



# World Economic Situation and Prospects

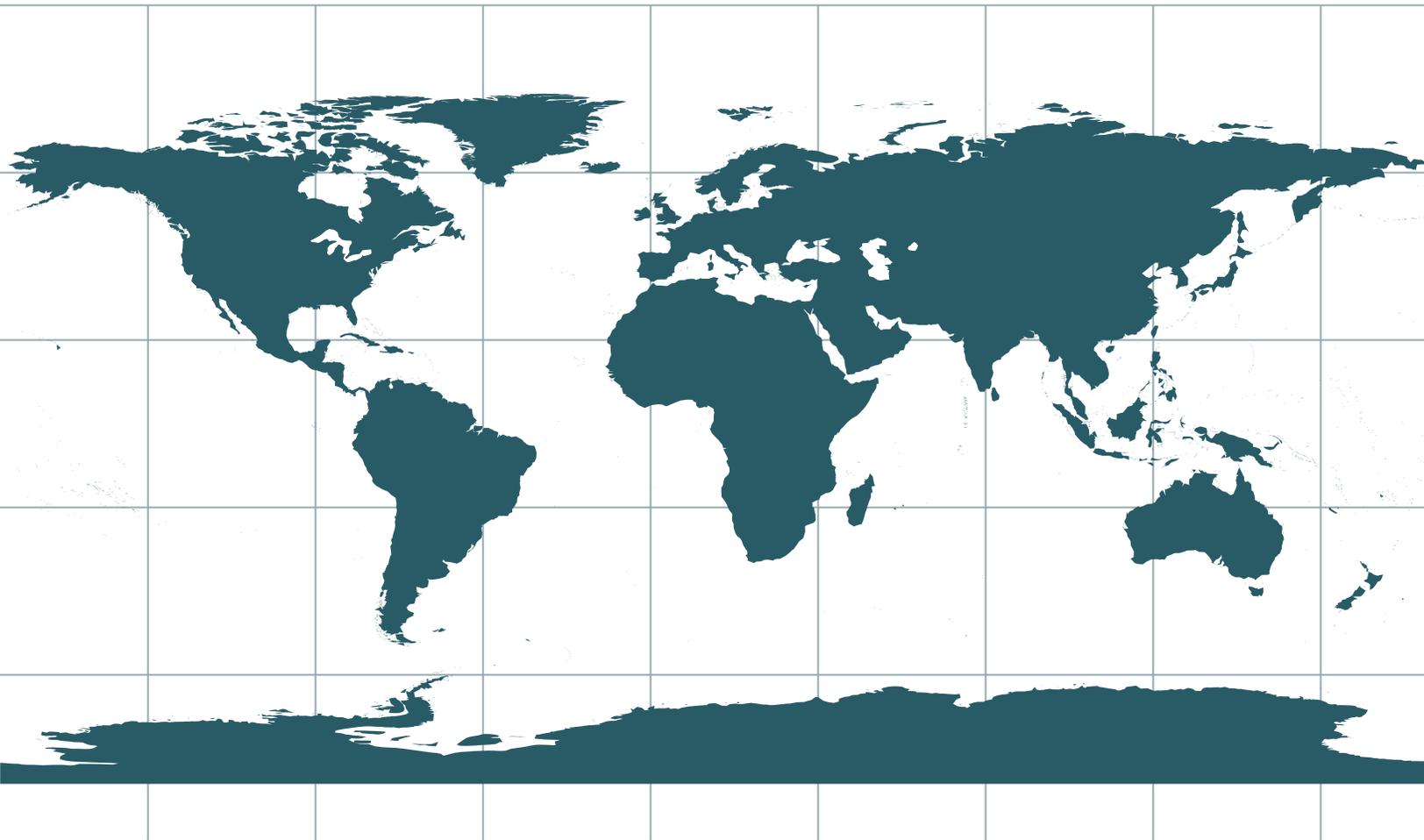


2016



United Nations

# World Economic Situation and Prospects 2016



United Nations  
New York, 2016

## Chapter I

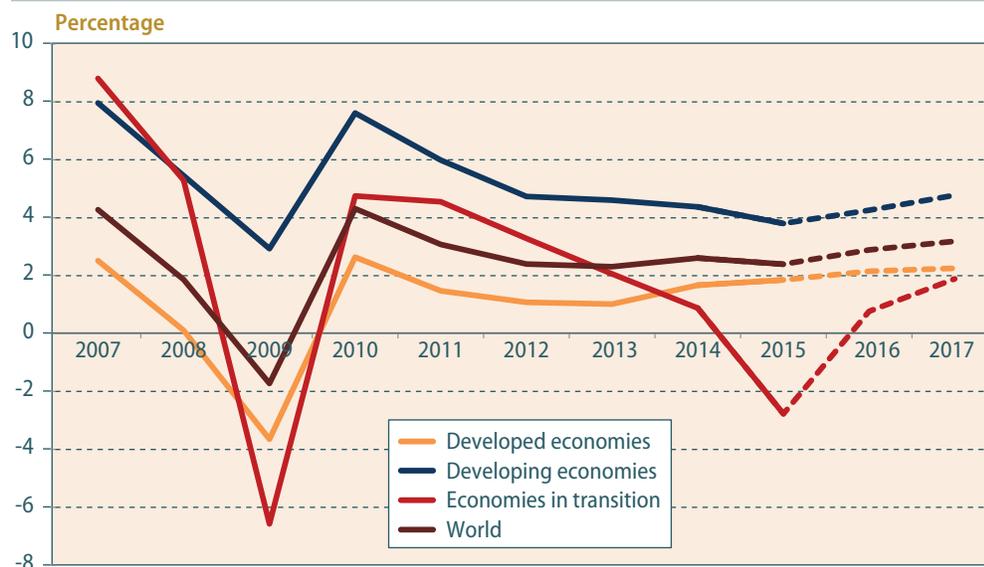
# Global economic outlook

## Prospects for the world economy in 2016–2017

### Global growth stumbles

The world economy stumbled in 2015, amid weak aggregate demand, falling commodity prices and increasing financial market volatility in major economies. The world gross product is projected to grow by a mere 2.4 per cent in 2015 (figure I.1 and table I.1), marking a downward revision from the 2.8 per cent forecast in the *World Economic Situation and Prospects as of mid-2015* (United Nations, 2015a). The growth rates of gross fixed capital formation and aggregate demand continue to remain subdued. The world economy is projected to grow by 2.9 per cent in 2016 and 3.2 per cent in 2017, supported by generally less restrictive fiscal and still accommodative monetary stances worldwide. The anticipated timing and pace of normalization of the United States monetary policy stance is expected to reduce policy uncertainties, while preventing excessive volatility in exchange rates and asset prices. While the normalization will eventually lead to higher borrowing costs, rising interest rates should encourage firms to front-load investments in the short run. The improvement in global growth is also predicated on easing of downward pressures on commodity prices, which should encourage new investments and lift growth, particularly in commodity-dependent economies.<sup>1</sup>

Figure I.1  
Growth of world gross product and gross domestic product by country grouping, 2007–2017



Source: UN/DESA.  
Note: Data for 2015 are estimated; data for 2016 and 2017 are forecast.

1 The key assumptions underlying this outlook are detailed in the appendix to this chapter.

Table I.1  
Growth of world output, 2013–2017

Annual percentage change	2013	2014	2015 <sup>a</sup>	2016 <sup>b</sup>	2017 <sup>b</sup>	Change from WESP as of mid-2015	
						2015	2016
<b>World</b>	2.3	2.6	2.4	2.9	3.2	-0.4	-0.2
<b>Developed economies</b>	1.0	1.7	1.9	2.2	2.3	-0.3	0.0
United States of America	1.5	2.4	2.4	2.6	2.8	-0.4	-0.1
Japan	1.6	-0.1	0.5	1.3	0.6	-0.7	0.3
European Union	0.2	1.4	1.9	2.0	2.2	0.0	-0.1
EU-15	0.1	1.2	1.8	2.0	2.1	0.0	0.0
New EU members	1.2	2.7	3.2	3.0	3.2	0.4	-0.2
Euro area	-0.3	0.9	1.6	1.9	2.0	0.0	0.0
Other European countries	1.5	2.0	1.2	1.4	2.0	0.7	0.1
<b>Economies in transition</b>	2.1	0.9	-2.8	0.8	1.9	-0.8	-0.1
South-Eastern Europe	2.4	0.2	2.1	2.6	3.0	0.7	0.1
Commonwealth of Independent States and Georgia	2.0	0.9	-3.0	0.7	1.8	-0.9	-0.2
Russian Federation	1.3	0.6	-3.8	0.0	1.2	-0.8	-0.1
<b>Developing economies</b>	4.6	4.3	3.8	4.3	4.8	-0.6	-0.5
Africa	3.3	3.4	3.7	4.4	4.4	-0.3	-0.4
North Africa	1.1	0.7	3.5	4.1	4.1	0.7	0.1
East Africa	6.9	7.0	6.2	6.8	6.6	-0.4	0.1
Central Africa	0.9	3.7	3.4	4.3	4.2	0.0	0.0
West Africa	5.7	6.1	4.4	5.2	5.3	-1.4	-1.0
Southern Africa	3.1	2.5	2.5	3.0	3.3	-0.4	-0.7
East and South Asia	6.1	6.1	5.7	5.8	5.8	-0.5	-0.3
East Asia	6.4	6.1	5.6	5.6	5.6	-0.4	-0.4
China	7.7	7.3	6.8	6.4	6.5	-0.2	-0.4
South Asia	4.9	6.4	6.0	6.7	7.0	-0.7	-0.2
India	6.5	7.2	7.2	7.3	7.5	-0.4	-0.4
Western Asia	2.0	2.6	2.0	2.4	3.0	-1.0	-1.2
Latin America and the Caribbean	2.8	1.0	-0.5	0.7	2.7	-1.0	-1.0
South America	3.1	0.5	-1.6	-0.1	2.4	-1.2	-1.2
Brazil	2.5	0.1	-2.8	-0.8	2.3	-1.7	-1.3
Mexico and Central America	1.7	2.5	2.5	2.9	3.4	-0.5	-0.3
Caribbean	3.1	3.3	3.4	3.6	3.3	0.3	-0.1
Least developed countries	5.1	5.6	4.5	5.6	5.6	-0.4	0.0
<i>Memorandum items</i>							
World trade <sup>c</sup>	3.1	3.3	2.7	4.0	4.7	-1.1	-0.8
World output growth with PPP-based weights <sup>d</sup>	3.2	3.4	3.0	3.6	3.9	-	-

Source: UN/DESA.

<sup>a</sup> Estimated.

<sup>b</sup> Forecast, based in part on Project LINK.

<sup>c</sup> Includes goods and services.

<sup>d</sup> Based on 2011 benchmark.

Since the onset of the global financial crisis, developing countries generated much of the global output growth (figure I.2). China, in particular, became the locomotive of global growth, contributing nearly one third of world output growth during 2011-2012. As the largest trading nation, China sustained the global growth momentum during the post-crisis period, maintaining strong demand for commodities and boosting export growth in the rest of the world. With a much anticipated slowdown in China and persistently weak economic performances in other large developing and transition economies—notably Brazil and the Russian Federation—the developed economies are expected to contribute more to global growth in the near term, provided they manage to mitigate deflationary risks and stimulate investment and aggregate demand. On the other hand, bottoming-out of the commodity price decline, which will contribute to reducing volatility in capital flows and exchange rates, will help reduce macroeconomic uncertainties and stimulate growth in a number of developing and emerging economies, including in the least developed countries (LDCs) (box I.1). Developing countries are expected to grow by 4.3 per cent and 4.8 per cent in 2016 and 2017, respectively.

Developed economies are expected to contribute more to global growth

#### Box I.1

#### Prospects for the least developed countries

The group of least developed countries (LDCs) is experiencing a modest slowdown of their economies, with growth rates falling from 5.1 per cent in 2014 to an estimated 4.5 per cent in 2015. Weaker export demand from emerging economies, lower commodity prices, net capital outflows, and weak investment growth—and, in some cases, military conflicts, natural disasters and adverse weather effects on agricultural output—exerted downward pressure on growth this year. A rebound to 5.6 per cent growth in both 2016 and 2017 is projected, underpinned by stronger demand from developed economies, growing domestic demand and stabilizing commodity prices. Lower commodities prices (particularly oil) have reduced the import bills of resource-importing LDCs and contributed to lower inflation, although in some countries the gains have been partially offset by depreciating exchange rates.

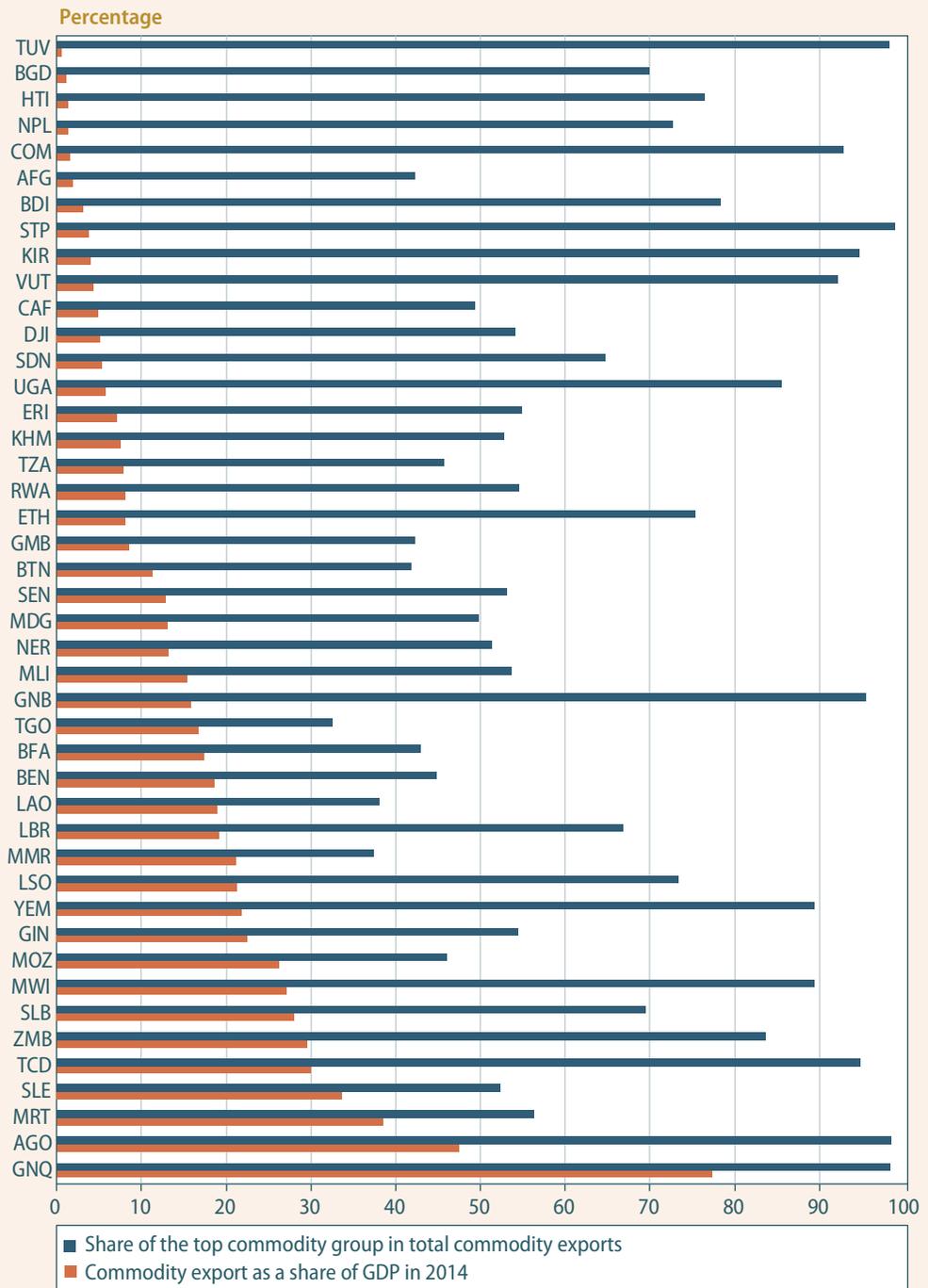
Bangladesh—the largest LDC in terms of both the population and size of gross domestic product (GDP)—is expected to benefit from the recovery in the developed economies, and is projected to grow by 6.5 per cent in 2016, largely driven by private consumption, investment and additional export demand from Europe and the United States of America. Government spending on power, water and transportation infrastructure projects is expected to increase significantly, supporting growth in the short term, but likely to result in a larger budget deficit. In Nepal, the economy is expected to see a gradual recovery in 2016, in part driven by reconstruction efforts after the devastating earthquake of April 2015. GDP growth is projected to strengthen from an estimated 3.3 per cent in 2015 to 4.6 per cent in 2016, but will remain below potential, partly reflecting the subpar monsoon, which is likely to result in weak agricultural output. Meanwhile, Yemen remains mired in a complex military conflict. In 2015, the United Nations declared the situation in Yemen as a high-level humanitarian emergency, with about 80 per cent of Yemen's population in need of humanitarian aid. According to the World Food Programme (WFP), the risk of famine in Yemen is now imminent, given that the country already had the highest level of poverty and malnutrition in Western Asia before the onset of the crisis. As a result of the ongoing conflict, oil and gas production have been suspended, which partly accounts for the nearly 10 per cent contraction of real GDP in 2015. Fiscal conditions, which were already challenging before the conflict, are expected to become unsustainable without external support, as public revenue becomes scarce and expenditures for repairing damage from the conflict rise.

The decline in commodity prices has had a significant impact on the terms of trade for a number of the LDCs in Africa, given their excessive dependence on commodity exports. Many LDCs remain highly dependent on the natural resource sector, with commodity exports representing, on average, 16 per cent of their GDP. Commodity exports are also highly concentrated in one or two products. LDCs that are highly dependent on fuel exports have clearly seen a pronounced decline in their commodity

*(continued)*

Box I.1 (continued)

**Figure I.1.1**  
**Commodity exports as a share of GDP and share of the top commodity group in total commodity exports for the LDCs, 2014<sup>a</sup>**



Source: UN/DESA calculations from UNCOMTRADE and United Nations Statistics Division.  
<sup>a</sup> This includes all LDCs monitored for this report.  
 Note: See table J in the Statistical Annex to this publication for definitions of country codes.

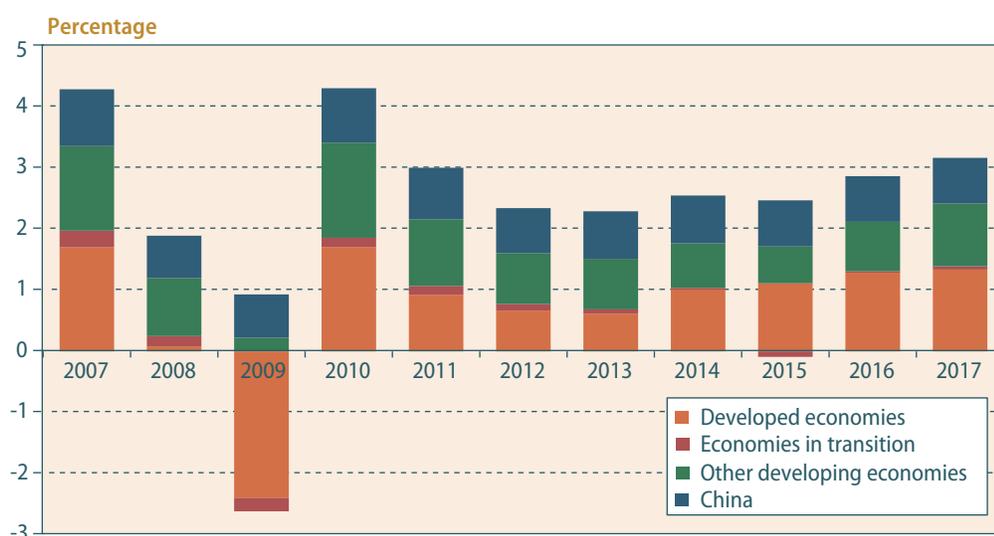
(continued)

terms of trade. By contrast, LDCs reliant on exports of agricultural, food and metal products registered an improvement in their terms of trade, as fuel often constitutes a major import component for these economies. Both the narrow export base, which often relies on a single commodity, and the high share of commodity trade in GDP highlight the economic vulnerabilities of LDCs and underscore the need for appropriate policies and strategies for diversification. Commodity-dependent LDCs are likely to benefit from diversification strategies that promote higher local value addition through backward and forward linkages in their resource sectors (see also chap. IV, box IV.3).

Haiti—the lone LDC in the Americas—is projected to grow by 2.4 per cent in 2015, before accelerating slightly to 2.7 per cent in 2016. The medium-term growth outlook for Haiti is rather low by the LDC benchmark. While private consumption and export growth are likely to remain resilient, difficulties regarding government spending and political uncertainties will prevent economic activity from gaining further momentum. Scaling up infrastructure investments and implementing structural reforms will remain essential to boosting growth in the medium term.

Box I.1 (continued)

Figure I.2  
Contribution to global growth, 2007–2017



## Inflation remains benign

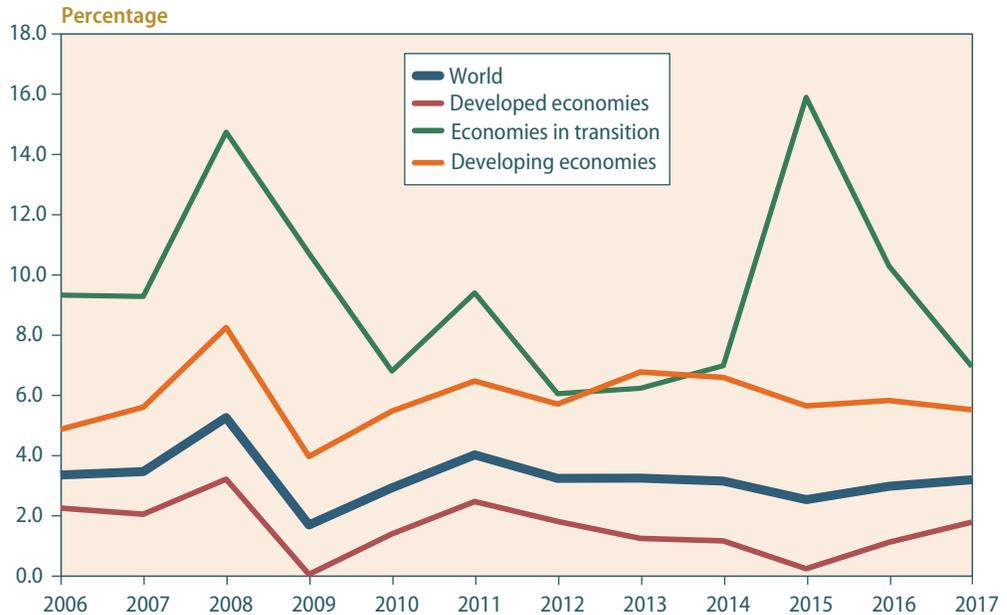
Average global inflation continues to decline amid persistently subdued economic activity, modest wage growth and lower commodity prices. In 2015, global consumer price inflation is projected to fall to 2.6 per cent, the lowest level since 2009, owing to reduced oil and commodity prices (figure I.3).<sup>2</sup> Inflation in developing countries is expected to rise moderately in 2016, mainly driven by higher levels of inflation in transition economies.

Risks of deflation, however, still persist in developed countries, mainly in Japan and the euro area, and to a lesser degree in the United States, where average inflation hovered at about 0.2 per cent during the past four quarters. Across a large number of economies, low quarterly inflation has coincided with higher levels of volatility in quarterly growth in developed economies (see the section on persistent macroeconomic uncertainties and vola-

Deflation risks linger

<sup>2</sup> Inflation figures in this section exclude the recent sharp increase in the Bolivarian Republic of Venezuela; for 2015 and 2016, inflation there is projected to rise above 150 per cent.

Figure I.3  
Global consumer price inflation, 2006-2017<sup>a</sup>



Source: UN/DESA.

<sup>a</sup> Figures for 2015 are partly estimated and figures for 2016 and 2017 are forecast. Figures exclude inflation figure in Venezuela (Bolivarian Republic of).

tility). This shows that price stability—which is synonymous with low levels of inflation—is neither a necessary nor a sufficient condition for reducing volatility in real activity or for stimulating economic growth. While average quarterly inflation fell relative to the pre-crisis period in almost all major economies, volatilities of both inflation and growth increased in a majority of the economies (table I.2) amid persistently weak aggregate demand.

## Unemployment challenges persist

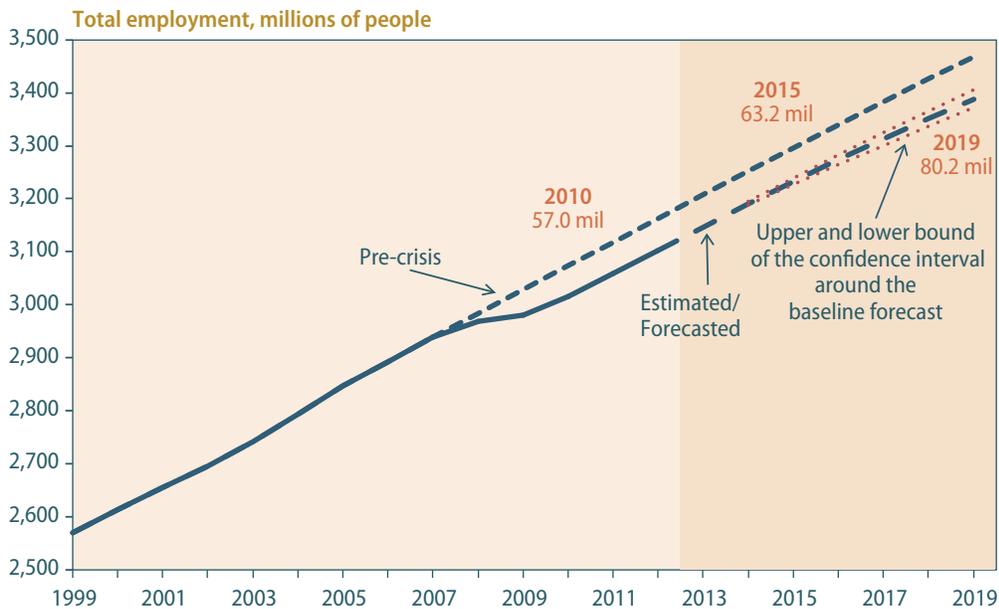
### The employment gap widens

The moderate pace of global growth, in an environment of weak investment growth, has failed to create a sufficient number of jobs to close the gap in the employment rate (employment-to-population ratio) that opened up during the global financial crisis. The employment gap is estimated to reach 63.2 million in 2015 (figure I.4). The average rate of job creation has slowed to about 1.4 per cent per annum since 2011, compared to an average annual growth rate of about 1.7 per cent rate in pre-crisis years. As a result, unemployment figures remain high in many regions, even though they have improved in several developed economies. Globally, the total number of unemployed is estimated to have reached 203 million, increasing by 2 million this year (figure I.5). Youth unemployment accounts for 36 per cent of all unemployed worldwide. Global employment growth is expected to continue at the relatively modest pace during the forecast period. Unemployment rates in most countries are expected to stabilize or recede only modestly in 2016 and 2017 against the backdrop of a moderate improvement in investment and growth during the forecast period.

### Long-term unemployment is on the rise in developed countries

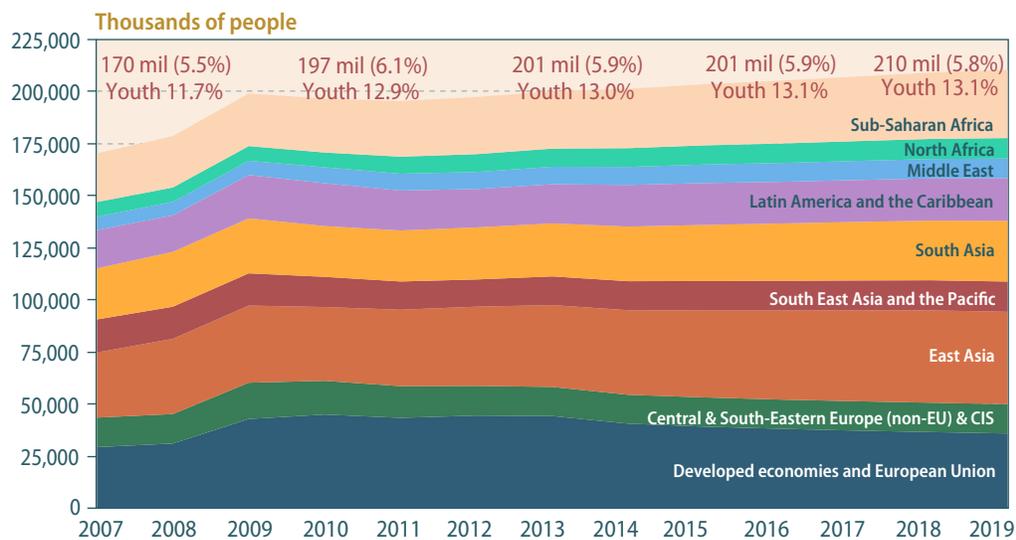
After some improvements in 2014, the growth rate of employment decelerated in the majority of developed economies during the first half of 2015. Consequently, unemployment in developed economies remains well above the pre-crisis level, despite recent improvements. In Organization for Economic Cooperation and Development (OECD)

Figure I.4  
Global employment gap, 1999–2019



Source: International Labour Organization, Trends Econometric Models (November 2014), presented at the UN/DESA Expert Group Meeting on the World Economy, held from 21–23 October 2015 in New York.

Figure I.5  
Total unemployment by regions, 2007–2019



Source: International Labour Organization, Trends Econometric Models (November 2014), presented at the UN/DESA Expert Group Meeting on the World Economy, held from 21–23 October 2015 in New York.

countries, an estimated 44 million workers are unemployed in 2015, about 12 million more than in 2007. The duration of unemployment has been abnormally long in many developed economies (United Nations, 2015b), bringing long-term unemployment rates to record highs, including among youth. In OECD countries, one third of unemployed individuals were out of work for 12 months or more in the last quarter of 2014, representing a 77.2 per cent increase in the number of long-term unemployed since the financial crisis.

Large informal sectors mask the actual level of unemployment in many developing countries

Despite slower employment growth, unemployment figures remained relatively stable in developing countries in 2014. In a group of large developing economies and economies in transition,<sup>3</sup> employment growth slowed from an average of 1.4 per cent per annum between 1999 and 2007 to 1.0 per cent between 2009 and 2014, reflecting both a slowdown in average GDP growth in these economies and a simultaneous decline in the employment intensity of growth. Demographic factors, changing economic structures, increasing automation and capital intensity also partly explain the slowdown in employment growth.

The relatively stable unemployment numbers in developing economies are also partially explained by declining labour force participation, particularly among women and youth. The real transition from employment to unemployment is not always reflected in the unemployment rate in many developing economies, because of the large informal sector in these countries. In the developing world as a whole, employment opportunities are estimated to have deteriorated in 2015, given the sharp economic slowdown in several economies.

In developed economies, the pattern of work has been shifting considerably towards more part-time employment. In the euro area, part-time employment represented 21.9 per cent of total employment in the second quarter of 2015, a 3.0 percentage point increase since the beginning of the crisis. The main concern with involuntary part-time employment is the repercussion on job security, working poverty and low long-term earnings.

In addition to slow employment growth and high unemployment rates, wages and earnings were also adversely affected by the financial crisis, signalling an overall worsening of labour market conditions worldwide. In OECD countries, the annual real wage growth was about 0.5 per cent between 2008 and 2014, significantly slower than the 1.8 per cent between 2000 and 2007. On the one hand, wage adjustments may have helped to avoid higher job losses during the financial crisis and facilitated job creation in some countries more recently. At the same time, wage adjustments, which were predicated on slowing productivity growth, increased hardship at the household level and weakened aggregate demand. Increases in part-time and temporary jobs, especially in developed economies, and a gradual shift from salaried work to self-employment in some developing regions, such as in Latin America and the Caribbean, have contributed to increasing job insecurity in many parts of the world.

### *Employment growth and decent work critical for realizing the 2030 Agenda for Sustainable Development*

The persistent employment gap, unemployment (particularly youth unemployment), growing prevalence of part-time employment, job insecurity, and stagnant real wages will seriously undermine the global efforts for promoting “inclusive and sustainable economic growth, employment and decent work for all”, as envisaged in the 2030 Agenda for Sustainable Development (United Nations, General Assembly, 2015a, p. 4).

### Headwinds impede global growth

Global growth prospects face considerable headwinds in the near term, amid a macroeconomic environment of falling inflation and weak employment generation. Five major headwinds—both cyclical and structural—will continue to shape the near-term outlook of the global economy as well as its long-term prospects:

<sup>3</sup> Argentina, Brazil, China, India, Indonesia, Russian Federation, Saudi Arabia, South Africa and Turkey.

- Persistent macroeconomic uncertainties and volatility;
- Low commodity prices and declining trade flows;
- Rising volatility in exchange rates and capital flows;
- Stagnant investment and diminishing productivity growth;
- Continued disconnect between finance and real sector activities.

## Persistent macroeconomic uncertainties and volatility

Persistent uncertainty has been a legacy of the global financial crisis that began in the third quarter of 2008. The policy deliberations in the United States Federal Reserve (Fed), for example, have repeatedly identified macroeconomic uncertainty as a key factor affecting the subdued economic performance during the post-crisis period. While lax regulations that allowed the financial sector to take excessive risks precipitated the financial crisis, persistence of macroeconomic uncertainty continues to adversely affect aggregate demand and investment in the post-crisis period.

In an economy, households and firms make decisions to consume or invest today based on the expectation of a future outcome. The change in the probability of a future economic outcome—income, profit, etc.—represents an uncertainty shock. Unlike an income or productivity shock, an uncertainty shock does not directly affect the level of income or wealth. It can, however, change the probability distribution of future income, which in turn can affect economic behaviour and the welfare of households and firms (see Knotek and Khan, 2011).

### Uncertainty shocks persist

A strand of economic research<sup>4</sup> generally relies on uncertainty to explain the fluctuations in real output. This research finds uncertainty to be highly countercyclical, rising during economic downturns and diminishing during financially stable times. Recessions indeed coincide with higher degrees of uncertainty (Bloom, Floetotto, and Jaimovich, 2007). When uncertainty amplifies, firms and households typically go into a “wait and see” mode, postponing costly consumption and investment decisions, especially if they are irreversible. The benefits of waiting and gathering more information about potential risks usually outweigh the cost of not doing anything when uncertainty is high. This largely explains why business activities slow down or investments freeze during economic downturns (Bernanke, 1983). In the short run, uncertainty may increase transaction costs and depress profitability. It may also induce herding behaviour among firms and depress aggregate investment.

Bloom and others (2012) shows uncertainty shocks typically induce a rapid drop and rebound in aggregate output, investment and employment, as was observed during 2009-2010 immediately after the Great Recession. An uncertainty shock also generates a negative productivity shock, as uncertainty can freeze reallocation of human and financial resources within and across firms. As such, these shocks are expected to be short-lived. Yet, seven years since the global financial crisis, uncertainties remain elevated. While the financial

**Persistent uncertainty can freeze investment and paralyze growth**

<sup>4</sup> Alexopoulos and Cohen (2009), Bloom, Bond and Van Reenen (2007), Bloom (2009), and Bloom and others (2012) provide results supporting a key role for uncertainty shocks in business cycle fluctuations.

Volatility proxies for the level of uncertainty in an economy

and liquidity shocks have been relatively short-lived, with equity and debt markets reaching their pre-crisis levels as early as 2010, the uncertainty shock continues to linger.

While there are compelling theoretical arguments that uncertainty can adversely affect growth, there is no consensus on how to objectively measure uncertainty. The empirical literature primarily uses proxies or indicators of uncertainty, such as the implied or realized volatility of stock market returns, the cross-sectional dispersion of firm profits or productivity, or the cross-sectional dispersion of survey-based forecasts.

The persistence of uncertainty in the global economy makes a strong case for revisiting the relationship between uncertainty and output growth in the 20 large developed and 20 large developing countries and economies in transition.<sup>5</sup> While the analyses presented here make no claim of a causal relationship between these variables, they provide important insights on macroeconomic volatility and the slow pace of global growth, and raise important policy questions that merit further research.

### *Trends in key real and nominal variables*

Both output growth and inflation have shifted downward since the global financial crisis, representing the level effects of the crisis. At the same time, volatility of output growth has increased in developed economies in the aftermath of the crisis.

Both real and nominal volatilities are higher in the post-crisis period

As table I.2 shows, average growth rates of output, consumption and investment in the 20 large developed economies registered significant declines during the post-crisis period. The sharpest decline is observed in investment growth rates. Average inflation experienced only a slight decline in the post-crisis period, while inflation volatility experienced a sharp increase.

Surprisingly, the broad money (M2) growth also declined during the post-crisis period despite the quantitative easing (QE) policies pursued by the central banks in many developed countries. While QE injected liquidity into the financial system, a significant

Table I.2

### Key macroeconomic volatilities before and after the crisis

		Developed 20		Developing 20	
		2002 Q3: 2007 Q4	2010 Q1: 2015 Q2	2002 Q3: 2007 Q4	2010 Q1: 2015 Q2
Output growth	Mean	2.8	1.3	6.3	4.3
	Volatility	1.2	1.5	2.9	2.6
Consumption growth	Mean	2.6	1.0	6.5	4.1
	Volatility	1.0	1.4	2.7	3.7
Investment growth	Mean	4.4	0.9	10.9	5.6
	Volatility	4.3	4.6	8.5	7.3
Inflation	Mean	1.9	1.6	6.9	6.6
	Volatility	0.6	1.1	3.3	2.9
M2 growth	Mean	7.9	3.5	20.9	14.4
	Volatility	2.9	2.7	7.8	5.2

Source: UN/DESA calculations.

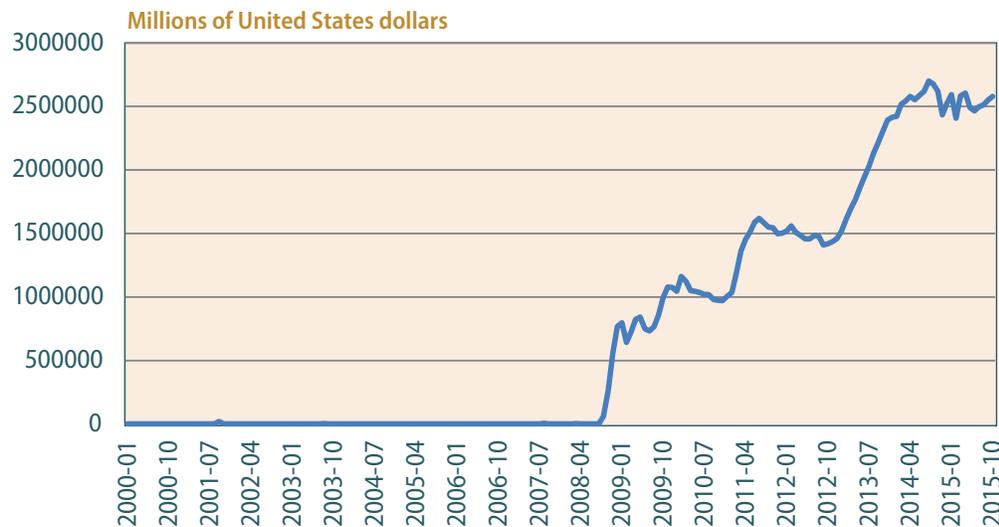
Note: Volatility is measured as standard deviation.

<sup>5</sup> These 40 economies accounted for more than 90 per cent of the global economy in 2014. The availability of quarterly macroeconomic data determined the selection of 20 large developing economies.

portion of that additional liquidity actually returned to central banks' balance sheets in the form of excess reserves, which possibly explains why QE has had only limited effects on boosting aggregate demand or investment rates in many developed countries. Between January 2000 and August 2008, the excess reserves of banks on the Fed's balance sheet averaged \$1.8 billion. The total volume of excess reserves in the Fed reached \$1 trillion by November 2009. As of October 2015, the Fed has excess reserves of \$2.6 trillion (figure I.6), which represents nearly 75 per cent of total assets purchased by the Fed since the onset of the financial crisis. The ballooning of excess reserves since the crisis demonstrates that financial institutions generally chose to park their cash with the Fed instead of increasing lending to the real economy.

Figure I.6

### Excess reserves of financial institutions held with the United States Federal Reserve



Source: Federal Reserve Bank of St. Louis, Excess Reserves of Depository Institutions.

The financial crisis has had similar level effects on the macroeconomic variables in 20 large developing economies, although effects have been less pronounced (table I.2). For example, average output growth declined by about 32 per cent in developing countries during the post-crisis period, relative to the 54 per cent decline in output growth in the developed countries. Investment growth also declined in developing countries, albeit at a slower pace. Several factors may explain why developing countries managed to avoid a sharper adjustment in investment, consumption and output, with one factor being that the financial crisis originated in the developed countries and has had only indirect effects through trade and capital flow channels. The relative stability of growth in developing countries is also attributable to the fact that many of them managed to implement effective countercyclical fiscal and monetary measures to sustain investment and growth during the post-crisis period.

The crisis also marks a shift in volatility trends. While volatilities increased in developed economies during the post-crisis period, volatilities in developing countries generally trended downwards. Historically, developing countries experienced higher levels of volatility in output and inflation, as documented in a number of empirical studies (see Ramey and Ramey (1995); Easterly, Islam and Stiglitz (2001); Kose, Prasad, and Terrones (2005)).

These studies cite the lack of diversification, adverse terms of trade shocks, weak financial and institutional developments, and exposure to financial shocks as reasons why developing countries generally experience more output or inflation volatility.

Developed countries experienced sharp increases in volatility

Volatilities sharply increased in developed countries, despite the fact that these economies are generally more diversified and have more effective institutions. Developed countries also have more open capital and financial markets, which should have allowed for international risk sharing and reduced variability in consumption. Social protection programmes, transfers and unemployment benefits—prevalent in developed countries—should have also ensured relative stability in consumption growth. Yet, during the post-crisis period, developed economies experienced significant increases in consumption volatility, reacting in a manner contrary to the findings of Bekaert, Harvey and Lundblad (2006), which claim that countries with more open capital accounts and financial liberalizations experience lower levels of consumption growth volatility. Instead, increased volatility in the developed countries during the post-crisis period tends to support the view that open capital markets do not necessarily lead to international risk sharing and that countries with more liberalized financial and capital markets often experience higher levels of volatility in growth (see Easterly, Islam and Stiglitz, 2001; Agenor, 2003).

### *Output volatility and output growth*

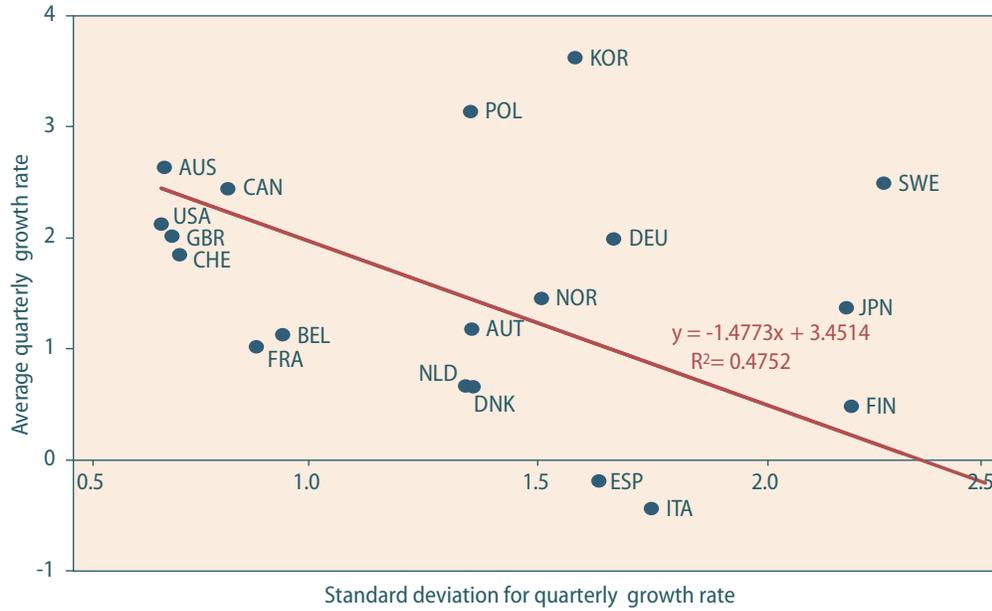
Keynes (1936) first suggested a negative relationship between output variability and average growth, arguing that businesses take into account the fluctuations in economic activity when they estimate the return on their investment. Bernanke (1983) and Ramey and Ramey (1995), also suggest the existence of a negative relationship between output volatility and growth. On the other hand, Solow (1956) suggests a positive effect of real uncertainty on output growth, arguing that output uncertainty encourages higher precautionary savings and a higher equilibrium rate of economic growth. Kose, Prasad and Terrones (2005) conclude that the relationship between growth and volatility depends on the level of economic development, where the relationship is generally positive in developed economies and negative in developing economies.

Volatility negatively affects output growth

The data show a strong negative correlation between output volatility and output growth during the post-crisis period in developed and developing and transition economies (figures I.7 and I.8). The strong negative relationship holds even if outliers are excluded from the analysis. Growth volatility is affected by volatilities in investment, consumption, inflation and money supply, given that these variables jointly determine output growth.

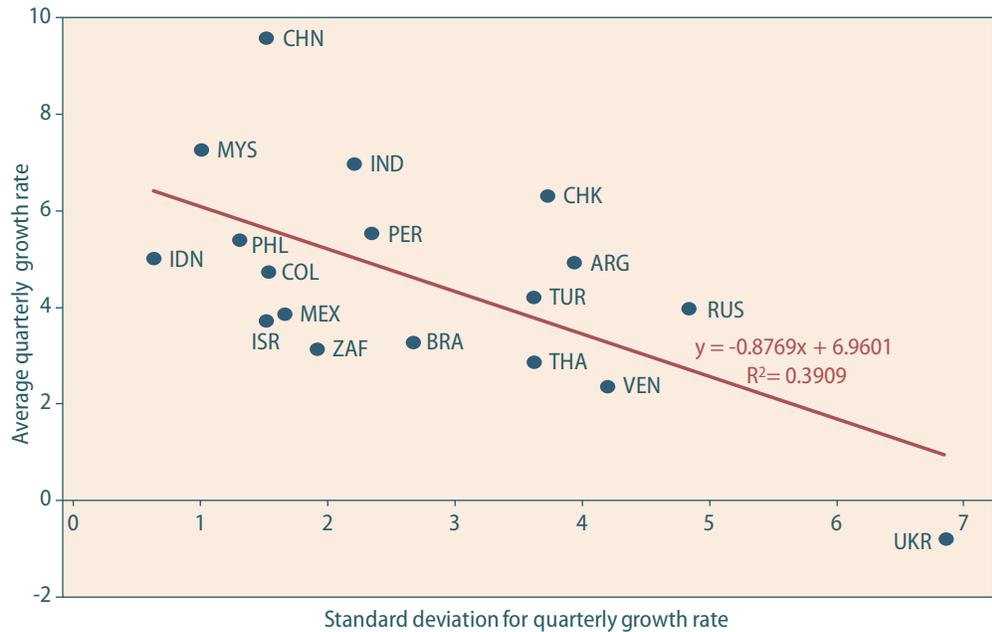
Consumption, investment, inflation and their respective uncertainties and volatilities are endogenous to growth. Yet not all macroeconomic variables are endogenous. Policy choices, institutions and interventions are typically exogenous in the short run. Effective fiscal, monetary or exchange-rate policies can help reduce uncertainties and influence the behaviour of firms and households. Macroeconomic policies, as such, need to be designed and implemented more effectively to reduce uncertainties and stimulate aggregate demand and growth of the global economy.

Figure I.7  
Volatility and growth in developed economies, 2010 Q1–2015 Q2



Source: UN/DESA.  
Note: See table J in the Statistical Annex to this publication for definitions of country codes.

Figure I.8  
Volatility and growth in developing economies and economies in transition, 2010 Q1–2015 Q2



Source: UN/DESA.  
Note: See table J in the Statistical Annex to this publication for definitions of country codes.

## Low commodity prices and declining trade flows

In the aftermath of the financial crisis, international trade, largely driven by demand from China, played a critical role in sustaining global output, particularly for developing economies. During 2009-2011, high commodity prices and early signs of recovery sustained the export income of large emerging and developing economies in Asia, Africa and Latin America. The downward trends in commodity prices since 2011 and sharp decline in oil prices since mid-2014 have altered the trade dynamics of many commodity-exporting countries. While the value of global trade has dropped sharply, trade volumes have recorded only a moderate deceleration. The decline in commodity prices largely explains the observed divergence in the value and volume of global trade flows. The commodity price declines have generally deteriorated the terms of trade of commodity exporters (see chap. II, box II.1), limiting their ability to demand goods and services from the rest of the world. This apparently has had second-order effects on non-commodity-exporting economies, unleashing a downward spiral in the value of global trade.

The value of global trade is falling, while the volume is showing some persistence

Global trade flows have slowed significantly in recent months, with total volumes of imports and exports projected to grow by only 2.6 per cent in 2015, the lowest rate since the Great Recession.<sup>6</sup> The source of the global slowdown in trade is primarily rooted in weaker demand from developing economies and a sharp decline in imports demanded by economies in transition. Global exports to the Commonwealth of Independent States (CIS) countries started to decline in 2014 and dropped sharply in 2015, as geopolitical tensions, weaker oil prices and declining remittances (see chap. III) led to large currency depreciations and erosion of real income in many of these economies. Import demand from the United States, on the other hand, accelerated, supported by the strong appreciation of the dollar since mid-2014 and relatively solid economic growth. Imports by the European Union (EU) economies have also strengthened and the EU demand is now a key impetus to the growth in world trade. On the other hand, sluggish growth, a weak yen and the slowdown in Japan's key trading partners in East Asia, particularly China, has had a dampening effect on global trade growth (figure I.9) (see chap. II for more details on trade flows).

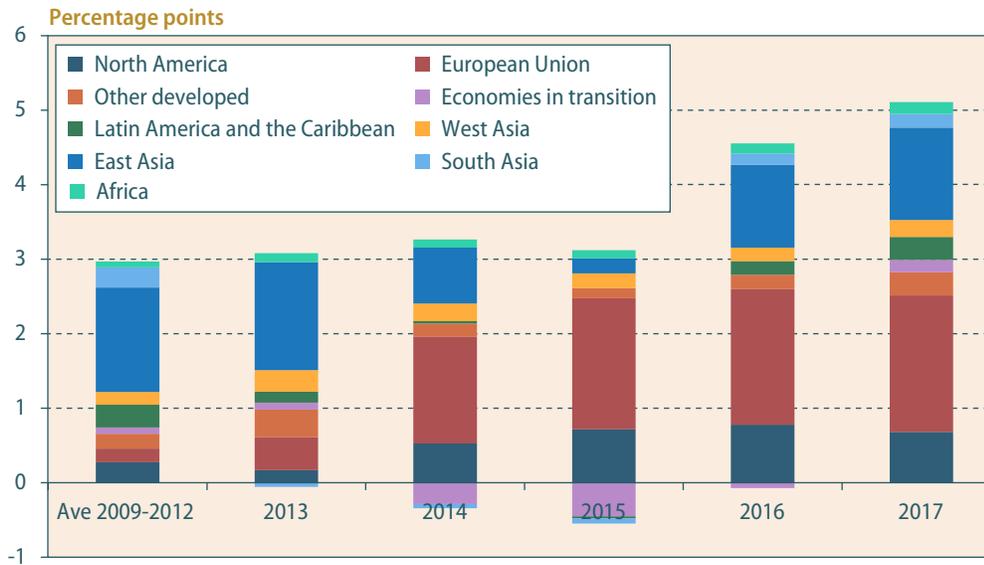
As growth in China moderates, import growth has slowed sharply from the double-digit rates recorded for most of the last two decades. Total East Asia imports grew by an estimated 0.9 per cent in 2015, after just 3.3 per cent growth in 2014. The anticipated slowdown of the Chinese economy will have significant adverse effects on the growth prospects of many economies. A larger-than-expected slowdown in China would have further adverse effects on global trade, reducing aggregate demand and slashing global growth.

## Commodity prices have registered sharp declines

The oil price has plummeted by more than 55 per cent since mid-2014, bringing down the price of oil to levels that prevailed a decade ago. Non-oil commodity prices have continued on the downward trend initiated in 2011, with a particularly sharp drop in metals prices during 2015. The UNCTAD nominal price index of minerals, ores and metals (figure I.10) dropped 13.3 per cent in the first 9 months of 2015, and the food price index dropped by 12.2 per cent. This has led to a substantial shift in terms of trade and a sharp deterioration of GDP growth in commodity-dependent economies.

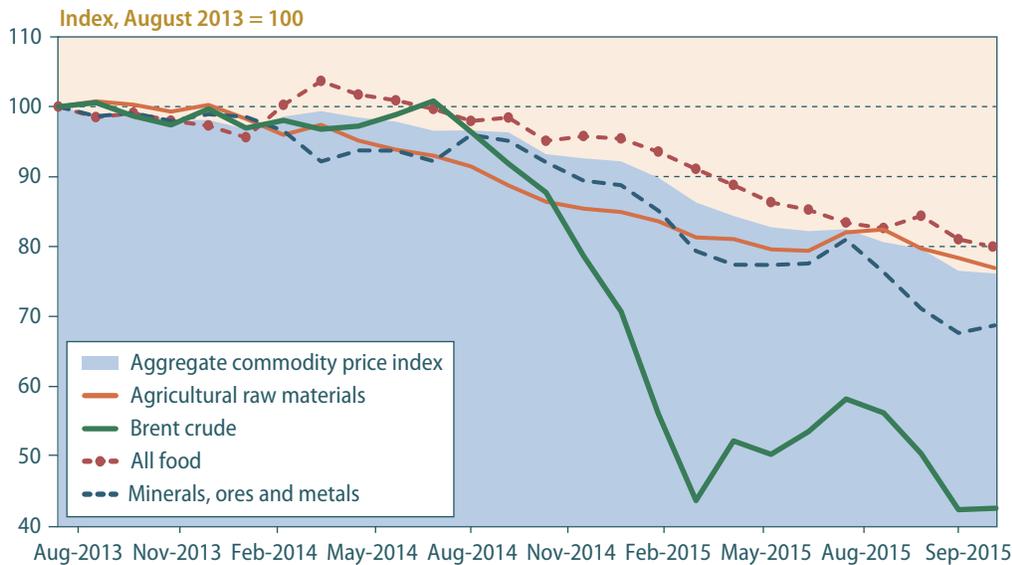
<sup>6</sup> See table A.16 for detailed trade figures and projections by region.

Figure I.9  
Regional contributions to world import growth<sup>a</sup>



Source: UN/DESA, based on United Nations Statistics Division National Accounts Main Aggregates Database.  
a 2015-2017 are forecasts.

Figure I.10  
Price indices of selected groups of commodities, August 2013–September 2015



Source: UNCTADstat.

The low level of oil and non-oil primary commodity prices is projected to remain stable and extend into 2016 before seeing modest recovery for some commodities, as downward pressures recede in the later part of the forecast period (see the appendix to this chapter for the oil price assumptions underlying this forecast). The global oil market continues to remain oversupplied and demand growth is not expected to accelerate in 2016, in line with the overall weak global economic conditions, especially in China and other emerging economies that have been the main oil and metal demand drivers for the past decade.

**Commodity prices are expected to remain subdued in the near term**

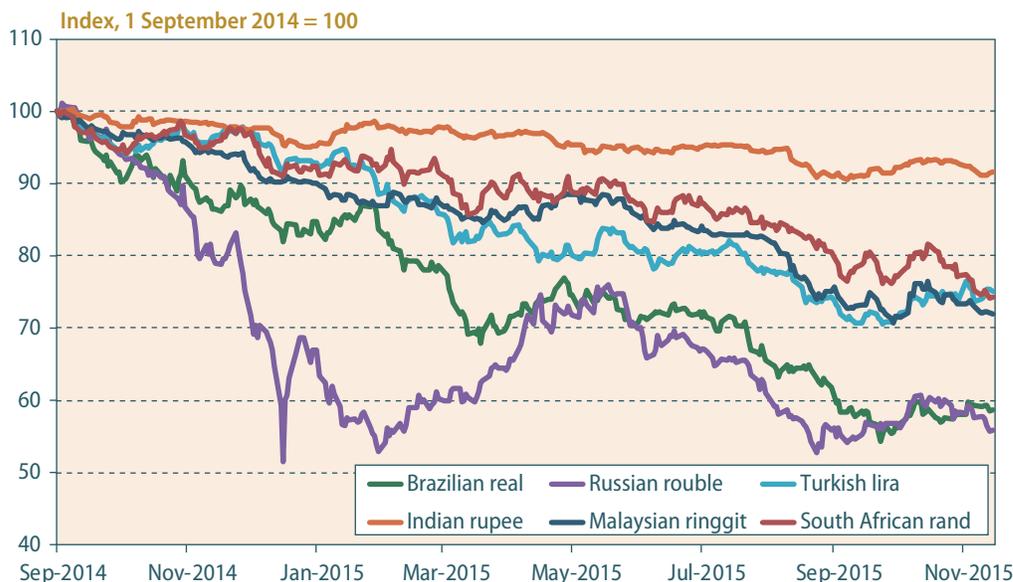
In the outlook period, world trade is expected to grow by 4.0 per cent and 4.7 per cent in 2016 and 2017, respectively. Weak commodity prices, increased exchange-rate volatility and the slowdown in many emerging economies, including China, will continue to exert some downward pressures on trade flows, but stronger demand in the United States and Europe will offset the downward pressures and contribute to reviving global trade growth.

## Rising volatility in exchange rates and capital flows

### Large swings in exchange rates

Against the backdrop of falling commodity prices, increased capital outflows from developing countries and diverging monetary policies, exchange-rate volatilities have become more pronounced. Global exchange-rate volatility has risen considerably since mid-2014, while many emerging-market currencies have plunged amid significant capital outflows. The downward pressure on emerging-market currencies partly reflects deteriorating market expectations about these economies amid expectations of a rise in United States interest rates. As illustrated in figure I.11, the weakness of emerging-market currencies against the dollar (and other developed-market currencies) has been broad-based, but the size of the depreciations has varied substantially. The Brazilian real and the Russian rouble have recorded the largest losses, and both countries remain mired in severe economic downturns, accompanied by elevated inflation. The sharp declines of emerging-market currencies against the dollar have contributed to concerns over the high level of dollar-denominated debt of many non-financial corporations in emerging markets. In the case of a sudden currency depreciation or increase in interest rates, deleveraging pressures are likely to rise along with risks of corporate defaults in these economies (see chap. III).

Figure I.11  
Exchange rates of selected emerging-market currencies vis-à-vis the United States dollar, 1 September 2014–23 November 2015



Source: UN/DESA, based on data from JPMorgan.

Between July 2014 and March 2015, the dollar index, which measures the value of the dollar against a basket of six major currencies, gained about 25 per cent. The Fed's decisions in June and September to delay its first rate hike has, at least temporarily, reduced the upward pressure on the dollar. However, a further widening of the policy gap between the Fed and other central banks, notably the European Central Bank (ECB) and the Bank of Japan, is expected to lead to a renewed strengthening of the dollar in 2016 (see the appendix to this chapter for the key exchange rate assumptions underlying this forecast).

In line with the large movements in nominal exchange rates, real effective exchange rates (REER) have changed significantly over the past year. The People's Bank of China in August adjusted the mechanism for setting the renminbi's daily reference rate—a move that resulted in a 3 per cent depreciation of the renminbi against the dollar. Despite this decline, the renminbi is still about 10 per cent stronger in real effective terms than it was in September 2014. On the other hand, the euro and the yen have depreciated by about 6 per cent, while the currencies of Brazil, Colombia and the Russian Federation have fallen by about 25 per cent in real effective terms.

These REER adjustments have been accompanied by rising exchange-rate volatility. Figure I.12 shows a measure of REER volatility for two groups of countries: 36 developed economies and 24 developing economies and economies in transition. Average exchange-rate volatility has increased significantly since mid-2014, in particular for the group of developing countries and economies in transition. While volatility is still much lower than during the global financial crisis and the emerging market crises of 1997-1998, it is relatively high for a non-crisis period.

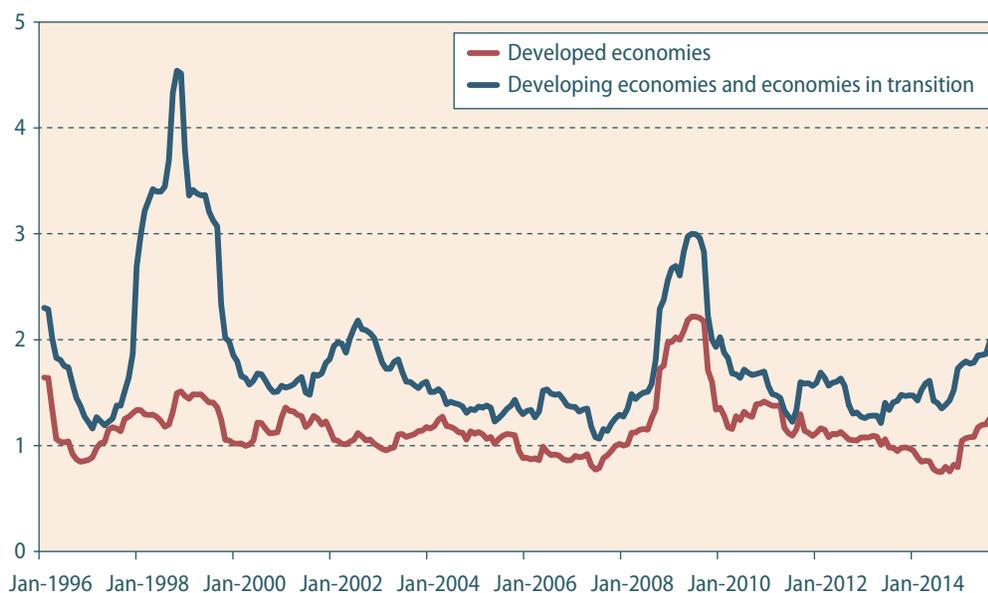
A key question, and related policy challenge, is how the large movements in real exchange rates will impact international trade and capital flows during the forecast period. A number of recent studies (including Ahmed, Appendino and Ruta (2015) and Ollivaud, Rusticelli and Schweltnus (2015)) suggest that the rising importance of global value chains

**The dollar remains strong amid global weaknesses**

**Developing-country exchange rates are experiencing both downward pressures and increasing volatility**

**Exchange-rate volatilities coincide with large swings in capital flows**

Figure I.12  
Real effective exchange-rate volatility, January 1996–September 2015



Source: UN/DESA, based on data from the Bank for International Settlements (BIS).

Note: The figure is based on monthly BIS data for real effective exchange rates for a total of 60 economies. The volatility is calculated as the standard deviation over a rolling 12-month period of the first difference of the logarithms of the monthly exchange rate. The resulting standard deviations are weighted by the respective country's 2012 share in global trade (exports + imports).

has dampened the relationship between real exchange-rate movements and trade flows. A new International Monetary Fund (IMF) (2015a) analysis, however, suggests that exchange-rate movements still tend to have strong effects on real trade volumes. This is expected to lead to a significant redistribution of real net exports from the United States to Japan and the euro area. At the same time, it provides a silver lining for some of the hard-hit emerging economies, as their exports are likely to receive a boost from depreciating emerging-market exchange rates.

### Capital inflows to emerging economies decline sharply

Sharp adjustments in commodity prices—and commensurate swings in exchange rates, as discussed in the previous section—have led to reduced capital flows to developing countries. The prospect of an imminent increase in the United States policy rate has also affected the volume and direction of capital flows, particularly to large developing economies. Changes in the relative rates of return, heightened risk aversion, deteriorating economic prospects (especially in commodity-exporting economies), and associated sharp realignments of exchange rates leave many developing economies and economies in transition vulnerable to a sudden stop, and reversal, of capital inflows, which may adversely affect their balance of payment and put further downward pressures on their exchange rates.

Capital inflows to developing countries experienced a sharp decline

Capital inflows to developing countries have already slowed noticeably, as domestic vulnerabilities and the effects of lower commodity prices have impacted their medium-term investment and growth prospects. In 2015, net capital inflows to emerging economies are projected to be negative for the first time since 2008. The current retrenchment in net capital flows to emerging markets is far more severe than that experienced during the financial crisis, with net capital outflows expected to reach about \$700 billion in 2015. While at the global level the bulk of the absolute deterioration in net capital flows can be attributed to China and the Russian Federation, the phenomenon is far more pervasive when considered relative to the size of individual economies. The decline in net capital inflows since 2013 has been associated with significant currency depreciations across a large number of economies, including Brazil, Indonesia, Mexico, South Africa, Thailand and Turkey. Several countries have also experienced sharp declines in equity prices and international reserves.

During the third quarter of 2015, portfolio outflows reached a record of \$40 billion, the largest withdrawal since 2008. Corporate debt in emerging economies has increased more than four times faster than GDP growth over the last decade (Institute for International Finance, 2015), with much of the new debt denominated in United States dollars (World Bank, 2015a). Given the appreciation of the dollar, this will increase the debt-servicing burden for many large firms. Deleveraging and a sharp reversal of bond flows remain a risk, particularly for economies where capital inflows have been driven by global liquidity rather than by economic fundamentals (Ayala, Nedeljkovic and Saborowski, 2015). Meanwhile, cross-border lending to emerging economies, which remains highly volatile, has also shown signs of weakness. In the second quarter of 2015, cross-border lending posted an annual decline for the first time since 2012 (Bank for International Settlements, 2015), reflecting growing weaknesses in emerging economies in Asia and Latin America.

Capital outflows may further impede investment and growth in developing economies

The risks of more pronounced capital outflows from developing economies and economies in transition are substantial. In the short term, portfolio liquidity could dry up and financing costs might rise abruptly in response to the anticipated interest rate rises of the Fed, putting pressure on exchange rates, equity prices and international reserves.

Such a scenario would exacerbate the difficulties that many economies face in reinvigorating investment, as volatile capital flows tend to amplify financial and real business cycles (Claessens and Ghosh, 2013). In the medium term, the adjustment in emerging economies to the new global conditions, including lower financial market liquidity and commodity prices and higher levels of risk aversion, will pose new challenges for monetary, fiscal and exchange-rate policies.

## Stagnant investment and diminishing productivity growth

The global financial crisis has had the most pronounced negative effect on investment rates. Notwithstanding the debates as to whether the lack of aggregate demand or the absence of structural reforms and improved business environment inhibit new investments, it remains clear that global investment rates have sharply declined since the onset of the financial crisis (figures I.13a and I.13b). After an early recovery in 2010-2011, the growth rates of fixed capital formation have sharply slowed down since 2012, exerting downward pressure on productivity, employment and growth. The growth rates of fixed capital formation nearly collapsed since 2014, registering negative quarterly growth in as many as 9 large developed and developing countries and economies in transition. Only a few economies, notably Finland, France, and Greece, saw acceleration in investment rates between 2014 Q1 and 2015 Q2.

Investment in productive capital has been even weaker than the total investment figures suggest, as dwelling and intangible assets account for the majority of investment in developed economies. According to OECD data on fixed capital formation, investments in intangible and intellectual property assets together represent the largest share of fixed capital formation in a number of developed economies in 2014, including in Germany (47.2 per cent) and the United States (42.3 per cent). Acquisition of intangible assets, such as trademarks, copyrights and patents, may increase financial returns to firms without necessarily increasing labour productivity or productive capacity. Fixed capital formation is, however, likely to witness a moderate increase during the forecast period, supported by less restrictive fiscal positions, an accommodative monetary policy stance and also by reduced macroeconomic uncertainty and stabilization of commodity prices. Low (but stable and predictable) commodity prices are likely to attract new investments in the sector.

### Diminishing productivity growth

Alongside declines in investment rates, productivity growth has also slowed down significantly in recent years across a large set of economies (table I.3). During the pre-crisis period, the United States and the euro area countries registered healthy growth in labour productivity, averaging 1.5-2.0 per cent per year. Productivity growth has also slowed down in developing economies, which underscores the need for improving infrastructure, investing in human capital and implementing structural reforms (i.e., improving corporate governance, the business environment and competitiveness). In addition, decent work, job security and employment benefits can also contribute to boosting productivity growth in developing countries.

Investment growth nearly collapsed in both developed and developing economies during the post-crisis period...

...and investment in productive capacities has been even weaker

Figure I.13a  
**Developed countries' fixed investment growth: before and after the crisis**



Figure I.13b  
**Selected other countries' fixed investment growth: before and after the crisis**



Table I.3  
Growth of labour productivity, before and after the crisis

	Average percentage change per year	
	2001–2007	2009–2014
France	1.5	0.9
Germany	1.3	1.2
Japan	1.6	1.2
United Kingdom	2.2	0.3
United States	2.0	0.9
China	9.5	7.4
India	4.4	7.0
Russian Federation	5.4	2.0
South Africa	3.1	1.5

Source: UN/DESA, based on data from OECD and Asian Productivity Organization.  
Note: Measured as real GDP per hour worked.

A composite growth accounting for 128 economies (representing over 95 per cent of the world economy) shows that the combined contribution of labour quality, labour quantity and total factor productivity to total global growth declined from 52.5 per cent during the period 2002–2007 to 16.8 per cent during 2009–2014, marking a commensurate sharp increase in capital intensity of growth (figure I.14a). In 26 developed economies, the contribution of these three factors declined from 44.9 per cent to 10.8 per cent, with the quantity of labour contributing negatively (-9.2 per cent) to output growth in these economies during the post-crisis period (figure I.14b).

While investment growth remained stagnant or fell in many economies, the contribution of capital to total growth increased worldwide during the post-crisis period, which presents a growth accounting puzzle. In a growth accounting framework, the contribution of capital to total output includes capital services rendered by existing capital stocks—in the form of depreciation and depletion—and also new capital investments. With both labour inputs and investment growth falling since the global financial crisis, capital services from existing capital stock accounted for most of the growth during the post-crisis period.

The slowdown in productivity growth is closely linked to the near collapse in investment rates. However, Gordon (2012) argues that the productivity slowdown is inevitable, given that new innovations have been less effective in generating large-scale productivity growth compared to innovations in earlier generations. According to Gordon (*ibid.*), demography, education, inequality, globalization, energy and environment, and the overhang of consumer and government debt will put downward pressure on productivity growth in developed economies. On the other hand, Bloom and others (2012) argue that increased uncertainty also reduces productivity growth because it reduces the degree and pace of reallocation in the economy, which is usually one of the key drivers of productivity growth.<sup>7</sup> However, Bloom and others (*ibid.*) caution that the productivity slowdown did not cause the recession. Instead, it was a by-product of the Great Recession.

Reversing the trends in productivity growth will be critical for putting the world economy on a trajectory of sustained, inclusive and sustainable growth, as envisaged in the

**Labour productivity growth has been stunted in recent years**

<sup>7</sup> Foster, Haltiwanger, and Krizan (2000; 2006) show that reallocation, mainly entry and exit of firms, accounts for about 50 per cent of manufacturing and 80 per cent of retail productivity growth in the United States.

Figure I.14a  
Growth accounting at the global level, 2009–2014 and 2002–2007

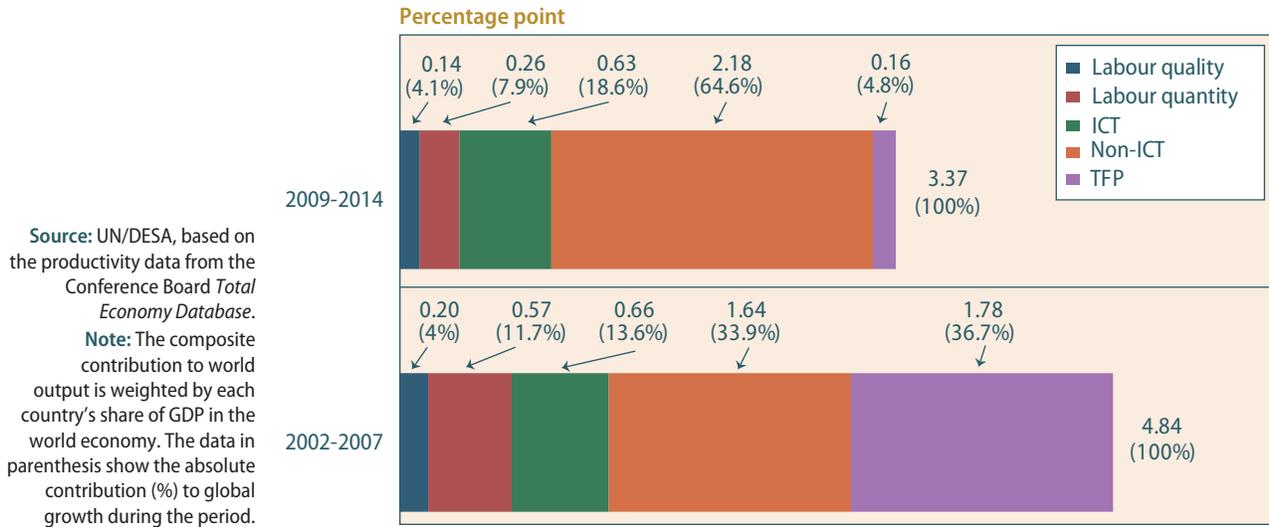
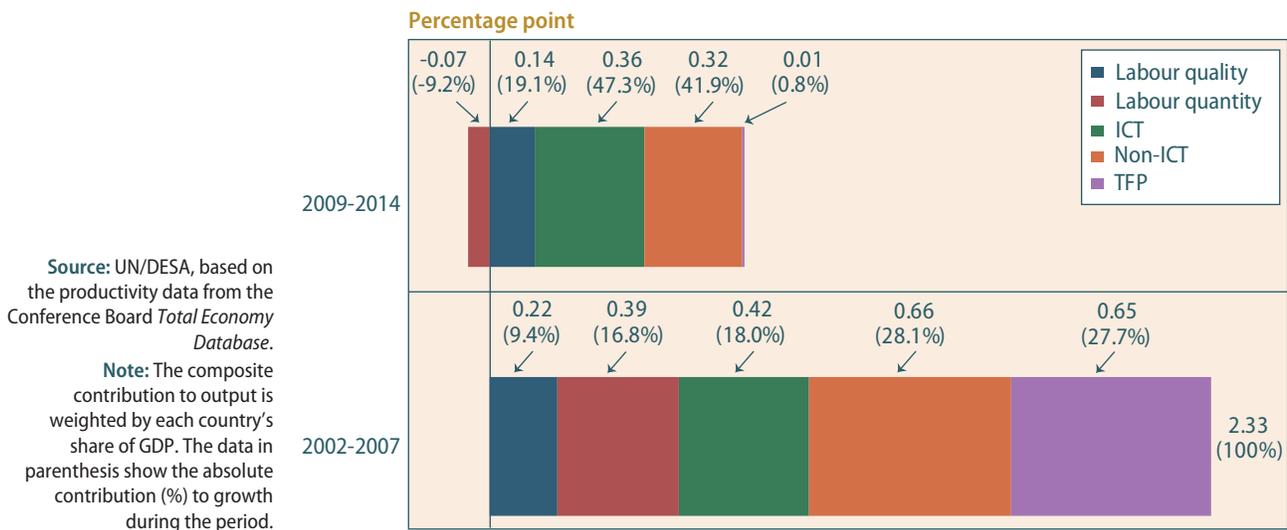


Figure I.14b  
Growth accounting for developed economies, 2009–2014 and 2002–2007



2030 Agenda for Sustainable Development. This will require extensive policy efforts and coordination among fiscal, monetary and development policies to increase investments in physical infrastructure and human capital. This will also require alignment of policies and effective regulations to ensure that the financial sector facilitates and stimulates long-term and productive investment. There also needs to be greater international policy coordination and support to facilitate transfer and exchange of technologies, which can also help stimulate productivity growth.

## Continued disconnect between finance and real sector activities

A growing disconnect between finance and real sector activities is evident in the data: fixed investment growth nearly collapsed (figures I.13a and I.13b), while debt securities (a financial instrument to raise capital) issued by non-financial corporations increased by more than 55 per cent between 2008 and 2014, representing a nearly 8 per cent increase per year (table I.4). One plausible explanation is the weak aggregate demand in developed economies, which has discouraged new investment. Policy uncertainties and the risk of deflation also partly explain the collapse in investment. On the other hand, the structural transformation of economies, with most of the growth coming from the service sector, provides another explanation. Service sectors typically require less capital inputs to produce outputs. Frey (2015), for example, has argued that digital technologies are much less capital-absorbing, creating little new investment demand relative to other revolutionary technologies. But there has been little or no structural transformation in the developed economies since the financial crisis to support this argument. The share of service sectors, including ICT sectors, has remained reasonably constant during the post-crisis period. Summers (2014) blames low real interest rates for the growing disconnect between finance and real sector activities, which, according to him, encourages excessive risk-taking by the financial sector and “greater reliance on Ponzi finance and increased financial instability” (ibid., p. 69). While the low real interest rates since the financial crisis partly explain the rapid build-up of the stock of financial assets—including the build-up of debt-securities and equity prices—it does not explain why this did not lead to investment booms in the developed countries.

The total stock of financial assets worldwide is estimated at \$256 trillion at the end of 2014 (figure I.15), increasing from \$184 trillion at the end of 2008. Total financial assets in the world—measured in terms of all debt securities outstanding, equities and the stock of bank credit—exceeded the pre-crisis level as early as 2010. Given the rapid build-up of financial assets and the decoupling of finance and real sector activities, the world economy again faces the risk of rapid financial deleveraging, as observed at the onset of the financial crisis between the second and fourth quarters of 2008. In G7 economies, the financial sector deleveraging of securities averaged 6.1 per cent of GDP during those periods (figure I.16). In the United Kingdom of Great Britain and Northern Ireland, total deleveraging was as high as 18.3 per cent of GDP in 2008. The data also show a strong correlation between financial sector deleveraging and GDP contraction during the last two quarters of 2008. During the years leading up to the crisis, the financial sectors rapidly increased their

**Financial sector recovery has been swift and has outpaced real sector recovery**

Table I.4  
Global debt securities outstanding

Billions of United States dollars	2002 Q4	2008 Q4	2014 Q4
Total debt securities	42,426	76,532	92,867
<i>issued by:</i>			
Financial corporations	19,664	38,998	36,629
Non-financial corporations	5,585	7,226	11,211
General government	17,001	29,950	44,743
<i>of which:</i>			
International debt securities	7,374	17,648	19,763

Source: UN/DESA, based on the BIS debt securities data.

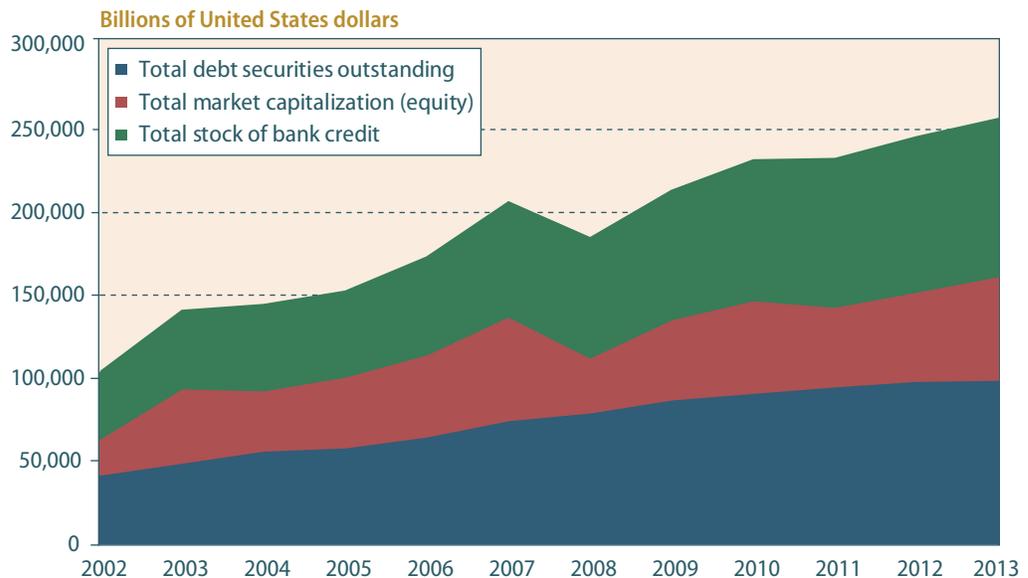
Note: The different types of securities do not add up to the total because of some over-laps of securities issued by financial and non-financial corporations.

leverages to finance activities, including the risky activities by non-bank financial sectors (shadow banks). With the collapse of Lehman Brothers in September 2008, many financial firms were forced to rapidly deleverage as their equity prices collapsed and debt-to-equity ratios skyrocketed. Preliminary UN/DESA estimates suggest that 1 per cent deleveraging is associated with a 0.1 per cent contraction in GDP growth in 16 developed economies, while controlling for changes in credit flows and market capitalization (figure I.17). On the other hand, the correlation between the net change in market capitalization and the net contraction in GDP is very weak, controlling for net changes in leverage and credit stock. One possible explanation is that the fall in market capitalization affects GDP only through indirect channels—mostly wealth effects—and those, too, with a lag.

**Deleveraging pressure is on the rise**

A similar deleveraging pressure may rise—particularly in developing countries—with increases in the United States policy rates, which may increase the debt-servicing cost and the counter-party risks of borrowing firms. A sudden and disorderly adjustment in equity prices could increase the debt to equity ratio of highly leveraged firms and force them to reduce their debt level to avoid defaults. The deleveraging may increase financial market volatility and have significant negative wealth effects on households and corporations, reducing investment and aggregate demand and possibly pushing the world economy towards an even weaker growth trajectory than currently anticipated.

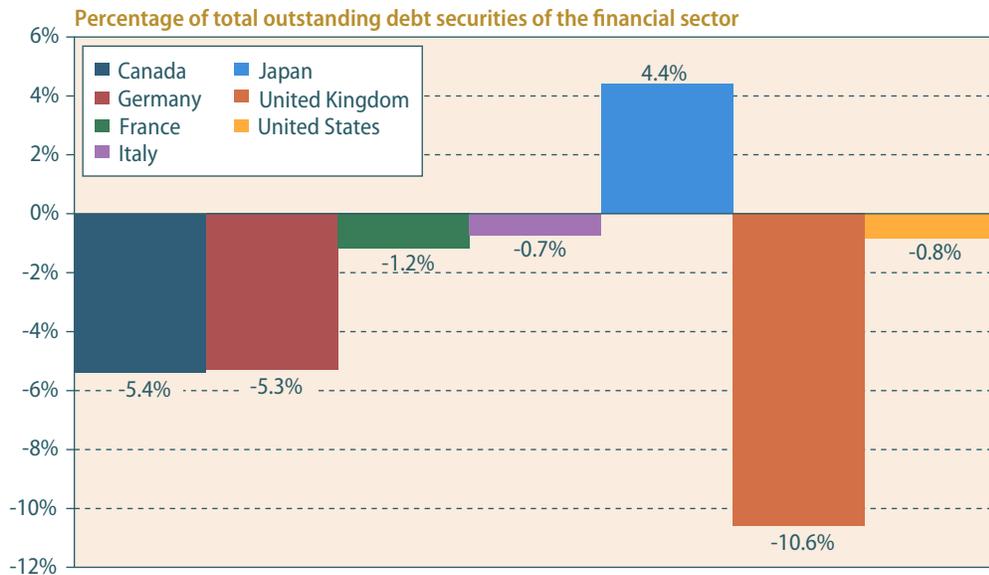
Figure I.15  
The stock of financial assets, 2002–2013



## Economic growth, poverty and carbon emission

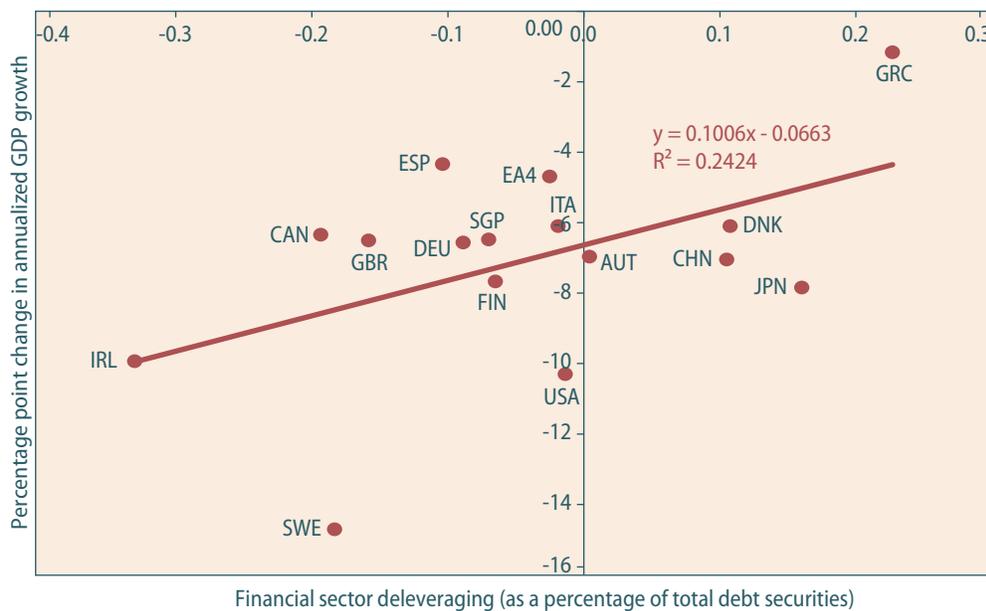
The 2030 Agenda for Sustainable Development underscores the imperative of achieving inclusive and sustainable economic growth. On the one hand, this will require a recoupling of growth and poverty reduction, and on the other, a decoupling of growth and emission

Figure I.16  
Financial sector deleveraging, 2008 Q2–2008 Q4



Source: UN/DESA, based on the BIS debt securities data.

Figure I.17  
Financial sector deleveraging of securities and net contraction in GDP growth, 2008 Q2–2008 Q4



Source: UN/DESA, based on the BIS debt securities data.

Notes: EA4 refers to Belgium, France, the Netherlands and Portugal. See table J in the Statistical Annex to this publication for definitions of country codes.

levels to ensure that economic growth is sufficiently inclusive and sustainable. Given the imperative of sustainable development, the following section presents an analysis of the recent trends in growth, poverty reduction and environmental sustainability.

## Growth and poverty reduction

According to the *Millennium Development Goals Report 2015* (United Nations, 2015c), the proportion of people living in extreme poverty in developing countries declined by 50 per cent between 1999 and 2011. Nonetheless, one in five people in developing regions still live below the international poverty line of \$1.90 a day and the improvements have been unevenly spread across regions. In sub-Saharan Africa, for instance, extreme poverty declined by just 21 per cent, while in East Asia it declined by 82 per cent. In order to progress further with the goal of poverty reduction, the Sustainable Development Goals (SDGs) provide a number of targets to support economic growth including economic diversification, technological upgrades and innovation, development of high value added and labour-intensive sectors; while targets to reduce economic inequality include implementing social protection systems and achieving gender equality and equal pay for work of equal value. Both stronger growth and redistribution may be addressed by such targets as broadening access to finance and economic resources, achieving universal health care, ensuring inclusive and equitable education and building resilient infrastructures.<sup>8</sup>

Reduction in inequality can have lasting, positive effects on poverty reduction

The relationships between growth, poverty and inequality are complex, as highlighted by Kanbur (2004). One generally finds a negative correlation between growth in per capita income and poverty. A decline in inequality is also generally associated with declining rates of poverty. These relationships follow from the interlinkages between poverty, average income and income distribution, as shown by Bourguignon (2003). This relationship also shows that the pace of poverty reduction is related to prevailing levels of economic development and relative income inequality. The percentage decline in the poverty headcount ratio associated with a rise in income will accelerate as average income in the economy rises, while reduction in inequality can also permanently accelerate the speed of poverty reduction (*ibid.*), allowing a virtuous circle to develop, provided both targets can be achieved simultaneously. However, the relationship between income growth and inequality is much less straightforward. Growth in GDP per capita can only necessarily reduce poverty if it does not at the same time increase inequality; the data on this relationship show considerable variation and the academic literature is inconclusive.

Figure I.18 illustrates the relationship between income growth and the poverty headcount ratio for a sample of 90 developing economies and economies in transition. On average, a 1.0 per cent rise in GDP per capita is associated with a 1.5 per cent decline in the poverty headcount ratio in this sample. This relationship is often referred to as the “income elasticity of poverty” and is broadly in line with elasticity estimates from other studies.

While different rates of GDP growth per capita can clearly explain some of the observed heterogeneity in poverty reduction across countries, the observed correlation is relatively loose, reflecting differences in the levels of development, the level of income inequality, and the change in income inequality over the sample period. The relationship between the income elasticity of poverty and the level of development, measured as the distance between the poverty line and average income, is intuitively straightforward. Where the poverty gap

<sup>8</sup> See <https://sustainabledevelopment.un.org/topics>.

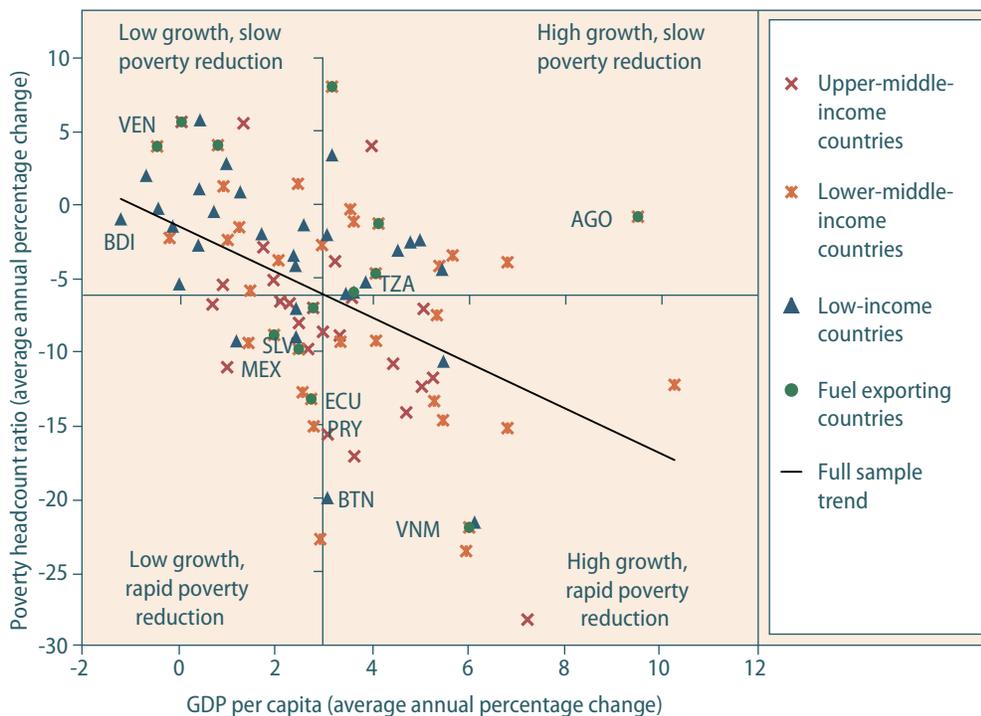
is high, for a given path of economic growth the decline in poverty in percentage terms will be smaller than in countries with a lower incidence of extreme poverty. In the figure, it is clear that the majority of low-income countries have seen relatively slower rates of poverty reduction, while upper-middle-income countries have generally seen faster rates. Fragile and conflict-affected countries are particularly vulnerable to high poverty rates, with little prospect for either economic growth or income redistribution. For example, Burundi falls within the quadrant of low growth and slow poverty reduction in figure I.18 reflecting the fact that the sample period falls within the period of the Burundian Civil War.

The income elasticity of poverty has been strong in many Latin American economies. While these countries had relatively lower levels of extreme poverty at the onset compared to the low-income countries in the sample, the implementation of more redistributive policies has also been a crucial factor that allowed poverty to recede rapidly. Redistributive policies or other fiscal or employment policies that prevent inequalities from rising can, thus, significantly accelerate poverty reduction for a given rate of economic growth.

The sectoral composition of production also has implications for income distribution and the evolution of relative income inequality, and, consequently, poverty. When economic growth is led by sectors that are labour intensive, such as agriculture, construction and manufacturing, the impact of GDP growth on poverty reduction tends to be stronger (Loayza and Raddatz, 2006). This reflects the impact on income distribution: a closer relationship between production and employment growth in these sectors allows more inclusive growth, with greater potential to create jobs and support wages of the lowest-income groups. Labour-intensive growth has been an important factor behind declining inequality

**Redistribution can positively affect both growth and poverty reduction**

Figure I.18  
Relationship between poverty headcount ratio and income growth



Source: UN/DESA based on United Nations Statistics Division National Accounts, United Nations population statistics, World Bank Poverty and Equity Database.

Note: The sample includes 90 developing economies and economies in transition. High-income countries are excluded. Time periods differ across countries owing to data available, but extend 5-15 years to the most recent available observation. Axes cross at the mean growth rates for each series, so that the quadrants include observations above or below these means. See table J in the Statistical Annex to this publication for definitions of country codes.

**Growth slowdown will  
impede global poverty  
reduction efforts**

in several economies located in East and South Asia. In Viet Nam, for example, agriculture, construction and manufacturing sectors together accounted for nearly 50 per cent of production in 2000. This, together with important progress in providing universal education, may help to explain the impressive decline in extreme poverty in Viet Nam over the last 15 years. Conversely, resource-rich economies that have a dominant energy or mining sector, which are highly capital intensive, tend to have a weaker relationship between GDP growth and poverty reduction (Christiaensen, Chuhan-Pole and Sanoh, 2013). While per capita GDP growth in resource-rich countries in Africa was measurably higher than in resource-poor countries in the past decade, poverty reduction registered a faster pace largely because of higher employment intensity of growth in the resource-poor economies.

Looking forward, the broad slowdown in economic growth in many developing economies can be expected to restrain progress in poverty reduction in the near term. Poverty rates remain high in many parts of the world, most notably in sub-Saharan Africa, where in many countries more than 50 per cent of the population still lives below the poverty line of \$1.90 per day. While GDP growth per capita is expected to hold up moderately well in this region, achieving the SDG target of achieving at least 7 per cent GDP growth per annum in the LDCs is most likely unattainable in the near term. Recent experiences with poverty reduction show that strong economic growth in itself is not sufficient to maintain and accelerate the momentum of poverty alleviation, but must be accompanied by some form of redistribution. Policies aimed at reducing inequality, such as investment in education, health and infrastructure, and building stronger social safety nets, can play a crucial role. The promotion of labour-intensive industries can also be an effective policy for poverty reduction, so long as this is not achieved at the expense of productivity growth, which is essential for real wage growth and decent work as envisaged in the 2030 Agenda for Sustainable Development.

## Growth and environmental sustainability

Global energy-related carbon emissions experienced no growth in 2014 for the first time since 1990 (except for 2009, when the global economy contracted, and 1992, the year after the dissolution of the Soviet Union (figure I.19a)).<sup>9</sup> The latest evidence shows signs that the world might start to see some delinking between economic growth and carbon emissions. While still accounting for only about 13 per cent of the world's total energy consumption, low-carbon energy sources accounted for over 50 per cent of the new energy consumption in 2014—the first time in 20 years.<sup>10</sup>

As an example, China saw a net decline of 1.5 per cent in its carbon emissions in 2014. It follows a decade of continuous improvement in carbon intensity (i.e., carbon emissions per unit of GDP) and reflects the gradual shift in energy structure from a heavy reliance on fossil fuel, particularly coal, to renewable energy sources. The expected continuing expansion of the service sector and the declining growth of investment (particularly in heavy industries) in the context of structural transformation should further weaken the link between economic growth and carbon emissions. Despite the stall of global carbon emission growth in 2014, it is not certain that the stabilization trend continued into 2015 and the rest of the forecast

<sup>9</sup> Unless otherwise specified, carbon emissions in this section refer to energy-related carbon emissions. See International Energy Agency (2015).

<sup>10</sup> Low-carbon energy sources include hydro, wind, geothermal, solar, non-traditional biomass and nuclear. See BP Global (2015).

period. Some of the weather factors that contributed to the 2014 emissions decline in certain regions might weaken. China, for example, experienced significant growth in hydropower generation in 2014 largely due to above-trend rainfall; also, its carbon emissions level is not expected to peak until between 2020s and early 2030s.<sup>11</sup> Additionally, low oil prices will hamper emissions mitigation efforts should the oil prices remain subdued.

In 2014, renewable energy investment reversed its two-year downward trend and reached \$270.2 billion, up 17 per cent from 2013 levels (United Nations Environment Programme, 2015). It reflects strong policy support and a growing realization among institutional investors that renewable energy is a stable and relatively low-risk investment. The rise in renewable energy investment in 2014 contrasts the sharp slowdown of overall fixed investment growth since 2012. Considering the significant decline in capital cost in renewable energy sources over the past several years—wind and solar in particular—the investment increase is even more impressive, as each dollar of investment is translated into more renewable power capacity than previous years. At the global level, it is estimated that about 103 gigawatts (GW) of renewable power capacity (excluding large hydro) was installed in 2014. Wind and solar photovoltaics alone accounted for 95 GW of newly installed capacity in 2014, surpassing the total renewable power capacity of 86 GW installed in 2013. It is estimated that renewable energy accounted for 48 per cent of the net power capacity installed in 2014 and its share of total global electricity generation reached 9.1 per cent, up from 8.5 per cent in 2013. Developing countries witnessed \$131 billion of renewable energy investment in 2014 and have been quickly catching up with the developed countries, which saw a total investment of \$139 billion in the same year (figure I.19b). Among all economies, China led renewable energy investment with \$83.3 billion in 2014.

**Investment in renewable energy is on the rise**

Despite the low oil prices, renewable energy investments remained strong in the first three quarters of 2015, at roughly an equal level as the same period in 2014. A possible explanation is that oil and renewable energy are largely used for different purposes: the former is mainly used in the transportation sector, whereas the latter for electricity generation. At the global level, only about 4 per cent of electricity is generated from oil. However, since gas and oil prices are linked in many markets and gas is more commonly used for generating electricity, the impact of low oil prices on renewable energy investment could start to pass through, should oil prices remain low. Even in that case, oil prices would need to plunge considerably further to have a strong impact. It is estimated that the outlook of mature renewable energy sources such as wind and solar would be only significantly affected if the oil prices drop to about \$20-30 per barrel (Goossens, 2015).<sup>12</sup>

**Investments in renewable energy remain strong despite subdued oil price**

The latest available cross-country data in 2012 show an inverted U-shaped relationship between per capita GDP and per capita carbon emission (figure I.19c). Rather than implying countries will automatically witness a fall in per capita emissions after reaching certain income levels,<sup>13</sup> it reflects the combined effects of the various factors in determining emissions trajectory. These factors include the changes in energy prices and energy structure, economic

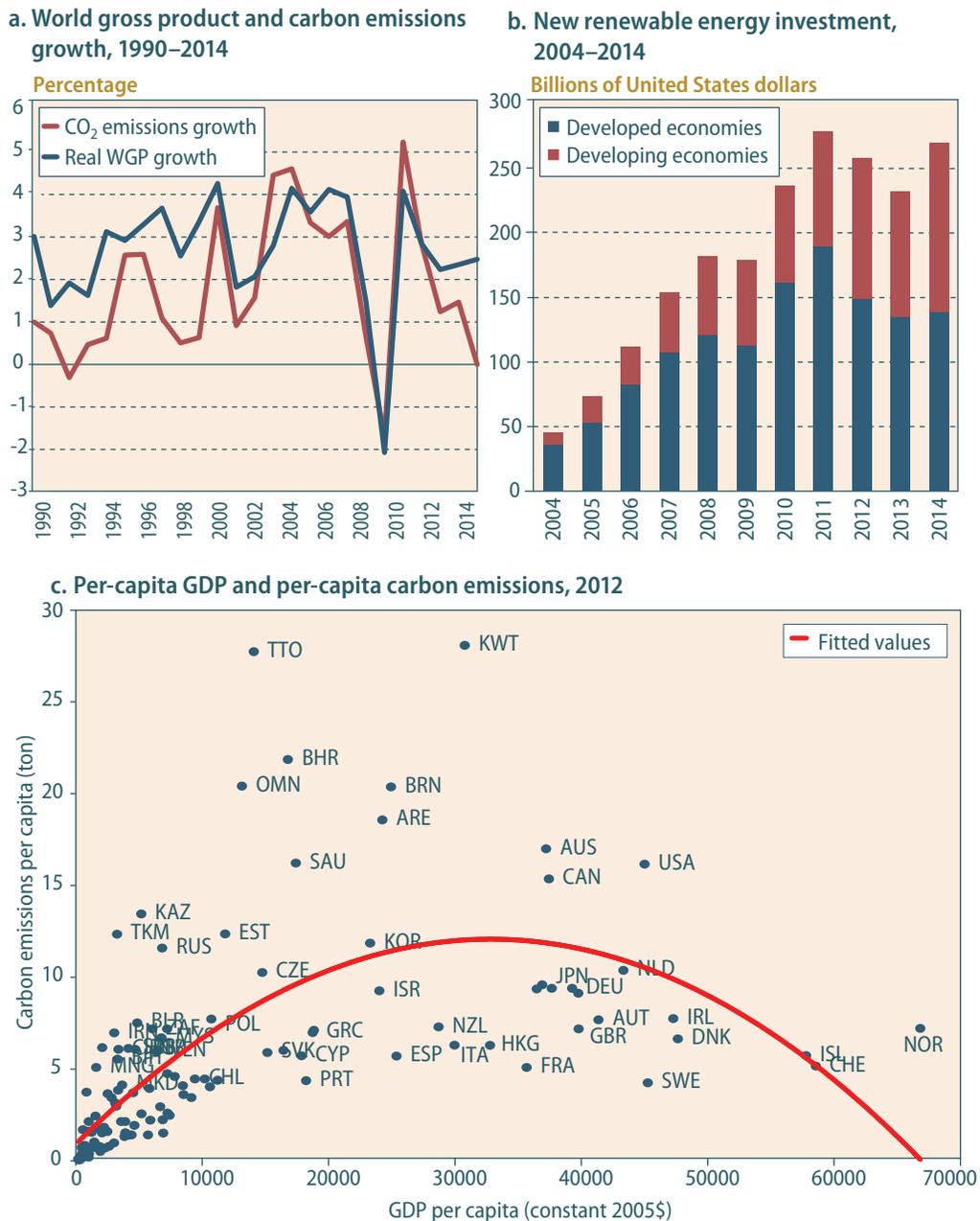
<sup>11</sup> As part of its intended nationally determined contribution communicated to the United Nations Framework Convention on Climate Change Secretariat, China has committed to reach carbon emission peak by about 2030.

<sup>12</sup> For example, Deutsche Bank estimates that electricity generated from oil would cost about \$0.08/kWh at the oil price level of \$40 per barrel. Given that unsubsidized rooftop solar electricity typically costs between \$0.08-\$0.13/kWh, oil prices would have to drop below \$40 to make electricity generated from solar power uncompetitive when compared to that generated from oil. See Deutsche Bank (2015).

<sup>13</sup> In the literature, there is no clear consensus on the existence of the inverted U-shaped relationship between emissions and growth—the so-called Environmental Kuznets Curve—when other control variables are being taken into account.

structural transformation, and emission mitigation policies adopted by the Government, among others. On the other hand, global warming resulting from high atmospheric concentration of greenhouse gas emissions also has economic consequences. Immediate impacts can be transmitted through extreme weather events that affect agriculture, displace populations, bring damages to infrastructures, etc. Climate change is also posing increasing risks to global financial stability: for example, insurance companies are facing a rising number of claims

Figure I.19  
Emission levels and renewable energy investments



associated with large-scale, costly natural disasters caused by extreme weather.<sup>14</sup> Structural transformations that shift the economy towards a low-carbon path and impose stringent restrictions on carbon emissions could also lead to a repricing of assets—particularly those related to natural resources and extraction sectors—and change the incentive structures to minimize carbon footprints and promote sustainable development.

## Policy stances, challenges and the way forward

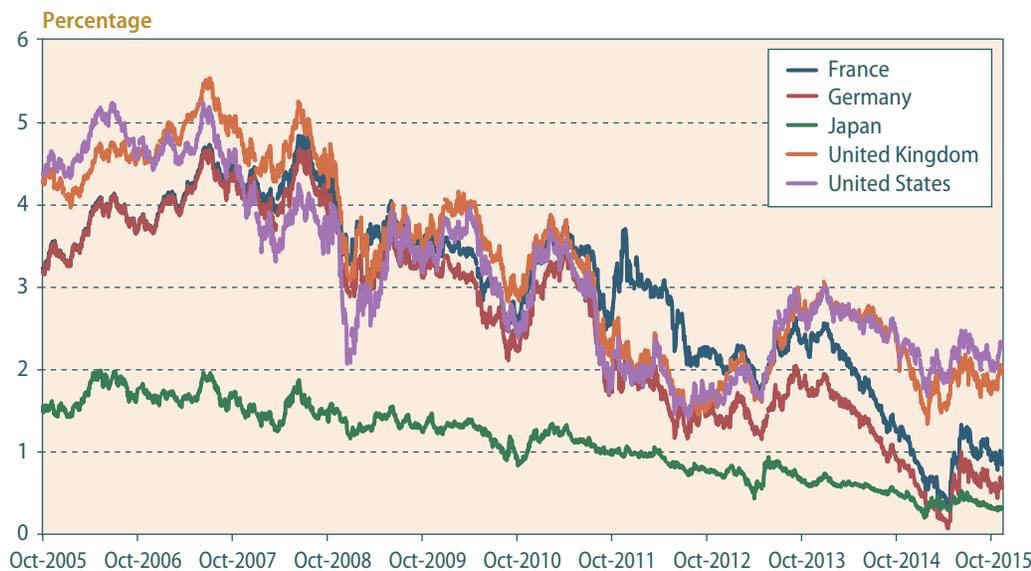
### Monetary policy

Global monetary policy has remained generally accommodative in the face of weakening growth and subdued inflationary pressures in many parts of the world. In 2015, developed economies continued to rely on accommodative monetary policy—such as asset purchases in the euro area and Japan and near-zero (or negative) policy rates—to deliver growth. There is, however, a growing understanding among policymakers that monetary easing is not sufficient for stimulating real economic activity. While accommodative monetary policy stances helped avert a financial sector meltdown and prevent a prolonged recession, they have not been as effective as expected in stimulating investment and growth. The key monetary policy assumptions underlying the central forecast, and forecast sensitivities to these assumptions, are reported in the appendix to this chapter.

Monetary policy stances during the post-crisis period clearly kept the cost of borrowing at historically low levels. From a historical perspective, both short- and long-term interest rates in developed economies are still very low. Figure I.20 shows ten-year govern-

Monetary easing prevented further worsening of the economic slowdown

Figure I.20  
Ten-year government bond yields in selected developed economies,  
October 2005–October 2015



Source: UN/DESA, based on data from JPMorgan.

<sup>14</sup> For example, it is estimated that, while holding other factors constant, the 20cm of sea level rise at the southern tip of Manhattan since the 1950s has increased insured losses from 2012 Hurricane Sandy by 30 per cent in New York. See Lloyd's (2014).

**Monetary policy stances of developed economies are expected to diverge**

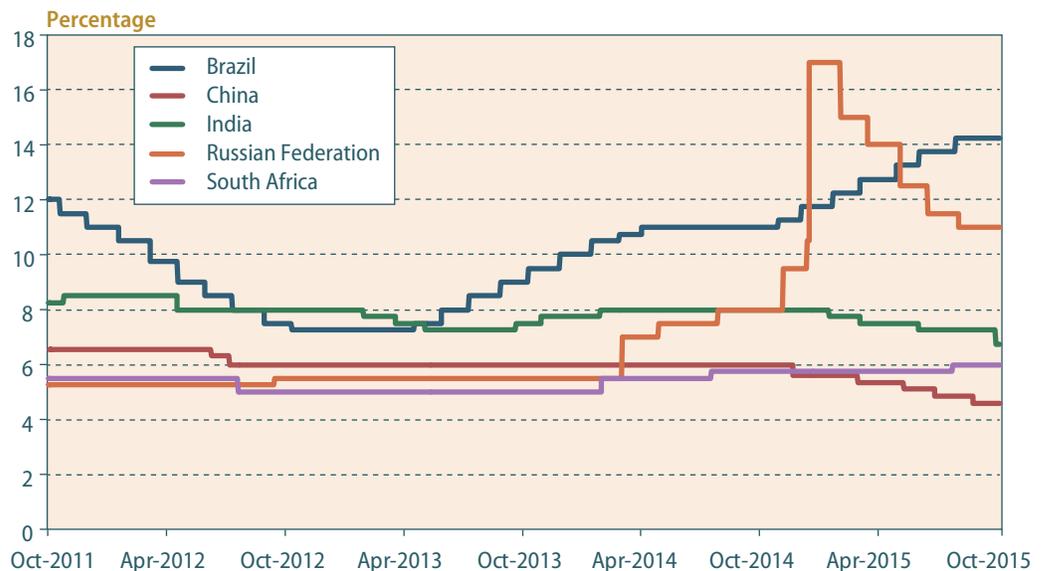
ment bond yields since October 2005 for France, Germany, Japan, the United States and the United Kingdom.

While monetary conditions in most developed economies remain loose, the policy stances of the Fed and other major central banks have diverged over the past year. The Fed has moved closer to its first interest-rate hike since 2006 as the labour market in the United States has continued to improve gradually. However, amid concerns over the impact of global economic weakness on domestic activity and inflation, the Fed rate rise is now expected to occur in December 2015, but could be pushed into 2016 in the case of a weaker-than-expected global economic outlook. After the initial lift-off, the pace of interest-rate normalization by the hike is likely to be slow and highly sensitive to inflation and job market developments.

Unlike the Fed, other developed-country central banks, including the ECB and the Bank of Japan, are still easing monetary policy. The ECB continues to implement its expanded asset purchase programme, which was launched in March 2015 in an attempt to steer inflation closer to the 2 per cent target. The monthly asset purchases of public and private sector securities amount to an average of €60 billion and are expected to be carried out through the end of March 2017. While the programme has supported the recovery of the euro area, a downgrading of the inflation forecast has opened the door for further stimulus. A first interest-rate increase by the ECB is not expected until late 2017 or 2018. The Bank of Japan has maintained the pace of asset purchases under its quantitative and qualitative monetary easing programme (QQME), targeting an increase in the monetary base at an annual pace of about 80 trillion yen. The authorities have not specified an end date for the programme, indicating that it will continue until inflation is stable at 2 per cent. The likelihood of a further expansion of the programme has increased in recent months as headline and core inflation once again declined and economic activity weakened.

Against the backdrop of weakening growth, rising financial market volatility, sharp exchange-rate depreciations and increasing portfolio capital outflows, monetary policies in developing and transition economies have shown some divergence in 2015 (figure I.21).

Figure I.21  
Central bank policy rates in the BRICS, October 2011–October 2015



Source: UN/DESA, based on data from various National central banks.

Many Asian central banks cut their policy rates in 2015, responding to declining inflation and seeking to support growth.

The People's Bank of China has reduced its one-year benchmark lending rate six times since November 2014, lowering the rate from 6 per cent to 4.35 per cent. The authorities have also used other measures, such as reserve requirement cuts and targeted lending facilities, to inject liquidity into the economy. The Reserve Bank of India cut its main policy rate four times in 2015, by a total of 125 basis points. For many developing economies, especially those with open capital accounts, the monetary policy stance over the next two years will not only depend on growth and inflation trends, but also on potential spillover effects of policy changes in the United States.

In several South American and African countries, including Brazil, Colombia, Kenya and South Africa, monetary policy has recently been tightened in a bid to halt rising inflation, significant capital outflows and large currency depreciations. For most of these countries, the monetary tightening is expected to further lower growth prospects, which have already been hit by the drop in commodity prices and a range of domestic factors.

**Developing countries and economies in transition face new constraints in maintaining accommodative monetary policy stances**

## Fiscal policy

Most of the developed economies—whose fiscal deficits and public debt levels are averaging about 3 per cent and 100 per cent of GDP, respectively—have gradually transitioned since 2013 from post-crisis consolidation of public finances to a more neutral fiscal stance. With few exceptions, no significant fiscal drag is expected in 2015-2016 in developed countries. The key fiscal policy assumptions underlying the central forecast, and forecast sensitivities to these assumptions, are reported in the appendix to this chapter.

In the United States, the federal budget deficit has improved by 7 percentage points of GDP since 2009, supported by stronger economic growth in 2014-2015. Following several years of austerity, the fiscal policy stance has become more neutral, and this is expected to continue in the near term. Real federal government consumption expenditure is expected to remain at 2015 levels in both 2016 and 2017, but given the moderate improvement in the state and local government fiscal positions, real government expenditure at this level will grow by about 1 per cent in both 2016 and 2017.

Among the countries of the EU, fiscal policy stances diverge. Several EU members, including France, are running budget deficits exceeding 3 per cent of GDP and have to consolidate their public finances, complying with the Excessive Deficit Procedure of the EU. In Japan, the Government conducts a flexible fiscal policy, but is pursuing medium-term fiscal consolidation, aiming to achieve a primary budget surplus by 2020. However, the Government decided to postpone the planned consumption tax increase from October 2015 to April 2017 and to implement additional stimulus measures. The Government also intends to reduce the corporate tax rate in April 2016. The country's public debt-to-GDP ratio stands at over 220 per cent and may become unsustainable in the long run, but as most of this debt is held domestically, default risks are relatively small compared to countries that face large external and foreign-currency-denominated debt burdens.

Among the major developing countries, fiscal policy in China is expected to be moderately expansionary in the medium-term and the consolidated government deficit may reach historically high levels, mostly because of large and growing indebtedness of the regional governments. The central Government's support to the regions may increase in order to prevent the excessive reliance of local governments on commercial borrowing. The

ongoing debt-restructuring programme is expected to reduce financial risks at the local level. In Brazil, by contrast, the Government is tightening its fiscal stance, in part by curbing subsidized public lending, in order to reduce public debt and to restore the country's investment grade.

**Fiscal tightening is likely in commodity-exporting economies**

Among the economies in transition, the Government of the Russian Federation had to revise its 2015 budget against the backdrop of the fall in oil prices and weaker economy, and foresee a wider than initially anticipated budget deficit. However, fiscal tightening in the near-term will be somewhat mitigated by drawing from the Reserve Fund and expanding the tax base. Other commodity-exporting economies are also bracing for fiscal tightening during the forecast period.

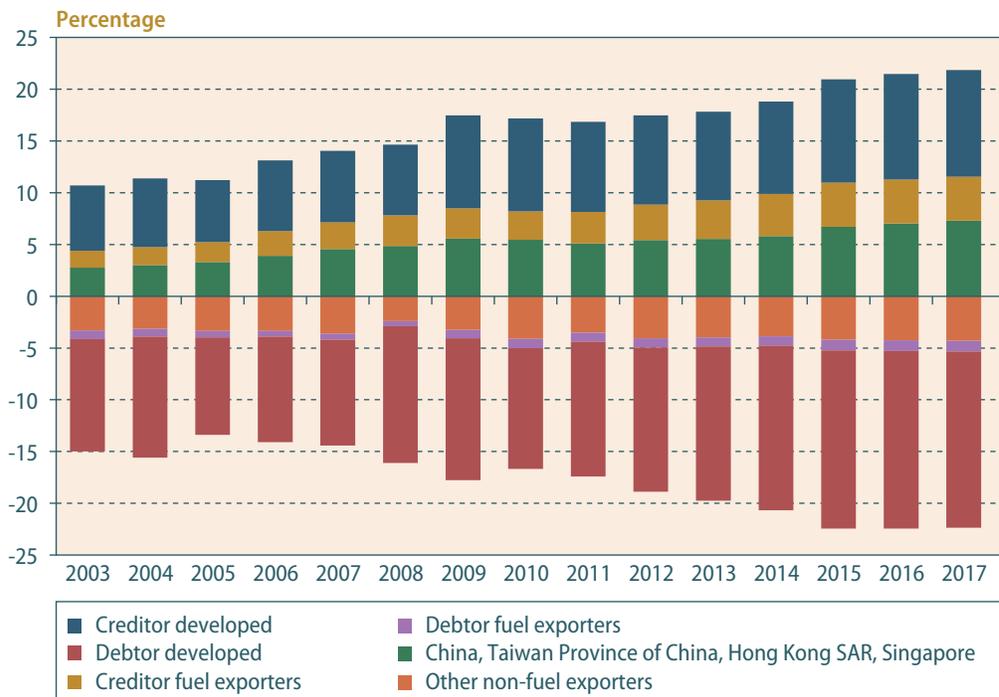
**Global imbalances continue to pose a potential risk to global financial stability**

While the dispersion of global current-account deficits and surpluses has narrowed somewhat from the peaks leading up to the global financial crisis, a significant degree of imbalance still persists, posing a potential risk to global financial stability. Global imbalances in net external debt holdings have continued to widen since 2011, as illustrated in figure I.22. High levels of gross external debt leave a country exposed to a sudden withdrawal of foreign capital, and pose additional risks linked to exchange-rate fluctuations if the external debt is denominated in foreign currency. Without any additional narrowing of the global current-account imbalance, global imbalances in net external debt can be expected to continue to widen beyond the end of this decade, and global vulnerabilities related to external debt are unlikely to recede.

**A strong dollar may reverse the trend in global imbalances, which have improved since the financial crisis**

Two key factors interacting with the recent evolution and outlook for global imbalances are the sharp exchange-rate realignments and the deterioration of commodity prices, especially the oil price. The pace of global net debt accumulation has moderated signif-

Figure I.22  
Net external asset positions as a percentage of world gross product, 2003–2017<sup>a</sup>



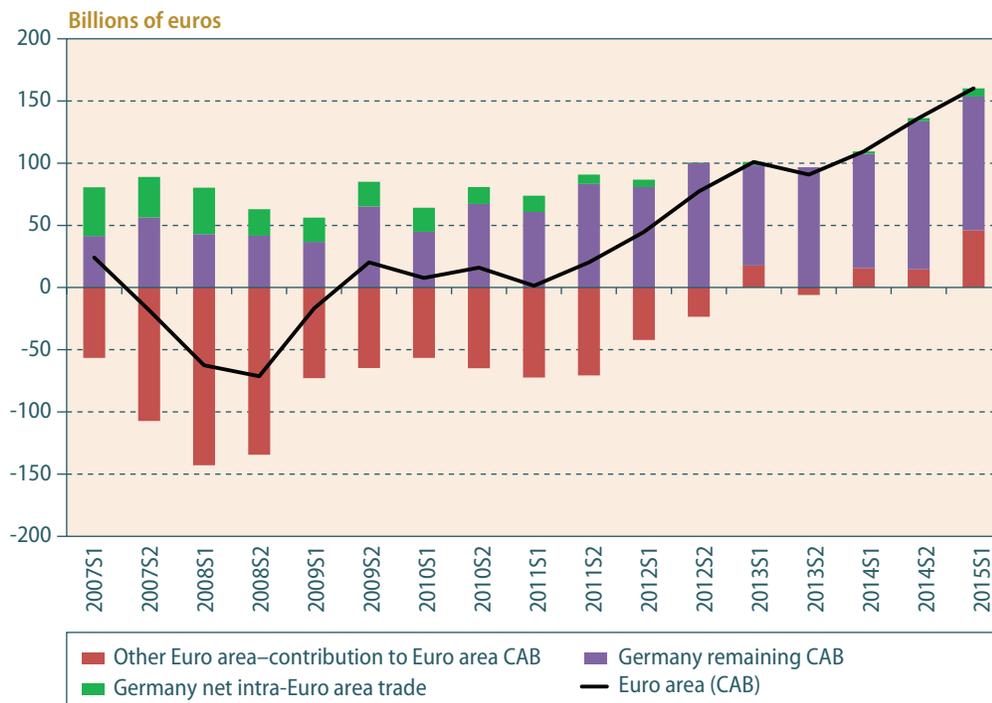
Source: UN/DESA, based on United Nations Statistics Division National Accounts Main Aggregates Database, International Monetary Fund, International Financial Statistics and updated and extended version of dataset constructed by Lane and Milesi-Ferretti (2007).  
<sup>a</sup> Data for 2015–2017 are projections.

icantly in recent years, largely associated with the United States current-account deficit narrowing from 5.8 per cent of GDP in 2006 to 2.2 per cent in 2014, matched by a decline in China's current-account surplus from 8.5 per cent of GDP to 2.1 per cent over the same period. The real appreciation of the dollar highlighted above can be expected to unwind some of this improvement, although at the global level this deterioration may be partially offset by narrowing surpluses in creditor countries with currencies that are closely tied to the dollar, as well as the impact of commodity price declines on imbalances.

IMF (2006, chap. II) highlighted the role that rising oil prices played in exacerbating global imbalances in the lead-up to the financial crisis. By contrast, the recent drop in oil prices should help to improve imbalances at the global level. The vast majority of net debtor countries are fuel importers, while the majority of fuel exporters have historically run persistent current-account surpluses. The sharp deterioration of current-account balances in fuel-exporting economies will be partially financed by drawing down reserves in countries that have normally run large current-account surpluses.

As China's current-account surplus has narrowed, Germany is now the largest surplus country in the world. Germany's intra-euro area trade surplus has narrowed sharply since 2007, but its extra-euro area surplus has continued to widen, as illustrated in figure I.23. The growing external surplus of Germany partly explains the widening current-account surplus of the euro area as a whole, which also reflects the rapid adjustment of the external positions of Greece, Ireland, Italy, Portugal and Spain (figure I.23). Please see Chapter III for more details on global imbalances and reserves accumulation.

Figure I.23  
Euro area current-account balance (CAB)



Source: UN/DESA, based on data from Eurostat and ECB databases.

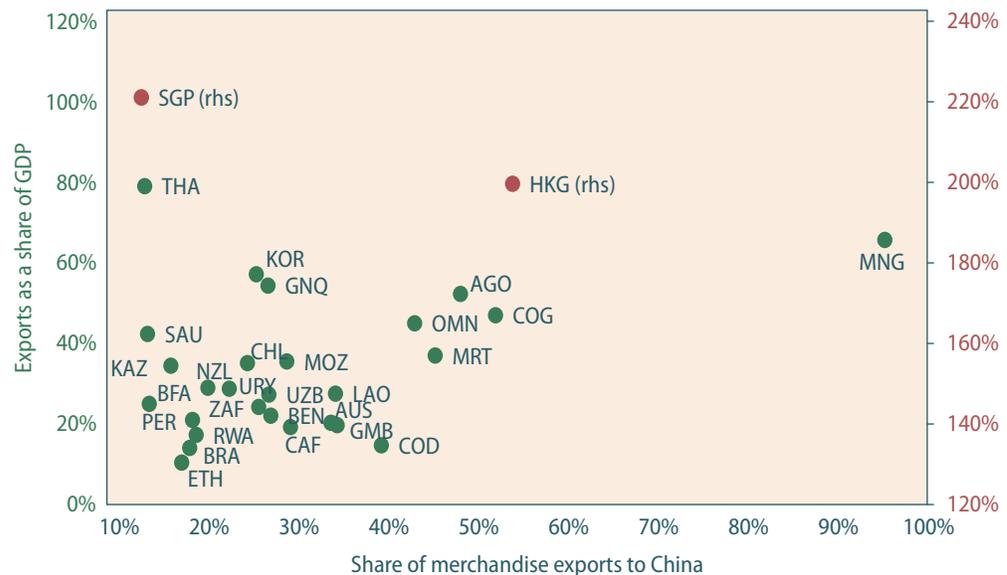
## Vulnerabilities in developing economies increase

A number of economies are likely to be hard hit by a sharper-than-expected slowdown of the Chinese economy

A larger-than-expected slowdown in China, the second largest economy in the world, is likely to have substantial ripple effects on the rest of the global economy. The hardest hit would be China's immediate neighbours (Mongolia, Lao People's Democratic Republic, the Republic of Korea) who have strong trade ties with China. Figure I.24 highlights 29 countries that are particularly exposed, as China is the number one export destination for these economies.<sup>15</sup> These include both commodity-exporting economies—such as Angola, Brazil, Chile, Mongolia—as well as a few high-income economies, including Australia, New Zealand and the Republic of Korea. Exports to China account for more than 25 per cent of total exports in the case of 11 of these economies, making them particularly vulnerable to the slowdown of the Chinese economy.

Lower commodity prices have already significantly worsened the fiscal position of many commodity-dependent developing economies and exacerbated their external debt burden. The risk of debt default, although still relatively low for small commodity-exporting economies, can intensify if commodity prices decline further. The increased risk of debt unsustainability may compel investors to move both their equity and debt capital to a relatively safer investment environment, exacerbating capital outflows and further undermining the economic health of commodity-exporting economies. The vicious cycle of low growth, depressed revenue prospects, increased risk perceptions, capital outflows, reduced liquidity and increased borrowing costs may become mutually reinforcing, restraining growth further. This may have a cascading, contagious effect on a range of developing

Figure I.24  
Share of exports to China



Source: UN/DESA, based on United Nations Statistics Division National Accounts Main Aggregates Database and IMF Direction of Trade Statistics.

Note: See table J in the Statistical Annex to this publication for definitions of country codes.

<sup>15</sup> Angola, Australia, Benin, Brazil, Burkina Faso, Central African Republic, Chile, Congo, Democratic Republic of the Congo, Equatorial Guinea, Ethiopia, Gambia, Hong Kong Special Administrative Region of China, Kazakhstan, Lao People's Democratic Republic, Mauritania, Mongolia, Mozambique, New Zealand, Oman, Peru, Republic of Korea, Rwanda, Saudi Arabia, South Africa, Thailand, Uruguay and Uzbekistan.

economies, both commodity exporters and others, leading to a broader debt crisis reminiscent of the debt crisis in the late 1980s.

Developing economies in general would need to find new sources of growth domestically or regionally to escape the potential downward spiral emanating from commodity-price- and exchange-rate-related shocks. This would require Governments to pursue comprehensive structural transformation and industrial policies that would mobilize domestic savings and investment, improve institutions and corporate governance and reduce transaction costs and increase competitiveness. Sustained and sustainable improvement in labour productivity would allow many developing countries to create more decent jobs, increase the labour share of income and reduce income inequality both within and between countries.

### Geopolitical risks cloud regional economic prospects

The near-term global economic forecast remains susceptible to a number of geopolitical tensions and risks. These include the situations in Afghanistan, Iraq, the Syrian Arab Republic, Ukraine and Yemen and the refugee crisis that has engulfed various neighbouring countries of some of these crisis spots, as well as Europe.

The intermittent geopolitical crisis around Ukraine presents a risk to the economic outlook, at least at the regional level. Despite the ceasefire agreement reached in February 2015, the conflict in the East of Ukraine is not yet resolved. The mutual economic sanctions between the Russian Federation and many OECD economies, including the United States and the EU, were extended in July 2015. As a result, many leading Russian companies and banks remain cut off from the major international capital markets, and cooperation with a number of Russian enterprises is under embargo. The Government of the Russian Federation, on its side, implemented a one-year extension of the ban on imports of food products from those countries that are participating in the sanctions. Together with the fall in oil prices, the sanctions have taken a toll on the Russian economy, leading to outflows of capital and a contraction in investment. As many of the smaller CIS economies significantly depend on remittance inflows from the Russian Federation, the downturn in the Russian economy has had a negative spillover effect on the region, which is set to continue in 2016. The weaker Russian import demand also had a knock-on effect on some countries in the EU-15, while the food import ban has had a sectoral impact on some of the new EU member States, in particular on the Baltic States, Hungary and Poland, and also has affected transit trade revenues for these economies. The sanctions were only one of the factors leading to the drastic depreciation of the Russian currency in 2014. A further escalation of the conflict may lead to interruption of the Russian natural gas flow through Ukraine, which would be especially damaging for Eastern Europe, while the increased defence expenditure in the EU-15 may weigh on the public finances.

Violent conflicts continue in Afghanistan, Iraq, Libya, the Syrian Arab Republic and Yemen, with significant spill over effects on the regional economies. The prolonged conflicts, particularly in the Syrian Arab Republic, aggravated the problem of refugees who already numbered in the millions in neighbouring countries. An increasing number of citizens have been fleeing from these countries, and also from North Africa, towards Europe. The presence of a large number of refugees is likely to increase political and financial strains in the host economies, with the potential for contagion of conflict spreading beyond the

**Further spread of conflict would depress growth in some regions**

Syrian Arab Republic and reaching the door-step of Europe. There is also mounting pressure from refugees trying to enter Western Europe in search of a better livelihood. This has added new challenges for a number of transit and destination countries, both in logistical and financial terms. In addition, in a number of destination countries, issues regarding the integration of refugees into society and the labour market are likely to create additional policy challenges.

### Policy challenges are expected to intensify

More than seven years after the global financial crisis, policymakers around the world still face enormous difficulties in restoring robust and balanced global growth. In developed countries, most of the burden of promoting growth has fallen on central banks, which have used a wide range of conventional and unconventional policy tools, including various large-scale QE programmes, forward guidance and negative nominal interest rates. These measures have led to an unprecedented degree of monetary accommodation in recent years, with monetary bases soaring and short- and long-term interest rates falling to historically low levels.

Accommodative monetary conditions and abundant supply of global liquidity have also given rise to wide swings in capital flows to emerging markets. Financial stability risks have increased amid concerns over the excessive build-up of financial assets, commensurate asset price bubbles and balance-sheet vulnerabilities, especially in emerging markets. Volatility in commodity, currency, bond and stock markets has moved up since mid-2014, partly as a result of monetary policy adjustments and uncertainties over future policy moves.

Against this backdrop, the monetary authorities in developed countries face the task of balancing the need for continued monetary accommodation with the goal of limiting real and nominal volatilities and minimize the risks to global financial stability. In this context, macroprudential policies have become increasingly important since the global financial crisis. The ultimate goal of macroprudential tools—such as capital requirements for banks and other financial institutions, limits on loan-to-value and debt-to-income ratios, and limits on banks' foreign-exchange exposure—is to temper the financial cycle and contain systemic risks (see Constâncio, 2015). Macroprudential policies, when designed and applied effectively, can help mitigate financial sector volatility and redirect financial resources to more productive sectors of the economy.

For developed-country central banks, the main challenge over the coming years is how to normalize monetary policy without crushing asset prices, causing major financial volatility and potentially threatening the expected recovery. At present, the international focus is on the Fed, which is the first major central bank to start the monetary tightening cycle. While the Fed's decision-making is guided by its dual mandate—promoting maximum stable employment and price stability—it is taking into account the potential spill-over effects of its policies on the world economy. By keeping the Fed fund rate at the zero lower bound, the Fed has also temporarily prevented a widening of the monetary policy gap with other central banks and a further strengthening of the dollar. Going forward, the challenge for the Fed is not only to get the timing of interest-rate hikes right, but also to adequately prepare financial markets for the moves via effective communication of its plans.

While the normalization of United States interest rates is expected in late 2015, some uncertainties remain regarding both the anticipated path of interest rates and the reaction of global financial markets and the real economy to the shift in policy rates. A rise

Monetary policy normalization will need to strike a balance between sustaining growth and managing financial stability risks

in debt-servicing costs will necessarily be associated with the United States interest-rate normalization, both domestically and in the many developing economies and economies in transition that hold debt denominated in United States dollars. In addition, as the rates of return on United States assets normalize, a sudden change in risk appetite could trigger a collapse of capital flows to developing economies and economies in transition, or sharp exchange-rate realignments as experienced following the Fed's announcement in 2013 that it would soon begin tapering its QE programme. Significant levels of net capital outflows have already occurred in many developing economies in anticipation of the normalization of United States policy rates (for more discussion, see the section on rising volatility in exchange rates and capital flows), and there is a risk that these withdrawals could increase further, drying up liquidity in many developing economies. This may lead to a depreciation of many developing-country exchange rates, or pressure them to raise interest rates to prevent capital outflows. Countries that hold a large stock of net external debt are particularly exposed to the associated rising costs of debt servicing. As a downside risk to the outlook, financial markets could overreact and overshoot the adjustment, or exhibit a sudden change in risk appetite, leading to heightened financial market volatility, an even sharper withdrawal of capital from developing markets, and a more significant slowdown in global growth.

In developing countries and economies in transition, the current global economic and financial environment poses major challenges for monetary and exchange-rate policies. Economic growth in most countries has slowed significantly over the past few years amid declining commodity prices and domestic weaknesses.<sup>16</sup> Although potential growth is likely to be lower than before the global financial crisis, sizeable negative output gaps have opened up in many countries. These gaps would call for considerable monetary loosening. However, the room for monetary easing is constrained for a number of developing-country and economies in transition central banks in the CIS and South America that have encountered high inflationary pressures. Furthermore, in several cases, policy rates have not returned to pre-financial crisis levels, which limit the scope for interest rate cuts. These constraints are accompanied by concerns that rising United States interest rates and a further strengthening of the dollar could trigger a wave of emerging-market corporate defaults over the coming years.

Given that monetary policies have done most of the heavy lifting for supporting growth during the post-crisis period, both developed and developing countries will need to rely more on fiscal policy instruments to stimulate growth in the near term. Fiscal policies will need to primarily focus on boosting investment and productivity growth. Most of the EU countries enjoy low sovereign borrowing costs, supported by the ongoing sovereign bond purchases by the ECB. While this mitigates the costs of financing deficits, policymakers will continue to struggle to find a balance between supporting growth and employment and adhering to their commitments under the Stability and Growth Pact. This may become more challenging if deflation in the euro area persists, which may inflate fiscal deficits and public debt-to-GDP ratios.

Compared with the developed economies, developing countries and economies in transition generally have smaller budget deficits and public debt levels. This should encourage developing countries to pursue expansionary fiscal policies, including well-timed and

**Going forward, fiscal policy will need to do the heavy lifting to stimulate investment and growth**

<sup>16</sup> Average growth in developing countries for 2015 is estimated at 3.8 per cent. In the past 25 years, average annual growth has been lower only during acute crisis episodes: the Asian crisis in 1998, the financial crises in Argentina and Turkey in 2001 and the global financial crisis in 2009. Economies in transition are estimated to contract by an average rate of 2.8 per cent in 2015.

targeted fiscal stimuli, to boost domestic demand and growth. In oil-exporting economies, persistently low oil prices should eventually encourage public finance reforms, including discretionary spending, and support policies targeting economic diversification. Oil-importing developing countries, on the other hand, should take advantage of low oil prices to redirect their fiscal savings to productive investments.

Well-designed fiscal policies can play a central role in fostering employment creation and reducing both unemployment and underemployment. Furthermore, current income disparities and low wage growth can be addressed with social transfers as well as with effective training policies to advance workers' employability, and through stronger collective bargaining mechanisms that can improve income distribution. Additionally, considering that labour force participation is low and long-term unemployment extremely high, more active labour market policies may be considered as a complement to unemployment benefits to make labour markets more inclusive. Efforts to enhance access to credit for small and medium-sized enterprises can also play a significant role in investment recovery and job creation.

Progressive tax structures, including income tax relief for lower-income groups, are also effective in addressing working poverty and income inequalities, with potential benefits for growth and employment creation. Particularly in developing economies, where the informal sector is larger, well-designed tax systems can encourage formal employment creation in general, but they can also support more disadvantaged social groups and improve government revenue. In addition, since working poverty is also often associated with low-skilled labour, training policies targeting low-skilled workers may play a critical role in enhancing employment, productivity and output growth. They can help address income disparities between groups of workers, by increasing labour productivity and reducing working poverty. According to OECD (2015a), wage inequality is lower in countries where skills are more equally distributed. At the same time, training programmes for low-skilled workers can also stimulate discouraged workers to re-enter the labour market and reduce long-term unemployment.

**Increasing labour's share of income can help boost aggregate demand and revive global growth**

Labour's declining share of total income has been identified as a key underlying factor limiting aggregate demand and, ultimately, output growth. This is in part the result of a long-term trend, which has led to a widening gap between wage growth and productivity growth (see United Nations, 2015a). In addition, as has been underscored by several international organizations (OECD, the International Labour Organization (ILO), IMF, UNCTAD, UN/DESA), the weakening of workers' bargaining power is another important factor underpinning the declining labour share of total income. Mandatory minimum wages, where they do not exist, can directly help those at the bottom of the income distribution, but they can also secure fair pay and increase tax revenues. As a complementary policy, collective bargaining mechanisms can be designed to realign wage growth with productivity growth, rendering economic growth more inclusive and equitable. Evidence shows that Governments that have introduced new measures to increase minimum wages, as well as collective bargaining, were able to curb working poverty and income inequality, while boosting aggregate demand.

## Sustainable development will require more sustained policy coordination

**Effective policy coordination is needed to boost investment, employment, productivity and growth**

Stimulating inclusive growth in the near term and fostering long-term sustainable development will require more effective policy coordination—between monetary, exchange-rate and fiscal policies—to break the vicious cycle of weak aggregate demand, under-investment, low productivity and low growth performance in the global economy. Equally critical

is the coordination of monetary and macroprudential policies to align the objectives of financial stability and growth, and to ensure that finance indeed supports the real economy and that the world economy does not lapse into yet another financial crisis. This would also be critical to ensuring a smooth adjustment in asset prices to minimize the negative spillover effects of the normalization of monetary policy stances worldwide. Furthermore, economic, social and environmental policies need to be coordinated to realize the comprehensive and universal 2030 Agenda for Sustainable Development. There also needs to be stronger international coordination of various domestic-level policies, taking into account the possible spillover effects on the rest of the economy.

Policy coordination, however, has become increasingly difficult against the backdrop of ever greater complexity in the financial market, persistent and growing disconnect between finance and the real economy, and the chronic misalignment and incentive incompatibility of various policy objectives pursued by different stakeholders at both national and international levels. At the domestic level, policies are often designed and implemented in compartments, with little integration and coordination of different policy objectives.

In the aftermath of the global financial crisis, the G20 undertook concrete measures to improve policy coordination at the global level. However, a quick but shallow recovery of global growth in 2011-2012 rendered the measures less of an imperative. Against the backdrop of a prolonged period of slow growth combined with the global commitment to the 2030 Agenda for Sustainable Development, the international community needs to renew its efforts to improve policy coordination at national, regional and international levels.

International policy coordination is critically important for realizing the ambitious, comprehensive and universal 2030 Agenda for Sustainable Development and achieving its associated goals and targets. First and foremost, policy coordination is needed to revive global growth and put the world economy on a new path of equitable, sustained and sustainable growth. The Addis Ababa Action Agenda, agreed at the Third International Conference on Financing for Development in July 2015, provides the framework for policies and actions to align all financing flows and international and domestic policies with economic, social and environmental priorities (see chap. III, box III.1). A successful conclusion of the multilateral trade negotiations (i.e., reducing barriers to market access, especially for developing economies) will provide a much-needed impetus to investment, stimulate productivity growth and output, facilitate redistribution of global income, reduce global imbalances and address both within- and between-country income inequalities. The imperative of international policy coordination is also most evident in the area of climate change and environment. The successful conclusion of the 2015 United Nations Climate Change Conference in Paris, leading to binding commitments to reduce emission levels, is expected to pave the way for more effective international policy coordination for sustainable development in all three dimensions: economic, social and environmental.

**Policy coordination will continue to face daunting challenges**

**Agreements on trade and climate change will provide a much-needed impetus to stimulate sustainable growth**



## Appendix

### Baseline forecast assumptions

This appendix summarizes the key assumptions underlying the baseline forecast, including monetary and fiscal policies for major economies, exchange rates for major currencies and the international prices of oil. It also assesses the sensitivity of the baseline forecast to these assumptions, using the World Economic Forecasting Model (WEFM) of UN/DESA. WEFM is a large-scale global macroeconomic model, covering 160 countries, which ensures the global consistency of the forecasts presented in this report.

### Monetary policy

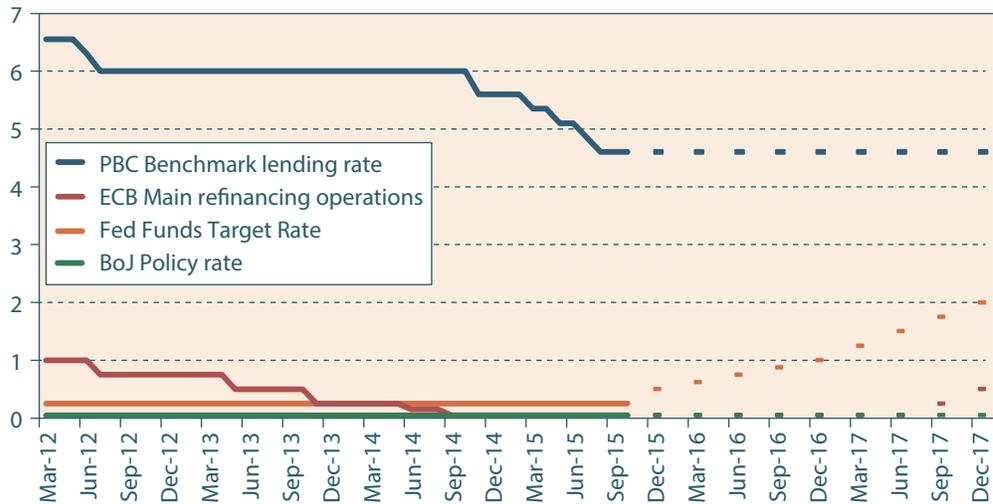
The United States Federal Reserve Board (Fed) is expected to raise its key policy rate by 25 basis points by the end of 2015. The target for the federal funds rate will then increase gradually, by 50 basis points and 100 basis points in 2016 and 2017, respectively (figure I.A.1). The Fed terminated its asset purchase programme in October 2014, which has so far not driven a strong rebound of long-term government bond yields in the United States of America. Until the end of 2017, the Fed is expected to maintain its policy of reinvesting principal payments from its holdings of agency debt and agency mortgage-backed securities in agency mortgage-backed securities and of rolling over maturing Treasury securities at auction, broadly maintaining the size of its balance sheet (figure I.A.2).

The European Central Bank (ECB) significantly loosened its monetary stance in 2015, introducing an expanded asset purchase programme, with monthly purchases of public and private sector securities amounting to €60 billion. This policy is expected to continue until the end of March 2017, bringing the size of the ECB balance sheet close to its level in 2012. After cutting interest rates twice in 2014, the ECB is expected to maintain policy interest rates at current levels for one year following the termination of the asset purchase programme, and raise interest rates by 50 basis points by end-2017.

The Bank of Japan (BoJ) increased the scale of its asset purchase programme in October 2014 from 60-70 trillion to 80 trillion yen per annum. The BoJ is expected to keep the scale of asset purchases at this level until at least the end of 2017, and to maintain its policy interest rate at current levels of 0-10 basis points.

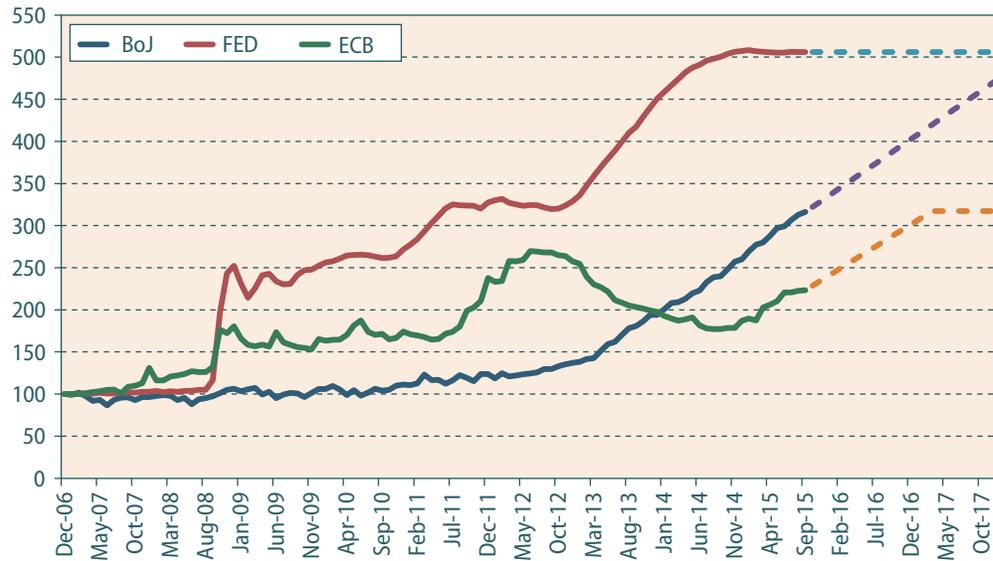
The People's Bank of China (PBOC) is expected to continue to carry out targeted measures, including further cuts to the reserve requirement ratio and targeted lending facilities, to inject liquidity into the economy. These measures will roughly offset the decline of foreign-exchange deposits—a major source of liquidity—and the overall monetary condition will remain neutral during the forecast period.

Figure I.A.1  
Key policy rates



Source: UN/DESA, based on data from relevant central banks.

Figure I.A.2  
Total assets of major central banks, December 2006–December 2017



Source: UN/DESA, based on data from Bank of Japan, United States Federal Reserve and European Central Bank.

### Fiscal policy

Fiscal policy in the United States is expected to become marginally expansive. Real government consumption expenditure is expected to expand by 0.9 per cent in both 2016 and 2017, and there will be no major change in the tax system. The accord reached between the legislative and executive branches of the United States Government in October 2015 suspended the debt ceiling until March 2017, and it is assumed that an appropriate debt ceiling beyond March 2017 will be set in a timely manner.

In aggregate, the fiscal stance in the EU is neutral in 2015, and is expected to be broadly neutral or marginally expansionary in 2016. A slightly tighter stance is expected for 2017. Excessive Deficit Procedures remain ongoing in 9 EU countries, which will entail tightening measures of at least 0.5 per cent of GDP per annum.

In Japan, the scheduled date for the second increase in the consumption tax rate was delayed from October 2015 to April 2017, and it is assumed that the increase will come into effect as currently scheduled. The corporation tax rate will be cut in April 2016 from 32.1 per cent to 31.3 per cent. Government outlays are expected to increase during the fiscal year beginning in April 2016.

In China, the fiscal policy stance will remain mildly expansionary during the forecast period. The ratio of local government debt to total fiscal capacity is expected to reach about 86 per cent by end-2015, but will remain below the 100 per cent ceiling over the forecast period.

### Exchange rates among major currencies

The dollar/euro exchange rate is assumed to average 1.117 in 2015, and to depreciate in line with the widening differential between ECB and Fed interest rates to 1.094 in 2016 and 1.042 in 2017.

The yen/dollar exchange rate is assumed to average 120.75 in 2015, 122.98 in 2016 and 124.80 in 2017.

The renminbi/dollar exchange rate is assumed to average 6.225 CNY/dollar in 2015 and 6.53 in 2016 and 6.47 in 2017.

Figure I.A.3  
Data and assumptions on major currency exchange rates



Source: UN/DESA, based on data from JPMorgan and WEFM working assumption.

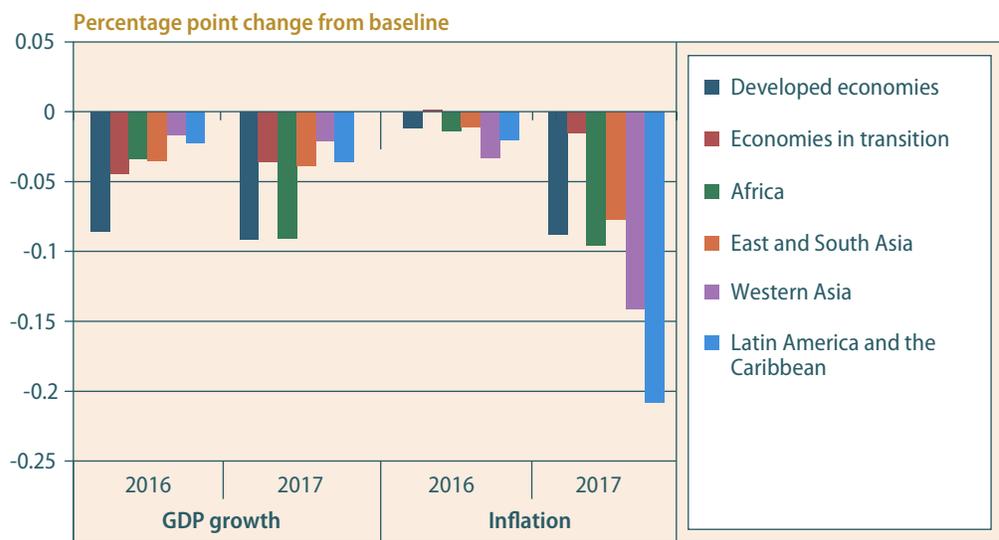
### Oil price

The price of Brent oil is expected to average \$53 per barrel in 2015, \$51 per barrel in 2016 and \$62 per barrel in 2017.

### Forecast sensitivities to key assumptions

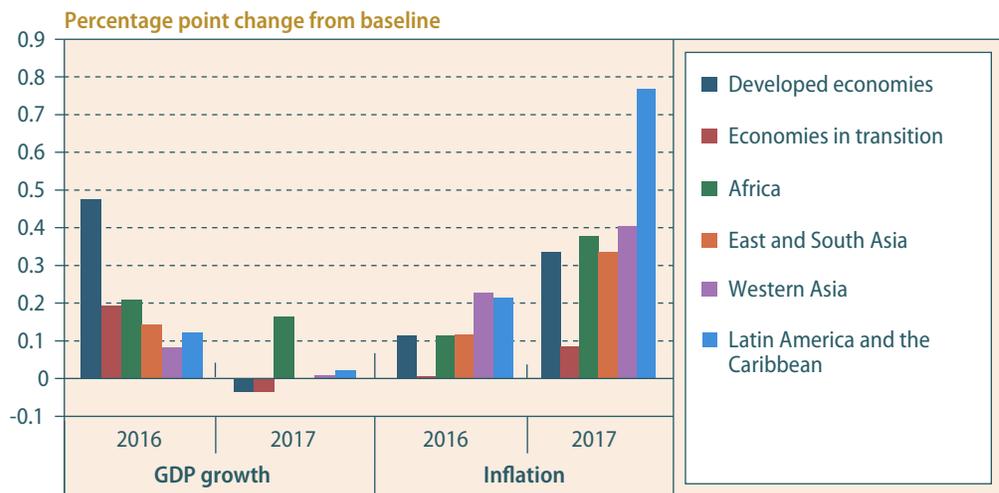
Below are illustrative sensitivities of forecasts for the major global regions to some of the key underlying assumptions of the forecast, based on simulations using WEFM.

Figure I.A.4  
Impact of a 1 percentage point rise in United States interest rates



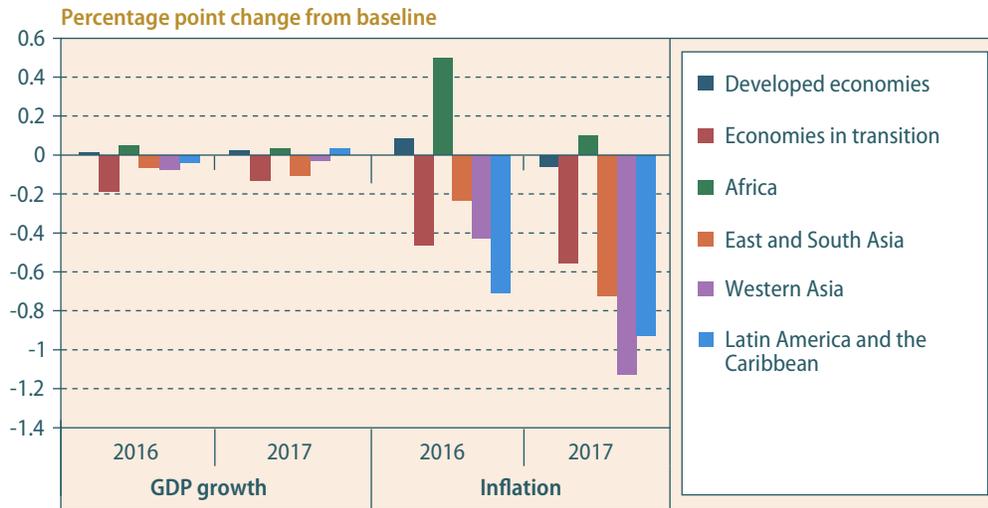
Source: UN/DESA-WEFM simulation.

Figure I.A.5  
Impact of a 1 per cent of GDP increase in United States government spending



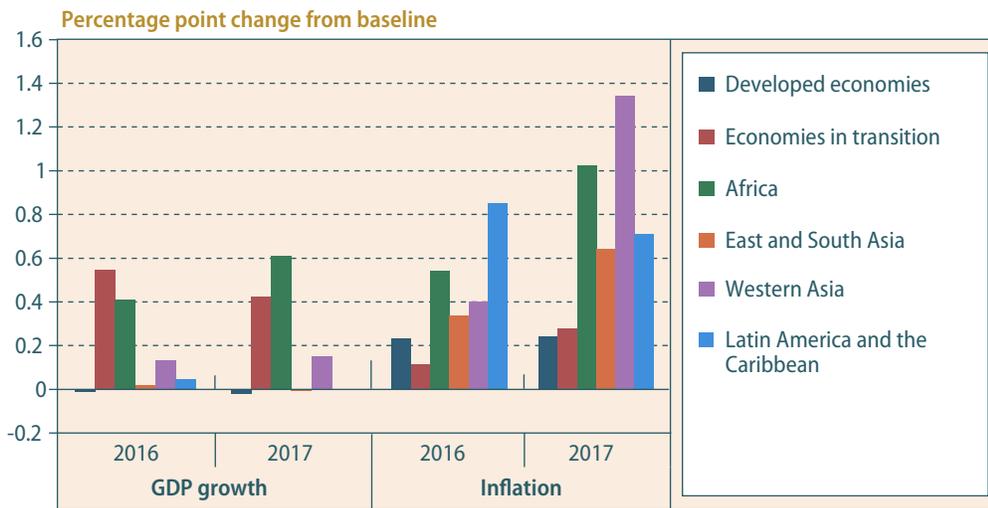
Source: UN/DESA-WEFM simulation.

Figure I.A.6  
Impact of a 5 per cent depreciation of the euro/\$ rate



Source: UN/DESA-WEFM simulation.

Figure I.A.7  
Impact of a 10 per cent rise in the oil price



Source: UN/DESA-WEFM simulation.

