, being recipients of the capital from the rest of world (gross cross-border capital inflows are higher than outflows). The net capital flows of a country therefore reflect its trade position. Over time, a country with a persistent net capital inflow will build up large foreign investment liabilities. This may be unsustainable as the country uses foreign funds to subsidize its consumption, and might put it at risk of a sudden stop or reversal in capital flows.

Exhibit A1

Balance of payments and net cross-border capital flows



Providers of capital to the world
Gross cross-border capital outflows > capital inflows

- Current-account and trade surplus
- Financial- and capital-account deficit



Capital recipients from the world
Gross cross-border capital inflows > capital outflows

- Current-account and trade deficit
- Financial- and capital-account surplus

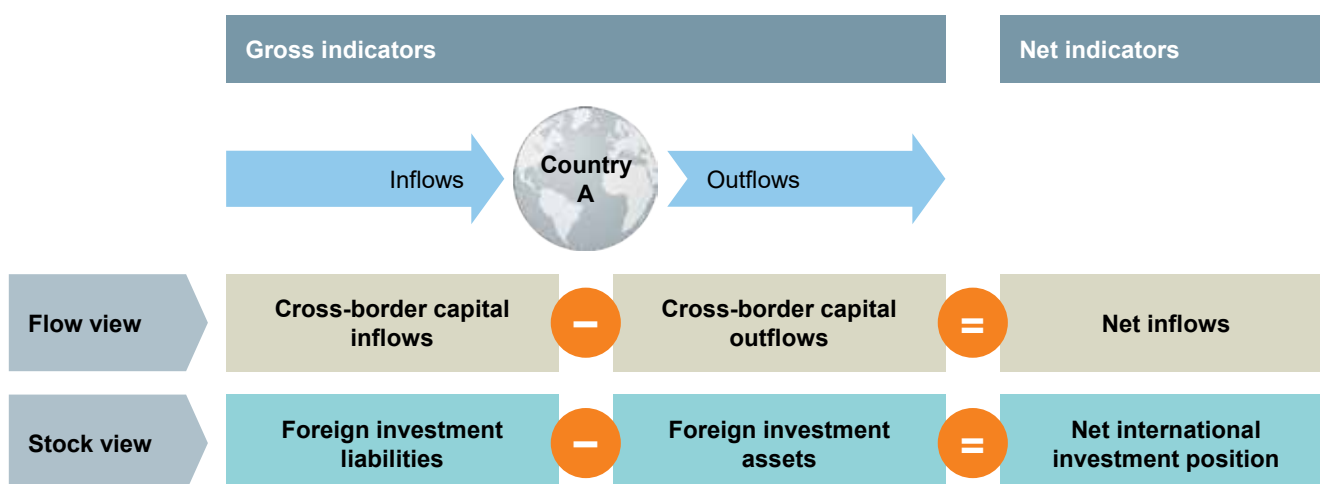
SOURCE: McKinsey Global Institute analysis

Stocks of foreign investment assets and liabilities

Foreign investment liabilities measure the value of foreign investment in a country and include the four types of foreign liabilities (FDI, equity, debt securities, and lending and other investment). Other investment includes other equity, currency and deposits, non-life insurance technical reserves, trade credit and advances, other accounts receivable/payable, and allocations of special drawing rights. Foreign investment assets measure the outstanding value of a country's investment abroad and include the four types of foreign assets listed above plus central bank reserve assets. Foreign investment liabilities reflect the dynamics of new cross-border capital flows less the sales of previous investment (Exhibit A2). The stock of foreign investment changes slowly over time and indicates the degree to which a country is integrated into global financial markets. Developing countries tend to have smaller foreign investment stocks relative to the size of their economy but larger gross flows, indicating that they have only recently begun participating in global financial markets. Some advanced countries have large foreign investment stocks, reflecting past integration into global financial markets, but small or negative gross flows, indicating less current participation in cross-border finance.

The MGI Financial Connectedness Ranking presented in this report is based on the sum of foreign investment assets and liabilities, which demonstrates the role of the country's financial market in the global landscape. We refer to the dynamics of foreign investment liabilities when assessing the state of financial globalization because foreign liabilities data are more comprehensive. Similarly, we refer to cross-border capital inflows (as opposed to outflows) when discussing the dynamics of cross-border capital flows.

Cross-border capital flows and foreign investment methodology

**Cross-border flows and foreign investment include**

- FDI
- Equity
- Debt securities
- Lending and other investment
- Reserve assets (included in outflows/foreign assets only)

SOURCE: McKinsey Global Institute analysis

As is the case with cross-border capital inflows and outflows, stocks of foreign investment assets and liabilities do not match exactly in most years. This reflects measurement errors in national data collection and gray-market transfers of money across borders, as well as the fact that the sample of reporting countries is not exhaustive.

Our data on stocks of foreign investment assets and liabilities are based on IMF balance of payments data. Given that data for the full 2016 calendar year were not yet available for many countries at the time of writing in mid-2017, we made detailed estimates of foreign investment by country and type of investment using the following methodology:

- If data were available for three-quarters of the 2016 calendar year for a certain type of flow for a country, we estimated the full year using the compound annual growth rate from the fourth quarter of 2015 to the third quarter of 2016.
- If annual data for a certain type of investment for a country were available for 2015 but no quarterly data were available for 2016, we estimated the full 2016 year using the compound annual growth rate of yearly investment from 2012 to 2015.
- If annual data for a certain type of investment for a country were available only for 2012, 2013, or 2014, we assumed that the stock in the following years was equal to the stock in the last available year.
- If annual data were missing for some years between 2010 and 2015 but were available for the other years in this period, we filled in the gaps using stock in the year preceding the gap.

As noted in Chapter 2, the stock of foreign investment is double counted. This implies that the stock of foreign investment is included in the data for both international financial centers and senders (in the case of assets) or recipients (in the case of liabilities) of foreign

investment. For example, if a German citizen invests funds in a Luxembourg-based investment vehicle that are then channeled to buy French government bonds, this stock is reported both as German cross-border investment assets (investment by Germany in the equity of the Luxembourgish investment fund) and Luxembourg cross-border investment assets (investment by Luxembourg in French government bonds). The same stock would be also reported as part of French government cross-border liabilities and Luxembourgish investment funds' cross-border liabilities.

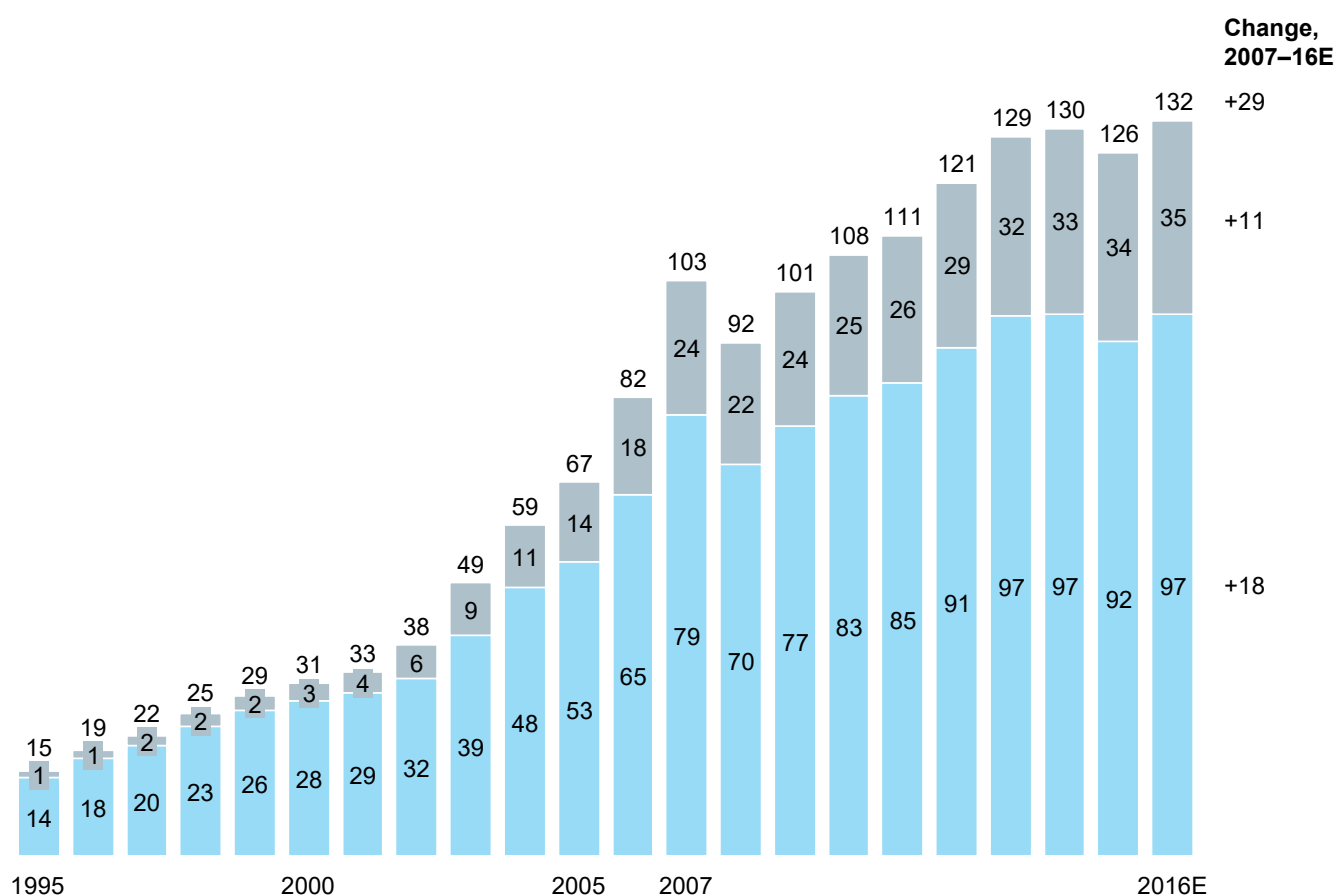
In order to net the stock of foreign investment, we assumed that 100 percent of the stock of foreign investment reported by international financial centers is double counted. Based on this assumption, the net stock of foreign investment liabilities is \$97 trillion in 2016, up from \$79 trillion in 2007. As a percentage of GDP, this stock declined modestly, from 147 percent in 2007 to 140 percent in 2016 (Exhibit A3).

Exhibit A3

The stock of global foreign investment relative to GDP has changed little since 2007

Gross stock of foreign investment liabilities
\$ trillion, annual (nominal) exchange rates

■ International financial centers ■ Net stock¹



Net stock/GDP (excluding international financial centers) (%)

48 88 120 147 140

Gross stock/GDP (%)

51 96 148 185 183

¹ Gross stock as reported by IMF excluding the stock reported by international financial centers.
NOTE: Numbers may not sum due to rounding.

SOURCE: IMF Balance of Payments; McKinsey Global Institute analysis

This simplified assumption has several limitations, namely:

- Although we assumed that 100 percent of the stock of foreign investment is channeled through financial centers, this share is slightly below 100 percent as domestic firms also invest abroad. Further research is needed to identify the current shares of intermediary vs. domestic business in the foreign investment of international financial centers and their evolution over the past decade. This will help build a precise picture of net stock of foreign investment.
- In financial centers, we included ten countries whose stock of foreign investment assets and liabilities is at least ten times larger than their GDP. We do not account for foreign investment through other large financial hubs such as the United Kingdom that also serve as intermediaries in global finance.

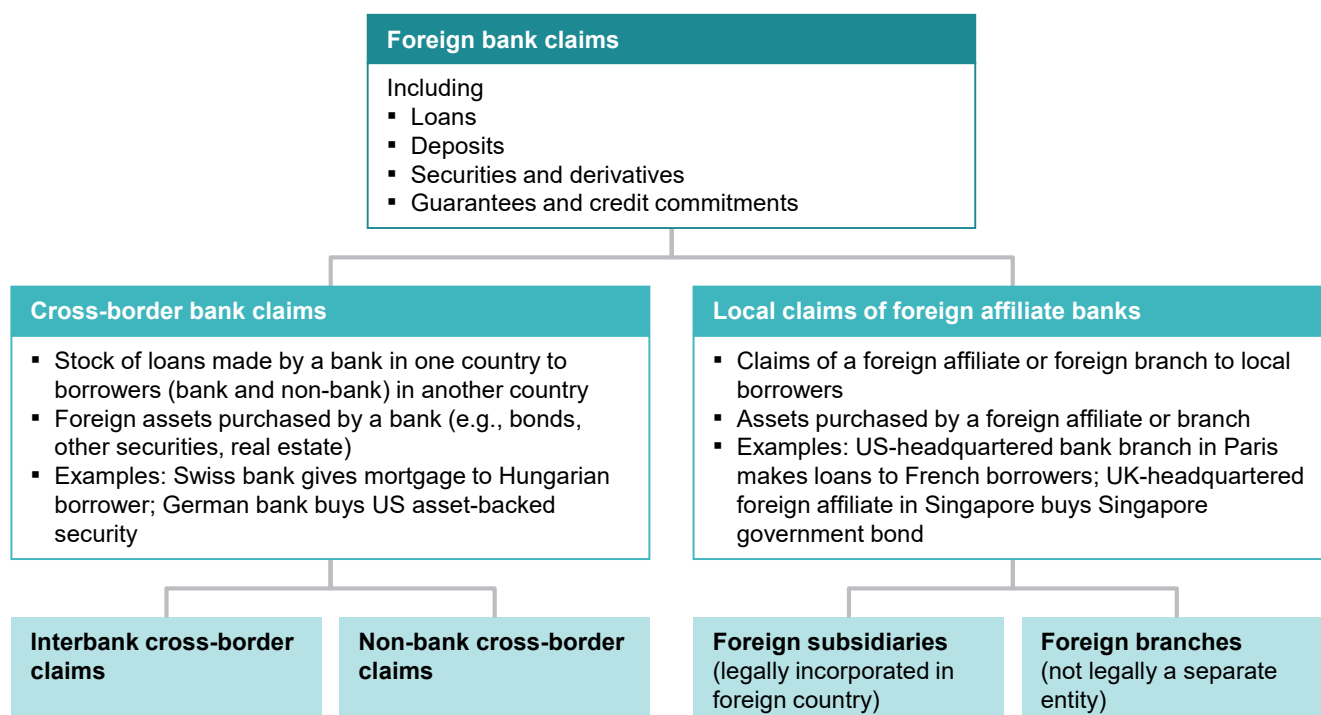
Stocks of bank foreign claims

Data from the Bank for International Settlements (BIS) called “foreign claims” include cross-border claims as well as local claims of foreign bank affiliates (Exhibit A4). Foreign claims include loans, deposits, securities, derivatives, guarantees, and credit commitments. These data are important for understanding the extent to which the banking sector itself is participating in foreign markets (as opposed to FDI from companies, foreign reserve asset purchases of central banks, or purchases of bonds and equities by asset managers or individuals).

Foreign claims are reported on a consolidated basis and therefore do not include intragroup claims. For the sake of consistency, we excluded intragroup claims from cross-border claims when demonstrating the breakdown of foreign claims by type (interbank cross-border, non-bank cross-border, local claims of foreign subsidiaries).

Exhibit A4

Foreign bank claims reported by BIS consist of two components, each with different dynamics



SOURCE: BIS; McKinsey Global Institute analysis

BIS foreign claims data are available at the country level for 30 countries. While most advanced economies report their banking statistics to the BIS, only six developing countries do so: Brazil, Chile, India, Mexico, Panama, and Turkey. Therefore, we used this data source primarily to study the activities of banks in advanced economies.

Stocks of bank foreign assets

For the analysis of the evolution of share of foreign bank exposures by country, we measured the foreign assets of leading individual banks (including loans and stock of other assets, such as bonds, equities, other securities, real estate, and other assets) as reported in annual filings.

2. COUNTRY CLASSIFICATIONS

We classified each of the 100 countries in our sample as an advanced or developing economy. We included only 100 countries, 28 advanced and 72 developing—the countries for which data on the stock of investment assets and liabilities are available. We recognize that dividing countries into advanced and developing is a somewhat simplistic approach given that there are complex differences in both national economies and financial systems. Nonetheless, this simplification is at times useful for illustrating differences in financial development across countries (Exhibit A5).

Exhibit A5

Classification of 100 countries by region and level of development

Advanced economies (28 countries)		Developing economies (72 countries)	
Eurozone		Central and Eastern Europe, Commonwealth of Independent States, and Turkey	Africa
- Austria - Belgium - Cyprus - Finland - France - Germany - Greece	- Ireland - Italy - Luxembourg - Malta - Netherlands - Portugal - Spain	- Albania - Armenia - Belarus - Bosnia and Herzegovina - Bulgaria - Croatia - Czech Republic - Estonia - Georgia - Hungary - Kazakhstan	- Benin - Botswana - Burkina Faso - Cabo Verde - Cameroon - Egypt - Ghana - Malawi - Mali - Mauritius - Morocco
Western Europe outside of Eurozone		- Latvia - Lithuania - Moldova - Poland - Romania - Russia - Serbia - Slovak Republic - Slovenia - Turkey - Ukraine	- Mozambique - Namibia - Niger - Nigeria - Senegal - Seychelles - South Africa - Tanzania - Togo - Zambia
Other advanced economies		Emerging Asia	Latin America
- Australia - Canada - Hong Kong - Japan	- South Korea - New Zealand - Singapore - United States	- Bangladesh - China - India - Indonesia - Malaysia - Mongolia	- Pakistan - Philippines - Sri Lanka - Thailand - Timor-Leste
		Middle East	- Argentina - Bermuda - Brazil - Chile - Costa Rica - Ecuador
		- Bahrain - Iraq - Israel	- Jamaica - Mexico - Nicaragua - Peru - Sint Maarten - Venezuela
		- Jordan - Kuwait - Saudi Arabia	

SOURCE: McKinsey Global Institute analysis

Advanced economies include Eurozone and other Western European countries, Japan, and the United States, as well as Australia, Canada, Hong Kong, New Zealand, Singapore, South Korea, and Taiwan. These countries typically have per capita GDP of above \$25,000 measured at purchasing power parity.

All other nations, including those of Africa, Central and Eastern Europe, the Commonwealth of Independent States, Emerging Asia, Latin America, and the Middle East, fall into the developing economies category. This group is diverse and includes, for instance, Middle Eastern oil exporters whose per capita GDP is higher than that of some advanced economies. However, we still include these in the developing countries category because their GDP is highly concentrated in resource sectors and their financial systems have limited financial depth and diversity.

3. MGI FINANCIAL CONNECTEDNESS RANKING

In Chapter 2, we included a short version of the MGI Financial Connectedness Ranking based on the stock of foreign investment assets and liabilities in 2016. Here we include a long version of the ranking covering the 100 countries for which data are available, as well as average gross cross-border capital inflows and outflows by type for respective geographies between 2014 and 2016. We used three-year average flows to smooth out volatility (Exhibit A6).

Exhibit A6
Foreign investment assets and liabilities and cross-border capital flows
 (ranking by stock of foreign assets and liabilities, 2016E)

Foreign assets and liabilities, 2016 data (1–50)

		Foreign assets and liabilities as % of GDP												Total foreign assets and liabilities/ GDP %	
		>500					100-500		50-100		10-50		<10		
		Total \$ billion		Foreign assets % of GDP					Foreign liabilities % of GDP						
Rank (change vs. 2005 rank)	Country	Total foreign assets	Total foreign liabilities	FDI	Equity	Debt securities	Loans and other	Foreign reserve assets	FDI	Equity	Debt securities	Loans and other			
1	(—) United States	21,708	29,922	40	38	15	21	2	39	35	59	28	278		
2	(+4) Luxembourg	10,643	10,825	9,088	3,016	3,460	2,332	2	8,231	6,376	1,797	1,799	36,101		
3	(-1) United Kingdom	10,577	10,492	71	64	71	191	5	59	58	99	183	801		
4	(—) Netherlands	8,045	7,970	659	109	116	155	5	576	86	206	167	2,077		
5	(-2) Germany	8,064	6,617	57	29	57	84	5	42	20	61	68	424		
6	(+1) Japan	8,215	5,472	29	29	50	35	25	5	30	28	48	277		
7	(-2) France	6,149	6,983	66	30	72	76	6	44	35	109	96	533		
8	(+8) China	6,594	4,739	12	2	1	15	29	26	5	2	9	101		
9	(-1) Ireland	4,963	5,572	478	331	511	370	1	474	903	183	338	3,588		
10	(+4) Hong Kong, China	4,471	3,402	537	274	153	310	120	574	135	16	336	2,455		
11	(-1) Switzerland	4,290	3,537	232	93	98	125	103	192	145	16	183	1,186		
12	(+1) Canada	3,212	3,071	83	66	19	36	5	66	30	65	39	411		
13	(-4) Italy	2,713	2,878	34	43	33	28	9	26	10	66	53	302		
14	(+1) Singapore	2,976	2,350	230	174	171	344	83	359	52	13	368	1,793		
15	(-4) Spain	1,760	2,906	55	20	25	38	5	60	25	69	81	378		
16	(-4) Belgium	2,142	2,012	197	67	76	114	5	213	27	97	94	890		
17	(+1) Australia	1,471	2,277	35	32	18	27	4	51	30	69	31	298		
18	(-1) Sweden	1,414	1,448	94	81	25	65	12	81	49	95	58	560		
19	(+2) Norway	1,529	796	58	172	114	53	16	52	23	71	69	628		
20	(+7) Brazil	772	1,486	17	1	0.3	4	20	43	14	13	13	126		
21	(-1) Russia	1,226	926	33	0.2	5	28	29	32	11	4	25	168		
22	(+1) South Korea	1,218	928	22	13	9	17	26	13	27	13	12	152		
23	(-4) Austria	909	967	82	28	52	68	6	74	15	98	64	485		
24	(-2) Denmark	930	793	77	78	60	68	21	51	60	86	61	562		
25	(-1) Mexico	582	1,065	14	0	5	19	17	45	12	31	14	157		
26	(+3) India	540	933	6	0.1	0.0001	2	16	14	7	4	17	65		
27	(-1) Finland	638	707	65	73	64	63	4	51	52	91	104	568		
28	(n/a) Saudi Arabia	930	304	13	17	12	20	84	36	3	0.4	8	193		
29	(+7) Indonesia	296	669	8	0.4	1	10	12	30	11	14	16	103		
30	(-5) Portugal	352	556	41	17	46	55	12	72	15	47	138	443		
31	(—) South Africa	409	414	59	48	3	13	16	48	50	24	19	280		
32	(+6) Thailand	379	433	23	4	5	18	42	51	25	9	22	200		
33	(-1) Poland	242	548	14	4	2	8	24	51	8	26	33	169		
34	(-4) Turkey	215	571	4	0.1	0.1	8	12	16	4	13	34	92		
35	(-7) Greece	247	517	15	6	61	41	4	16	6	18	226	393		
36	(n/a) Mauritius	379	357	1,687	992	92	362	40	2,142	195	71	577	6,158		
37	(-2) Malaysia	387	348	51	16	8	23	33	44	18	27	28	248		
38	(+2) Chile	329	379	48	41	19	10	16	99	10	24	20	287		
39	(-5) Israel	382	275	32	19	18	20	31	35	26	9	16	206		
40	(+1) Hungary	267	355	159	5	3	25	21	203	10	32	37	496		
41	Cyprus	250	281	885	32	47	294	4	921	20	68	409	2,679		
42	(-9) Argentina	278	221	7	0.01	0.04	40	4	16	2	8	14	91		
43	(+16) Malta	251	246	754	880	222	426	7	1,772	31	5	440	4,537		
44	(-1) Czech Republic	208	264	22	7	8	26	44	77	3	25	33	244		
45	(-6) New Zealand	154	278	14	31	20	10	10	45	17	55	35	237		
46	(-4) Venezuela	251	116	11	0.01	1	71	5	10	0.1	6	25	128		
47	(-3) Philippines	162	193	15	0.3	4	7	26	22	16	9	17	117		
48	(+5) Kazakhstan	156	199	22	8	42	24	21	94	1	14	40	265		
49	(+12) Bahrain	171	155	33	67	92	325	19	66	24	34	361	1,023		
50	(-4) Nigeria	131	182	3	6	1	16	6	23	0.0004	10	11	77		

1 Stock of foreign assets and liabilities/GDP > 1,000%.

SOURCE: IMF Balance of Payments; McKinsey Global Institute analysis

Exhibit A6 (continued)

Foreign investment assets and liabilities and cross-border capital flows (continued)
(ranking by stock of foreign assets and liabilities, 2016E)

Cross-border capital flows, average 2014–16 (average due to volatility) (1–50)

Rank <i>(change vs. 2005 rank)</i>		Country	Total flows \$ billion		Cross-border capital flows as % of GDP								
					>10	5-10	0-5	<0	n/a				
			Outflows % of GDP					Inflows % of GDP					
			In- flows	Out- flows	FDI	Equity	Debt securities	Loans and other	Foreign reserve assets	FDI	Equity	Debt securities	Loans and other
1	(—)	United States	813.0	459.9	1.9	1.1	0.3	-0.8	-0.01	1.9	-0.1	2.5	0.2
2	(+4)	Luxembourg	601.1	595.2	459.9	168.6	220.9	132.8	0.02	325.0	489.6	131.9	45.5
3	(-1)	United Kingdom	99.7	-41.6	-1.6	-1.7	-1.3	2.5	0.6	3.2	1.2	7.7	-8.6
4	(—)	Netherlands	144.2	183.8	13.9	0.1	3.6	5.6	-0.2	10.6	4.7	-4.6	7.3
5	(-2)	Germany	114.5	379.9	3.0	1.8	2.7	3.2	-0.03	1.3	-0.03	-1.5	3.4
6	(+1)	Japan	291.2	459.5	3.1	2.2	3.0	1.4	0.1	0.4	-0.3	2.5	3.7
7	(-2)	France	245.0	193.4	1.8	0.8	2.2	2.6	0.1	0.9	0.3	2.4	5.9
8	(+8)	China	168.2	276.1	1.7	0.3	0.3	2.2	-1.9	2.0	0.3	0.1	-0.8
9	(-1)	Ireland	334.7	336.5	45.5	16.2	38.7	20.5	0.3	37.9	69.7	0.9	12.1
10	(+4)	Hong Kong, China	184.3	210.2	31.6	13.6	4.6	12.7	6.0	44.5	-2.1	1.8	15.9
11	(-1)	Switzerland	44.8	122.5	8.9	2.1	0.5	-3.9	10.5	6.0	-0.5	-0.7	1.8
12	(+1)	Canada	196.8	148.0	4.3	1.4	0.8	2.2	0.4	3.1	1.5	4.3	3.2
13	(-4)	Italy	82.3	136.1	1.0	4.2	2.0	-0.2	-0.04	1.0	0.6	0.5	2.2
14	(+1)	Singapore	90.0	149.4	11.9	10.9	3.2	22.9	0.7	22.9	0.1	0.4	6.6
15	(-4)	Spain	125.9	150.1	4.1	3.0	2.2	2.0	0.5	2.4	2.3	1.3	3.9
16	(-4)	Belgium	23.6	20.6	-1.3	4.5	0.6	0.7	-0.2	-1.0	-0.04	6.5	-0.6
17	(+1)	Australia	109.0	68.6	0.2	1.0	1.6	2.2	0.2	3.2	0.9	2.3	1.9
18	(-1)	Sweden	26.7	22.6	2.1	0.7	0.9	0.2	0.4	1.6	0.3	0.5	2.7
19	(+2)	Norway	29.5	65.1	4.2	3.4	4.3	3.4	0.3	-0.3	0.3	2.1	4.9
20	(+7)	Brazil	121.2	66.5	0.8	0.03	-0.05	2.1	0.4	3.9	0.5	0.1	1.5
21	(-1)	Russia	-24.4	14.1	2.2	0.01	0.6	0.2	-2.1	0.9	-0.4	-0.2	-1.9
22	(+1)	South Korea	9.6	110.0	1.9	1.2	2.2	1.6	0.9	0.6	0.4	-0.5	0.1
23	(-4)	Austria	-25.0	-19.9	-1.5	1.6	-0.3	-5.1	0.3	-1.8	0.3	-4.4	-0.4
24	(-2)	Denmark	-0.9	29.3	3.2	2.5	0.8	3.5	-0.9	0.8	1.5	3.8	-6.4
25	(-1)	Mexico	66.2	24.7	0.5	n/a	-0.05	1.7	0.02	2.5	0.5	2.2	0.4
26	(+3)	India	107.5	113.6	0.4	-0.005	n/a	2.9	2.0	1.9	0.2	0.5	2.4
27	(-1)	Finland	23.0	2.5	1.7	2.2	1.5	-4.5	0.01	3.6	2.9	1.2	1.6
28	(n/a)	Saudi Arabia	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
29	(+7)	Indonesia	41.5	13.7	0.3	0.1	-0.2	0.4	1.0	2.3	0.2	2.1	-0.02
30	(-5)	Portugal	7.1	9.1	2.3	1.3	0.8	-1.4	1.4	3.7	0.0005	-0.2	-0.2
31	(—)	South Africa	18.5	4.7	1.7	-1.0	0.3	0.1	0.4	1.0	1.0	1.6	2.2
32	(+6)	Thailand	3.6	30.5	2.1	0.8	0.4	1.8	2.4	1.2	-0.9	0.3	0.2
33	(-1)	Poland	23.4	22.4	1.4	0.4	0.3	0.8	1.6	3.1	0.5	0.2	0.9
34	(-4)	Turkey	40.0	11.7	0.6	-0.01	0.3	0.9	-0.4	1.6	0.04	0.7	2.2
35	(-7)	Greece	6.7	8.1	0.7	0.8	3.3	-1.2	0.3	0.9	3.0	-2.8	2.1
36	(n/a)	Mauritius	11.6	9.4	49.9	19.5	4.7	-1.2	5.5	94.1	0.4	1.3	0.8
37	(-2)	Malaysia	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
38	(+2)	Chile	21.5	15.3	4.7	-0.1	1.1	0.3	0.2	7.2	0.3	2.0	-0.9
39	(-5)	Israel	12.4	25.2	2.8	0.4	1.9	0.5	2.5	3.3	1.2	0.5	-1.0
40	(+1)	Hungary	-9.3	-2.0	-3.0	0.4	0.6	3.2	-2.9	-1.1	0.03	-3.1	-3.1
41		Cyprus	1.5	3.4	33.7	-1.2	-2.1	-14.0	-0.04	13.6	5.0	9.3	-20.8
42	(-9)	Argentina	21.0	9.0	0.2	-0.0003	0.002	1.3	0.1	1.3	0.1	2.7	-0.5
43	(+16)	Malta	-0.8	-0.9	-70.0	81.7	1.1	-21.6	0.6	16.0	-4.4	1.5	-20.2
44	(-1)	Czech Republic	14.1	19.5	1.4	0.6	0.6	0.3	7.0	2.8	0.1	2.3	2.1
45	(-6)	New Zealand	8.9	5.5	0.04	1.7	2.3	-1.6	0.5	0.9	1.2	3.2	-0.5
46	(-4)	Venezuela	5.8	-13.7	0.4	-0.002	-0.5	-4.0	-1.2	1.0	0.01	-0.4	1.7
47	(-3)	Philippines	5.6	9.7	1.8	0.1	0.7	0.7	-0.1	2.2	0.1	-0.3	0.0
48	(+5)	Kazakhstan	7.1	6.0	1.7	0.1	0.9	0.1	0.6	3.5	-0.02	-0.3	0.8
49	(+12)	Bahrain	4.3	-12.8	n/a	n/a	n/a	n/a	n/a	3.2	-12.4	1.8	20.8
50	(-4)	Nigeria	10.0	6.0	0.3	0.4	0.1	1.9	-1.5	0.5	0.05	0.7	0.7

Exhibit A6 (continued)

Foreign investment assets and liabilities and cross-border capital flows (continued)
(ranking by stock of foreign assets and liabilities, 2016E)

Foreign assets and liabilities, 2016 data (51–100)

Rank (change vs. 2005 rank)	Country	Foreign assets and liabilities as % of GDP											Total foreign assets and liabilities/ GDP %
		>500 100–500 50–100 10–50 <10											
		Total \$ billion		Foreign assets % of GDP					Foreign liabilities % of GDP				
				FDI	Equity	Debt securities	Loans and other	Foreign reserve assets	FDI	Equity	Debt securities	Loans and other	
	Net capital provider	Total foreign assets	Total foreign liabi- lities										
51 (-4)	Ukraine	123	176	11	0.1	0.1	104	18	70	5	28	86	321
52 (+2)	Peru	104	180	1	14	2	5	31	50	5	17	20	146
53 (-3)	Kuwait	166	61	29	6	4	86	26	10	1	2	42	207
54 (-2)	Romania	61	159	3	1	1	8	20	42	2	12	29	118
55 (-10)	Egypt	41	153	2	0.3	0.1	5	5	30	1	1	14	58
56 (-8)	Slovak Republic	66	123	17	6	25	22	3	64	0.5	35	38	211
57 (n/a)	Iraq	99	88	1	0.01	0.1	19	39	13	0.2	2	38	112
58 (-3)	Pakistan	33	118	1	0.05	0.1	3	8	13	3	2	24	53
59 (-2)	Morocco	38	107	5	2	0.2	6	24	54	3	8	39	140
60 (+1)	Bulgaria	51	76	10	3	8	24	53	88	0.4	15	43	243
61 (-5)	Croatia	34	72	12	3	4	20	29	61	2	23	58	211
62 (-4)	Slovenia	44	58	18	9	31	39	2	34	2	46	50	231
63 (n/a)	Bangladesh	42	57	0.4	0.005	2	1	15	6	1	1	18	44
64 (-4)	Jordan	30	68	2	0.4	1	20	53	82	12	24	58	253
65 (-3)	Ecuador	41	56	n/a	n/a	3	35	3	17	0.1	6	34	99
66 (-2)	Latvia	35	51	9	7	44	53	13	55	2	25	100	308
67 (-1)	Costa Rica	28	57	10	1	6	18	13	64	0.1	15	18	145
68 (-3)	Lithuania	30	51	10	7	17	30	6	39	1	30	50	190
69 (n/a)	Serbia	21	60	8	0.1	1	18	28	79	2	23	53	213
70 (-1)	Mozambique	12	68	2	0.1	1	81	21	330	0.02	112	159	706
71 (-8)	Estonia	31	39	40	15	27	51	2	95	4	6	65	304
72 (+23)	Iceland	34	36	69	39	3	23	36	91	5	64	18	347
73 (n/a)	Sri Lanka	12	57	1	n/a	0.0001	4	9	13	2	15	39	83
74 (-2)	Belarus	14	54	2	0.004	0.1	16	10	38	0.1	3	70	139
75 (n/a)	Zambia	26	25	8	0.3	n/a	101	12	74	0.3	10	32	238
76 (-8)	Tanzania	6	41	n/a	n/a	0.01	4	9	46	0.2	0.2	40	99
77 (-10)	Jamaica	9	30	5	2	16	17	22	107	9	37	60	275
78 (-2)	Georgia	8	29	15	0.1	2	19	21	106	3	11	82	260
79 (n/a)	Ghana	8	29	1	0.05	0.1	5	12	27	0.1	2	37	84
80 (n/a)	Mongolia	4	32	4	3	0.3	20	9	105	1	35	144	322
81 (n/a)	Bermuda	17	13	15	3	250	31	2	44	9	4	184	543
82 (+1)	Burkina Faso	13	17	10	4	23	66	3	34	8	15	88	252
83 (-10)	Nicaragua	4	21	4	n/a	1	11	18	77	0.01	1	81	192
84 (-13)	Bosnia & Herzegovina	8	16	3	0.1	2	12	30	40	0.2	1	54	141
85 (n/a)	Cameroon	7	15	2	0.4	0.001	10	12	19	0.1	5	26	74
86 (-16)	Botswana	14	7	5	23	5	8	50	32	0.3	1	15	139
87 (n/a)	Albania	7	13	12	0.3	6	17	26	48	3	5	52	169
88 (-13)	Senegal	6	14	2	0.1	5	16	14	18	0.4	15	61	131
89 (-11)	Armenia	5	13	5	0.1	0.2	23	21	44	0.3	10	70	174
90 (-16)	Namibia	8	10	1	20	13	29	14	36	0.02	18	36	166
91 (n/a)	Timor-Leste	17	1	4	252	383	35	11	14	0.1	0.2	6	705
92 (-13)	Moldova	3	9	4	0.05	0.02	14	33	54	2	0	84	190
93 (-16)	Mali	3	8	0.4	0.02	5	7	6	21	0.3	3	33	76
94 (-10)	Togo	5	4	75	0.02	18	5	14	29	0.0001	13	57	211
95 (-10)	Niger	2	7	6	0.001	1	5	16	24	0.1	3	68	123
96 (n/a)	Seychelles	4	4	51	76	5	71	46	173	5	12	102	541
97 (-15)	Benin	3	4	2	0.1	14	15	8	7	0.1	7	35	87
98 (-18)	Malawi	1	3	0.3	0.002	n/a	8	18	20	0.2	0.1	43	89
99 (-13)	Cabo Verde	1	4	2	0.03	7	27	35	106	0.2	0.3	112	290
100 (n/a)	Sint Maarten	1	3	15	9	4	28	27	40	2	61	144	329

1 Stock of foreign assets and liabilities/GDP > 1,000%.

SOURCE: IMF Balance of Payments; McKinsey Global Institute analysis

Exhibit A6 (continued)

Foreign investment assets and liabilities and cross-border capital flows (continued)
(ranking by stock of foreign assets and liabilities, 2016E)

Cross-border capital flows, average 2014–16 (average due to volatility) (51–100)

		Cross-border capital flows as % of GDP										
				Outflows % of GDP					Inflows % of GDP			
				FDI	Equity	Debt securities	Loans and other	Foreign reserve assets	FDI	Equity	Debt securities	Loans and other
Rank (change vs. 2005 rank)	Country	Total flows \$ billion	In-flows Out-flows									
51 (-4)	Ukraine	0.5 -2.4	0.2 0.001	0.0	-1.3	-1.2	3.0	-0.03	-0.4	-2.0		
52 (+2)	Peru	9.3 1.8	0.1 0.8	-0.0003	0.9	-0.8	2.7	-0.03	1.6	0.5		
53 (-3)	Kuwait	3.1 26.4	6.4 18.9	5.9	-11.1	0.4	0.3	0.2	0.3	1.7		
54 (-2)	Romania	-0.4 2.3	0.4 0.1	0.1	0.7	-0.1	2.5	0.03	0.8	-3.5		
55 (-10)	Egypt	21.8 2.7	0.1 -0.1	n/a	0.9	-0.03	1.9	0.1	-0.3	5.1		
56 (-8)	Slovak Republic	4.8 4.7	2.0 1.1	1.2	0.5	0.3	1.5	0.03	0.7	2.9		
57 (n/a)	Iraq	n/a -6.8	0.1 0.001	-0.8	3.3	-6.1	n/a	n/a	n/a	n/a		
58 (-3)	Pakistan	3.1 6.1	0.02 0.03	-0.01	-0.02	2.3	0.4	0.3	0.5	0.1		
59 (-2)	Morocco	n/a n/a	n/a n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		
60 (+1)	Bulgaria	2.4 4.8	1.0 0.5	0.1	0.9	6.4	3.4	-0.1	2.9	-1.8		
61 (-5)	Croatia	-0.1 1.9	1.3 0.1	-0.03	2.8	-0.6	3.0	0.001	-1.1	-2.2		
62 (-4)	Slovenia	1.0 3.1	0.6 0.1	3.5	2.6	-0.1	2.8	0.2	1.8	-2.5		
63 (n/a)	Bangladesh	5.0 6.0	0.02 -0.002	0.01	0.3	2.6	1.7	0.1	0.4	0.4		
64 (-4)	Jordan	2.9 0.8	0.1 0.02	0.1	-0.3	2.4	4.0	-0.01	3.5	0.3		
65 (-3)	Ecuador	4.9 5.4	n/a -0.3	0.5	4.9	0.3	0.8	0.003	0.3	3.7		
66 (-2)	Latvia	2.2 2.4	1.1 0.4	7.3	-0.8	0.4	2.4	0.2	3.8	1.3		
67 (-1)	Costa Rica	4.2 1.6	0.8 0.2	0.2	1.4	0.2	5.9	0.01	1.4	0.4		
68 (-3)	Lithuania	3.4 3.8	0.8 0.2	2.0	4.7	0.8	0.9	0.02	1.1	5.6		
69 (n/a)	Serbia	n/a n/a	n/a n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		
70 (-1)	Mozambique	n/a n/a	n/a n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		
71 (-8)	Estonia	1.0 1.7	1.1 1.0	4.5	0.4	0.2	2.4	-0.1	0.2	1.6		
72 (+23)	Iceland	-4.7 -2.8	-2.7 2.7	-6.6	-16.0	7.1	1.2	-0.1	-14.0	-13.0		
73 (n/a)	Sri Lanka	2.7 0.7	0.1 -1.0	-0.0001	0.9	0.9	0.9	0.1	1.3	1.0		
74 (-2)	Belarus	1.9 -0.7	0.1 0.001	-0.001	-0.4	-0.8	2.6	0.01	-0.2	0.8		
75 (n/a)	Zambia	n/a 2.7	-1.8 -0.1	n/a	14.5	-0.8	6.6	0.01	5.4	3.0		
76 (-8)	Tanzania	3.8 0.1	n/a -0.00001	-0.004	0.4	-0.2	4.3	0.01	0.02	3.8		
77 (-10)	Jamaica	1.0 0.8	0.7 0.1	2.6	-1.1	3.1	5.3	0.7	5.8	-4.6		
78 (-2)	Georgia	2.8 0.9	2.1 -0.01	0.5	2.5	0.6	11.3	0.5	-0.3	7.1		
79 (n/a)	Ghana	n/a n/a	n/a n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		
80 (n/a)	Mongolia	1.4 0.2	0.4 0.2	0.04	4.3	-3.2	-15.1	-0.01	3.4	24.2		
81 (n/a)	Bermuda	-0.6 -1.5	0.6 -0.2	-13.2	-14.0	-0.1	-0.9	0.3	-10.4	0.3		
82 (+1)	Burkina Faso	5.4 2.9	0.6 0.003	1.3	25.4	-2.4	3.9	0.6	0.1	41.2		
83 (-10)	Nicaragua	n/a n/a	n/a n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		
84 (-13)	Bosnia & Herzegovina	0.9 n/a	0.1 0.02	0.2	-2.0	2.9	2.1	-0.0004	-0.2	3.3		
85 (n/a)	Cameroon	1.7 0.3	0.1 0.02	0.1	1.4	-0.7	1.7	-0.2	1.6	2.5		
86 (-16)	Botswana	0.4 1.8	0.8 4.4	0.5	1.1	5.3	2.8	0.001	-0.0005	-0.2		
87 (n/a)	Albania	1.5 0.6	0.5 0.001	0.5	1.2	2.3	8.6	0.3	0.1	3.0		
88 (-13)	Senegal	1.9 0.9	0.2 0.02	1.8	3.8	0.5	3.0	-0.003	3.8	6.2		
89 (-11)	Armenia	0.6 n/a	0.3 0.02	0.02	2.2	0.4	2.5	0.03	0.8	2.2		
90 (-16)	Namibia	1.7 1.2	0.4 -0.9	-0.4	0.01	10.9	7.2	0.1	3.7	3.5		
91 (n/a)	Timor-Leste	n/a n/a	n/a n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		
92 (-13)	Moldova	n/a n/a	n/a n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		
93 (-16)	Mali	1.1 0.3	0.004 -0.0003	1.2	3.2	-2.1	1.0	0.02	1.6	5.2		
94 (-10)	Togo	n/a n/a	n/a n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		
95 (-10)	Niger	n/a n/a	n/a n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		
96 (n/a)	Seychelles	0.1 -0.1	-5.7 1.4	-0.1	-8.4	3.4	6.9	-0.5	0.02	-0.01		
97 (-15)	Benin	1.3 0.6	0.3 0.7	4.2	1.3	0.5	2.1	1.6	2.5	8.5		
98 (-18)	Malawi	-0.002 0.1	-0.1 -0.002	n/a	-0.1	2.3	-4.9	0.01	0.1	4.7		
99 (-13)	Cabo Verde	n/a n/a	n/a n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		
100 (n/a)	Sint Maarten	n/a n/a	n/a n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		

SOURCE: IMF Balance of Payments; McKinsey Global Institute analysis



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