Chapter 1

GENERAL ASSESSMENT
OF THE MACROECONOMIC SITUATION

Introduction

Global growth prospects have clouded this year. A further sharp slowdown in emerging market economies (EMEs) is weighing on global activity and trade, and subdued investment and productivity growth is checking the momentum of the recovery in the advanced economies. Supportive macroeconomic policies and lower commodity prices are projected to strengthen global growth gradually through 2016 and 2017, but this outcome is far from certain given rising downside risks and vulnerabilities, and uncertainties about the path of policies and the response of trade and investment.

The outlook for the EMEs is a key source of global uncertainty at present, given their large contribution to global trade and GDP growth. In China, ensuring a smooth rebalancing of the economy, whilst avoiding a sharp reduction in GDP growth and containing financial stability risks, presents challenges. A more significant slowdown in Chinese domestic demand could hit financial market confidence and the growth prospects of many economies, including the advanced economies. For EMEs more broadly, challenges have increased, reflecting weaker commodity prices, tighter credit conditions and lower potential output growth, with the risk that capital outflows and sharp currency depreciations may expose financial vulnerabilities. Growth would also be hit in the euro area, as well as Japan, where the short-run impact of past stimulus has proved weaker than anticipated and uncertainty remains about future policy choices.

There are increasing signs that the anticipated path of potential output may fail to materialise in many economies, requiring a reassessment of monetary and fiscal policy strategies. The risk of such an outcome underlines the importance of implementing productivity-raising structural policies, alongside measures to reduce persisting negative supply effects from past demand weakness in labour markets and capital investment, whilst ensuring that macroeconomic policies continue to support growth and stability. Early and decisive actions to spur reductions in greenhouse gas emissions via predictable paths of policy including tax reforms, or public investment programmes, or action on research and development might also help to support short-term growth and improve longer-term prospects, as discussed in Chapter 2.

The outlook

Global growth has eased to around 3% this year, well below its long-run average. This largely reflects further weakness in EMEs (Figure 1.1). Deep recessions have emerged in Brazil and Russia, whilst the ongoing slowdown in China and the associated weakness of commodity prices has hit activity in key trading partners and commodity exporting economies, and increased financial market uncertainty. Global trade growth has slowed markedly, especially in the EMEs (Figure 1.2), and financial conditions have become less supportive in most economies (Figure 1.3). Growth in the OECD economies has held up this year, at around 2%, implying a modest reduction in economic slack, helped by an upturn in private consumption growth. However, business investment remains subdued, raising

Figure 1.1. **Global GDP growth is set to recover slowly**

Year-on-year percentage changes
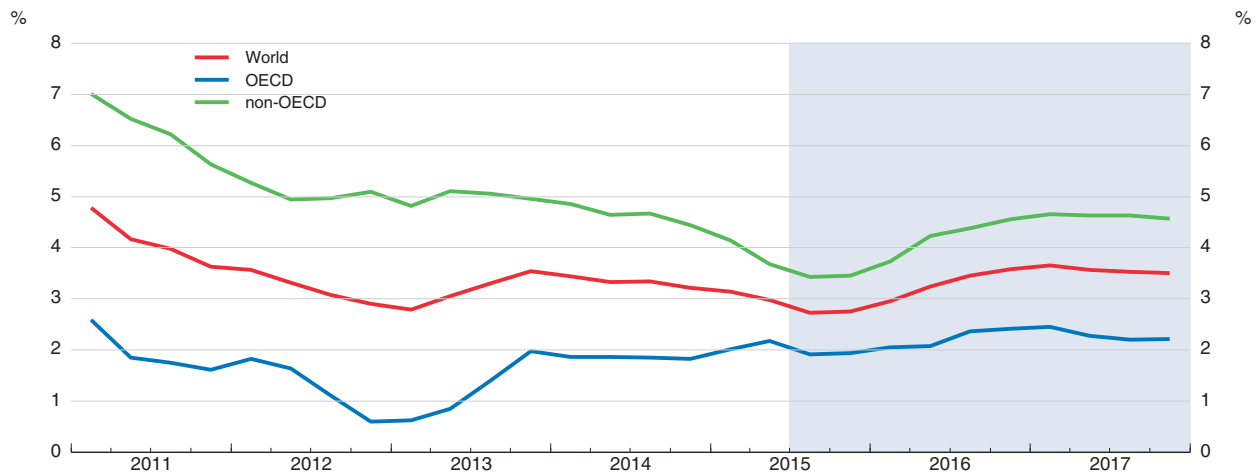
questions about future potential growth rates and about the extent to which stronger growth in the advanced economies can help to overcome cyclical weakness in the EMEs.

Global growth is projected to strengthen slowly over the course of 2016-17, against a background of subdued inflationary pressures (Table 1.1).

● Supportive macroeconomic policies (Annex 1.1), lower commodity prices and a further steady improvement in labour market outcomes should continue to underpin the upturn in the advanced economies, with OECD GDP growth projected to average 2¼ per cent per annum over the next two years (Figure 1.4). The decline in oil prices since mid-2014 could add between ¼ and ½ percentage point to OECD GDP growth in 2016, with the further drop of over 20% since June 2015 contributing around 0.1-0.2 percentage point of

Figure 1.2. **Global import volume growth has slowed this year**
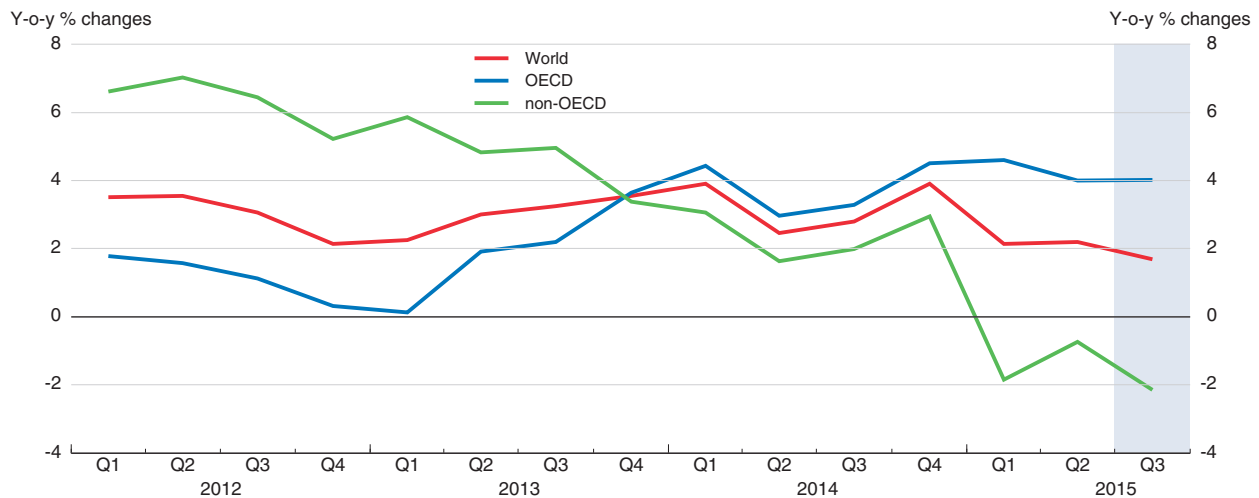
Table 1.1. **The global recovery will gain momentum only slowly**

OECD area, unless noted otherwise

	Average 2003-2012	2013	2014	2015	2016	2017	2015 Q4 / Q4	2016 Q4 / Q4	2017 Q4 / Q4
				Per cent					
Real GDP growth[1]									
World[2]	4.0	3.2	3.3	2.9	3.3	3.6	2.8	3.6	3.5
OECD[2]	1.7	1.2	1.9	2.0	2.2	2.3	1.9	2.4	2.2
United States	1.8	1.5	2.4	2.4	2.5	2.4	2.1	2.6	2.3
Euro area	0.9	-0.3	0.9	1.5	1.8	1.9	1.6	1.9	2.0
Japan	0.8	1.6	-0.1	0.6	1.0	0.5	1.1	1.4	-0.1
Non-OECD[2]	6.7	5.0	4.7	3.7	4.2	4.6	3.5	4.6	4.6
China	10.5	7.7	7.3	6.8	6.5	6.2	6.6	6.4	6.1
Output gap[3]	-0.3	-2.5	-2.2	-1.8	-1.2	-0.6			
Unemployment rate[4]	7.0	7.9	7.3	6.8	6.5	6.3	6.8	6.4	6.3
Inflation[5]	1.0	1.4	1.5	0.8	1.5	1.9	0.9	1.6	2.1
Fiscal balance[6]	-4.6	-4.1	-3.8	-3.3	-2.8	-2.3			
Memorandum Items									
World real trade growth	5.6	3.3	3.4	2.0	3.6	4.8	1.4	4.4	4.9

1. Year-on-year increase; last three columns show the increase over a year earlier.
2. Moving nominal GDP weights, using purchasing power parities.
3. Per cent of potential GDP.
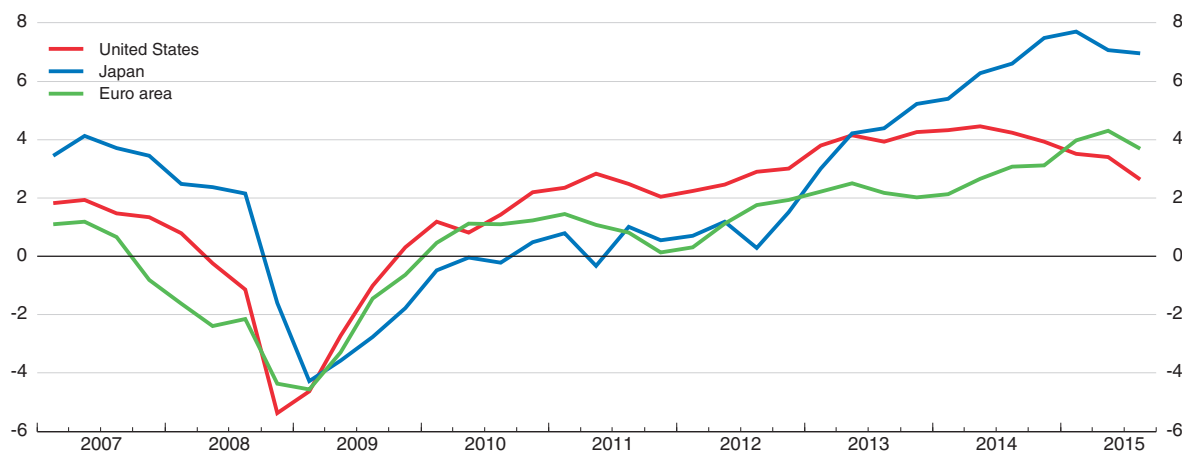4. Per cent of labour force.
5. Private consumption deflator. Year-on-year increase; last 3 columns show the increase over a year earlier.
6. Per cent of GDP.
Source: OECD Economic Outlook 98 database.

StatLink *http://dx.doi.org/10.1787/888933296655*

Figure 1.3. **Financial conditions in advanced economies have become less supportive**
OECD financial conditions index

Note: The OECD Financial Conditions Index is a weighted average of real short and long-term interest rates, real exchange rate, bank credit conditions, household wealth and the yield spread between corporate and government long-term bonds. A unit increase (decline) in the index implies an easing (tightening) in financial conditions sufficient to produce an average increase (reduction) in the level of GDP of ½ to 1% after four to six quarters. See details in Guichard et al. (2009). Based on available information up to 30 October 2015.
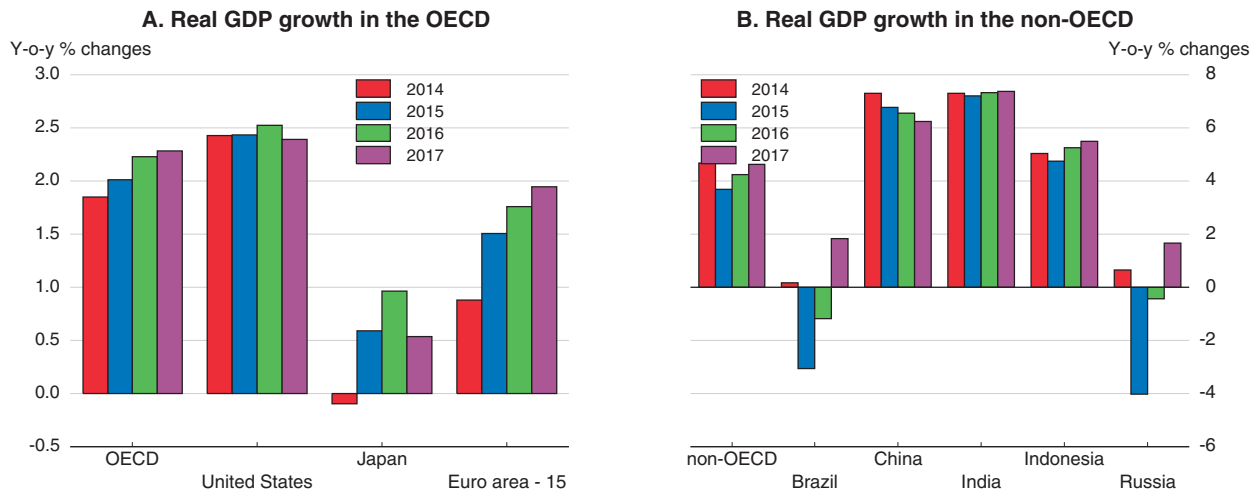*Source:* OECD Economic Outlook 98 database; Thomson Reuters; and OECD calculations.

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Figure 1.4. **GDP growth projections for the major economies**

A. Real GDP growth in the OECD

B. Real GDP growth in the non-OECD

Source: OECD Economic Outlook 98 database.

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this.[1] Growth in the United States is set to remain relatively solid, at around 2½ per cent per annum, with strong household consumption growth and a moderate upturn in private sector investment outweighing the impact of the US dollar appreciation over the past year and weaker energy sector activity. The so far muted recovery in the euro area is set to strengthen somewhat, with GDP growth at around 1¾-2% per annum over 2016-17, helped by the continued accommodative monetary policy stance and the stimulatory impact of lower oil prices. Fiscal support of up to ¼ per cent of GDP to assist asylum seekers should provide a small additional stimulus to demand. The outlook for Japan remains softer than in other advanced economies, despite an anticipated upturn in real wage growth. This reflects a larger drag exerted by weak external demand, especially in Asia, and strong fiscal headwinds, particularly from the further consumption tax increase planned for 2017. Given the modest upturn projected in domestic and global activity, a gentle strengthening of investment spending is projected in the OECD economies over 2016-17. Business investment growth is projected to rise by just under 4¼ per cent per annum in the next two years, after rising by an estimated 3¼ per cent per annum over 2014-2015.

● Growth in the EMEs is projected to turn up through 2016-17, helped initially by the easing of the sharp downturns in 2015 in the major commodity producers and the small open Asian economies. Even so, growth prospects are likely to continue to diverge in the large EMEs (Figure 1.4). A gradual slowdown is projected to continue in China, with GDP growth easing to 6¼ per cent by 2017 and import penetration declining. New fiscal measures announced this year, worth up to 1½ per cent of GDP, along with small additional measures in the next two years should help to support demand but will check the pace at which the economy rebalances. Growth prospects in India should remain relatively robust, provided further progress is made in implementing structural reforms.

1. Estimates relative to a baseline with oil prices held at their mid-2014 levels, based on simulations using the NiGEM global macroeconomic model, augmented with OECD estimates of supply responses in OECD net oil exporters and the United States. Oil prices are assumed to be $50 per barrel from the fourth quarter of 2015 onwards.

This reflects the more positive outlook for investment and consumption and its position as a major net importer of commodities. Despite large currency depreciations, recovery will be only gradual in Brazil and Russia as confidence firms after an initial stabilisation of activity, given soft external demand, still high inflation and limited space for macroeconomic policy support. Growth in Indonesia should pick up slowly, helped by the implementation of plans to boost infrastructure investment.

Inflationary pressures remain weak in the major OECD economies and in China, but have edged up in several other EMEs, particularly those in which large currency depreciations have occurred.

● Headline consumer price inflation has fallen in recent months in the OECD economies, following the further sharp decline in commodity prices, and market-based measures of inflation expectations have edged down further. Core inflation has remained comparatively stable, at low levels, reflecting persistent economic slack and weak import prices, particularly in the United States where the effective exchange rate has appreciated by around 15% over the past year. In the absence of significant further moves in commodity prices, exchange rates and inflation expectations, core inflation (excluding food and energy prices) should generally remain weak over the next two years in the advanced economies, edging up marginally as economic slack declines and the transitory effects of past changes in commodity prices and exchange rates fade (Figure 1.5). Inflation is projected to be around 1¾ per cent by the latter part of 2017 in the United States, where the recovery is relatively advanced, but remain between 1¼ and 1½ per cent in euro area and Japan.[2]

Figure 1.5. **Inflation is likely to remain weak**
Annual rate of change in core consumer prices
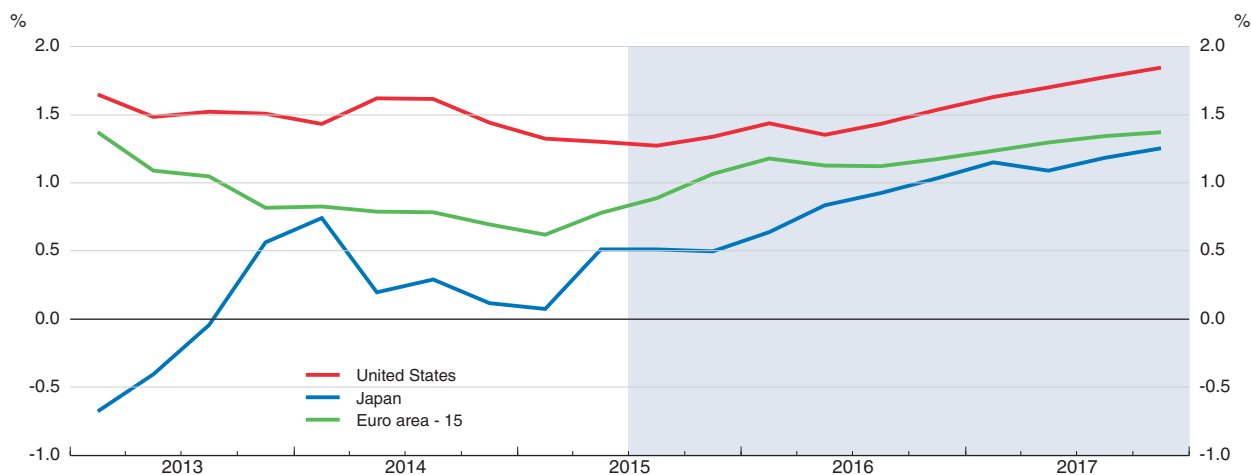
Note: Consumer prices excluding food and energy. The private consumption deflator is used for the United States. Data for Japan exclude the estimated impact of the consumption tax increases in April 2014 and April 2017.
Source: OECD Economic Outlook 98 database.

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2.   The assumed rise in the consumption tax rate in Japan will boost the consumer price level by around 1¼ percentage point in April 2017.

● Amongst the major EMEs, consumer price inflation is set to remain relatively low in China and India, helped by weak import price pressures. Inflation is projected to remain stronger for some time in countries such as Russia, Brazil and Indonesia, due to the impact of sizeable past currency depreciations and, in Russia, sanctions, although widening economic slack should eventually help to ease cost pressures.

Labour markets should continue to improve in the major OECD economies (Table 1.2).

● The OECD-wide unemployment rate has declined by 1 percentage point since 2013, amidst improved job growth. A further decline of ½ percentage point is projected over 2016-2017, with employment continuing to rise by just under 1% per year (Table 1.2). This pace is below that observed in 2014-15, with demographic factors limiting the feasible pace of job growth in the United States and Japan (Aaronson et al., 2014). Unemployment is projected to decline to, or stay below, pre-crisis rates in the United States and Japan, but remain comparatively high in the aggregate euro area (Figure 1.6), where persisting negative supply effects from past demand weakness are relatively strong and there remains considerable cross-country dispersion in labour market developments.

● Wage pressures are set to remain moderate, although some upturn is likely as price inflation and productivity growth pick up and unemployment declines (Figure 1.6). Labour market slack is, however, more extensive than suggested by claimant-based unemployment rates alone. Broader measures of unemployment, incorporating part-time workers who want to work full-time and inactive persons wanting to work (but not actively seeking a job), remain well above pre-crisis norms in many economies, including the United States and the euro area. This may help to damp wage growth for some time to come.

Table 1.2. **OECD labour market conditions will improve slowly**

	2012	2013	2014	2015	2016	2017
	Percentage change from previous period					
Employment						
United States	1.8	1.0	1.6	1.7	0.9	0.7
Euro area	-0.6	-0.6	0.6	0.9	1.0	1.1
Japan	-0.3	0.7	0.6	0.2	-0.3	-0.2
OECD	1.0	0.7	1.3	1.2	0.9	0.9
Labour force						
United States	0.9	0.3	0.3	0.8	0.3	0.7
Euro area	0.7	0.2	0.1	0.2	0.4	0.5
Japan	-0.6	0.3	0.2	0.0	-0.4	-0.3
OECD	1.0	0.7	0.7	0.7	0.5	0.6
Unemployment rate			Per cent of labour force			
United States	8.1	7.4	6.2	5.3	4.7	4.7
Euro area	11.3	11.9	11.5	10.9	10.4	9.8
Japan	4.3	4.0	3.6	3.4	3.2	3.1
OECD	7.9	7.9	7.3	6.8	6.5	6.3

Source: OECD Economic Outlook 98 database.

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Figure 1.6. **Labour market outcomes should improve gradually in the major OECD economies**

A. Unemployment rate

B. Compensation per employee

Source: OECD Economic Outlook 98 database.

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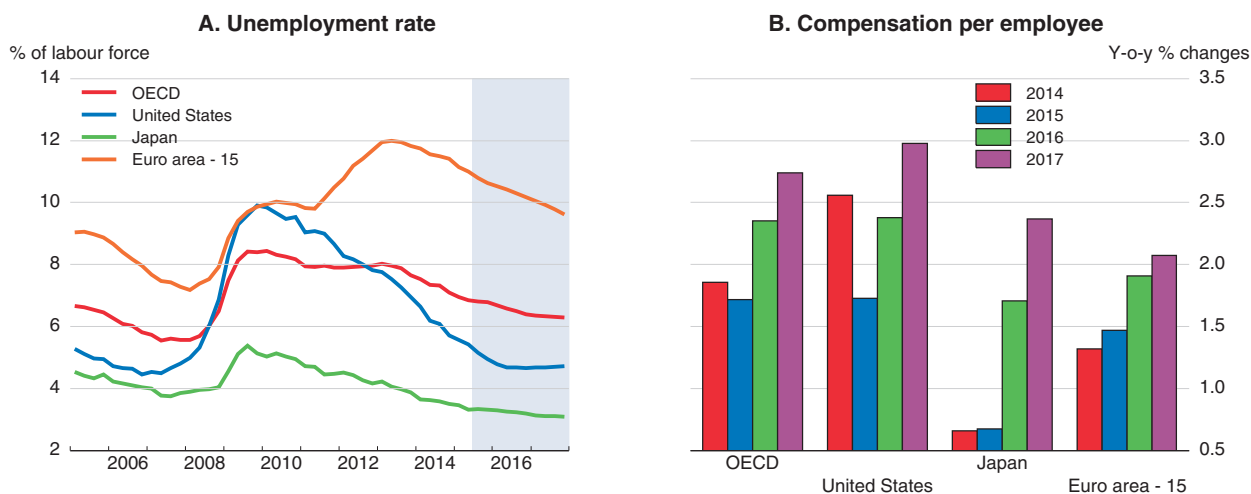
- The large inflows of new asylum seekers in Europe could also influence labour market outcomes through the next two years. Their impact will depend on the support that can be given to help new refugees integrate, the extent to which regulations allow them to enter the labour force and their skill mix (Box 1.1). Labour force growth in the euro area is projected to rise to 0.5% per annum over 2016-17, from 0.2% per annum over 2013-15, helped in part by stronger supply in Germany as a result of net immigration from outside the EU. At the margin, this could ease emerging wage pressures in the comparatively-tight German labour market. In the longer term, net immigration from outside the EU can also help to moderate demographic pressures due to population ageing.

Box 1.1. **The labour market and fiscal impact of the European refugee surge**

Europe is facing its biggest refugee inflow since World War II. Estimating the number of arrivals remains very challenging, but over one million asylum applications could be received this year in the European Union (EU), up from 630 thousand applications in 2014, with an estimated 350-450 thousand people likely to be granted refugee or other humanitarian status (equivalent to 0.07-0.09% of the EU population). Large inflows of asylum seekers are also continuing in Turkey, where the number of registered refugees from Syria alone is now above 2 million, having risen so far in 2015 by over 350 thousand people. Additional sizeable arrivals seem possible over 2016-17, including from follow-on migration arising from "friends and family" type effects (Mitchell et al., 2011).

The numbers and the heterogeneity of the new refugees make this inflow particularly difficult to address (OECD, 2015d,e). Asylum seekers are arriving from a diverse group of countries (across MENA, South Asia and Eastern Europe), and with a varied range of skills. This has put a strain on processing and settlement systems, and raises the challenges involved in integrating new arrivals into societies. The upfront costs of integrating asylum seekers are also likely to be higher than for economic migrants. The numbers of new entrants have also resulted in some temporary border closures within the Schengen area. Appropriate policy choices in host countries can help to minimise the possible short-run challenges of absorbing a

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Box 1.1. **The labour market and fiscal impact of the European refugee surge** (cont.)

sudden large inflow of new asylum applicants and maximise the longer-run benefits that might result. A key point is to ensure that there are no barriers that prevent newly-accepted refugees from ultimately moving to locations in the EU that reflect economic conditions rather than other differences.

The new surge of asylum seekers into the European Union comes on top of an already-sizeable number of economic migrants into the area, although both are small relative to aggregate EU population (see figure below). In 2014, there were nearly 1 million immigrants to the EU-28 from non-member countries. The number of individuals who gained refugee or other humanitarian status, on a first-time decision basis, was around 160 thousand, less than half of the numbers expected in 2015, with further decisions likely in 2016. The new EU arrivals in 2015 seem likely to largely settle in three economies – Germany (where around 900 thousand new asylum seekers are anticipated), Austria and Sweden (where 140-190 thousand new asylum seekers are projected this year and 100-170 thousand in 2016). Most other EU economies will receive a small number of new arrivals.

**Effects on fiscal positions**

Estimating the economic impact on host-nations of the sharp rise in refugees is difficult for a number of reasons: there is limited research on the impact of large refugee inflows on advanced economies, with most research focusing on the impact of increased total immigration (of which the share of refugees is usually quite small); different countries have different lags associated with the time it takes to process asylum-seekers, and further lags and restrictions may be associated with the ability for refugees to enter into local labour markets. The unprecedented nature and uniqueness of the current crisis makes it difficult to draw lessons from previous episodes.

Estimates of the short to medium-term fiscal impact of total immigration are quite varied across studies, but usually small, with some indicating net fiscal benefits and others net fiscal costs to host countries (OECD, 2013b; Dustman and Fratini, 2014). Short-term expenditure required to help support newly-arrived asylum seekers include: humanitarian assistance to provide food and shelter and basic income support; up-front expenditures associated with necessary language training and schooling; steps to identify the true skills of migrants and the expenditures associated with processing additional asylum claims. Additional support may be required in the medium term to assist new entrants enter the labour market. A possible longer-term benefit from the new arrivals is that they will help to improve the sustainability of pension systems, particularly in economies where there might otherwise be pressures due to population ageing.

In most of the main countries affected by the present surge of asylum seekers, the additional expenditures announced so far have been relatively modest. Germany has projected an additional ¼ per cent of GDP support this year and ½ per cent of GDP support per annum through to 2017 to meet initial needs of newly-arrived immigrants and to integrate them in the labour market. Austria projects that spending on refugees and asylum seekers will rise from 0.1% of GDP in 2014 to 0.15% of GDP in 2015 and 0.3% of GDP in 2016. Sweden, which has been a major host country for refugees for a number of years, has budgeted for additional spending in 2016 of 0.9% of GDP to improve the integration of newly-arrived immigrants. Hungary, an important transit country into the Schengen area, has announced additional spending of 0.1% of GDP in 2015, to cover costs associated with the new flows of refugees. Since 2011, the Turkish government has provided aid to Syrian refugees amounting to 0.8% of 2014 GDP. The European Commission has announced funding of €9.2 billion to address the refugee crisis over 2015-16 (0.1% of EU GDP).

Box 1.1. **The labour market and fiscal impact of the European refugee surge** *(cont.)*

**The number of refugees into Europe is rising
but still small compared with total net migration**

In per cent of total EU population as at the beginning of the year
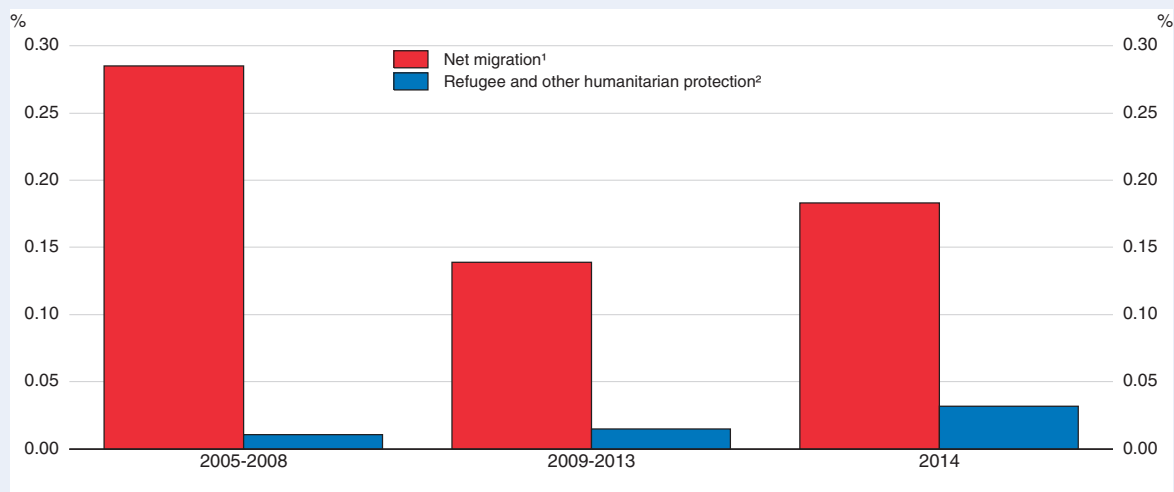
Net migration is calculated as the residual from the change in total population, subtracting births and adding deaths. For the purpose of comparisons over time, statistical adjustments for Italy in 2012 and 2013 have been subtracted from the total net migration figures for EU28.
Data from 2008 onwards refer to the number of positive first-time decisions in a given year. Pre-2008 data represent the number of total decisions (first-time or otherwise). 2007 data do not include estimates for Belgium, Italy or the Netherlands.
Source: Eurostat; and ISTAT.

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These additional fiscal measures should provide a modest boost to aggregate demand, provided they are not offset by budgetary cuts elsewhere, with most of the public funds spent on non-tradable goods and services. In addition, the marginal propensity to consume of refugees will likely be quite high, given their low income levels. In the European economies as a whole in 2016 and 2017, the boost to aggregate demand could be worth between 0.1 and 0.2% of GDP.

Effects on labour markets

The initial impact of higher asylum seekers on the labour force will depend upon the success of asylum-seekers in gaining refugee status, the length of the application process, and whether or not they will enter the labour force. These factors vary considerably across EU countries, types of immigrants and over time. In general, the effects on host country labour markets should build up over time as refugees become better integrated.

● In Germany the period of time taken to obtain refugee status declined to under 5½ months by the first half of 2015 (Newhouse, 2015), compared to an average processing time of close to a year as of 2012.

● Refugees are eligible to enter the labour markets of host countries. Asylum applicants may also be able to enter host country labour markets, but this varies across countries. For example, asylum seekers in Sweden are eligible to enter the labour force immediately, including via apprenticeship and training schemes, in Germany there is a 3-month wait (after application), in France a 9-month wait and in the United Kingdom a 12-month wait.

> Box 1.1. **The labour market and fiscal impact of the European refugee surge** (*cont.*)
>
> For the European Union as a whole, the labour market participation rate of those born in non-EU countries has, on average, been marginally lower than for EU citizens, at around 70-75% (Eurostat, 2015), but this varies considerably by the age, skills and gender of migrants.
>
> The impact of refugee arrivals on the destination labour market will depend on current labour market conditions and institutions, the skills and characteristics of the new arrivals, and labour and product market regulations.
>
> - A prompt evaluation of the existing skill-sets of recent arrivals will allow authorities to better relocate migrants to local areas where demand outstrips supply for the specific type of labour. Skill matching tends to be a problem for immigrants, more generally, as they tend to be more overqualified for their jobs than native workers in host nations (OECD / European Union, 2015). Ensuring a wider recognition of the foreign qualifications of immigrants would also help (OECD, 2014b).
>
> - Ensuring that immigrants are included in active labour market programmes can enable them to make a quick transition into employment (OECD, 2012; OECD, 2014b).
>
> - More generally, there is a need to ensure that new arrivals are eventually able to move freely across different EU countries. This should help to increase the longer-term supply-side benefits of the new arrivals.
>
> - Employment protection legislation (EPL) may affect the ability of refugees to enter the labour force and find employment and also the extent of their participation in the informal economy. Some countries, including Germany and Austria, have been proactive in addressing labour market access concerns for refugees (OECD, 2015e).
>
> - Product market regulation (PMR) can also affect the integration of newly arrived refugees into the labour market. More regulated product and labour markets can mean that an increase in the labour force share of immigrants weakens the employment prospects of the native population in the short-term, although this effect typically disappears in the medium-term (Jean and Jimenez, 2007).
>
> - The sharp increase in refugees into Turkey in recent years is thought to have affected both informal and formal labour markets (Del Carpio and Wagner, 2015); refugees have displaced informal domestic workers but have pushed formal wages up through increased demand for goods and services.

Main issues and risks for economic prospects

The weakness of global trade

A key uncertainty stems from the unexpectedly sharp slowdown in world trade growth this year, to an estimated 2%. Over the past five decades there have been only five other years in which global trade growth has been 2% or less, all of which coincided with a marked downturn of global growth (Figure 1.7). In part, the current trade slowdown reflects weaker global GDP growth. But the slowdown has been more pronounced than might have been expected on the basis of past relationships with global output growth, even given the post-crisis decline in the elasticity of trade to output. In the early stages of the recovery, moderate trade growth largely reflected weak demand in the advanced economies, especially in the trade-intensive euro area (Ollivaud and Schwellnus, 2015). More recently, the weakness stems from the EMEs. A substantial proportion of the overall slowdown in global trade growth this year relative to 2014 is accounted for by a decline in import volumes in the non-OECD economies (Figure 1.2), reflecting both weaker demand growth and a reduction in import intensity. This has contributed to weaker external demand in the

Figure 1.7. **Global trade growth is unusually weak this year**

Year-on-year percentage changes
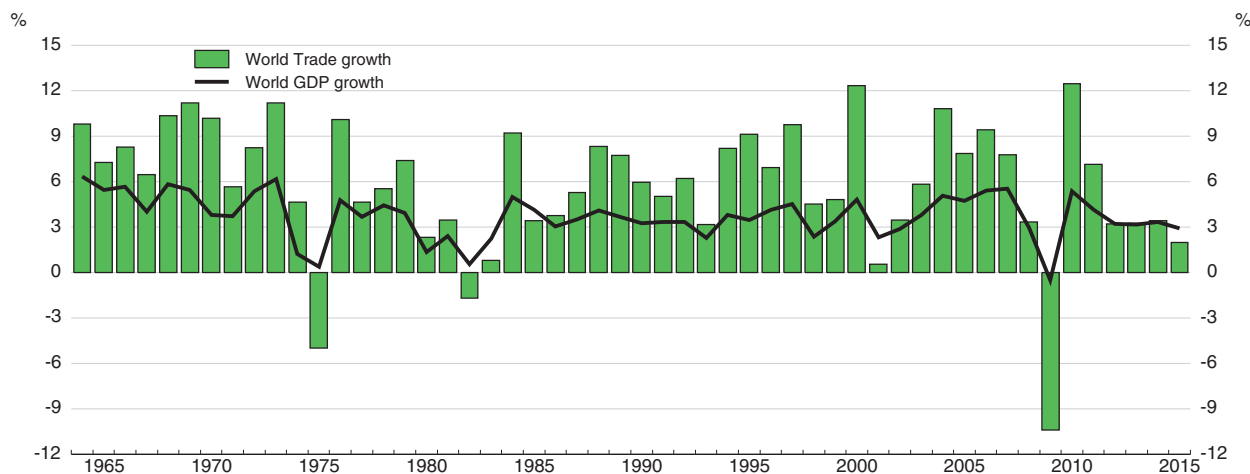
Note: Global trade is goods plus services trade volumes. Global GDP growth in purchasing power parities.
Source: OECD Economic Outlook 98 database.

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advanced economies. All told, the slowdown in non-OECD import demand this year and next, relative to earlier projections (OECD, 2015a), is likely to reduce OECD GDP growth by 0.4 percentage point per annum, all else equal.

There are a number of factors contributing to the weakness in non-OECD trade:

● Import volumes have fallen this year by over 10% in Brazil and over 20% in Russia, reflecting deep recessions and, in Russia, the continued impact of sanctions. These declines account directly for just under one-third of the slowdown in non-OECD import volume growth between 2014 and 2015 (Figure 1.8).

Figure 1.8. **Non-OECD import volume growth has fallen sharply this year**

Contributions to year-on-year growth of total non-OECD import volumes

Source: OECD Economic Outlook 98 database.

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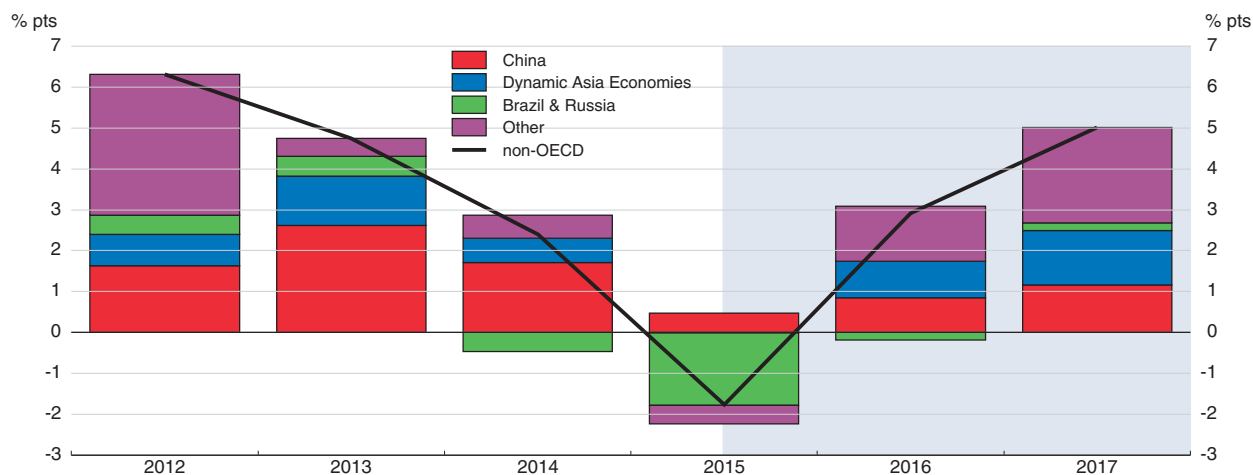
● Softer import volume growth in China also accounts directly for just under one-third of the slowdown in non-OECD import volume growth between 2014 and 2015. This reflects both a sharp decline in Chinese export volume growth this year and the changing composition of domestic demand (Figure 1.9):

❖ The decline in Chinese export volume growth, which reflects both weaker external demand and a significant appreciation of the real exchange rate, is depressing imports because of the relatively high import content of exports. This could account for around one-half of the estimated slowdown in Chinese import volume growth from 7% in 2014 to just under 2% in 2015 under standard assumptions, as around one-third of Chinese exports comprise imported goods and services.[3] China's loss in market share this year is concentrated in countries whose currencies have depreciated relative to the renminbi, including euro area countries and Japan (Figure 1.10).

❖ The rebalancing of the economy (see below) has reduced the overall import intensity of growth, as the import intensities of consumption and service sector activity are lower than for investment and industrial activity. The slowdown in investment growth has in particular reduced the demand for commodity imports. Trade data for China covering the first eight months of 2015 suggest that the quantity of imported metals rose only marginally relative to 2014. Crude petroleum imports rose by almost 10%, but the quantity of coal and cotton imports declined by over 30%.

❖ These developments have reinforced the longer-term tendency over the past decade for Chinese firms to make greater use of domestically-produced intermediate inputs in place of foreign inputs (Constantinescu et al., 2015).

❖ Even with these factors considered – rebalancing towards consumption, a higher share of domestic intermediates and weaker external demand – Chinese import volumes have been very weak this year relative to final expenditure, after growing broadly in

Figure 1.9. **Significant changes are occurring in Chinese trade flows**
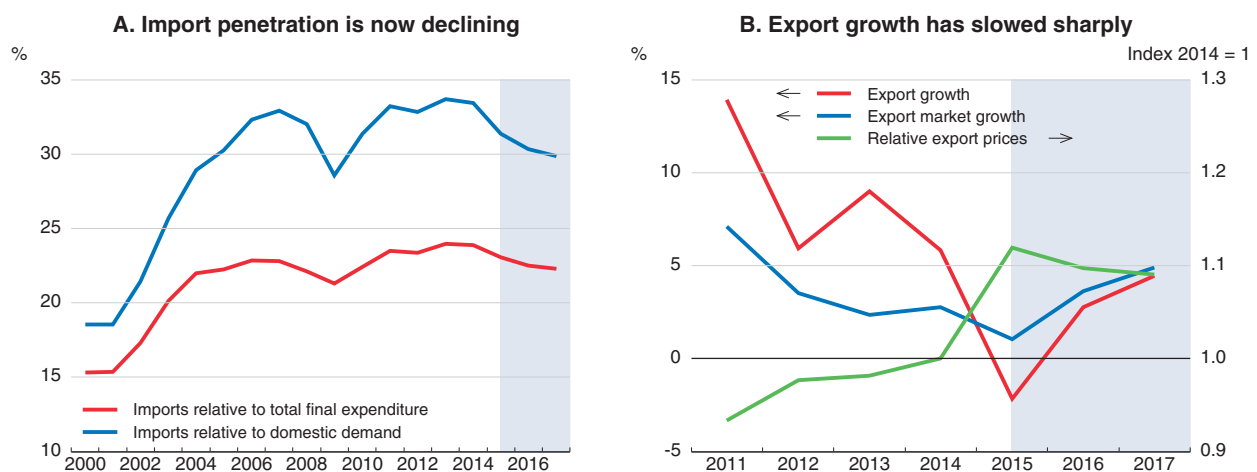
Note: Total final expenditure is the sum of domestic demand and exports.
Source: OECD Economic Outlook 98 database.

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3. Export volume growth is estimated to have slowed by around 8 percentage points between 2014 and 2015. All else equal, this would slow import volume growth by around 2.7 percentage points.

Figure 1.10. **Chinese merchandise export growth to selected partner countries**
Percentage changes, US dollar values, 2015H1 over 2014H1
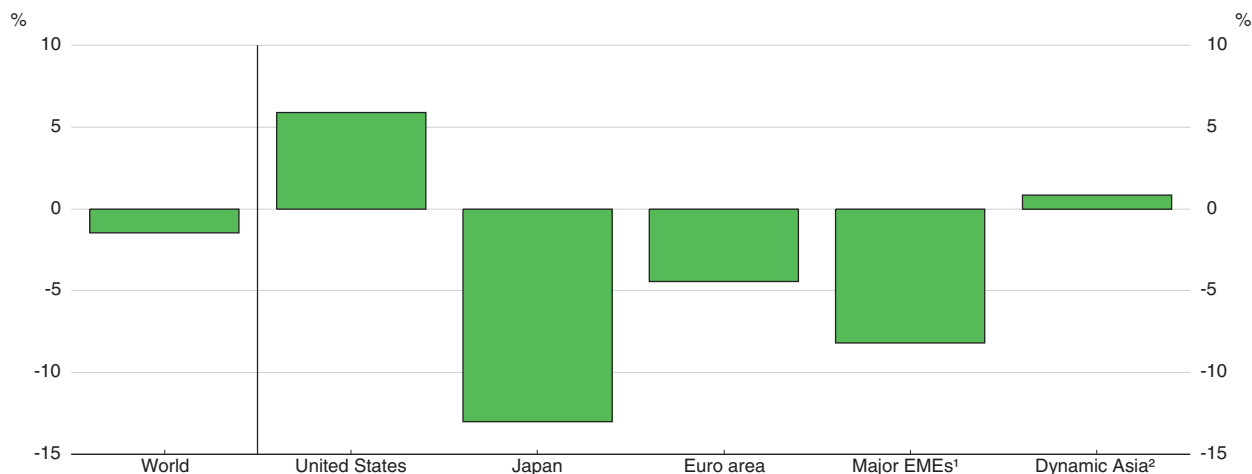
Note: Information based on Chinese partners imports.
1.   Major EMEs are Brazil, Russia, India and Indonesia.
2.   Dynamic Asia is: Hong-Kong, China; Malaysia, Philippines, Singapore, Thailand and Chinese Taipei.
*Source:* Thomson Reuters.

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line with respect to total final expenditure in the 2006-14 period. For 2015 as a whole, the projected increase in import volumes (goods plus services) is only around one-third of the growth of total final expenditure.

● The slowdown in China has damped external demand for other Asian economies, including Japan and Korea, reflecting the integrated nature of manufacturing supply chains in East and South-East Asia (Figure 1.11). In 2014, over a third of all merchandise imports in China came from regional trading partners. Direct trade exposures to China are generally weaker in the United States and the euro area, although both economies are more heavily exposed to weaker demand in China's main trading partners.

● Many commodity exporters are also relatively heavily exposed to weaker demand in China, including Chile, Australia and New Zealand. Rebalancing in China has weakened global commodity prices and the export revenues of commodity producers, with the past investment boom having left China as the largest source of demand in many commodity markets, accounting for most of the increase in global demand over the past fifteen years.[4]

● The on-going accumulation of trade restrictions in the major economies may also be a factor behind the continued softening of global trade intensity, although this is unlikely to be able to account for much of the precipitate drop in trade growth this year.[5]

4.   China accounted for around one-half of total global demand for metals such as aluminium, copper, nickel and zinc in 2014 and most of the overall increase in global demand since 2000. It also accounted for 12% of global crude oil demand in 2014 and around one-half of global coal consumption, and a substantial share of the rise in global demand since 2000. Around 80% of the increase in global imports of soybeans, coffee and cotton since 2000 is also accounted for by China (World Bank, 2015).
5.   The number of trade restrictive measures introduced by G-20 countries since the onset of the crisis now covers around 6% of G-20 merchandise imports (OECD/WTO/UNCTAD, 2015), although the number of new measures introduced per month slowed slightly in the most recent six-month period. The number of trade facilitation measures introduced has, however, not yet slowed, although they cover only around 1% of G-20 merchandise imports.

Figure 1.11. **Trade linkages with China in 2014**

Merchandise exports to and imports from China as a per cent of GDP
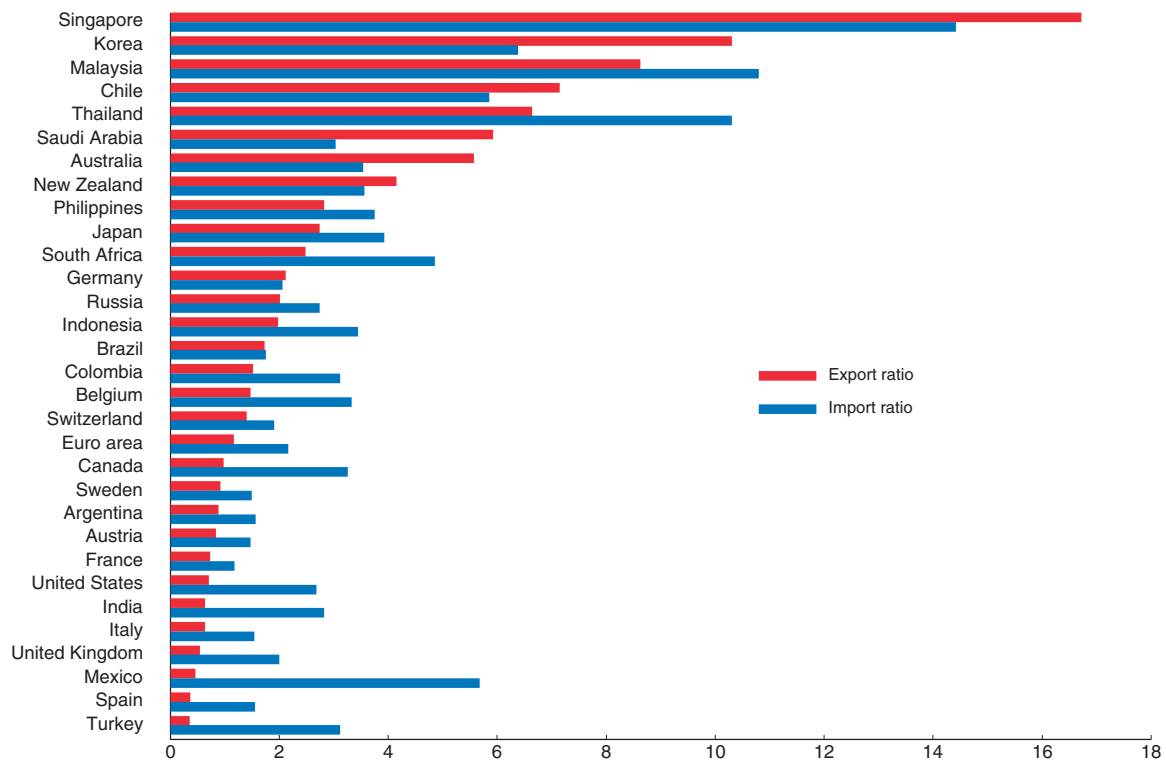
Source: International Monetary Fund Direction of Trade Statistics; and OECD calculations.

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Global trade growth is projected to recover gradually over the projection period, rising broadly in line with global output growth in 2016, and by 4¾ per cent in 2017 (Table 1.3). This would imply a rise in the trade elasticity of global growth to around 1⅓, compared with an elasticity of around 2 prior to the financial crisis. In the OECD economies, as well as India and Indonesia (both part of the other non-OECD in Figure 1.8), the composition of demand is likely to slowly become more trade-intensive, as fixed investment growth picks up relative to final consumption growth. New fiscal measures to boost infrastructure spending in China should also help to strengthen import growth in China somewhat. Aggregate demand will also benefit moderately from the projected fading of the present weaknesses in many commodity producers, including Brazil and Russia. In the medium term, the new Trans-Pacific Partnership agreement will help to boost trade growth and global activity (Petri and Plummer, 2012). A successful conclusion to the current negotiations on the Transatlantic Trade and Investment Agreement would provide a further boost.

Table 1.3. **World trade will strengthen gradually**

Goods and services trade

	2013	2014	2015	2016	2017
	Percentage change from previous period				
World trade[1]	3.3	3.4	2.0	3.6	4.8
OECD exports	2.6	4.0	3.4	3.5	4.6
OECD imports	2.0	3.8	4.0	4.0	4.7
Trade prices[2]					
OECD exports	0.3	-1.3	-12.5	0.3	1.1
OECD imports	-0.5	-1.5	-13.7	0.0	1.0
Non-OECD exports	-1.8	-2.9	-10.8	-0.6	2.1
Non-OECD imports	-0.7	-1.9	-7.6	0.3	2.4
Current account balances	Per cent of GDP				
United States	-2.3	-2.2	-2.5	-2.8	-3.0
Japan	0.8	0.5	3.3	2.9	3.3
Euro area	2.8	3.3	3.8	3.7	3.7
OECD	-0.1	0.0	0.2	0.1	0.1
China	1.6	2.1	3.0	2.7	2.6
	USD billion				
OECD	-25	0	94	32	35
United States	-377	-390	-450	-517	-588
Japan	40	23	138	124	143
Euro area	371	432	436	438	452
Non-OECD	383	362	245	260	261
China	148	220	323	303	318
Major oil producers	281	169	-69	-38	-34
Rest of the world	-46	-27	-9	-4	-23
World	358	362	339	293	296

Note: Regional aggregates include intra-regional trade.
1. Growth rates of the arithmetic average of import volumes and export volumes.
2. Average unit values in dollars.
Source: OECD Economic Outlook 98 database.

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The slowdown in China and associated spillovers

The outlook for China is an important vector for global growth and uncertainty, given its large and rising contribution to trade, investment and activity.[6] The large fall in Chinese share prices since June, along with an unexpected adjustment in the exchange rate pricing mechanism, have added to concerns about a possible sharp growth slowdown and domestic financial fragilities, and have raised volatility in global financial markets. Reported GDP growth has continued to moderate in 2015, to just over 6¾ per cent, as the economy transitions from industrial to services-based growth and deals with the

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6.   The share of China in global import demand for goods plus services is now around 9¾ per cent, up from around 2% in the mid-1990s. Thus, a sharp slowdown in China would now have larger spillover effects than before.

imbalances in property and heavy industries and the high debt levels in local government and the corporate sector (OECD, 2015c). Achieving a smooth unwinding of these imbalances presents challenges, raising the risk that an abrupt slowdown could occur with adverse effects for the global economy. Hence, a closer look at the economic transition in China is warranted.

Reflecting ongoing rebalancing, consumption (public plus private) has become a relatively more important source of growth in China than fixed investment (Figure 1.12), even though the growth rate of both types of expenditure is now weaker than in the past. The services sector is now the main driver of economic growth, whilst industrial production growth has slowed sharply to the weakest rate since 2008. At the same time, the easing of total final expenditure growth, with export volumes declining, is prompting concerns that the slowdown in China could be deeper and progressing more rapidly than initially thought, with negative spillover effects via trade and financial linkages.

- Trade linkages understate the extent to which many advanced economies are exposed to a slowdown in China, given the additional direct sales in China by the foreign affiliates of parent companies from these countries. For instance, sales by US foreign affiliates in China amounted to $364 billion in 2013, over twice the value of bilateral exports of goods and services to China from the United States. Sales of the local subsidiaries of Japanese manufacturers in China in 2014 were also almost double Japanese merchandise exports to China. Weaker demand growth in China may thus hit the revenues and profitability of many multinational companies, and hence their share prices, even if the parent companies do not produce goods and services that are exported to China.

- Direct financial linkages with China are also rising rapidly, but generally remain small relative to total global linkages. Outstanding cross-border banking sector claims on Chinese residents were around $760 billion as of the first quarter of 2015 (on an ultimate

Figure 1.12. **Rebalancing is continuing in China**

A. Expenditure shares of GDP (nominal)

B. Contribution to annual GDP growth [2]
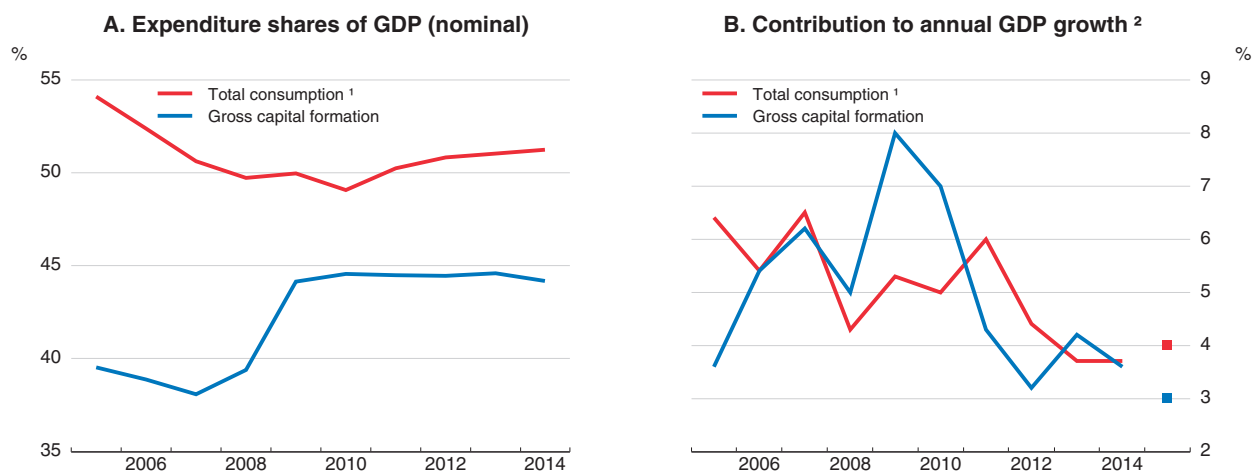
Note: Shares do not add to 100 since the net exports share is not included in the chart.
1.   Total consumption includes both public and private consumption.
2.   Dots represent the contribution to the growth of GDP in the first three quarters of 2015 relative to a year earlier.
Source: OECD Economic Outlook 98 database; National Bureau of Statistics (China); and Thomson Reuters.

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risk basis), 3.1% of total cross-border claims by BIS-reporting banks. China has become the leading location for international foreign direct investment flows in recent years (OECD, 2015b), but only hosts around 4¼ per cent of the total global inward FDI stock (excluding that located in Hong Kong). Nevertheless, financial spillovers may be stronger than these data suggest, as demonstrated by the sharp reaction in global financial markets to the large correction in Chinese share prices since June and the unexpected depreciation of the renminbi against the US dollar in August. This was particularly pronounced in Japan, where share prices fell sharply.

Faced with signs of a slowdown, the Chinese authorities have announced major stimulus measures, including a range of monetary and financial policy changes to support asset prices, credit and activity, as well as new fiscal measures worth up to 1½ per cent of GDP. The new fiscal measures, which are about one-quarter the size of those introduced in 2009 during the global financial crisis, are largely intended to finance additional infrastructure spending, particularly on transport networks. This support is projected to help hold up demand, with GDP growth expected to slow modestly to 6¼ per cent by 2017, but will inevitably slow the necessary rebalancing of expenditure that needs to occur and entails the risk that leverage and excess industrial capacity might increase further. The additional investment will moderate the trend reduction in the import intensity of domestic demand, helping to underpin global trade growth. A range of other structural policies could prove more effective for rebalancing overall, including services liberalisation and expanding social expenditures to support household consumption growth. Measures of this kind would help the transition in the Chinese economy, but would not offer as much support for global trade, given the lower import intensity of consumption spending.

If Chinese domestic demand were to slow by more than currently anticipated, the global repercussions could be sizeable (Gauvin and Rebillard, 2015) and more severe than implied only by direct trade and financial linkages, given indirect confidence effects in financial markets. Weaker global commodity prices and more accommodative monetary policy could offset this in part, but a reduction of two percentage points in Chinese domestic demand growth in 2016 and 2017, augmented by global financial stresses, could still reduce global GDP growth by over ½ percentage point in both years (Box 1.2).

Fragilities in emerging market economies

The projected pick-up in other EMEs is conditional on a gentle growth slowdown and rebalancing in China, stable commodity prices and exchange rates, and a recovery of confidence that allows policy to become more accommodative. If any of these conditions fail to hold, growth would be weaker than projected. Further currency depreciations would exacerbate underlying inflationary pressures in some of these economies, requiring tighter monetary policy, but providing more external stimulus. Failure to reduce political uncertainty and restore confidence in several EMEs, including Brazil, Russia and Turkey, would undermine growth. Commodity prices are a balanced risk. If recent conditions of excess supply were to persist or intensify, lower commodity prices would reduce the revenues of commodity producers, including Brazil, Chile, Mexico, Russia and other oil producers, weigh on real activity and government revenues and weaken external positions. Alternatively, if global demand were to strengthen more than projected, or if geopolitical risks were to intensify, commodity prices could strengthen, raising the revenues of commodity producers.

## Box 1.2. **The global impact of weaker demand growth in China**

The scenarios set out in this box provide an illustration of the possible economic effects that could result from weaker growth outcomes in China, using simulations on the NiGEM macro-model. The simulations consider the impact of a reduction of two percentage points in Chinese domestic demand growth that persists for two years (2016 and 2017).

● The negative spillovers via trade linkages alone would be only modest, with the decline in Chinese domestic demand growth reducing OECD GDP growth by only between 0.1 and 0.2 percentage point per annum. Overall, global GDP would decline by around ⅓ percentage point per year in 2016-17.[1]

● The effects of slower demand growth in China would be stronger if they gave rise to corrections in global financial markets, such as reductions in equity prices and higher uncertainty and risk premia, as observed in the second half of August this year. Adding three adverse financial shocks to the initial Chinese demand shock – a 15% decline in worldwide equity prices and a 50-basis point rise in the equity and investment risk premia in all countries – would reduce global GDP growth by between ¾-1 percentage point per annum on average in 2016-17. The full impact of the combined shocks would be relatively large in Japan, as well as India and Russia, reflecting comparatively strong linkages with China or other emerging economies that trade heavily with China, and the impact of higher risk premia (see figure, panel A).

A further decline in Chinese demand would also place additional downward pressure on commodity prices, especially if it were driven by weaker fixed investment. In the main commodity-producing economies this would have negative effects on incomes, but in commodity-importing economies it would act to cushion the impact of the initial shocks on growth, whilst intensifying the disinflationary impact. Monetary policy easing (or the expectation of future easing), given stronger disinflationary pressures, could also affect the overall impact of the initial shocks and the effects on individual economies.

GDP growth impact of an adverse two-year domestic demand shock in China

Difference from baseline
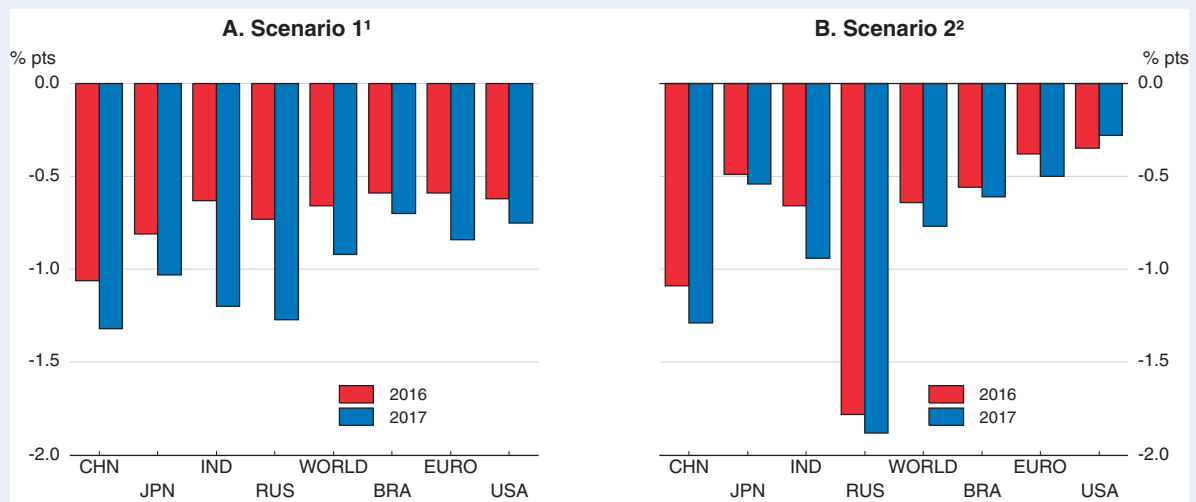
1. Panel A: Based on a decline of 2 percentage points in the growth rate of domestic demand in China for two years; a reduction of 15% in global equity prices and a 50 basis point increase in the equity risk premium and investment risk premium in all countries.
2. Panel B: Panel A simulation plus a 25 basis point reduction in long-term interest rates in all economies and a 15% decline in global prices of oil and metals plus minerals.
Source: OECD Economic Outlook 98 database; and OECD calculations.

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Box 1.2.   **The global impact of weaker demand growth in China** (cont.)

●   To illustrate these effects, two additional shocks are added to the first scenario – a 15% decline in the global prices of oil and metals and minerals, and a 25 basis point reduction in long-term interest rates in all economies. In the advanced economies, these "shock absorbers" reduce the overall impact of the initial demand and financial shocks by around ¼ percentage point in 2016 and 0.4 percentage point in 2017 (see figure, panel B). Nonetheless, OECD GDP growth would still be reduced by around ½ percentage point in both 2016 and 2017. Amongst the EMEs, commodity producers such as Russia are hit by the reduction in commodity prices, raising the impact of the initial shocks. For other EMEs, the direct benefits from lower commodity prices and interest rates are largely offset, particularly in 2016, by the income reductions in the EME commodity producers who are major trading partners. Overall, global GDP growth is reduced by an average 0.7 percentage point per annum over 2016-17.

A sizeable depreciation of the renminbi would also have spillover effects for other countries, particularly if it added to financial market volatility. It would help to support aggregate demand in China, but would delay restructuring by making growth more export-driven. In practice, as in August this year, it would be likely to induce currency depreciations in many other EMEs, especially close competitors with China and in major commodity producing economies. The net result would be to limit the benefits to China.

1.   Imports would fall sharply in China given the initial shock to domestic demand, reducing the overall impact of the shock on China to a decline of around 1 percentage point per annum in GDP growth.

EMEs are also subject to possible risks associated with the eventual US monetary policy normalisation. Along with weaker growth outcomes, the anticipation of tighter monetary policy in the United States has contributed to greater portfolio rebalancing away from EME assets in recent months, with gross capital inflows falling, sovereign bond spreads widening and equity prices declining by between 10% and 15% since early May (Figure 1.13). The eventual start of US monetary policy normalisation may heighten volatility in financial markets and spread to EMEs, even if it would be predicated on a

Figure 1.13.   **Financial conditions in emerging market economies have tightened**

A. MSCI Equity prices

Index 100 = 12 May 2015

B. EMBI spreads

% pts

Source: Thomson Reuters.

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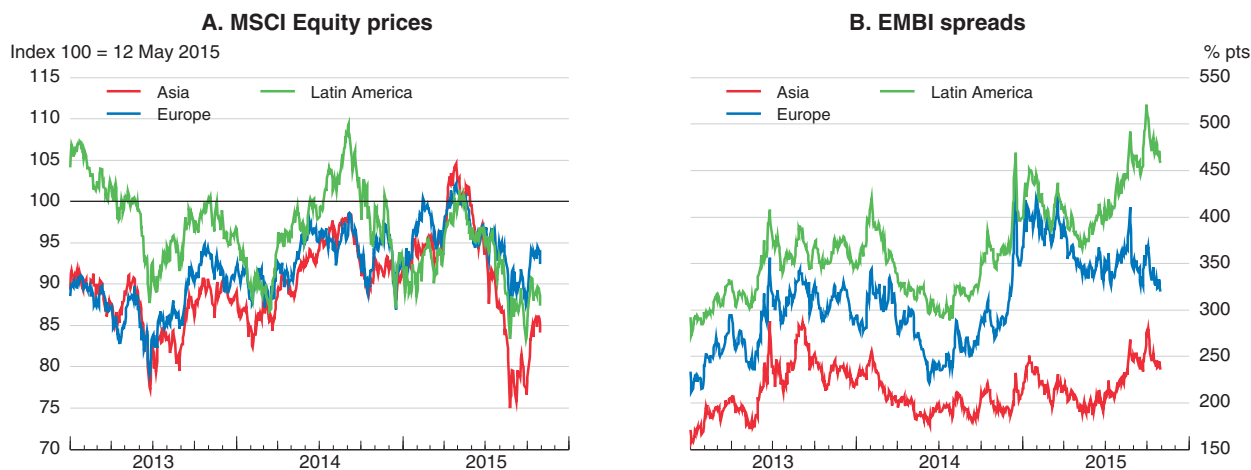
healthy recovery and price stability in the United States.[7] This could then trigger further portfolio flows and asset price changes, exposing underlying vulnerabilities. The volatile nature of investors' sentiment, contagion and negative feedback loops make the size, duration and economic effects of portfolio and price shifts hard to predict. Negative spillovers to EMEs are more likely if investors reduce their risk tolerance (Box 1.3). However, past experience indicates that over the entire US monetary policy tightening cycle overall financial conditions in EMEs need not necessarily worsen.

EMEs have better fundamentals than before past crises, including higher foreign exchange reserves, and some of them have arrangements to obtain emergency foreign currency credit, but these do not necessarily insulate them from possible capital flow reversals and financial market turbulence.[8] Some countries remain vulnerable (Tables 1.A2.1 and 1.A2.2):

- Foreign currency debt in several large EMEs is lower relative to GDP than before the Asian crisis in the late 1990s (Ollivaud et al., 2015), although it has risen since 2007. The structure of foreign gross liabilities has also improved in many EMEs, with an increasing share of FDI and a corresponding decline in the share of debt liabilities (Obstfeld, 2015). Nevertheless, several economies, including Chile, Mexico, Poland, Turkey and South Africa, have attracted large bond portfolio inflows, with bond liabilities as a share of GDP increasing in the aftermath of the global financial crisis. As past experience demonstrates, this increases the risk of capital flow reversal when monetary policy tightens in the advanced economies (Ahmed et al., 2015).

- Recent currency depreciations have raised the cost of servicing debt denominated in foreign currencies. This is especially the case in Brazil, Russia and Turkey given the size of their exchange rate depreciations since mid-2014 and of foreign debt denominated in foreign currencies – primarily in US dollars (Figure 1.14). The apparent lack of widespread financial difficulties of businesses and households in these economies so far suggests that exchange rate risks were hedged either via revenues in foreign currencies or via financial instruments. Government interventions in some countries have also eased the stress.[9] A further possibility is that debt repayments have not yet come due.

- Leverage has risen substantially in many EMEs. In Brazil, China and Turkey, the debt of non-financial corporations and households nearly doubled in relation to GDP between

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7. At the end of October, expectations derived from the forward rates based on overnight index swaps pointed to a delayed start of monetary policy tightening and a lower interest rate path than expected by the US FOMC members in September. Thus, an alignment of financial market expectations with the FOMC views could imply that 10-year US government bond yields increase by around 1 percentage point, with a risk that similar increases occur in EMEs bond rates. Higher increases may even occur because term premia – which have been at historic lows – will probably rise as well. This would likely trigger global adjustments in corporate bond and equity prices.

8. Empirical evidence on the role of fundamentals in explaining capital flows is inconclusive (Ahmed et al., 2015; Koepke, 2015). According to some studies, the role of macroeconomic fundamentals has increased over time and played a role in insulating the EMEs from the 2013 taper tantrum shock (Ahmed et al., 2015). However, Eichengreen and Gupta (2014) suggest that EMEs with larger and more liquid markets are likely to be affected to a larger extent by US monetary policy spillovers, irrespective of their fundamentals.

9. Companies in EMEs have increased borrowing in foreign currencies, but the lack of comprehensive data makes difficult to assess the extent of hedging (Chui et al., 2014). Brazil's central bank has offered currency swaps which protect their holders from currency depreciations, with the losses born by the fiscal authorities.

Box 1.3. **Rising US policy interest rates and spillovers to emerging market economies**

This box looks at capital flows and financial market developments in selected EMEs during US monetary policy tightening cycles in the 1990s and the 2000s, and assesses potential implications for the forthcoming cycle.

Empirical evidence suggests that portfolio capital flows to EMEs, especially debt securities, are negatively affected by an increase in US policy rates or expectations thereof (Koepke, 2015). For instance, Dahlhaus and Vasishtha (2014) find that a 120-basis point increase in the spread between US 10-year Treasuries and the federal funds rate reduces portfolio capital inflows to EMEs on aggregate by 1.7% of their GDP after six months. Indeed, according to balance of payments data, during the US monetary policy tightening episodes from 1994-95 and 1999-2000, bond and equity capital flows to selected EMEs declined on aggregate, though with some cross-country differences (figure below). This pattern is confirmed for capital flows from US residents only. In contrast, in 2004-06, portfolio capital inflows into EMEs strengthened, suggesting other factors were at play.[1]

Portfolio capital flows to EMEs during past episodes of US monetary policy tightening
USD billions
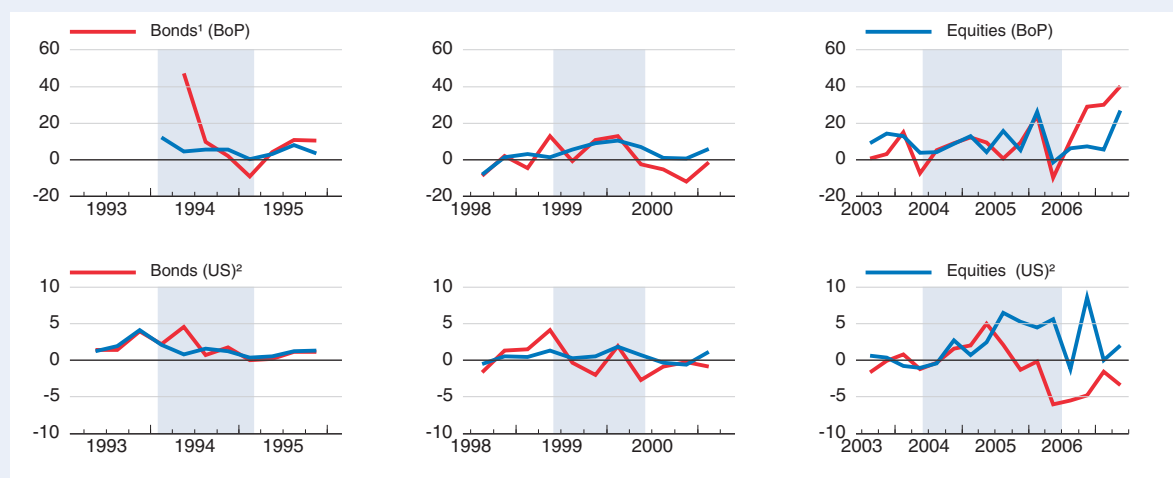
Note: Due to data availability the EMEs include Argentina, Brazil, Hungary, Indonesia, India, Korea, Mexico, Russia, South Africa and Turkey. The shaded areas correspond to US monetary policy tightening periods (February 1994-February 1995; June 1999-May 2000; and June 2004-June 2006).
1. Excluding India.
2. Net purchases of EMEs' securities by US residents based on US Treasury International Capital System data.
Source: International Monetary Fund Balance of Payments BP5; and US Treasury International Capital System (TIC).

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The negative impact of monetary policy tightening on portfolio capital inflows could be exacerbated by a decline in investors' risk tolerance (Koepke, 2015). As EMEs are viewed as higher-risk markets, they are prone to a flight to safety by investors. Risk aversion, as measured by the implied volatility in equity prices and the yield spread between US high-yield corporate bonds and US Treasuries, increased somewhat in the 1994-95 and 1999-2000, but not in the 2004-06 episode (figure below). Over recent years, these measures were below historical averages, helped by extraordinary monetary policy stimulus, though they picked up somewhat over recent months. The normalisation of US monetary policy may thus reduce risk tolerance, with possible adverse effects on capital inflows into EMEs.

However, US monetary policy tightening has generally not led to tighter overall financial conditions in EMEs over the entire cycle. Indeed, on average, nominal bilateral exchange rates against the dollar and nominal effective exchange rates depreciated in 1994-05 and 1999-2000, and equity prices increased in 1999-2000 and 2004-06, though this masks considerable cross-country heterogeneity (second figure below).

Box 1.3. **Rising US policy interest rates and spillovers to emerging market economies**

Measures of risk aversion
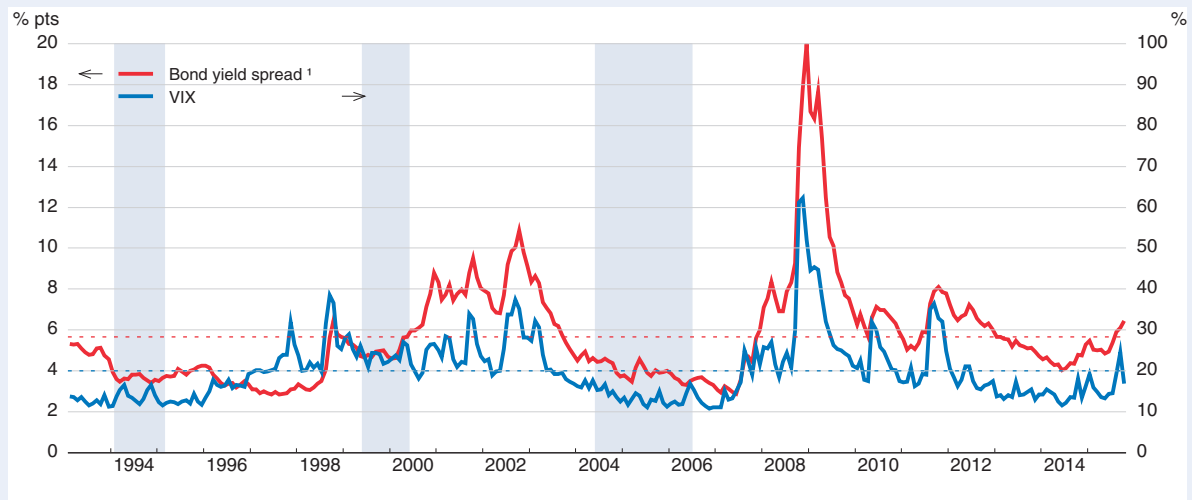
Note: The dotted lines are the total sample average. The shaded areas correspond to US monetary policy tightening periods (February 1994-February 1995; June 1999-May 2000; and June 2004-June 2006).

1. The spread between the US high-yield corporate bond yields (BoA ML with the average duration of 5 years) and the 5-year US government bond yields.

Source: Thomson Reuters.

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Thus, whilst US monetary policy tightening may reduce portfolio capital flows to EMEs, especially if investors become more risk averse, it does not have to necessarily result in tighter financial conditions in EMEs over the entire policy tightening cycle.

Financial market conditions during past episodes of US monetary policy tightening

Unweighted average of percentage change for EMEs[1]
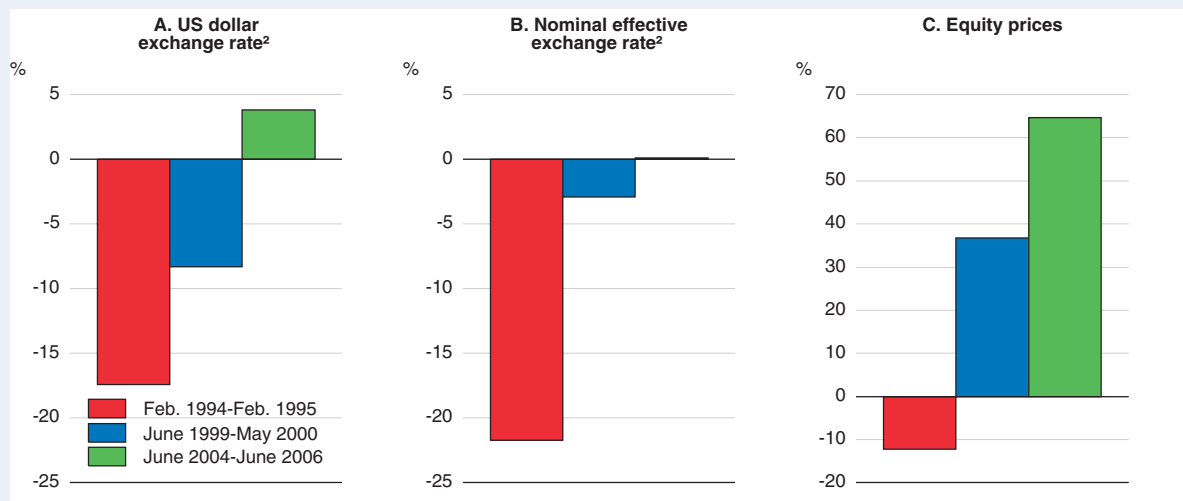
1. The EMEs include Argentina, Brazil, Hungary, Indonesia, India, Korea, Mexico, Russia, South Africa and Turkey.
2. Negative changes correspond to a depreciation.

Source: Thomson Reuters; OECD Exchange rate database; and OECD calculations.

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1. This may reflect the fact that investors became less risk averse, with surging global equity prices and falling equity price volatility.

Figure 1.14. **EMEs' external vulnerabilities increased due to exchange rate depreciations**

A. Nominal exchange rate[1]
% change, June 2014 to Oct. 2015

B. External liabilities[2]
% of GDP, 2014 or latest available
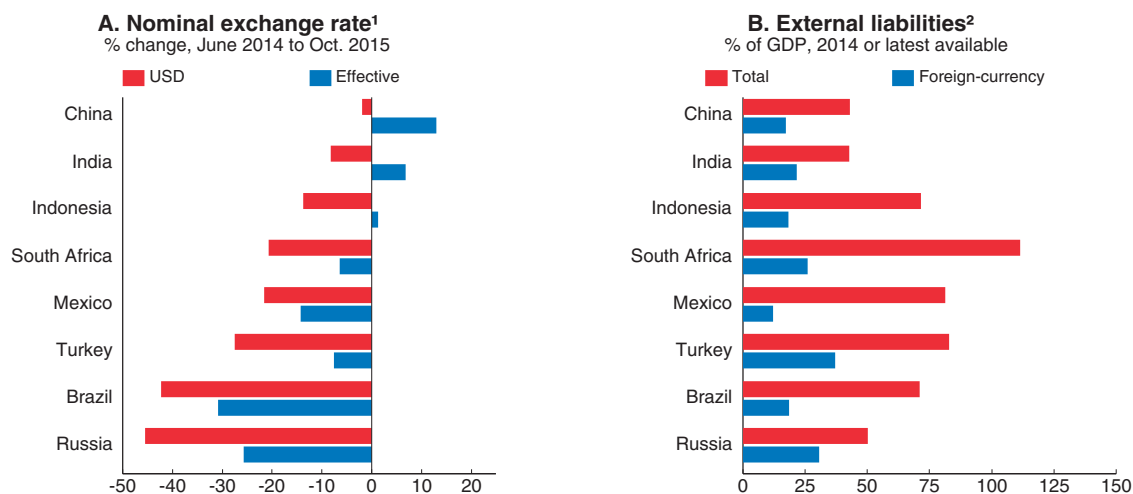
1. Negative numbers imply a depreciation of the indicated country's currency against the US dollar (USD) and against a trade-weighted basket of currencies effective exchange rate.
2. Foreign currency liabilities include bank loans, other investment liabilities and offshore external bond liabilities. The latter is computed as the difference between debt securities by nationality of the issuer and by residence of the issuer and is set to zero when the difference is negative.

Source: OECD Economic Outlook 98 database; Bank for International Settlements; International Monetary Funds; and OECD calculations.

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2007 and early 2015 (Figure 1.15). Based on past experience, such a rapid pace of debt accumulation may foreshadow debt repayment problems as growth slows. However, with the exception of Russia, officially reported non-performing loans in many EMEs have been surprisingly low. This may, however, reflect supervisory leniency rather than the lack of actual financial stress.

Figure 1.15. **Credit has increased substantially in some EMEs**
End-period stock, per cent of GDP

A. Non-financial corporations

B. Households
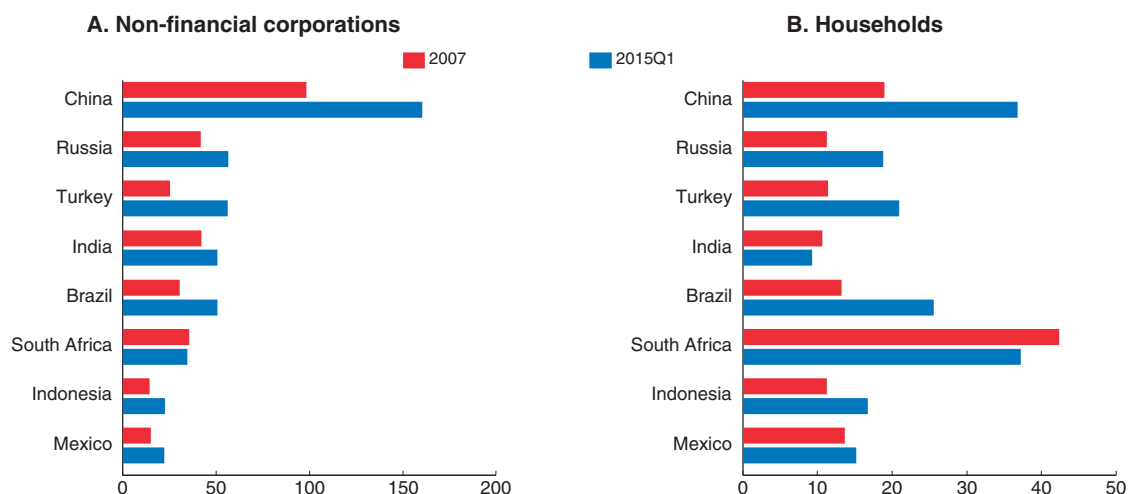
Note: Credit from banks and non-banks adjusted for breaks. For South Africa 2008 instead of 2007.
Source: Bank for International Settlements.

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Growth in the euro area and Japan is weaker than expected

Euro area and Japanese GDP growth in 2015 seems likely to be weaker than anticipated in mid-2014, despite the boost provided by lower oil prices, weaker currencies and highly stimulative monetary policy.[10] Model simulations of these changes suggest that GDP growth in the euro area and Japan this year could have been at least 1 percentage point higher than projected currently (Box 1.4). This is offset to some extent, by a negative impact on output from weaker-than-projected external demand growth.

In the euro area, subdued growth could reflect a continued impaired credit channel due to an unfinished repair of banks' balance sheets.

● The functioning of the bank lending channel has improved, but has not fully healed in the countries hit hardest by the crisis. Annual credit growth has just turned positive for the euro area as a whole, but it remains negative in the countries hit hardest by the crisis (Figure 1.16).

● The cost of credit has come down from crisis levels, but in some countries remains high. Intra-euro area spreads for bank lending rates and sovereign bond yields remain high relative to the levels seen prior to the financial crisis. Asset purchases, including covered bonds and asset-backed securities, and targeted longer-term refinancing operations by the ECB have facilitated access of banks to funding and lowered its costs.

● The recapitalisation of banks ahead of the comprehensive assessment at the end of 2014 and gradual adoption of more stringent bank regulation have resulted in stronger balance sheets. Nevertheless, many banks in countries particularly strongly hit by the crisis still have very high non-performing loans, which are lowering profits and thus raising the cost of funding, and necessitate wider lending margins (IMF, 2015b; Table 1.A2.1; and Figure 1.16).

The weak recovery may also reflect limited deleveraging in the non-financial private sector. Although over recent years household net financial wealth in the euro area and Japan increased in relation to GDP, the ratio of household gross debt to GDP has barely changed (Figure 1.17). This is in contrast to the United States, where household gross debt declined in relation to GDP. Favourable nominal GDP dynamics in the United States, as opposed to the euro area and Japan, account for the different outcomes, with debt write-offs playing an important role for the deleveraging in the United States as well.[11] The euro area aggregate masks important cross-country differences. While household debt in relation to GDP declined strongly in Ireland and Portugal, and to a lesser extent in Spain and Germany, it increased somewhat in Italy (although it remains comparatively low) and France. There was also little deleveraging of non-financial corporations in Japan and the euro area. In the latter, this is likely to be the counterpart of high levels of non-performing loans in the banking system.

10. The October 2015 consensus forecasts for GDP growth in 2015 in the euro area and Japan were 1.5% and 0.6% respectively. The euro area consensus is little changed from the June 2014 consensus forecast of euro area GDP growth in 2015, but the current Japan consensus is ½ percentage point weaker than the June-2014 consensus forecast of Japanese GDP growth in 2015.

11. Write-offs are part of *other changes* in debt depicted in Figure 1.17 but cannot be identified exactly. Looking beyond national accounts data, the role of debt write-offs in the United States is contested, with some suggesting that it explained nearly two-thirds of deleveraging and others pointing to only a marginal role (Bouis et al., 2013).

Box 1.4. **Growth shortfalls in the euro area and Japan**

Macro-model simulations, using NiGEM, suggest that much stronger growth outcomes would have been expected in both the euro area and Japan in 2015 than now looks likely. Projections for 2016 are also lower than indicated by simulations for both economies. The decline in oil prices since mid-2014 is estimated to boost GDP by around 0.3 and 0.7 percentage point per annum over 2015-16 in the euro area and Japan, respectively. In addition, the effective exchange rate depreciations since mid-2014 could boost GDP growth by 0.3-0.4 percentage point in the euro area in 2015 and by 0.5-0.6 percentage point in Japan. The observed decline in long-term government bond rates and private sector borrowing rates since mid-2014 could also be expected to boost euro area GDP growth by a further 0.4-0.5 percentage point this year, all else equal. The additional public spending resulting from higher inflows of asylum seekers in Europe should also be making a small positive contribution to euro area GDP growth in 2015-16.

Estimated impact on GDP growth in 2015 of changes in forces acting since June 2014
Difference from baseline

Source: OECD calculations.

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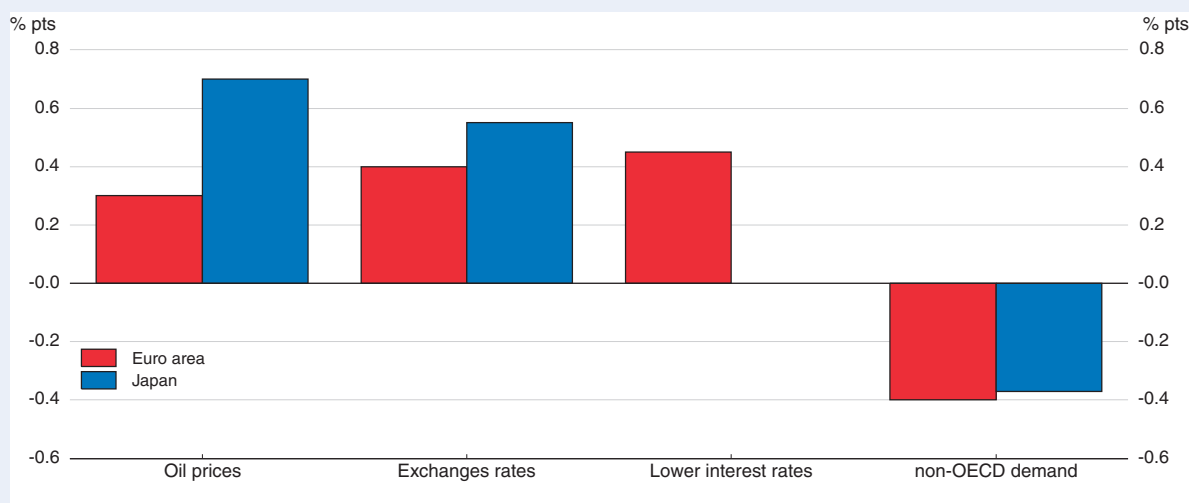
These shocks are not fully independent, since the underlying softness of demand that prompted the monetary authorities in Japan and the euro area to purchase assets last year contributed to the decline in oil prices, and the anticipated easing of monetary policy contributed to the depreciation of the euro and the yen. Nonetheless, they suggest that in isolation it would not have been surprising if GDP growth this year would have been at least 1 percentage point higher than now appears likely in the euro area and Japan.

The positive stimulus has been offset, at least in part, by the greater-than-expected slowdown in China and other EMEs, reducing external demand for both the euro area and Japan. The slowdown relative to what was expected in mid-2014, has on average reduced GDP growth by a little under ½ percentage point per annum over 2015-16 in the euro area and Japan.

Conventional macro-model simulations implicitly assume that all adjustment mechanisms in the economy are working as they did on average over the period in which they were estimated. In this context, the simulation results from NiGEM may be misleadingly strong. They could reflect specification errors and may not incorporate ongoing structural changes, such as the limited impact that interest rates now appear to have on business investment (OECD, 2015b), particularly at a time of heightened uncertainty. Downward rigidities in nominal wages and prices may also generate asymmetric responses to large declines or rises in oil prices, rather than the similar effects embodied in standard macro-models (Raciborski et al., 2015). In the euro area, monetary policy stimulus could also be weakened by the still impaired credit channel.

> **Box 1.4. Growth shortfalls in the euro area and Japan** *(cont.)*
>
> The declining sensitivity of trade volumes to changes in competitiveness (Ollivaud et al., 2015) may also account for the lower than expected effects from past exchange rate depreciations. In the euro area, export performance has improved in 2015, with export volumes rising twice as quickly as export market growth, suggesting that the real exchange rate has had some impact. However, there is little evidence of such effects on imports, with import growth accelerating this year relative to total final expenditure. For Japan, the further exchange rate depreciation since mid-2014 came on top of a larger decline in the previous year. The initial decline boosted export performance in 2014, but the further decline has had little observed impact on performance this year.
>
> Finally, it might also be the case that growth has been weaker than expected because the positive impact of the economic shocks has been added to an overoptimistic baseline projection, as it frequently has been for year-ahead forecasts in the aftermath of the crisis (OECD, 2014a). Relatedly, since the November 2014 *Economic Outlook,* the OECD estimate of euro area and Japanese potential output growth in 2015 has been revised down by 0.2 and 0.5 percentage point, respectively.

Persistent uncertainty could also weigh on growth performance.

- The August agreement between Greece and its creditors has relieved financial market pressures and significantly reduced the chances of further disruption in the near term. It remains to be seen whether these measures suffice to revive growth and make the debt situation sustainable over the long term. Uncertainties over implementation may weigh on investment in the short term.

- In Japan, the government has set up a new fiscal strategy relying on stronger economic growth to put government accounts on a sustainable footing. Additional measures will be needed to put debt on a downward trend and maintain investors' confidence in fiscal sustainability.

Lower potential output growth and uncertainty

The OECD has revised its estimates of potential growth and output gaps (Box 1.5) prompted by a further period of weak investment, with adverse consequences for productivity growth. Potential growth rates have generally been marked down for the recent past and near future, with a decline of ¼ percentage point in the main OECD areas in 2016. This downward revision comes on top of sizeable past revisions in the aftermath of the crisis. Even if the output gap estimates are little changed for the OECD area as a whole following the new revisions, estimated slack is now noticeably smaller in some economies than previously projected, including the United States. The implications of these developments for macroeconomic policies are discussed further below.

Estimates of output gaps and potential growth rates are imprecisely measured, and uncertainty is high.[12] Uncertainties stem in part from the weakened relationship between inflation and measured slack in recent years. A focus on national measures of economic slack may also be less relevant for inflation developments in the context of more globally-integrated output and factor markets. There is also uncertainty about the sources of

---

12. Many studies have highlighted the fact that the sign and the magnitude of the output gaps estimated in real time are subject to large revisions as new information becomes available (Turner et al., forthcoming; European Commission, 2015; Bundesbank, 2014; IMF, 2015a).

Figure 1.16. **Conditions in the banking sector across euro area countries continue to differ**

A. Bank interest rate margin[1]

B. Bank interest rate margin[1]

C. Interest rate on loans to non-financial corporations[2]

D. Interest rate for house purchase[2]

E. Growth in credit to non-financial corporations[3]

F. Growth in credit to households[3]
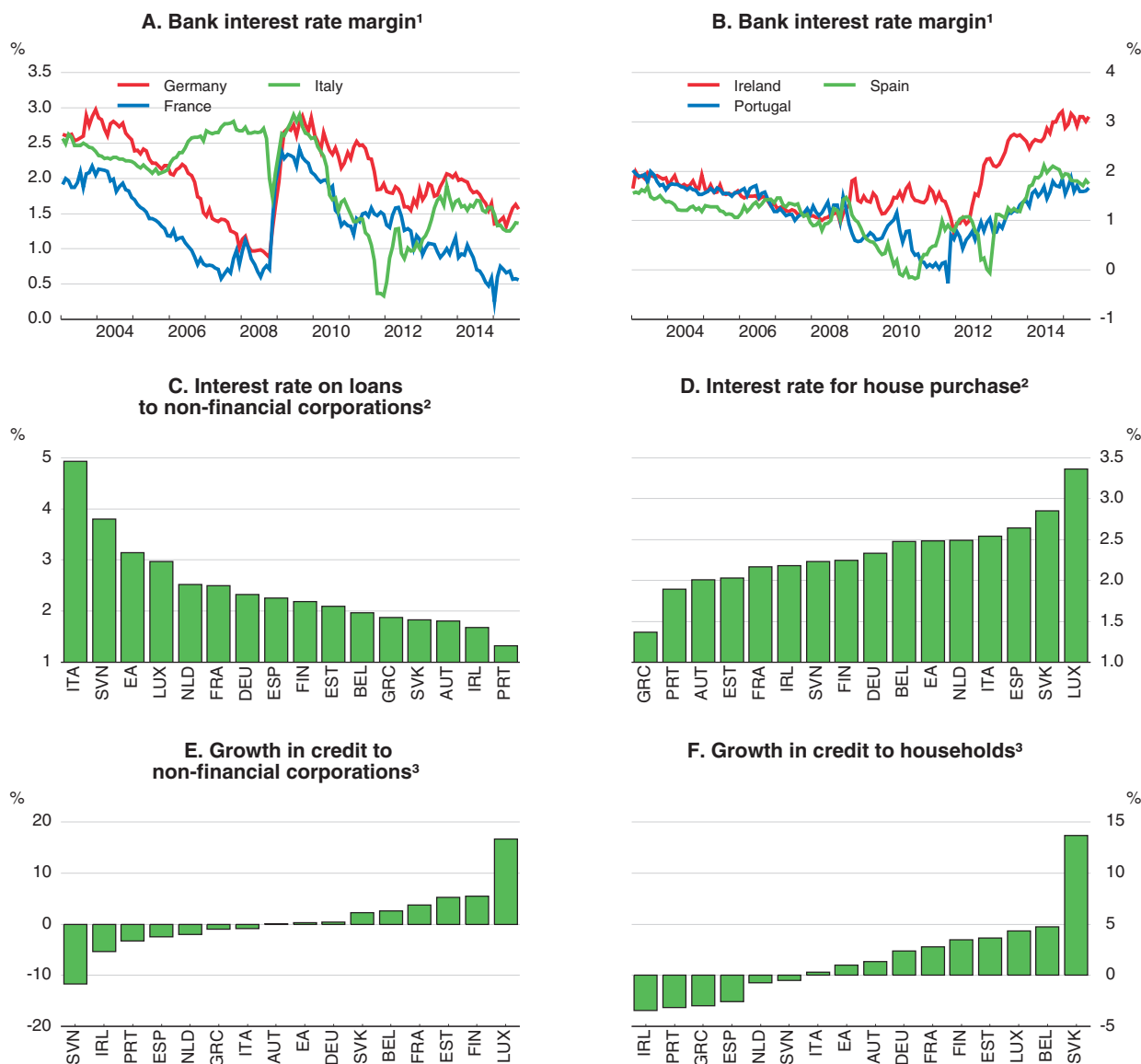
1. The interest rate margin is calculated as the difference between interest rates charged on bank loans for house purchases and paid on households deposits.
2. The average for 3 months to September 2015 of the bank total cost of borrowing to non-financial corporations and of the bank interest for house purchases.
3. The average for 3 months to September 2015 of annual growth in loans adjusted for sales and securitisation.
Source: European Central Bank; and OECD calculations.

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Figure 1.17. **Little progress with deleveraging in the euro area and Japan**

A. Gross debt for households

% of GDP

United States
Japan
Euro area

B. Net financial wealth for households

% of GDP

United States
Japan
Euro area

C. Gross debt for non-financial corporations

% of GDP

United States
Japan
Euro area

D. Net financial wealth for non-financial corporations

% of GDP

United States
Japan
Euro area

E. Decomposition of changes in household debt-to-GDP ratio 2007-2014[1]

% of GDP

GDP Growth   Net credit flows   Other changes   ▲   Change in debt

USA   GBR   IRL   ESP   DEU   PRT   EURO   JPN   ITA   NLD   FRA   BEL   GRC

1.   The change in debt-to-GDP ratio is decomposed according to the formula: $d(debt[t]) = -g[t]/(1+g[t])*debt[t-1] + net\ credit\ flows[t] + other\ changes[t]$, where $g[t]$ is percentage nominal GDP growth (divided by 100), and the first term indicates the contribution of nominal GDP growth to debt dynamics. Other changes reflect changes due to write-offs, reclassification and revaluation.

Source: OECD, National Accounts database; European Central Bank; and OECD calculations.

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Box 1.5. **Revisions to potential output growth**

For the aggregate OECD, current potential growth projections have been revised down by ¼ of a percentage point in 2016 relative to projections in June (OECD, 2015a), reflecting the disappointing recovery, particularly of productivity. Downward revisions apply to most OECD countries and all of the G7 countries, with the exception of Germany (figure below, Panel A). The changes mostly reflect revisions to the total factor productivity (TFP) component of potential growth, although for Germany, downward revisions to TFP are more than offset by larger upward revisions to labour input, reflecting higher net inward migration.

Revision to potential output growth for 2016

Current relative to previous published projections

A. Major OECD countries

B. BRIICS
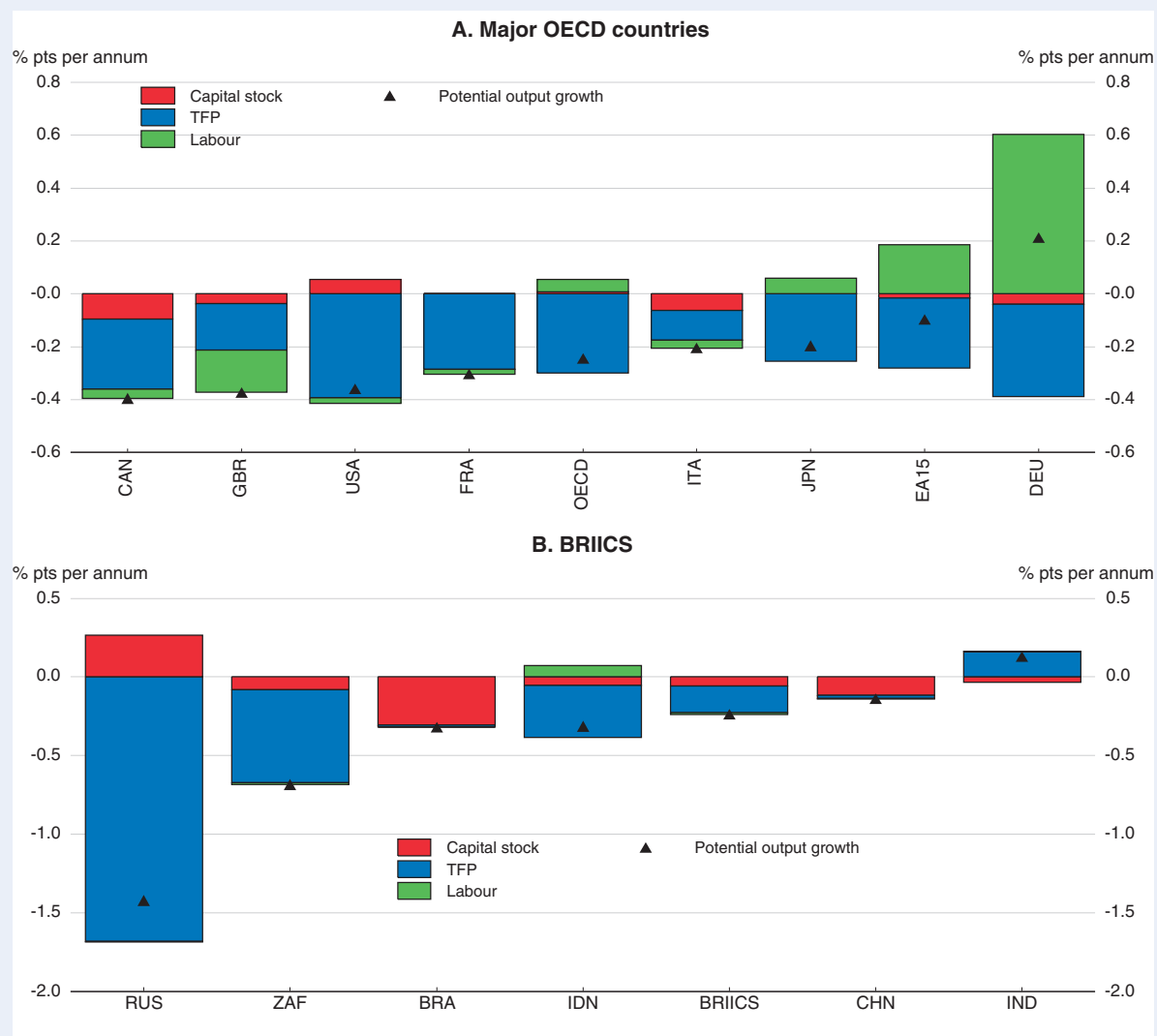
Note: Assuming potential output (Y*) can be represented by a Cobb-Douglas production function in terms of potential employment (N*), the capital stock (K) and labour-augmenting technical progress (E*) then y* = a (n*+e*) + (1 - a) k, where lower case letters denote logs, a is the wage share and total factor productivity (TFP) is given by TFP = a e*.

Source: OECD Economic Outlook 98 database; and OECD Economic Outlook 97 database.

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Box 1.5. **Revisions to potential output growth** (cont.)

For the BRIICS, aggregate potential output growth projections have been revised down by 0.2 percentage point in 2016, with much of the revision also due to lower TFP growth (figure above, panel B). There is, however, much greater variation across the BRIICs than for the major OECD economies; the downward revisions are particularly marked for Russia and South Africa, whereas potential growth has been revised marginally upwards for India, anticipating the effect of structural reforms.

The concentration of revisions on TFP growth reflects the difficulty of projecting what is effectively the residual GDP growth that is not explained by changes in factor inputs. Projecting TFP is also problematic because it is difficult to distinguish whether TFP is temporarily weak for cyclical reasons. In the post-crisis period, observed TFP growth was low, but was initially judged to be mostly cyclical; therefore estimates of trend TFP growth remained relatively high. As additional TFP growth observations accumulated, however, the cyclical weakness position gradually became more untenable and, given the filtering techniques used to estimate trend TFP, more and more of the recent weakness became embedded into the trend.[1] Disappointments on TFP growth could reflect a number of factors including: poor diffusion of new technology in frontier firms to the majority of firms (OECD, 2015f), partly because of weak investment following the crisis that reduced embodied technical change (Oulton, 2007); a slowdown in structural reform efforts; or a slowdown in the rate of improvement in the global productivity frontier (Gordon, 2012).

The downward revisions to potential growth leave the rate of improvement in projected OECD potential GDP per capita (a proxy for living standards) at only about 1% per annum, compared with twice that rate around the turn of the millennium, and just under 1½ per cent in the years immediately preceding the crisis. For the BRIICS, the growth rate of potential GDP per capita has also fallen, by an average of 1¼ percentage points compared to the period 2005-10, driven by the slowdown of Brazil, China and Russia and in contrast to a stabilisation for India and Indonesia. There is also great heterogeneity in the speed at which living standards are improving: potential output per capita for China, although decelerating, is growing about 6¼ per cent for 2016, while it barely increases for Brazil and Russia (between ½ and ¾ per cent).

1. To help with such end-point problems, a recent innovation (Turner et al, forthcoming) to the potential output methodology has been to make use of survey measures of manufacturing capacity utilisation which - for some, but not all, countries - seem well correlated with cyclical fluctuations in TFP.

economic slack. Traditional measures of labour-market slack may also be too narrow, failing to capture the post-crisis rise in the number of involuntary part-time workers and inactive persons wanting to work but not registered as job seekers.

There is also significant uncertainty about future potential growth rates, and in particular about trend productivity growth rates. Since the beginning of the financial crisis weak domestic and foreign demand, greater financial constraints and persistent uncertainties have discouraged investment. In addition, public and infrastructure investments have been held back in some countries by fiscal consolidation. Overall, the sluggish recovery in investment is estimated to account for over half of the slowdown in the growth rate of OECD potential output per capita in recent years compared to pre-crisis averages (OECD, 2015a). The crisis may also have depressed the supply of labour in the wake of the crisis, notably in the euro area. High skill mismatch and a slowing of the pace at which new innovations spread out throughout the economy may have contributed to lower labour productivity growth (Adalet McGowan et al., 2015). A slower pace of product-market reforms may also have played a role. Some of the slowdown in trend productivity that started in the 2000s could be long-lasting if policies fail to respond.

Policy requirements

Macroeconomic policies in advanced and emerging market economies

The main advanced economies require continued policy support to stimulate aggregate demand and strengthen potential growth.

● Differences in expected growth and inflation developments call for increasingly divergent monetary policy stances. The gradual disappearance of slack in the United States, and the associated prospect of inflation moving towards its target, requires gradually higher policy rates. In the euro area and Japan, very low inflation warrants continued very supportive monetary policy, as planned. A persistent undershooting of inflation in Japan and the euro area poses challenges for monetary policy, as there are limits to what additional stimulus can achieve (OECD, 2015a; Rawdanowicz et al., 2013).

● Public debt levels remain high by historical standards and a number of countries still have large budget deficits (Table 1.4). Fiscal challenges remain particularly large in Japan, where structural budget deficits should continue to be reduced. In all economies there is scope to adjust the composition of public spending to strengthen near-term demand and

Table 1.4. **Fiscal positions will continue to improve**

Per cent of GDP / potential GDP

	2013	2014	2015	2016	2017
United States					
Actual balance	-5.5	-5.1	-4.5	-4.2	-3.7
Underlying balance	-3.8	-3.8	-3.7	-3.7	-3.6
Underlying primary balance	-1.5	-1.1	-1.0	-0.8	-0.6
Gross financial liabilities	111.4	111.6	110.6	111.4	111.5
Euro area					
Actual balance	-3.0	-2.6	-1.9	-1.7	-1.0
Underlying balance	-0.9	-0.6	-0.5	-0.4	-0.4
Underlying primary balance	1.4	1.6	1.6	1.5	1.4
Gross financial liabilities	104.9	111.7	111.2	110.2	108.5
Japan					
Actual balance	-8.5	-7.7	-6.7	-5.7	-5.0
Underlying balance	-8.6	-7.8	-7.0	-6.3	-5.6
Underlying primary balance	-7.9	-6.9	-6.0	-5.5	-4.8
Gross financial liabilities	220.3	226.1	229.2	232.4	233.8
OECD[1]					
Actual balance[1]	-4.1	-3.8	-3.3	-2.8	-2.3
Underlying balance[2]	-3.1	-2.9	-2.8	-2.7	-2.5
Underlying primary balance[2]	-1.2	-0.9	-0.8	-0.7	-0.5
Gross financial liabilities[2]	112.1	115.5	115.2	115.4	114.8

Note: Actual balances and liabilities are in per cent of nominal GDP. Underlying balances are in per cent of potential GDP and they refer to fiscal balances adjusted for the cycle and for one-offs. Underlying primary balance is the underlying balance excluding net debt interest payments.
1. Excludes Chile and Mexico.
2. Excludes Chile, Mexico and Turkey.
Source: OECD Economic Outlook 98 database.

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long-term supply without raising deficits, in particular by reallocating public spending towards investment (Cournède et al., 2014). In fact, collective action that focuses new spending on high-multiplier investments can augment GDP growth sufficiently to reduce debt-to-GDP ratios in the near term (Box 1.6) provided that it is accompanied by supportive structural policy settings.

Box 1.6. **The impact of an increase in public investment in OECD economies**

The stylised scenarios set out in this box provide some illustrative estimates of the possible economic and fiscal impacts of a temporary increase in public investment in the OECD economies, using simulations on the NiGEM global macro model. The rationale for such investments is that they could help to push economies onto a higher growth path than might otherwise be the case, at a time when private investment growth remains modest. Two scenarios are considered: the first is with a collective increase in public investment in the OECD economies; the second is with separate increases in public investment in one economy at a time, with such investment remaining unchanged in the other OECD economies.

Public investment is assumed to be increased by ½ per cent of GDP for two years in each economy, implying an increase in the volume of government investment of around 15% in the typical OECD member state. In some countries this may be challenging to achieve immediately. The analysis nonetheless assumes that the projects undertaken are economically worthwhile, with net benefits to the economy.

Collective action to increase public investment can be expected to boost the initial domestic multiplier effects from the stimulus, since private investment and exports in each economy will benefit from stronger demand in other economies (Barrell et al., 2012; OECD, 2015b). Monetary policy is assumed to be accommodative, with policy interest rates held fixed. This is likely to further increase the short-term positive effect on growth, all else equal, since real interest rates decline as inflation edges up following the demand stimulus. Budget solvency rules are also switched off, so that the higher level of investment spending initially raises the budget deficit; the implications of imposing budget solvency are discussed below. Finally, the multiplier effects from an investment-led stimulus are likely to be a little larger than from other forms of fiscal stimulus, since the former also has small, but positive, supply-side effects (Coenen et al., 2012).

The first-year multiplier from the collective stimulus is above 1, with OECD GDP rising by over 0.6% (see first figure below), and GDP rising by over 0.5% in each of the major economies. The impact is larger in Japan and the United States than in the euro area, the United Kingdom and Canada, since the latter economies are more open, so that a larger proportion of the stimulus is offset by higher imports. Stronger demand in the OECD economies also boosts the major EMEs, with GDP in the BRIICS rising by around ¼ percentage point. All told, global GDP rises by a little over 0.4%. Reflecting the comparatively high import content of investment spending, global trade rises by over 1% in the first year. The growth effects could be even stronger if the additional public investment was concentrated in network industries, particularly in the EU, where there is a greater possibility of crowding in private investment (OECD, 2015b). The first-year effects on GDP are lower by around 20-25% in the United States, Japan and the euro area if the investment shock is conducted separately for each of these economies and around 40% lower in the United Kingdom and Canada. Thus, there are clear benefits from undertaking collective action to boost public investment.

The initial increase of ½ per cent of GDP in the budget deficit from stronger expenditure is offset in part by the favourable fiscal effects of stronger economic activity, so that the first-year increase in the budget deficit is below ½ per cent of GDP (see second figure below, Panel A). The offset in the collective action scenario is around one-quarter in the euro area, the United Kingdom and Canada, but one-third or more in Japan and the United States, reflecting the comparatively stronger initial boost to activity. The budgetary offsets are smaller in the go-it-alone scenario, reflecting the weaker activity effects that result.

Box 1.6. **The impact of an increase in public investment in OECD economies** (*cont.*)

Government debt-to-GDP ratios decline in the first year in the collective action scenario, despite the increase in the deficit-to-GDP ratio (see second figure below, Panel B). This is because the favourable impact of the increase in (nominal) GDP on the debt-to-GDP ratio more than offsets the impact of the higher budget deficit. The decline is largest in Japan, reflecting both the sizeable impact of the stimulus on activity and the high initial government debt-to-GDP ratio. In the alternative scenario, with the shock conducted separately for each economy, there are still first year declines in the debt-to-GDP ratio in Japan, the United States and the euro area, but the declines in Canada and the United Kingdom are almost entirely eliminated.

In the second year of the collective action scenario (not shown here), there is a small additional increase in GDP growth in the OECD economies, reflecting second-round effects from increased global activity and the impact of a decline in real interest rates. The level of OECD GDP is around 0.8% above baseline. Government deficit-to-GDP ratios remain above their baseline values, by around ¼ per cent of GDP in most major OECD economies (0.1% of GDP in Japan), but debt-to-GDP ratios are below their baseline levels. In contrast, debt-to-GDP ratios are higher than in the baseline in the United Kingdom and Canada when the government investment is shock conducted separately for each economy.

First-year GDP effects of a government investment stimulus in OECD economies

First-year change from baseline
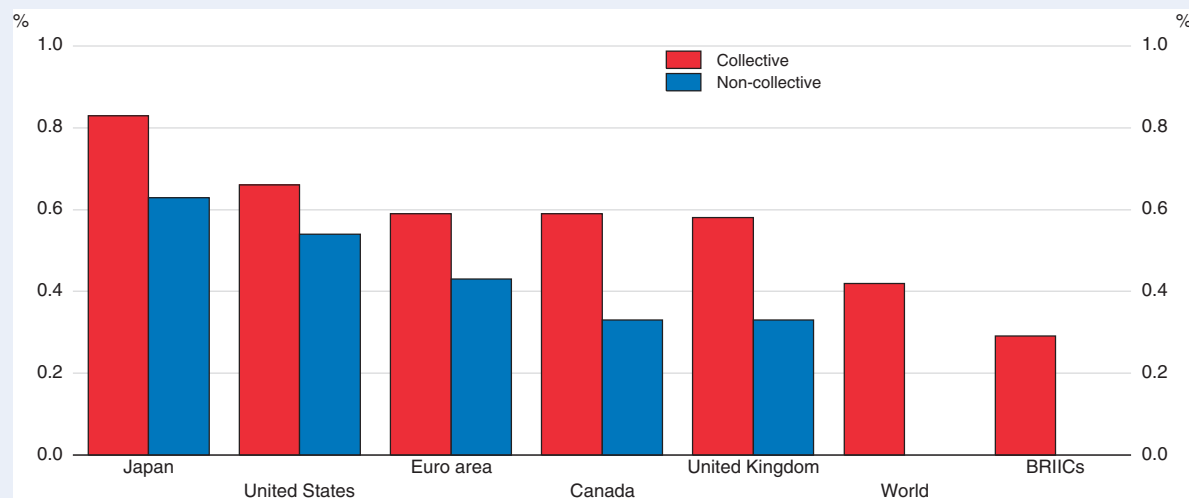
Note: Based on a two-year increase in the level of government investment equivalent to ½ per cent of GDP per annum in all OECD countries (Collective) and separately in the United States, Japan, the euro area, the United Kingdom and Canada (Non-Collective).
Source: OECD calculations.

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If the budget solvency rule in NiGEM is allowed to operate, the increase in expenditure is offset by an increase in direct taxes on households to bring the budget balance back to its baseline level by the second year in both of the scenarios considered. This has relatively little impact on the initial multiplier effect from the boost to government investment, but starts to reduce GDP growth by the second year, reflecting the impact of weaker disposable incomes on household consumption growth.

Box 1.6. **The impact of an increase in public investment in OECD economies** *(cont.)*

The impact of a government investment stimulus on budget deficits and government debt
First-year change from baseline
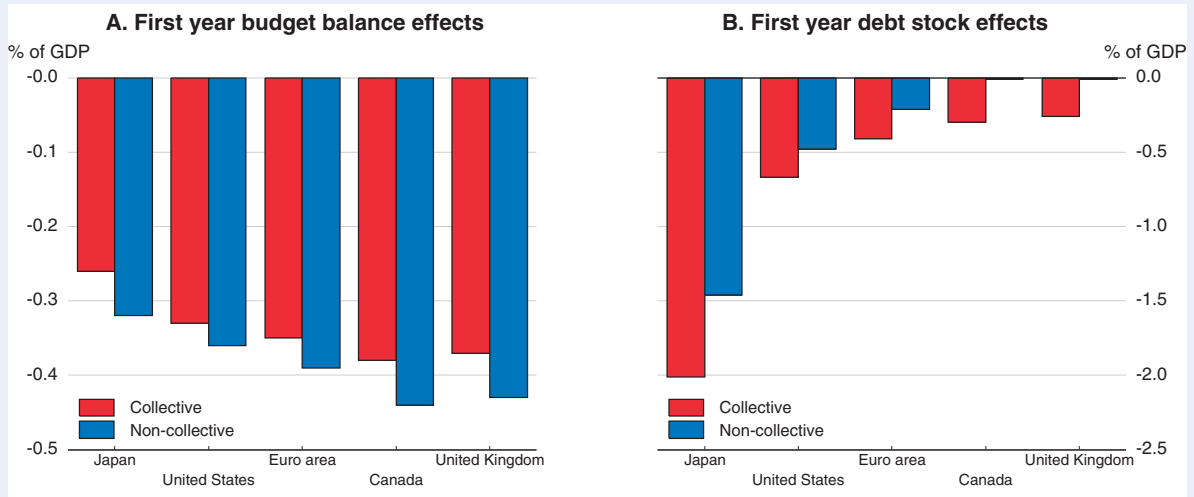
A. First year budget balance effects

B. First year debt stock effects

Note: Based on a two-year increase in the level of government investment equivalent to ½ per cent of GDP per annum in all OECD countries (Collective) and separately in the United States, Japan, the euro area, the United Kingdom and Canada (Non-Collective). The euro area debt stock figures are a weighted average of Germany, France and Italy.
Source: OECD calculations.

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- Structural policies with a positive impact on short-term demand, including a reduction of barriers to entry in sectors with pent-up demand and a cut in administrative burdens for firms, are needed (Caldera Sanchez et al., forthcoming). This would help to maximise the returns from public infrastructure investment projects with favourable net social benefits. Joint action to generate profitable investment opportunities by removing or reducing border protection would also help to boost growth prospects. Co-ordinated international action to combat climate change could also help underpin a surge in new investments. As argued in Chapter 2, ambitious measures to help lower greenhouse gas emissions can fit well with the need to stimulate investment and technical progress. In Europe, legislation has been passed to make the European Fund for Strategic Investment operational in Autumn 2015 and some energy initiatives have been announced as part of the Juncker Plan. Further progress in this direction is required.

In the euro area, there is a need to speed up the restructuring of non-performing loans in order to unblock the bank lending channel and help shift economic resources to more productive uses. To this end, a strengthening of bank supervision, debt enforcement and insolvency frameworks is needed. Also, the resolution of the large amount of distressed debt on banks' balance sheet would be facilitated by the development of a market for such assets. Banks' losses need to be recognised swiftly, even if this requires injections of public money to recapitalise banks or an orderly wind-down of insolvent institutions. In the longer term, banking and capital market union is needed to ensure a well-functioning banking system.

If financial market tensions were to occur and result in significantly tighter financial conditions and thus weaker economic growth, an offset from macroeconomic policies would be needed. It should involve either postponing planned tightening or adding additional stimulus, from both fiscal and monetary policies, with the appropriate policy mix depending on country-specific situations and the room available for policy action. The ensuing, even more protracted, environment of very low interest rates would raise financial stability risks.

The scope for policy to respond to flagging economic growth varies across EMEs, reflecting existing economic imbalances and vulnerabilities. China still has further room for monetary and fiscal stimulus, even after recent stimulus measures, but may have to accept a slower rate of growth as the economy rebalances. Policy stimulus should be designed to avoid aggravating current financial vulnerabilities. In many EMEs, including Brazil, the rapidly deteriorating fiscal situation means that there is little room for stimulus beyond automatic stabilisers. The prospective normalisation of policy interest rates in the United States poses challenges for EMEs. With globally integrated financial markets, it may be difficult for them to respond to any interest rate increases in the United States and to any associated depreciation of their currencies or capital outflows. Such developments could prompt monetary authorities in EMEs to raise interest rates to address threats to price and financial stability, especially if inflation expectations are poorly anchored. This could damp economic activity if not offset by fiscal stimulus.

In EMEs, trade-offs stemming from the need to ensure simultaneously price, financial and growth stability, at a time of increasing international spillovers, require the use of multiple instruments and ensuring that there is sufficient room for policy response. Some spillovers via gross credit flows and leverage, leading to excessive debt build-up and international exposure, could be addressed by macro-prudential policies. Many EMEs are already using such policies to strengthen the resilience of the financial sector (Box 1.5 in OECD (2013a)). They should be accompanied by close monitoring of non-performing loans and bank capitalisation by bank regulators, with regular stress tests. Proper bankruptcy and loan restructuring rules should also be in place.

Financial market stability in EMEs could be strengthened by structural reforms. A higher share of FDI liabilities in total foreign liabilities reduces the risks of volatile capital flows. Such a safer structure of liabilities could be promoted by reducing regulatory burdens on foreign direct investment and product markets, and removing tax incentives for debt over equity financing (Ahrend and Goujard, 2012). Re-starting growth-enhancing structural reforms would also help improve economic prospects more generally and boost investors' confidence.

Implications of weaker and uncertain potential growth for macroeconomic policies in advanced economies

Weaker potential growth (Box 1.5) and heightened uncertainties have implications for fiscal assessments:

- In the short term, smaller output gaps and weaker growth make fiscal targets more difficult to achieve, because there will be less "bonus" from a cyclical recovery (or the structural deficit is closer to the actual deficit than assumed). For instance, fiscal targets

in France and Italy will be harder to reach if the cyclical strengthening of budget positions is lower than expected (Figure 1.18).[13]

- The concept of a "prudent" debt target, and the corresponding fiscal deficit trajectory in a medium-term framework, could be a way to account for uncertainty in potential output without increasing the complexity of fiscal rules (Fall and Fournier, 2015).[14] In such a framework, larger uncertainties about future growth and associated fiscal outcomes in a given country are associated with a lower prudent debt target. However, the objective of reducing the risk of near-term recession implies higher prudent debt targets. Collective action on high-multiplier fiscal strategies could achieve both objectives.

While slower potential growth and high uncertainties call for measures to reduce public debt ratios, fiscal measures need to be designed with care to attain that goal. Indeed, if multipliers are sufficiently high, fiscal consolidation could worsen debt-to-GDP ratios, as the reduction in the level of debt would be more than offset by the negative impact on GDP, especially in economies where the debt ratio is high and automatic stabilisers are large.

One reason for weak potential output growth at present is weak investment growth, both public and private. This has implications for the composition of fiscal packages. In particular, cutting public investment, whose multiplier is estimated to be higher than

Figure 1.18. **The cyclical component of budget deficits**

Per cent of GDP
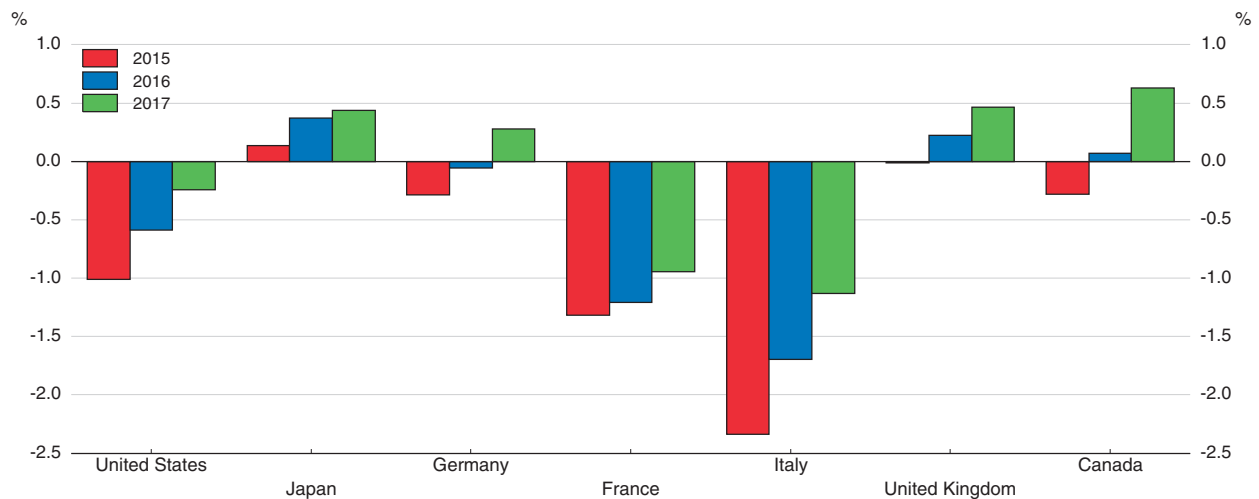
Note: The calculation uses the semi-elasticity to the output gap derived in Price et al. (2015). Semi-elasticities vary from 0.41 in Japan to 0.61 in France. Observed differences in the impact mostly reflect differences in the currently estimated output gaps.
Source: OECD Economic Outlook 98 database.

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13. Over the medium term, the extent to which lower potential output growth will affect public finances depends on the adjustment speed of public spending to productivity and growth. In the longer term, lower potential growth need not have any implication for debt sustainability provided neutral interest rates decline in line with lower growth.
14. Such targets are computed so that there is less than a 25% risk of the debt-to-GDP ratio going beyond 85% for non-euro area OECD countries and 65% for euro area countries, accounting for uncertainties surrounding the development of the main macroeconomic variables. Using a stochastic framework to quantify those uncertainties, the prudent debt target is estimated to be on average 50% of GDP for euro area countries and 70% of GDP for the rest of the OECD, with some heterogeneity among countries.

those of other spending components (Auerbach and Gorodnichenko, 2012; Gechert et al., 2015) could result in higher debt ratios, and harm both actual and potential output growth. Conversely, collective action to raise good-quality public investment, particularly at a time of low long-term financing costs, might boost growth and reduce debt ratios, notably in highly indebted countries (Box 1.6).

More broadly, strategies to reduce debt should focus on measures that do not have a large negative short-term effect on growth. In economies where the recovery is still fragile, it may be appropriate to reverse consolidation, if the right policies can be implemented, to allow a period of more robust GDP growth after which adjustment measures can be taken when normal economic conditions prevail and fiscal multipliers are lower.

Weaker potential growth and high uncertainty also matter for monetary policy. Although the link between the estimated output gap and inflation has been weak, reduced spare capacity would imply stronger inflationary pressures and possibly the need to tighten policy rates faster. However, a permanent reduction in potential growth would also imply a lower neutral interest rate and thus weaker stimulus from the current level of policy rates, slowing output dynamics. Greater reliance on current inflation developments and expectations and survey-based measures of economic slack could be a particularly useful guide for policymakers at present, given the extensive uncertainty around the extent of current slack and of future productivity growth (Orphanides, 2003; Pain and Röhn, 2011).

Overall, even if there is a risk that potential growth may be weaker than predicted, tightening policies at present is generally unwarranted. It will be important to resist the pressure to implement pro-cyclical policy, especially in the euro area where demand is still depressed. Rigidity in labour markets and inertia in fixed investment decisions strengthen the case for such a strategy.

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ANNEX 1.1

Policy and other Assumptions Underlying the Projections

Fiscal policy settings for 2015, 2016 and 2017 are based as closely as possible on legislated tax and spending provisions. Fiscal account projections are consistent with growth, inflation and wage projections. Where government plans have been announced but not legislated, they are incorporated if it is deemed clear that they will be implemented in a shape close to that announced. Where there is insufficient information to determine the allocation of budget cuts, the presumption is that they apply equally to the spending and revenue sides, and are spread proportionally across components.

- In the United States, the general government underlying primary balance is assumed to decline over the projection period to reach 0.6% of GDP in 2017, roughly as implied by current legislation, including the Bipartisan Budget Act and the Budget Control Act.

- In Japan, the projections incorporate a 2 percentage point increase in the consumption tax rate from 8% to 10% in the second quarter of 2017. Overall, the underlying primary balance is assumed to improve over the projection period to reach 4.8% of GDP in 2017.

- In euro area countries, fiscal stances over the projection period are based on draft budget laws or, if these are not available, the stated targets in Stability Programmes.

- In China, unspent reserves are being re-allocated and spending accelerated and new sources of revenue are being tapped. Based on measures that have been announced, fiscal stimulus is assumed to amount to around 1½ per cent of GDP in 2015, ½ per cent of GDP in 2016 and ¼ per cent of GDP in 2017.

- In India, the projections incorporate an increase in public investment, public pensions and pay, as well in various recently launched social infrastructure programmes. They also reflect on-going efforts to reduce tax evasion.

- In Brazil, fiscal stance assumptions follow current policy announcements by the government, implying a primary budget surplus of 0.15% of GDP in 2015, 0.7% in 2016 and 1.3% in 2017.

Regarding **monetary policy**, the assumed path of policy interest rates represents the most likely outcome, conditional upon the OECD projections of activity and inflation, which may differ from those of the monetary authorities.

- In the United States, the upper bound of the target federal funds rate is assumed to be raised gradually between December 2015 and December 2017 from the current level of 0.25% to 2%.

- In Japan, the overnight interest rate is assumed to be kept at 0.1% for the entire projection period.

- In the euro area, the main refinancing rate is assumed to be kept at 0.05% until the second quarter of 2017, and is subsequently raised to 0.25% by the end of 2017.

- In the United Kingdom, the Bank rate is assumed to be increased gradually between February 2016 and December 2017, from the current level of 0.5% to 2.25%.

- In China, it is assumed that monetary easing will continue to reduce financing costs to provide adequate liquidity and offset capital outflows. The base lending rate for loans up to one year will be cut from 4.35% to 3.6% in 2017 and the reserve requirement ratio from 17.5% to 15%. Liquidity provision will also take place through short-term facilities such as the Pledged Supplementary Lending or the Medium-Term Lending facilities.

- In India, the repo rate is assumed to be kept at 6.75% up to the end of 2016 and be subsequently cut to 6.25%.

- In Brazil, the policy rate is assumed to stay at its current level of 14.25% until the fourth quarter of 2016, and subsequently decline to 12% by the end of 2017.

Although their impact is difficult to assess, the following quantitative easing measures are assumed to be taken over the projection period, implicitly affecting the speed of convergence of long-term interest rates to their reference rates. In the United States and the United Kingdom, the stocks are assumed to be maintained unchanged until the end of projection. In Japan, asset purchases are assumed to continue through the projection; thereby, the long-term interest rate is assumed to remain constant until the end of 2017. In the euro area, current programmes of Targeted Longer-Term Refinancing Operations and purchases of private securities and sovereign bonds are assumed to last until the end of 2016. Consequently, long-term interest rates are assumed to remain constant until the end of 2016 and then gradually to converge to their reference values.

In the United States and the United Kingdom, 10-year government bond yields are assumed to converge slowly toward a reference rate (reached only well after the end of the projection), determined by future projected short-term interest rates (including after 2017), a term premium and an additional fiscal premium. The latter premium is assumed to be 2 basis points per each percentage point of the gross government debt-to-GDP ratio in excess of 75% and an additional two basis points (four basis points in total) per percentage point of the debt ratio in excess of 125%.

Structural reforms that have been implemented or announced for the projection period are taken into account, but no further reforms are assumed to take place.

The projections assume unchanged ***exchange rates*** from those prevailing on 22 October 2015: one US dollar equals JPY 119.69, EUR 0.90 (or equivalently one euro equals USD 1.11) and 6.36 renminbi.

The ***price of a barrel of Brent crude oil*** is assumed to remain constant at USD 50 throughout the projection period. Non-oil commodity prices are assumed to be constant over the projection period at their average levels of September 2015.

The cut-off date for information used in the projections is 30 October 2015.

ANNEX 1.2

Indicators of Potential Financial Vulnerabilities

The following tables show the position of OECD and selected non-OECD countries on a number of indicators that could reveal potential exposure to financial turbulence. The main focus of Table 1.A2.1 is on domestic vulnerabilities of the OECD and BRIICS countries, that of Table 1.A2.2 on financial account vulnerabilities of the OECD and non-OECD G-20 countries. The presented variables are a subset of over 70 vulnerability indicators identified as useful in monitoring risks of a costly crisis in OECD economies (Röhn et al., 2015).

Table 1.A2.1 presents indicators typically associated with financial vulnerabilities arising primarily from the domestic economy, in four broad categories: the real economy, the non-financial sector, the financial sector and public finances (International Monetary Fund, 2012; European Commission, 2012; Hermansen and Röhn, 2015). Possible weaknesses in the real economy are captured by the difference between the potential and the actual GDP growth rate, the difference between the actual unemployment rate and the natural rate of unemployment (or NAIRU), the current account deficit and the evolution of relative unit labour costs. Indicators of financial market excesses related to the non-financial sector are the debt of households and non-financial corporations and real house price growth. An aggregated ratio of core Tier-1 capital to total assets (i.e. the leverage ratio) for selected banks in each country,[15] non-performing loans, and financial corporations' debt are included to account for the direct risk exposure of the financial sector. Vulnerabilities stemming from the public sector are quantified along three dimensions: government net borrowing, gross government debt and the difference between 10-year real sovereign bond yields and the potential real GDP growth rate. Higher values, with the exception of the leverage ratio, indicate a larger vulnerability. Table 1.A2.1 also includes the current sovereign credit ratings issued by Standards and Poor's.

Table 1.A2.2 displays financial-accounts-related risk factors for financial stability in the OECD and non-OECD G-20 countries based on previous OECD empirical analysis (Ahrend and Goujard, 2012a, 2012b). The analysis shows that:

● Greater (short-term) borrowing from external banks, or a skew in external liabilities towards debt, increases the risk of a financial crisis substantially (external bank debt being defined as debt to a foreign bank).

15. The calculations of the country leverage ratios are based on over 1200 commercial banks, including 915 in the United States, 197 in the OECD euro area countries, 23 in the United Kingdom, 11 in Canada and 7 in Japan.

- A larger share of foreign direct investment (FDI) in gross external liabilities decreases the chances of a financial crisis.

- Shorter maturity of banks' debt raises the crisis risk, mainly by increasing exposure to financial contagion.

- The size of foreign reserve holdings reduces the probability of a crisis.

- Total external assets (excluding reserves) or liabilities are found not to affect the crisis risk for countries with small and moderate levels of assets and liabilities. However, external assets reduce, and external liabilities increase, the crisis risk when they are large.

Table 1.A2.2 shows for each of the 8 selected indicators: *i)* the position of each country in 2015Q1 (or the latest available) along various dimensions of its financial account structure, and *ii)* the country-specific change, from 2007 to 2015Q1 (or the latest available). For some of the variables, the numbers need to be interpreted with care, since the relevance of the variable may differ across countries. For example, the foreign currency reserves of the United States are the lowest relative to GDP in the OECD area, but this does not signify a weakness as the US dollar is a reserve currency; the same applies to low currency reserves in individual euro area countries.

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Table 1.A2.1. **Indicators of potential financial vulnerabilities**

	Real economy				Non-financial sector		
	Potential GDP growth rate-actual GDP growth rate differential	Actual unemployment rate-NAIRU differential	Current account deficit[1]	Relative unit labour cost	Household gross debt[2,3]	Non-financial corporation gross debt[1,3]	Real house prices
	2015	2015Q3	2015	% change 2000Q1-15Q2	2014 or latest available	2014 or latest available	% change 2000Q1-15Q2
United States	-0.8	-0.3	2.5	-12.8	109.7	113.2	20.8
Japan	-0.2	-0.5	-3.3	-51.4	132.6	160.9	-20.2
Germany	-0.3	-0.4	-8.3	-14.1	93.6	71.2	6.3
France	0.0	0.8	-0.2	0.4	104.9	101.5	70.6
Italy	-0.8	3.2	-1.5	9.4	77.2	89.8	9.7
United Kingdom	-0.5	-0.3	4.0	-11.4	155.7	113.6	79.3
Canada	0.3	0.4	3.3	29.0	170.1	140.6	97.1
Australia	0.4	0.4	4.7	36.9	211.2	87.3	103.6
Austria	0.1	1.6	-2.3	-2.6	89.1	91.1	25.8
Belgium	0.0	0.7	-0.1	2.5	110.0	137.0	..
Chile	0.9	-0.3	-0.2	24.3	..	..	..
Czech Republic	-2.5	-0.8	-0.7	30.3	68.8	63.0	..
Denmark	-1.0	0.0	-7.0	9.7	315.2	126.9	38.8
Estonia	0.3	-1.8	-3.3	35.2	81.1	97.0	..
Finland	0.7	2.2	1.0	-2.7	126.6	94.0	25.6
Greece	0.9	7.7	0.3	5.1	117.4	73.6	-12.0
Hungary	-1.2	-1.5	-4.3	22.0	53.3	80.2	..
Iceland	-2.3	-0.5	-3.5	-22.0	..	271.0	..
Ireland	-3.5	-1.5	-3.6	-8.5	197.4	236.9	10.6
Israel	0.7	-0.7	-3.5	-10.6	..	69.3	41.9
Korea	0.6	0.3	-7.3	10.2	164.2	166.5	29.3
Luxembourg	-0.5	0.4	-3.6	26.0	157.8	315.0	..
Mexico	0.5	0.2	2.0	-8.8	..	63.3	..
Netherlands	-1.1	1.0	-11.0	-4.0	270.0	128.8	0.3
New Zealand	0.2	0.3	4.3	61.0	..	..	108.9
Norway[7]	1.1	1.0	-7.1	42.3	223.8	108.2	90.6
Poland	-0.4	0.1	0.2	-7.1	60.5	58.6	..
Portugal	-1.4	0.4	-0.6	-3.8	138.5	145.6	-26.2
Slovak Republic	-0.4	0.4	0.4	26.1	62.3	76.9	..
Slovenia	-1.4	1.6	-7.5	-6.4	57.6	92.3	..
Spain	-2.7	3.0	-1.5	2.8	128.0	104.5	25.6
Sweden	-1.2	0.5	-6.0	-6.8	173.1	131.4	133.3
Switzerland	0.8	0.3	-9.8	37.9	197.4	..	51.4
Turkey	1.2	1.1	5.3	-36.3	..	2.6	..
Brazil	4.2	..	3.4	11.0	..	..	..
China	0.4	..	-3.0	101.2	..	..	..
Colombia	1.2	-0.9	6.1	12.1	..	..	80.1
Costa Rica	1.2	..	4.0	..	..	..	..
India	-0.3	..	0.7	-42.2	..	..	..
Indonesia	0.8	..	1.6	-12.9	..	..	..
Latvia	-0.2	-0.3	2.0	9.2	60.1	93.9	..
Lithuania	1.0	-1.9	3.4	8.7	..	..	..
Russia	4.7	..	-6.6	209.9	..	..	..
South Africa	0.8	..	4.2	-0.6	..	..	113.0

1. In per cent of GDP.
2. In per cent of gross household disposable income.
3. Gross debt is defined as liabilities less financial derivatives and shares and other equity. Based on consolidated data for most countries.
4. In per cent of total (unweighted) assets.
5. OECD Economic Outlook 98 database.
6. Rating for sovereign debt in foreign currency.
7. Mainland (potential) GDP is used instead of total (potential) GDP where applicable.
Source: OECD National Accounts database; IMF Financial Soundness Indicators database; European Central Bank; European Commission; OECD Analytical Housing Prices database; Standards & Poors; OECD calculations; and OECD Economic Outlook 98 database.

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Table 1.A2.1. **Indicators of potential financial vulnerabilities** (cont.)

Financial sector			Public finance		Real 10-year sovereign bond yield-potential GDP growth rate differential	Sovereign credit rating	
Core Tier-1 leverage ratio[4]	Non-performing loans to total loans	Financial corporation gross debt[1,3]	Headline government budget deficit[1,5]	Gross government debt[1,5]		S&P[6]	
Latest available	Latest available	2014 or latest available	2015	2015	2015Q2 or latest available	Latest	
6.4	..	347.3	4.5	110.6	-1.0	AA+	United States
4.4	1.6	582.8	6.7	229.2	-1.2	A+	Japan
4.1	2.3	296.6	-0.9	78.5	-2.7	AAA	Germany
3.6	4.5	304.0	3.8	120.1	-1.0	AA	France
5.6	17.3	207.2	2.6	160.7	1.0	BBB-	Italy
4.4	1.8	675.9	3.9	116.4	-1.8	AAA	United Kingdom
3.8	0.5	340.0	1.9	94.8	-1.0	AAA	Canada
3.8	1.1	278.7	1.9	44.2	-0.1	AAA	Australia
6.2	3.6	227.3	1.8	107.3	-1.8	AA+	Austria
4.9	4.0	339.5	2.6	130.5	-1.2	AA	Belgium
..	1.9	..	..	..	-2.7	AA-	Chile
..	5.6	130.5	1.9	56.1	-3.1	AA-	Czech Republic
4.4	4.4	412.0	2.7	57.1	-1.2	AAA	Denmark
..	1.3	123.4	-0.2	12.7	..	..	Estonia
3.7	..	230.2	3.3	73.3	-1.4	AA+	Finland
7.6	34.4	193.5	4.3	190.0	14.2	..	Greece
..	12.7	123.6	2.3	99.6	-0.6	..	Hungary
..	..	969.2	-0.3	81.6	1.1	..	Iceland
6.7	18.9	910.2	2.1	120.0	-1.8	A+	Ireland
..	2.1	206.8	3.3	66.1	-3.1	A+	Israel
..	..	349.9	..	..	-2.1	AA-	Korea
..	0.2	6233.6	-0.9	35.6	-4.3	AAA	Luxembourg
..	2.9	71.6	0.3	..	-0.2	BBB+	Mexico
4.2	2.9	743.6	2.0	80.8	-1.3	AA+	Netherlands
..	..	..	-1.4	41.1	-1.1	AA	New Zealand
6.4	1.1	215.9	-6.9	34.1	-1.6	AAA	Norway[7]
..	4.7	98.5	2.8	66.9	-0.6	..	Poland
6.1	12.3	278.3	3.0	148.9	0.4	BB+	Portugal
..	5.3	120.4	2.7	59.6	-1.8	A+	Slovak Republic
..	11.5	127.3	2.9	99.8	-0.2	A-	Slovenia
5.7	7.0	224.6	4.2	118.9	1.1	BBB+	Spain
3.6	1.2	322.5	1.1	53.9	-2.5	AAA	Sweden
4.4	0.7	..	0.2	46.4	-0.9	..	Switzerland
..	2.8	2.6	..	..	-0.7	..	Turkey
..	3.1	..	7.4	..	9.7	..	Brazil
..	1.2	..	1.0	..	-3.3	..	China
..	3.1	..	..	..	1.4	..	Colombia
..	1.7	..	..	..	..	..	Costa Rica
..	4.6	..	6.1	..	0.7	..	India
..	2.3	..	2.0	..	1.2	..	Indonesia
..	4.6	..	1.6	44.9	-2.5	..	Latvia
..	6.7	..	1.5	53.7	..	..	Lithuania
..	7.4	..	4.0	..	8.7	..	Russia
..	3.2	..	4.3	..	4.8	..	South Africa

1. In per cent of GDP.
2. In per cent of gross household disposable income.
3. Gross debt is defined as liabilities less financial derivatives and shares and other equity. Based on consolidated data for most countries.
4. In per cent of total (unweighted) assets.
5. OECD Economic Outlook 98 database.
6. Rating for sovereign debt in foreign currency.
7. Mainland (potential) GDP is used instead of total (potential) GDP where applicable.
Source: OECD National Accounts database; IMF Financial Soundness Indicators database; European Central Bank; European Commission; OECD Analytical Housing Prices database; Standards & Poors; OECD calculations; and OECD Economic Outlook 98 database.

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Table 1.A2.2. **Financial-accounts-related risk factors to financial stability**

Latest available (in per cent)

	External debt[1]	External bank debt[2]	Short-term external bank debt[2]	Short-term external bank debt[3]	External liabilities[2]	External assets[2]	Foreign exchange reserves[2]	FDI liabilities[1]
	Higher values indicate higher financial stability risk					Higher values indicate lower financial stability risk		
United States	48.9	15.2	5.8	38.4	182.0	143.4	0.7	19.9
Japan	55.8	20.9	17.3	82.9	119.8	189.0	29.0	3.9
Germany	58.6	33.9	16.5	48.8	224.6	265.6	2.0	17.1
France	59.3	58.5	32.0	54.6	334.0	312.8	2.2	12.1
Italy	69.3	26.8	10.4	38.8	168.2	139.7	2.7	14.8
United Kingdom	50.4	65.4	42.8	65.4	574.6	556.4	3.8	12.2
Canada	51.0	26.4	15.0	56.6	169.8	180.7	4.9	32.5
Australia	51.2	23.0	7.6	33.0	182.3	127.6	4.2	24.9
Austria	63.3	44.8	12.2	27.3	265.6	269.2	3.6	29.9
Belgium	45.3	48.3	21.7	44.9	430.2	489.9	3.6	48.1
Chile	28.6	17.6	7.7	43.8	145.0	129.8	15.5	62.9
Czech Republic	37.5	19.1	4.9	25.8	123.6	95.0	28.8	57.6
Denmark	59.9	64.7	39.9	61.7	262.9	309.8	35.7	16.4
Estonia	42.7	9.4	4.0	42.8	170.5	132.5	1.9	54.7
Finland	53.9	51.9	19.6	37.8	372.9	371.7	3.7	14.6
Greece	92.9	17.2	4.7	27.3	247.7	127.4	1.2	4.6
Hungary	26.7	28.2	9.8	34.6	314.2	244.3	32.9	69.9
Iceland	82.9	37.6	10.6	28.3	619.9	257.2	26.6	16.3
Ireland	29.4	140.4	57.7	41.1	2089.8	2002.7	0.7	17.3
Israel	29.8	6.1	3.2	52.6	96.6	119.0	29.5	35.3
Korea	39.6	13.2	8.1	61.8	73.1	78.9	25.6	17.9
Luxembourg	21.5	891.8	336.5	37.7	16408.6	16439.1	1.2	38.9
Mexico	50.0	11.8	4.7	40.2	81.6	46.9	16.4	34.4
Netherlands	35.9	107.9	41.9	38.8	1017.3	1090.7	2.4	50.6
New Zealand	56.1	18.0	6.8	37.9	148.4	83.7	8.5	30.9
Norway	63.4	28.6	10.3	36.0	171.7	315.5	12.9	26.7
Poland	47.7	22.9	6.8	29.7	111.2	46.9	19.7	43.2
Portugal	70.2	32.2	9.3	28.9	289.9	180.3	3.6	23.1
Slovak Republic	51.5	33.6	13.7	40.7	134.7	67.8	3.1	47.7
Slovenia	76.3	22.9	6.4	27.9	143.0	103.1	2.0	21.5
Spain	60.0	33.6	13.8	41.2	239.9	147.3	3.7	22.3
Sweden	51.8	53.8	27.5	51.0	305.6	300.5	11.3	25.2
Switzerland	34.7	67.2	46.8	69.5	533.9	636.7	80.6	31.0
Turkey	67.2	21.6	12.5	57.8	82.0	30.3	13.5	24.4
Argentina	53.2	2.6	1.6	62.3	36.4	50.0	5.4	41.5
Brazil	34.5	12.5	6.4	50.7	71.2	38.7	17.9	47.2
China	29.6	8.9	6.7	75.7	46.9	60.2	35.3	55.3
Colombia	41.2	8.1	3.4	41.6	85.3	47.3	14.6	53.4
Costa Rica	36.8	19.8	5.9	29.8	84.9	40.9	16.2	63.2
India	53.3	10.5	5.7	54.8	42.8	25.1	15.7	29.9
Indonesia	40.1	12.5	6.2	49.5	71.5	24.1	12.3	43.8
Latvia	69.1	9.6	4.5	46.9	182.4	124.1	11.1	29.6
Lithuania	63.9	10.3	3.0	28.8	106.5	60.2	2.2	35.1
Russia	48.6	8.4	3.3	38.6	50.4	66.9	18.2	37.4
Saudi Arabia	17.0	9.0	5.3	58.9	36.9	142.6	97.4	77.7
South Africa	28.0	10.0	4.2	41.7	121.8	114.2	12.7	32.6

1. As per cent of external liabilities.
2. As per cent of GDP.
3. As per cent of external bank debt.
Source: BIS; IMF; World Bank; and OECD calculations.

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Table 1.A2.2. **Financial-accounts-related risk factors to financial stability** (cont.)

External debt[1]	External bank debt[2]	Short-term external bank debt[2]	Short-term external bank debt[3]	External liabilities[2]	External assets[2]	Foreign exchange reserves[2]	FDI liabilities[1]	
Positive values indicate an increase in the financial stability risk					Positive values indicate a decrease in the financial stability risk			
-6.3	-5.2	-2.9	-4.5	27.5	-2.0	0.2	1.1	United States
0.9	7.8	8.2	13.2	46.2	64.4	6.8	-0.4	Japan
-10.5	-16.2	-11.3	-6.7	10.0	29.7	0.4	-0.8	Germany
-0.6	-8.8	-11.6	-10.1	31.6	20.0	0.2	-1.0	France
-2.3	-24.5	-8.0	3.0	9.2	7.7	1.2	-0.1	Italy
-12.5	-50.5	-43.8	-9.3	4.1	-1.5	2.0	2.6	United Kingdom
16.3	3.0	0.2	-6.3	0.1	24.2	1.7	-14.0	Canada
2.4	-8.9	-4.6	-5.1	8.3	18.3	1.4	-0.7	Australia
-0.2	-27.3	-14.5	-9.8	-58.2	-43.4	0.5	3.3	Austria
-16.6	-66.7	-67.1	-32.3	-87.1	-59.3	1.1	14.1	Belgium
-3.9	-0.6	-1.9	-8.8	43.5	27.9	5.1	2.3	Chile
3.9	-3.5	-3.9	-13.3	12.5	28.5	9.1	0.1	Czech Republic
-7.9	-6.5	3.1	9.9	10.8	64.1	24.9	-4.9	Denmark
-6.5	-96.1	-20.2	19.9	-39.2	7.1	-14.2	9.9	Estonia
14.6	11.9	7.0	6.2	90.1	120.1	0.7	-4.3	Finland
17.5	-41.8	-12.2	-1.4	47.7	33.4	0.9	-4.3	Greece
-4.8	-36.0	-8.2	6.7	0.0	30.5	14.5	5.9	Hungary
3.7	-254.7	-115.9	-15.0	-113.8	-356.6	12.9	1.3	Iceland
-24.1	-129.4	-93.2	-14.8	661.5	595.2	0.4	2.8	Ireland
-15.0	-2.4	-0.7	6.5	-21.4	1.7	12.5	10.1	Israel
-3.2	-3.7	-2.3	0.1	0.5	23.6	1.2	2.3	Korea
-8.2	-249.3	-164.3	-6.2	3090.0	3141.8	0.9	14.6	Luxembourg
16.4	3.9	2.3	9.9	13.5	15.8	7.7	-9.4	Mexico
-4.6	-27.4	-25.4	-10.9	44.6	135.4	1.0	2.6	Netherlands
-2.3	-7.5	-6.1	-12.9	-31.9	-11.1	-5.5	-1.5	New Zealand
-0.5	-32.8	-30.2	-29.8	-53.2	28.3	-3.8	6.9	Norway
2.1	-1.6	0.7	4.8	5.3	3.2	3.4	-2.6	Poland
0.2	-42.8	-18.5	-8.2	-14.9	-23.4	2.7	4.1	Portugal
10.4	1.8	1.4	2.1	15.1	8.5	-23.1	-9.7	Slovak Republic
4.6	-25.4	-6.7	0.9	0.1	-14.6	-0.2	-3.6	Slovenia
-4.0	-25.9	-5.1	9.4	4.1	-0.9	2.9	2.0	Spain
2.1	-0.3	-4.9	-8.8	23.6	20.2	5.4	-6.7	Sweden
-15.7	-105.4	-78.6	-3.1	-56.9	-97.4	70.4	10.4	Switzerland
12.5	2.6	4.1	13.6	-1.2	1.0	0.9	-7.7	Turkey
-1.0	-4.2	-1.8	12.1	-21.0	-18.8	-9.6	2.3	Argentina
10.4	4.8	2.7	3.6	-0.5	6.9	3.5	12.5	Brazil
-2.7	2.9	3.4	20.5	8.4	-15.6	-12.7	-2.0	China
-3.2	0.9	-0.9	-17.8	29.0	16.8	3.5	-0.5	Colombia
-10.1	-5.4	-5.5	-15.5	17.1	-9.3	-0.6	10.1	Costa Rica
3.7	-0.9	-0.2	2.8	2.2	-8.1	-10.7	4.2	India
-13.1	1.8	0.5	-3.6	10.2	0.7	-0.1	12.1	Indonesia
-5.6	-70.9	-28.9	5.5	3.3	29.7	-9.3	5.4	Latvia
1.3	-33.2	-9.0	1.2	-17.0	2.2	-19.0	-0.5	Lithuania
13.0	-5.6	-3.4	-9.1	-59.2	-29.5	-23.1	-2.1	Russia
-19.5	0.0	-0.3	-3.4	6.3	11.5	16.5	14.2	Saudi Arabia
8.2	-1.5	-1.0	-3.4	8.1	34.0	2.1	-8.8	South Africa

1. As per cent of external liabilities.
2. As per cent of GDP.
3. As per cent of external bank debt.
Source: BIS; IMF; World Bank; and OECD calculations.

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