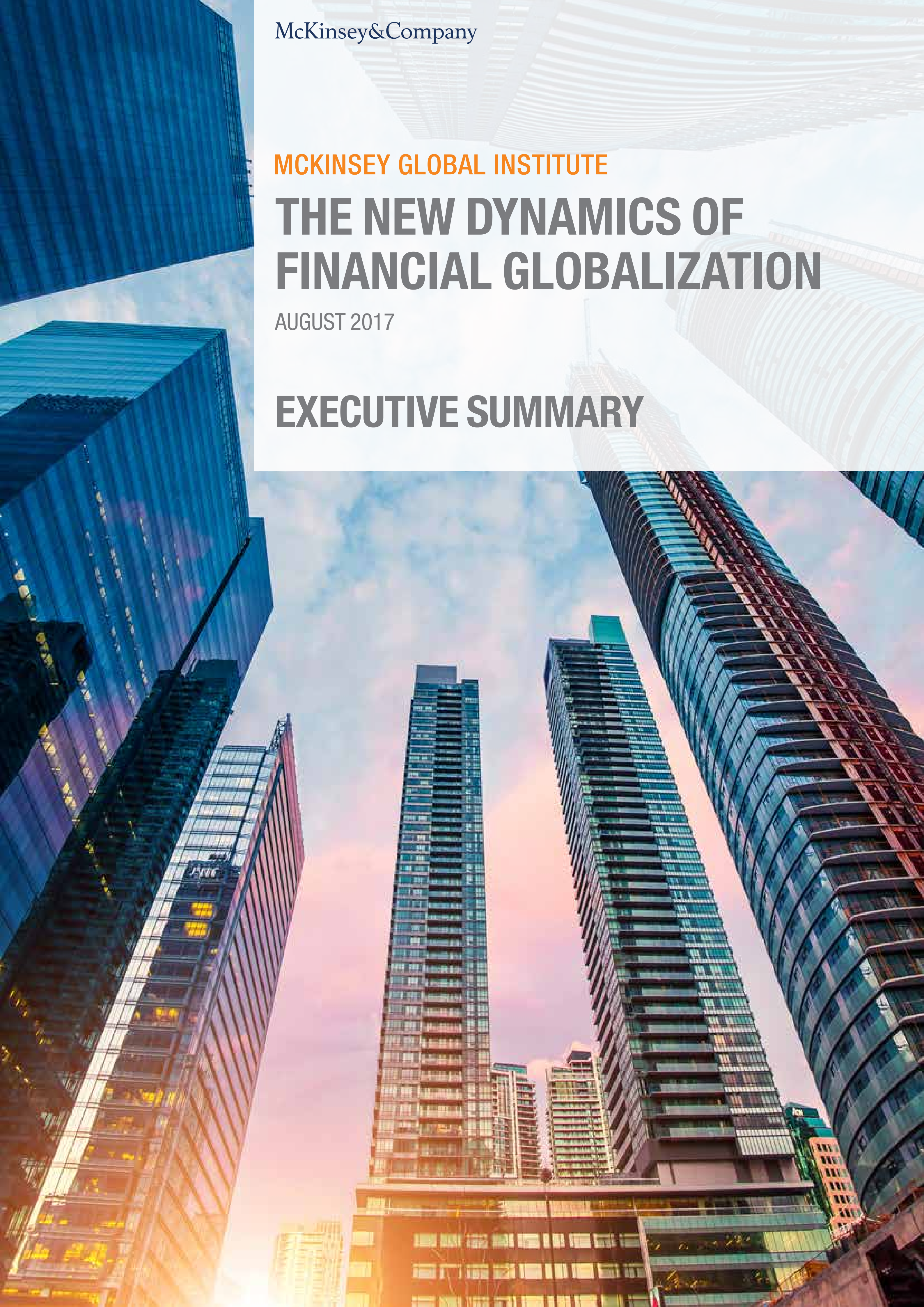
McKinsey&Company

MCKINSEY GLOBAL INSTITUTE

THE NEW DYNAMICS OF FINANCIAL GLOBALIZATION

AUGUST 2017

EXECUTIVE SUMMARY



MCKINSEY GLOBAL INSTITUTE

Since its founding in 1990, the McKinsey Global Institute (MGI) has sought to develop a deeper understanding of the evolving global economy. As the business and economics research arm of McKinsey & Company, MGI aims to provide leaders in the commercial, public, and social sectors with the facts and insights on which to base management and policy decisions. The Lauder Institute at the University of Pennsylvania has ranked MGI the world's number-one private-sector think tank in its Think Tank Index.

MGI research combines the disciplines of economics and management, employing the analytical tools of economics with the insights of business leaders. Our "micro-to-macro" methodology examines microeconomic industry trends to better understand the broad macroeconomic forces affecting business strategy and public policy. MGI's in-depth reports have covered more than 20 countries and 30 industries. Current research focuses on six themes: productivity and growth, natural resources, labor markets, the evolution of global financial markets, the economic impact of technology and innovation, and urbanization. Recent reports have assessed the digital economy, impact of AI and automation on employment, income inequality, the productivity puzzle, the economic benefits of tackling gender inequality, a new era of global competition, Chinese innovation, and digital and financial globalization.

MGI is led by three McKinsey & Company senior partners: Jacques Bughin, Jonathan Woetzel, and James Manyika, who also serves as the chairman of MGI. Michael Chui, Susan Lund, Anu Madgavkar, Sree Ramaswamy, and Jaana Remes are MGI partners, and Jan Mischke and Jeongmin Seong are MGI senior fellows.

Project teams are led by the MGI partners and a group of senior fellows, and include consultants from McKinsey offices around the world. These teams draw on McKinsey's global network of partners and industry and management experts. Advice and input to MGI research are provided by the MGI Council, members of which are also involved in MGI's research. MGI council members are drawn from around the world and from various sectors and include Andrés Cadena, Sandrine Devillard, Richard Dobbs, Katy George, Rajat Gupta, Eric Hazan, Eric Labaye, Acha Leke, Frank Mattern, Scott Nyquist, Gary Pinkus, Sven Smit, Oliver Tonby, and Eckart Windhagen. In addition, leading economists, including Nobel laureates, act as research advisers to MGI research.

The partners of McKinsey fund MGI's research; it is not commissioned by any business, government, or other institution. For further information about MGI and to download reports, please visit **www.mckinsey.com/mgi**.

THE NEW DYNAMICS OF FINANCIAL GLOBALIZATION

AUGUST 2017

Susan Lund | Washington, DC
Eckart Windhagen | Frankfurt
James Manyika | San Francisco
Philipp Härle | London
Jonathan Woetzel | Shanghai
Diana Goldshtein | Washington, DC

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.

THE NEW DYNAMICS OF FINANCIAL GLOBALIZATION

New players
- China
- Developing economies
- International financial centers

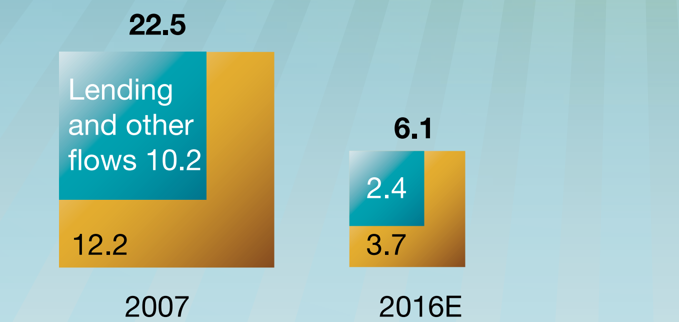
New technology
- Smart machines and artificial intelligence
- Digital platforms
- Blockchain

More stability
- More equity, less debt
- Smaller current account imbalances

Risks remain
- Volatility in flows
- Asset bubble
- Contagion

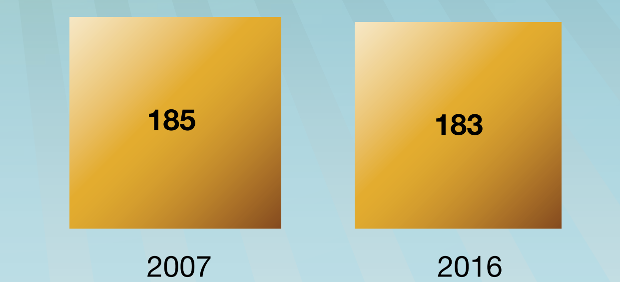
Cross-border capital flows are down, half of the decline due to lending…

Global gross cross-border capital flows to GDP, %



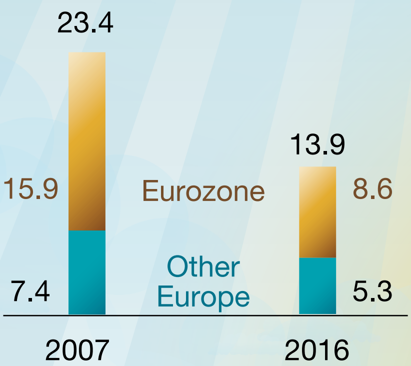
… but financial globalization is robust

Stock of global foreign investments to GDP, %



European banks are retrenching …

Foreign bank claims, $ trillion

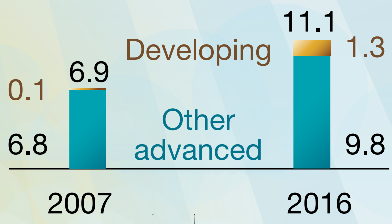


… as a result of …

- 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

MCKINSEY GLOBAL INSTITUTE

McKinsey&Company

EXECUTIVE SUMMARY

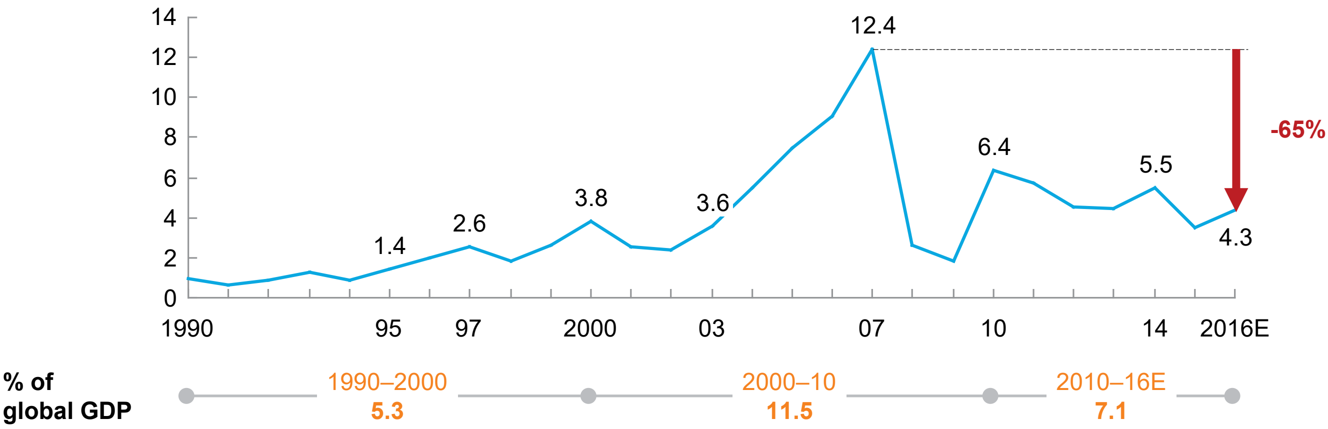
The difficult economic conditions that prevailed for many years after the global financial crisis in 2008 were bound to create a reaction against globalization. There has been a backlash against free trade among citizens and their governments. The World Trade Organization (WTO) said that between mid-October 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 flows[1]
$ 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

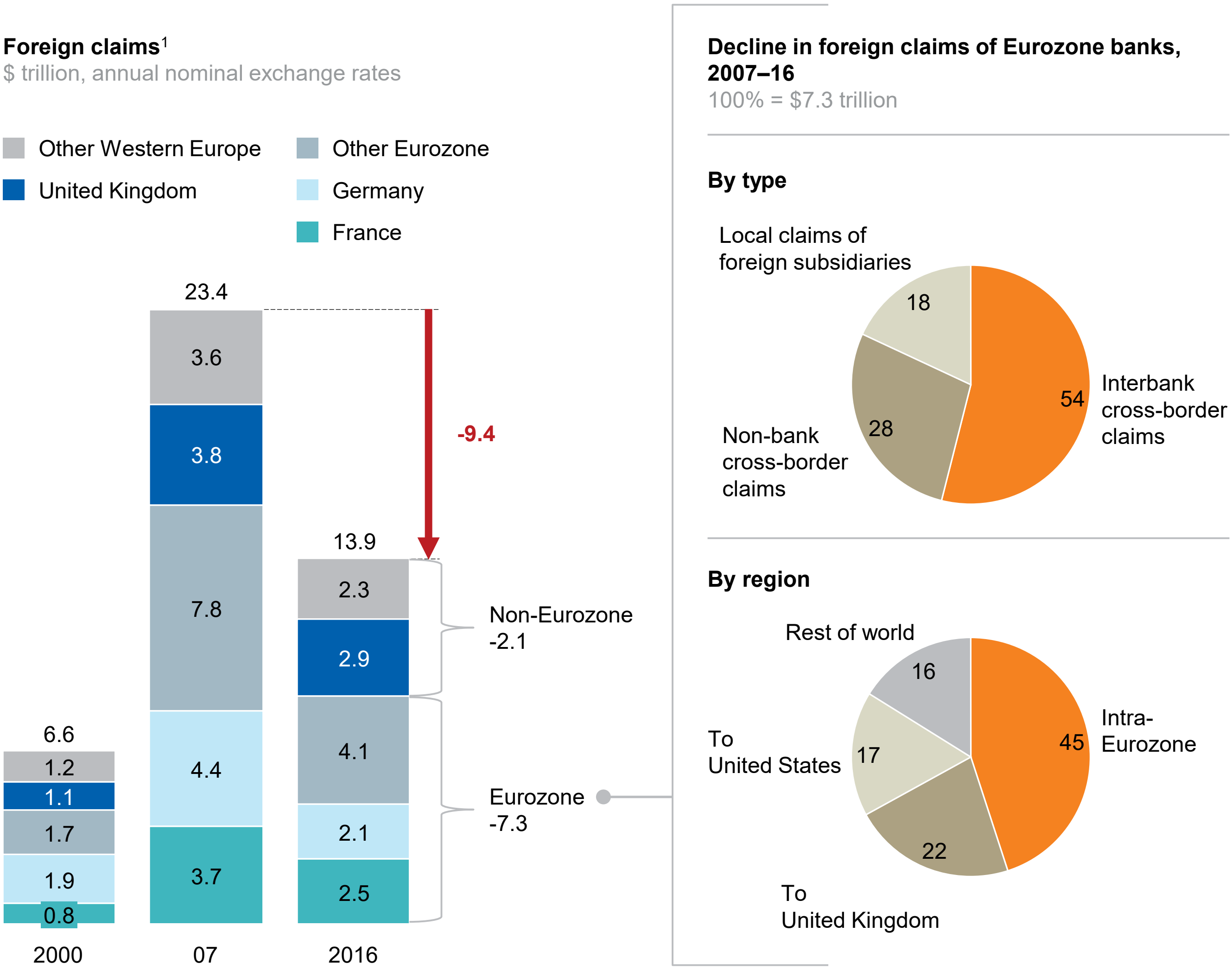
After the creation of a single currency, Eurozone banks began expanding into other markets. The stock of their total foreign claims (including loans and other claims) grew from $4.3 trillion in 2000 to $15.9 trillion in 2007, making them the most globalized banks in the world. But now these same banks 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



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

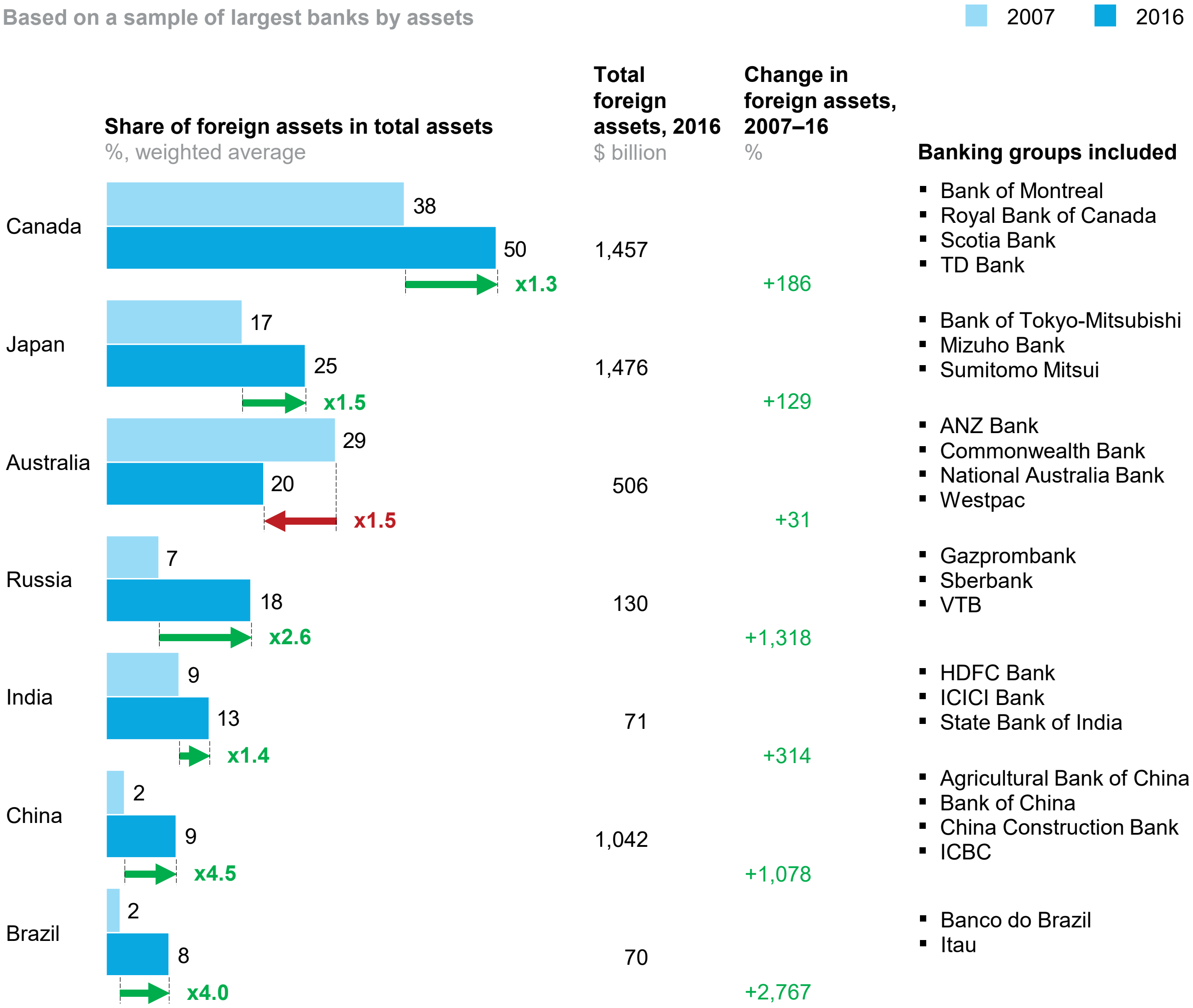
Banks in other countries—notably Canada, China, and Japan—have been expanding their foreign activity. However, it remains to be seen whether this overseas activity will prove profitable and be sustained.

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



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

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

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]

---

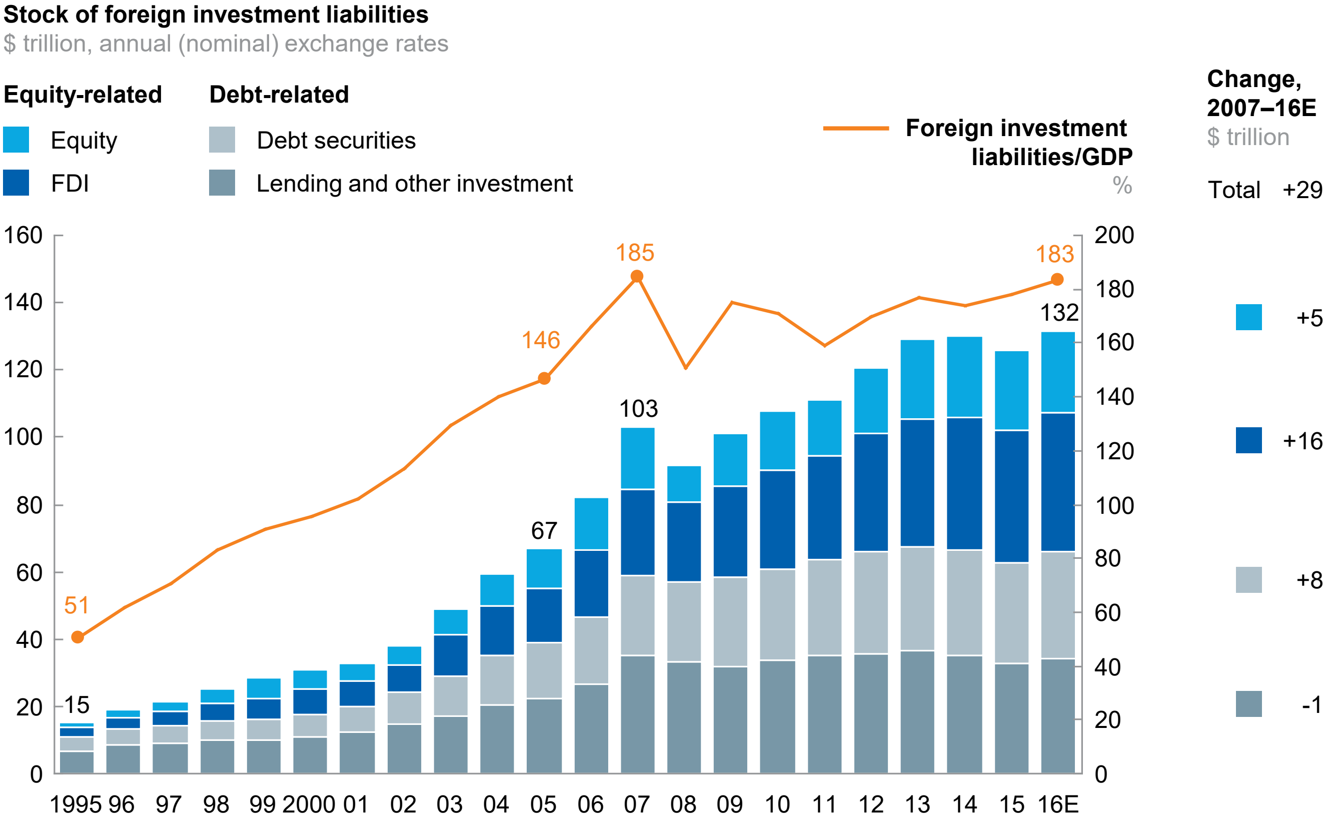
[10] A less known but crucial backstop from the central bank community was giving access to dollar funding to non-US, in particular European, banks.

[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



NOTE: Numbers may not sum due to rounding.

SOURCE: IMF Balance of Payments; McKinsey Global Institute analysis

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: >500 | 100–500 | 50–100 | 10–50 | <10

Country: Net capital provider | Net capital recipient | Financial center[1]

Rank	(change vs. 2005 rank)	Country	Total $ billion: Total foreign assets	Total $ billion: Total foreign liabilities	Foreign assets % of GDP: FDI	Foreign assets: Equity	Foreign assets: Debt securities	Foreign assets: Loans and other	Foreign assets: Foreign reserve assets	Foreign liabilities % of GDP: FDI	Foreign liabilities: Equity	Foreign liabilities: Debt securities	Foreign liabilities: Loans and other	Total foreign assets and liabilities/GDP %
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

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

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).

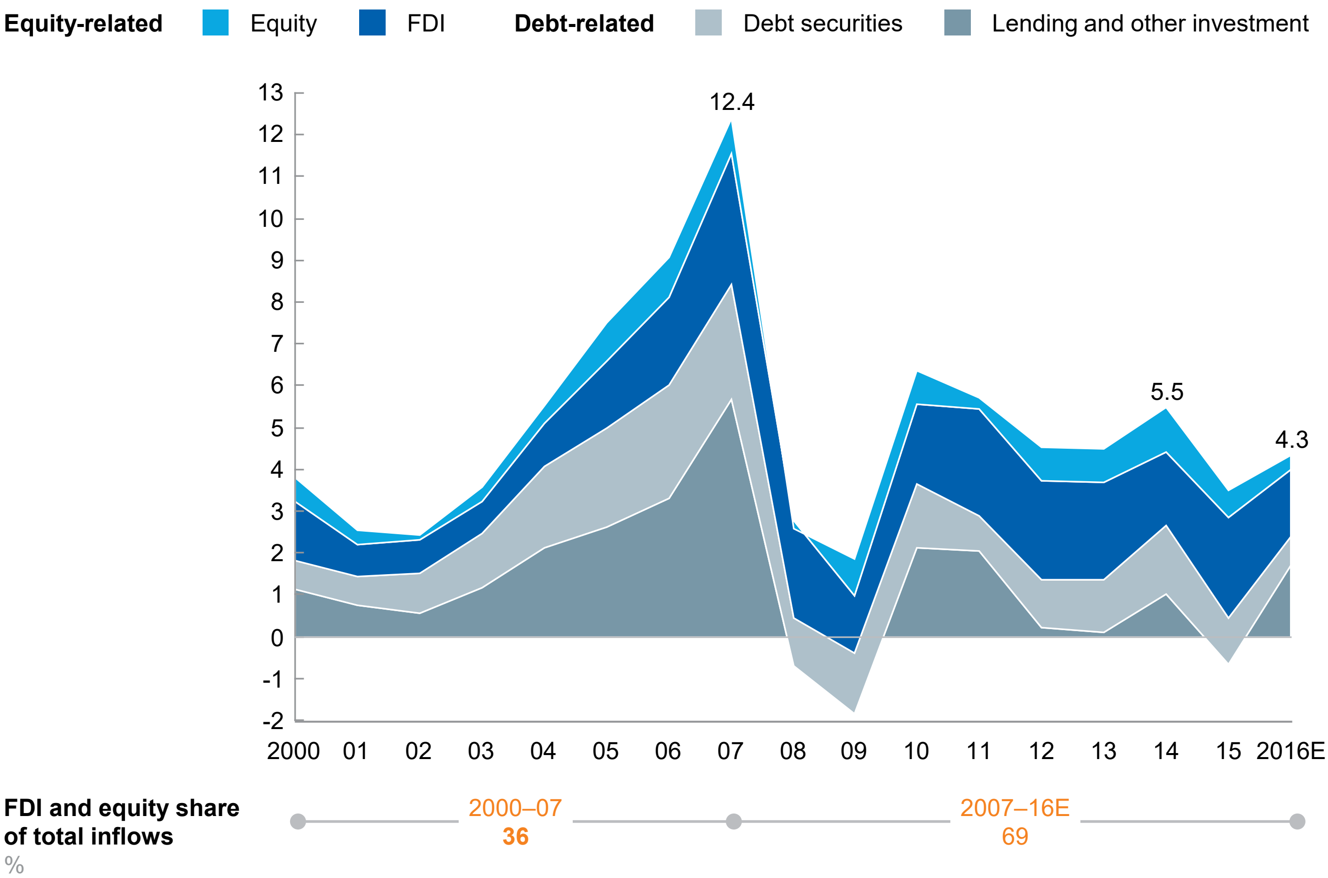
[14] These are the same countries discussed in the Organisation for Economic Co-operation and Development (OECD) work on base erosion and profit shifting; see www.oecd.org/tax/beps/.

[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

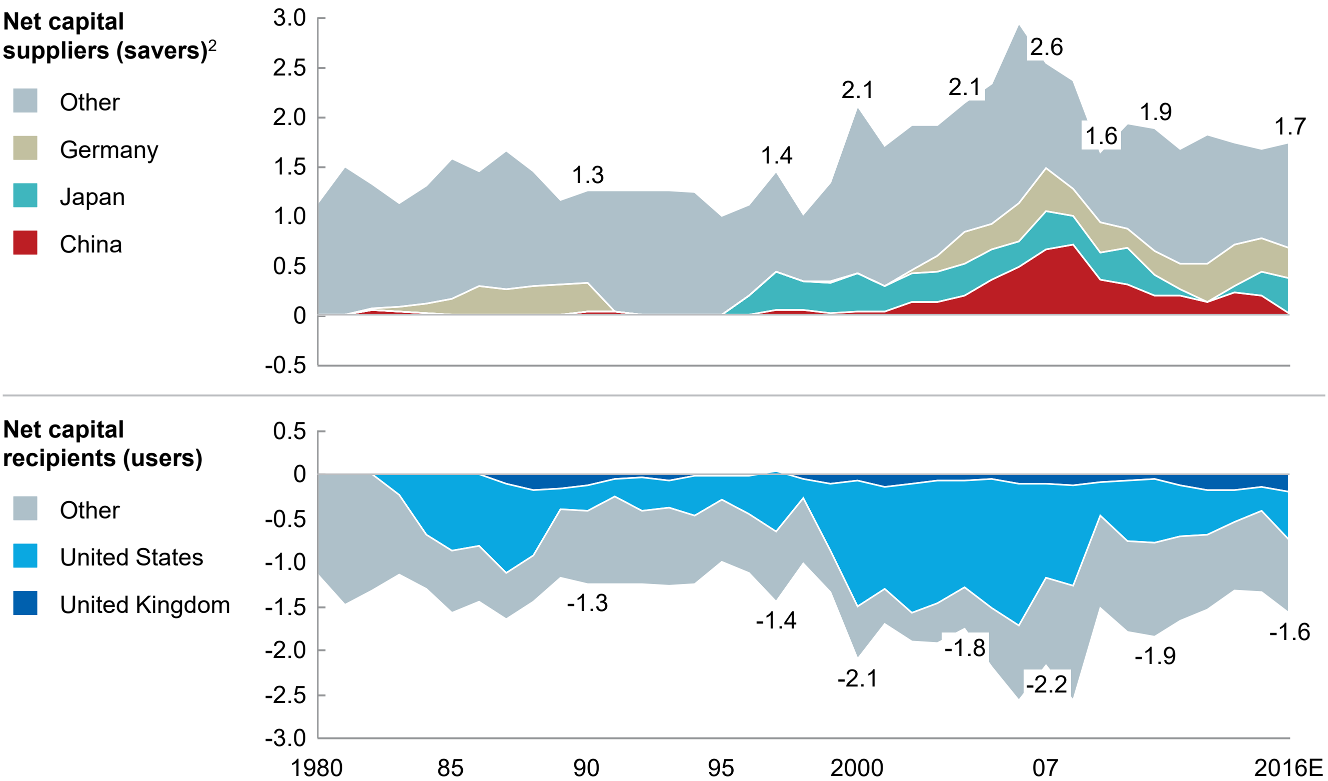
[16] The deficit or surplus in a country's financial and capital account must also equal the deficit or surplus in its current account. The decline in the United States arithmetically reflects the smaller trade deficit, with stronger exports and fewer oil imports.

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 GDP[1]
%



	1980	90	2000	07	2016E
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

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.

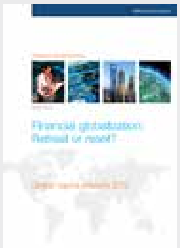
RELATED MGI AND MCKINSEY RESEARCH

Diminishing returns: Why investors may need to lower their expectations (May 2016)
The forces that have driven exceptional investment returns over the past 30 years are weakening and even reversing. It may be time for investors to lower their expectations.

Digital finance for all: Powering inclusive growth in emerging economies (September 2016)
Delivering financial services by mobile phone could benefit billions of people by spurring inclusive growth that adds $3.7 trillion to the GDP of emerging economies within a decade.

Digital globalization: The new era of global flows (March 2016)
Soaring flows of data and information now generate more value than the global goods trade.

Debt and (not much) deleveraging (February 2015)
Global debt has grown by $57 trillion and no major economy has decreased its debt-to-GDP ratio since 2007. High government debt in advanced economies, mounting household debt, and the rapid rise of China's debt are areas of potential concern.



Financial globalization: Retreat or reset? (March 2013)
Cross-border capital flows remain 60 percent below their pre-crisis peak, and growth in financial assets around the world has stalled. Continued retrenchment could jeopardize investment and recovery unless policy makers can "reset" the financial system for a healthier flow of financing that supports economic growth.

McKinsey Insights App
Explore insights from across McKinsey, MGI, and the McKinsey Quarterly—all delivered seamlessly to your mobile devices. Broaden your knowledge and widen your perspective on our latest thinking on the challenging issues facing senior leaders, spanning all industries, functions, and geographies. Available for both Apple and Android devices.

www.mckinsey.com/mgi

E-book versions of selected MGI reports are available at MGI's website, Amazon's Kindle bookstore, and Apple's iBooks Store.

Download and listen to MGI podcasts on iTunes or at www.mckinsey.com/mgi/publications/multimedia/

Cover image: Skyscrapers © D3sign/Getty Images.

Contents page images (top to bottom): Trading board © Sino Images/Getty Images; business people © Olaser/E+/Getty Images; businessman looking at London skyline © Adam Petto/E+/Getty Images.

McKinsey Global Institute
August 2017

www.mckinsey.com/mgi

@McKinsey_MGI
McKinseyGlobalInstitute