CHAPTER 1

GLOBAL PROSPECTS AND POLICIES

Recent Developments and Prospects

The forces shaping the global outlook—both those operating over the short term and those operating over the long term—point to subdued growth for 2016 and a gradual recovery thereafter, as well as to downside risks. These forces include new shocks, such as Brexit—the June 23, 2016, U.K. referendum result in favor of leaving the European Union; ongoing realignments, such as rebalancing in China and the adjustment of commodity exporters to a protracted decline in the terms of trade; and slow-moving trends, such as demographics and the evolution of productivity growth; as well as noneconomic factors, such as geopolitical and political uncertainty. The subdued recovery also plays a role in explaining the weakness in global trade (discussed in Chapter 2) and persistently low inflation (discussed in Chapter 3).

Relative to the global outlook envisaged in the April 2016 *World Economic Outlook* (WEO), the main changes relate to the downward revision to U.S. growth (mostly reflecting weaker-than-expected growth in the second quarter of 2016), further confirmation that the economies of Brazil and Russia are closer to exiting from recession, and the outcome of the U.K. referendum. Brexit is an unfolding event—the long-term arrangements in relations between the United Kingdom and the European Union will be uncertain for a protracted period of time. And the vote is not only a symptom of fraying consensus on the benefits of cross-border economic integration amid weak growth, but could catalyze pressures for inward-looking policies elsewhere as well.

On the positive side, beyond a sharp depreciation of the pound, broader market reaction to the Brexit vote has generally been contained, with equity valuations and risk appetite recovering after an initial drop, as discussed elsewhere in this chapter. Bank stocks, however, remain under pressure, especially in countries with more fragile banking systems. Based on preliminary readings, business and consumer sentiment were generally resilient in July, immediately following the referendum, except in the United Kingdom. Sentiment has improved regarding emerging market and developing economies, reflecting reduced concerns about China's near-term prospects following policy support for growth, mildly favorable macroeconomic news from other emerging market economies in the past few months, some recovery in commodity prices, and expectations of lower interest rates in advanced economies. But with very limited post-Brexit macroeconomic data so far, uncertainty about the impact of Brexit on macroeconomic outcomes remains, especially in Europe.

Growth is projected to pick up from 2017 onward, almost entirely on account of developments in emerging market and developing economies. This reflects primarily two factors: the gradual normalization of macroeconomic conditions in several countries experiencing deep recessions and the increasing weight of fast-growing countries in this group in the world economy (Box 1.1).

The World Economy in Recent Months

Global Activity Remains Sluggish

Based on preliminary data, global growth is estimated at 2.9 percent in the first half of 2016, slightly weaker than in the second half of 2015 and lower than projected in the April 2016 WEO. Global industrial production remained subdued, but has shown signs of a pickup in recent months, and trade volumes retreated in the quarter through June after several months of sustained recovery from the trough of early 2015 (Figure 1.1). The recent weak momentum is mostly a product of softer activity in advanced economies.

- The U.S. economy has lost momentum over the past few quarters, and the expectation of a pickup in the second quarter of 2016 has not been realized, with growth estimated at 1.1 percent at a seasonally adjusted annual rate. Consumption growth (at about 3.0 percent on average in the first half of the year) has remained strong, supported by a firm labor market and expanding payrolls, but continued weakness in nonresidential investment together with a sizable drawdown of inventories has weighed on the

Table 1.1. Overview of the *World Economic Outlook* Projections

(Percent change, unless noted otherwise)

		Projections		Difference from July 2016 *WEO Update*[1]		Difference from April 2016 WEO[1]	
	2015	2016	2017	2016	2017	2016	2017
World Output	**3.2**	**3.1**	**3.4**	**0.0**	**0.0**	**–0.1**	**–0.1**
Advanced Economies	**2.1**	**1.6**	**1.8**	**–0.2**	**0.0**	**–0.3**	**–0.2**
United States	2.6	1.6	2.2	–0.6	–0.3	–0.8	–0.3
Euro Area	2.0	1.7	1.5	0.1	0.1	0.2	–0.1
Germany	1.5	1.7	1.4	0.1	0.2	0.2	–0.2
France	1.3	1.3	1.3	–0.2	0.1	0.2	0.0
Italy	0.8	0.8	0.9	–0.1	–0.1	–0.2	–0.2
Spain	3.2	3.1	2.2	0.5	0.1	0.5	–0.1
Japan	0.5	0.5	0.6	0.2	0.5	0.0	0.7
United Kingdom	2.2	1.8	1.1	0.1	–0.2	–0.1	–1.1
Canada	1.1	1.2	1.9	–0.2	–0.2	–0.3	0.0
Other Advanced Economies[2]	2.0	2.0	2.3	0.0	0.0	–0.1	–0.1
Emerging Market and Developing Economies	**4.0**	**4.2**	**4.6**	**0.1**	**0.0**	**0.1**	**0.0**
Commonwealth of Independent States	–2.8	–0.3	1.4	0.3	–0.1	0.8	0.1
Russia	–3.7	–0.8	1.1	0.4	0.1	1.0	0.3
Excluding Russia	–0.5	0.9	2.3	–0.1	–0.2	0.0	0.0
Emerging and Developing Asia	6.6	6.5	6.3	0.1	0.0	0.1	0.0
China	6.9	6.6	6.2	0.0	0.0	0.1	0.0
India[3]	7.6	7.6	7.6	0.2	0.2	0.1	0.1
ASEAN-5[4]	4.8	4.8	5.1	0.0	0.0	0.0	0.0
Emerging and Developing Europe	3.6	3.3	3.1	–0.2	–0.1	–0.2	–0.2
Latin America and the Caribbean	0.0	–0.6	1.6	–0.2	0.0	–0.1	0.1
Brazil	–3.8	–3.3	0.5	0.0	0.0	0.5	0.5
Mexico	2.5	2.1	2.3	–0.4	–0.3	–0.3	–0.3
Middle East, North Africa, Afghanistan, and Pakistan	2.3	3.4	3.4	0.0	0.1	0.3	–0.1
Saudi Arabia	3.5	1.2	2.0	0.0	0.0	0.0	0.1
Sub-Saharan Africa	3.4	1.4	2.9	–0.2	–0.4	–1.6	–1.1
Nigeria	2.7	–1.7	0.6	0.1	–0.5	–4.0	–2.9
South Africa	1.3	0.1	0.8	0.0	–0.2	–0.5	–0.4
Memorandum							
European Union	2.3	1.9	1.7	0.0	0.1	0.1	–0.2
Low-Income Developing Countries	4.6	3.7	4.9	–0.1	–0.2	–1.0	–0.6
Middle East and North Africa	2.1	3.2	3.2	–0.1	0.1	0.3	–0.1
World Growth Based on Market Exchange Rates	2.6	2.4	2.8	–0.1	0.0	–0.1	–0.1
World Trade Volume (goods and services)	**2.6**	**2.3**	**3.8**	**–0.4**	**–0.1**	**–0.8**	**0.0**
Imports							
Advanced Economies	4.2	2.4	3.9	–0.4	–0.3	–1.0	–0.2
Emerging Market and Developing Economies	–0.6	2.3	4.1	–0.4	0.0	–0.7	0.4
Exports							
Advanced Economies	3.6	1.8	3.5	–0.5	–0.1	–0.7	0.0
Emerging Market and Developing Economies	1.3	2.9	3.6	–0.2	–0.2	–0.9	–0.3
Commodity Prices (U.S. dollars)							
Oil[5]	–47.2	–15.4	17.9	0.1	1.5	16.2	0.0
Nonfuel (average based on world commodity export weights)	–17.5	–2.7	0.9	1.1	1.5	6.7	1.6
Consumer Prices							
Advanced Economies	0.3	0.8	1.7	0.1	0.1	0.1	0.2
Emerging Market and Developing Economies[6]	4.7	4.5	4.4	–0.1	0.0	0.0	0.2
London Interbank Offered Rate (percent)							
On U.S. Dollar Deposits (six month)	0.5	1.0	1.3	0.1	0.1	0.1	–0.2
On Euro Deposits (three month)	0.0	–0.3	–0.4	0.0	0.0	0.0	0.0
On Japanese Yen Deposits (six month)	0.1	0.0	–0.1	0.0	0.1	0.1	0.2

Note: Real effective exchange rates are assumed to remain constant at the levels prevailing during July 22–August 19, 2016. Economies are listed on the basis of economic size. The aggregated quarterly data are seasonally adjusted.

[1]Difference based on rounded figures for the current, July 2016 *World Economic Outlook Update*, and April 2016 *World Economic Outlook* forecasts.

[2]Excludes the G7 (Canada, France, Germany, Italy, Japan, United Kingdom, United States) and euro area countries.

[3]For India, data and forecasts are presented on a fiscal year basis and GDP from 2011 onward is based on GDP at market prices with fiscal year 2011/12 as a base year.

[4]Indonesia, Malaysia, Philippines, Thailand, Vietnam.

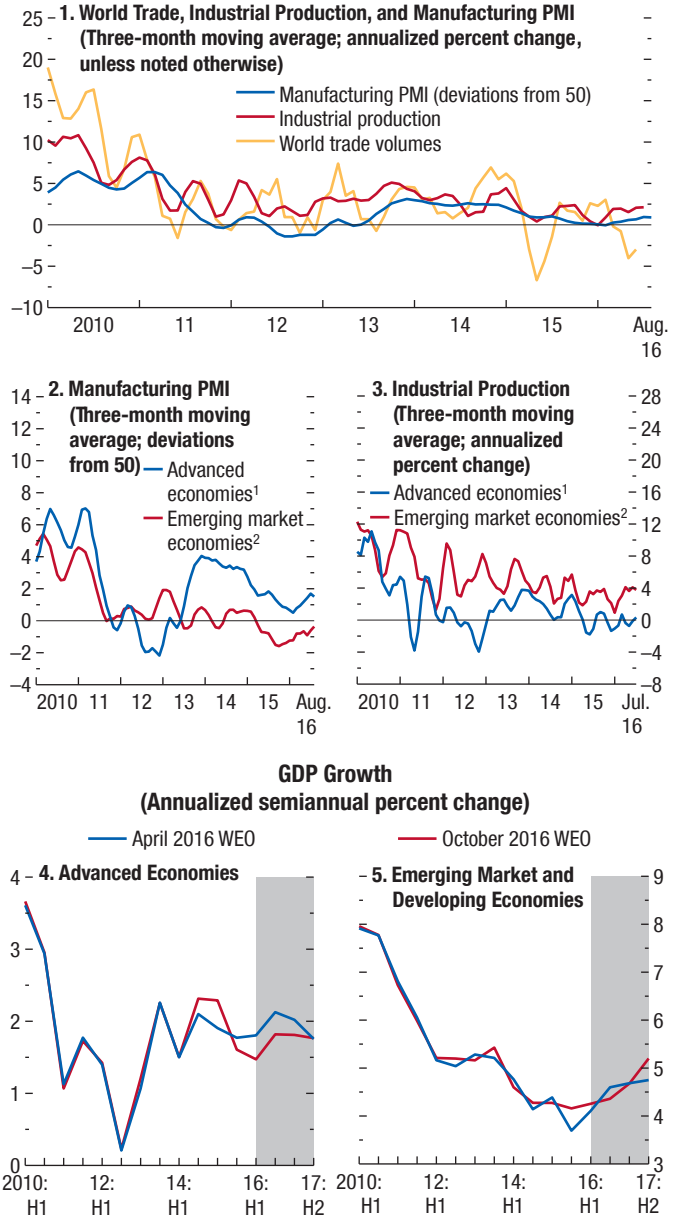
Table 1.1 *(continued)*

	Year-over-Year				Q4-over-Q4[7]			
			Projections				Projections	
	2014	2015	2016	2017	2014	2015	2016	2017
World Output	**3.4**	**3.2**	**3.1**	**3.4**	**3.2**	**3.1**	**3.1**	**3.5**
Advanced Economies	**1.9**	**2.1**	**1.6**	**1.8**	**1.9**	**1.8**	**1.7**	**1.8**
United States	2.4	2.6	1.6	2.2	2.5	1.9	2.0	1.9
Euro Area	1.1	2.0	1.7	1.5	1.2	2.0	1.6	1.6
Germany	1.6	1.5	1.7	1.4	1.6	1.3	1.7	1.6
France	0.6	1.3	1.3	1.3	0.6	1.3	1.3	1.5
Italy	–0.3	0.8	0.8	0.9	–0.4	1.1	0.7	1.2
Spain	1.4	3.2	3.1	2.2	2.1	3.5	2.6	2.1
Japan	0.0	0.5	0.5	0.6	–0.9	0.8	0.8	0.8
United Kingdom	3.1	2.2	1.8	1.1	3.5	1.8	1.4	0.8
Canada	2.5	1.1	1.2	1.9	2.4	0.3	1.5	1.9
Other Advanced Economies[2]	2.8	2.0	2.0	2.3	2.7	2.0	2.1	2.4
Emerging Market and Developing Economies	**4.6**	**4.0**	**4.2**	**4.6**	**4.4**	**4.2**	**4.3**	**5.0**
Commonwealth of Independent States	1.1	–2.8	–0.3	1.4	–0.9	–3.3	–0.3	2.1
Russia	0.7	–3.7	–0.8	1.1	–0.2	–3.8	–0.3	2.4
Excluding Russia	2.0	–0.5	0.9	2.3	. . .	. . .	. . .	. . .
Emerging and Developing Asia	6.8	6.6	6.5	6.3	6.6	6.8	6.3	6.3
China	7.3	6.9	6.6	6.2	7.0	6.9	6.4	6.1
India[3]	7.2	7.6	7.6	7.6	7.1	8.1	7.4	7.4
ASEAN-5[4]	4.6	4.8	4.8	5.1	4.9	4.8	4.4	5.8
Emerging and Developing Europe	2.8	3.6	3.3	3.1	2.9	4.1	2.9	2.9
Latin America and the Caribbean	1.0	0.0	–0.6	1.6	0.3	–1.2	–0.4	2.3
Brazil	0.1	–3.8	–3.3	0.5	–0.7	–5.9	–1.2	1.1
Mexico	2.2	2.5	2.1	2.3	2.6	2.4	1.8	2.4
Middle East, North Africa, Afghanistan, and Pakistan	2.7	2.3	3.4	3.4	. . .	. . .	. . .	. . .
Saudi Arabia	3.6	3.5	1.2	2.0	2.4	1.8	1.0	2.5
Sub-Saharan Africa	5.1	3.4	1.4	2.9	. . .	. . .	. . .	. . .
Nigeria	6.3	2.7	–1.7	0.6	. . .	. . .	. . .	. . .
South Africa	1.6	1.3	0.1	0.8	1.4	0.2	0.1	1.3
Memorandum								
European Union	1.6	2.3	1.9	1.7	1.8	2.3	1.9	1.6
Low-Income Developing Countries	6.0	4.6	3.7	4.9	. . .	. . .	. . .	. . .
Middle East and North Africa	2.6	2.1	3.2	3.2	. . .	. . .	. . .	. . .
World Growth Based on Market Exchange Rates	2.7	2.6	2.4	2.8	2.5	2.3	2.5	2.8
World Trade Volume (goods and services)	**3.9**	**2.6**	**2.3**	**3.8**	**. . .**	**. . .**	**. . .**	**. . .**
Imports								
Advanced Economies	3.8	4.2	2.4	3.9	. . .	. . .	. . .	. . .
Emerging Market and Developing Economies	4.5	–0.6	2.3	4.1	. . .	. . .	. . .	. . .
Exports								
Advanced Economies	3.8	3.6	1.8	3.5	. . .	. . .	. . .	. . .
Emerging Market and Developing Economies	3.5	1.3	2.9	3.6	. . .	. . .	. . .	. . .
Commodity Prices (U.S. dollars)								
Oil[5]	–7.5	–47.2	–15.4	17.9	–28.7	–43.4	14.6	6.8
Nonfuel (average based on world commodity export weights)	–4.0	–17.5	–2.7	0.9	–7.4	–19.1	6.8	–1.2
Consumer Prices								
Advanced Economies	1.4	0.3	0.8	1.7	1.0	0.4	1.0	1.8
Emerging Market and Developing Economies[6]	4.7	4.7	4.5	4.4	4.2	4.6	4.2	3.9
London Interbank Offered Rate (percent)								
On U.S. Dollar Deposits (six month)	0.3	0.5	1.0	1.3	. . .	. . .	. . .	. . .
On Euro Deposits (three month)	0.2	0.0	–0.3	–0.4	. . .	. . .	. . .	. . .
On Japanese Yen Deposits (six month)	0.2	0.1	0.0	–0.1	. . .	. . .	. . .	. . .

[5]Simple average of prices of U.K. Brent, Dubai Fateh, and West Texas Intermediate crude oil. The average price of oil in U.S. dollars a barrel was $50.79 in 2015; the assumed price based on futures markets is $42.96 in 2016 and $50.64 in 2017.
[6]Excludes Argentina and Venezuela. See country-specific notes for Argentina in the "Country Notes" section of the Statistical Appendix.
[7]For World Output, the quarterly estimates and projections account for approximately 90 percent of annual world output at purchasing-power-parity weights. For Emerging Market and Developing Economies, the quarterly estimates and projections account for approximately 80 percent of annual emerging market and developing economies' output at purchasing-power-parity weights.

Figure 1.1. Global Activity Indicators

Global growth weakened slightly in the first half of 2016, mostly due to softer activity in advanced economies, while emerging market and developing economies picked up modestly. Global trade contracted in the second quarter of 2016, while industrial production remained subdued for the most part, but has risen in recent months.



Sources: CPB Netherlands Bureau for Economic Policy Analysis; Haver Analytics; Markit Economics; and IMF staff estimates.
Note: IP = industrial production; PMI = purchasing managers' index.
[1]Australia, Canada, Czech Republic, Denmark, euro area, Hong Kong SAR (IP only), Israel, Japan, Korea, New Zealand, Norway (IP only), Singapore, Sweden (IP only), Switzerland, Taiwan Province of China, United Kingdom, United States.
[2]Argentina (IP only), Brazil, Bulgaria (IP only), Chile (IP only), China, Colombia (IP only), Hungary, India, Indonesia, Latvia (IP only), Lithuania (IP only), Malaysia (IP only), Mexico, Pakistan (IP only), Peru (IP only), Philippines (IP only), Poland, Romania (IP only), Russia, South Africa, Thailand (IP only), Turkey, Ukraine (IP only), Venezuela (IP only).

headline growth number. The weakness in business fixed investment appears to reflect the continued (albeit moderating) decline in capital spending in the energy sector, the impact of recent dollar strength on investment in export-oriented industries, and possibly also the financial market volatility and recession fears of late 2015 and early 2016. Nonfarm labor productivity declined 0.6 percent at a seasonally adjusted annualized rate in the second quarter, the third consecutive negative reading.

- Growth in the euro area declined to 1.2 percent at a seasonally adjusted annualized rate in the second quarter, after mild weather and consequent strong construction activity helped boost growth in the first quarter to 2.1 percent. Domestic demand, notably investment, decelerated in some of the larger euro area economies after successive quarters of stronger-than-expected growth. High-frequency data and corporate survey indicators for July point to a muted impact of the Brexit vote on confidence and activity thus far.
- In the United Kingdom, a strong start to the second quarter lifted GDP growth to 2.4 percent at a seasonally adjusted annualized rate (from 1.8 percent in the first quarter of 2016). A breakdown of high-frequency data within the quarter suggests that momentum had begun to weaken over May and June leading up to the referendum. Survey indicators for July and August point to a sharp post-referendum retrenchment in manufacturing activity followed by a rebound, while retail sales have held up so far.
- In Japan, growth decelerated in the second quarter to 0.7 percent at a seasonally adjusted annualized rate, from 2.1 percent in the first quarter. In part this reflects payback after an unusually strong first quarter, during which the outturn—particularly for consumer spending—was driven in part by leap-year effects. In addition, weaker external demand and corporate investment weighed on activity in the second quarter.
- Elsewhere, among advanced economies whose prospects are closely linked to systemic economies, momentum in Hong Kong Special Administrative Region and Taiwan Province of China improved in the second quarter as adverse financial and economic spillovers from China abated after the turbulence at the start of the year. Growth in Canada, by contrast, has been negatively affected by weaker-than-expected outcomes in the United States,

compounding the setbacks stemming from one-off events such as the wildfires in Alberta.

Despite subdued activity in advanced economies and associated spillovers, emerging market and developing economies as a group recorded a slight pickup in momentum over the first half of 2016, broadly in line with the April 2016 WEO projection. Emerging Asia continued to register strong growth, and the situation improved slightly for stressed economies such as Brazil and Russia. Many economies in the Middle East and sub-Saharan Africa, however, continued to face challenging conditions.

- In emerging Asia, growth in China in the first half of the year stabilized close to the middle of the authorities' target range of 6½ –7 percent for 2016 on policy support and strong credit growth. Robust consumption and a further rotation in activity from industry to services indicate that rebalancing is progressing along the dimensions of internal demand and supply-side structure. India's economy continued to recover strongly, benefiting from a large improvement in the terms of trade, effective policy actions, and stronger external buffers, which have helped boost sentiment.
- In Latin America, Brazil's economy remains in recession, but activity appears to be close to bottoming out as the effects of past shocks—the decline in commodity prices, the administered-price adjustments of 2015, and political uncertainty—wear off.
- Russia's economy shows signs of stabilization as it is adjusting to the dual shock from oil prices and sanctions, and financial conditions eased after bank capital buffers were replenished with public funds. Macroeconomic performance elsewhere in emerging Europe was broadly stable, although the situation in Turkey became more uncertain in the aftermath of the attempted coup in July.
- Activity weakened in sub-Saharan Africa, led by Nigeria, where production was disrupted by shortages of foreign exchange, militant activity in the Niger Delta, and electricity blackouts. Momentum in South Africa was flat, despite the improvements in the external environment—notably stabilization in China. Elsewhere, resilience in Côte d'Ivoire, Kenya, Senegal, and Tanzania partially offset generally softer activity across the region.
- The Middle East continues to confront difficult challenges with subdued oil prices, the fallout from geopolitical tensions, and civil conflict in some countries.

Inflation Remains Low

In 2015, consumer price inflation in advanced economies was, at 0.3 percent, the lowest it had been since the global financial crisis. It edged up to about 0.5 percent in the first half of 2016 as the drag from oil prices diminished (Figure 1.2). Core consumer price inflation is higher than headline inflation but differs across major advanced economies. It averaged slightly above 2 percent in the first half of the year in the United States, which may reflect temporary factors or seasonality, while it was lower at about ¾ percent in the euro area and Japan. Inflation has held steady in emerging market and developing economies as exchange rates remained broadly stable—or appreciated—in many countries and the effects of past exchange rate depreciations began to fade.

A Partial Recovery in Commodity Prices

The IMF's Primary Commodities Price Index has increased by 22 percent since February 2016—that is, between the reference periods for the April 2016 and the current WEO report (Figure 1.3). The strongest price increases were for fuels, in particular for oil and coal:

- After hitting a 10-year low in January 2016, oil prices rallied by 50 percent, to $45 in August, mostly due to involuntary production outages that brought balance to the oil market.
- Natural gas prices are declining—the average price for Europe, Japan, and the United States is down by 6 percent since February 2016. The previous decline in oil prices, abundant natural gas production in Russia, and weak demand in Asia (particularly in Japan) have contributed to that decline. In the United States, natural gas prices have instead edged higher on account of stronger demand from the power sector, reflecting warmer-than-expected weather.
- Coal prices have rebounded, with the average of Australian and South African prices 32 percent higher than levels in February 2016.

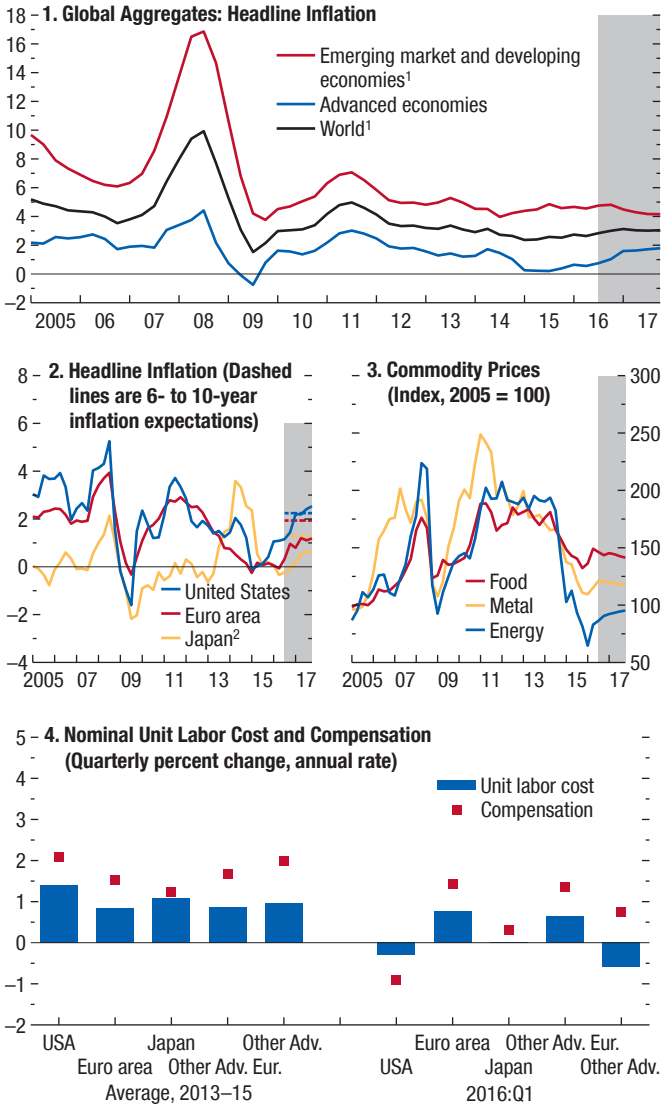
Nonfuel commodity prices have also increased, with metals and agricultural commodity prices rising by 12 percent and 9 percent, respectively.

- Metal prices had been gradually declining because of a slowdown in and a shift away from commodity-intensive investment in China, but the recent stimulus has provided some support to prices.

Figure 1.2. Global Inflation

(Year-over-year percent change, unless noted otherwise)

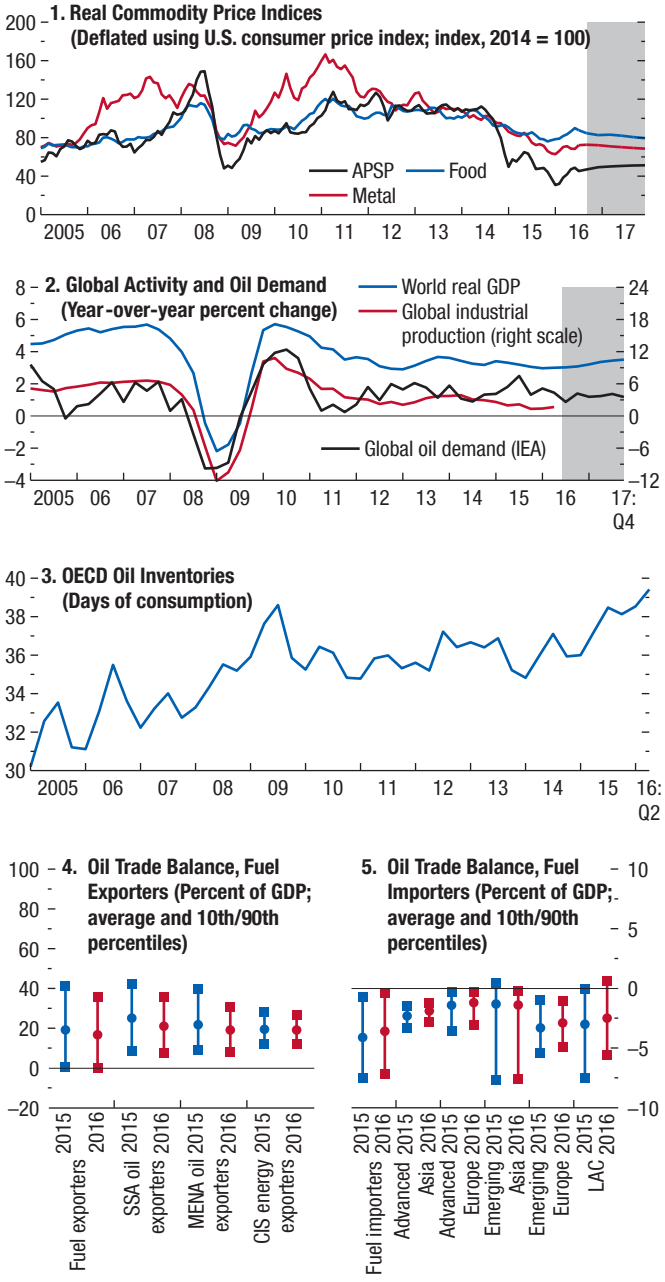
Headline inflation inched up in advanced economies as the drag from lower commodity prices faded. In emerging market and developing economies, headline inflation has held steady as currencies remained broadly stable, or appreciated in some cases.



Sources: Consensus Economics; Haver Analytics; IMF, Primary Commodity Price System; and IMF staff estimates.
Note: Other Adv. = other advanced economies; Other Adv. Eur. = other advanced Europe; USA = United States.
[1]Excludes Venezuela.
[2]In Japan, the increase in inflation in 2014 reflects, to a large extent, the increase in the consumption tax.

Figure 1.3. Commodity and Oil Markets

Oil prices have rebounded from the 10-year low recorded in January 2016, due in large part to involuntary production shutdowns. Metal prices increased modestly in the first half of 2016 with slightly stronger demand from emerging market and developing economies, while food prices ticked up for most items, in large part due to adverse weather shocks.



Sources: IMF, Primary Commodity Price System; International Energy Agency (IEA); Organisation for Economic Co-operation and Development (OECD); and IMF staff estimates.
Note: APSP = average petroleum spot price; CIS = Commonwealth of Independent States; LAC = Latin America and the Caribbean; MENA = Middle East and North Africa; SSA = sub-Saharan Africa.

- Among agricultural commodities, food prices rose by 7 percent, with increases in most items, except for a few such as corn and wheat. International prices have not fully reflected the adverse weather shock until recently, but El Niño and a potential La Niña have started to take a toll on international food markets. In addition, Brazil—a big food producer—has been experiencing a prolonged drought. Wheat prices have come down with the expectation of higher stocks following favorable production in the United States, the European Union, and Russia.

Exchange Rates and Capital Flows

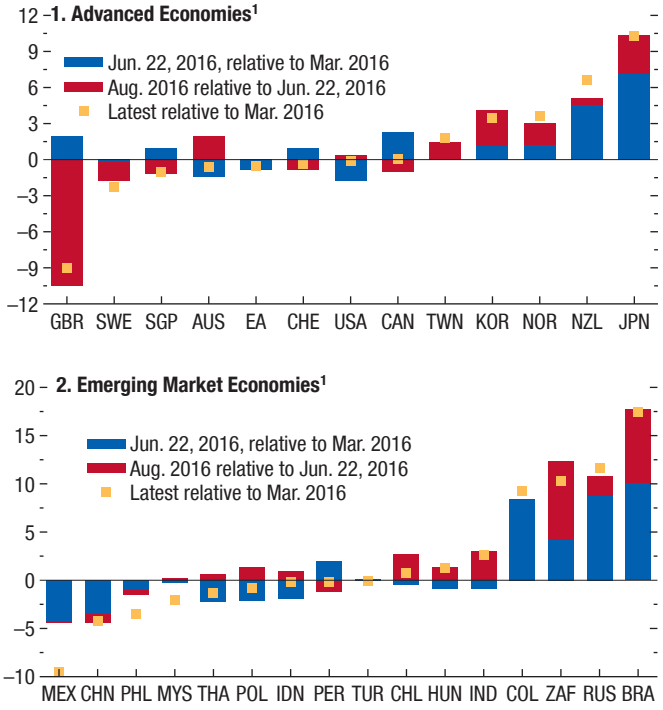
Relative to the spring, the dollar and the euro remain broadly unchanged in real effective terms (Figure 1.4, first panel). The largest movements across the currencies of advanced economies as of the end of mid-September 2016 were the depreciation of the pound following Brexit (about 9 percent since the spring and over 10 percent since the June 23 referendum) and the appreciation of the Japanese yen (around 10 percent). Across emerging market currencies, the Chinese renminbi continued to depreciate gradually, by over 4 percent (Figure 1.4, panel 2). The currencies of commodity exporters—including the Brazilian real, the Russian ruble, and the South African rand—have generally appreciated, reflecting some recovery in commodity prices and a more general strengthening of financial market sentiment vis-à-vis emerging market economies, related in part to expectations of even lower interest rates in advanced economies.[1]

Capital flows to emerging market economies have recovered after the sharp downturn in the second half of 2015 and a weak start to 2016, on the back of the same factors supporting exchange rate valuations (Figure 1.5). In particular, purchases of shares in funds specializing in emerging market portfolio instruments have picked up (Figure 1.5, panel 1). Data from the few countries that have released full balance of payments data for the second quarter confirm an increase in capital inflows, especially in portfolio instruments. China has continued to experience capital outflows and some loss in foreign exchange reserves, but at a much more modest pace than in the second half of 2015 and early 2016.

[1]Exceptions include the Mexican peso, which has weakened in recent weeks on U.S. electoral uncertainty, and especially the Nigerian naira, which depreciated sharply after the central bank initiated greater flexibility in the exchange rate in June.

Figure 1.4. Real Effective Exchange Rate Changes, March 2016–September 2016
(Percent)

Since March 2016 advanced economy currencies have remained mostly stable, or appreciated modestly, with the exception of the British pound (which depreciated sharply after the June 23 U.K. referendum vote to leave the European Union) and the Japanese yen (which has appreciated close to 10 percent). Currencies of commodity exporters have generally appreciated with the recovery in commodity prices.



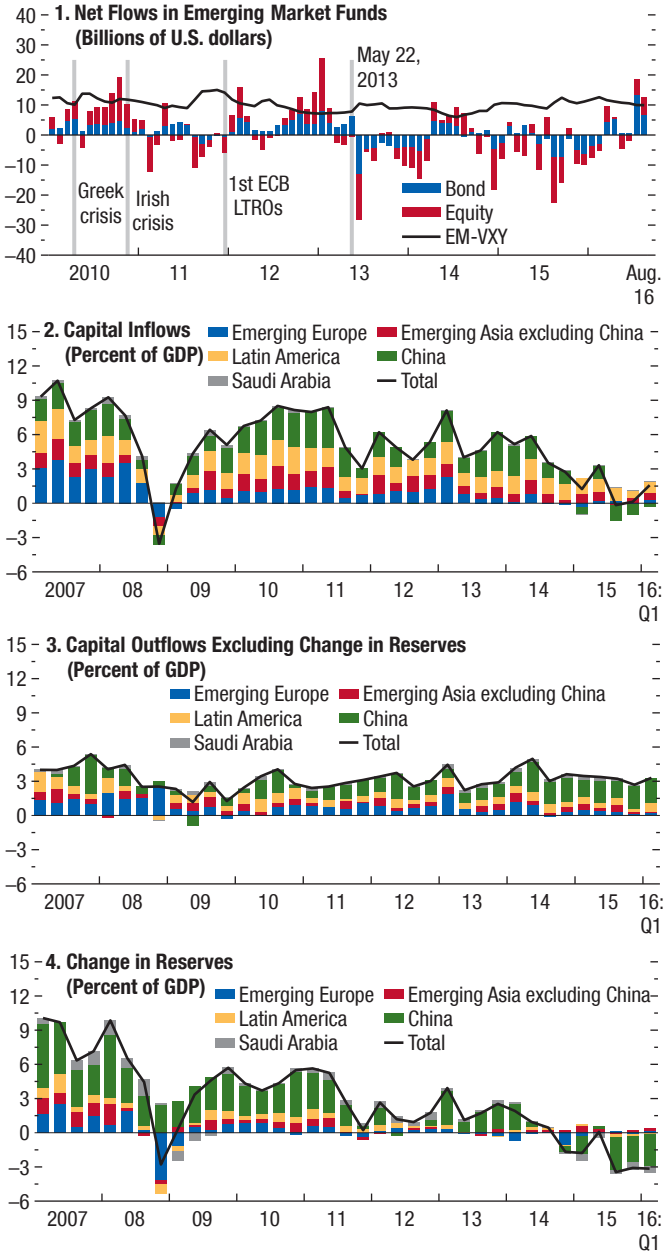
Source: IMF staff calculations.
Note: EA = euro area. Data labels in the figure use International Organization for Standardization (ISO) country codes.
[1]Latest data available are for September 16, 2016.

Monetary Policy and Financial Conditions

Asset prices and risk sentiment have generally recovered after the declines in the aftermath of the U.K. referendum (Figure 1.6). Equity prices reached record highs in the United States in August and picked up in other advanced economies as well. A notable exception are bank stocks, reflecting expectations of weakened future bank profitability, as interest rates are now expected to stay very low even longer, as well as balance sheet concerns in some countries

Figure 1.5. Emerging Market Economies: Capital Flows

Following a large decline in the second half of 2015 and early 2016, capital flows to emerging markets have recovered since February amid a growing sense in financial markets that advanced economy central banks will maintain accommodative monetary policy for even longer, the firming of commodity prices, and signs of stabilization in key emerging markets.



Sources: Bloomberg L.P.; EPFR Global; Haver Analytics; IMF, *International Financial Statistics;* and IMF staff calculations.

Note: Capital inflows are net purchases of domestic assets by nonresidents. Capital outflows are net purchases of foreign assets by domestic residents. Emerging Asia excluding China comprises India, Indonesia, Malaysia, the Philippines, and Thailand; emerging Europe comprises Poland, Romania, Russia, and Turkey; Latin America comprises Brazil, Chile, Colombia, Mexico, and Peru. ECB = European Central Bank; EM-VXY = J.P. Morgan Emerging Market Volatility Index; LTROs = longer-term refinancing operations.

with more vulnerable banking systems, such as Italy and Portugal.

In response to persistently weak inflation and lackluster data on economic activity, markets expect central banks in major advanced economies to remain dovish for longer than previously thought (Figure 1.6, panels 1 and 2). In particular, markets now expect only one further rate increase in the United States during 2016. The shift in expectations was particularly notable in the United Kingdom, where the Bank of England cut the policy rate, boosted quantitative easing, and undertook a number of other initiatives to support sentiment following the referendum. Term premiums have also compressed further, with long-term interest rates in advanced economies declining again (Figure 1.6, panel 3). As of late August, yields on 10-year U.S. and German government bonds had declined by 25 to 30 basis points since March, while the yields on U.K. 10-year gilts had declined by 90 basis points. Yields have increased modestly in September.

A large stock of advanced economy sovereign bonds is now trading at negative yields, as discussed in the October 2016 *Global Financial Stability Report* (GFSR). Meanwhile, credit to nonfinancial firms and households continues to expand (albeit at a decelerating pace) in the United States, and in the euro area as a whole (Figure 1.7).

Sentiment toward emerging market economies has generally improved, with a compression in spreads, declining long-term real interest rates, and a recovery in equity valuations (Figures 1.8 and 1.9). A number of emerging markets have eased monetary policy rates since the spring, including several economies in Asia where inflation has been muted (notably Indonesia and Malaysia) as well as Russia and Turkey. Exceptions to this trend are Mexico, where the policy rate was raised by 50 basis points after the exchange rate came under pressure immediately following the Brexit vote, and Colombia and South Africa, where policy rates were raised in order to keep inflation expectations around target.

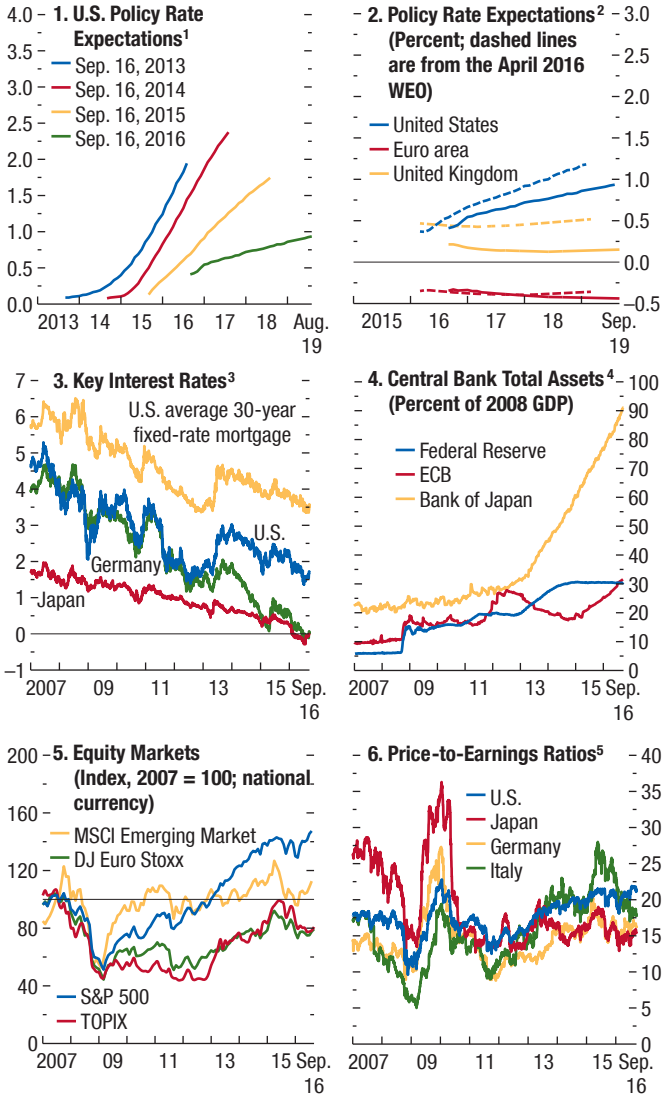
Forces Weighing on the Outlook

Economic growth in recent years has fallen short of expectations in both advanced and emerging market economies. As the world economy moves further away from the global financial crisis, the factors affecting global economic performance are becoming more complex. They reflect a combination of global forces—demographic trends, a persistent decline in produc-

Figure 1.6. Advanced Economies: Monetary and Financial Market Conditions

(Percent, unless noted otherwise)

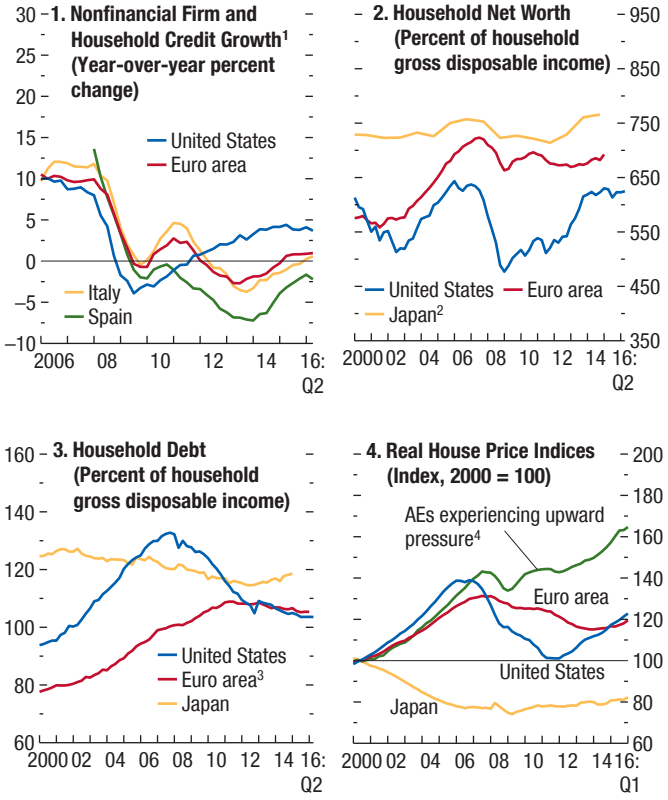
Markets expect advanced economy central banks to maintain low rates for even longer as economic activity has stayed sluggish and inflation pressures remain muted. Financial market sentiment has generally recovered after the initial short-lived negative reaction to the June 23 U.K. referendum vote to leave the European Union.



Sources: Bank of Spain; Bloomberg L.P.; Haver Analytics; Thomson Reuters Datastream; and IMF staff calculations.
Note: DJ = Dow Jones; ECB = European Central Bank; MSCI = Morgan Stanley Capital International; S&P = Standard & Poor's; TOPIX = Tokyo Stock Price Index; WEO = *World Economic Outlook*.
[1] Expectations are based on the federal funds rate futures.
[2] Expectations are based on the federal funds rate futures for the United States, the sterling overnight interbank average rate for the United Kingdom, and the euro interbank offered forward rate for the euro area. Current data are for September 16, 2016; April 2016 WEO data are for March 24, 2016.
[3] Interest rates are 10-year government bond yields, unless noted otherwise. Data are through September 16, 2016.
[4] Data are through September 16, 2016. ECB calculations are based on the Eurosystem's weekly financial statement.
[5] Data are through September 16, 2016.

Figure 1.7. Advanced Economies: Credit, House Prices, and Balance Sheets

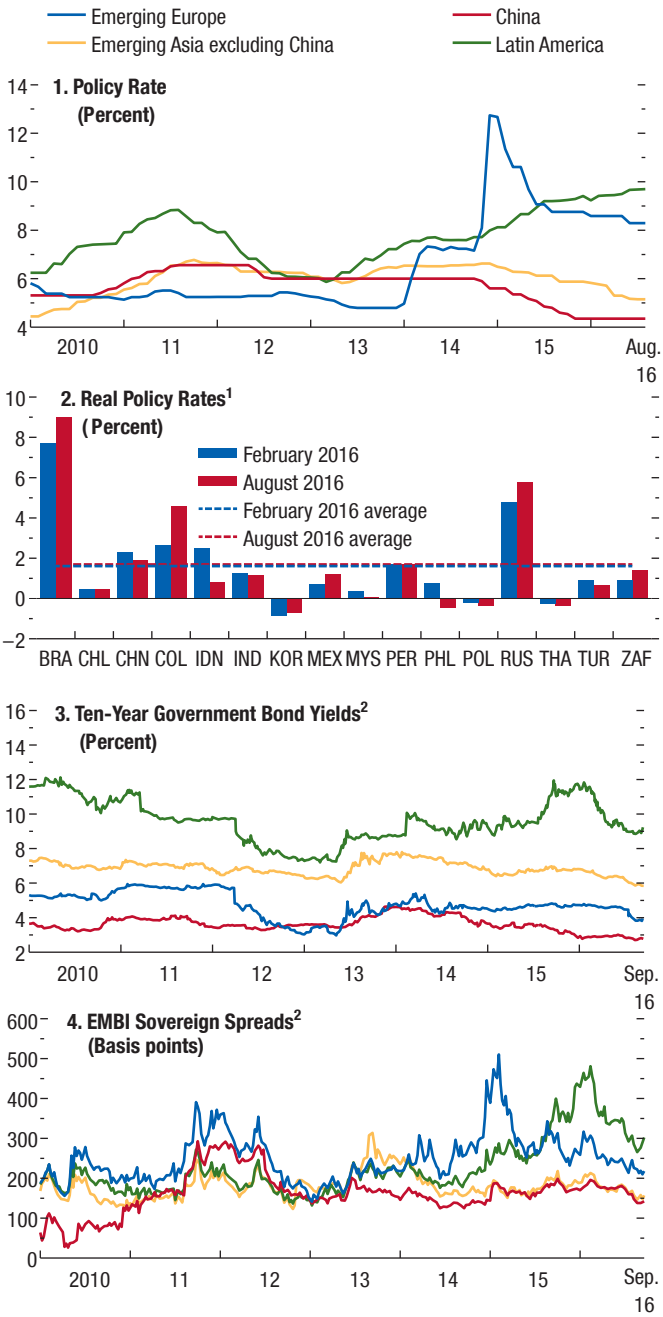
Credit to nonfinancial firms and households continues to grow in the United States and the euro area as a whole. Household net worth has generally continued to improve as a share of disposable income in Japan and the euro area, while stabilizing in the United States.



Sources: Bank of England; Bank of Spain; Bloomberg L.P.; European Central Bank (ECB); Haver Analytics; Organisation for Economic Co-operation and Development; and IMF staff calculations.
[1] Flow-of-funds data are used for the euro area, Spain, and the United States. Italian bank loans to Italian residents are corrected for securitizations.
[2] Interpolated from annual net worth as a percentage of disposable income.
[3] Includes subsector employers (including self-employed workers).
[4] Upward-pressure countries are those with a residential real estate vulnerability index above the median for advanced economies (AEs): Australia, Austria, Belgium, Canada, Denmark, France, Hong Kong SAR, Israel, Korea, Luxembourg, New Zealand, Norway, Portugal, Spain, Sweden, and the United Kingdom.

Figure 1.8. Emerging Market Economies: Interest Rates

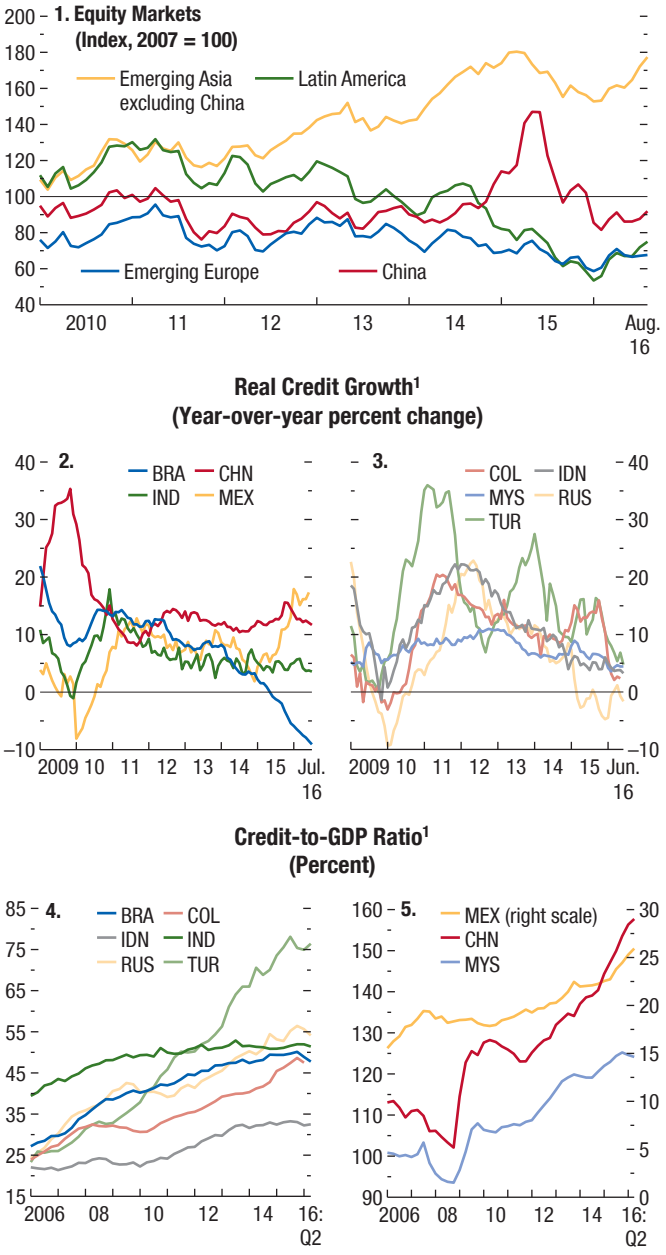
Financial conditions in emerging market economies have eased since February with expectations of a more persistent dovish monetary policy stance in advanced economies, an uptick in commodity prices, and signs of stabilization in emerging market economies currently in recession. Sovereign yields have declined and spreads have narrowed.



Sources: Bloomberg L.P.; Haver Analytics; IMF, *International Financial Statistics;* and IMF staff calculations.
Note: Emerging Asia excluding China comprises India, Indonesia, Malaysia, the Philippines, and Thailand; emerging Europe comprises Poland, Romania, Russia, and Turkey; Latin America comprises Brazil, Chile, Colombia, Mexico, and Peru. EMBI = J.P. Morgan Emerging Markets Bond Index. Data labels in the figure use International Organization for Standardization (ISO) country codes.
[1]Deflated by two-year-ahead *World Economic Outlook* inflation projections.
[2]Data are through September 16, 2016.

Figure 1.9. Emerging Market Economies: Equity Markets and Credit

Equity prices have generally firmed up in recent months, reflecting improvements in the operating environment for corporates in emerging market economies with the pickup in commodity prices and lower borrowing costs. Vulnerabilities, however, continue to accumulate in some cases as the credit-to-GDP ratio remains on an upward path.



Sources: Bloomberg, L.P.; Haver Analytics; IMF, International Financial Statistics (IFS) database; and IMF staff calculations.
Note: Data labels in the figure use International Organization for Standardization (ISO) country codes.
[1]Credit is other depository corporations' claims on the private sector (from IFS), except in the case of Brazil, for which private sector credit is from the Monetary Policy and Financial System Credit Operations published by Banco Central do Brasil.

tivity growth, the adjustment to lower commodity prices—and shocks driven by domestic and regional factors. These are discussed in turn for advanced and emerging market and developing economies.

Advanced Economies

Advanced economies were at the epicenter of the global financial crisis. Eight years after the collapse of Lehman Brothers, significant progress has been made in repairing the macroeconomic damage from the crisis. But the progress is uneven, and the crisis scars still quite visible, especially in some countries. The first panel of Figure 1.10 documents deviations of main macroeconomic aggregates from their precrisis *trends* (based on the 1996–2005 period) and precrisis *levels*. For selected euro area countries more severely affected by the crisis, GDP and especially domestic demand and investment remain in 2016 well below their precrisis levels, and even more distant from their precrisis trends. As noted in the October 2016 GFSR, many banks in the euro area continue to struggle with a high volume of impaired assets, which has potentially held back lending and suppressed investment. In other advanced economies demand, GDP, and investment are generally above precrisis levels, but still well below precrisis trends.

Relative to the depth of the crisis, progress is more visible in output gaps (Figure 1.10, panel 2). Output gaps remain negative virtually across the board, a clear symptom of weak global demand, but economic slack has declined substantially since its postcrisis peak.[2] The extent of progress—and of cross-country heterogeneity—is also evident in the behavior of unemployment, which has declined sizably since its peak but remains higher than its precrisis level in most countries. For the aggregate of advanced economies, the unemployment rate is less than 1 percentage point above its 2007 level. In some countries (such as the United States) the decline in unemployment to precrisis levels somewhat overstates the recovery in employment, given the decline in labor force participation. This has not, however, been the case in other advanced economies, where in many cases participation rates are above precrisis levels (Figure 1.10, panel 4).

[2]Downward revisions to potential growth and reassessment of precrisis potential output imply estimated negative output gaps that are much smaller in absolute terms than a comparison of pre- and postcrisis growth outcomes would suggest.

This uneven progress in macroeconomic repair across advanced economies is overlaid on underlying trends related to population aging and weaker productivity growth. The combination of these deeper factors may have contributed to diminished expectations of future potential output growth and profitability and to weak current demand and a lower equilibrium real interest rate. Lower equilibrium rates, in turn, limit the extent to which low policy rates can stimulate demand.

Other factors have also played a role in shaping prospects for advanced economies. One example is the slowdown and rebalancing in China, discussed further below and in Chapter 4, which implies more modest growth in demand for advanced economies' exports. This slowdown, together with the weakening in the growth rate of global trade discussed in Chapter 2, had a notable impact on prospects for advanced Asian economies (Hong Kong SAR, Korea, Singapore, Taiwan Province of China) that are very open and have strong trade ties to China. Also at play is the decline in commodity prices, which, as discussed more extensively in Chapter 1 of the April 2016 WEO, implies windfall gains for most advanced economies but sizable losses in disposable income for commodity exporters such as Australia, Canada, and Norway.

Demographic Trends and Migration

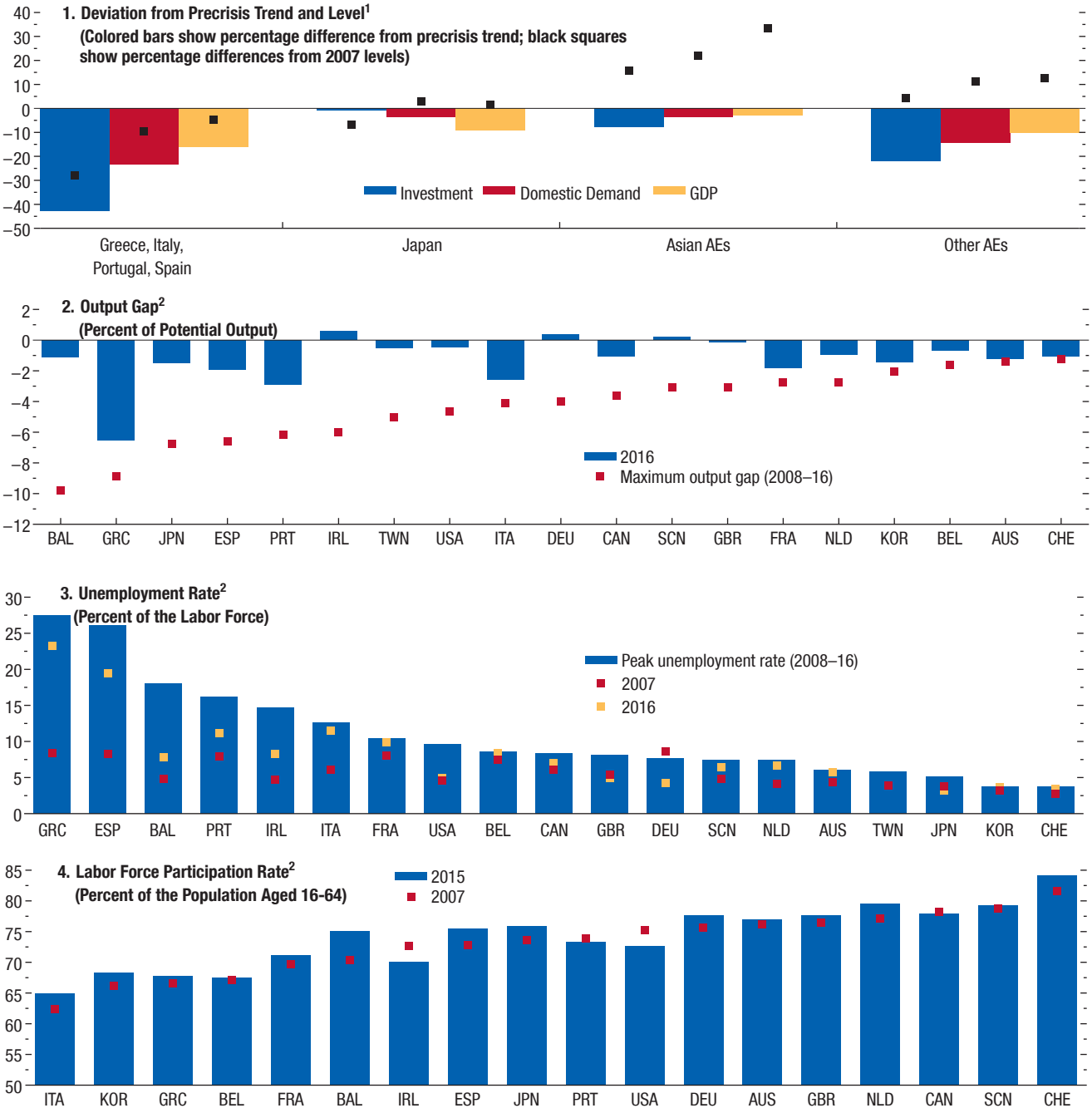
With low fertility rates, population growth in advanced economies has declined over the past decade and is projected to decline further over the next five years and beyond (Figure 1.11, panel 1).[3] Slowing population growth has been accompanied by aging—the working-age population (between the ages of 15 and 64) is projected to decline over the next five years (Figure 1.11, panel 2). These trends are common to "old" advanced economies (considered advanced since at least the mid-1990s) but also to "new" advanced economies,[4] which are actually experiencing a faster and sharper demographic transition. In addition, the share of workers ages 55 to 64 has increased sizably in advanced economies over the past two decades (Figure 1.11, panel 3). Population aging is set to increase pressure on pension and health care systems

[3]The decline has been more moderate than demographic projections suggested a decade ago, given the strong increase in immigration.

[4]These include the Baltic countries (Estonia, Latvia, Lithuania), Cyprus, the Czech Republic, Hong Kong S.A.R., Israel, Korea, Macao S.A.R., Puerto Rico, San Marino, Singapore, the Slovak Republic, and Slovenia.

Figure 1.10. Domestic Demand, Output Gap, Unemployment, and Labor Force Participation in Advanced Economies

In advanced economies, uneven progress has been made in repairing the macroeconomic damage from the global financial crisis. Domestic demand and investment are still below precrisis levels in some euro area countries. Economic slack and unemployment rates have fallen from their postcrisis peaks, but remain high in a few cases.



Sources: Organisation for Economic Co-operation and Development labor statistics; and IMF staff estimates.
[1]Investment, domestic demand, and GDP are in real terms. For all countries except Japan, precrisis trends are linear regression trends fitted for each variable using data for 1996–2005. For Japan, trends are fitted for 2001–05 given the sharp drop in investment in 1997–98. Asian AEs = Australia, Hong Kong SAR, Korea, Macao SAR, New Zealand, Singapore, Taiwan Province of China; Other AEs = Austria, Belgium, Canada, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Iceland, Israel, Latvia, Lithuania, Luxembourg, Malta, Netherlands, New Zealand, Norway, San Marino, Slovak Republic, Slovenia, Sweden, Switzerland, United Kingdom, United States.
[2]BAL = Estonia, Latvia, Lithuania; SCN = Denmark, Finland, Iceland, Norway, Sweden. Other labels in the figure use International Organization for Standardization (ISO) country codes.

and worsen debt dynamics, especially as the workforce starts to shrink.

Migration from emerging market and developing economies over the past few decades has alleviated the impact of aging on the labor force in advanced economies, as discussed in more detail in Chapter 4. The share of migrants in the advanced-economy population almost doubled from 6 to 11 percent between 1990 and 2015. As the majority of migrants tend to be of working age, migration contributed about half of the increase in the working-age population between 1990 and 2010.

Receiving migrants, however, also creates challenges for advanced economies, especially in a context of weak economic growth. Concerns about the impact on wages and possible displacement of native workers and short-term fiscal costs can potentially add to social tensions. These concerns can in turn spur a political backlash, as demonstrated by the current U.S. presidential election campaign and the campaign preceding the Brexit vote in the United Kingdom. However, once integrated into the labor force, migrants tend to benefit recipient economies. Previous studies find positive long-term effects of immigration on per capita income and labor productivity and little impact on the employment rates and wages of native workers. A number of studies do, however, find negative effects on lower-wage groups. Immigrants can help alleviate the fiscal challenges of aging societies by reducing dependency ratios (and accordingly, the burden of health care and social security spending), even if they weigh on fiscal balances in the short run.

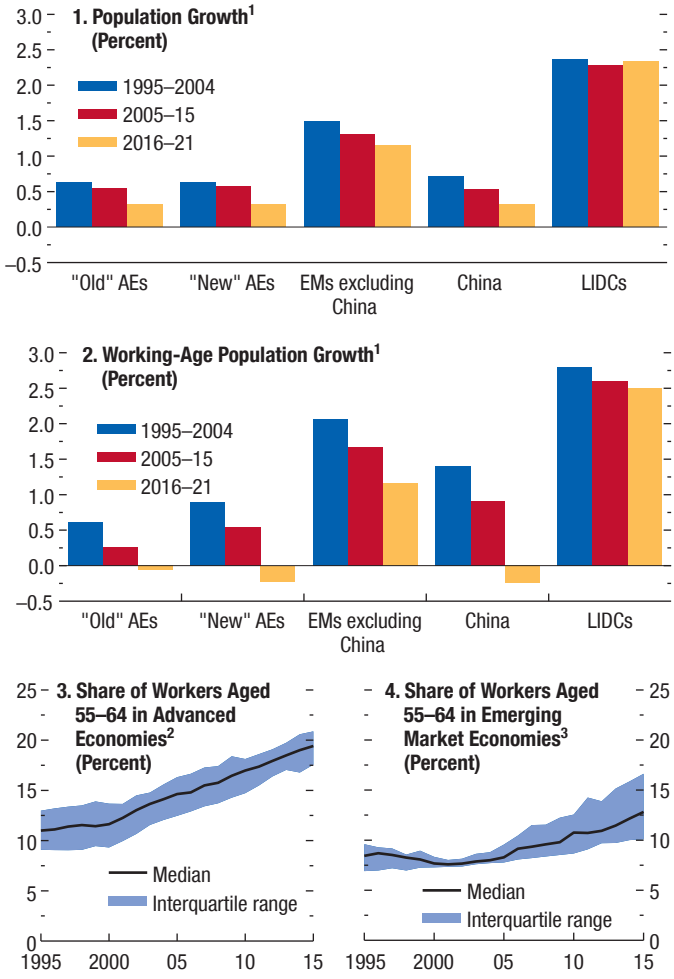
More recently, the civil war in Syria and unrest throughout the Middle East have led to a resurgence of refugees in advanced economies, particularly in Europe, boosting the refugees' share in global migration flows to about 50 percent in 2014–15. Efficient and swift integration of refugees into the local workforce will be crucial for unlocking the potential net benefits of these inflows in recipient economies. Gainful employment opportunities for refugees would also help reduce potential social tensions and meet the humanitarian challenge of absorbing traumatized populations.

Weak Productivity Growth and Low Interest Rates

A second important trend—with much more uncertainty surrounding its causes and likely persistence—is weak productivity growth. For instance, the October 2015 WEO documented that labor

Figure 1.11. Demographics

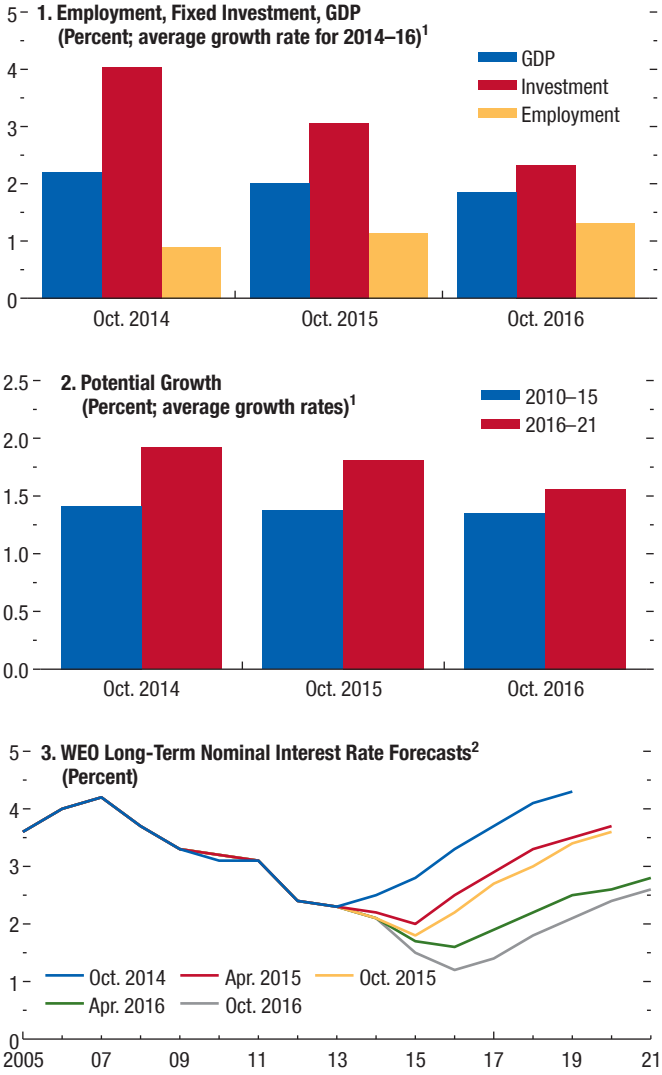
The growth rates of total population and of the working-age population have declined, notably in advanced economies. The share of older workers has been on a steady upward trend in advanced economies for close to two decades. A similar pattern has formed in emerging market and developing economies in the past 10 years, although the share of older workers remains below that in advanced economies.



Sources: United Nations Population and Development database; and IMF staff estimates.
Note: Calculations were performed using a weighted average based on population shares; LIDCs = low-income developing countries.
[1] Working-age population is defined here as the number of people aged between 15 and 64. "Old" AEs = countries considered advanced economies in 1996, comprising Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Japan, Luxembourg, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom, and United States. "New" AEs = Cyprus, Czech Republic, Estonia, Hong Kong SAR, Israel, Korea, Latvia, Lithuania, Macao SAR, Malta, Singapore, Slovak Republic, Slovenia.
[2] Advanced Economies (AEs) = Australia, Austria, Belgium, Canada, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Iceland, Ireland, Israel, Italy, Japan, South Korea, Latvia, Lithuania, Luxembourg, Netherlands, New Zealand, Norway, Portugal, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, United Kingdom, United States.
[3] Emerging Market Economies (EMs) = Brazil, Chile, China, Colombia, Costa Rica, Hungary, India, Indonesia, Mexico, Poland, Russia, South Africa, Turkey.

Figure 1.12. Advanced Economies: Growth, Investment, and Employment in Recent WEO Vintages

In advanced economies, GDP and investment have in recent years grown more slowly than projected, whereas employment has grown faster, pointing to weaker-than-expected labor productivity growth. Persistent weakness in productivity growth has contributed to lower estimates of potential growth. Long-term interest rates are also expected to be lower than previously projected, reflecting a possible decline in the real interest rate and weaker inflation forecasts.



Source: IMF staff estimates.
[1]Simple averages of annual growth rates calculated for each respective *World Economic Outlook* (WEO) forecast vintage.
[2]Weighted average of long-term nominal interest rates for advanced economies using a three-year moving average of GDP in U.S. dollars as weights.

productivity growth for the 2008–14 period had been below precrisis trends for all but one of a sample of some 30 advanced economies. The causes for the productivity slowdown remain uncertain. It may partly reflect crisis legacies and prolonged weak investment, as well as the exhaustion of productivity gains from the information and communications technology revolution, as discussed in detail by Fernald (2015) and Gordon (2015) for the United States. Productivity measurement issues are severe for some parts of the economy, but recent research suggests that they are unlikely to account for a sizable part of the slowdown (Byrne, Fernald, and Reinsdorf 2016; Syverson 2016).

Disappointing productivity growth was a main factor behind what proved to be overoptimism in growth forecasts for advanced economies in the period after the crisis.[5] These forecasts generally projected productivity growth to return to rates close to those prevailing before the crisis. Even though projections for output and productivity growth have been gradually revised downward since 2011, growth in advanced economies has continued to disappoint even relative to the diminished forecasts. For instance, during 2014–16 it has been weaker than projected in the October 2014 WEO (about 0.4 percentage point a year) and subsequent WEOs (Figure 1.12, panel 1, blue bars), despite the sizable favorable terms-of-trade shock associated with the decline in commodity prices. The weakness in growth relative to past forecasts, which is common across advanced economies and regions, was accompanied by fixed investment falling short of expectations, especially in the United States, commodity exporters, and advanced Asian economies (panel 1, maroon bars). In contrast, employment growth (panel 1, yellow bars) has generally been stronger than expected (almost ½ percentage point), and unemployment in many countries is lower than predicted in earlier forecasts. These findings point again to weaker labor productivity growth—and the lion's share of the downward revisions to labor productivity growth estimates reflects lower-than-expected growth in total factor productivity.

The protracted weakness in total factor productivity growth has led to further downward revisions to potential growth over the medium term (Figure 1.12,

[5]Overoptimism in postcrisis growth forecasts was discussed in Box 1.2 of the October 2014 WEO.

panel 2), which compound the decline due to the demographic factors highlighted earlier in the chapter. Both demographics and expectations of lower future growth in productivity (and hence disposable income) are putting downward pressure on investment rates today, as lower investment is required to maintain a stable capital-output ratio. But feedback mechanisms may be at play as well—expectations of weak future demand growth that hinder investment can take a toll on future potential output both directly (through lower installed productive capacity) and indirectly (through weaker total factor productivity growth, to the extent that new technologies are embodied in capital).

Another salient feature of the change in the outlook for advanced economies is the very sharp decline in the levels and expected path of policy rates (Figure 1.6, panels 1 and 2) and especially long-term interest rates (Figure 1.12, panel 3). As discussed further in the October 2016 GFSR, the decline in long-term interest rates reflects both expectations of lower future short-term rates and a further compression in the term premium (Hördahl, Sobrun, and Turner 2016). Inflation forecasts have also come down, as discussed further in Chapter 3; however, the lion's share of the decline in interest rates reflects a decline in real rates. Estimates of the natural rate of interest—defined as the interest rate at which the economy would operate at full employment without inflationary pressures—have declined substantially (see, for instance, Laubach and Williams 2015; and Pescatori and Turunen 2015).

On a conceptual note, a persistent decline in productivity growth reduces the rate of return on capital and results in a lower real interest rate. As discussed in Chapter 3 of the April 2014 WEO, lower long-term interest rates are driven in part by demographic factors (since demand for investment falls as growth in the workforce declines) and an increase in desired saving following the global financial crisis. An increase in demand for safe assets is an additional factor putting downward pressure on long-term government bond yields. This increase is driven by higher risk aversion in the wake of the global financial crisis, in part related to financial regulatory changes, central bank purchases of long-term government bonds, and increased demand for safe fixed-income assets stemming from demographic factors. While there is uncertainty regarding the evolution of some of these factors, those related to demographics and arguably to financial regulation are likely to be very persistent, which implies that the natural rate of interest may well stay compressed over the medium term.

An implication of the decline in the natural interest rate is that the extent of monetary accommodation provided by record-low policy rates may actually be lower than previously thought. To the extent that the decline is persistent, this would have significant bearing on the stabilization role of monetary policy and on appropriate monetary policy frameworks more generally.[6]

Emerging Market and Developing Economies

The growth rates of emerging market and developing economies have been even more varied than those of advanced economies, and prospects remain diverse across countries and regions. Indeed, while fast growth in countries such as China and India has sustained global growth, deep recessions in a handful of emerging market and developing economies have implied a particularly strong drag on global activity over 2015 and 2016 (see Box 1.1). Factors that have shaped the growth rates of this country group include the generalized slowdown in advanced economies, discussed earlier in this section; rebalancing in China; the adjustment to lower commodity prices; an uncertain external environment, with sizable changes in risk sentiment over time; and geopolitical tension and strife in several countries and regions. Longer-term issues include an important demographic transition, especially in emerging market economies, as well as prospects for export diversification and convergence.

The Rebalancing in China and Its Cross-Border Implications

China's transition to a more consumption- and service-based economy continues to influence other emerging market economies, notably commodity producers and countries exposed to China's manufacturing sector. As previously noted (see, for example, the IMF's 2016 Asia and Pacific *Regional Economic Outlook*), spillovers to global trade and growth from China's rebalancing and gradual slowdown have been significant—not surprising given that as of 2015 China's GDP at market exchange rates exceeded the aggregate GDP of the next 12 largest emerging market and developing economies combined.

[6]See Williams 2016 for a recent discussion.

But developments in China increasingly affect a wider range of emerging market economies through financial sentiment and cross-border contagion (as explored in detail in the Spillover Chapter in this report). As seen in the emerging market sell-off episodes of August 2015 and January 2016, the spikes in risk aversion vis-à-vis emerging markets coincided with policy-induced shifts in China's exchange rate that raised questions for investors about China's policy objectives and the underlying strength of its economy. As a corollary, greater clarity on policy objectives and more transparent communication by key policymakers in China in recent months have helped stabilize near-term sentiment regarding China and, by extension, toward emerging markets exposed to China. Nevertheless, the medium-term outlook for China remains clouded by the high stock of corporate debt—a large fraction of which is considered at risk (see the analysis in the April 2016 GFSR). And vulnerabilities continue to accumulate with the economy's rising dependence on credit, which complicates the difficult task of rebalancing the economy across multiple fronts (shifting from investment to consumption; switching from industry to services; reining in credit—see the IMF 2016 China Article IV Staff Report and Selected Issues Papers). In light of these factors, external financial conditions and the outlook for emerging market and developing economies will continue to be shaped to a significant extent by market perceptions of China's prospects for successfully restructuring and rebalancing its economy.

Adjustment to Lower Commodity Prices

The adjustment to lower commodity prices in commodity exporters continues. The macroeconomic implications of the terms-of-trade shock were discussed in detail in Chapter 2 of the October 2015 WEO. The April 2016 WEO showed the extent of cross-border income redistribution arising from terms-of-trade fluctuations and its strong correlation with macroeconomic outcomes. Figure 1.13 provides an update to the size of the windfall income gains and losses in the largest emerging market and developing economies as a result of changes in commodity prices, in light of the revised baseline for such prices.[7] The figure clearly illustrates the extent of the income losses in 2015, concentrated in oil exporters. The forecasts for windfall gains and losses in 2016–17 are much smaller than those for 2015 and have declined since the spring with the modest strengthening in commodity prices. At the same time, these are gains and losses *relative to the previous year*, so they imply a further decline in income in countries already severely affected by the previous year's shock. The "acute" phase of the shock might be over for several commodity exporters (especially those where exchange rates adjusted), but further adjustments lie ahead, particularly in the fiscal sphere, which implies a subdued outlook for domestic demand, and notably for investment, given the high capital intensity of extractive industries.

The link between commodity prices and exchange rate movements since the spring of this year is illustrated in the third panel of Figure 1.13. The panel shows that real effective exchange rate movements between March 2016 and July 2016 are positively correlated with changes in the forecast of income gains and losses over 2016 and 2017 resulting from changes in the terms of trade (the difference between the yellow dots and red diamonds in panels 1 and 2). But commodity price changes have been much less dramatic than those during 2014–15. As a result, the exchange rate responses have generally been more muted than those seen over the previous year.

Demographics and Convergence

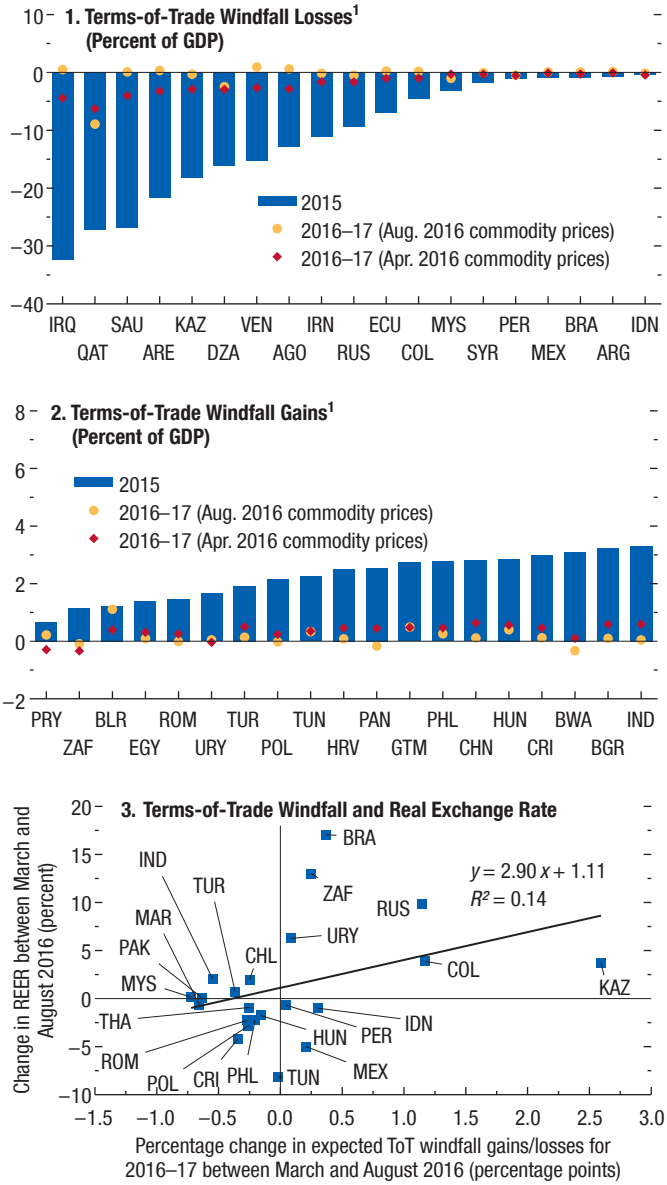
As Figure 1.11 shows, many emerging market economies are also experiencing a demographic transition, with a decline in population growth rates that is even sharper for the working-age population than for the population overall. The transition is particularly rapid for China, where the population growth rate over the next five years is expected to decline to ¼ percent (from ½ percent in the past decade). Even more dramatic is the decline in the growth rate of China's working-age population, which is projected to turn negative over the next five years.[8] In low-income countries, population growth rates remain much higher—over double the rate for emerging economies

[7]The windfall is an estimate of the change in disposable income arising from commodity price changes. The windfall gain in year t for a country exporting x U.S. dollars of commodity A and importing m U.S. dollars of commodity B in year $t-1$ is defined as $\left(\Delta p_t^A x_{t-1} - \Delta p_t^B m_{t-1}\right)/Y_{t-1}$, in which Δp_t^A and Δp_t^B are the percentage changes in the prices of A and B between year $t-1$ and year t, and Y is GDP in year $t-1$ in U.S. dollars. See also Gruss 2014.

[8]By contrast, demographic trends in India are relatively more favorable, and the working-age ratio is projected to increase in the decades ahead (Aiyar and Mody 2011).

Figure 1.13. Emerging Markets: Terms-of-Trade Windfall Gains and Losses and Real Exchange Rates

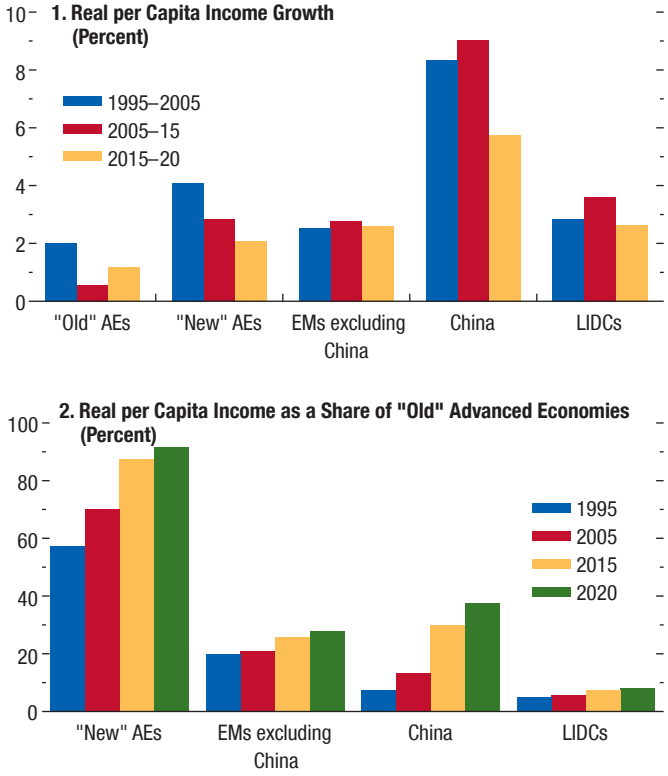
With the recent stabilization and strengthening in commodity prices, terms-of-trade windfall gains and losses in 2016–17 are expected to be smaller than those registered in 2015. Exchange rate adjustments over recent months have been positively correlated with changes in expected terms-of-trade windfall gains and losses for 2016–17.



Source: IMF staff estimates.
Note: REER = real effective exchange rate; ToT = terms of trade. Data labels in the figure use International Organization for Standardization (ISO) country codes.
[1]Gains (losses) for 2016–17 are simple averages of annual incremental gains (losses) for 2016 and 2017. For details of the calculations see footnote 7 in the chapter text.

Figure 1.14. Real per Capita Growth Rates and Convergence (1995–2020)

Emerging market economies and low-income countries narrowed the income gap relative to advanced economies at a much faster pace over 2005–15 than during the preceding decade, but the average pace of convergence is expected to be lower over the next five years.



Source: IMF staff estimates.
Note: LIDCs = low-income developing countries.
[1]"Old"AEs = only countries considered advanced economies in 1996, comprising Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Japan, Luxembourg, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom, and United States. "New" AEs = Cyprus, Czech Republic, Estonia, Hong Kong SAR, Israel, Korea, Latvia, Lithuania, Macao SAR, Malta, Singapore, Slovak Republic, Slovenia, Taiwan Province of China.

excluding China.[9] This variation across countries, regions, and levels of development must be taken into account when translating GDP growth rates into assessments of the evolution of income per capita or per worker and convergence of incomes toward advanced economy levels.

Figure 1.14 looks at growth in income per capita across these same country groups. Real income per capita in the group overall increased by 50 percent between 2005 and 2015, with gains spread unevenly: it surged by almost 140 percent in China and increased by about 45 percent in low-income developing economies and by about 30 percent in other emerging market economies. Over this time period, real per capita income in the "older" advanced economies—economies classified as advanced since at least the mid-1990s—increased by only about 5 percent. As a result of their growth advantage, the developing parts of the world narrowed the income gap relative to advanced economies over the 10 years through 2015: real per capita income went from about 13 percent to 30 percent of those of "older" advanced economy levels in China, from 21 percent to 26 percent in other emerging market economies, and from 6 percent to 8 percent in low-income developing economies. For all three groups, these gains were three to five times larger than those in the prior decade, between 1995 and 2005.

Looking ahead, the per capita growth differential for most emerging market and developing economies relative to the advanced economies is projected to stay well below that of the past decade, and the pace of convergence will become more uneven. Over the next five years, low-income developing economies—many of which are experiencing a stark slowdown in output growth yet have very high population growth rates—are expected to close the gap between their and advanced economy income levels by barely more than half a percentage point, other emerging market economies by only 2 percentage points, and China by a still strong 7 percentage points. The new advanced economies, which have maintained remarkably high growth over the past decade despite starting from a relatively high level of per capita income (about 70 percent of that of old advanced economy incomes in 2005) are projected to further reduce their gap with advanced economy levels by about 4 percentage points, following a gain of 17 percentage points in the previous decade.

[9]Sub-Saharan Africa, in particular, will see a continued pronounced increase in the share of the working-age population in the next few decades (see Chapter 2 of the IMF's sub-Saharan Africa 2015 *Regional Economic Outlook*).

The Forecast

Policy Assumptions

Fiscal policy is projected to provide mild support to economic activity in advanced economies as a whole in 2016, slightly more than projected in the April 2016 WEO (Figure 1.15). The fiscal policy stance (measured by the fiscal impulse)[10] is forecast to be expansionary in Canada (over 1 percentage point) and Germany (0.8 percentage point) and to a lesser extent in Italy and the United States (½ percentage point). It is forecast to be broadly neutral in Japan and contractionary in the United Kingdom (0.8 percentage point). In emerging market and developing economies, structural government balances are in the aggregate projected to remain broadly unchanged for 2016—but with marked differences across countries and regions.

Monetary policy in advanced economies is expected to tighten more slowly than envisioned in the April 2016 WEO. The policy rate in the United States is projected to rise gradually but steadily, reaching a long-term equilibrium rate of 2¾ percent by 2020—much lower than before the crisis. Very low policy interest rates are expected to remain in place for longer in the United Kingdom, the euro area, and Japan, with short-term rates projected to remain below zero in the euro area and Japan through 2020. The monetary policy assumptions underlying the forecasts for emerging market economies vary, given the different circumstances these economies are facing.

Other Assumptions

The baseline global growth forecasts for 2016 and 2017 reflect broadly accommodative financial conditions, a partial recovery in commodity prices, and an easing in geopolitical tensions in 2017 and beyond. Arrangements between the European Union and the United Kingdom are assumed to settle so as to avoid a large increase in economic barriers, and the political fallout from Brexit is assumed to be limited. The process of monetary policy normalization in the United

[10]The fiscal impulse is defined as minus the change in the ratio of the structural fiscal balance to potential output.

States is expected to proceed smoothly, without protracted increases in financial market volatility or sharp movements in long-term interest rates. Financial conditions in emerging markets are forecast to be slightly more accommodative than assumed in the April 2016 WEO, in light of the partial decline in interest rate spreads and the recovery in equity prices in recent months (Figure 1.8). Oil prices are expected to increase gradually over the forecast horizon, from an average of $43 a barrel in 2016 to $51 a barrel in 2017. As in the April 2016 WEO forecast, geopolitical tensions in some countries in the Middle East are assumed to remain elevated for the remainder of the year, before easing in 2017, allowing for a gradual economic recovery in the most severely affected economies.

Global Outlook for 2016 and 2017

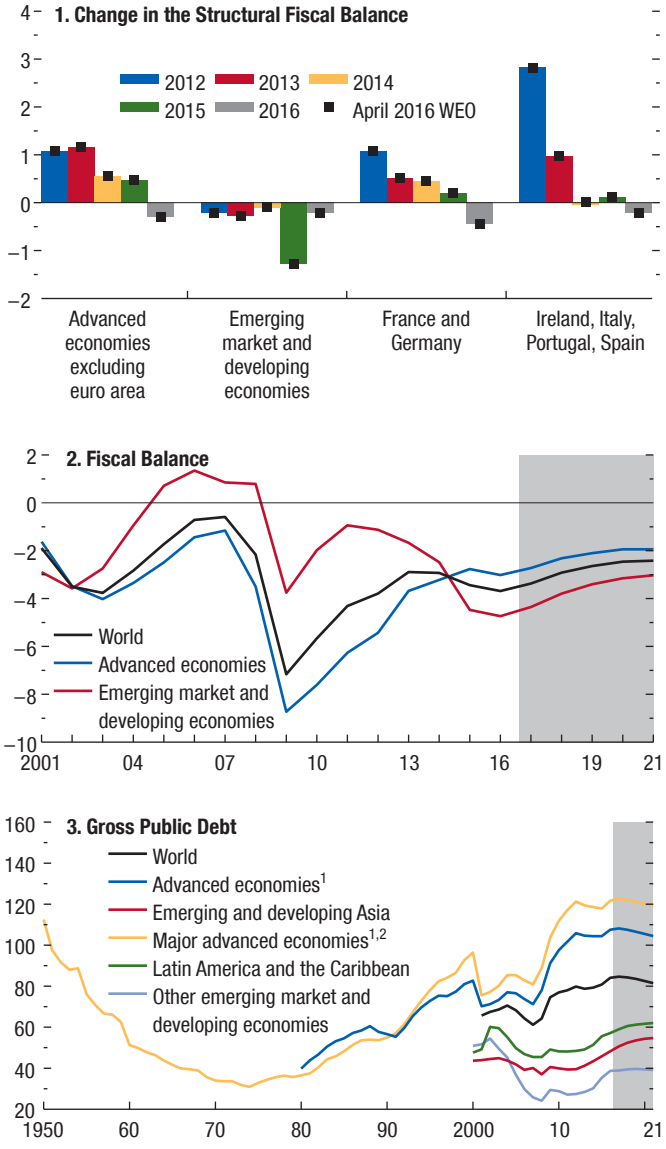
Global growth is projected to remain modest at 3.1 percent in 2016, slightly weaker than projected in the April 2016 WEO (Table 1.1). This forecast incorporates somewhat weaker-than-expected activity through the second quarter of 2016 in advanced economies, as well as the implications of the U.K. referendum outcome in favor of leaving the European Union. The recovery is expected to gather some pace in 2017 and beyond, driven primarily by emerging market and developing economies, as conditions in stressed economies gradually normalize.

Growth in emerging market and developing economies is expected to strengthen in 2016 to 4.2 percent after five consecutive years of decline, accounting for over three-quarters of projected world growth in 2016. However, despite an improvement in external financing conditions, their outlook is uneven and generally weaker than in the past. A combination of factors can account for this weakness: a slowdown in China, whose spillovers are magnified by its lower reliance on import- and resource-intensive investment; continued adjustment to structurally lower commodity revenues in a number of commodity exporters; spillovers from persistently weak demand from advanced economies; and domestic strife, political discord, and geopolitical tensions in a number of countries.

In major advanced economies, the recovery is forecast to slow this year, with growth projected at 1.6 percent in 2016, ½ percentage point lower than in 2015. Their subdued outlook is shaped by a number of common forces, including legacies of the global financial crisis (high debt—as discussed in the Octo-

Figure 1.15. Fiscal Indicators
(Percent of GDP, unless noted otherwise)

Fiscal policy is projected to be mildly expansionary in 2016 in advanced economies in the aggregate, and broadly neutral for emerging market and developing economies as a whole, but with differences across countries.



Source: IMF staff estimates.
Note: WEO = *World Economic Outlook*.
[1]Data through 2000 exclude the United States.
[2]Canada, France, Germany, Italy, Japan, United Kingdom, United States.

ber 2016 *Fiscal Monitor*; financial sector vulnerabilities, as described in the October 2016 GFSR; and low investment) and low productivity growth, as discussed previously in this chapter. Economic, political, and institutional uncertainty following the Brexit vote is also expected to have some negative macroeconomic consequences, especially in advanced European economies.

The projected increase in global growth in 2017 to 3.4 percent hinges crucially on rising growth in emerging market and developing economies, where the waning of downward pressures on activity in countries in recession in 2016 such as Brazil, Nigeria, and Russia is expected to more than make up for the steady slowdown in growth in China. In advanced economies, growth is projected to pick up modestly to 1.8 percent (0.2 percentage point less than in the April 2016 WEO), reflecting primarily a strengthening of the recovery in the United States and Canada and a rebound in Japan due to the recent fiscal stimulus. In contrast, growth is projected to be lower in the euro area and the United Kingdom, due to the macroeconomic repercussions of heightened uncertainty in the aftermath of the U.K. referendum.

As discussed elsewhere in the chapter, the sluggish global growth outlook implies a waning pace of improvement in global living standards. This trend can be illustrated by the distribution of world population by per capita growth rates. With the growth rates of emerging market and developing economies projected to remain well below those over the past decade, the share of the world population living in areas with greater than 2 percent annual real per capita growth is set to decline by almost 10 percentage points between 2005–10 and 2016–21.

Global Outlook for the Medium Term

Beyond 2017, global growth is projected to gradually increase to 3.8 percent by the end of the forecast horizon. This recovery in global activity—which is expected to be driven entirely by emerging market and developing economies—is premised on the normalization of growth rates in countries and regions under stress or growing well below potential in 2016–17 (such as Nigeria, Russia, South Africa, Latin America, parts of the Middle East), China maintaining its transition toward consumption- and services-based growth, and continued resilience in other countries. It also reflects the increasing weight in the world economy of large emerging market economies, such as China and India, that are growing well above the world average. As shown in Box 1.1, these two factors account for the bulk of the projected pickup in world growth. The pace of economic activity in advanced economies is projected to remain subdued in line with their diminished potential, as populations age, but growth in GDP per worker is projected to reach levels broadly in line with its average over the past 20 years. Within the group of emerging market and developing economies, growth is projected to pick up over the medium term in low-income developing countries but to remain below the pace of the past decade, both in absolute and in per capita terms.

Economic Outlook for Individual Countries and Regions

Advanced Economies

- In the *United Kingdom* slower growth is expected since the referendum as uncertainty in the aftermath of the Brexit vote weighs on firms' investment and hiring decisions and consumers' purchases of durable goods and housing. Growth is forecast at 1.8 percent in 2016 and 1.1 percent in 2017, based on the assumptions of smooth post-Brexit negotiations and a limited increase in economic barriers. Medium-term growth forecasts have also been revised down to 1.9 percent (0.2 percentage point lower than the April 2016 WEO forecast) as greater impediments to trade, migration, and capital flows are expected to erode growth potential.
- Softer-than-expected activity in the second half of 2015 and the first half of 2016 points to some loss in momentum in the *United States*, despite a mildly supportive fiscal stance and a slower projected pace of monetary policy normalization. Job creation has been healthy, the housing market is improving, and consumer spending remains robust. However, a prolonged inventory correction cycle and weak business investment has prompted a downward revision of the 2016 forecast to 1.6 percent. The weakness in capital spending reflects in part still-negative energy investment, dollar appreciation, financial turbulence earlier in the year, and heightened policy uncertainty related to the electoral cycle. In 2017, growth is expected to pick up to 2.2 percent, as the drag from lower energy prices and past appreciation of the U.S. dollar fades. Medium-term potential growth, projected at 1.8 percent, is held down by an aging population and a continu-

ation of the recent trend of low total factor productivity growth.

- The *euro area* recovery is expected to proceed at a slightly lower pace in 2016–17 relative to 2015.[11] Low oil prices, a modest fiscal expansion in 2016, and easy monetary policy will support growth, while weaker investor confidence on account of uncertainty following the Brexit vote will weigh on activity. Growth for the area as a whole is projected to decline slightly to 1.7 percent in 2016 and 1.5 percent in 2017. In *Germany* growth is forecast to pick up this year to 1.7 percent, before softening to 1.4 percent in 2017. In *France*, growth is expected to stabilize at 1.3 percent in 2016 and 2017. In *Spain*, growth is expected to remain broadly stable in 2016 and moderate from 3.1 percent to 2.2 percent in 2017. In *Italy* growth is projected to notch up slightly from 0.8 percent in 2016 to 0.9 percent in 2017. Medium-term potential growth in the *euro area* is projected at 1.4 percent, held back by unfavorable demographics; crisis legacies of high unemployment, debt, and, in some countries, impaired bank balance sheets; and deep-rooted structural impediments that are holding back total factor productivity growth.
- *Japan*'s growth is projected to remain weak, in line with potential, at 0.5 percent in 2016, before rising to 0.6 percent in 2017.[12] Postponement of the consumption hike, the recently announced growth-enhancing measures, including the supplementary budget, and additional monetary easing will support private consumption in the near term, offsetting some of the drag from the increase in uncertainty, the recent appreciation of the yen, and weak global growth. Japan's medium-term prospects remain weak, primarily reflecting a shrinking population.
- The prospects of other advanced economies are mixed. The recovery in *Sweden* will remain strong, with growth projected at 3.6 percent in 2016 and 2.6 in 2017, supported by expansionary monetary policy, higher residential investment, and fiscal spending due to the refugee inflows. Economic activity is expected to pick up modestly in *Switzerland*, with growth forecast at 1 percent in 2016 and 1.3 percent in 2017 as the effect of the Swiss franc appreciation wanes. The decline in commodity revenues and reduced resource-related investment are taking a toll on the *Norwegian* economy, with 2016 growth forecast at only 0.8 percent. Activity is expected to accelerate in 2017 supported by expansionary fiscal and monetary policy, a more competitive currency, and a gradual upturn in oil prices. Growth is projected to rebound starting in 2016 in other advanced commodity exporters, supported by exchange rate depreciation and accommodative policies. In *Canada*, growth is projected at 1.2 percent in 2016, held back by the severe impact of wildfires in Alberta on oil output in the second quarter, before rising to 1.9 percent in 2017, while in *Australia*, growth is expected to hover around 2.8 percent in both years. Among other advanced economies in Asia, growth in 2016 is expected to soften in *Singapore* (1.7 percent) and *Hong Kong Special Administrative Region* (1.4 percent) and pick up modestly in *Korea* (to 2.7 percent) and *Taiwan Province of China* (to 1 percent). Growth in all four of these very open economies is expected to pick up more robustly from 2017 onward as strengthening global trade improves their export prospects.

Emerging Market and Developing Economies

- In *China*, the economy is expected to grow by 6.6 percent in 2016 on the back of policy support, slowing to 6.2 percent in 2017 absent further stimulus. The medium-term forecast assumes that the economy will continue to rebalance from investment to consumption and from industry to services, on the back of reforms to strengthen the social safety net and deregulation of the service sector. However, nonfinancial debt is expected to continue rising at an unsustainable pace, which—together with a growing misallocation of resources—casts a shadow over the medium-term outlook.
- Elsewhere in emerging and developing Asia, growth is projected to remain strong. *India*'s GDP will continue to expand at the fastest pace among major economies, with growth forecast at 7.6 percent in 2016–17.

[11]Ireland's GDP growth for 2014–15 was revised upward by more than 20 percentage points over two years, largely reflecting operations of multinational companies that had a limited impact on the underlying Irish economy. Specifically, corporate restructuring through the relocation to Ireland of companies' entire balance sheets, the shifting of assets to Irish subsidiaries, and the takeover of foreign companies by entities domiciled in Ireland have led to a sizable level shift in the stock of capital assets in Ireland (as well as a substantial negative revision of Ireland's net international investment position due to higher liabilities to nonresidents). The relocation of companies was also associated with an increase in Ireland's net exports and GDP. As a consequence, growth for the euro area in 2015 was also revised upward by more than 0.3 percentage point.

[12]The forecast does not reflect the adjustment to the Bank of Japan's monetary policy framework announced on September 21, 2016, which includes a zero interest rate target on 10-year government bonds (JGBs) and a commitment to temporarily overshoot the 2 percent inflation target.

Large terms-of-trade gains, positive policy actions, structural reforms—including the introduction of an important tax reform and formalization of the inflation-targeting framework—and improved confidence are expected to support consumer demand and investment. In the near term, however, private investment will likely be constrained by weakened corporate and public bank balance sheets. Among the ASEAN-5 economies (*Indonesia, Malaysia, Philippines, Thailand, Vietnam*), *Malaysia* and *Vietnam* are expected to slow this year (to 4.3 and 6.1 percent, respectively) partly due to weaker external demand, while growth in *Indonesia*, the *Philippines,* and *Thailand* is forecast to pick up relative to 2015 (to 4.9, 6.4, and 3.2 percent, respectively). Growth in all members of the ASEAN-5 is expected to strengthen further in 2017 and thereafter.

- Economic activity in *Latin America and the Caribbean* continues to slow, with a contraction of 0.6 percent projected for 2016 (0.1 percentage point more severe than the April forecast). A recovery is expected to take hold in 2017, with growth reaching 1.6 percent (0.1 percentage point stronger than forecast in April). However, as highlighted in the April 2016 WEO, the region's aggregate growth masks substantial heterogeneity: although several countries are mired in recession, most economies in the region will continue to expand in 2016.
  - Confidence appears to have bottomed out in *Brazil,* and growth is forecast at –3.3 percent for 2016 and 0.5 percent in 2017, on the assumption of declining political and policy uncertainty and the waning effects of past economic shocks. This forecast is about ½ percentage point stronger for both years when compared with April. *Argentina* has begun an important and much needed transition to a more consistent and sustainable economic policy framework, which has proven costlier than envisaged in 2016, with growth projected at –1.8 percent (compared with –1 percent forecast in April). Growth is expected to strengthen to 2.7 percent in 2017 on the back of moderating inflation and more supportive monetary and fiscal policy stances. The economic crisis in *Venezuela* is projected to deepen in 2016 and 2017 (growth forecast of –10 percent and –4.5 percent, respectively), as the decline in oil prices since mid-2014 has exacerbated domestic macroeconomic imbalances and balance of payments pressures. *Ecuador* continues to face a challenging outlook given the reduced value of its oil exports and its dollarized economy. With the partial recovery in global oil prices and a more favorable external financing outlook, its projected contraction in activity for 2016 and 2017 is less severe than projected in April, at –2.3 percent and –2.7 percent, respectively.
  - Most of the remaining commodity exporters in the region will experience some deceleration in activity in 2016. In *Colombia*, growth is expected to ease to 2.2 percent in 2016 (from 3.1 percent in 2015), reflecting tighter macroeconomic policies. Similarly, the protracted decline in the price of copper and policy uncertainties are weighing on *Chile's* outlook, with growth declining to 1.7 percent in 2016 from 2.3 percent in 2015. In both countries, growth is forecast to strengthen in 2017 and gradually rise to potential thereafter. Unlike most of its peers, *Peru* is expected to grow faster this year and next, with growth rising to 3.7 percent and 4.1 percent in 2016 and 2017, respectively, on the back of expanding activity in the mining sector and higher public investment.
  - Growth in *Mexico* is projected to decline to 2.1 percent in 2016 due to weak export performance in the first half of the year. It is expected to accelerate modestly to 2.3 percent in 2017 as external demand recovers and to 2.9 percent over the medium term as the structural reforms take hold.
- The economic outlook for the *Commonwealth of Independent States* remains lackluster. The modest improvement in the region's growth outlook since April mostly reflects the firming in oil prices. Higher oil export revenues are providing some relief to the region's oil exporters and to the *Russian* economy in particular, where the decline in GDP this year (0.8 percent) is now projected to be milder than envisaged in the April 2016 WEO. The somewhat improved outlook for Russia is expected to support activity elsewhere in the region, especially in oil importers, given linkages through trade and remittances. Nonetheless, Russia's growth outlook for 2017 and beyond remains subdued given long-standing structural bottlenecks and the impact of sanctions on productivity and investment. Among oil importers, *Ukraine*'s economy is estimated to have returned to positive growth in 2016 after very sharp contractions in 2014 and 2015 and is expected to accelerate as the external economic environment improves and domestic economic reforms bear fruit. The pace of contraction in activity in

Belarus is expected to ease in 2017, with a recovery taking hold in 2018. Among oil exporters, the economies of *Azerbaijan* and *Kazakhstan* are projected to contract in 2016 amid a drop in export revenues, with the Azeri economy shrinking by 2.4 percent and that of Kazakhstan by about 0.8 percent. Growth in these countries is projected to rise gradually, supported by increased hydrocarbon production in Kazakhstan and nonhydrocarbon activities in Azerbaijan, as well as some recovery in oil prices and more competitive currencies.

- Growth in *emerging and developing Europe* is projected to remain robust at slightly above 3 percent in 2016 and beyond, with exports expanding at a strong clip despite sluggish growth in the euro area, the main trading partner for most economies in the region. *Hungary* is estimated to be growing faster than potential and is projected to return to more sustainable rates of growth over the medium term. In *Turkey,* growth in 2016 and 2017 will be held back by the heightened uncertainty in the aftermath of recent terrorist attacks and the failed coup attempt, though macroeconomic policy easing will support economic activity.
- The picture for *sub-Saharan Africa* is increasingly one of multispeed growth. While growth projections were revised down substantially in the region, they mostly reflect challenging macroeconomic conditions in its largest economies, which are adjusting to lower commodity revenues. In *Nigeria*, economic activity is now projected to contract 1.7 percent in 2016, reflecting temporary disruptions to oil production, foreign currency shortages resulting from lower oil receipts, lower power generation, and weak investor confidence. In *South Africa*, where policy uncertainty is making the adjustment to weaker terms of trade more difficult, GDP is projected to remain flat in 2016, with only a modest recovery next year as the commodity and drought shocks dissipate and power supply improves. *Angola* is similarly adjusting to a sharp drop in oil export receipts. It is not expected to grow this year and will experience only feeble growth next year. By contrast, several of the region's nonresource exporters, including *Côte d'Ivoire*, *Ethiopia*, *Kenya*, and *Senegal*, are expected to continue to expand at a very robust pace of more than 5 percent this year, benefiting from low oil prices and enjoying healthy private consumption and investment growth rates.
- In the Middle East, the recent modest recovery in oil prices is projected to have little impact on growth in oil-exporting countries. Most continue to tighten fiscal policy in response to structurally lower oil revenues, and financial sector liquidity continues to decline. Many countries in the region also remain affected by strife and conflict. The largest economy, Saudi Arabia, is projected to grow at a modest 1.2 percent this year in the face of fiscal consolidation, before picking up to 2 percent growth next year. Growth rates in most other countries of the Gulf Cooperation Council are similarly projected to be held back by ongoing fiscal adjustment. In Iraq, higher-than-expected oil production has pushed up the projected growth rate for 2016. Growth in 2017 and beyond is expected to be held back by continued security challenges and lower investment in the oil sector limiting gains in oil production. The Islamic Republic of Iran's outlook has been boosted by higher oil production this year following the unwinding of sanctions. However, growth dividends are likely to materialize only gradually with reintegration into global financial markets and domestic reforms proceeding slowly. Recent reforms and lower oil prices have helped improve macroeconomic stability in the oil-importing countries of the region. Yet growth remains fragile due to security concerns, social tensions, and lingering structural impediments. Continued reform, progress, less fiscal drag, and gradual improvements in external demand are expected to support the recovery.

Inflation Outlook

Inflation rates in advanced economies are projected to pick up to about 0.8 percent in 2016, from 0.3 percent in 2015, mostly reflecting a reduced drag from energy prices. Inflation is expected to rise over the next few years as fuel prices increase modestly and output gaps gradually shrink, reaching central bank targets around 2020. By contrast, excluding Argentina (where high inflation is a byproduct of an ongoing and necessary liberalization process) and Venezuela (where inflation this year is expected to surge to close to 500 percent), inflation in emerging market and developing economies is expected to soften, to 4.5 percent this year from 4.7 percent last year, reflecting the waning effect of earlier currency depreciations. However, there is considerable diversity in the inflation rates within both groups.

- In the *United States*, consumer price inflation is picking up relatively strongly, from 0.1 percent last year to 1.2 percent this year, and is projected to reach 2.3 percent next year. This reflects a rapid easing of previous disinflationary forces—the dollar appreciation in 2015 and the drop in fuel prices—as well as well-anchored medium-term inflation expectations.
- Inflation is also picking up in the *euro area*, but more slowly and from a lower level, to 0.3 percent in 2016 from about zero in 2015. The increase is projected to remain gradual going forward, with inflation remaining below the European Central Bank's target through 2021, reflecting the gradual closing of output gaps and firming of inflation expectations. Inflation is expected to increase only slowly in *Japan* as well, staying well below the Bank of Japan's target throughout the forecast horizon, as inflation expectations slowly rise.
- The depreciation of the pound is projected to push inflation in the *United Kingdom* up to about 0.7 percent this year, with a further sharp increase expected for next year, to about 2.5 percent, before gradually reaching the Bank of England's target of 2 percent in the next few years.
- Inflation rates remain subdued in most other advanced economies. In *Korea*, *Sweden*, and *Taiwan Province of China*, inflation is expected to pick up this year and gradually reach central bank targets in the following years. *Singapore* and *Switzerland* are projected to experience another year of deflation this year, although milder than last year, and shift to positive inflation rates gradually over the forecast horizon.
- Inflation in *China* is expected to pick up to 2.1 percent this year and to 3 percent over the medium term as slack in the industrial sector and downward pressure on goods prices diminish. In most other large emerging market economies, such as *Brazil*, *Russia*, and *Turkey*, inflation rates are above central bank targets and are expected to decline gradually as the effects of past exchange rate depreciations dissipate. By contrast, *Mexico*'s inflation rate is projected to remain close to the central bank's target, while *Hungary*'s and *Poland*'s rates are projected to recover slowly from very weak levels in 2015.
- Inflation is back at double-digit levels in a few large economies in sub-Saharan Africa, reflecting the pass-through of large depreciations.

External Sector Outlook

The growth rate in world trade volumes in 2016 (about 2.3 percent, which is slightly weaker than its 2015 level) is projected to remain very weak, both in absolute terms and in relation to world GDP growth. As discussed extensively in Chapter 2, the composition of global demand—and in particular the weakness in investment—plays an important role in explaining subdued global trade. Global trade growth is forecast to pick up to about 4.3 percent over the medium term, reflecting the projected recovery in economic activity and investment in emerging market and developing economies and, to a lesser extent, in advanced economies.

The evolution of global current account imbalances during 2016 continues to be affected by the very large decline in oil prices during the previous two years, as well as by sizable differences in the growth rate of domestic demand in different regions of the world. The size of global current account deficits and surpluses in relation to world GDP, which had expanded modestly in 2015 for the first time since 2010 (as discussed in the 2016 *External Sector Report*—IMF 2016), is projected to fall slightly this year (Figure 1.16, panel 1), reflecting some decline in surpluses in China and advanced European economies, together with some further decline in deficits in Latin American countries. Global current account imbalances are projected to shrink further in the medium term, to levels last seen in the mid-1990s, on the back of a further compression of surpluses in China and Germany, as well as some moderation of deficits (for instance in Latin America and the United Kingdom).

In contrast to shrinking current account imbalances, the size of cross-border creditor and debtor positions in relation to world GDP has continued to rise (Figure 1.16, panel 2). Forecasting the evolution of these positions is particularly difficult, given their sensitivity to difficult-to-predict exchange rate and asset price movements, in addition to future patterns of net borrowing and lending. Assuming for simplicity no valuation effect, projections for current account balances and GDP growth would imply a broad medium-term stabilization of creditor and debtor positions in relation to world GDP at levels modestly higher than those prevailing in 2016. Across creditor countries, the position of advanced European economies—especially Germany—would improve further, while the position of oil exporters would deteriorate to

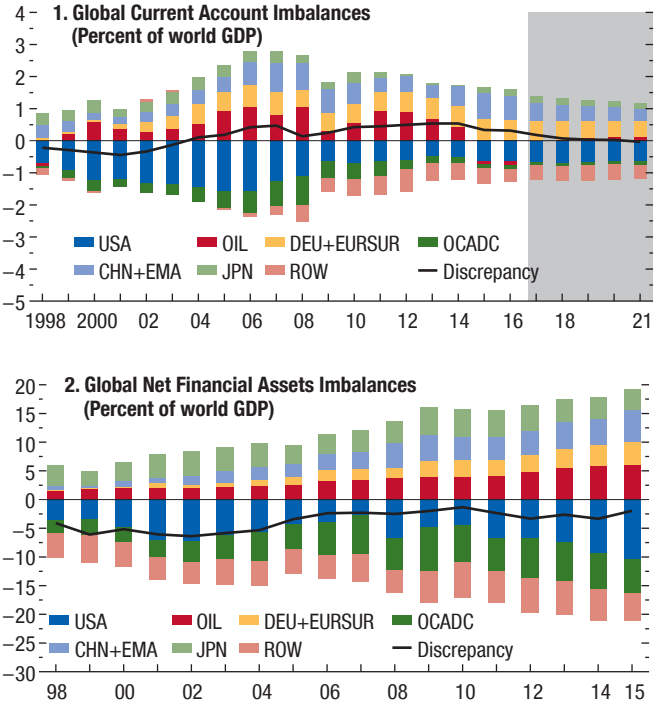
some extent. The persistence of large debtor positions despite the substantial adjustment in current account balances in recent years is related to slow growth in domestic demand and GDP in a number of debtor countries. It underscores the importance of rebalancing global demand to boost growth in those countries, which would facilitate external adjustment and reduce external risks.

With this perspective in mind, Figure 1.17 looks at three factors affecting the extent of global rebalancing over the 2014–16 period: GDP growth, the contribution of net external demand to GDP growth, and windfall gains and losses from terms-of-trade shocks. Creditor countries have grown faster than debtor countries and are projected to do so again in 2016. This differential reflects entirely the strong growth rate of China—excluding China, creditor countries are now growing more slowly than debtor countries, reflecting weak growth in oil exporters and Japan (Figure 1.17, panel 1). The positive growth differential in 2015 between creditor and debtor countries also reflected the former's reliance on net external demand, in contrast with rebalancing needs. This was due mainly to growth dynamics in oil exporters, which had to compress domestic demand in response to the decline in the terms of trade. For 2016, the forecast envisages a broadly neutral contribution of net external demand to growth in creditor and debtor countries, albeit with significant cross-regional differences. The second panel of Figure 1.17 shows that windfall gains and losses from terms-of-trade shocks (primarily related to commodity prices) have been a major driver of shifts in current account balances across regions. As also discussed in the 2016 *External Sector Report*, terms-of-trade changes have affected various creditor and debtor country groups differently (strengthening the current account balance of creditor and debtor countries and regions that import commodities and weakening the balance of commodity exporters).

There is of course no normative presumption that current account deficits and surpluses should be compressed. However, as discussed in the 2016 *External Sector Report*, current account imbalances in a number of the world's largest economies appear too large relative to a country-specific norm consistent with underlying fundamentals and desirable policies. Current account balances are expected to move in a direction consistent with a narrowing of these excess imbalances. The first panel of Figure 1.18 depicts on the horizontal axis the gap between the 2015 current account balance and its norm and on the vertical axis the projected movement in current account balances over the next five years. It shows a strong negative correlation (–0.7), with current account balances expected to go in the direction of reducing gaps vis-à-vis the 2015 current account norm, especially over a longer-horizon.[13] During the past few months exchange rate movements have been more muted than in 2015. As the second

Figure 1.16. External Sector

After increasing slightly in 2015, global imbalances are expected to fall this year and continue to shrink into the medium term, reflecting differences in the growth rate of domestic demand across countries.

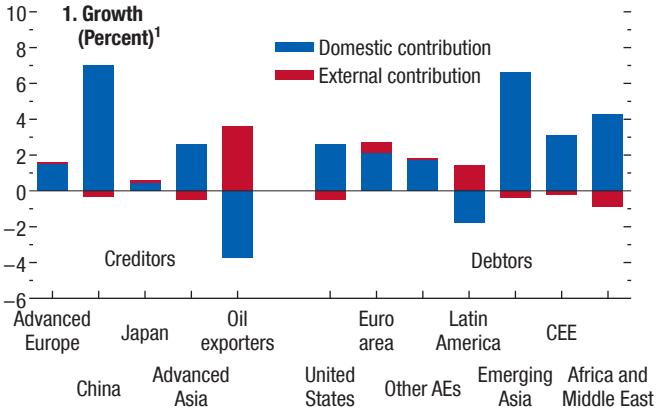


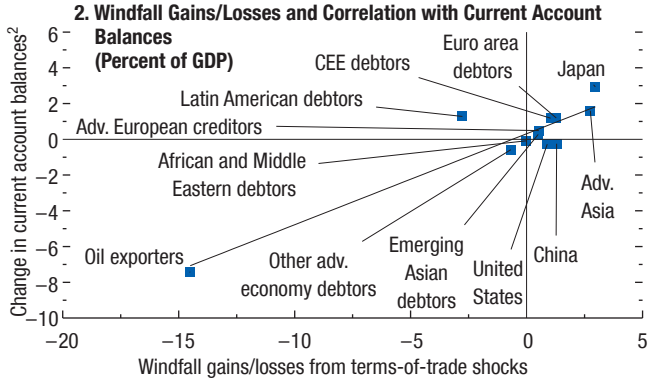
Source: IMF staff estimates.
Note: CHN+EMA = China and emerging Asia (Hong Kong SAR, Indonesia, Korea, Malaysia, Philippines, Singapore, Taiwan Province of China,Thailand); DEU+EURSUR = Germany and other advanced European surplus economies (Austria, Denmark, Luxembourg, Netherlands, Sweden, Switzerland); OCADC = other European countries with precrisis current account deficits (Greece, Ireland, Italy, Portugal, Spain, United Kingdom, *World Economic Outlook* (WEO) group of emerging and developing Europe); OIL = Norway and WEO group of emerging market and developing economy fuel exporters; ROW = rest of the world. Data labels in the figure use International Organization for Standardization (ISO) country codes.

[13]The correlation of 2015 current account gaps with the change in current account balances between 2015 and 2016 is also negative but weaker (–0.15). Of course current account and exchange rate norms may also shift in the future as economic fundamentals and policies change.

Figure 1.17. Creditors versus Debtors

Excluding China, creditor countries are projected to grow at a slower pace than debtor countries over 2015–16, mainly reflecting subdued domestic demand in oil exporters in response to the adverse terms of trade shock. Windfall gains and losses from shifts in terms of trade account for a large portion of the projected changes in current account balances across countries and regions.

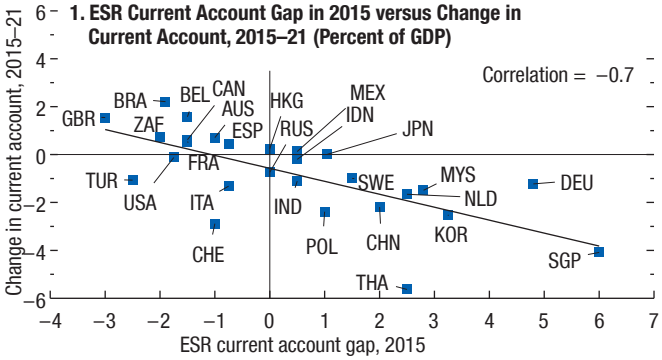


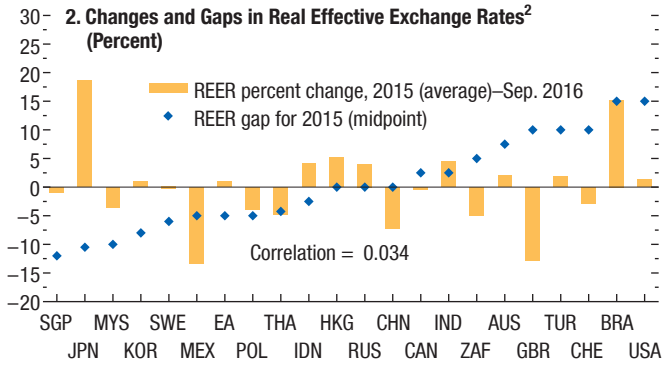


Source: IMF staff estimates.
Note: Adv. = advanced; AEs = advanced economies; CEE = central and eastern Europe.
[1]Average, 2015–16.
[2]Indicates change from 2014 to 2016.

Figure 1.18. Current Account Gaps and Real Exchange Rates

Projected changes in current account balances are consistent with a narrowing of excess external imbalances identified in the *2016 External Sector Report*.





Sources: Global Insight; IMF, *2016 External Sector Report* (ESR); IMF, *International Financial Statistics;* and IMF staff calculations.
Note: Data labels in the figure use International Organization for Standardization (ISO) country codes. EA = euro area; REER = real effective exchange rate; ToT = terms of trade.
[1]Data for the euro area are an average for France, Germany, Italy, and Spain.
[2]REER gaps and classifications are based on the IMF's *2016 External Sector Report*.

panel of Figure 1.18 illustrates, these exchange rate changes are not systematically correlated with the exchange rate gaps for 2015 identified in the 2016 *External Sector Report*.

Risks

Some risks flagged in recent WEO reports have become more pronounced in recent months, including those associated with political discord and inward-looking policies, or secular stagnation in advanced economies. Other risks, such as rising financial turbulence and capital pullbacks from emerging market economies, seem to have become less prominent, but they still remain. On balance, downside risks continue to dominate.

Risks Stemming from the Policy and Institutional Domain

The U.K. vote to leave the European Union and the ongoing U.S. presidential election campaign have brought to the fore issues related to labor mobility and migration, global trade integration, and cross-border regulation. Institutional arrangements long in place are now potentially up for renegotiation—arrange-

ments that have shaped how businesses organize their production and hiring, sourcing of raw materials and financing, and distribution channels across borders. Additional questions loom regarding possible follow-up referenda in other EU economies. More generally, concerns about the impact of foreign competition on jobs and wages in a context of weak economic growth have enhanced the appeal of protectionist policy platforms, with potential ramifications for global trade flows. Ambiguity about how these trends will evolve may lead firms to defer long-term projects, limit job creation, and slow near-term activity.

Institutional uncertainty interacting with hardening political divisions within countries can make solutions to structural challenges even more elusive. As these challenges—ranging from product and labor market deregulation to balance sheet repair, entitlement reform, and the integration of migrants into the labor force— become seemingly more intractable, perceptions of policy ineffectiveness could become more firmly rooted and the coordinating role of policy could diminish. As such, if any of the risks outlined below were to materialize, the toll on sentiment could be amplified by concerns that policy action will fail to offset the shock decisively.

Increasing pressure for inward-looking policies are a particular threat to the global outlook—a theme also discussed in Chapter 2. Scenario Box 1 discusses the potential economic consequences of an increase in protectionism. It first highlights the implications of a unilateral increase in tariffs by one country on another country—as well as the consequences of retaliation by the second country. The model simulations illustrate how GDP, consumption, and investment of *both* countries are negatively affected by the unilateral tariff increase. A second scenario illustrates the implications for the global economy of a generalized increase in protectionism, taking the form of higher tariff and nontariff barriers. The result is not just a collapse in trade flows, but also a sharp decline in global output. The negative repercussions for the global economy could be even larger because the disruption in international economic linkages drive a more generalized decline in cross-border cooperation.

Debilitating Cycles: Weak Demand–Weak Inflation; Low Productivity–Low Investment

One common thread running through several recent WEO reports is the prospect of secular stagnation—an extended shortfall in private demand leading to permanently lower output and low inflation.[14] As the world economy continues to struggle to generate widespread, durable momentum, this prospect becomes ever more tangible, particularly in some advanced economies. At the same time, a protracted period of weak inflation risks dislodging inflation expectations, causing expected real interest rates to rise and expenditure on capital goods and consumer durables to decline, eventually feeding back to weaker overall growth and inflation. And in economies with a large debt overhang, an extended period of low nominal growth would add to debt service difficulties, complicate the task of deleveraging, and further weigh on growth (as discussed in the October 2016 *Fiscal Monitor*).

A second debilitating cycle relates to possible feedback effects between low productivity growth and low investment. As noted earlier in the chapter, total factor productivity and labor productivity growth have declined markedly in many economies. At the same time, investment has slowed globally and is below long-term average growth rates in several advanced and emerging market and developing economies. To the extent that low productivity growth translates into expectations of weak profitability, investment could be negatively affected. The resulting deceleration in capital deepening would harm the adoption of capital-embodied technological change, further weigh on total factor and labor productivity, reinforce expectations of diminishing profitability, and spiral back to weak investment.

China's Ongoing Adjustment and Associated Spillovers

China's economy continues to support global growth, but its adjustment to a more sustainable pace of expansion has at times turned bumpier than

[14]As discussed in Box 1.1 of the October 2015 WEO, a number of mechanisms could generate lower output paths after recessions. For instance, a prolonged period of high unemployment could lead some workers to drop out or become unemployable. Reduced research and development could hurt the level—or even the growth rate—of productivity. Financial crises could trigger institutional changes such as tougher capital requirements, weighing on investment. A number of studies have provided empirical evidence supporting these hypotheses. For instance, Blanchard, Cerutti, and Summers (2015) find that, even for recessions triggered by intentional disinflation, the proportion of recessions followed by lower output relative to the prerecession trend was substantial. Likewise, Reifschneider, Wascher, and Wilcox (2015) find that the financial crisis of 2008 and the ensuing recession put the productive capacity of the U.S. economy on a lower trajectory than prior to 2007, with a significant portion of the damage to the supply side of the economy resulting from the weakness in aggregate demand.

expected. Recent months have seen a fading of the capital outflow pressure and domestic equity market turbulence that contributed to large sell-offs in global financial markets in August 2015 and January 2016. Nevertheless, China's transition to a services and consumption-based economy less dependent on commodity and machinery imports will continue to have an impact on prices, trade volumes, and profits across a swath of global industries, with associated effects on asset prices, international portfolio allocations, and investor sentiment.

China confronts a difficult trade-off in its transition—restructuring the economy, reducing its reliance on credit, and accepting slower near-term growth in return for higher and more sustainable long-term growth. The baseline assumes limited progress in tackling the corporate debt problem and reining in credit, and a preference for maintaining relatively high near-term growth, which raises the risk of an eventual disruptive adjustment (see the China IMF 2016 Article IV Staff Report). Against this backdrop, relatively mild triggers such as negative surprises in China's high-frequency indicators or a modest adjustment in domestic asset prices and the exchange rate could catalyze an outsized reaction in global sentiment.

Adverse Turn in Financial Conditions for Emerging Markets

Despite the unexpected outcome of the Brexit vote, financial conditions in emerging markets have continued to improve in recent months, with some firming of commodity prices and growing conviction among investors that monetary policy in advanced economies will remain highly accommodative into 2017 and beyond. As noted in the October 2016 GFSR, external developments appear to have played an important role in the recent pickup in capital flows to emerging market economies. Underlying vulnerabilities among some large emerging market economies (including high corporate debt, declining profitability, and weak bank balance sheets in some cases)—together with the need to rebuild policy buffers, particularly in commodity exporters—leave emerging market and developing economies still exposed to sudden shifts in investor confidence. Such shifts could materialize, for example, if incoming inflation data for the United States point to an earlier hike in the policy interest rate than anticipated. Investor sentiment could also shift if emerging market and developing economies fail to take advantage of the relative stability in external conditions to press ahead with structural reforms, tackle debt overhangs, and credibly advance fiscal adjustment, where needed.

Breakdown of Correspondent Banking Relationships

In the aftermath of the crisis, large global banks have been forced to reassess their business models as they rebuild capital buffers, strengthen their risk management practices, and face compressed net interest margins. As a consequence, correspondent banking relationships—large global banks' provision of payment and deposit-taking services on behalf of other banks, often located in smaller countries—have declined with global banks' withdrawal from transactions with smaller, vulnerable economies in Africa, the Caribbean, central Asia, and the Pacific Islands. An intensification of this trend would imperil the access of some of these economies to cross-border remittances, undermine their ability to finance activity, and weaken their response to natural disasters. Although the direct impact on global GDP might be relatively small, the social and economic ramifications could extend beyond the borders of the affected economies—for example, if they add to outward migration.

Conflict, Health, and Climate Factors

A range of additional factors continues to influence the outlook in various regions—for example, the drought in east and southern Africa; civil war and domestic conflict in parts of the Middle East and Africa; the unfolding migrant situation in Jordan, Lebanon, Turkey, and Europe; multiple acts of terror worldwide; and the spread of the Zika virus in Latin America and the Caribbean, the southern United States, and southeast Asia. Each of these factors inflicts both immeasurable humanitarian and direct economic costs. Recurrent incidents of terrorism, protracted civil conflict that spreads to contiguous regions, and a worsening public health crisis from Zika could collectively take a large toll on market sentiment, with negative repercussions for demand and activity.

Upside Risks

Despite the abundance of downside risks flagged in previous WEOs, the world economy had begun to record slightly stronger-than-expected growth in the first quarter of 2016. Several signs point to prospects

of a more robust pickup in momentum than currently envisaged, including the resilience and orderly repricing in financial markets after the initial shock of the Brexit vote; sustained improvements in the U.S. labor market; the modest uptick in commodity prices, which should ease some of the pressure on commodity exporters without severely hurting net importers; and fading headwinds from rapid currency depreciations and capital flows out of stressed emerging markets. Additional momentum could follow if countries intensify efforts to lift actual and potential output through targeted and well-sequenced structural reforms, demand support, and balance sheet repair.

Fan Chart

A fan chart analysis—based on financial and commodity market data as well as inflation and term spread forecasts—suggests reduced dispersion of outcomes around the central scenario. As visible in Figure 1.19, the width of the 90 percent confidence interval has narrowed slightly for both the 2016 and 2017 growth forecasts relative to those in the October 2015 WEO, but remain wider than the estimates of the October 2014 WEO. Risks remain tilted to the downside for 2016 and 2017.

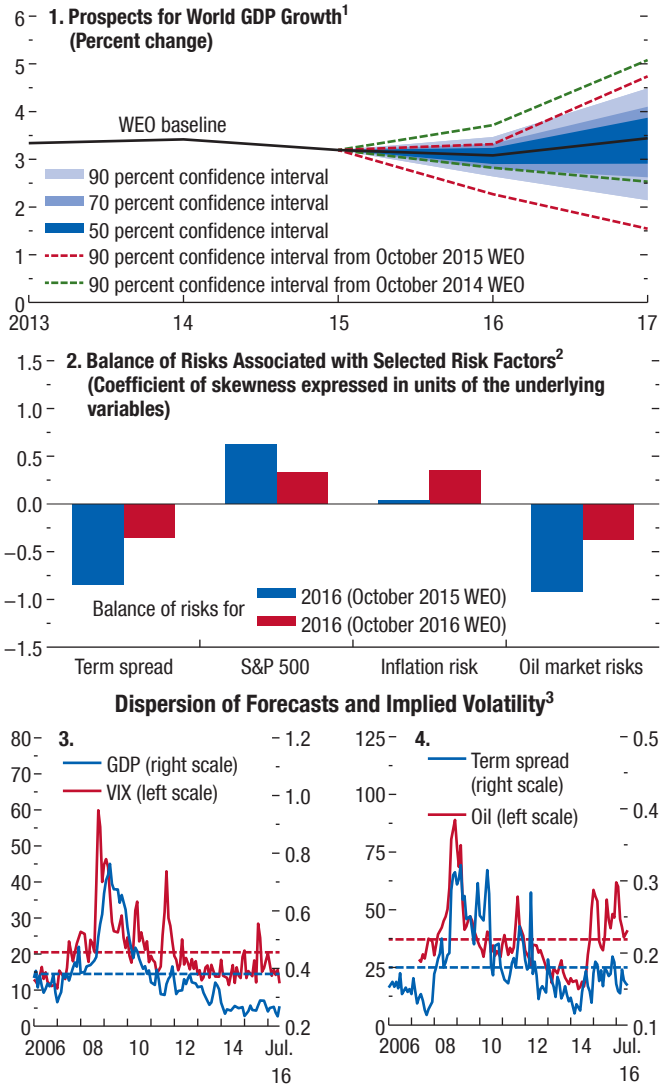
The probability of a recession over a four-quarter horizon (2016:Q3–2017:Q2) in most regions has declined relative to the probability computed in March 2016 (for 2016:Q1–2016:Q4; Figure 1.20). In Japan, the recently announced fiscal stimulus measures have lowered the probability of recession relative to the April 2016 estimates. The slightly improved outlook for commodity prices and financial conditions relative to April have helped lower the probability of a recession in Latin America, although the risk remains high. Deflation risks—as measured by the four-quarter-ahead probability of deflation—have also declined relative to April 2016 for the United States and the euro area, primarily owing to the strengthening in commodity prices and the associated firming in projected headline consumer price inflation. By contrast, the probability of deflation has increased in Japan owing to weak momentum in consumer prices and the recent appreciation of the yen.

Policy Priorities

While the outlook for the global economy discussed above points to a projected pickup in growth

Figure 1.19. Risks to the Global Outlook

The balance of risks points to growth weaker than envisaged in the central scenario for 2016 and 2017.



Sources: Bloomberg L.P.; Chicago Board Options Exchange (CBOE); Consensus Economics; Haver Analytics; and IMF staff estimates.

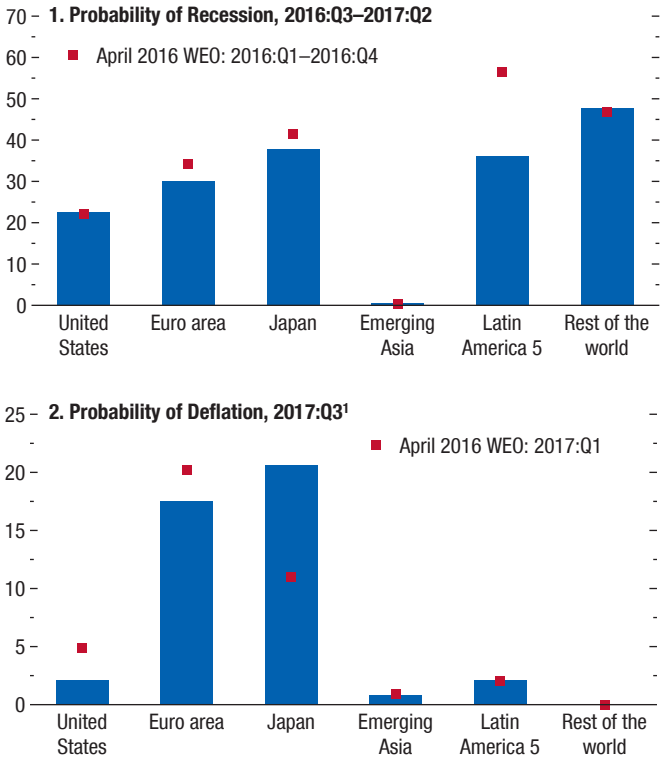
[1]The fan chart shows the uncertainty around the *World Economic Outlook* (WEO) central forecast with 50, 70, and 90 percent confidence intervals. As shown, the 70 percent confidence interval includes the 50 percent interval, and the 90 percent confidence interval includes the 50 and 70 percent intervals. See Appendix 1.2 of the April 2009 WEO for details. The 90 percent intervals for the current-year and one-year-ahead forecasts from the October 2015 WEO and October 2014 WEO are shown.

[2]The bars depict the coefficient of skewness expressed in units of the underlying-variables. The values for inflation risks and oil price risks enter with the opposite sign since they represent downside risks to growth.

[3]GDP measures the purchasing-power-parity-weighted average dispersion of GDP growth forecasts for the G7 economies (Canada, France, Germany, Italy, Japan, United Kingdom, United States), Brazil, China, India, and Mexico. VIX is the Chicago Board Options Exchange Volatility Index. Term spread measures the average dispersion of term spreads implicit in interest rate forecasts for Germany, Japan, the United Kingdom, and the United States. Oil is the CBOE crude oil volatility index. Forecasts are from Consensus Economics surveys. Dashed lines represent the average values from 2000 to the present.

Figure 1.20. Recession and Deflation Risks
(Percent)

The probability of recession over a four-quarter horizon spanning 2016:Q3 through 2017:Q2 has generally declined in most regions relative to the probabilities computed in the April 2016 WEO for the period 2016:Q1 through 2016:Q4. The risk of deflation remains high in the euro area and Japan.



Source: IMF staff estimates.
Note: Emerging Asia comprises China, Hong Kong SAR, India, Indonesia, Korea, Malaysia, Philippines, Singapore, Taiwan Province of China, and Thailand; Latin America 5 comprises Brazil, Chile, Colombia, Mexico, and Peru; Rest of the world comprises Argentina, Australia, Bulgaria, Canada, the Czech Republic, Denmark, Israel, New Zealand, Norway, Russia, South Africa, Sweden, Switzerland, Turkey, the United Kingdom, and Venezuela. April 2016 WEO data refer to simulations run in March 2016.
[1]Deflation is defined as a fall in the price level on a year-over-year basis in the quarter indicated in the figure.

over the rest of the forecast horizon, as seen in Box 1.1, a significant portion of this improvement arises from weights shifting toward large emerging market economies projected to grow at rates above the global average and from the normalization of conditions in some countries experiencing growth downturns or outright recessions. The potential for setbacks to this outlook is high. Against this backdrop, policy priorities differ across individual economies depending on the specific objectives for improving growth momentum, combating deflation pressure, or building resilience. A common theme, though, is that urgent policy action is needed on multiple fronts to head off repeated growth disappointments and combat damaging perceptions that policies are ineffective in boosting growth and that the rewards accrue only to those at the higher end of the income distribution.

Where room to loosen fiscal or monetary policy appears more limited, coordinated, comprehensive responses that exploit complementarities between structural and demand management policies may help strengthen the efficacy of the overall policy package. And coherent frameworks that embed near-term responses in the context of clearly articulated medium-term targets can boost confidence and create more room for policy maneuvering to combat near-term shocks. While essential at the country level, these policies would be even more effective if adopted broadly, with due attention to country-specific priorities.

Policies—Advanced Economies

Advanced economies as a group continue to experience a modest recovery characterized by generally weak productivity growth, low investment, and low inflation. These features are products of the interplay between subdued demand, diminished growth expectations, and declining potential output growth. Policy action must therefore continue to support demand while implementing measures that will lift potential growth.

With output gaps still negative, wage pressures muted, and inflation expectations for the next few years below central bank targets, monetary policy must steer an accommodative course. As the post-Brexit referendum experience has demonstrated thus far, central banks' readiness to act with unconventional tools has lowered the risk of a systemic liquidity crunch, facilitated orderly market repricing, and helped boost investor sentiment. Further monetary policy loosening through asset purchases and, in some cases, negative deposit rates, will ensure that long-term rates remain contained, help lift inflation expectations, and lower the real costs of borrowing for households and firms. As discussed in Box 3.5 and in Chapter 3 more generally, transparent inflation-forecast frameworks allow for economic stimulus—even when policy rates are close to their effective lower bounds—through temporary overshooting of the target.

As the past several years' experience with unconventional strategies has however also shown, accommodative monetary policy alone cannot lift demand and may, in some cases, generate undesirable side effects (as discussed in the October 2016 GFSR). This is especially true in an environment in which the natural rate of interest is persistently low, since this implies less monetary policy accommodation even at record-low interest rates. Fiscal support therefore remains essential for lifting momentum where there is slack and avoiding a lasting downshift in medium-term inflation expectations. It should be calibrated to the amount of space available and, where adjustment is warranted, oriented toward policies that protect the vulnerable and are conducive to lifting medium-term growth prospects. Such growth-friendly tax and expenditure policies include reforming labor taxes and social benefits to incentivize labor force participation; reforming corporate income taxes and providing well-targeted tax incentives to boost research and development investment (as discussed in the April 2016 *Fiscal Monitor*); increasing productive capacity through infrastructure investment where there are clear shortfalls; and facilitating improvements in human capital by investing in education and health care. In countries facing rising public debt burdens and social entitlement outlays, credible commitments to medium-term consolidation strategies can generate additional space for near-term support.

Support for near-term demand must be accompanied, in some cases, by efforts to repair bank balance sheets (addressing legacy nonperforming loans and strengthening operational efficiency, as discussed in the October 2016 GFSR), as well as structural reform policies to address waning potential growth, thus bolstering longer-term income prospects. Better income prospects, in turn, would lift private demand in the short term and help contain increases in debt-to-GDP ratios in the medium term. Although employment has grown more strongly than expected in recent years, unfavorable demographic trends in advanced economies point to limits to the extent potential growth can recover on the back of an expanding labor force. Specific priorities vary across countries, ranging from measures to boost labor force participation rates, to reforms that eliminate product and labor market distortions, to steps that address corporate debt overhangs and facilitate restructuring, to policies that lift research and development investment and encourage innovation. Some structural reforms can also raise near-term activity, thereby amplifying the effects of demand support policies in countries with slack. Other structural reforms require supportive macroeconomic policies to lessen possible dampening effects they may have on near-term growth and inflation (see Chapter 3 of the April 2016 WEO).

Country-Specific Priorities

- In the *United Kingdom*, the Bank of England's August announcement of a suite of accommodative measures—including a 25 basis point cut in the policy rate, a new "term funding scheme" to transmit the lower policy rate to retail borrowing costs, and resumption of quantitative easing—signals its commitment to limit post-Brexit downside risks and maintain confidence. These measures, together with the reduction in banks' countercyclical capital buffers announced immediately after the referendum, are appropriately geared toward ensuring that lending conditions remain supportive as the U.K. economy begins to adjust to the new institutional arrangements. On the fiscal front, automatic stabilizers should be allowed to operate freely. As greater clarity emerges on the macroeconomic impact of the Brexit vote, the need for further near-term discretionary fiscal policy easing and the appropriateness of the medium-term deficit target should be assessed, possibly in the context of the upcoming November fiscal review.
- In the *euro area*, with inflation expectations still below target, several economies operating with slack, and uncertainty clouding prospects for sustained momentum in activity, the European Central Bank should maintain its current appropriately accommodative stance. Additional easing through expanded asset purchases may be needed if inflation fails to pick up. Fiscal policy should also be used to support the recovery in the near term by funding investment and other priorities in countries where space permits and by accelerating deployment of centrally funded investment. Countries with high debt burdens should undertake gradual fiscal consolidation. Centrally funded investment programs should be expanded, with access subject to compliance with the Stability and Growth Pact and implementation of recommended structural reforms. Demand support should be reinforced with product, labor market, and public administration reforms to encourage firms' entry and exit, raise labor participation rates, and address labor market duality. Action in these areas, which could be encouraged through

outcome-based reform benchmarks, along with steps to boost infrastructure investment and complete the single market in services, energy, digital commerce, transportation, and capital, would lift potential growth and productivity. Faster bank and corporate balance sheet repair, a common deposit insurance scheme, and a fiscal backstop for the banking union remain critical in order to weaken bank-sovereign links, contain risks to financial stability, improve policy transmission, and facilitate consolidation and restructuring of the banking sector. Refugee integration into the workforce through swift processing of asylum applications and enhanced training and placement services is essential in countries that face this pressing concern.

- In the *United States*, despite the steady decline in the unemployment rate to less than 5 percent and the pace of job creation over the past year, exceeding the average of the precrisis boom years, wage growth and consumer price inflation have remained subdued. The Federal Reserve's pause after the December 2015 increase in the federal funds rate is thus an appropriate response to these developments as well as to risks stemming from the global environment. Further increases should be gradual and tied to clear signs that wages and prices are firming durably. On the fiscal side, the moderately expansionary near-term stance is appropriate. Over the long term, however, public finances are on an unsustainable path given the anticipated increases in health and pension outlays as the population ages and potential output slows. Instituting a credible deficit and debt-reduction strategy would create room to lift productive capacity by increasing infrastructure investment; boosting labor force participation (through expansion in child care assistance and the earned income tax credit, combined with an increase in the minimum wage for low-income workers) and enhancing human capital (through higher spending on early childhood education and skills-enhancing vocational training). Complementing this consolidation plan, a comprehensive reform of the tax code geared toward simplification and fewer exemptions would incentivize job creation, widen the revenue base, and enhance fiscal sustainability.
- In *Japan*, with growth below potential and inflation weakening this year following the yen appreciation, the Bank of Japan's monetary easing through asset purchases and negative deposit rates has been critical to preventing the economy from tipping back into deflation. The fiscal stimulus announced in August will lessen the drag from the expiration of previous measures and reduce the risk of a slide in near-term activity. In order to secure a durable increase in inflation and growth, however, a comprehensive policy approach is required that enhances demand support with actions to lift medium-term growth expectations and boost wages. Elements of such a package would include reforms to diminish labor market duality and increase labor force participation by women and older workers, while admitting more foreign workers; measures to boost private investment, including lowering entry barriers in retail trade and services, improvements in the provision of capital for new ventures, and stronger corporate governance to discourage companies from accumulating excess cash reserves; and income policies that motivate profitable companies to raise wages in line with the Bank of Japan's inflation target and productivity growth. Together with this comprehensive package, a credible long-term fiscal consolidation plan based on a preannounced schedule of a gradual increase in the consumption tax, social security reform, and efforts to broaden the tax base would place public finances on a more sustainable footing, create additional space for fiscal policy to respond to near-term setbacks, and boost confidence in the overall policy approach.

Policies—Emerging Market and Developing Economies

Emerging market and developing economies have experienced a period of relative calm in recent months. External financial conditions are benign compared with the start of 2016, and there are signs that macroeconomic distress in some key countries may be easing. As discussed earlier in the chapter, China's adjustment to a slower growth path and the subdued outlook for commodity prices remain potent forces shaping prospects for many of these economies. Most tangibly, these two large reconfigurations have burdened the operating environment for emerging market and developing economy businesses, many of which are saddled with high debt after the credit boom of 2002–12.

Despite the diverse range of country circumstances and levels of development within this group, the broad common policy objectives confronting emerging market and developing economies are to maintain convergence to higher income ranges and to strengthen

resilience. The former requires structural reforms that facilitate technology diffusion and job creation, appropriately harnessing the existing skills in the economy while minimizing inefficiencies from resource misallocation. And to continue making progress up the value-added ladder, a key imperative is to enhance the quality of human capital through adequate investment in education and health care.

Strengthening resilience requires action on several fronts. In stressed emerging market economies where activity appears to be bottoming out, it is imperative to continue facilitating the recovery by avoiding premature and excessive tightening of fiscal and monetary policy. More broadly, as the considerable aftershocks of the global financial crisis have demonstrated, periods of relative calm in external financial conditions for emerging market and developing economies can quickly take an adverse turn. Recent instances of rapid asset price and exchange rate movements appear to have had largely localized and short-lived effects in exposed economies. Nevertheless, the prospect of large repercussions in economies with unhedged foreign liabilities, and where short-term borrowing is channeled into longer-term, less liquid investments, requires that these economies strengthen their defenses against potential financial turbulence by containing currency and balance sheet mismatches. Exchange rate flexibility and permitting market forces to guide movements in the currency can help absorb shocks and provide some insulation from protracted external pressure, but at times foreign exchange intervention may be needed to maintain orderly market conditions and prevent disruptive overshooting. Commodity exporters with large fiscal imbalances face the additional challenge of adjusting their public finances to an environment with lower revenue and potentially less favorable financing conditions compared with those in the past decade. Against this backdrop, they need to ensure that fiscal consolidation is as growth friendly as possible.

Country-Specific Priorities

- *China* continues to make progress with the complex tasks of rebalancing its economy toward consumption and services and permitting market forces a greater role. But the economy's dependence on credit is increasing at a dangerous pace, intermediated through an increasingly opaque and complex financial sector. The high and rising credit dependence reflects a combination of factors—the pursuit of unsustainably high growth targets, efforts to prop up unviable state-owned enterprises to preserve employment and defer loss recognition, and opportunistic lending by financial intermediaries in the belief that all debt is implicitly guaranteed by the government. By maintaining high near-term growth momentum in this manner, the economy faces a growing misallocation of resources and risks an eventual disruptive adjustment. This would undermine the impressive reform progress made so far with financial sector liberalization, the opening of the capital account, and a strengthened framework for local government finances. The priorities are therefore to address the corporate debt problem by separating viable from unviable state-owned enterprises, hardening budget constraints and improving governance in the former while shutting down the latter and absorbing the related welfare costs through targeted funds; apportioning losses among creditors and recapitalizing banks as needed; allowing credit expansion to slow and accepting the associated slower GDP growth; strengthening the financial system by closely monitoring credit quality and funding stability, including in the nonbank sector; continuing to make progress toward an effectively floating exchange rate regime; and further improving data quality and transparency in communications. Avoiding a further buildup of excess capacity among unviable state-owned enterprises in China would also help ease deflation pressures in advanced economies grappling with the risk of persistently low inflation.
- *India's* economy has benefited from the large terms of trade gain triggered by lower commodity prices, and inflation has declined more than expected. Nevertheless, underlying inflationary pressures arising from bottlenecks in the food storage and distribution sector point to the need for further structural reforms to ensure that consumer price inflation remains within the target band over the medium term. Important policy actions toward the implementation of the goods and services tax have been taken, which will be positive for investment and growth. This tax reform and the elimination of poorly targeted subsidies are needed to widen the revenue base and expand the fiscal envelope to support investment in infrastructure, education, and health care. More broadly, while several positive measures have been undertaken over the past two years, additional measures to enhance efficiency in the mining sector and increase electricity generation

are required to boost productive capacity. Additional labor market reforms to reduce rigidities are essential for maximizing the employment potential of the demographic dividend and making growth more inclusive. Continued efforts by the Reserve Bank of India to strengthen bank balance sheets through full recognition of losses and increasing bank capital buffers remain critical for improving the quality of domestic financial intermediation.

- In *Brazil*, the economy continues to contract, albeit at a more moderate pace, inflation is above the central bank's tolerance band, and policy credibility has been severely dented by events leading up to the regime transition. There is an overarching need to boost confidence and lift investment by strengthening policy frameworks. Adopting the proposed spending rule and laying out a coherent medium-term fiscal consolidation framework would send a strong signal of policy commitment. Further imperatives for lifting investment include simplifying the tax code, reducing barriers to trade, and addressing infrastructure shortfalls to reduce the cost of doing business.
- *South Africa's* economy is still grappling with the decline in commodity prices, over a quarter of the workforce is unemployed, and the outlook is clouded by policy uncertainty and political risks. A comprehensive structural reform package that fosters greater product market competition, more inclusive labor market policies and industrial relations, and improved education and training, as well as reducing infrastructure gaps is critical to boost growth, create more jobs, and reduce inequality. Measures to improve state-owned enterprises' efficiency and governance, including through greater private participation, are a particularly important element of the needed reform package to lift growth prospects and reduce contingent fiscal risks. While some of these reforms may take time to yield positive growth effects, immediate benefits can stem from improved confidence and signaling of policy consistency.
- In *Russia,* the combined effects of lower oil prices, sanctions, and diminished access of firms to international capital markets have forced the economy into recession since the end of 2014. Although the economy is projected to return to growth in 2016, excessive fiscal tightening should be avoided from a cyclical perspective. Anchoring fiscal policy to a medium-term consolidation program and reinstituting the three-year framework based on an updated outlook for oil prices would enhance transparency, increase confidence, and help the economy adjust to a revised environment for commodity prices. With inflationary pressures remaining contained, monetary easing should continue to support the adjustment. Improvements to financial supervision and regulation, comprehensive asset quality reviews with a view toward publicly funded bank recapitalizations as needed, and a stronger resolution framework would boost the resilience of the financial system, improve the efficiency of credit allocation, and raise medium-term growth prospects.

Policies—Low-Income Developing Economies

Among low-income economies, those dependent on commodity exports continue to face a different outlook than the others. With commodity prices much below their 2014 peaks, subdued global growth, and a further tightening in their financial conditions, economic growth has significantly weakened for commodity-dependent low-income developing countries, particularly fuel exporters. Indeed, many of the risks highlighted in Box 1.2 of the April 2016 WEO are now materializing for this group of economies. In contrast, growth expectations for relatively diversified low-income developing countries are still solid, broadly in line with the projections in the April 2016 WEO. Some of these economies have, however, also been hit by nonmacroeconomic shocks, including conflicts and difficult security situations (Afghanistan, South Sudan, Yemen, the Sahel region) and droughts and natural disasters (Ethiopia, Lesotho, Malawi, Mozambique, Myanmar), exacerbating already weak macroeconomic conditions.

Policies in commodity-dependent countries have been slow to adjust to the difficult economic conditions. After widening sharply in 2015, current account deficits are expected to narrow slightly in 2016, helped in part by exchange rate depreciation. But exchange rate depreciations have also raised inflation for some (for example, Mozambique, Nigeria, and Zambia) or increased external debt liabilities. Fiscal deficits are likely to remain elevated through 2016 as weaker revenues offset cutbacks in spending.

Among diversified economies, fiscal and external current account positions have not improved despite continued strong economic growth, reflecting limited progress in adopting countercyclical policies—particularly with current spending outpacing revenue in some cases.

Against this backdrop, while the overarching priority for low-income developing countries remains to deliver on their United Nations Sustainable Development Goals, actions to deal with near-term macroeconomic challenges will also help meet these long-term objectives. In particular, efforts to create fiscal space by enhancing domestic resource mobilization and improving the efficiency of government spending; steps to reorient fiscal spending to protect the vulnerable and address infrastructure gaps to foster inclusive growth; and measures to improve financial sector resilience through stronger prudential regulation, along with steps to deepen financial inclusion, will help achieve macroeconomic stabilization as well as overall economic resilience, sustained growth, and development.

Specific near-term policy priorities for low-income developing countries differ based on their degree of dependence on commodity exports:

- The ongoing adjustment in macroeconomic policies must continue and in some cases accelerate in *commodity-dependent low-income developing countries.* Specifically, fiscal policy adjustment needs to be better balanced with efforts to raise the contribution of the noncommodity sector in fiscal revenue collection. In the sub-Saharan African economies hit hard by the slump in commodity prices, especially oil exporters, the adjustment has started but remains far from sufficient and continues to rely on unsustainable features, such as the drawdown of reserves, central bank financing, and accumulation of arrears. Instead, a sustainable adjustment is needed, based on a comprehensive and internally consistent set of policies. With most countries facing limited fiscal space, spending needs to be rationalized—to the extent possible by preserving priority capital expenditures and social sector spending and containing current expenditures. The side effects of exchange rate flexibility and depreciation will need to be better managed through a tighter monetary policy stance in some countries and stronger monetary policy frameworks that anchor inflation expectations. Enhanced financial sector regulation and supervision will be required to manage foreign currency exposures in balance sheets. Medium-term priorities to improve economic resilience by rebuilding fiscal buffers when commodity prices recover, and structural reforms to achieve economic diversification and higher productivity, remain relevant.
- For *relatively diversified low-income developing countries,* while growth remains strong, it is imperative to focus on adopting countercyclical macroeconomic policies, in particular to rebuild fiscal buffers. Strong debt management will also help those exposed to global financial markets better cope with volatility in capital inflows.

Multilateral Policies

With growth weak and policy space limited in many countries, multilateral actions acquire even greater relevance to sustain global improvements in living standards. Continued multilateral effort is required on several levels, including financial regulatory reform, trade, and the global financial safety net.

- *Financial Regulatory Reform*—Steady progress has been made on building bank capital and liquidity buffers, but more work is needed on implementing effective resolution frameworks and addressing emerging risks from nonbank intermediaries. Closer cross-border regulatory cooperation is also required to limit the withdrawal of correspondent banking relationships that provide vulnerable low-income countries a gateway into the international payments system.
- *Trade*—With the seeming backlash against global trade in advanced economies, there is a pressing need for policymakers to refocus the discussion toward the benefits of integration and to ensure that those who bear the brunt of the adjustment costs in an open trading system are adequately supported through well-targeted social initiatives. As Chapter 2 finds, the diminishing pace of new trade reforms in recent years, together with a rise in protectionist measures, appears to have contributed in part to the global slowdown in trade. Going forward the process of trade liberalization should be revived in order to support trade growth and lift productivity. There is substantial scope to further reduce trade costs through cutting tariffs where they remain elevated, ratifying and fully implementing commitments made under the Trade Facilitation Agreement, and establishing a way forward in the post-Doha trade agenda. The next generation of trade reforms would need to focus on areas most relevant to the contemporary global economy, such as reducing barriers to e-commerce and trade in services, improving regulatory cooperation, and leveraging complementarities between investment and trade. Reforms should be coupled with measures to mitigate the costs to those who are adversely affected. In particular, as noted

in Chapter 2, specific trade adjustment assistance programs and effective support for retraining, skill building, and occupational and geographic mobility could play an important role in certain cases.

- *Strengthening the global financial safety net*—The combination of still-moderate global growth and pronounced downside risks underscores the importance of strengthening the global financial safety net to help economies with robust fundamentals that may nevertheless be vulnerable to cross-border contagion and spillovers. Risks stemming from noneconomic factors with cross-border ramifications, such as the ongoing refugee crisis, further demonstrate the case for instituting globally funded vehicles to help the exposed economies absorb the strains.

Scenario Box 1. Tariff Scenarios

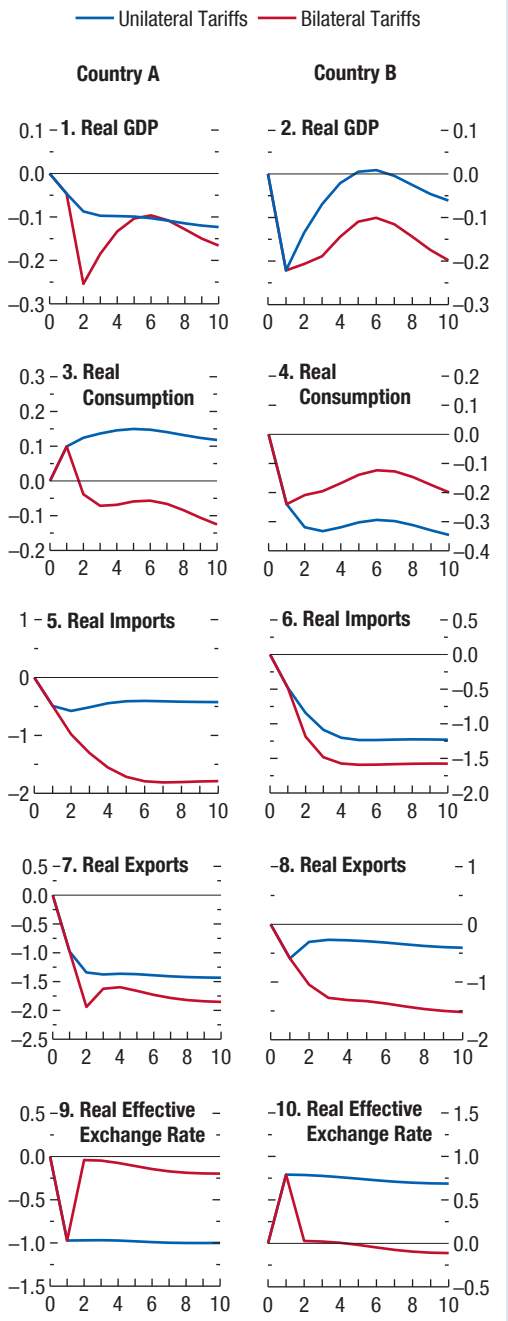
The Global Integrated Monetary and Fiscal Model (GIMF) is used here to illustrate the macroeconomic implications of trade protectionism. Two scenarios are used to illustrate how one country may have an incentive to impose tariffs, particularly if it believes there will be no retaliation. However, once a tariff has been imposed on a country's exports, it is in that country's best interest to retaliate, and when it does, both countries end up worse off. Further, a scenario is used to illustrate the negative implications for global output, trade, and inflation should an increase in global protectionism become a reality.

Consider first the scenarios presented in Scenario Figure 1. The blue line traces out some key macro outcomes when country A (left column in figure) imposes a tariff of 10 percent on imports from country B (right column in figure) and country B does not retaliate. Countries A and B are of similar size and have a similar degree of openness. It is assumed that the revenue generated by the tariff is returned to households in country A via transfers.[1] The higher cost of imports from country B leads households and firms in country A to demand fewer of them. With country A's import demand lower, it does not need to export as much to maintain external balance and its currency appreciates, lowering foreign demand for its exports. Household consumption in country A rises as the currency appreciation makes imports from all other countries cheaper, and the higher cost of country B imports is returned to households in the form of transfers. However, because country A exports less, firms reduce investment (not shown) and overall output in country A declines.

When there is no retaliation, lower export demand from country A means that to maintain external balance, country B's currency needs to depreciate to increase demand for its exports in other countries. However, it does not fully offset the impact of the decline in export demand from country A, and exports fall below their pre-tariff level in country B. Imports in country B also decline notably owing to both its currency depreciation, which leads to higher import prices, and the decline in consumption and investment

[1]If the tariff revenue is used for infrastructure investment rather than transferred back to households, GDP in country A will be higher. However, higher tariffs are not the most efficient way to fund infrastructure investment as output rises more if government consumption expenditure is reduced instead or if consumption taxes are increased.

Scenario Figure 1. Unilateral and Bilateral Imposition of Tariffs on Imported Goods
(Percent difference from baseline)



Source: IMF staff estimates.

Scenario Box 1. Tariff Scenarios *(continued)*

demand (not shown) owing to the hit to country B's income from lower foreign demand for its exports. The result is an improvement in country B's net export position, which helps moderate the decline in GDP from lower domestic demand.

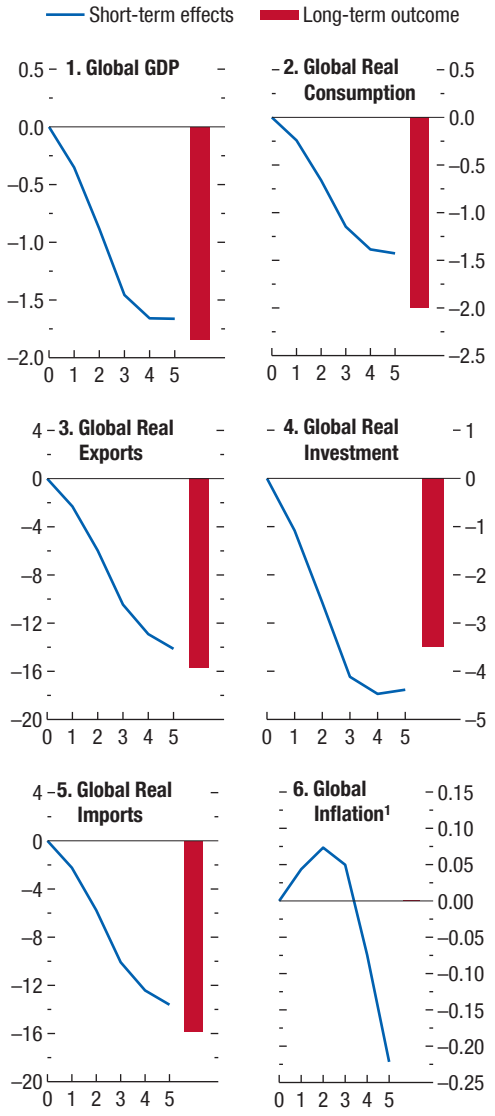
Facing trade barriers on its exports, it is in its households' best interest for country B to retaliate and impose a tariff of 10 percent on imports from country A. As illustrated by the red line in Scenario Figure 1, when country B retaliates with its own tariff in the second year, consumption in country B rises relative to the case of no retaliation. First, the higher cost of imports from country A reduces import demand in country B. This means that country B does not need to export as much to maintain external balance and the currency depreciation is unwound. Imports from countries other than A are now cheaper and some of the demand is substituted away from country A. In addition, households receive back tariff revenues in the form of transfers from the government and, consequently, they can afford to support a higher level of consumption. Investment in country B declines further as the currency appreciation makes its exports more expensive, reducing foreign demand. Lower investment and a relatively weaker net export position more than offset the impact of higher consumption and GDP in country B falls below the level when there is no retaliation.

In country A, the retaliation lowers demand for its exports, which means it no longer needs the currency appreciation to maintain external balance. The resulting higher price of imports, plus the decline in household income resulting from the reduction in foreign demand, means that households can no longer afford the previous level of consumption and it falls back below the original baseline level. Although country A's net export position improves relative to the no retaliation case, this is more than offset by lower consumption and investment and GDP declines. In the end, both country A and country B are left worse off by the increase in protectionism.

A similar exercise is examined at the global level in Scenario Figure 2 where it is assumed that a growing level of protectionism in all countries raises tariff and nontariff barriers gradually over the first three years such that import prices everywhere rise by 10 percent. It is assumed that half of the increase in import prices is from tariffs, the revenue from which is returned to households via transfers, and half is from an

Scenario Figure 2. A Worldwide Increase in Protectionism

(Percent difference from baseline, unless noted otherwise)



Source: IMF staff estimates.
[1]Global inflation shown in percentage point difference.

Scenario Box 1. Tariff Scenarios *(continued)*

increase in nontariff barriers. The higher cost of traded goods lowers global output by almost 1¾ percent after five years and by almost 2 percent in the long run. Global consumption falls by a similar amount, with global investment falling by even more. Global trade however takes the biggest hit, with imports and exports down by 15 percent after five years and 16 percent in the long run. Although rising import prices help raise global inflation marginally during the period of rising protectionism, once trade restrictions are no longer increasing in year 4, the decline in demand starts to dominate and inflation falls below baseline, resulting in a lower level of prices in the long run globally.

Box 1.1. World Growth Projections over the Medium Term

This box discusses the factors explaining the evolution of medium-term growth projections for the global economy and how the projections compare with historical averages. For that purpose, it is useful to recall how the world growth rate g_t^W for a generic year t is calculated. Specifically, $g_t^W = \sum_i \omega_{it} g_{it}$ where ω_{it} is country i's weight in global output for year t (calculated at purchasing power parity) and g_{it} is country i's growth rate in year t. It follows that the change in the world growth rate between year t and year T (in this case, 2016 and 2021) can be written as follows:

$$g_T^W - g_t^W = \sum_i \omega_{it}(g_{iT} - g_{it}) + \sum_i (\omega_{iT} - \omega_{it}) g_{iT}$$

That is, the change in the world growth rate can be decomposed into two terms:

- The weighted sum of changes in individual growth rate forecasts between 2016 and 2021 (using 2016 weights)
- The impact of changes in country weights between 2016 and 2021, measured by the difference between the 2021 world growth rate evaluated at 2021 weights and 2016 weights

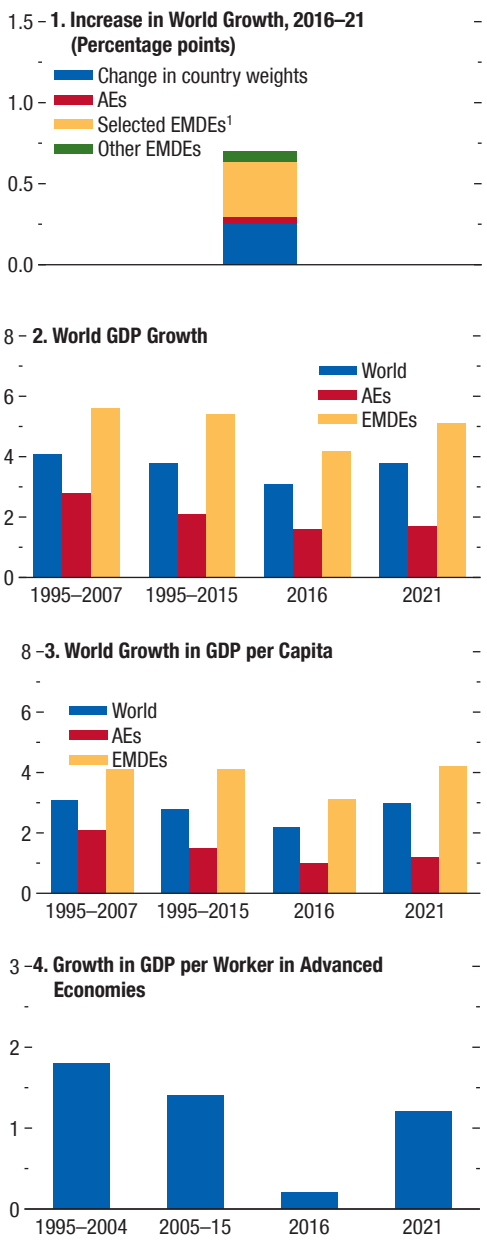
The results of this decomposition are displayed in the first panel of Figure 1.1.1. The change in country weights (reflecting the increase in weights for emerging market and developing economies growing faster than the world average—primarily China and India) explains about one-third of the ¾ percentage point increase in global growth whereas the weighted sum of changes in growth forecasts explains the remaining two-thirds. A large part of the latter (0.36 percentage points) is explained by a normalization of conditions in a handful of emerging market and developing economies experiencing a recession in 2016 (Argentina, Brazil, Nigeria, Russia, South Africa, and Venezuela). The aggregate GDP growth rate of these economies is projected to be –2.3 percent in 2016, and about 2 percent in 2021.[1] Higher growth in advanced economies explains only 0.10 percentage point, with the remainder explained by faster growth elsewhere in emerging market and developing economies.

The second panel of Figure 1.1.1 puts the medium-term growth forecast in perspective by comparing it to average growth rates over the past 20 years.

[1]The negative impact on world growth from recessions in emerging market economies in 2015 (2016) was more than three (two) times its median value over the past 20 years.

Figure 1.1.1. World Growth Projections over the Medium Term

(Percent, unless noted otherwise)



Source: IMF staff estimates.
Note: AEs = advanced economies; EMDEs = emerging market and developing economies.
[1]Selected EMDEs = Argentina, Brazil, Nigeria, Russia, South Africa, Venezuela.

Box 1.1 *(continued)*

While the growth forecast for 2016 is considerably lower than historical averages, world growth in 2021 is projected to be broadly in line with its average over the past two decades.[2] The figure also illustrates the role played by shifts in weights between advanced economies and emerging market and developing economies: while the projected growth rate for 2021 for both country groups is below their 1995–2015 average, the increased weight on (faster-growing) emerging market and developing economies implies that world growth is roughly unchanged. The shift in weights also affects the aggregate growth rate for the emerging market and developing economies group: that growth rate for 2021 would be 0.6 percentage points lower if it were calculated with precrisis (2007) weights.

However, as highlighted in this chapter, the world is undergoing an important demographic transition. Hence, the third panel of Figure 1.1.1 provides the same comparison for growth in GDP per capita. It shows that by 2021 world growth is projected to exceed its average of the past two decades, again reflecting shifts in weights: per capita growth is projected to be in line with its 20-year average for emerging market and developing economies (also reflecting shifts in weights within the group, as mentioned above), and below historical averages for advanced economies.

The aging process implies not only a decline in population growth rates, but an even sharper decline in the growth rate of the workforce. To account for this factor, the fourth panel of Figure 1.1.1 compares growth in GDP per worker for advanced economies (the only ones for which historical data and projections for employment are available). The figure shows that growth is projected to pick up relative to its average over the past decade, but to remain below its precrisis average.

In sum, this box highlights three main points. First, the projected increase in global GDP growth over the next five years reflects to an important extent the normalization of conditions in a few large emerging market and developing economies currently in a recession, as well as the increased global weight of emerging market and developing economies as a whole. Second, taking into account the impact of the demographic transition on population growth rates, the projections for medium-term growth for the global economy are actually broadly in line with precrisis averages. Third, shifts in relative weights across emerging market and developing economies play an important role in explaining growth resilience for the country group as a whole, as the relative importance of countries growing faster than average is increasing.

[2]The 2021 growth forecast is marginally higher than estimated potential growth for that year given that output gaps are on average still slightly negative in 2020.

Annex Table 1.1.1. Europe: Real GDP, Consumer Prices, Current Account Balance, and Unemployment

(Annual percent change, unless noted otherwise)

	Real GDP			Consumer Prices[1]			Current Account Balance[2]			Unemployment[3]		
		Projections			Projections			Projections			Projections	
	2015	2016	2017	2015	2016	2017	2015	2016	2017	2015	2016	2017
Europe	**2.4**	**2.0**	**1.8**	**0.6**	**0.9**	**1.8**	**2.3**	**2.3**	**2.3**	. . .	. . .	. . .
Advanced Europe	**2.2**	**1.7**	**1.5**	**0.1**	**0.4**	**1.3**	**2.7**	**2.7**	**2.8**	**9.5**	**8.7**	**8.5**
Euro Area[4,5]	2.0	1.7	1.5	0.0	0.3	1.1	3.2	3.4	3.1	10.9	10.0	9.7
Germany	1.5	1.7	1.4	0.1	0.4	1.5	8.4	8.6	8.1	4.6	4.3	4.5
France	1.3	1.3	1.3	0.1	0.3	1.0	–0.2	–0.5	–0.4	10.4	9.8	9.6
Italy	0.8	0.8	0.9	0.1	–0.1	0.5	2.2	2.2	1.9	11.9	11.5	11.2
Spain	3.2	3.1	2.2	–0.5	–0.3	1.0	1.4	1.9	1.7	22.1	19.4	18.0
Netherlands	2.0	1.7	1.6	0.2	0.1	0.9	8.6	9.1	8.2	6.9	6.7	6.5
Belgium	1.4	1.4	1.4	0.6	2.1	1.6	0.0	0.1	0.4	8.5	8.4	8.3
Austria	0.9	1.4	1.2	0.8	0.9	1.5	2.6	2.6	2.7	5.7	6.2	6.4
Greece	–0.2	0.1	2.8	–1.1	–0.1	0.6	0.0	0.0	0.0	25.0	23.3	21.5
Portugal	1.5	1.0	1.1	0.5	0.7	1.1	0.4	0.0	–0.7	12.4	11.2	10.7
Ireland	26.3	4.9	3.2	0.0	0.3	1.2	10.2	9.5	9.1	9.5	8.3	7.7
Finland	0.2	0.9	1.1	–0.2	0.4	1.2	0.1	0.1	0.2	9.3	9.1	8.9
Slovak Republic	3.6	3.4	3.3	–0.3	–0.2	1.1	–1.3	–1.0	–0.6	11.5	9.9	8.8
Lithuania	1.6	2.6	3.0	–0.7	0.5	1.2	–1.7	–1.6	–2.8	9.1	7.8	7.6
Slovenia	2.3	2.3	1.8	–0.5	–0.3	1.0	5.2	7.7	7.2	9.0	8.2	7.9
Luxembourg	4.8	3.5	3.1	0.1	0.2	1.0	5.5	4.4	4.3	6.9	6.4	6.3
Latvia	2.7	2.5	3.4	0.2	0.2	1.7	–1.2	–2.0	–1.2	9.9	9.4	9.2
Estonia	1.1	1.5	2.5	0.1	0.5	1.4	2.1	0.6	0.0	6.1	5.6	5.5
Cyprus[5]	1.5	2.8	2.2	–1.5	–1.0	0.5	–3.6	–0.9	–3.7	14.9	13.0	11.6
Malta	6.2	4.1	3.4	1.2	1.2	1.5	9.9	6.2	5.8	5.4	4.8	4.9
United Kingdom[5]	2.2	1.8	1.1	0.1	0.7	2.5	–5.4	–5.9	–4.3	5.4	5.0	5.2
Switzerland	0.8	1.0	1.3	–1.1	–0.4	0.0	11.4	9.2	9.0	3.2	3.5	3.4
Sweden	4.2	3.6	2.6	0.7	1.1	1.4	5.2	5.0	5.3	7.4	6.9	6.7
Norway	1.6	0.8	1.2	2.2	3.2	2.3	9.0	7.0	7.6	4.4	4.7	4.5
Czech Republic	4.5	2.5	2.7	0.3	0.6	1.9	0.9	1.5	1.0	5.0	4.1	4.1
Denmark	1.0	1.0	1.4	0.5	0.4	1.1	7.0	6.7	6.6	6.2	6.0	5.8
Iceland	4.0	4.9	3.8	1.6	1.7	3.1	4.2	2.9	1.9	4.0	3.4	3.5
San Marino	0.5	1.0	1.2	0.1	0.6	0.7	. . .	. . .	. . .	8.4	7.9	7.3
Emerging and Developing Europe[6]	**3.6**	**3.3**	**3.1**	**2.9**	**3.1**	**4.2**	**–1.9**	**–2.0**	**–3.0**	. . .	. . .	. . .
Turkey	4.0	3.3	3.0	7.7	8.4	8.2	–4.5	–4.4	–5.6	10.3	10.2	10.2
Poland	3.6	3.1	3.4	–0.9	–0.6	1.1	–0.2	–0.1	–1.0	7.5	6.3	6.2
Romania	3.8	5.0	3.8	–0.6	–1.5	1.7	–1.1	–2.0	–2.8	6.8	6.4	6.2
Hungary	2.9	2.0	2.5	–0.1	0.4	1.9	4.4	4.9	4.6	6.8	6.0	5.8
Bulgaria[5]	3.0	3.0	2.8	–1.1	–1.6	0.6	1.4	0.8	0.0	9.2	8.2	7.1
Serbia	0.7	2.5	2.8	1.4	1.3	3.2	–4.8	–4.2	–3.9	18.5	18.6	18.7
Croatia	1.6	1.9	2.1	–0.5	–1.0	0.8	5.2	3.0	2.2	16.9	16.4	15.9

Note: Data for some countries are based on fiscal years. Please refer to Table F in the Statistical Appendix for a list of countries with exceptional reporting periods.
[1]Movements in consumer prices are shown as annual averages. Year-end to year-end changes can be found in Tables A6 and A7 in the Statistical Appendix.
[2]Percent of GDP.
[3]Percent. National definitions of unemployment may differ.
[4]Current account position corrected for reporting discrepancies in intra-area transactions.
[5]Based on Eurostat's harmonized index of consumer prices.
[6]Includes Albania, Bosnia and Herzegovina, Kosovo, FYR Macedonia, and Montenegro.

Annex Table 1.1.2. Asia and Pacific: Real GDP, Consumer Prices, Current Account Balance, and Unemployment

(Annual percent change, unless noted otherwise)

	Real GDP			Consumer Prices[1]			Current Account Balance[2]			Unemployment[3]		
		Projections			Projections			Projections			Projections	
	2015	2016	2017	2015	2016	2017	2015	2016	2017	2015	2016	2017
Asia	**5.4**	**5.4**	**5.3**	**2.3**	**2.5**	**2.9**	**2.8**	**2.6**	**1.9**	**. . .**	**. . .**	**. . .**
Advanced Asia	**1.2**	**1.3**	**1.6**	**0.8**	**0.5**	**1.2**	**4.1**	**4.4**	**3.8**	**3.7**	**3.6**	**3.5**
Japan	0.5	0.5	0.6	0.8	–0.2	0.5	3.3	3.7	3.3	3.4	3.2	3.2
Korea	2.6	2.7	3.0	0.7	1.0	1.9	7.7	7.2	5.9	3.6	3.6	3.3
Australia	2.4	2.9	2.7	1.5	1.3	2.1	–4.7	–3.5	–3.9	6.1	5.7	5.7
Taiwan Province of China	0.6	1.0	1.7	–0.3	1.1	1.1	14.6	15.0	14.4	3.8	3.9	4.0
Singapore	2.0	1.7	2.2	–0.5	–0.3	1.1	19.8	19.3	19.3	1.9	2.0	2.0
Hong Kong SAR	2.4	1.4	1.9	3.0	2.5	2.6	3.1	2.8	2.9	3.3	3.2	3.1
New Zealand	3.0	2.8	2.7	0.3	0.7	1.6	–3.2	–3.0	–3.5	5.4	5.3	5.5
Macao SAR[4]	–20.3	–4.7	0.2	4.6	2.6	2.8	28.0	28.4	29.2	1.9	1.9	2.0
Emerging and Developing Asia	**6.6**	**6.5**	**6.3**	**2.7**	**3.1**	**3.3**	**2.1**	**1.6**	**0.8**	**. . .**	**. . .**	**. . .**
China	6.9	6.6	6.2	1.4	2.1	2.3	3.0	2.4	1.6	4.1	4.1	4.1
India[5]	7.6	7.6	7.6	4.9	5.5	5.2	–1.1	–1.4	–2.0	. . .	. . .	. . .
ASEAN-5	**4.8**	**4.8**	**5.1**	**3.3**	**2.5**	**3.4**	**1.5**	**1.2**	**0.7**	**. . .**	**. . .**	**. . .**
Indonesia	4.8	4.9	5.3	6.4	3.7	4.2	–2.1	–2.3	–2.3	6.2	5.6	5.7
Thailand	2.8	3.2	3.3	–0.9	0.3	1.6	7.8	9.6	7.7	0.9	0.8	0.7
Malaysia	5.0	4.3	4.6	2.1	2.1	3.0	3.0	1.2	1.5	3.2	3.2	3.2
Philippines	5.9	6.4	6.7	1.4	2.0	3.4	2.9	1.8	1.4	6.3	5.9	5.7
Vietnam	6.7	6.1	6.2	0.6	2.0	3.6	0.5	0.4	0.1	2.4	2.4	2.4
Other Emerging and Developing Asia[6]	**6.0**	**6.0**	**6.3**	**6.0**	**6.3**	**6.7**	**–1.5**	**–2.4**	**–3.5**	**. . .**	**. . .**	**. . .**
Memorandum												
Emerging Asia[7]	6.7	6.5	6.3	2.6	3.0	3.2	2.2	1.7	1.0	. . .	. . .	. . .

Note: Data for some countries are based on fiscal years. Please refer to Table F in the Statistical Appendix for a list of countries with exceptional reporting periods.
[1]Movements in consumer prices are shown as annual averages. Year-end to year-end changes can be found in Tables A6 and A7 in the Statistical Appendix.
[2]Percent of GDP.
[3]Percent. National definitions of unemployment may differ.
[4]Macao SAR is classified as an advanced economy. It is a Special Administrative Region of China, but its statistical data are maintained on a separate and independent basis.
[5]See country-specific notes for India in the "Country Notes" section of the Statistical Appendix.
[6]Other Emerging and Developing Asia comprises Bangladesh, Bhutan, Brunei Darussalam, Cambodia, Fiji, Kiribati, Lao P.D.R., Maldives, Marshall Islands, Micronesia, Mongolia, Myanmar, Nepal, Palau, Papua New Guinea, Samoa, Solomon Islands, Sri Lanka, Timor-Leste, Tonga, Tuvalu, and Vanuatu.
[7]Emerging Asia comprises the ASEAN-5 (Indonesia, Malaysia, Philippines, Thailand, Vietnam) economies, China, and India.

Annex Table 1.1.3. Western Hemisphere: Real GDP, Consumer Prices, Current Account Balance, and Unemployment

(Annual percent change, unless noted otherwise)

	Real GDP			Consumer Prices[1]			Current Account Balance[2]			Unemployment[3]		
		Projections			Projections			Projections			Projections	
	2015	2016	2017	2015	2016	2017	2015	2016	2017	2015	2016	2017
North America	**2.5**	**1.6**	**2.2**	**0.4**	**1.4**	**2.4**	**–2.6**	**–2.6**	**–2.7**	**. . .**	**. . .**	**. . .**
United States	2.6	1.6	2.2	0.1	1.2	2.3	–2.6	–2.5	–2.7	5.3	4.9	4.8
Canada	1.1	1.2	1.9	1.1	1.6	2.1	–3.2	–3.7	–3.1	6.9	7.0	7.1
Mexico	2.5	2.1	2.3	2.7	2.8	3.3	–2.9	–2.7	–2.8	4.4	4.1	3.9
Puerto Rico[4]	0.0	–1.8	–1.4	–0.8	–0.2	1.1	. . .	. . .	. . .	12.0	11.9	11.9
South America[5]	**–1.3**	**–2.0**	**1.1**	**. . .**	**. . .**	**. . .**	**–3.7**	**–2.0**	**–2.0**	**. . .**	**. . .**	**. . .**
Brazil	–3.8	–3.3	0.5	9.0	9.0	5.4	–3.3	–0.8	–1.3	8.5	11.2	11.5
Argentina[6]	2.5	–1.8	2.7	. . .	. . .	23.2	–2.5	–2.3	–3.2	. . .	9.2	8.5
Colombia	3.1	2.2	2.7	5.0	7.6	4.1	–6.4	–5.2	–4.2	8.9	9.7	9.6
Venezuela	–6.2	–10.0	–4.5	121.7	475.8	1,660.1	–7.8	–3.4	–0.9	7.4	18.1	21.4
Chile	2.3	1.7	2.0	4.3	4.0	3.0	–2.0	–1.9	–2.4	6.2	7.0	7.6
Peru	3.3	3.7	4.1	3.5	3.6	2.5	–4.4	–3.8	–3.1	6.0	6.0	6.0
Ecuador	0.3	–2.3	–2.7	4.0	2.4	1.1	–2.2	–1.5	–0.9	4.8	6.1	6.9
Bolivia	4.8	3.7	3.9	4.1	3.9	5.1	–5.8	–6.6	–4.9	4.0	4.0	4.0
Uruguay	1.0	0.1	1.2	8.7	10.2	8.7	–3.5	–2.9	–3.1	7.5	7.9	8.5
Paraguay	3.1	3.5	3.6	3.1	4.1	4.1	–1.7	0.6	–0.5	6.1	5.9	5.5
Central America[7]	**4.2**	**3.9**	**4.1**	**1.4**	**2.5**	**3.0**	**–4.0**	**–3.7**	**–3.7**	**. . .**	**. . .**	**. . .**
Caribbean[8]	**3.9**	**3.4**	**3.6**	**2.2**	**3.5**	**4.5**	**–4.3**	**–4.5**	**–4.6**	**. . .**	**. . .**	**. . .**
Memorandum												
Latin America and the Caribbean[9]	0.0	–0.6	1.6	5.5	5.8	4.2	–3.6	–2.3	–2.3	. . .	. . .	. . .
East Caribbean Currency Union[10]	2.3	2.2	2.6	–0.9	0.3	2.2	–12.1	–12.6	–13.8	. . .	. . .	. . .

Note: Data for some countries are based on fiscal years. Please refer to Table F in the Statistical Appendix for a list of countries with exceptional reporting periods.
[1]Movements in consumer prices are shown as annual averages. Year-end to year-end changes can be found in Tables A6 and A7 in the Statistical Appendix.
[2]Percent of GDP.
[3]Percent. National definitions of unemployment may differ.
[4]The Commonwealth of Puerto Rico is classified as an advanced economy. It is a territory of the United States, but its statistical data are maintained on a separate and independent basis.
[5]Includes Guyana and Suriname. Data for Argentina and Venezuela's consumer prices are excluded. See country-specific notes for Argentina in the "Country Notes" section of the Statistical Appendix.
[6]See country-specific notes for Argentina in the "Country Notes" section of the Statistical Appendix.
[7]Central America comprises Belize, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, and Panama.
[8]The Caribbean comprises Antigua and Barbuda, The Bahamas, Barbados, Dominica, Dominican Republic, Grenada, Haiti, Jamaica, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, and Trinidad and Tobago.
[9]Latin America and the Caribbean comprises Mexico and economies of the Caribbean, Central America, and South America. Data for Argentina and Venezuela's consumer prices are excluded. See country-specific notes for Argentina in the "Country Notes" section of the Statistical Appendix.
[10]Eastern Caribbean Currency Union comprises Antigua and Barbuda, Dominica, Grenada, St. Kitts and Nevis, St. Lucia, and St. Vincent and the Grenadines, as well as Anguilla and Montserrat, which are not IMF members.

Annex Table 1.1.4. Commonwealth of Independent States: Real GDP, Consumer Prices, Current Account Balance, and Unemployment

(Annual percent change, unless noted otherwise)

	Real GDP			Consumer Prices[1]			Current Account Balance[2]			Unemployment[3]		
		Projections			Projections			Projections			Projections	
	2015	2016	2017	2015	2016	2017	2015	2016	2017	2015	2016	2017
Commonwealth of Independent States[4]	**–2.8**	**–0.3**	**1.4**	**15.5**	**8.4**	**6.3**	**3.0**	**1.3**	**1.9**	**. . .**	**. . .**	**. . .**
Net Energy Exporters	**–2.4**	**–0.4**	**1.3**	**13.7**	**7.9**	**5.8**	**3.6**	**1.9**	**2.5**	**. . .**	**. . .**	**. . .**
Russia	–3.7	–0.8	1.1	15.5	7.2	5.0	5.2	3.0	3.5	5.6	5.8	5.9
Kazakhstan	1.2	–0.8	0.6	6.5	13.1	9.3	–2.4	–2.2	0.0	5.0	5.0	5.0
Uzbekistan	8.0	6.0	6.0	8.5	8.4	9.6	0.1	0.1	0.2	. . .	. . .	. . .
Azerbaijan	1.1	–2.4	1.4	4.0	10.2	8.5	–0.4	0.7	3.1	6.0	6.0	6.0
Turkmenistan	6.5	5.4	5.4	6.4	5.5	5.0	–10.3	–18.5	–18.0	. . .	. . .	. . .
Net Energy Importers	**–5.7**	**0.7**	**2.1**	**29.4**	**11.9**	**9.9**	**–3.0**	**–4.0**	**–4.2**	**. . .**	**. . .**	**. . .**
Ukraine	–9.9	1.5	2.5	48.7	15.1	11.0	–0.3	–1.5	–2.1	9.1	9.0	8.7
Belarus	–3.9	–3.0	–0.5	13.5	12.7	12.0	–3.8	–4.9	–4.8	1.5	1.5	1.5
Georgia	2.8	3.4	5.2	4.0	2.6	3.6	–11.7	–12.1	–12.0	12.0	. . .	. . .
Armenia	3.0	3.2	3.4	3.7	–0.5	2.5	–2.7	–2.5	–3.0	17.7	17.9	18.0
Tajikistan	6.0	6.0	4.5	5.8	6.3	7.3	–6.0	–5.0	–5.0	. . .	. . .	. . .
Kyrgyz Republic	3.5	2.2	2.3	6.5	1.1	7.4	–10.4	–15.0	–14.9	7.5	7.4	7.3
Moldova	–0.5	2.0	3.0	9.6	6.8	4.4	–4.7	–2.8	–3.4	4.9	4.7	4.5
Memorandum												
Caucasus and Central Asia[5]	3.2	1.3	2.6	6.2	9.8	8.3	–3.0	–4.1	–2.8	. . .	. . .	. . .
Low-Income CIS Countries[6]	6.1	5.0	5.2	7.3	6.3	7.7	–3.0	–3.0	–3.1	. . .	. . .	. . .
Net Energy Exporters Excluding Russia	3.1	1.0	2.4	6.4	10.8	8.7	–2.4	–3.5	–2.0	. . .	. . .	. . .

Note: Data for some countries are based on fiscal years. Please refer to Table F in the Statistical Appendix for a list of countries with exceptional reporting periods.
[1]Movements in consumer prices are shown as annual averages. Year-end to year-end changes can be found in Table A7 in the Statistical Appendix.
[2]Percent of GDP.
[3]Percent. National definitions of unemployment may differ.
[4]Georgia, Turkmenistan, and Ukraine, which are not members of the Commonwealth of Independent States (CIS), are included in this group for reasons of geography and similarity in economic structure.
[5]Caucasus and Central Asia comprises Armenia, Azerbaijan, Georgia, Kazakhstan, the Kyrgyz Republic, Tajikistan, Turkmenistan, and Uzbekistan.
[6]Low-Income CIS Countries comprise Armenia, Georgia, the Kyrgyz Republic, Moldova, Tajikistan, and Uzbekistan.

Annex Table 1.1.5. Middle East, North Africa, Afghanistan, and Pakistan: Real GDP, Consumer Prices, Current Account Balance, and Unemployment

(Annual percent change, unless noted otherwise)

	Real GDP			Consumer Prices[1]			Current Account Balance[2]			Unemployment[3]		
		Projections			Projections			Projections			Projections	
	2015	2016	2017	2015	2016	2017	2015	2016	2017	2015	2016	2017
Middle East, North Africa, Afghanistan, and Pakistan	**2.3**	**3.4**	**3.4**	**5.8**	**5.1**	**6.0**	**–4.0**	**–4.6**	**–2.6**	**. . .**	**. . .**	**. . .**
Oil Exporters[4]	**1.6**	**3.3**	**2.9**	**5.4**	**4.7**	**4.2**	**–3.8**	**–4.4**	**–1.8**	**. . .**	**. . .**	**. . .**
Saudi Arabia	3.5	1.2	2.0	2.2	4.0	2.0	–8.3	–6.6	–2.6	5.6	. . .	. . .
Iran	0.4	4.5	4.1	11.9	7.4	7.2	2.1	4.2	3.3	10.8	11.3	11.2
United Arab Emirates	4.0	2.3	2.5	4.1	3.6	3.1	3.3	1.1	3.2	. . .	. . .	. . .
Algeria	3.9	3.6	2.9	4.8	5.9	4.8	–16.5	–15.1	–13.7	11.2	9.9	10.4
Iraq	–2.4	10.3	0.5	1.4	2.0	2.0	–7.2	–10.8	–3.6	. . .	. . .	. . .
Qatar	3.7	2.6	3.4	1.8	3.0	3.1	8.2	–1.8	0.0	. . .	. . .	. . .
Kuwait	1.1	2.5	2.6	3.2	3.4	3.8	5.2	3.6	8.4	2.1	2.1	2.1
Oil Importers[5]	**3.8**	**3.6**	**4.2**	**6.7**	**5.9**	**9.9**	**–4.5**	**–4.8**	**–4.7**	**. . .**	**. . .**	**. . .**
Egypt	4.2	3.8	4.0	11.0	10.2	18.2	–3.7	–5.8	–5.2	12.9	12.7	12.3
Pakistan	4.0	4.7	5.0	4.5	2.9	5.2	–1.0	–0.9	–1.5	5.9	6.0	6.0
Morocco	4.5	1.8	4.8	1.5	1.3	1.3	–1.9	–1.2	–1.4	9.7	10.2	10.1
Sudan	4.9	3.1	3.5	16.9	13.5	16.1	–7.8	–5.9	–4.9	21.6	20.6	19.6
Tunisia	0.8	1.5	2.8	4.9	3.7	3.9	–8.8	–8.0	–6.9	15.0	14.0	13.0
Lebanon	1.0	1.0	2.0	–3.7	–0.7	2.0	–21.0	–20.4	–20.6	. . .	. . .	. . .
Jordan	2.4	2.8	3.3	–0.9	–0.5	2.3	–9.0	–9.0	–8.9	13.1	. . .	. . .
Memorandum												
Middle East and North Africa	2.1	3.2	3.2	6.0	5.4	6.1	–4.4	–5.0	–2.8	. . .	. . .	. . .
Israel[6]	2.5	2.8	3.0	–0.6	–0.6	0.8	4.6	3.1	2.9	5.2	5.2	5.2
Maghreb[7]	2.8	2.3	4.3	4.7	5.0	4.5	–14.4	–13.8	–12.7	. . .	. . .	. . .
Mashreq[8]	3.9	3.6	3.8	9.1	8.7	16.0	–6.3	–7.9	–7.7	. . .	. . .	. . .

Note: Data for some countries are based on fiscal years. Please refer to Table F in the Statistical Appendix for a list of countries with exceptional reporting periods.
[1]Movements in consumer prices are shown as annual averages. Year-end to year-end changes can be found in Tables A6 and A7 in the Statistical Appendix.
[2]Percent of GDP.
[3]Percent. National definitions of unemployment may differ.
[4]Includes Bahrain, Libya, Oman, and Yemen.
[5]Includes Afghanistan, Djibouti, and Mauritania. Excludes Syria because of the uncertain political situation.
[6]Israel, which is not a member of the economic region, is included for reasons of geography. Note that Israel is not included in the regional aggregates.
[7]The Maghreb comprises Algeria, Libya, Mauritania, Morocco, and Tunisia.
[8]The Mashreq comprises Egypt, Jordan, and Lebanon. Syria is excluded because of the uncertain political situation.

Annex Table 1.1.6. Sub-Saharan Africa: Real GDP, Consumer Prices, Current Account Balance, and Unemployment

(Annual percent change, unless noted otherwise)

	Real GDP			Consumer Prices[1]			Current Account Balance[2]			Unemployment[3]		
		Projections			Projections			Projections			Projections	
	2015	2016	2017	2015	2016	2017	2015	2016	2017	2015	2016	2017
Sub-Saharan Africa	**3.4**	**1.4**	**2.9**	**7.0**	**11.3**	**10.8**	**–5.9**	**–4.5**	**–3.9**	**. . .**	**. . .**	**. . .**
Oil Exporters[4]	**2.4**	**–1.7**	**0.8**	**9.1**	**19.1**	**19.3**	**–4.8**	**–2.1**	**–1.8**	**. . .**	**. . .**	**. . .**
Nigeria	2.7	–1.7	0.6	9.0	15.4	17.1	–3.1	–0.7	–0.4	9.0	12.1	. . .
Angola	3.0	0.0	1.5	10.3	33.7	38.3	–8.5	–5.4	–5.4	. . .	. . .	. . .
Gabon	4.0	3.2	4.5	0.1	2.5	2.5	–2.3	–5.3	–4.7	. . .	. . .	. . .
Chad	1.8	–1.1	1.7	3.7	0.0	5.2	–12.4	–8.7	–7.8	. . .	. . .	. . .
Republic of Congo	2.3	1.7	5.0	2.0	4.0	3.7	–21.0	–8.2	–2.1	. . .	. . .	. . .
Middle-Income Countries[5]	**2.6**	**1.9**	**2.9**	**5.4**	**7.0**	**5.7**	**–4.3**	**–3.9**	**–3.6**	**. . .**	**. . .**	**. . .**
South Africa	1.3	0.1	0.8	4.6	6.4	6.0	–4.3	–3.3	–3.2	25.4	26.3	27.0
Ghana	3.9	3.3	7.4	17.2	17.0	10.0	–7.5	–6.3	–6.0	. . .	. . .	. . .
Côte d'Ivoire	8.5	8.0	8.0	1.2	1.0	1.5	–1.8	–1.8	–2.1	. . .	. . .	. . .
Cameroon	5.8	4.8	4.2	2.7	2.2	2.2	–4.2	–4.2	–4.0	. . .	. . .	. . .
Zambia	3.0	3.0	4.0	10.1	19.1	9.1	–3.5	–4.5	–2.2	. . .	. . .	. . .
Senegal	6.5	6.6	6.8	0.1	1.0	1.8	–7.6	–8.4	–8.2	. . .	. . .	. . .
Low-Income Countries[6]	**5.8**	**5.4**	**5.8**	**5.7**	**5.8**	**5.9**	**–10.1**	**–8.8**	**–7.4**	**. . .**	**. . .**	**. . .**
Ethiopia	10.2	6.5	7.5	10.1	7.7	8.2	–12.0	–10.7	–9.3	. . .	. . .	. . .
Kenya	5.6	6.0	6.1	6.6	6.2	5.5	–6.8	–6.4	–6.1	. . .	. . .	. . .
Tanzania	7.0	7.2	7.2	5.6	5.2	5.0	–8.8	–8.8	–8.8	. . .	. . .	. . .
Uganda	4.8	4.9	5.5	5.5	5.5	5.1	–9.4	–8.7	–8.9	. . .	. . .	. . .
Madagascar	3.1	4.1	4.5	7.4	6.7	6.9	–1.9	–2.3	–3.7	. . .	. . .	. . .
Democratic Republic of the Congo	6.9	3.9	4.2	1.0	1.7	2.7	–3.7	–0.8	5.2	. . .	. . .	. . .
Memorandum												
Sub-Saharan Africa Excluding South Sudan	3.4	1.5	2.9	6.7	10.2	10.4	–5.8	–4.5	–3.9	. . .	. . .	. . .

Note: Data for some countries are based on fiscal years. Please refer to Table F in the Statistical Appendix for a list of countries with exceptional reporting periods.
[1]Movements in consumer prices are shown as annual averages. Year-end to year-end changes can be found in Table A7 in the Statistical Appendix.
[2]Percent of GDP.
[3]Percent. National definitions of unemployment may differ.
[4]Includes Equatorial Guinea and South Sudan.
[5]Includes Botswana, Cabo Verde, Lesotho, Mauritius, Namibia, Seychelles, and Swaziland.
[6]Includes Benin, Burkina Faso, Burundi, the Central African Republic, Comoros, Eritrea, The Gambia, Guinea, Guinea-Bissau, Liberia, Malawi, Mali, Mozambique, Niger, Rwanda, São Tomé and Príncipe, Sierra Leone, Togo, and Zimbabwe.

Special Feature: Commodity Market Developments and Forecasts, with a Focus on Food Security and Markets in the World Economy

Commodity prices have rebounded since the release of the April 2016 World Economic Outlook *(WEO) in spite of rising uncertainty following the Brexit vote—the June 23, 2016, U.K. referendum result in favor of leaving the European Union. Supply outages in various countries have led to tighter oil markets. The announcement of China's stimulus package increased metal demand prospects and prices. Unfavorable weather conditions have put upward pressure on food prices. This special feature includes an in-depth analysis of food security and markets in the world economy.*

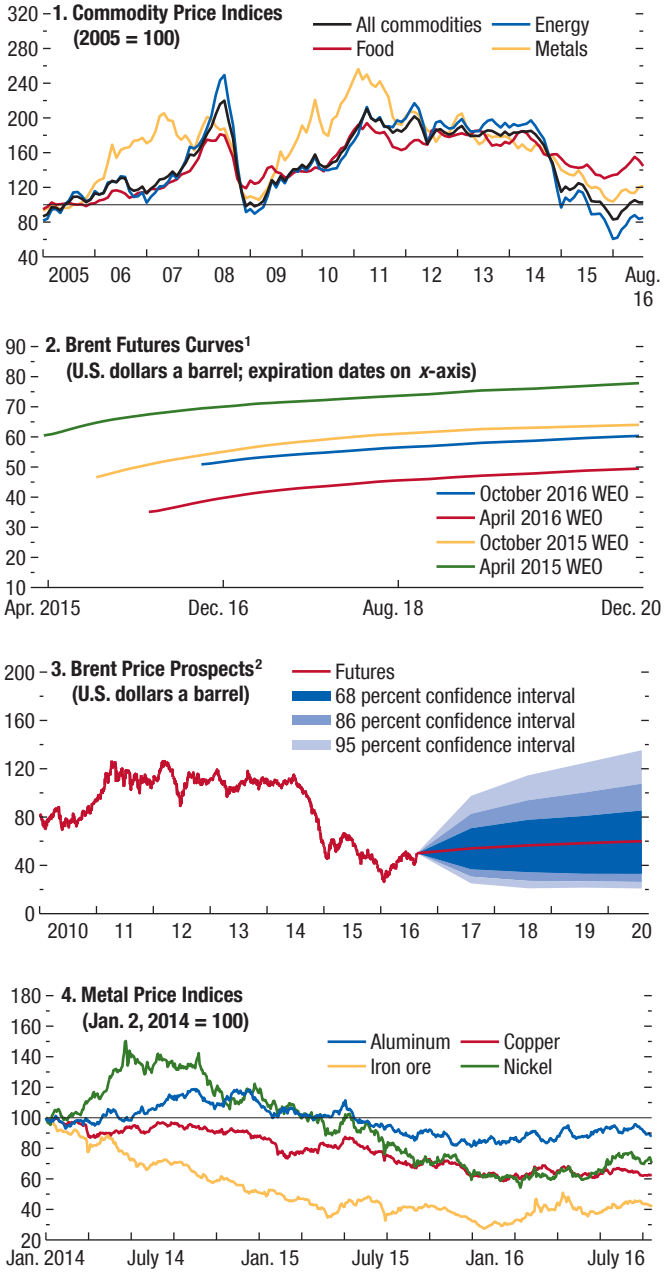
The IMF's Primary Commodities Price Index has rebounded 22 percent since February 2016, the reference period for the April 2016 WEO (Figure 1.SF.1, panel 1). Oil prices have rallied, by 44 percent, due to involuntary outages. Natural gas prices have declined. With strong supply from Russia, natural gas prices in Europe are at their lowest in 12 years. Asian markets show weaker demand from Japan, which is reactivating its nuclear power plants. Coal prices have rebounded. Nonfuel commodity prices have increased, with metals and agricultural commodities prices increasing by 12 percent and 9 percent, respectively.

Oil markets are in midstream. On the supply side, the market has been hit by a few outages. Some had a short-term impact on production, including the labor dispute in Kuwait and the Fort McMurray wildfires in Canada, but others, such as the geopolitical unrest in Iraq, Libya, Nigeria, and Yemen, could have a long-term impact. These disruptions temporarily brought balance to the oil market. On the policy front, the Organization of the Petroleum Exporting Countries (OPEC) did not reach its production target agreement in June. However, some observers expect OPEC members to set a new target in November once the Islamic Republic of Iran's production reaches its presanction level.

The recent oil price rebound has helped shale producers, leading to a bottoming of rig count. In addition, drilled-but-uncompleted wells can be completed at current price levels, which will add to U.S. oil

The authors of this feature are Rabah Arezki (team leader), Claudia Berg, Christian Bogmans, and Akito Matsumoto, with research assistance from Rachel Yuting Fan and Vanessa Diaz Montelongo.

Figure 1.SF.1. Commodity Market Developments



Sources: Bloomberg, L.P.; IMF, Primary Commodity Price System; Thomson Reuters Datastream; and IMF staff estimates.
Note: WTI = West Texas Intermediate.
[1]*World Economic Outlook* (WEO) future prices are baseline assumptions for each WEO and derived from future prices. October WEO prices are based on August 18, 2016, closing.
[2]Derived from prices of futures options on August 18, 2016.

production. Tighter credit conditions could, however, limit the recovery in investment. Canada's oil production is strong, but new investment in oil sand fields is limited. In sum, uncertainties over supply stem from the persistence of involuntary outages, OPEC policy, and investment in unconventional oil fields.

After strong global oil demand growth last year—at 1.6 million barrels a day—on account of lower oil prices for the most part, the International Energy Agency expects growth in demand slightly above trend at 1.3 million barrels a day in 2016 and 1.2 million barrels a day in 2017. Given robust oil demand, the continued erosion of high-cost producers, and severe unplanned outages, markets expect the oil market to rebalance during the course of next year.

Natural gas prices are declining—with a key natural gas price index (the price average for Europe, Japan, and the United States) down by 6 percent since February 2016. Falling oil prices, abundant natural gas production from Russia, and weak demand in Asia have contributed to that decline. In the United States, natural gas prices have instead edged higher on account of stronger demand from the power sector, reflecting hotter-than-expected weather. The coal price index of average Australian and South African prices has also increased 32 percent since February 2016 in line with other energy and metal prices.

Oil futures contracts point to rising prices (Figure 1.SF.1, panel 2). Baseline assumptions for the IMF's average petroleum spot prices, which are based on futures prices, suggest average annual prices of $43.0 a barrel in 2016—a decline of 15 percent from 2015—and $50.6 a barrel in 2017 (Figure 1.SF.1, panel 3). There remains substantial uncertainty around the baseline assumptions for oil prices. Although geopolitical tensions in the Middle East could cause oil market disruptions, high inventory and a rapid response from U.S. shale producers should mitigate a sharp rise in prices in the near future. Oil demand could weaken if the consequences of Brexit for global aggregate demand are more severe than anticipated. In the medium term, the oil market is expected to remain quite tight in light of supply constraints, considering that the decline in oil prices has dramatically reduced investment in extraction, unless shale production can be boosted or global demand falters. In that environment, geopolitical events could trigger oil price hikes.

Metal prices have rebounded 12 percent since February 2016 (Figure 1.SF.1, panel 4). Prices have been gradually declining since 2011 because of a slowdown and a shift away from commodity-intensive investment in China. However, the recent stimulus program announcement directed toward the construction sector has provided some support to prices. Metal prices are projected to decline by 8 percent in 2016 and to increase by 2 percent in 2017. Futures prices point to continued low prices.

Prices of agricultural commodities have increased by 9 percent overall since February 2016. Food prices rose by 7 percent, with increases in most food items, except a few, such as wheat and corn. International prices have not fully reflected the adverse weather shock until recently, but El Niño and a potential La Niña took a toll on international food markets. In addition, Brazil—a big producer of corn, soybeans, coffee, beef, and other food products—has been suffering a prolonged drought. In the past two years, other regions have made up the difference, but global stocks of corn and soybeans are now expected to decline. Wheat stocks are expected to rise due to favorable production in the United States, the European Union, and Russia, pushing prices down.

Annual food prices are projected to increase next year on account of changing weather conditions. Food prices are projected to increase by 2 percent in 2016 and to remain broadly unchanged in 2017; current price levels are already 3 percent above 2015 levels. Over the next two years, prices for major food products, such as rice, are expected to increase slightly from current levels. Risks to food prices are associated with weather variability, particularly concerns over La Niña, which typically has a stronger negative impact on harvests than does El Niño.

The following section takes a longer view and explores the evolution of food markets over the past decades.

Food Security and Markets in the World Economy

The debate over the evolution of food supply relative to population growth dates back at least to the influential theory laid out by Malthus (1798). Since then, a large body of literature has explored the interplay between technology, population, and income per capita and how different growth regimes emerge.[1] A central insight is that the modern era has been characterized

[1]See, among others, Galor and Weil 2000; Galor 2005 and 2011; and Gollin, Parente, and Rogerson 2002.

by rapid economic growth and divergence across countries, and that this stands in contrast with most of human history (the so-called Malthusian era), which was characterized by stagnant income per capita.

Today, access to food is mainly seen as an issue facing poor countries. However, developments in food markets are far reaching and indicative of structural developments at the global level.[2] The rapid growth in emerging markets, the demographic transition, and technological developments have and will continue to shape food markets. Furthermore, food markets are segmented and subject to multifaceted distortions to investment and trade. It is thus appropriate to take an in-depth look at the recent and future evolution of food markets and discuss what it means for food security.[3]

This feature answers the following questions related to the evolution of food markets and food security:

- What is special about food markets?
- What are the drivers of food production and consumption?
- How has global food trade evolved?
- What are the risks?

What Is Special about Food Markets?

Food is an edible or potable substance that helps sustain life. Food crops include cereals (for example, wheat, maize, and rice); fruits and vegetables (for example, oranges, and potatoes); meat and seafood (for example, pork and shrimp); beverages (for example, coffee, tea, and cocoa); oilseeds (for example, soybeans and groundnuts); and sugar.[4] These categories differ in a variety of ways in terms of nutritional value, perishability, and storability. The agricultural sector is a source of livelihood for millions, whether through cash cropping or subsistence farming. Globally, over 750 million individuals work in agriculture—that is, 30 percent of the workforce. In sub-Saharan Africa, 60 percent of the workforce labors in agriculture (see World Bank 2015a). Historically, the process of structural transformation that drove labor from the agricultural (low-productivity) sector to the industrial (high-productivity) sector can explain most of the fast increase in aggregate productivity (see Duarte and Restuccia 2010).

Unsurprisingly, most food production is consumed domestically—about 85 percent of food is produced in the country where it is consumed, according to the World Bank (2015a). There are important differences across types of food depending, among other things, on whether or not they are cash crops. The transmission of international price variations from the border is often limited by taxes, subsidies, price controls, weak market integration, and local distribution costs. In advanced economies, the average long-term pass-through of a 1 percent food price shock to domestic food prices is about 0.10 percent and about 0.15 percent in emerging market economies (see Chapter 3, Box 3.3).[5] For these reasons, and because most food production is consumed domestically, local agricultural and weather conditions are influential, alongside global market developments.[6]

Food has been a long-standing sticking point in trade negotiations, including over tariff and nontariff barriers, even though it is a relatively small portion of global trade—8 percent of merchandise in value terms according to the World Trade Organization (2015). Tariff and nontariff barriers often result from concerns over food sovereignty and the protection of domestic farmers. The Doha Round trade negotiations stalled in July 2008 over disagreements on agriculture. More recently, the special safeguard mechanism proposal to allow temporary tariff hikes when food imports surge was opposed by exporters—in both advanced and developing market economies.

The rationale for a special safeguard has been to counterbalance official agricultural support in exporting countries. Direct agricultural support in countries

[2]See Arezki and others 2016 and references therein for a discussion on food price fluctuations and their consequences.

[3]According to the World Food Summit 1996 declaration, "Food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life."

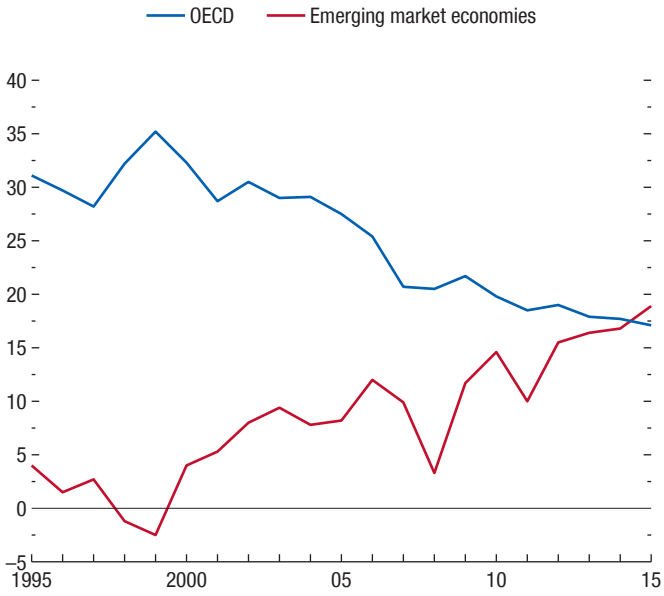
[4]Some of the aggregate figures presented in this special feature also include nonedible agricultural commodities such as cotton, rubber, wool, and hides.

[5]See also Furceri and others 2016.

[6]Changes in transportation technology and costs have shaped the degree of integration of commodity markets, including for food, which initially had very limited geographical reach. These changes occurred in two stages (see Radetzki 2011). The first took place in the latter half of the 19th century and included the introduction of refrigerated ships permitting long-distance shipment of meat and fruit. The second stage began in the 1950s, but came to fruition in the 1970s. This stage involved the introduction of huge specialized bulk carriers, along with their harbor loading and unloading facilities, which allowed economical shipment of low-value products across much greater distances. The result was a further dramatic decline in the cost of shipping—particularly across vast transoceanic shipping routes—which led in turn to convergence of prices across regional markets.

of the Organisation for Economic Co-operation and Development has declined, while emerging markets have ramped up their support (Figure 1.SF.2). Historically, in developed economies, the distortions tended to favor farmers, whereas in developing economies they tended to favor urban consumers at the expense of small farmers (Anderson 2016). Over the past two decades, high-income countries have generally reduced the distortions in their agricultural sectors. Most developing regions, especially in Asia, have switched from taxing their farmers to providing them with support. All countries continue to have a strong antitrade bias in the structure of assistance to their agricultural sector (Anderson 2016).[7] Trade-policy instruments, such as export and import tariffs, subsidies, and quotas, have serious distributional consequences for consumers. Markets that are specially distorted include those for soybeans, sugar, rice, wheat, beef, pork, and poultry (Anderson, Rausser, and Swinnen 2013).[8]

Figure 1.SF.2. Producer Support Estimate
(Percentage of gross farm receipts)



Source: Organisation for Economic Co-operation and Development (OECD), Producer and Consumer Support Estimates, Agriculture Statistics (database).
Note: OECD country classification is based on current membership. Emerging market economies comprise Brazil, China, Colombia, Indonesia, Kazakhstan, Russia, South Africa, Ukraine, and Vietnam. Vietnam is included from 2000 onward.

What Are the Drivers of Food Production and Consumption?

Production and consumption centers for food are concentrated in a few countries, but the location of production centers varies considerably with the type of food under consideration (Figure 1.SF.3). The main production and consumption centers, however, often overlap. For example, China is both a large consumer and producer of rice and pork, as well as a large importer of soybeans—a key animal feed. The United States is a large producer and consumer of both corn and beef, as is the European Union for wheat. Of course, many raw food products are key intermediate inputs to the agricultural industry, which in turn produces and exports processed products.

Population growth is a key factor behind food consumption. Income growth reorients the composition of demand, for instance, toward meat, dairy, vegetables, and fresh fruits (Figure 1.SF.4).[9] A case in point is China's remarkable economic growth over the past 30 years, which brought sustained increases in consumer income. Chinese consumers have moved away from staples (such as grains and rice) toward a more diversified and higher-quality diet.[10] There are of course important differences in preferences across countries that lead to a differentiated effect of income growth on the composition of food demand. India is a major exception to the trend toward higher meat

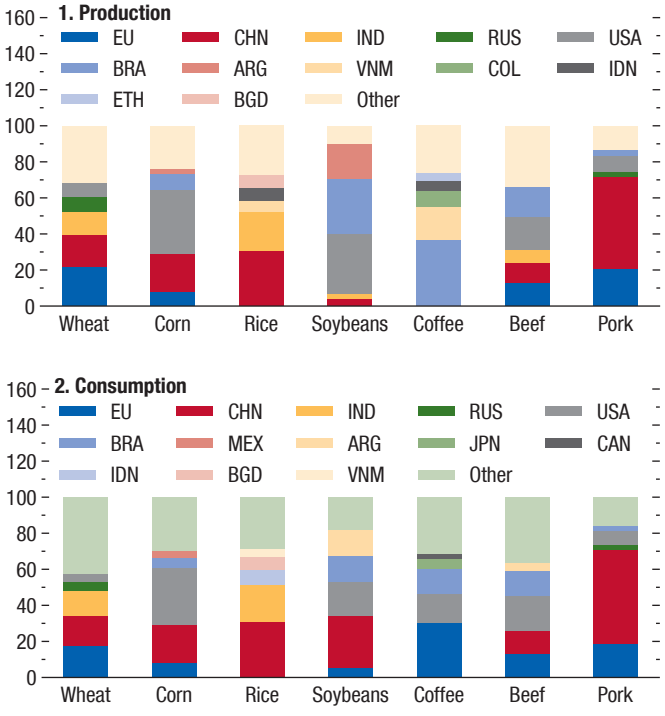
[7]Available data from the World Bank's World Integrated Trade Solution on the evolution of import tariffs on food products indicate that they fell from 22 percent to 11.5 percent between 1991 and 2014. Tariffs did not increase in any region. However, tariffs remained especially high in east Asia at 30 percent. In North America, tariffs were the lowest at about 8–9 percent. These results are based on effectively applied average import tariff data for food products (in percent) calculated by aggregating, over all trading partners, the lowest applicable tariff for each partner.

[8]Cotton markets are also severely distorted.

[9]Tilman and Clark (2014 and 2015) show that there is a strong relationship between income per capita and consumption of (1) meat protein; (2) refined sugars and animal fats, oils, and alcohol; and (3) total calories. Global food demand could double by 2050 compared with 2005, with dietary shifts responsible for about 70 percent and global population growth responsible for the remaining 30 percent (Tilman and Clark 2015).

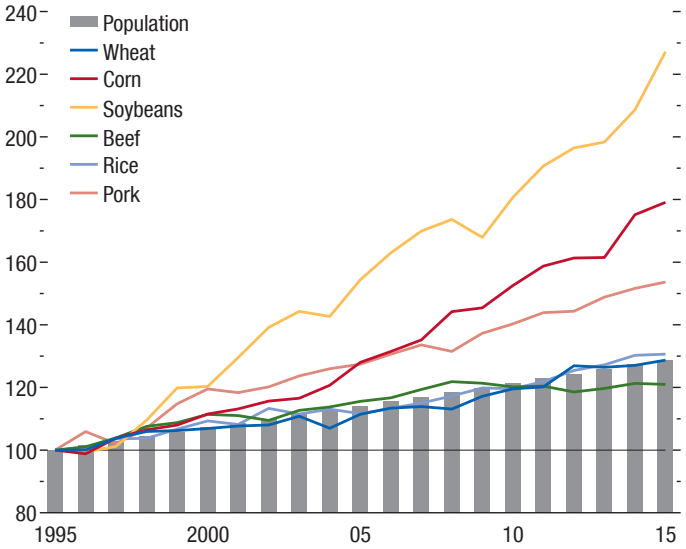
[10]In China, per capita food consumption of cereals decreased by 7 percent, while consumption of sugar and vegetable oils increased by 14 percent and 16 percent, respectively. Consumption of protein increased as well: meat by 37 percent and seafood by 42 percent. The increases in fruit and milk consumption were especially dramatic, both increasing by 115 percent.

Figure 1.SF.3. World Food Production and Consumption by Country, 2015
(Percent of world production or consumption)



Sources: U.S. Department of Agriculture; and IMF staff calculations.
Note: Data labels in the figure use International Organization for Standardization (ISO) country codes.

Figure 1.SF.4. Population and World Food Consumption
(Index 1995 = 100)



Sources: U.S. Department of Agriculture; World Bank, *World Development Indicators*; and IMF staff calculations.

consumption, due to religious traditions.[11] Besides population and income growth, the advent of some types of biofuels—whose share has doubled over the past decade—can put pressure on food markets and has been blamed for food price increases (Chakravorty, Hubert, and Marchand 2015).

Land and technology availability are key drivers of food production. Most of the available land suitable for agriculture is located in developing regions—mostly sub-Saharan Africa and South America, as shown in Table 1.SF.1. Growing population, especially in Africa and Asia, will require an increase in food calorie production by 70 percent by 2050 (IFPRI 2016).[12] Putting all unused land into service, assuming everything

[11]See Anand and Cashin (2016) and Tulin and Anand (2016) for additional details on India's changing food demand.

[12]The global population is forecast to reach 9.7 billion by 2050, up from 7.3 billion as of 2015 (United Nations 2015). More than half of this increase—that is 1.3 billion—is expected to occur in Africa, the fastest growing region, and Asia is estimated to contribute 0.9 billion.

Table 1.SF.1. Used-to-Available Land Suitable for Agriculture by Region, 2013
(Thousand hectares)

	North Africa	Sub-Saharan Africa	South America	North America	Europe	Oceania	Asia	World
Used land (2013)	46,151	221,805	192,393	205,091	292,457	48,912	568,454	1,575,263
Unused suitable land	46,595	162,198	130,946	7,242	27,189	15,628	13,392	403,190
Total available land	92,746	384,003	323,339	212,333	319,646	64,540	581,846	1,978,453
Ratio used/available	0.50	0.58	0.60	0.97	0.91	0.76	0.98	0.80

Sources: Food and Agriculture Organization of the United Nations (FAO), FAOSTAT and Global Agro-Ecological Zones (GAEZ); and IMF staff calculations.
Note: Used land is the total of arable land and land under permanent crops, from FAOSTAT. Unused suitable land is calculated from GAEZ. Land is considered suitable if the land is ranked by GAEZ as highly or very highly suitable in one crop out of five (maize, soybean, wheat, sugarcane, palm oil). Oceania includes American Samoa, Australia, Cook Islands, Fiji, French Polynesia, Guam, Kiribati, Marshall Islands, Melanesia, Micronesia, Nauru, New Caledonia, New Zealand, Niue, Norfold Island, Northern Mariana Islands, Pacific Islands Trust Territory, Palau, Papua New Guinea, Pitcairn Islands, Polynesia, Samoa, Solomon Islands, Tokelau, Tonga, Tuvalu, Vanuatu, and Wallis and Futuna Islands.

Table 1.SF.2. Food Exports
(Share of global exports)

Region	1990	2000	2013
OECD	0.7766	0.7406	0.6240
Non-OECD	0.2234	0.2594	0.3760
Brazil	0.0236	0.0292	0.0661
China	0.0370	0.0411	0.0393
India	0.0051	0.0103	0.0263
Argentina	0.0258	0.0281	0.0262
Indonesia	0.0046	0.0108	0.0224

Source: Food and Agriculture Organization of the United Nations (FAO); and IMF staff calculations.
Note: Food refers to food excluding fish aggregate from FAO. OECD = Organisation for Economic Co-operation and Development. OECD and Non-OECD country classification is based on current membership.

else remains equal, would help feed 9 billion people—less than the 9.7 billion who will need to be fed by midcentury. It is important to note that this back-of-the-envelope calculation leaves aside other factors, such as potential technological innovations, reductions in food waste, and land degradation.

Future food supply increases—necessary to feed the growing global population—ought to come mostly from productivity increases. Expanded use of land for agriculture should be limited to the extent possible in the interest of the environment and social concerns: biodiversity loss, ecosystem degradation, increased carbon emissions, and traditional land-use rights. The challenge therefore, is to find a way to increase the productivity of currently cultivated land and slow the rate of land degradation and deforestation. The potential to increase agricultural productivity is especially high in sub-Saharan Africa, where yields are 50 percent below their potential level (Fischer and Shah 2011).

How Has Global Food Trade Evolved?

Over the past decades, the global pattern of food demand has shifted relatively more than it has for supply. Demand has shifted from west to east on account of differences in population growth, as well as changes in income affecting the composition of demand. The supply shift from north to south for food has been more modest than for other commodities, such as minerals and metals. While some emerging markets have increased their shares, the lion's share of global food trade is still sourced from advanced economies (Table 1.SF.2). This is true despite potentially high returns on capital in the agricultural sector in many developing economies, which would justify capital flowing into that sector (for example, see Gollin, Lagakos, and Waugh 2014a and 2014b).

There are wide gaps across countries in agricultural yield—defined as crop production per unit of land cultivation, which is a measure of land productivity (Table 1.SF.3). These gaps reflect multifaceted impediments to investment and technology transfers in the agricultural sectors of developing economies. There is limited evidence of catching up in productivity between advanced economies and low-income countries. The example of maize shows a huge divergence in agricultural yields between North America and sub-Saharan Africa (Figure 1.SF.5). While a recent spurt in large-scale cross-border land acquisitions following food price hikes suggests that capital has started to flow from north to south, it has also revealed important fault lines between investors and recipient countries (see Box 1.SF.1).

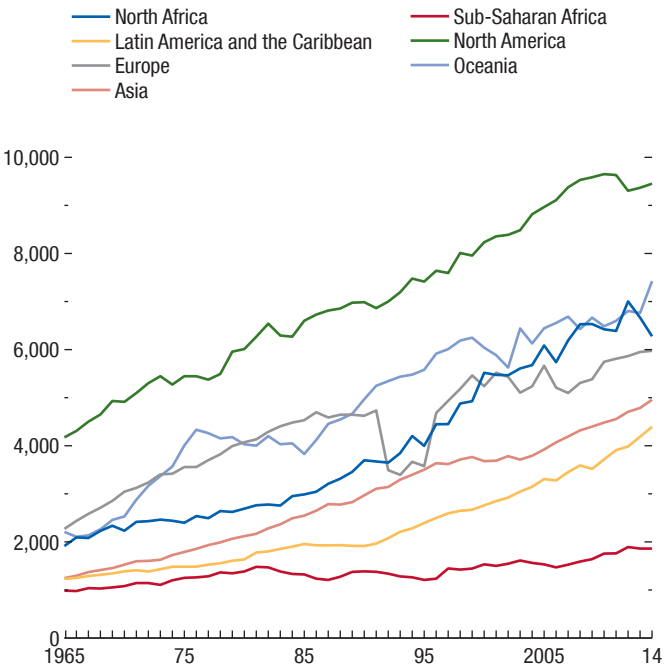
There are many impediments to investment in the agricultural sector. Scant net capital flows to developing economies, contrary to what neoclassical theory would suggest, are not unique to the agricultural sector (Alfaro, Kalemli-Ozcan, and Volosovych 2008). The many factors that deter investment in agriculture are emblematic of the challenges these countries face in improving their institutions. There is ample evidence of the role of technology adoption (or the lack thereof), and of

Table 1.SF.3. Agricultural Yield
(Ratio relative to highest producer)

	North Africa	Sub-Saharan Africa	Latin America and the Caribbean	North America	Europe	Oceania	Asia
Maize	0.60	0.19	0.43	1.00	0.56	0.77	0.48
Rice	0.88	0.22	0.48	0.81	0.59	1.00	0.44
Soybeans	0.82	0.40	0.88	1.00	0.63	0.68	0.42
Wheat	0.63	0.60	0.65	0.71	1.00	0.48	0.73

Sources: Food and Agriculture Organization of the United Nations; and IMF staff calculations.
Note: The above table reports the weighted average yield of crops by region, normalized relative to the highest producer. The average yield is weighted by the area of harvested land. Oceania includes Australia, Fiji, Guam, Micronesia, New Caledonia, New Zealand, Pacific Islands Trust Territory, Papua New Guinea, Solomon Islands, and Vanuatu.

Figure 1.SF.5. Maize Yield
(Kilogram per hectare)



Sources: Food and Agriculture Organization of the United Nations; and IMF staff calculations.
Note: Yield refers to a five-year moving average. Oceania includes Australia, Fiji, Guam, Micronesia, New Caledonia, Vanuatu, New Zealand, and Papua New Guinea.

human capital and credit constraints, in agricultural development (see for instance, Besley and Case 1993, Foster and Rosenzweig 1995, and Dercon and Christiaensen 2011). Other factors, such as lack of adequate infrastructure (Donaldson and Hornbeck, forthcoming), expropriation risk (Jacoby, Li, and Rozelle 2002), and questions of land tenure (Besley and Burgess 2000), also limit investment in the sector.

What Are the Risks?

Amartya Sen (1981) was the first to point out that hunger was not necessarily caused by a lack of food, but by a lack of the capability to buy that food. Food security is a multidimensional concept. The Food and Agriculture Organization of the United Nations (FAO) (2015) identified four pillars for food security:

- *Availability*—The supply side, determined by production, stocks, and trade in food
- *Access*—Economic access (the ability to purchase with disposable income) and physical access (the ability to reach food sources via the transportation infrastructure)
- *Utilization*—Through diet diversity, intrahousehold distribution of food, and food preparation and consumption
- *Stability*—The constancy of the other three dimensions over time

Rapid urbanization and galloping population growth—especially in sub-Saharan Africa and Asia—not matched with increases in domestic food supply, have led to growing dependence on imports (Table 1.SF.4). An overwhelming majority of countries around the world are net importers of food (Table 1.SF.5). Despite the high concentration of countries that have always been food importers, 27 have switched from being net exporters to importers since 1990. These are countries in east Asia, Latin America, and sub-Saharan Africa and include Honduras, the Philippines, Vietnam, and Zimbabwe. These four countries experienced major declines in net food exports of more than 7 percentage points of GDP.

These switches have led to further concerns over food security. Countries can achieve food security through imports, provided that they are able to finance the imports. Economically prosperous countries are

Table 1.SF.4. Urban Population by Region
(Percent of total population)

Region	1990	2014	2050	Change 1990–2014	Change 1990–2050
Africa	31.3	40.0	55.9	8.7	24.7
Asia	32.3	47.5	64.2	15.3	31.9
Europe	70.0	73.4	82.0	3.5	12.0
Latin America and the Caribbean	70.5	79.5	86.2	9.0	15.7
Northern America	75.4	81.5	87.4	6.0	12.0
Oceania	70.7	70.8	73.5	0.1	2.8

Sources: United Nations, World Urbanization Prospects: The 2014 Revision; and IMF staff calculations.
Note: Oceania includes American Samoa, Australia, Cook Islands, Fiji, French Polynesia, Guam, Kiribati, Marshall Islands, Micronesia, Nauru, New Caledonia, New Zealand, Niue, Northern Mariana Islands, Palau, Papua New Guinea, Samoa, Solomon Islands, Tokelau, Tonga, Tuvalu, Vanuatu, and Wallis and Futuna Islands.

Table 1.SF.5. Net Food Exporters and Importers
(1990 versus 2013, number of countries)

Region	Always Exporter	Always Importer	Exporter --> Importer	Importer --> Exporter	Total
East Asia and Pacific	6	17	7	2	32
Europe and Central Asia	9	13	1	1	24
Latin America and Caribbean	12	14	8	0	34
Middle East and North Africa	0	17	2	0	19
North America	2	1	0	0	3
South Asia	1	6	0	1	8
Sub-Saharan Africa	4	29	9	3	45
Total	34	97	27	7	165

Sources: Food and Agriculture Organization of the United Nations; World Bank: World Development Indicators; and IMF staff calculations.

able to finance their food imports, while impoverished countries struggle to do so.[13] Over the past few years, the commodity price bust (except food) has exposed developing economies to food price shocks by reducing export receipts and fiscal space.[14]

Climate change affects agriculture—through large economic losses such as reduced crop yields and livestock productivity—through changes in average temperatures and patterns of precipitation and extreme weather events such as heat waves.[15] There are a host of other effects too, including changes in pests, diseases, and atmospheric concentrations of carbon dioxide (Porter and others 2014). Generally, research has stressed unequal exposure across countries, with countries closer to the equator being more vulnerable to climate change than countries at higher latitudes (Rosenzweig and others 2014).[16] For example, Ethiopia recently experienced one of the worst droughts in decades. Strikingly, the country's two main rainy seasons supply over 80 percent of its agricultural yield. The agricultural sector employs 85 percent of the population. The lack of rainfall and subsequent drought associated with the El Niño weather phenomenon, therefore, caused a massive spike in humanitarian needs, which are expected to continue through much of 2016 (see Government of Ethiopia 2015).[17]

Such extreme weather events and their threats to food security are expected to continue to worsen and increase in frequency (IFPRI 2016; UNEP 2016; World Bank 2015a).[18] So-called climate-smart agriculture can help mitigate the effects of climate change on agriculture by offering opportunities for smallholder farmers to produce more nutritious crops, sustainably and efficiently (IFPRI 2016).[19] In addition, the FAO and the United States Agency for International Development have established early warning systems to anticipate and prevent famines. The FAO hosts the Global Information and Early Warning System, which monitors the world food situation in 190 FAO member countries and warns of impending crises within countries (Groskopf 2016). The Famine Early Warning Systems Network (FEWS NET, www.fews.net), set up by the United States Agency for International Development, helps anticipate and plan for humanitarian crises in 29 countries.

Volatility in food prices and outright food shortages have a crucial impact on the most basic aspect of welfare in poor countries—namely, survival. As shown in Table 1.SF.6, the share of food consumption in the overall consumption basket is dramatically high for many low-income countries. It is even higher for fragile states such as Guinea and Burundi. For middle-income countries, the share is somewhat lower but still significant—reaching up to about 50 percent

[13]The poorest segments of the population in some rich countries may, however, be subject to food insecurity.

[14]In principle, food terms-of-trade shocks can also drive a country to go from food exporter to importer. In practice, fast population growth and urbanization, stagnating productivity, and poor infrastructure are key elements explaining many developing economies' dependence on food imports (Rakotoarisoa, Iafrate, and Paschali 2011).

[15]See IMF (2016) for a discussion of the effect of natural disasters and climate change on sub-Saharan African countries.

[16]There is evidence to suggest that climate change affects different crops differently.

[17]Beyond Africa, the impact of the 2015–16 El Niño could be even more severe in Asia in locations such as the uplands of Cambodia, central and southern India, eastern Indonesia, the central and southern Philippines, central and northeast Thailand, Papua New Guinea, and other Pacific island countries. In India, severe floods were reported in several parts of Tamil Nadu during November and December 2015, inundating most areas of Chennai (United Nations 2015).

[18]In Latin America and southeast Asia, floods and droughts during recent El Niño/La Niña episodes, which have already caused heavy losses in agriculture, are likely to double in frequency (World Bank 2015b).

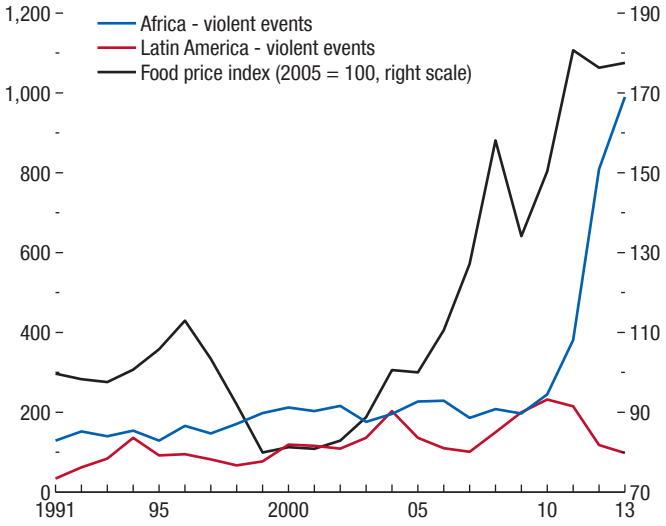
[19]For example, C4 rice has been found to increase yields by 50 percent as a result of doubling water use efficiency and increasing nitrogen use efficiency by 30 percent (IFPRI 2016).

Table 1.SF.6. Share of Food and Beverages in Total Consumption, 2010

Area	Share
High-income countries	21.0
Middle-income countries	43.7
Low-income countries	56.6
Burundi	71.0
Democratic Republic of the Congo	69.5
Guinea	71.1

Sources: World Bank, Global Consumption Database; Organisation for Economic Co-operation and Development, National Accounts database; and IMF staff calculations.
Note: Includes processed food such as alcoholic beverages and catering services.

Figure 1.SF.6. Food Prices and Violent Events
(Number of events, unless noted otherwise)



Sources: IMF, Primary Commodity Price System; Social Conflict Analysis Database (SCAD) 3.1; and IMF staff calculations.

of total consumption. Existing econometric evidence (see Arezki and Brueckner 2014; and Bellemare 2015) suggests that food price volatility can cause enormous distributional challenges within and between countries and lead to conflicts (Figure 1.SF.6).[20] Existing indices of food insecurity (Figure 1.SF.7) show that as a region, Africa is the most prone to such food insecurity, but that pockets of vulnerability also exist in Asia, Central America, and South America.

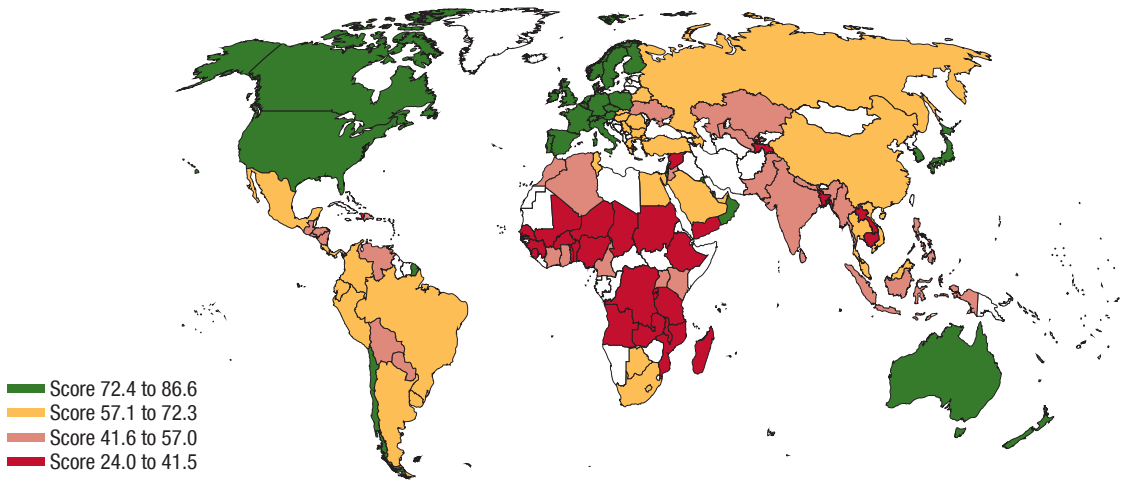
Policy interventions can at times magnify food price spikes. The price volatility of weather-dependent commodities, such as food, is exacerbated by the tendency for both developed and developing economies to alter their trade and domestic policies from year to year in an effort to stabilize prices and quantities in domestic food markets (Anderson 2016; FAO 2015). During periods of elevated food prices, as in 2008, net food exporting countries frequently implemented export restrictions, and net food importers lowered import barriers. Both measures were aimed at increasing domestic food supplies. Taken together, these two policy responses exacerbated the food price spike (Anderson, Rausser, and Swinnen 2013; Anderson 2016). To avoid such outcomes, ensuring higher agricultural sector productivity and improved supply chains, as well as regional coordination—including through maintaining and managing regional grain reserves—have proved effective in hedging against the consequences of food price volatility in developing Asia (Jha and Rhee 2012).[21]

Overall, food markets are segmented, owing to distortions in trade and domestic impediments to investment in the sector. Demand for food has and will continue to grow at a fast pace on account of population growth. Income growth also affects the composition of food demand. Fast urbanization trends in Africa and Asia will make even more countries dependent on trade. To meet these challenges and reduce food insecurity, all countries alike must continue to dismantle barriers to trade. Low-income countries should also raise productivity in the agricultural sector by attracting capital flows, but for that to occur, multifaceted institutional improvements are needed.

[20]Food production is endogenous to civil conflict; country examples indicate that the presence of civil war may be associated with an increase of domestic food prices. For example, in Darfur, prices of the main food staples increased rapidly after widespread violence started in late 2003 and early 2004 (see, for example, Brinkman and Hendrix 2010).

[21]Other avenues to alleviate food shortages in the long term include: (1) reducing excessive food consumption, which leads to obesity and associated negative health outcomes, and (2) reducing food waste. The FAO estimates that one-third of food produced for human consumption is lost or wasted globally, which amounts to about 1.3 billion tons a year.

Figure 1.SF.7. Global Food Security Index, 2016
(Overall score 0–100, 100 = best environment)



Source: Economist Intelligence Unit, *Global Food Security Index 2016*.

Box 1.SF.1. A Global Rush for Land

Against the backdrop of increasing demand for food, there has been a growing interest by governments, agribusinesses, and investment funds in acquiring long-term property rights or leases over large areas of farmland, mostly in developing economies (Arezki, Deininger, and Selod 2015). Most of the land acquisitions have been in food-insecure countries that are in dire need of investment in the agricultural sector. These deals could lead to positive or negative outcomes. This box presents evidence related to these transnational land acquisitions and discusses policy implications.

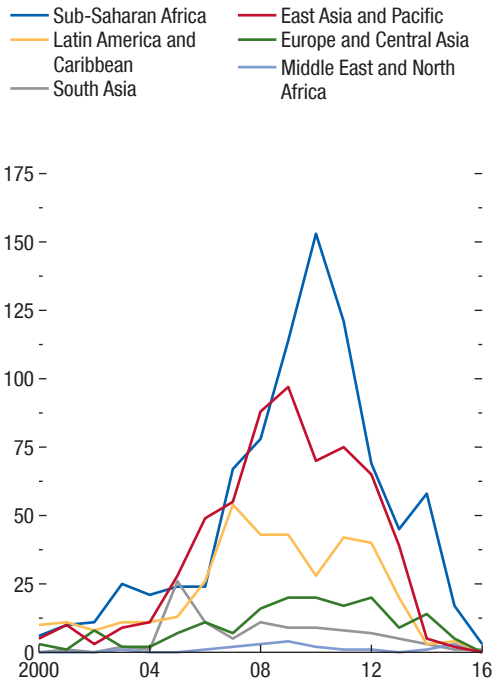
What Is Driving Large-Scale Land Deals?

In this box, the term "land deal" refers to a large-scale cross-border acquisition of land, typically at the expense of smallholder production or greenspace.[1] The food crisis of 2007–08 led to a massive increase in food prices, thereby raising farmland value and the option value of securing land for food production to insure against the next food crisis. While the benefits of cultivating vacant land today remain small, increased uncertainty in the wake of the crisis may have increased the future profitability for private investors (Collier and Venables 2012).

Figure 1.SF.1.1 shows a sharp increase in the annual number of land deals in the years leading up to the 2007–08 financial crisis and peaking shortly thereafter. In 2009, at the height of the rush for land, an average size of 223 square miles a deal was negotiated almost every day, an area more than five times the size of Paris, France. In the years that follow, investors' and governments' appetite for farmland has receded.

The boom-bust pattern in Figure 1.SF.1.1 is consistent with the idea of rapidly changing farmland (option) value fueled by substantial shifts in food prices and uncertainty. Evidence suggests that much of the acquired land has been left idle, raising concern about the motive behind these large-scale land investments and hinting at potential obstacles to bringing their agricultural projects to fruition. According to the Land Matrix database, to date only 49 percent of the acquired land has been cultivated to some extent, and this fraction is significantly smaller in sub-Saharan Africa (37 percent).[2]

Figure 1.SF.1.1. Evolution of Deals over Time by Target Region
(Number of deals)



Sources: Land Matrix; and IMF staff calculations.

What Do the Data Tell Us about Land Investments?

As of May 2016, the Land Matrix database has information on 2,152 transnational deals. Slightly more than two thirds are linked to agricultural projects, with a cumulative size of almost 59 million hectares in 88 countries worldwide. This expanse roughly corresponds to an area the size of France or Ukraine. While the amount of land that changed hands is substantial, it is still fairly modest compared with the total stock of uncultivated and (nonforest) suitable land, which amounts to roughly 400 million hect-

The authors of this box are Christian Bogmans and Vanessa Diaz Montelongo.

[1]A deal is defined as an intended, concluded, or failed attempt to acquire land through purchase, lease, or concession that meets the following criteria: It (1) entails a transfer of rights to use, control, or ownership of land through sale, lease, or concession; (2) occurred after the year 2000; (3) covers an area of 200 hectares or more; and (4) implies the potential conversion of land from smallholder production, local community use, or important ecosystem service provision to commercial use. The analysis presented in this box focuses on cross-border deals only.

[2]The Land Matrix Global Observatory. Accessed May 7, 2016. http://landmatrix.org/en/get-the-detail/.

Box 1.SF.1 *(continued)*

ares—one billion hectares when including forestland. Sub-Saharan Africa (884 deals) and east Asia (611 deals) have been the most important target regions for investment, followed by Latin America (368 deals).

To explore the determinants of interest in transnational farmland deals, we use a bilateral Poisson regression to model the occurrence and count of projects in origin-destination pairs. Let N_{ij} be the expected number of projects undertaken in host country j by investors from country i. The regression pools all land deals between 2000 and 2016.

Following the standard gravity model from the trade literature, land investment is attributed to origin and destination country characteristics, $VarOrig_i$ and $VarDest_j$, respectively, and bilateral variables, $VarBilat_{ij}$. The baseline specification is:

$$N_{ij} = c + \alpha_i \cdot VarOrig_i + \beta_j \cdot VarDest_j + \gamma_{ij} \cdot VarBilat_{ij} + \varepsilon_{ij}, \quad (1.SF.1.1)$$

in which α_i, β_j and γ_{ij} are the parameters of interest, and ε_i is an error term. With a large number of zeros in the data, the ordinary least squares estimator may be biased and inconsistent. To overcome this issue, a Poisson pseudo-maximum-likelihood estimator is used (Silva and Tenreyro 2006).

The analysis uses a novel measure of uncultivated nonforest land that takes into account proximity to market. Data are obtained from the FAO's *Global Agro-Ecological Zones* (FAO 2016). To analyze the relationship between this type of foreign direct investment and governance, data on law and order from the *International Country Risk Guide* (ICRG 2009), a measure of investor protection from the World Bank's Doing Business dataset, and an index of tenure security (de Crombrugghe and others 2009) are included. Physical distance and a dummy variable for former colonial ties are included as proxies for trade costs. Finally, an index of food security from the Economist Intelligence Unit is included.

The results of the regressions based on equation (1.SF.1.1) are presented in Table 1.SF.1.1. They confirm the importance of trade costs and an abundant supply of uncultivated arable land. Interestingly, and in contrast with the existing literature on capital flows, we find that poor land governance is associated with more land deals (see Table 1.SF.1.1, column 1). As weak land governance and food insecurity are highly correlated (with a correlation coefficient of $\rho = 0.77$), this finding suggests that food-insecure regions are associated with more land investment. Governments of food-insecure countries, while eager to host large-scale land investments, often face the challenge of ensuring that such outside investments actually help alleviate domestic hunger. This is especially difficult in light of weak land governance.

Table 1.SF.1.1. Impact of Land Governance and Food Security on Land Deals

	(1)	(2)
Bilateral Variables		
Distance (log)	–0.838***	–1.061***
	(0.0669)	(0.0793)
Former Colonial Relationship	1.529***	0.874***
	(0.269)	(0.253)
Origin Country Variables		
Net Food Exports (over GDP)	8.199***	
	(1.180)	
Food Security Index		0.0403***
		(0.00447)
Destination Country Variables		
Landlocked	0.234	0.0575
	(0.220)	(0.192)
Suitable Nonforest Land	0.525***	0.810***
	(0.0748)	(0.0936)
Land Governance	–0.572***	–0.165
	(0.0957)	(0.108)
Law and Order	–0.265***	–0.152
	(0.0827)	(0.0958)
Weak Investor Protection	–0.00606**	–0.00913***
	(0.00243)	(0.00256)
Net Food Exports (over GDP)	5.757***	
	(1.384)	
Food Security Index		–0.0539***
		(0.00639)
Number of Observations	19,186	10,044
Pseudo R^2	0.217	0.283

Note: Robust standard errors in parentheses.
*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

What Are the Implications for Food Security?

Land deals may have either positive or negative effects. On the one hand, these deals signal that capital in the agricultural sector is flowing from rich to poor countries' investors and hence help transfer new technology and agronomic knowledge to local farmers. On the other hand, the clustering of these deals in food insecure countries can potentially amplify the detrimental effects of a future food crisis. Host-country governments can remedy these risks by investing in monitoring capacity to ensure that land is leased to investors who (1) promote integration of local producers into value chains, (2) coinvest in local public goods, and (3) compensate displaced land users.

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