

## *Chapter 1*

# **GENERAL ASSESSMENT OF THE MACROECONOMIC SITUATION**

## Introduction

Eight years after the financial crisis, the recovery remains disappointingly weak. Global GDP growth is projected to be 3% in 2016, unchanged from last year, with only a modest improvement foreseen in 2017. Global trade growth also remains very subdued. Many emerging market economies (EMEs) have lost momentum, with sharp downturns in some, especially commodity producers. The upturn in the advanced economies remains modest, with growth held back by slow wage gains and subdued investment. Low commodity prices and accommodative monetary policies continue to offer support in many economies, albeit punctuated by periods of tightened and volatile financial conditions, especially early in the year. All this culminates in growth rates much weaker than anticipated a few years ago and well below pre-crisis norms. Moreover, such a prolonged period of slow growth has damaged the longer-run supply-side potential of economies, via the scarring effect of extended unemployment, foregone investment and the adverse impact of weak trade growth on productivity.

Financial instability risks also persist. EMEs have high private debt burdens and remain vulnerable to capital outflows and weaker-than-expected growth. Risks also stem from the difficulties of agreeing effective responses to policy challenges in many countries. In Europe, these include the refugee surge and the unpopularity of austerity measures in a number of countries. The forthcoming UK referendum on EU membership has already raised uncertainty, and an exit would depress growth in Europe and elsewhere substantially. In China, the risk of an abrupt near-term growth decline has eased as policy stimulus takes effect, but the choices will likely slow the rebalancing process and raise financial exposures, adding to longer term challenges.

To break out of this low rate of global economic growth requires comprehensive national policies, incorporating more proactive fiscal prioritisation and revived structural ambition in combination with accommodative monetary policies. It is clear that reliance on monetary policy alone has failed to deliver satisfactory growth and inflation. Additional monetary policy easing could now prove to be less effective than in the past, and even counterproductive in some circumstances. Many countries have room for fiscal expansion to strengthen activity via public investment, following the lead of China and Canada, especially as low long-term interest rates have effectively increased fiscal space, at least temporarily. Almost all countries have scope to reallocate public spending towards more growth-friendly items. Collective action across economies to raise public investment in carefully selected projects with a high growth impact would boost demand without compromising fiscal sustainability. In addition, collective efforts to revive structural reform momentum would improve productivity, resource allocation and the effects of supportive macroeconomic policies. Given the weak global economy and the backdrop of rising income inequality in many countries, structural reforms will need to focus on the possible short-term benefits for demand as well as measures to promote long-term improvements in employment, productivity growth and inclusiveness, as discussed in Chapter 2.

## Economic prospects and risks

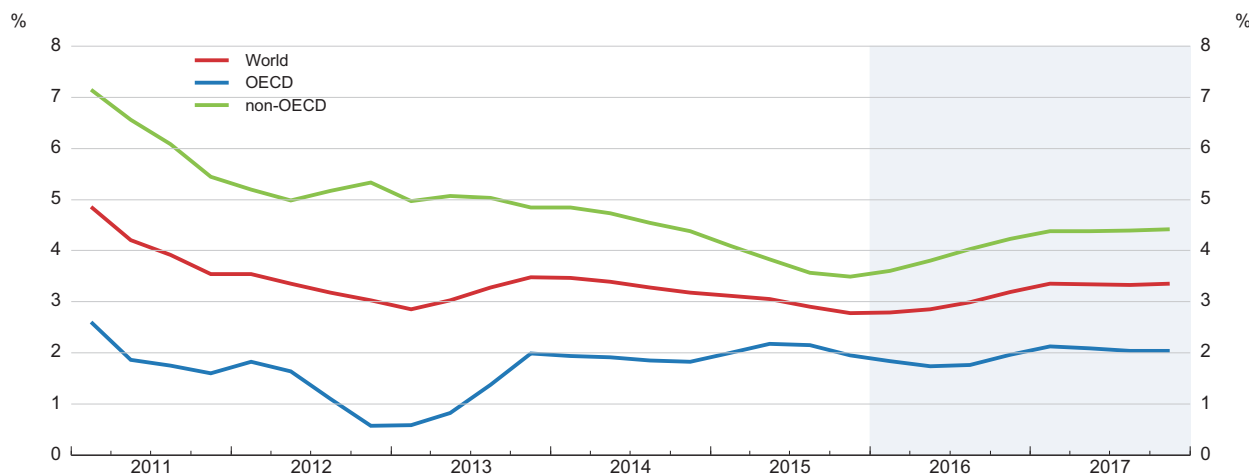
### *The recovery is projected to remain slow*

Global GDP growth remains modest (Figure 1.1). This reflects a combination of subdued aggregate demand, poor underlying supply-side developments, with weak investment, trade and productivity growth, and diminished reform momentum. In recent months, soft domestic demand in the advanced economies, especially the United States, has added to the pressures stemming from the growth slowdown in many EMEs. Policy stimulus is helping to hold up demand in China, but deep recessions persist in Brazil and Russia. Global trade growth is again weak this year (Figure 1.2), with little or no growth in the first quarter, especially in many Asian economies, consistent with the recent slowdown in the level of new orders in global business surveys. Though firming recently, commodity prices remain relatively low, reflecting ample supply and persisting concerns about future demand strength. Financial market sentiment has improved after considerable volatility earlier in the year. Nevertheless, declines in equity prices and stronger effective exchange rates, and in the United States a further tightening of credit conditions, mean that aggregate financial conditions in the major economies generally remain tighter than in the latter half of 2015, despite additional supportive monetary policy measures in the euro area and Japan (Figure 1.3).

Only a slow recovery appears likely for global growth and trade over the latter half of 2016 and through 2017 (Table 1.1).

- OECD GDP growth is projected to be just under 2% on average over 2016-17, broadly in line with outcomes in the previous two years (Figure 1.4, Panel A). Supportive macroeconomic policies and low commodity prices (Annex 1.1) should continue to underpin a modest recovery in the advanced economies, assuming that wage increases and business investment growth both start to pick up and tensions in financial markets do not reoccur. However, weakness in external demand stemming from the EMEs remains a drag on the advanced economies.

Figure 1.1. **Global GDP growth is set to remain subdued**  
Year-on-year percentage changes



Source: OECD Economic Outlook 99 database.


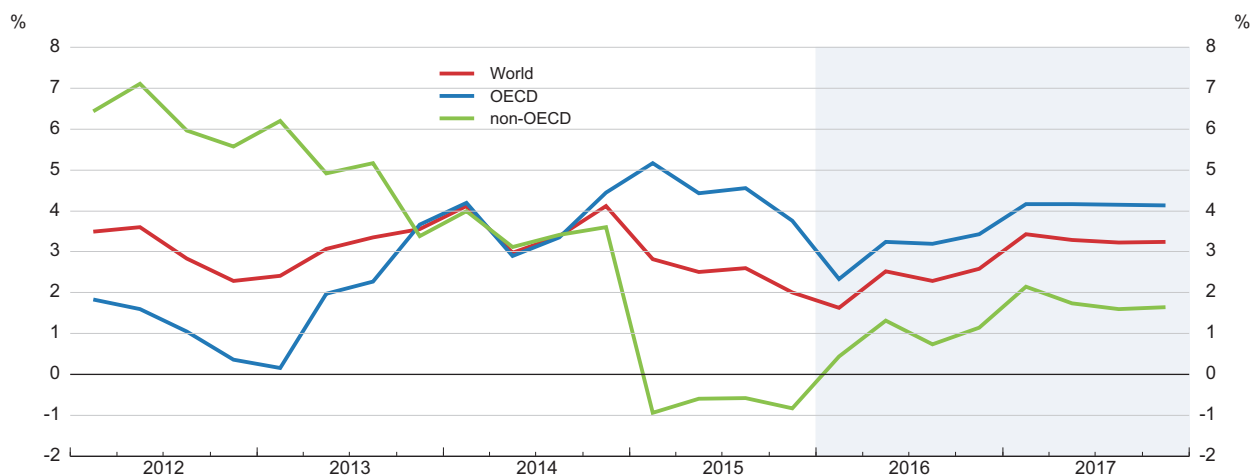
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Figure 1.2. **Non-OECD import volume growth collapsed in 2015**  
Year-on-year percentage changes

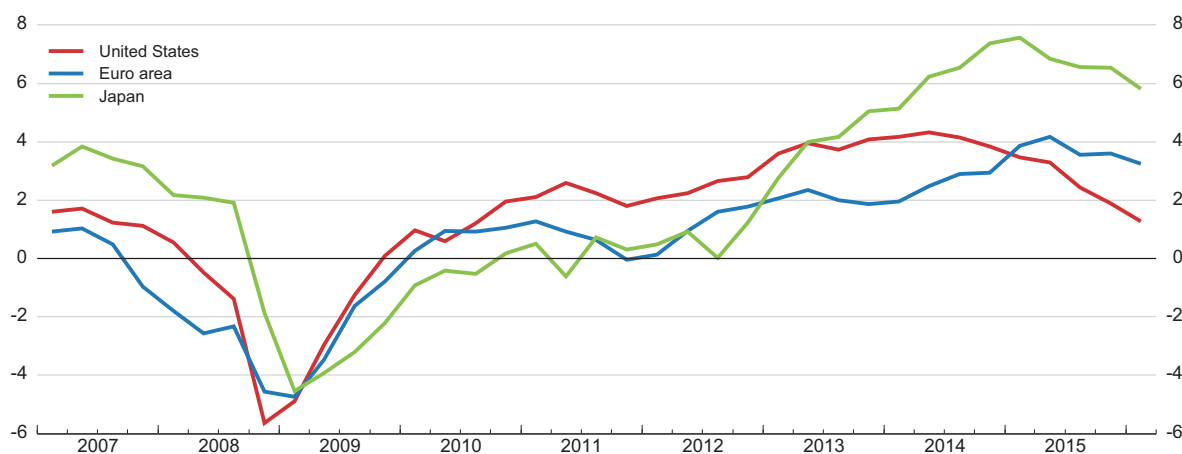


Source: OECD Economic Outlook 99 database.

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- In the United States, a moderate recovery is expected to continue as headwinds from the strong dollar and declining energy sector investment fade. A gradual upturn in wage growth is projected to support domestic demand as the labour market approaches full employment, with a slow improvement in productivity growth limiting the emergence of labour market pressures. In Japan, GDP growth is likely to remain modest, with the tightening labour market having only a limited impact on nominal wage growth and sizeable fiscal consolidation projected in 2017. In the euro area, growth is projected to improve slowly, helped by the gradual impact of recent monetary policy easing on credit

Figure 1.3. **Financial conditions in major 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 increases (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 18 May 2016.

Source: OECD Economic Outlook 99 database; Thomson Reuters; and OECD calculations.

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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	2016 Q4	2017 Q4	
		Per cent								
<b>Real GDP growth<sup>1</sup></b>										
World <sup>2</sup>	4.0	3.2	3.3	3.0	3.0	3.3	2.8	3.2	3.3	
OECD <sup>2</sup>	1.7	1.2	1.9	2.1	1.8	2.1	1.9	2.0	2.0	
United States	1.8	1.5	2.4	2.4	1.8	2.2	2.0	1.9	2.1	
Euro area	0.9	-0.3	1.0	1.6	1.6	1.7	1.7	1.7	1.8	
Japan	0.8	1.4	0.0	0.6	0.7	0.4	0.8	1.5	-0.3	
Non-OECD <sup>2</sup>	6.7	5.0	4.6	3.7	3.9	4.4	3.5	4.2	4.4	
China	10.5	7.7	7.3	6.9	6.5	6.2	6.8	6.3	6.1	
<b>Output gap<sup>3</sup></b>	-0.4	-2.5	-2.2	-1.7	-1.5	-1.0				
<b>Unemployment rate<sup>4</sup></b>	7.0	7.9	7.3	6.8	6.4	6.2	6.5	6.4	6.1	
<b>Inflation<sup>1,5</sup></b>	2.1	1.4	1.6	0.7	1.1	1.8	0.9	1.2	1.9	
<b>Fiscal balance<sup>6</sup></b>	-4.6	-4.1	-3.6	-3.1	-2.9	-2.4				
<i>Memorandum Items</i>										
<b>World real trade growth<sup>1</sup></b>	5.6	3.3	3.7	2.6	2.1	3.2	1.9	2.4	3.2	

1. Year-on-year increase.
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.
6. Per cent of GDP.

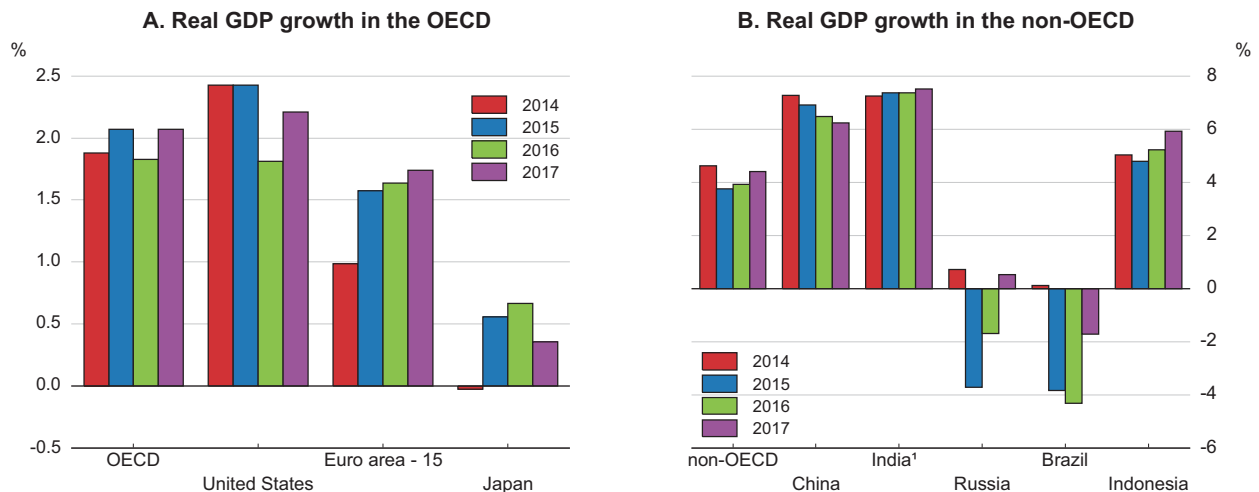
Source: OECD Economic Outlook 99 database.

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growth and, in some countries, additional fiscal spending to assist asylum seekers. However, still sizeable labour market slack, elevated debt burdens and non-performing loans continue to hamper the recovery in some countries.


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

Year-on-year percentage changes



1. Fiscal years.

Source: OECD Economic Outlook 99 database.

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- Non-OECD GDP growth should edge up as the sharp downturns in many commodity producers gradually ease (Figure 1.4, Panel B), provided commodity prices stabilise at their current level. However, EMEs are likely to experience diverse outcomes, reflecting differences in available policy support, the impact of low commodity prices, progress in enacting structural reforms and the extent of financial vulnerabilities. GDP growth is projected to continue moderating gradually in China, to around 6¼ per cent in 2017, as the economy rebalances from manufacturing to services. Recent fiscal policy measures provide considerable support to growth, via infrastructure and real estate investment, but also add to the challenges of achieving a smooth rebalancing and avoiding financial tensions. Solid growth should persist in India and Indonesia, helped respectively by a large planned increase in public sector wages and substantially higher infrastructure spending. The outlook for Brazil and Russia remains challenging, given the hit to incomes from low commodity prices, still high inflation, fiscal difficulties and, in Brazil, heightened political uncertainty.

Given this low level of aggregate demand growth, only slow additional improvements are anticipated in investment growth and labour market outcomes in advanced economies.

- OECD business investment is projected to rise by between ½ and ¾ per cent in 2016, with global demand and low commodity prices checking investment in many countries, including the United States, Canada and Australia, and heightened uncertainty damping near-term spending in the United Kingdom. As these factors fade, albeit against a backdrop of continued moderate global demand growth, OECD business investment could rise gradually by between 3½ and 3¾ per cent in 2017.
- The OECD-wide unemployment rate is projected to decline to under 6¼ per cent by the latter half of 2017, despite only small changes in some of the larger economies now close to or even below estimated longer-term sustainable unemployment rates, including Germany, Japan, the United Kingdom and the United States (Table 1.2). Unemployment

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

	2012	2013	2014	2015	2016	2017
<b>Employment</b>	Percentage change from previous period					
United States	1.8	1.0	1.6	1.7	2.1	1.5
Euro area	-0.6	-0.6	0.6	1.0	1.3	1.0
Japan	-0.3	0.7	0.6	0.4	0.5	-0.2
OECD	1.0	0.7	1.3	1.4	1.5	1.1
<b>Labour force</b>	Percentage change from previous period					
United States	0.9	0.3	0.3	0.8	1.8	1.2
Euro area	0.7	0.1	0.2	0.2	0.5	0.5
Japan	-0.6	0.3	0.2	0.2	0.3	-0.3
OECD	1.0	0.6	0.7	0.8	1.2	0.9
<b>Unemployment rate</b>	Per cent of labour force					
United States	8.1	7.4	6.2	5.3	5.0	4.7
Euro area	11.3	11.9	11.5	10.8	10.2	9.8
Japan	4.3	4.0	3.6	3.4	3.2	3.1
OECD	7.9	7.9	7.3	6.8	6.4	6.2

Source: OECD Economic Outlook 99 database.

remains much higher in the euro area overall, especially in the countries hardest hit by the crisis and by fiscal consolidation. In most countries, broader measures of labour market slack also remain high. With consumer price inflation projected to remain low, only modest productivity growth and possibly greater slack than estimated, wage inflation is projected to remain moderate (Figure 1.5). In the OECD economies as a whole, the growth in compensation per employee is projected to edge up to around 2½ per cent by 2017, from 1¾ per cent on average per annum in 2014-15.

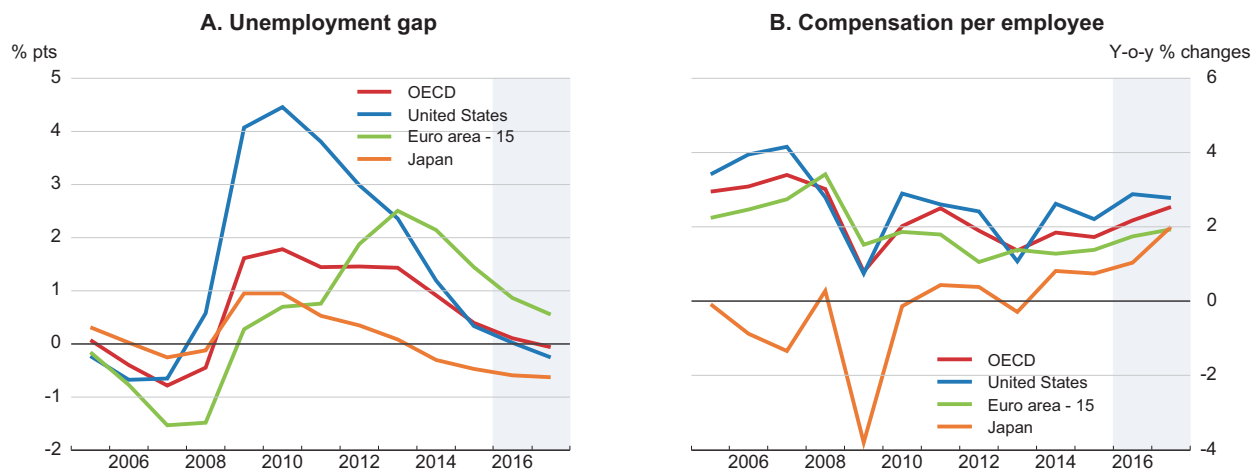
Investment, trade, labour market developments, and their implications for potential output and inflation are discussed further below.

Reflecting recent behaviour, these projections are conditional on traditional key linkages between macroeconomic variables remaining generally weaker than over a longer historical period. These include the links between unemployment and wage growth, trade volumes and exchange rates, and interest rates and investment. If the links are even weaker than assumed, the pick-up in growth will be slower than outlined above. On the other hand, if the strength of these relationships were to return to historical norms, the recovery would be firmer.

### **Weaknesses in demand, investment, trade and potential output have reinforced each other**

A prolonged period of weak demand is being reflected increasingly in adverse supply-side developments. Estimates of potential output per capita growth in the major OECD economies have been revised down repeatedly in the aftermath of the crisis and, in some countries, fiscal consolidation. For the OECD as a whole, it is estimated at 1% in 2016, which is between ¾ and 1 percentage point below the average in the two decades preceding the crisis (Figure 1.6). If policymakers fail to take action, this slowdown will deepen, with negative longer-run consequences for employment, income and inequality.

Figure 1.5. **Labour market outcomes are improving slowly**



Note: The unemployment gap is the difference between the unemployment rate and the estimated structural rate.

Source: OECD Economic Outlook 99 database.


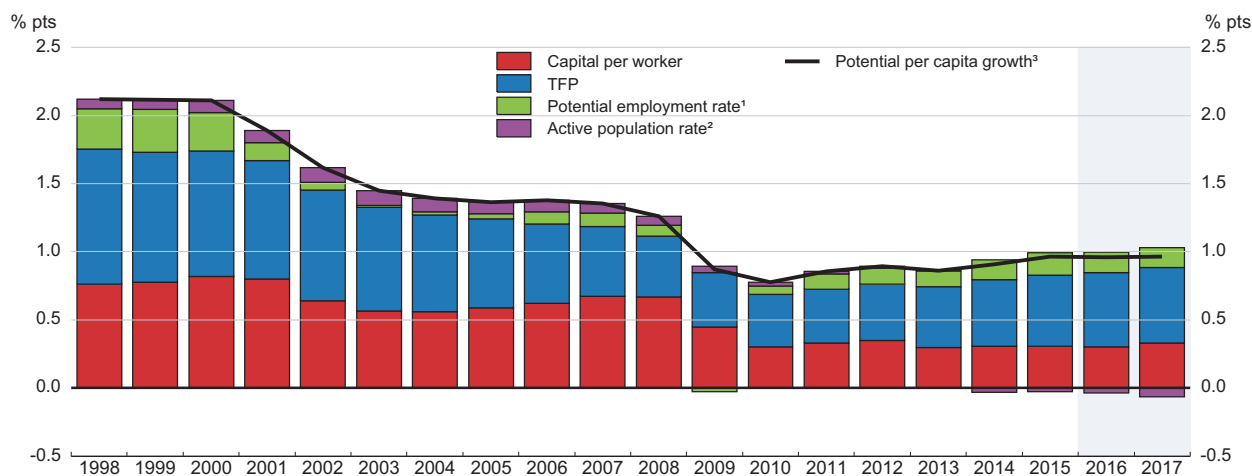
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Figure 1.6. **Weak investment and productivity growth have hit potential output growth**  
Contribution to potential per capita growth



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 and  $a$  is the wage share. If  $P$  is the total population and  $PWA$  the population of working age (here taken to be aged 15-74), then the growth rate of potential GDP per capita (where growth rates are denoted by the first difference,  $d()$ , of logged variables) can be decomposed into the four components depicted in the figure:  $d(y^* - p) = a * d(e^*) + (1-a) * d(k - n^*) + d(n^* - pwa) + d(pwa - p)$ .

1. Potential employment rate refers to potential employment as a share of the working-age population (aged 15-74).

2. Active population rate refers to the share of the population of working age in the total population.

3. Percentage changes.

Source: OECD Economic Outlook 99 database.

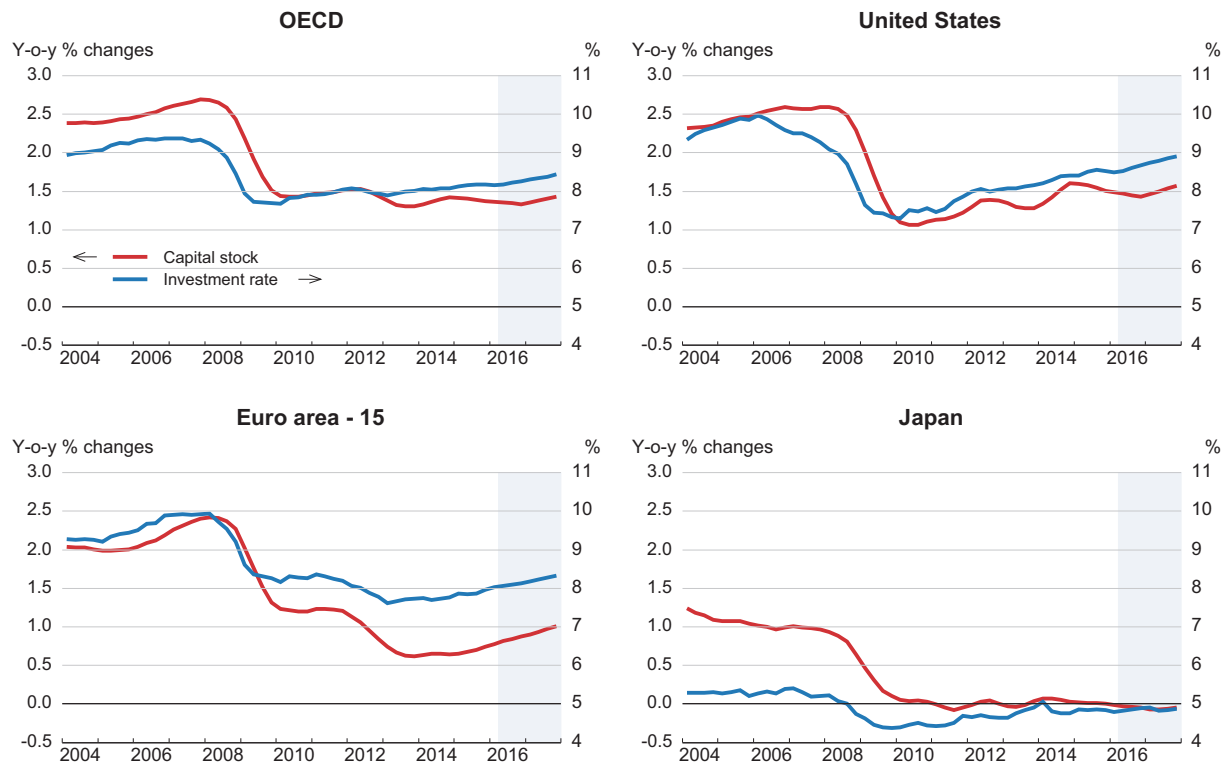
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Two main factors have contributed to the decline in the growth rate of OECD potential output per capita:

- Weak capital stock growth accounts for around one-half of the slowdown. Investment in many advanced countries remains below pre-crisis levels, though it is increased in recent years, especially in the United States (Figure 1.7). At the same time, depreciation rates are high following the rise in the share of ICT and intangible investment in total investment (OECD, 2015b).
- The rest of the decline in potential growth per capita is accounted for largely by declining total factor productivity growth. This reflects the moderation of the pace at which innovations spread across the economy, a decline of business dynamism as entry and exit rates have fallen, and only limited new product market reforms (Adalet McGowan et al., 2015).


In addition, weak labour markets have also reduced potential growth in some economies through increases in the structural unemployment rate and the number of people withdrawing from the labour force, and indirectly through deterioration in the skills of people without employment for an extended period. The slowdown in global trade, partly reflecting weak investment, has also been an important intermediate factor in slowing potential output growth in many economies, by reducing competitive pressures and technological spillovers and hence innovative activity (discussed below).



Figure 1.7. **Capital stock growth and the investment rate will pick up from low levels**

Note: The investment rate is investment as a percentage of the previous period's capital stock.

Source: OECD Economic Outlook 99 database; and OECD calculations.

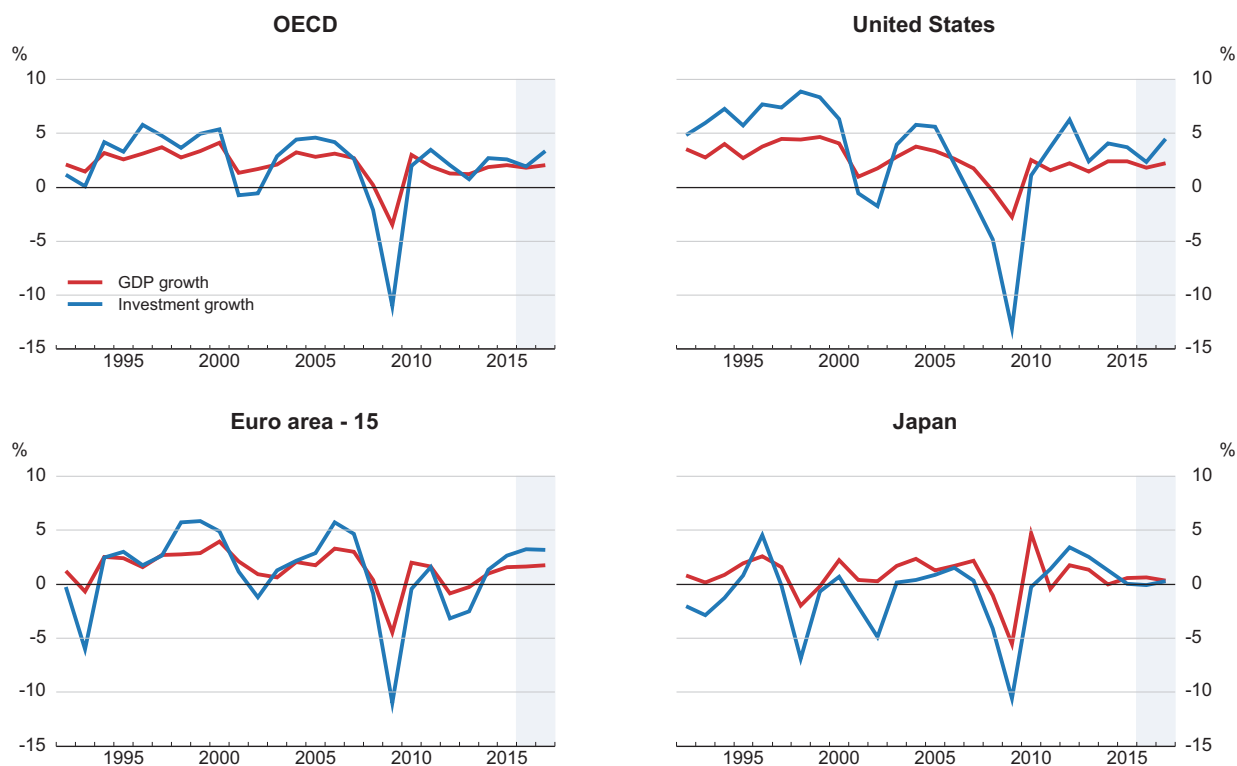
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### **Investment dynamics are broadly aligned with output factors**


Investment growth and its composition have varied across the main OECD areas, reflecting differences in demand dynamics and country-specific developments. This tendency is expected to continue in 2016 and 2017 (Figures 1.7, 1.8 and 1.9).

- In the United States, total investment increased between 2010 and mid-2015 at a pace similar to that seen before the crisis and in line with overall GDP growth. However, in the second half of 2015, investment levelled off and demand for commercial and industrial loans weakened. This was associated with lower profits, increasing defaults and a sharp fall in investment by oil producing companies as global oil prices collapsed. As these effects ease, business investment should pick up, supported by generally healthy corporate finances, although soft global demand conditions could offset more favourable domestic demand. Companies have reduced their leverage and hold large amounts of cash and deposits. Housing investment is expected to be more robust, reflecting pent-up demand, rising incomes and still favourable financing conditions.
- In the euro area, investment strengthened somewhat in the second half of 2015 together with corporate profits. So far, bank lending to enterprises has barely grown in the area as a whole. However, loan demand by enterprises has increased, reflecting the low cost of credit and increasing needs for working capital and fixed investment. The total cost of bank borrowing for enterprises has fallen, especially in countries hardest hit by the crisis, and intra euro area differences in bank rates have diminished. Credit standards on

Figure 1.8. **Investment growth is expected to strengthen in the euro area and the United States**  
Year-on-year percentage changes



Source: OECD Economic Outlook 99 database.

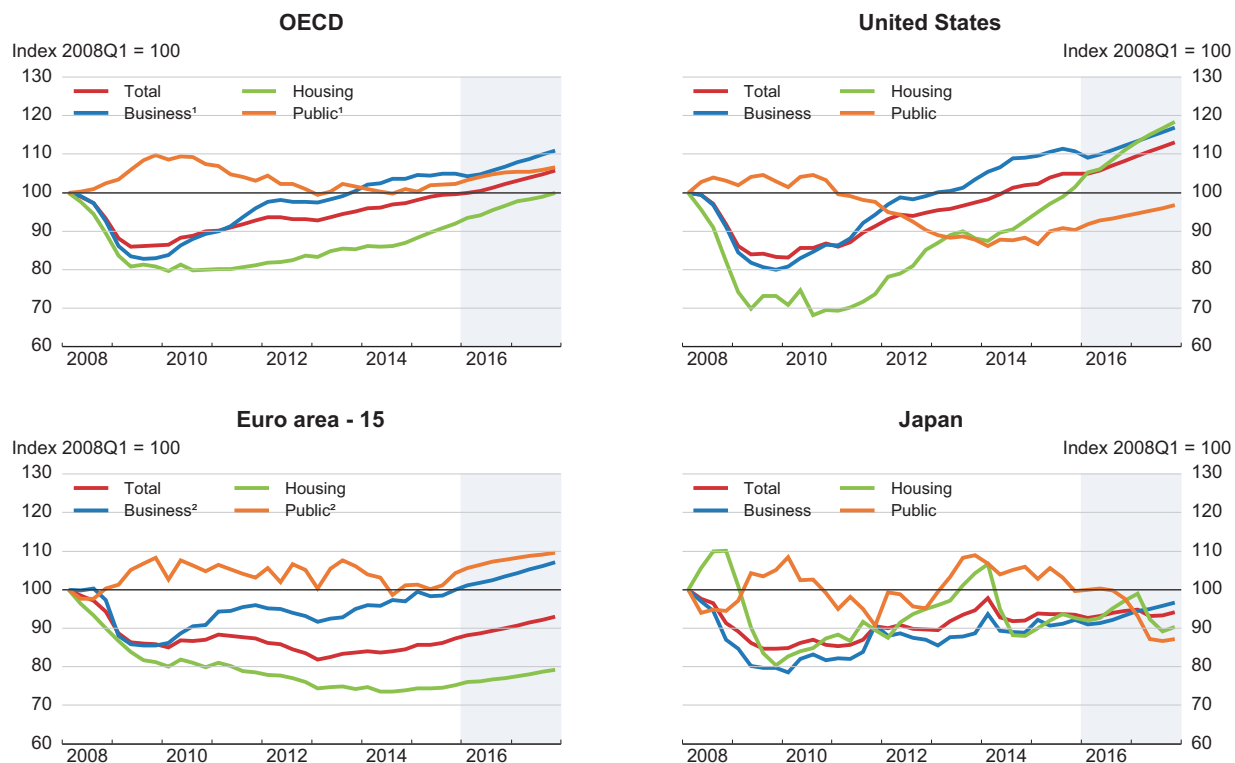
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loans to enterprises have also continued to ease. Nevertheless, modest growth prospects together with political uncertainty (see below) and not fully resolved problems in the banking sector mean that investment will grow at a broadly similar pace as in recent years.

- In Japan, business investment, which has been supported by record high corporate profits and large cash holdings in the corporate sector, is expected to continue increasing as labour shortages worsen and firms report capacity shortages in the service sector. Nevertheless, due to the decline in public investment as reconstruction spending wanes, total investment growth is expected to remain weak.
- In EMEs, investment dynamics are even more diverse. In China, total investment has moderated over the past year but policy-induced investment in infrastructure and real estate has already begun to offset this weakness. In Brazil and Russia, investment is set to continue declining given the prolonged recession, political uncertainty and low commodity prices. In contrast, in India and Indonesia, strong investment is expected to continue, helped by reforms to bolster infrastructure spending and robust demand growth.

If companies continue to doubt that national and global demand will strengthen, or if economies are hit by negative shocks, business investment growth will be weaker than projected. As in recent years, the very low cost of capital is not likely to offset weak

Figure 1.9. **The composition of total investment growth in advanced countries will continue to differ**



1. Country coverage differs for business and public investment aggregates, which include only Australia, Belgium, Canada, Denmark, Finland, France, Germany, Iceland, Japan, Korea, the Netherlands, New Zealand, Norway, Sweden, Switzerland, the United Kingdom and the United States.
2. Country coverage differs for business and public investment aggregates, which include only Belgium, Finland, France, Germany and the Netherlands.

Source: OECD Economic Outlook 99 database; and OECD calculations.

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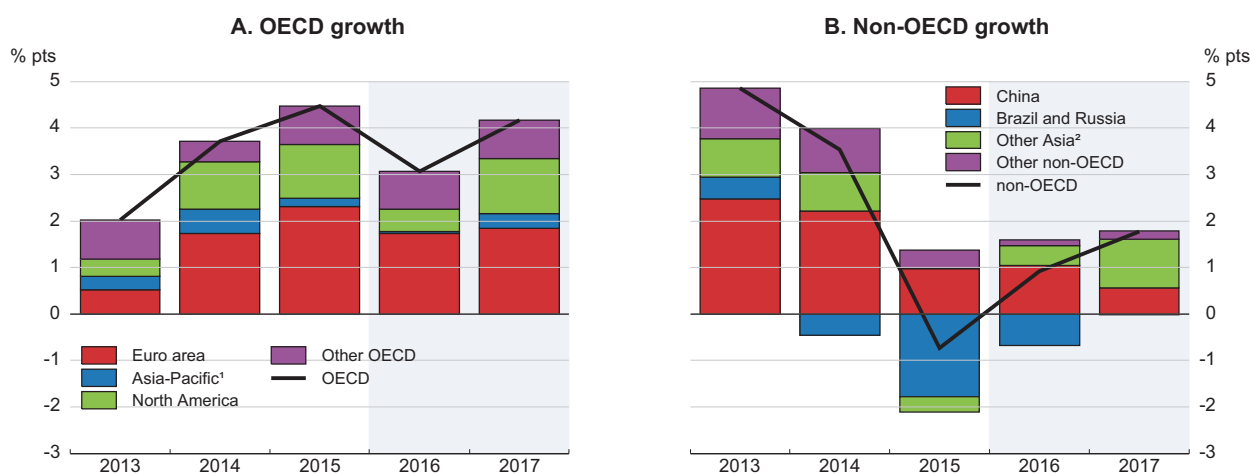
confidence or heightened uncertainty. On the other hand, more robust policy reforms to improve competitive conditions could be an impetus for investment (Chapter 3 in OECD, 2015b). In oil producing countries, adjustment to investment in the energy-related sectors will hinge upon developments in oil prices, with a renewed decline in prices implying further fall in investment. In several EMEs, repeated downward revisions to expected potential growth, reduced rates of return and the build-up of excess capacities in some sectors may constrain investment (OECD, 2016b).

### **Trade growth is set to recover but still remain subdued, checking productivity**

Global trade volume growth eased to 2½ per cent in 2015, representing a further marked slowdown relative to GDP growth. Import growth picked up in the advanced economies, largely due to an upturn in the euro area, but declined by around 1 percentage point in the EMEs. Import weakness was especially marked in China, other economies in Asia connected in value chains with China, and Brazil and Russia, where import volumes in 2015 are estimated to have fallen by one-fifth due to deep recessions (Figure 1.10).

No improvement is projected in 2016, with global trade growth rising by between 2 and 2¼ per cent (Table 1.3). After a pick-up in the latter half of 2015, trade flows have weakened

Figure 1.10. Contributions to the annual growth of OECD and non-OECD import volumes



1. Asia-Pacific includes Australia, Chile, Japan, Korea and New Zealand.

2. The Other Asia group comprises India, Indonesia and the Dynamic Asian Economies.

Source: OECD Economic Outlook 99 database; and OECD calculations.

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Table 1.3. World trade growth remains very weak

	Goods and services trade				
	2013	2014	2015	2016	2017
	Percentage change from previous period				
<b>World trade<sup>1</sup></b>	3.3	3.7	2.6	2.1	3.2
OECD exports	2.7	3.9	3.9	2.6	4.0
OECD imports	2.0	3.7	4.5	3.1	4.2
Non-OECD exports	4.8	3.3	0.7	0.9	1.7
Non-OECD imports	4.9	3.5	-0.7	0.9	1.8
<b>Trade prices<sup>2</sup></b>					
OECD exports	0.3	-1.2	-13.4	-0.8	2.0
OECD imports	-0.6	-1.4	-14.5	-1.7	1.7
Non-OECD exports	-1.8	-2.8	-13.5	-5.7	2.6
Non-OECD imports	-0.9	-1.9	-10.9	-4.2	2.5
<b>Current account balances</b>	Per cent of GDP				
OECD	0.0	0.0	0.1	0.2	0.2
United States	-2.3	-2.2	-2.7	-2.5	-2.5
Japan	0.8	0.5	2.9	3.4	3.7
Euro area	2.9	3.1	3.8	3.8	3.6
Non-OECD	1.5	1.5	0.8	0.6	0.6
China	1.6	2.7	3.1	2.8	2.6
Major oil producers	9.1	5.1	-3.0	-5.8	-5.6
Rest of the world	-9.3	-6.3	0.7	3.6	3.6
World <sup>3</sup>	0.5	0.5	0.3	0.3	0.3

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 US dollars.

3. Includes world discrepancy.

Source: OECD Economic Outlook 99 database.

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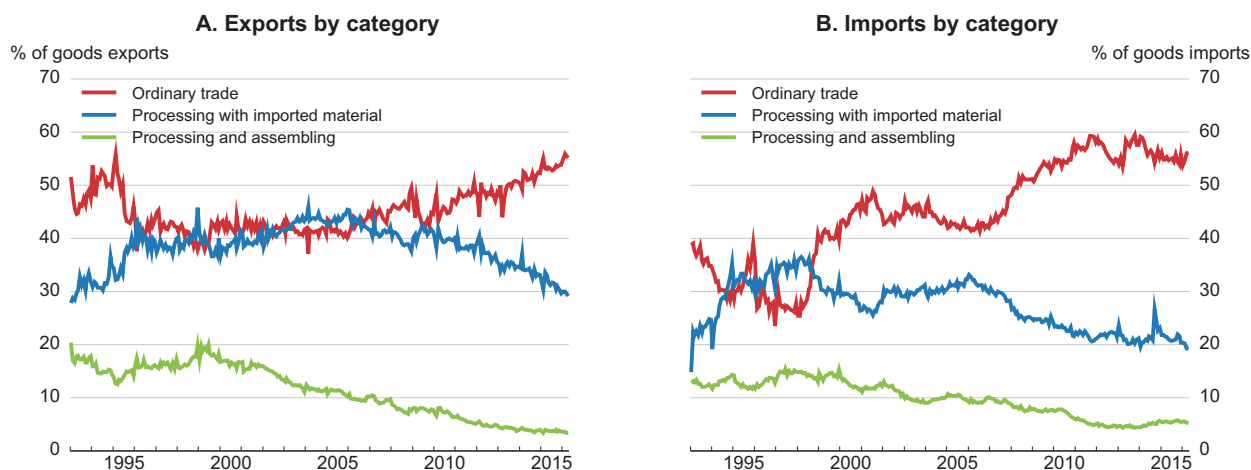
again in the early part of this year, especially in many Asian economies and also in the United States. For 2017, global trade growth is projected to edge up to around 3¼ per cent. The investment-led stimulus in China, a gradual stabilisation of demand in the commodity producers and, in 2017, the weak cyclical improvement in investment growth in the advanced economies all contribute to this gentle upturn in trade growth.

Such outcomes would be markedly weaker than in the two decades prior to the financial crisis when trade grew twice as fast as output (measured in constant dollar exchange rates). In retrospect, however, the pre-crisis period may have been unusual, in part due to the boost from a strong one-time boom in manufacturing and investment in China that raised commodity demand and imports of intermediate and capital goods. A slow transformation away from investment and export-led growth in China, and a growing tendency for some Chinese firms to use domestically-produced intermediate inputs (Figure 1.11), appears to be an important structural factor behind the more recent softening of the global trade-GDP elasticity. The weak post-crisis recovery in investment, with global capital goods imports largely stagnating from 2011, is a persisting cyclical factor.

An accumulation of trade restrictions in the major economies has also contributed to the moderation of trade intensity. Indeed, 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). G-20 economies continued to add new trade restrictive measures through 2015, with over three-quarters of the total measures imposed since 2008 still in place. With around three-quarters of global trade comprising purchases of intermediate inputs, capital goods and services that contribute to final production (OECD, 2015a), the cost of barriers to cross-border trade can quickly cumulate along value chains. Barriers to cross-border foreign investments may also hit export capacity in some countries.

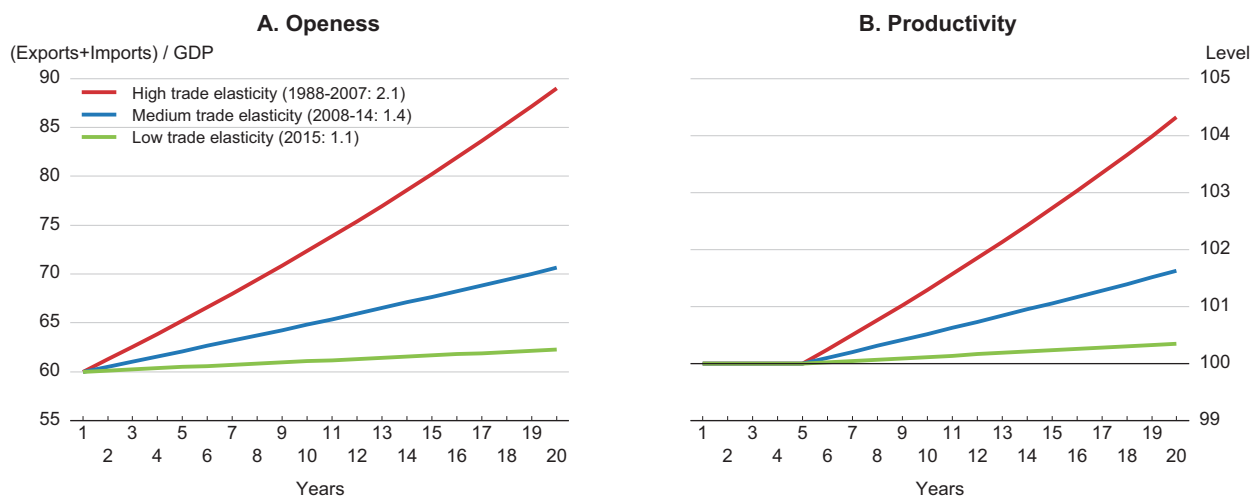
Moving from the pace of trade growth in the two decades prior to the crisis to trade growth becoming aligned with GDP growth could reduce the level of total factor productivity by around 4 percentage points after 20 years, all else equal, drawing on estimates in Égert and Gal (forthcoming) (Figure 1.12). The slowdown in production

Figure 1.11. **China is on-shoring its value chain**




Source: General Administration of Customs of China.

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Figure 1.12. **Stronger trade growth would help to boost productivity**

Note: The evolution of trade openness assumes annual real GDP growth of 2%, and the evolution of productivity assumes that a 4-percentage point increase in openness raises total factor productivity by 0.8% after 5 years.

Source: OECD calculations.

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fragmentation in global value chains reinforces these adverse effects on productivity substantially. Slower trade growth and reduced participation in global value chains both limit the diffusion of innovations at the global frontier to national firms (Adalet McGowan et al., 2015). Weaker competition also discourages incentives to innovate and invest, and hampers the growth of the most productive domestic firms, especially in smaller economies in which the minimum efficient scale of production is high relative to the size of the home market. Better framework policies and the institutional environment, particularly with regard to barriers to the entry of new firms and obstacles to the exit of less efficient ones, have an important bearing on the productivity outcome (Saia et al., 2015).

The cost of persistently soft trade growth reinforces the need to undertake additional measures to boost global demand, particularly investment (as discussed below), and reduce structural barriers to trade. The new Trans-Pacific Partnership agreement is a welcome step in this regard, and will boost trade growth and global activity in the medium term (Petri and Plummer, 2012). Ratification and prompt implementation of the WTO Trade Facilitation Agreement, reached two years ago in Bali, would provide a further stimulus. Regulatory reforms in services are also needed to reduce trade facilitation costs and increase cross-border competition, particularly in network industries and commercial services which are increasingly incorporated in merchandise trade. Anti-competitive regulation is generally higher in services and there is much wider dispersion across countries. In Europe, implementing the EU single market directives and reducing regulatory differences could raise cross-border trade and investment substantially, possibly by up to one-fifth (Fournier, 2015; Fournier et al., 2015).

### **Labour markets are healing slowly**

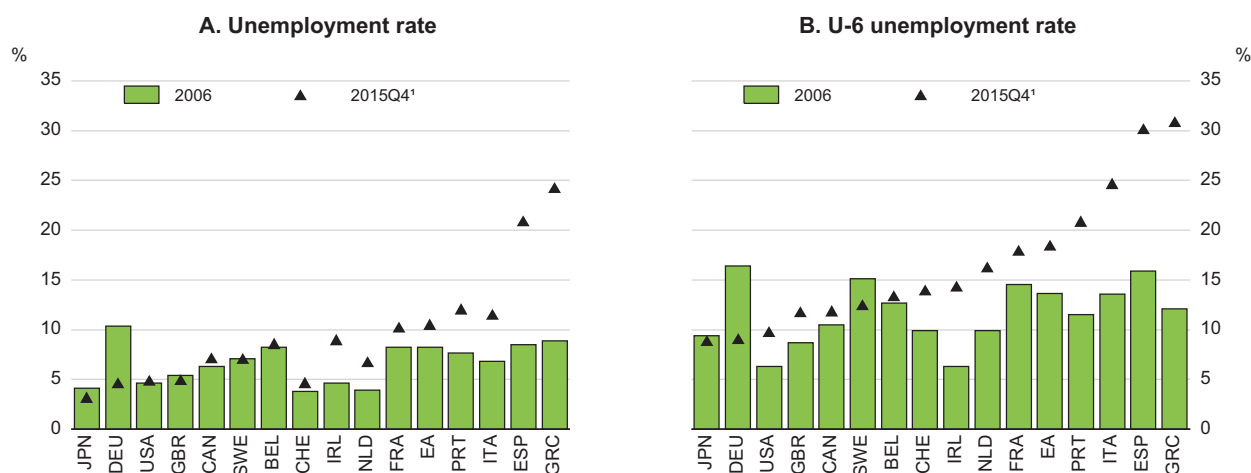
Whilst unemployment rates are gradually declining in most OECD economies, and in a few are now at or below estimated longer-term sustainable rates, other indicators of labour market slack are still elevated. Long-term and youth unemployment rates remain

high and 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 above pre-crisis norms in most economies (Figure 1.13). High persistent labour market slack can result in hardship for a large number of people and gradually undermine the productive potential of the economy as skills are either not developed or erode.

Participation rates are also well below pre-crisis levels in a few countries, including the United States, but this appears to be partly linked to demographic developments (and retirement age) and therefore may not fully translate into sizeable cyclical slack. However, in the majority of countries, participation rates are now higher than a few years ago (Figure 1.14, Panel A), in part due to the impact of reforms, including higher female labour force participation through improved access to childcare services, and measures to reduce labour taxation on low-paid workers and pathways to early retirement (OECD, 2016a). Overall, demographic headwinds have intensified, resulting in a stagnant or declining working-age population in some countries, and labour force growth in recent years has been weaker than prior to the crisis in several countries (Figure 1.14, Panel B).

Against the backdrop of low inflation, weak underlying productivity growth and elevated slack, nominal wage growth has been low in recent years, although minimum wage increases are boosting overall compensation growth in some countries. The unemployment gap is now small or even negative in a few countries, but this may not result in rapid wage growth, especially in real terms. The relationship between wage growth and labour market slack, as measured by the unemployment gap, has shifted since the crisis in some countries, particularly in the United States and the United Kingdom (Figure 1.15). In Japan, nominal wage growth in recent years has remained broadly in line with what might have been expected given the unemployment gap, but there is little

Figure 1.13. **Broad measures of labour market slack remain elevated**

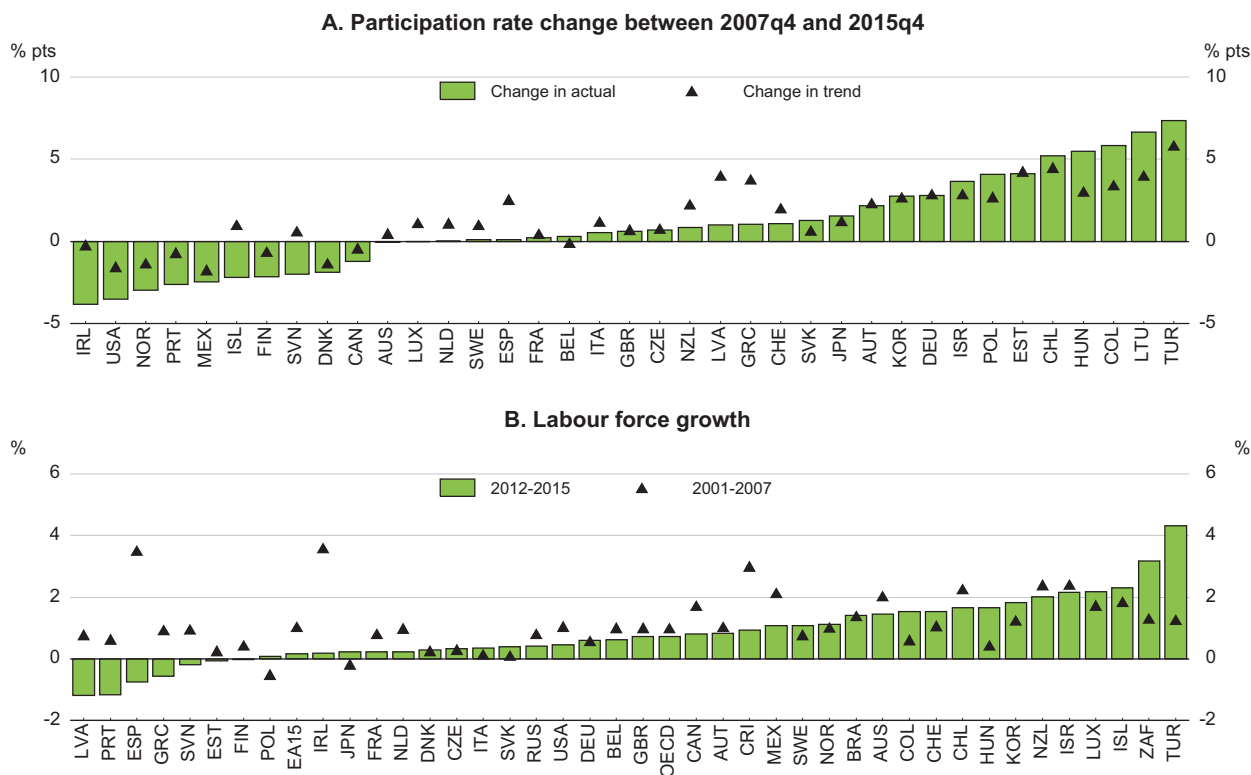


Note: U-6 is a measure of labour underutilisation calculated as the sum of total unemployed, all persons marginally attached to the labour force and total involuntary employed part time for economic reasons, as a per cent of the civilian labour force plus all persons marginally attached to the labour force. The age group is 15 years old and above.


1. 2016Q1 for Canada, Japan and the United States.

Source: Eurostat; Ministry of Internal Affairs and Communications of Japan; United States Bureau of Labor Statistics; OECD Labour Force Statistics; OECD Main Economic Indicators; and OECD calculations.

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Figure 1.14. **Participation rates have risen but labour force growth has slowed in several countries**

Source: OECD Economic Outlook 99 database; and OECD calculations.

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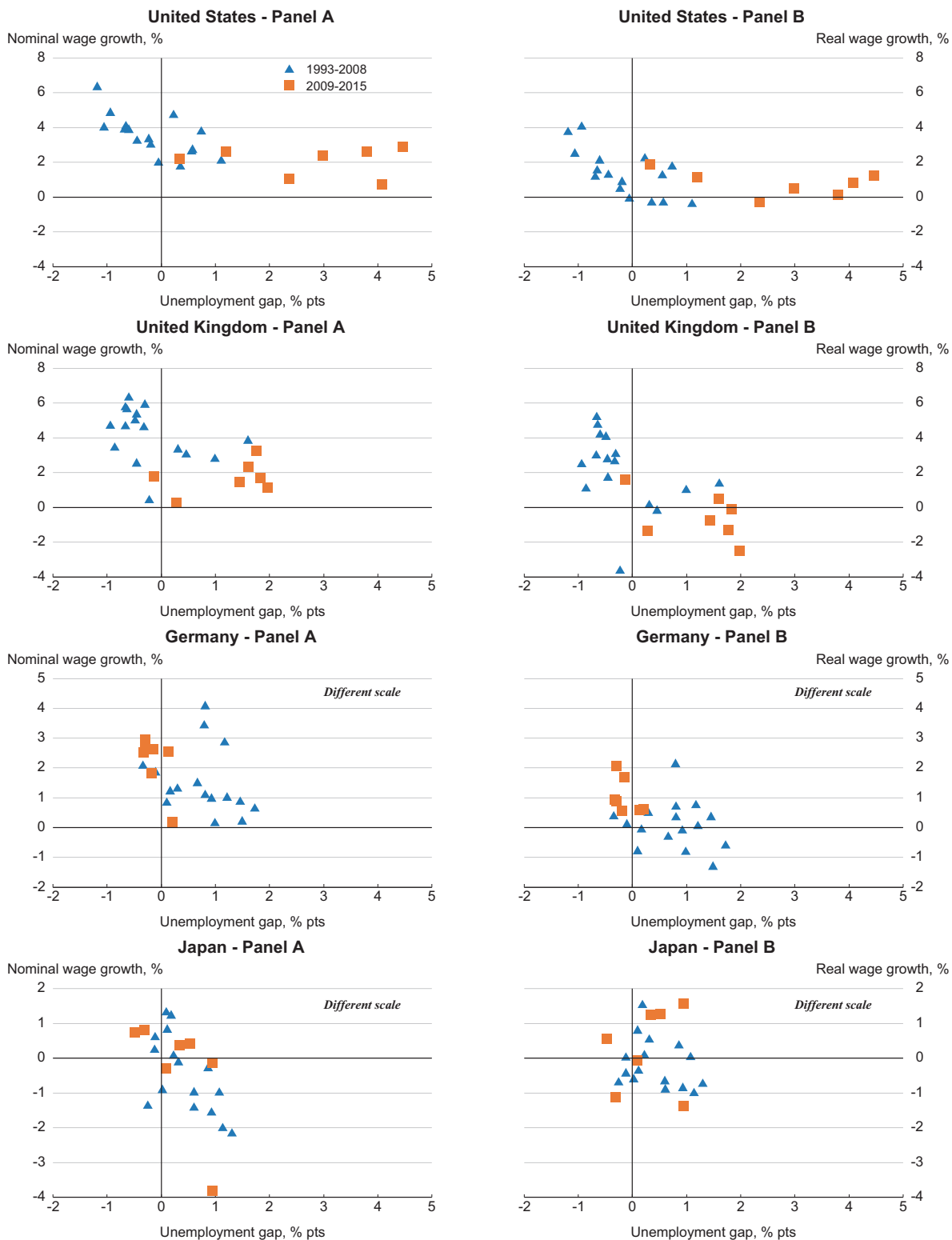
apparent relationship between real wage growth and slack. In contrast, wage growth in Germany has recently been somewhat stronger than implied by past experience, especially after the estimated unemployment gap became negative.

In addition to changes in the relationship between wages and slack, there are a number of other factors that may presently be limiting wage growth:


- Downward nominal rigidities may have limited the extent to which wage growth was lowered in the aftermath of the crisis, when slack was very high. If so, firms may be slower than usual to increase wage growth as the labour market returns towards equilibrium, particularly when future demand growth rates are uncertain, until labour shortages start to become pressing.
- In most economies with small unemployment gaps, broader measures of labour market slack often remain elevated (Figure 1.13), although less so in Germany and Japan, and labour force participation rates have picked up (Figure 1.14, Panel A).
- Against a background of persisting supply-side shocks and uncertainty about future employment prospects, workers may be reluctant to press for wage increases to the same extent as in the past, particularly as low price inflation may still imply real wage gains despite subdued growth in nominal wages.



Figure 1.15. **The relationship between wage growth and unemployment has changed in some countries**



Note: Nominal wages are measured as compensation per employee. Real wages are nominal wages deflated using the consumers' expenditure deflator. The unemployment gap is the difference between the unemployment rate and the estimated sustainable rate.  
Source: OECD Economic Outlook 99 database.

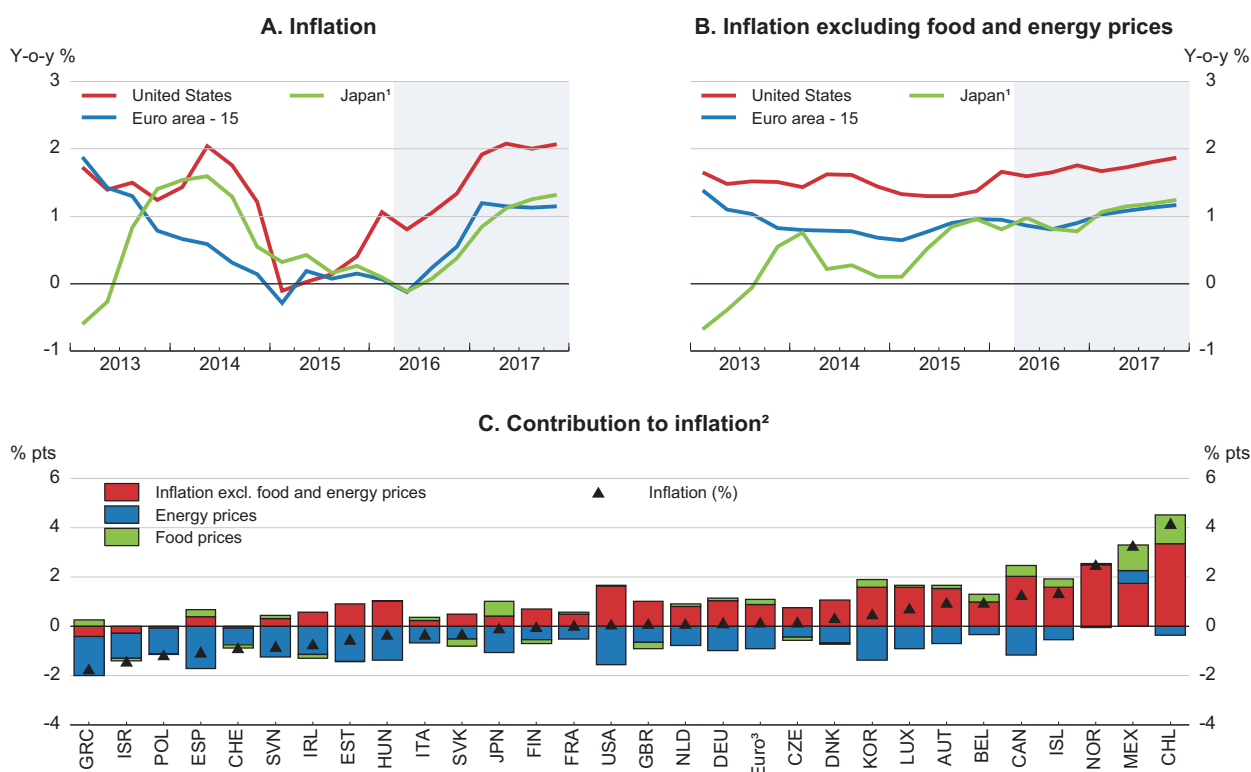
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### **Inflation is projected to remain low**

In advanced economies, inflation is projected to edge up slowly, with oil prices assumed to stabilise and no longer reduce the price level, but significant further acceleration is unlikely given muted labour market and resource utilisation pressures.

- Recent declines in inflation across the OECD can be largely accounted for by the fall in energy prices that started in mid-2014 (Figure 1.16). The overall effect was smaller than some years ago, owing to the downward trend in the oil intensity of GDP, which is now roughly a third of what it was in the early 1970s for the larger OECD economies.
- Inflation expectations have remained broadly anchored for the larger OECD economies. Those based on the opinions of professional forecasters have remained stable, but market-based measures of long-term inflation (which are calculated from the price differences of financial securities with different levels of inflation protection) have remained low. However, in the United States, this may be due to specific factors, such as changing liquidity premia for different types of securities, rather than changes to expectations, suggesting stable and well-anchored US inflation expectations (Gospodinov and Wei, 2016).

Figure 1.16. **Energy prices have pulled down inflation across the OECD**



1. Data for Japan exclude the estimated impact of the consumption tax increases in April 2014 and April 2017.

2. Average annualised monthly contribution of food, energy, and inflation excluding food and energy prices to the change in consumer price index from July 2014 to March 2016.

3. For the euro area, food also includes alcohol and tobacco.

Source: OECD Economic Outlook 99 database; OECD, Main Economic Outlook database; Eurostat; and OECD calculations.

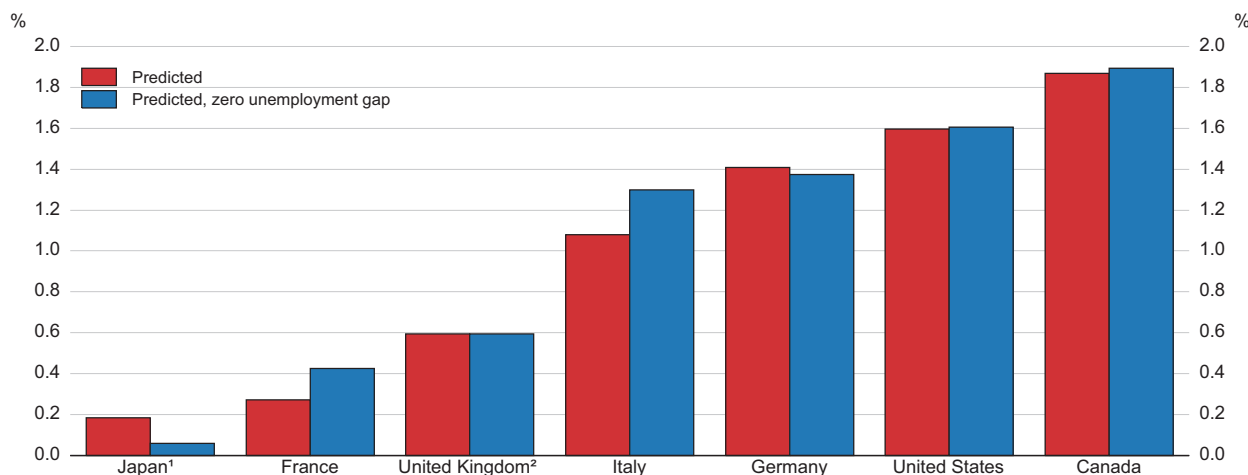
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- Unemployment and output gaps now tend to have a smaller impact on consumer price inflation than in the past. This decline began in the mid-1970s, but has stabilised more recently (Blanchard et al., 2015; Rusticelli, 2014; Rusticelli et al., 2015). This is likely to reflect better anchored inflation expectations, downward nominal rigidities at a time when inflation is very low, and a smaller impact of domestic pressures on consumer price inflation, with globalisation leading to more consumer items being imported (IMF, 2006; Pain et al., 2008; Woodford, 2010; and IMF, 2013).
- Inflation models estimated for large advanced economies, and which assume anchored inflation expectations (Rusticelli et al., 2015), suggest that a sustained increase in the unemployment gap by 1 percentage point should reduce core inflation on average by about 0.4 percentage point after 1½ years. In this context, the contribution of unemployment gaps to inflation since mid-2014 has been relatively minor, with the exception of Italy and France (Figure 1.17), owing also to the fact that estimated gaps have been relatively small. In Germany and Japan, unemployment gaps have been negative and inflation has risen, in contrast to the other countries analysed.

A prolonged undershooting of inflation targets could reduce longer-term inflation expectations, resulting in lower consumer price and wage inflation. Inflation projections continue to be surrounded by upside and downside risks in part due to uncertain oil price developments. Oil prices and inflation will be lower if oil supply does not adjust downwards and a possible renewed weakness in global economic activity damps demand for oil. An effective agreement among the main oil producers to cut production and stronger global activity would lead to higher inflation, but recent meetings to coordinate producers have failed to achieve consensus and global growth projections remain modest.

Figure 1.17. **The unemployment gap has recently contributed little to price inflation**

Average year-on-year core inflation rate between 2014Q3 and 2015Q4



Note: According to the anchored expectations Phillips curve as used by the OECD (Rusticelli et al., 2015), changes in the core consumer price inflation rate (i.e. excluding prices of food, drink, tobacco and energy) can be explained by the unemployment gap, import prices, anchored inflation expectations, previous changes in inflation, and residual error terms. The above figure compares predicted inflation given the observed outcomes for all the explanatory variables with predicted inflation assuming a zero unemployment gap between 2014Q3 and 2015Q4.

1. The price level for Japan is adjusted for the estimated effect of the consumption tax rate increase in April 2014 of 1.9%.

2. Data for the United Kingdom refers to headline consumer price inflation.

Source: OECD calculations.

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Similarly, large exchange rate moves will affect domestic prices, especially in small open economies. Risks of further currency depreciations, and thus stronger inflation, are particularly high in EMEs and the United Kingdom.

### **Geopolitical risks are intensifying**

The potential exit of the United Kingdom from the European Union (Brexit) is a major downside risk. In the run-up to the referendum, financial markets have increasingly begun to price in the possible risk of Brexit, with a depreciation of sterling and an increase in risk premia across several asset types. Business confidence has eased, policy uncertainty has risen and investment growth has slowed. However, the projections are conditional on the United Kingdom remaining in the European Union, with growth beginning to pick up from the latter half of 2016. A decision to exit would result in considerable additional volatility in financial markets and an extended period of uncertainty about future policy developments, with substantial negative consequences for the United Kingdom, the European Union and the rest of the world. This is illustrated in a recent OECD analysis (Kierzenkowski et al., 2016):

- In the near term, after a vote to leave the European Union, heightened and prolonged uncertainty would be likely to push up risk premia in the United Kingdom and, to a lesser extent, other European economies, and depress asset prices. A shock to sentiment could also be reflected in households and companies temporarily postponing spending decisions amid tighter credit conditions. A sharp depreciation of sterling could mitigate these effects, but at the same time hurt other European economies and raise UK inflation. Overall, this would reduce UK GDP growth significantly in the latter half of 2016 through to 2018, possibly by around ½ percentage point per annum on average. By 2018, there would be a significant hit to activity in other European economies, especially those who have strong economic linkages with the United Kingdom (Box 1.1), with many non-European economies also experiencing a decline in output due to weaker demand in Europe.
- On exit from the European Union, which is assumed to occur at the start of 2019, the UK economy would be hit further by a substantial shock to trade. There likely would be a marked change in the UK trade regime, raising barriers to market access for many exporters, especially in the European Economic Area and in the 53 countries with which the European Union has trade agreements. This would provide a renewed shock to demand through the trade channel, and likely keep economic uncertainty elevated for a considerable period. By 2020, GDP in the United Kingdom could be over 3% below the level it might otherwise have been if it had remained in the European Union, with GDP in the rest of the European Union around 1% weaker than otherwise.
- Over time, the UK economy would also face growing supply-side challenges. In the longer term, the impact of exit on the United Kingdom would depend on supply-side effects. Lower trade openness would hit economic dynamism and productivity. The reduced access to the EU market would also lower inward foreign direct investment, with associated adverse effects on innovation and managerial quality. The weaker UK economy, as well as possible new restrictions after exit from the European Union, would lower net migration inflows, adding to the supply-side challenges by reducing the size of the labour force. Some of these effects could be offset by reductions in domestic regulatory burdens, but the overall net effect on living standards would be strongly negative. By 2030, UK GDP could be over 5% lower than otherwise if exit had not occurred.

### Box 1.1. Financial market shocks from Brexit

A UK vote to exit from the European Union could be expected to heighten uncertainty, reduce confidence and result in a series of financial market shocks in the United Kingdom and other European economies. The stylised scenarios set out in this Box provide some illustrative estimates of the possible impact on global activity by 2018, using simulations on the NiGEM global macro model, building on Kierzenkowski et al. (2016).

In the United Kingdom, financial market shocks are assumed to be of a magnitude similar to those observed during the acute phase of the euro area crisis in 2011-12, but much smaller than during the financial crisis in 2008-09. Investment and equity risk premia in the United Kingdom are raised by 50 basis points in the first half of 2016, 150 basis points over 2016H2-2017 and 100 basis points in 2018. This broadly reflects the stylised shock reported by Kierzenkowski et al. (2016), based on a two standard deviation increase in the UK economic policy uncertainty index and in UK stock market volatility. The wedge between bank borrowing and lending rates for the household and corporate sectors is also raised by 100 basis points over 2016H2-2017, reflecting the possibility that enhanced uncertainty could tighten credit conditions. Finally, the term premium on UK government long-term bonds is raised, initially by 20 basis points in 2016 and then by 50 basis points in 2017 and 2018. After 2018, these financial shocks can be expected to fade gradually, although not completely, since formal exit of the United Kingdom from the European Union (assumed to take place in 2019 in Kierzenkowski et al. (2016)) would itself be an additional source of uncertainty and additional risk.

The exit vote can also be expected to hit confidence, leading UK households to undertake additional precautionary saving. Higher saving adds to the negative impact on consumption from the decline in activity and lower asset prices. To take this effect into account, an additional shock was applied, raising the ex ante household saving rate in the United Kingdom by a little over 1 percentage point in the latter half of 2016.

The aftermath of a vote to leave would also be likely to raise sterling risk premia, leading to an additional sharp exchange rate depreciation. The impact of this depreciation is likely to be more limited than in the past, but at the margin it would be likely to reduce the overall impact of the other forces acting on the UK economy, whilst adding to challenges in other economies, especially in Europe. A 10% depreciation of sterling against the US dollar is assumed to occur in mid-2016, with all other bilateral exchange rates held unchanged. The depreciation is assumed to be persistent, but to gradually fade over the simulation period. On average, the sterling effective exchange rate is around 6% below baseline in 2017 and 4% below baseline by 2018, implying an appreciation of the euro and other currencies relative to sterling. Other bilateral exchange rates are held constant.

The UK decision to exit could reinforce uncertainty about the future of the European Union and the Single Market. The resulting uncertainty would lead to more difficult financial conditions in other European countries. To illustrate the possible magnitude of such factors, investment and equity risk premia and the spread between household borrowing and deposit rates are widened in all European Economic Area (EEA) countries plus Switzerland.

Some differences across countries could be expected, given the underlying differences in the strength of their economic linkages with the United Kingdom. Three different sets of linkages are explored for the European economies: UK imports of goods and services from each country as a share of that country's GDP in 2014; the end-2014 stock of direct and portfolio assets invested in the United Kingdom by each country as a share of that country's GDP in 2014; and a big data indicator of linkages from Google Trends, based on the relative intensity of searches for "Brexit", from February to mid-May this year. There is a considerable degree of similarity in the respective country rankings on each of these metrics, with a cross-country rank correlation between trade and the other two indicators of 0.5, and a correlation of 0.8 between the rankings for the degree of financial linkages and Brexit searches:

- Ireland, Luxembourg and the Netherlands are relatively highly exposed to the UK economy on all three metrics, with Switzerland and Norway highly exposed through financial linkages and also in the Brexit search indicator.

**Box 1.1. Financial market shocks from Brexit (cont.)**

- Austria, Belgium, Denmark, Germany, Finland, France, Greece, Spain and Sweden are moderately exposed to the UK economy on all three linkages, broadly in line or above the median exposure across the European economies.
- The Czech Republic, Estonia, Italy, Hungary, Poland, Portugal, the Slovak Republic and Slovenia are relatively less exposed directly to the United Kingdom. A number of the smaller economies have trade linkages that are at or above the median European economy, but are well below the median on the other two metrics.

These differences are reflected in the different financial shocks applied to each country in NiGEM:

- In most of the highly-exposed economies, the shocks applied are between one-third and one-half of those in the United Kingdom, with investment and equity risk premia rising by 75 basis points at their peak and the interest rate spread by 34 basis points. Ireland is an exception, given the strength of its bilateral trade and financial linkages, with investment and equity risk premia rising by 100 basis points at their peak and the interest rate spread by 50 basis points.
- In the moderately-exposed economies, the shocks applied are between one-quarter and one-third of those in the UK, with investment and equity risk premia rising by 50 basis points at their peak and the interest rate spread by 25 basis points.
- In the economies with lower bilateral exposure to the United Kingdom, the shocks applied were between one-fifth and one-quarter of those in the United Kingdom, with investment and equity risk premia rising by 40 basis points at their peak and the interest rate spread by 20 basis points.

No shocks were applied directly in the European economies to either term premia on government bonds or to the household saving rate.

The NiGEM model was run in backward-looking mode, reflecting a judgment that in a period characterised by considerable uncertainty, businesses and households would be unlikely to behave as if the future was known with certainty. Monetary policy was left exogenous (although the depreciation of sterling changes UK monetary conditions), and the budget targeting rule was left unchanged, implying that governments react to the various shocks by attempting to maintain their announced budget path. Differences across economies in their response to the shocks imposed reflect the strength of trade linkages with all other European economies, differences in the sensitivity of domestic demand to changes in financial conditions and differences in the sensitivity of trade to changes in the real exchange rate.

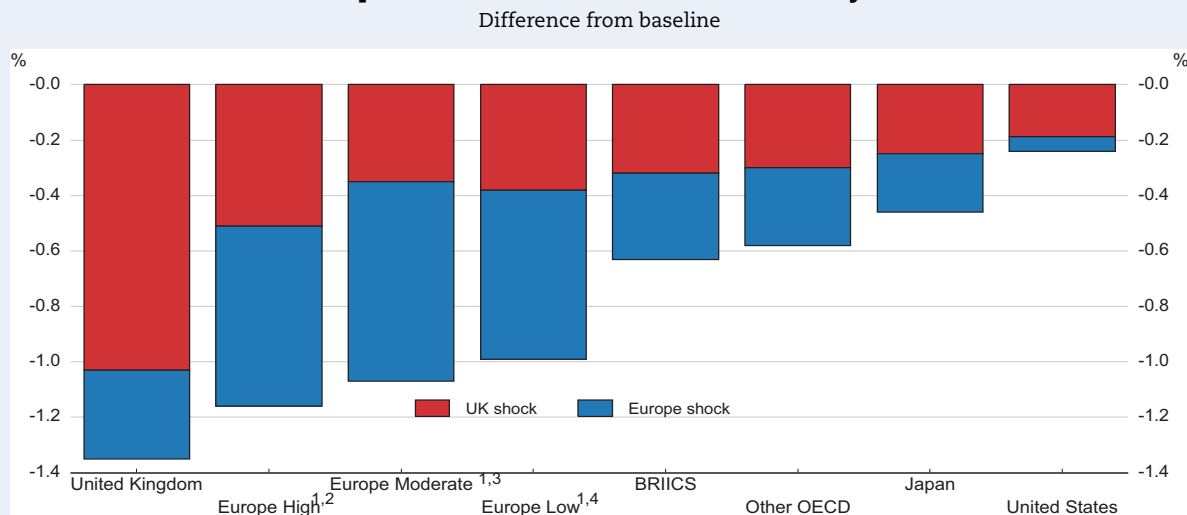
The results indicate that Brexit would generate a large negative shock to the UK economy by 2018, with UK GDP declining between 1¼ and 1½ per cent relative to baseline by that time (see figure below), as in Kierzenkowski et al. (2016). Around 1 percentage point of this stems directly from the financial shocks in the United Kingdom (including the sterling depreciation), with the remainder stemming from the adverse impact on demand of the additional financial shocks in other European countries. The near-term hit to the UK economy would be larger without the depreciation of sterling. Whilst cushioning the decline in activity, this initially raises inflationary pressures, through higher import prices, adding around ½ percentage point to consumer price inflation in 2016-17. Business investment weakens significantly, by over 10% in 2017 and 2018 relative to baseline, and the unemployment rate is ¾ percentage point higher by 2018.

Output in the other European economies is reduced by around 1 percentage point by 2018. Around four-tenths of this stems directly from the UK financial shocks (including the sterling depreciation), with the remainder stemming from the additional financial shocks in their own economies. Overall, the hit to the economies most exposed to the United Kingdom is around a ¼ percentage point higher than that to the economies with a comparatively low exposure to the United Kingdom. A larger sterling depreciation against domestic currencies would magnify the negative impact on other European economies, as would any deeper confidence shocks in those economies. On the other hand, a euro depreciation could help to offset some of the negative impact, but at the expense of magnifying the negative effects on output in the UK and non-European economies.

### Box 1.1. Financial market shocks from Brexit (cont.)

Weaker demand in the European economies also adversely affects the rest of the world, with GDP in the BRIICS and other non-OECD economies lowered by over ½ percentage point by 2018. Within these groups, Turkey and Russia are relatively heavily hit, reflecting their comparatively strong trade linkages with the European economies.

#### The impact of financial shocks on real GDP by 2018



Note: The UK shock includes shocks to financial conditions and confidence in the UK alone, plus a sterling depreciation. The Europe shock includes shocks to financial conditions in all European Economic Area economies plus Switzerland.

1. See text for criteria used to classify European countries into high, moderate and low.

2. Europe high includes Ireland, the Netherlands, Norway and Switzerland.

3. Europe moderate includes Austria, Belgium, Denmark, Finland, France, Germany, Greece, Spain and Sweden.

4. Europe low includes the Czech Republic, Estonia, Hungary, Italy, Latvia, Lithuania, Poland, Portugal, the Slovak Republic and Slovenia.

Source: OECD calculations.

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UK exit would have much stronger spillovers if it were to undermine confidence in the future of the European Union. In such a scenario, equity prices would drop further and risk premia for euro area sovereign and corporate bonds would increase by more, slowing GDP growth more substantially. Together with a fall in the euro, this would add to pressures on private and public finances, especially in countries where debt remains high. This risk would compound the existing political tensions in the European Union related to high refugee inflows and ongoing financial efforts to stabilise Greece. Downside risks to global activity also relate to a possible escalation of conflicts, including in Ukraine and the Middle East.

#### Financial vulnerabilities persist in EMEs

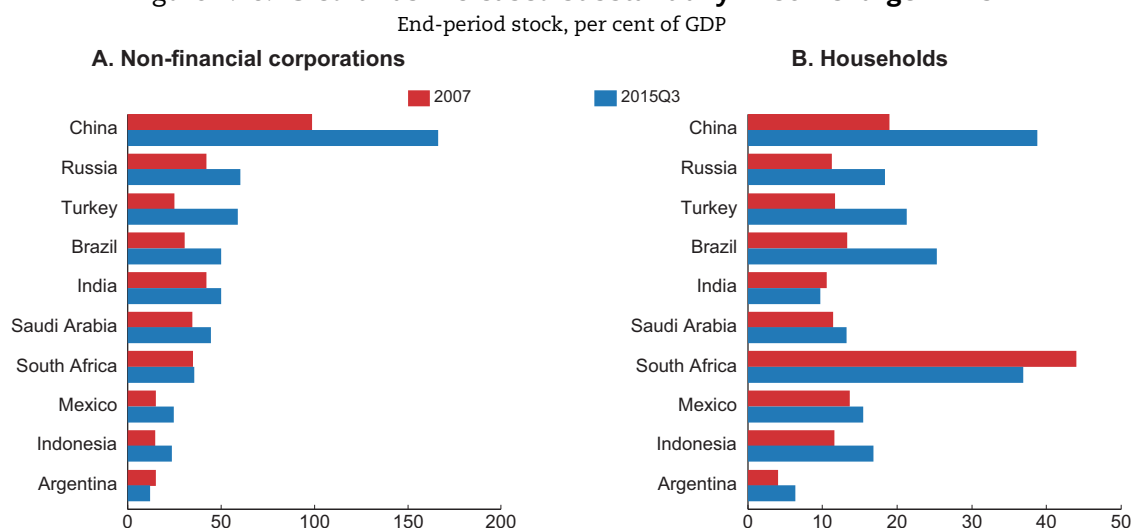
The recently announced stimulus measures in China are projected to help hold up demand. So far, the reaction of financial markets has been positive: stock markets have stabilised, the fall in foreign exchange reserves has ceased, the renminbi has strengthened against the US dollar, and capital outflows have eased. These particular policy measures will, however, inevitably slow the necessary rebalancing of current and capital expenditures that needs to occur and entail the risk that already-high leverage, excess

industrial capacity and public debt could increase further. Indeed, year-on-year credit growth for the whole economy continues to increase around twice as fast as nominal GDP and China's fiscal rating outlook has been downgraded by one of the main rating agencies. In this context, a sharper slowdown in China and ensuing financial turbulence remain a risk which could have a sizeable negative impact on global growth (OECD, 2015e).

After a strong deterioration at the beginning of 2016, confidence in EMEs has recently strengthened, with stock markets and exchange rates recuperating earlier losses, sovereign bond spreads narrowing and portfolio capital outflows reversing. However, several domestic vulnerabilities persist in some EMEs, even though many are better placed than before past crises, with higher foreign exchange reserves and lower public debt (Annex 1.2).

- Past experience suggests that a rapid pace of private debt accumulation could give rise to debt repayment problems as growth and profits slow and the cost of financing increases. In Brazil and Russia, both of which remain mired in recession, and in China, Indonesia and Turkey, the debt of non-financial corporations as a percentage of GDP increased by between 40 and 120 percentage points between 2007 and the third quarter of 2015 (Figure 1.18). While EMEs have benefited from favourable costs of borrowing, both domestically and from abroad, since 2014 these costs have been increasing for many of them. Moreover, the profitability of non-financial corporations in EMEs as a whole has been on the decline since late 2011 (Chui et al., 2016; OECD, 2016b). In Brazil, China and Turkey, household indebtedness also nearly doubled over the same period (but from a low level).
- Escalation of political or geopolitical tensions in some EMEs, especially Brazil, Russia, South Africa and Turkey, could dent investors' confidence. Stronger than expected increases in US policy interest rates could also trigger capital outflows from EMEs.
- Past currency depreciations have raised the cost of servicing debt denominated in foreign currencies, especially in Brazil, Russia, Turkey and South Africa, given the size of their exchange rate depreciations since mid-2014 and the large shares of external debt

Figure 1.18. **Credit has increased substantially in some large EMEs**



Note: Credit from banks and non-banks adjusted for breaks. For South Africa, 2008Q1 instead of 2007.

Source: Bank for International Settlements (BIS).

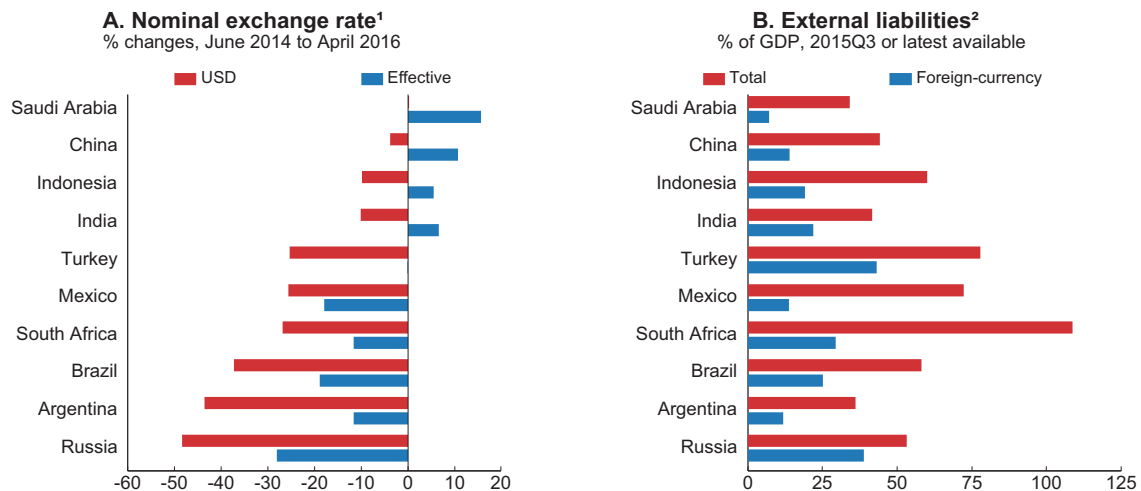
StatLink <http://dx.doi.org/10.1787/888933367433>




denominated in foreign currencies (Figure 1.19).<sup>1</sup> Although these depreciations have not resulted in a major stress in the banking and corporate sectors of these economies, it remains to be seen whether these countries would be resilient to further depreciations.

The number of corporate debt defaults rose in 2015 in EMEs, but as yet there are few signs of widespread financial difficulties for businesses and households despite the slowdown in growth, the weakness of commodity prices and large recent currency depreciations. Regarding foreign currency exposures, one possibility is that currency risks have been hedged successfully, either due to a high proportion of revenues in foreign currencies or via financial instruments. For commodity producers, whose export revenues are also largely in US dollars, the natural hedge has been weakened by the decline in global commodity prices. A further possibility is that large debt repayments have not yet come due. Government interventions in some countries have also eased the stress, with central banks effectively acting as the lender of last resort and using foreign exchange reserves to provide foreign currency swap lines for affected businesses.<sup>2</sup> Non-performing loans in the banking sector have been rising in several countries, including India where growth has been comparatively robust, but the increase is surprisingly small in the countries with large GDP declines. This may reflect supervisory leniency, allowing some banks to delay classifying domestic loans as non-performing. Such actions help to safeguard financial

Figure 1.19. **EME's external vulnerabilities have increased due to exchange rate depreciations**



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).
2. Foreign-currency external liabilities are approximated by the sum of a positive difference between debt securities issued by nationals and residents from the BIS debt securities database (a proxy for off-shore external bond liabilities) and external liabilities for financial derivatives and other investments (the latter includes bank loans) from the IMF international investment position database.

Source: OECD Economic Outlook 99 database; Bank for International Settlements; International Monetary Funds; and OECD calculations.  
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1. In addition, the majority of bank loans in US dollars to non-bank borrowers in Russia and Turkey are issued by local banks (McCauley et al., 2015), and thus are not classified as foreign debt. In most EMEs, the majority of foreign-currency denominated external debt is estimated to be in US dollars, with the shares of yen and euro-denominated debt at low levels, other than in economies with relatively strong trade links with Japan and the euro area respectively (OECD, 2015b).
2. For instance, the central bank in Brazil has offered currency swaps that protect their holders from currency depreciations, with the losses born by the fiscal authorities.

stability in the near term. However, they add to moral hazard and if maintained for a long period will prevent resource reallocation from non-viable firms, with possible negative effects on productivity and employment growth.

## Policy requirements

Sluggish demand and productivity growth, low inflation, substantial downside risks and, in some areas, still high unemployment call for sustained well-balanced macroeconomic policy stimulus and productivity-enhancing structural reforms. Policy needs differ across countries, reflecting differences in their cyclical position, past policy measures and resulting policy space. Adopting a more co-ordinated and comprehensive policy approach both within and across countries offers the prospect of breaking out of the low-level global growth environment, where doubling the standard of living of citizens in OECD economies would take seventy years, more than twice as long as two decades ago.

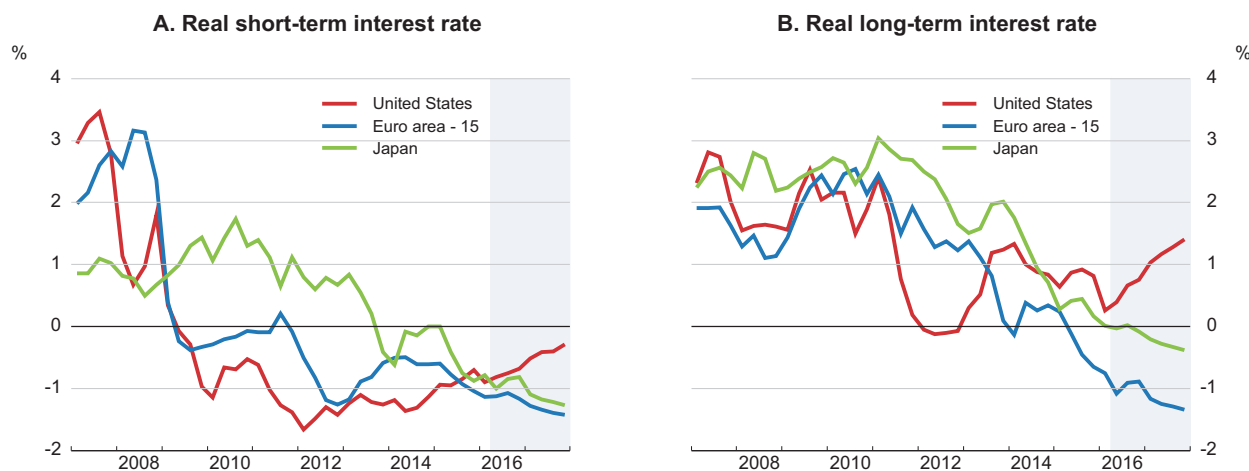
### ***The need and scope for policy to offset current cyclical weakness varies across major EMEs***

In China, the sustained monetary and fiscal stimulus, with further cuts to interest rates and higher spending (Annex 1.1), appears sufficient to ensure that growth, in the near term, eases only gradually, while raising potential risks in the medium term. However, shifting the focus of the stimulus towards reducing precautionary household saving (through supportive pension, education and health policies) would spur the desired transformation toward a more service and consumption-based economy and temper the financial risks associated with high debt burdens and equity and exchange rate volatility. In Brazil and Russia, sharp recessions call for accommodative policy but the scope for stimulus is limited in view of high budget deficits and inflation. Government spending should be reduced in line with lower commodity prices, with cuts focused on subsidies rather than infrastructure and education where the negative consequences for growth are magnified. The expected moderation of inflation and recent appreciation of domestic currencies provide some room for lowering policy interest rates. Similarly, in India, if inflation continues to decline, the monetary authorities could cut interest rates in 2017, whilst further steps should be taken to improve monetary policy transmission. The Indian authorities should also continue to reduce the budget deficit via improved tax mobilisation, while shifting more spending towards physical and social infrastructure.

### ***Monetary policy cannot revive near and long-term growth by itself and distortions are increasing***


In advanced economies, monetary policy has been extremely supportive in recent years (Figure 1.20) but it cannot provide sufficient support for an extended period by itself, as shown by persisting weak growth and low inflation. In the euro area and Japan, it has recently been further eased by expanding the size and duration of asset purchase programmes and making deposit rates negative. In contrast, the US Federal Reserve raised the policy rate by 25 basis points in December 2015 and it should continue gradual tightening in 2016-17 provided that its full employment and inflation objectives look set to be attained as projected. On balance, the US monetary policy stance remains accommodative and the FOMC has lowered the expected path of future interest rates.

The prolonged period of highly accommodative monetary policy has also created a number of distortions. This suggests that the net marginal benefits of monetary policy in

Figure 1.20. **Real short and long-term interest rates have been low or negative**

Note: Real interest rates are calculated using year-on-year core consumer price inflation. Data for Japan exclude the estimated impact of the consumption tax increases in April 2014 and April 2017.

Source: OECD Economic Outlook 99 database; and OECD calculations.

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raising aggregate demand have diminished and that supply-side constraints, which monetary policy cannot target directly, are undermining monetary policy efficiency.

- Following this period of very low interest rates, some central banks are now pursuing negative interest rates. If sustained for a long time, banks' profits will be lowered further if bank deposit rates cannot be made negative (Box 1.2). Banks' profitability is stressed by the ensuing flattening of the yield curve (Figure 1.21) and the general low-interest rate environment (Borio et al., 2015; Claessens et al., 2016). In response, private banks could be forced to maintain or raise the cost of credit and fees as compensation. Financial stability requires the achievement of the appropriate balance between lending to riskier borrowers at higher rates or investing in riskier assets (which is part of the objective of more accommodative policy) and the growth outcome of the accommodative policies.
- The protracted low/negative-interest rate environment also increases financial strains for pension funds and financial institutions offering life insurance policies that promise pre-crisis or fixed nominal returns (OECD, 2015c). A fall in the discount rate increases the present value of liabilities of defined-benefit pension funds and life insurance companies more than of assets, and thus undermines solvency. In this context, life insurers with capital buffers close to the regulatory minimum have already been investing more in riskier assets (IMF, 2016). Greater sensitivity to interest rates has also raised the correlation of the stock price of life insurers, suggesting greater systemic risk.
- Very low or negative interest rates sustained for a prolonged period will be less potent in stimulating consumption if some households increase savings to compensate for lower future returns or if pension funds raise employee contributions. These possibilities are particularly likely in countries with ageing populations and large household financial assets, and also when declining interest rates cease to be passed through to indebted households.

### Box 1.2. Effects of central bank negative interest rates

Several central banks have introduced negative policy interest rates to raise inflation closer to target or alleviate the appreciation pressures on domestic currencies.<sup>1</sup> Negative interest rates signal an easier monetary policy stance and thus should stimulate the economy by lowering short and longer-term market interest rates. This, with unchanged monetary policy abroad, should weaken the domestic currency. Negative interest rates should also encourage banks to take more risks and thus ease credit conditions (Buiter and Panigirtzoglou, 2003), and could strengthen the portfolio rebalancing channel when combined with large-scale purchases of long-term bonds and thus lower longer-term interest rates (Goodfriend, 2000).

Negative policy interest rates have been passed through to short-term market interest rates. Money market rates have turned negative in all economies adopting such measures apart from Hungary and Norway, and, in Denmark and Sweden, interest rates on large time deposits have fallen below zero too (Jensen and Spange, 2015; Jackson, 2015; table below). In most countries, longer-term bond yields and bank lending interest rates have also declined, with some rates turning negative. However, these effects cannot be entirely attributed to interest rate cuts as several central banks have continued to buy government and private bonds. However, in Denmark and Switzerland, selected bank lending rates and fees have been raised (Bech and Malkhozov, 2016).

Isolating the impact of negative interest rates on exchange rates is difficult as other measures can affect the domestic monetary stance and monetary policy abroad can evolve as well. Nevertheless, negative interest rates have likely helped limit the appreciation pressures in Denmark and Switzerland. However, in the euro area, the effective exchange rate first depreciated by nearly 10% but then reverted back to the initial level, while in Japan the yen appreciated.

#### Interest rates have become negative across different maturities


	Central bank		Overnight market	Government bond yields						
	main <sup>1</sup>	deposit <sup>2</sup>		1Y	2Y	3Y	5Y	7Y	10Y	15Y
Switzerland	-0.25	-0.75	-0.96	-0.86	-0.92	-0.92	-0.77	-0.59	-0.32	..
Sweden	-0.50	-1.25	-0.52	..	-0.55	-0.44	-0.13	0.16	0.64	..
Denmark	0.00	-0.65	-0.22	..	-0.36	-0.27	-0.06	..	0.47	..
Germany	0.00	-0.40	-0.30	-0.47	-0.50	-0.48	-0.35	-0.18	0.20	0.50
Netherlands	0.00	-0.40	-0.30	-0.48	-0.49	-0.45	-0.33	-0.11	0.31	0.49
Finland	0.00	-0.40	-0.30	-0.47	-0.45	-0.40	-0.21	0.14	0.47	..
Austria	0.00	-0.40	-0.30	-0.35	-0.45	-0.40	-0.17	0.03	0.56	..
France	0.00	-0.40	-0.30	-0.42	-0.42	-0.37	-0.17	0.03	0.55	1.04
Belgium	0.00	-0.40	-0.30	-0.44	-0.44	-0.44	-0.25	0.00	0.48	1.09
Ireland	0.00	-0.40	-0.30	-0.32	-0.28	-0.17	-0.04	..	0.80	1.29
Italy	0.00	-0.40	-0.30	-0.08	0.00	0.01	0.29	0.74	1.44	1.86
Japan	..	-0.10	-0.01	-0.21	-0.23	-0.23	-0.21	-0.19	-0.06	0.14
Norway	0.50	-0.50	0.60	..	0.51	..	0.80	1.03	1.32	..
Hungary	1.05	-0.05	1.20	1.04	1.35	1.62	..	2.63	2.93	..

Note: Average interest rates for the period 1 February – 18 May 2018 (with the exception of central bank policy interest rates).

1. As of 18 May 2018. The central bank main policy rate refers to: the upper target range for the 3-month LIBOR rate in Switzerland; the repo rate in Sweden, the current account rate in Denmark; the main refinancing operations rate in the euro area countries; the key policy rate (sight deposit rate) in Norway; and the 3-month deposit rate in Hungary.

2. As of 18 May 2018. The central bank deposit rate refers to: the rate on central bank current accounts beyond exemptions in Denmark, Japan, Norway and Switzerland; and the rate on deposit facility in the euro area countries, Sweden and Hungary.

Source: Factset; and Thomson Reuters.

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### Box 1.2. Effects of central bank negative interest rates (cont.)

If implemented in pure form, negative interest rates would have side effects with a perverse impact on loan demand and growth, as they reduce banks' profitability when lower returns on reserves held at central banks cannot be offset by lower funding costs. However, as implemented and in conjunction with current bank behaviour, the theoretical outcome is not observed. Interest costs on banks' funds at central banks have so far been limited and tiny compared to banks' profits (table below, final column). This stems from various forms of exemptions (tiered reserve systems in Denmark, Japan, Norway and Switzerland; exemption for required reserves in the euro area and Japan). In Sweden, the costs are lowered as banks effectively do not use the deposit facility given that they can purchase Riksbank's certificates or use overnight fine-tuning operations that are remunerated at less negative interest rates than the deposit rate. Consequently, in all countries the average interest rates on funds placed in the central banks are less negative than the central banks' deposit rates. Currently, the system is the least costly in Japan, Hungary and Norway. In Japan, banks as a whole continue to earn net positive interest income from excess reserves. In Hungary, the negative deposit rate effectively does not apply as there is no excessive liquidity and banks can use the 3-month deposit facility remunerated at a positive interest rate (currently at 1.2%). Similarly, in Norway, banks have kept deposits at Norges Bank largely below the quotas and thus deposits have been remunerated at a positive sight deposit rate (currently at 0.5%).

#### Characteristics of negative interest rate frameworks

	Total volume/ average IR <sup>1</sup>	Current accounts			Negative-rate claims		Annual net interest income on funds at central bank, % of banks' profits <sup>2</sup>
		IR > 0	IR = 0	IR < 0	overnight	one-week	
<b>Denmark</b>	Individual current account limits (on aggregate 32 billion krone)						
Volume	111	0	30	81	-	-	-2.04
Interest rate	-0.47	-	0.00	-0.65	-	-	
<b>Euro area</b>	Required reserves exempted from negative interest rates						
Volume	944		115	828	-	-	-1.91 / -2.18
Interest rate	-0.35		0.00	-0.40	-	-	
<b>Japan</b>	Three-tiered system; the BoJ maintains the balance of negative-interest tier in the 10 to 30 trillion-yen range						
Volume	276	209	45	21	-	-	3.13
Interest rate	0.07	0.10	0.00	-0.10	-	-	
<b>Sweden</b>	Negative costs mitigated by the use of term claims remunerated at less negative interest rates						
Volume	278	0	0	0.08	100	178	-0.35 / -0.36
Interest rate	-0.54	-	0.00	-1.25	-0.60	-0.50	
<b>Switzerland<sup>3</sup></b>	Individual exemption thresholds (20 times reserve requirements in October-November 2014)						
Volume	421	0	293	128	-	-	-4.58
Interest rate	-0.23	-	0.00	-0.75	-	-	

Note: IR stands for interest rate. Volumes are in trillions of yen for Japan and in billions of national currency for the remaining countries. Interest rates are in per cent.

1. As of end-April 2016 for Denmark and Sweden, end-March 2016 for Switzerland, and 11 May 2016 for the euro area. The April 2016 maintenance period averages are referred to for Japan.

2. For the euro area and Sweden, less negative figures assume constant levels of reserves and short-term claims at the reference points of time; while smaller (more negative) figures assume that reserves and short-term claims will increase in 2016 in line with currently planned asset purchases (and an assumed 500 billion euro rise in longer-term refinancing operations). Annualised profits refer to 2014 profits for Denmark and Sweden, are approximated based on 2014H1 profits for the euro area, 2015H1 profits for Japan and 2015Q1-Q3 for Sweden (major banks only).

3. Domestic banks only.

Source: National central banks; Statistics Denmark; Japan's Banker's Association; and OECD calculations.

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### Box 1.2. Effects of central bank negative interest rates (cont.)

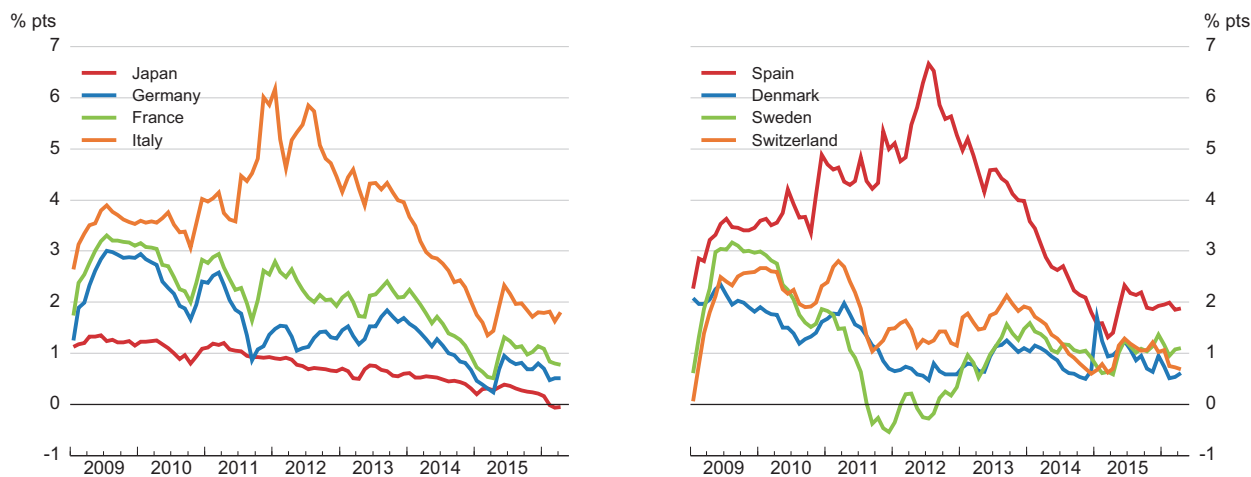
The cost of negative interest rates for banks is going to increase with the expansion of central bank balance sheets (either due to asset purchases or exchange rate interventions) and the concomitant increase in reserves. The possibility for banks to compensate profit losses will depend on their business models and competition pressures. It will be particularly limited for banks with a large share of retail deposits, given that passing negative interest rates risks widespread withdrawals, especially of small retail deposits, as storing small amounts of cash is not very costly. Japan will be the exception despite the Bank of Japan's intention to sustain asset purchases, as the negative-interest tier has been capped at around 30 trillion yen.

1. The Sveriges Riksbank in July 2009, the Danmarks Nationalbank in July 2012, the European Central Bank in June 2014, the Swiss National Bank in December 2014, Norges Bank in September 2015, the Bank of Japan in February 2016, and the Magyar Nemzeti Bank in March 2016. This measure involved mainly negative central bank deposit rates, but the Sveriges Riksbank introduced also a negative repo rate and the Swiss National Bank introduced a negative target range for the 3-month LIBOR.


- With continuing purchases of government bonds, central banks have become dominant buyers and holders of sovereign debt (Figure 1.22). This could limit market liquidity, with potential negative consequences for market volatility.<sup>3</sup>
- Distortions in government debt markets can be alleviated by expanding asset purchase programmes to include private bonds and equity, but this involves different risks for central banks and distributional effects. Purchases of corporate bonds or equities lower the cost of financing primarily for large companies, with small firms benefiting less.
- The exchange rate channel of monetary policy is muted when several monetary authorities are reducing interest rates at the same time. Even to the extent that a

Figure 1.21. **The slope of the yield curve has declined**

Difference between 10-year government bond yield and the overnight interest rate

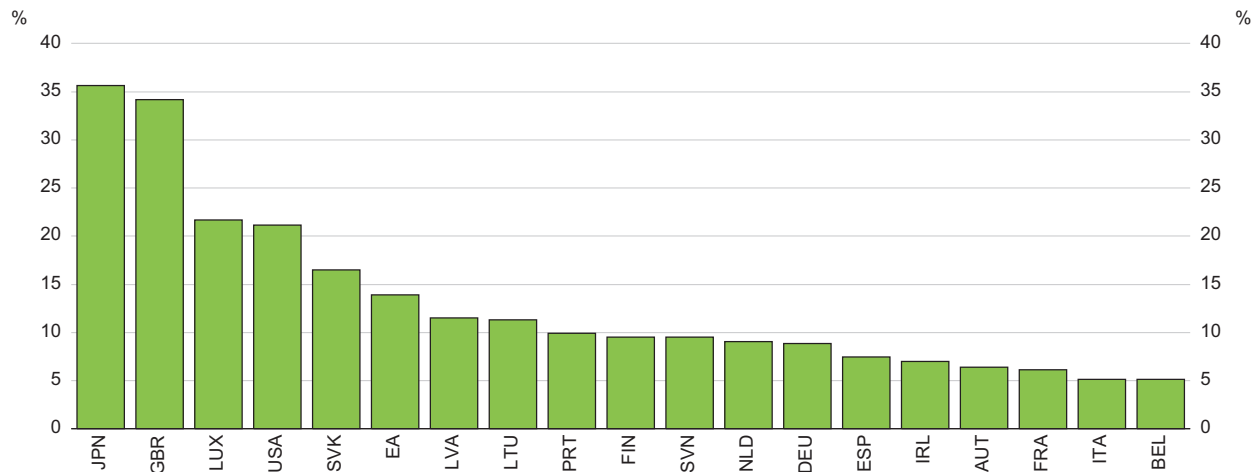


Source: Thomson Reuters.


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3. According to some measures, liquidity in the Japanese government bond market diminished after the expansion of the qualitative and quantitative easing programme in October 2014 but it is not clear if this was due to bond purchases by the Bank of Japan (Kurosaki et al., 2015). More recently, Japanese bond dealers have reported perceptions of deteriorated liquidity (Bank of Japan, 2016).

Figure 1.22. **Some central banks have become dominant holders of domestic government bonds**  
Government debt securities held by central banks as a per cent of total government debt securities



Source: Board of Governors of the Federal Reserve System; Bank of Japan; UK Debt Management Office; European Central Bank (ECB); and OECD calculations.

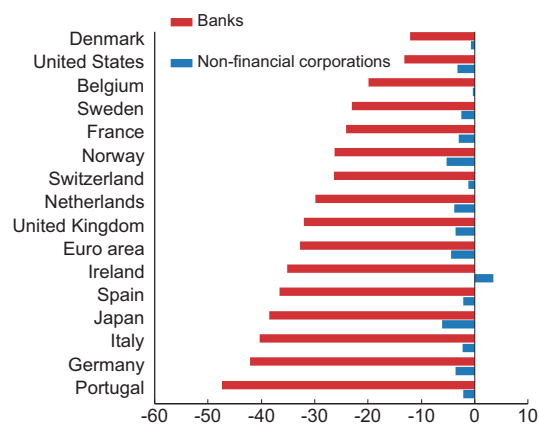
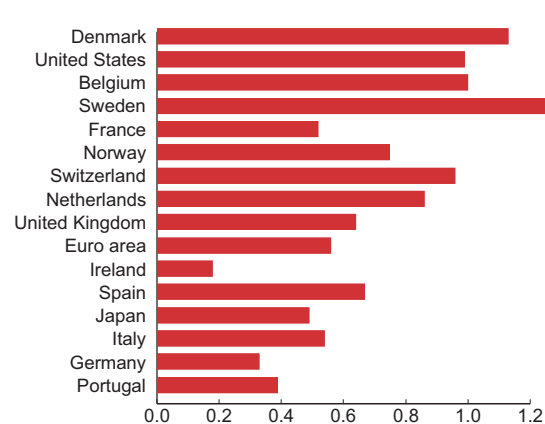
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reduction in interest rates results in a depreciation of the currency, negative policy rates may be less effective in boosting the economy than in the past given some evidence of a declining sensitivity of trade volumes to changes in competitiveness (Ollivaud et al., 2015).


- In several advanced economies, partly as a result of monetary stimulus, house price inflation has been on the rise. Rapid house price appreciation increases financial stability risks and thus calls for prudential measures. While these should help contain the rise in property prices, even very strict measures may not be sufficient in practice to check continued increases in house prices, raising issues of whether they would conflict with the continued need to support demand.<sup>4</sup>

The side effects of highly stimulative monetary policy for the banking sector are exacerbated by recent prudential regulation. Senior bonds issued by banks have become riskier and thus costlier as they can now be used to cover banks' losses, which is the objective of such "bail-in" versus "bail-out" policies. In several European countries and Japan, negative yields for sovereign bonds, which are held by banks as part of the Liquidity Coverage Ratio, reduce banks' profits and returns on assets (OECD, 2016b).<sup>5</sup> All these factors have contributed to heightened stress in the banking sectors of the main advanced economies at the start of the year. Bank equity prices have fallen sharply, implying a widening gap between market and book values of banks, especially in some euro area countries and Japan (Figure 1.23).

4. Akinci and Olmstead-Rumsey (2015) find that macro-prudential measures, specially directly targeted at limiting housing credit growth, are associated with lower house price inflation. However, Cerutti et al. (2015) suggest that macro-prudential measures are less effective in more developed and open economies as their usage comes with greater cross-border borrowing.
5. Domestic (euro area) government securities account for only around 1% of total assets in Denmark, Sweden and Switzerland, and between 5% and 12% of total assets in most euro area countries and Japan.

Figure 1.23. **Markets have become pessimistic about the outlook for banks****A. Percent decline in equity prices of the banking sector over the year to May 2016****B. Equity price to book value ratio as of May 2016**

Source: Thomson Reuters.

StatLink  <http://dx.doi.org/10.1787/888933367481>**Fiscal and structural policies should be used more actively to reduce the burden on monetary policy**

The declining net benefits from additional monetary policy actions suggest that accommodative monetary policy needs to be complemented by enhanced use of fiscal and structural policies. Policy strategies that explicitly combine macroeconomic and structural efforts in a common framework are especially desirable, allowing full advantage to be taken of their complementarities for demand and resource reallocation.

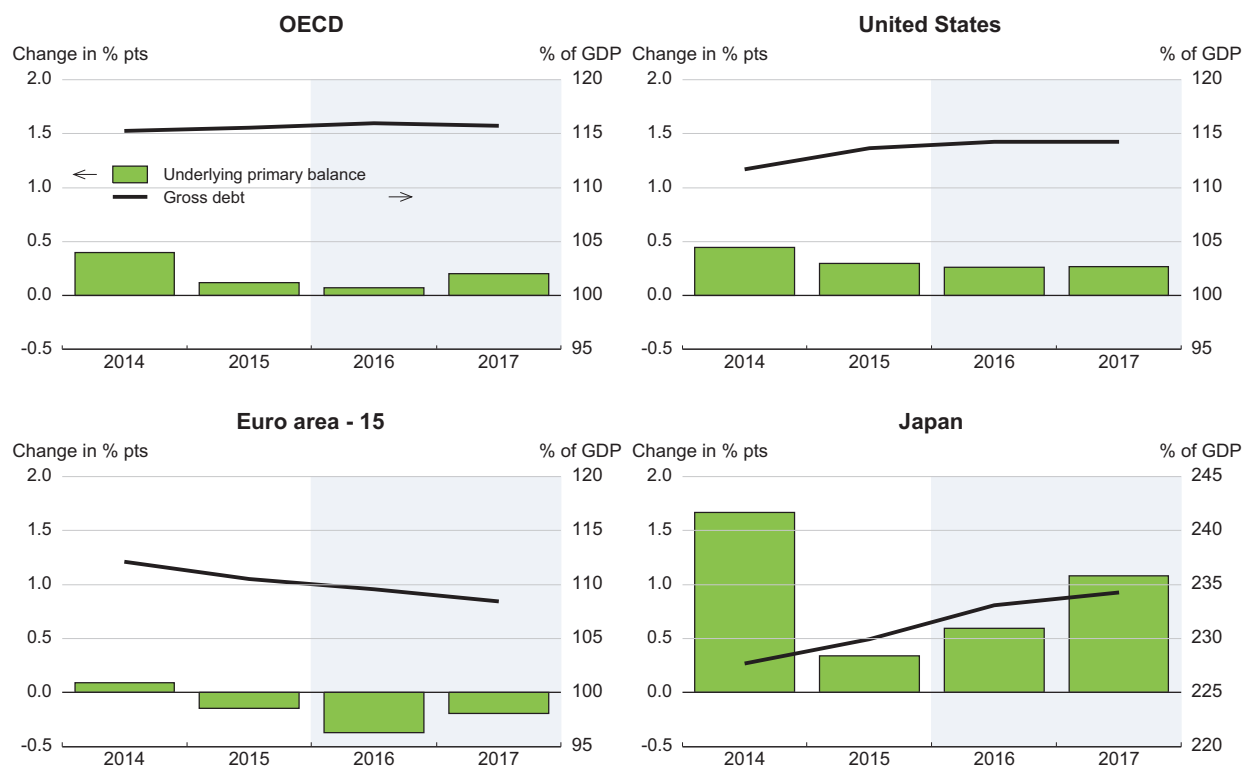
Fiscal policy in the OECD as a whole and many EMEs in 2016 and 2017 is projected to be either broadly neutral or tighter, with the notable exception of China, Canada and some EU countries (Figure 1.24). However, consolidation is set to be implemented in Japan (amounting to 1.7 percentage points of GDP over 2016-17) and also the United Kingdom and Australia. In the United States, the structural deficit as a share of potential GDP is to be reduced by just over  $\frac{1}{2}$  percentage point over the next two years. In contrast, easing is projected in many euro area countries, including Germany and Italy, partly through the additional spending to assist asylum seekers.<sup>6</sup> For the OECD as a whole, government debt in 2016-17 is expected to remain broadly unchanged at a high level.

Despite the rise in debt ratios since the crisis (as GDP has yet to recover fully in some countries), the current period of exceptionally low interest rates effectively increases fiscal space in many countries by offering an opportunity for governments to borrow for long periods at very low cost. Almost all countries have room to reallocate spending and taxation towards items that offer more support to growth (Cournède et al., 2014). The need to expand public investment is pressing in many countries, reflecting the extent to which infrastructure spending, including necessary maintenance, was deferred as part of past consolidation efforts. Such measures would be particularly beneficial in countries where the initial level of public capital is low, and returns to investment are accordingly likely to be high, and in countries where demand has been persistently weak (Box 1.3). A


6. These expenditures are estimated to be between  $\frac{1}{4}$  and 1% of GDP in countries affected the most by the refugee inflows (Box 1.1 in OECD, 2015b).



Figure 1.24. Fiscal stances in OECD countries



Source: OECD Economic Outlook 99 database.

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commitment to raising public investment collectively would boost supply and demand while also improving fiscal sustainability. In particular, collective action across OECD countries to expand investment spending could raise the first-year multiplier effect by around one-half on average in some major advanced countries (OECD, 2015e).

Investment spending has a high-multiplier and good-quality infrastructure projects, including additional spending on clean energy projects, education, skills and telecommunication, would help to support future growth and the capacity of the economy to deliver higher living standards. Possible near-term clean energy measures include improvements to public building standards, new low emission vehicles in public transport and new “smart” technologies (OECD, 2015e). Options for telecommunication include investment in high-speed broadband networks and deeper fibre deployment (OECD, 2015d).

The impact of additional fiscal stimulus on the private sector would be enhanced by collective efforts to revive structural reform momentum, thereby creating greater scope for productivity-enhancing improvements in resource allocation. In recent years, the pace of structural reforms in both advanced and EMEs has slowed. This slowdown is particularly troubling for long-term growth prospects. Actions across a broad range of reform objectives, such as product market competition, labour mobility and financial market robustness are essential in order to help to reverse the widespread slowdown in productivity and improve inclusiveness by addressing poor labour market performance and widening wage dispersion (Chapter 2).

### Box 1.3. **Conditions for an increase in public investment to lift growth in OECD economies**

Unusually low interest rates offer most OECD countries a temporary increase in fiscal space that can be exploited to increase public investment. Long-term rates are unprecedentedly low in nominal terms, in particular in Japan, France and Germany, and negative in real terms in some countries. They justify any public investment projects that have an expected positive real rate of return after allowing for risk. At the same time, infrastructure needs are sizeable in OECD countries, especially as fiscal consolidation in recent years has pushed down public capital spending to very low levels in many countries. In such a situation, additional public investment is likely to benefit from high rates of return (Fournier and Johansson, forthcoming).

OECD analysis suggests that increasing good-quality public investment is likely to bring output gains, whose amplitude will vary across countries (OECD, 2015e, and Mourougane et al., forthcoming). A permanent budget-neutral increase in public investment of 0.5% of GDP in each single economy, assuming fixed interest rates, helps stimulate demand in the short term with growth effects of around 0.3-0.4% in the first year in the major advanced economies. Being relatively closed, the United States gets stronger output gains than more open economies, such as the European countries and Canada. By contrast, the ability of Japan to stimulate its economy through additional public investment will depend on the size of its fiscal multipliers, which has been very hard to estimate in the most recent period (Auerbach and Gorodnichenko, 2014), and the type of projects chosen. Thanks to the increase in output, the public debt-to-GDP ratio falls in the short term notwithstanding the increase in debt levels, by around 0.3-0.4 percentage point of GDP in most of the countries.

An investment-led stimulus of 0.5% of GDP in each single economy could also have longer-term benefits, although these are hard to pin down precisely. Depending on the modelling approach used, the long-term output gains could amount to between 0.5% and 2% in the large advanced economies (figure below). There are substantial uncertainties regarding the long-term impact on the debt-to-GDP ratio, reflecting different output gains, changes to the price level and the extent to which budget neutrality is achieved in the different types of models. A sustained rise in the stock of public capital and in potential output will help reduce risks on debt, notably in small European economies.

Countries where the initial level of capital is low are likely to benefit the most from the stimulus on the assumption that all forms of additional investment have a high rate of return in these economies. Amongst the large advanced economies, the effect on output would be above average in Germany and the United Kingdom, where the stock of public capital is relatively low. On the other hand, depending on the type of project chosen, the output gains could be very negative for Japan, reflecting a large initial public capital stock and associated low marginal rates of return. Lowering returns to public capital by one standard deviation would significantly reduce the long-term effect on output, which would now amount to 0.7% on average for the OECD countries and 0.5% for the major advanced countries.

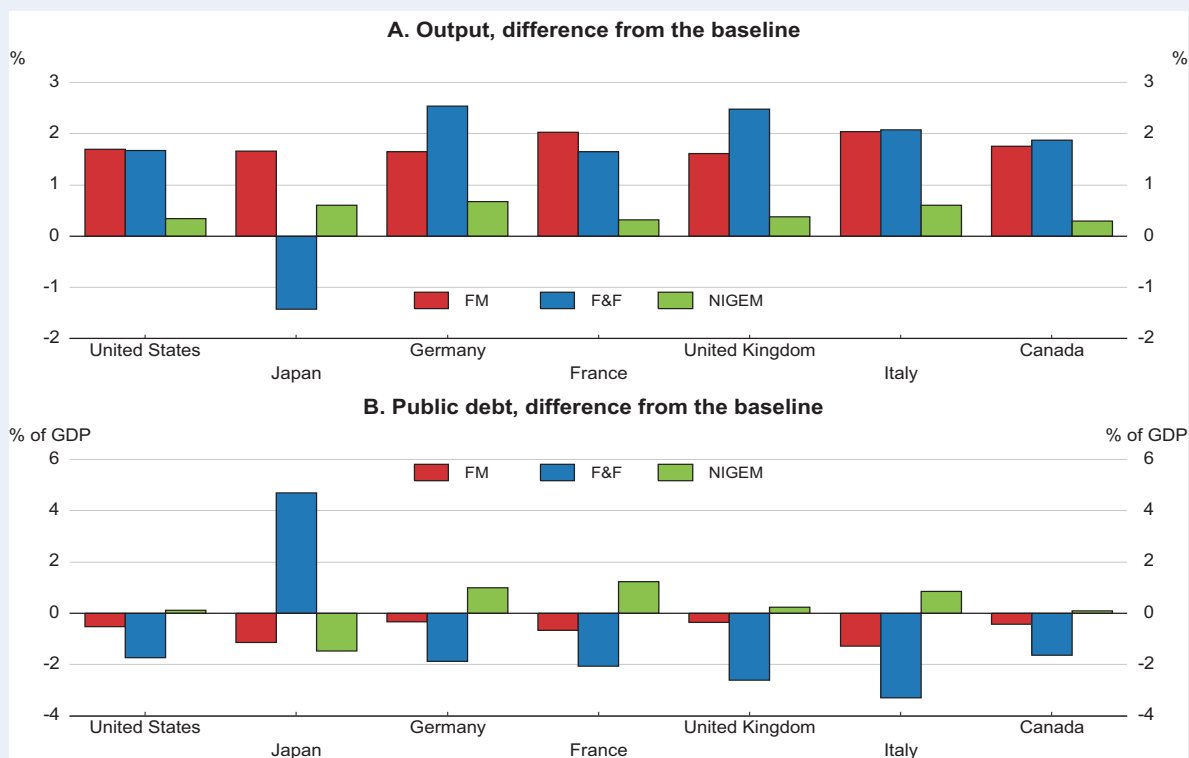
If persistent demand weakness gradually undermines the productive capacity of the economy (“hysteresis”) the case for an investment-led stimulus is reinforced, as the stimulus would lead to stronger long-term output gains. The amplitude of these gains depends on the initial situation in the business cycle, and to a lesser extent on the degree of labour market rigidity. They would be particularly important for Italy and France.

Collective action among the major advanced economies to raise good-quality public investment is estimated to bring additional GDP gains of about 0.2 percentage point on average after one year in the economies concerned compared to a scenario where countries act individually, taking the first-year multiplier above unity in almost all countries. This would represent a gain of around one-half on average in all the major advanced economies but Japan, where the gains are uncertain as mentioned above. As a consequence, the debt-to-GDP ratio would also fall more than otherwise. Germany would be, amongst the major advanced economies, the country that benefits the most from collective action to boost public investment.

### Box 1.3. Conditions for an increase in public investment to lift growth in OECD economies (cont.)


Some structural reforms can increase the short-term growth impact of an investment-led stimulus and accentuate the extent to which it lowers the debt-to-GDP ratio. In particular, reforms targeted at frictions that hold back demand for investment, such as increasing product market competition, can lower the opportunity costs of investing. Lowering product market regulations by the average improvement over two years in a typical OECD country could add around 0.1-0.3 point to the growth impact after the first year. The resulting effects on public debt ratios would be marked in Japan, Italy and France, by around 1 percentage point after one year.

#### Long-term effect of a sustained increase in public investment by 0.5% of GDP



Note: F&F refers to the stochastic model described in Fall and Fournier (2015), FM refers to the fiscal maquette developed in Botev and Mourougane (forthcoming) and NiGEM refers to the macro-economic model from the UK National Institute of Economic and Social Research (NIESR).

Source: OECD calculations.

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Packages of structural reforms to promote long-term improvements in employment and productivity growth should also focus on possible short-term demand benefits, given the weak global economy (Box 1.4). Aside from higher investment in public infrastructure, these include reductions of barriers to entry in services sectors with pent-up demand, as well as reforms in the area of housing policies and job-search assistance to facilitate geographic and job mobility. Additional labour market measures may, however, be needed to support low-skilled and low-income workers, who are the most vulnerable to job loss

#### Box 1.4. Structural reform priorities in difficult macroeconomic conditions

Structural reforms introduced in “normal” times have a different impact to those that are implemented when there is a difficult macroeconomic environment such as persistently weak demand and a large negative output gap or low potential output growth. The availability and effectiveness of macroeconomic policies in supporting structural reforms also matter.

The short-term impact of some reforms on GDP growth and employment can be weak or even negative in normal times, but is usually accommodated by strong aggregate activity, and is outweighed by their positive longer-term impact. However, when the economy is weak, the short-term effect can be less favourable and have negative implications for longer-term growth and reform effectiveness. Against the current background of subdued global economic prospects, there is a need to prioritise structural reforms that, in addition to stimulating productivity and employment, can yield positive short-term gains in domestic demand. As outlined in the latest *Going for Growth Interim Report* (OECD, 2016a), reform strategies that should be prioritised in the current weak economic environment include:

- Putting more weight on shifting the composition of public spending towards investment. More specifically, increasing investment in public infrastructure that effectively raises growth potential in the medium term (e.g. high-speed broadband networks) and can stimulate private investment in the short term.
- Reducing barriers to entry through product market reforms in services sectors with pent-up demand, thereby facilitating the entry of new firms. Reforming rules restricting the entry of new suppliers (e.g. exclusive rights) and the capacity of existing suppliers to compete (e.g. fees control) in services industries characterised by high barriers to entry and strict conduct regulation. Examples include taxi and professional services (legal, accounting, architecture and engineering). Reforming entry barriers to retail trade, where restrictions typically limit the presence of large firms, can also have a positive short-term impact on employment and demand.
- Changing housing policies and job-search assistance programmes to facilitate geographic and job mobility. This could ease frictions in the reallocation of resources, increasing the speed of employment gains in difficult times. Housing market policies that promote residential mobility include lowering transaction taxes or costs on buying properties as well as reducing the stringency of rental regulation.
- Adjusting benefit entitlements in health or pension systems to contain future ageing-related costs. This can create the space for short-term stimulus and raise its effectiveness, notably through increased confidence in the sustainability of public finances. The gains from such reforms can exceed the cost in the short term to the extent that only future benefits are reduced.

Countries where economic conditions are the weakest are among those that have the greatest scope to reform in some of the areas mentioned. Shifting public expenditures towards investment is particularly desirable in Spain, Portugal and Greece where public investment as a share of total government expenditures is low and negative output gaps are the widest amongst OECD countries. Furthermore, strengthening and better targeting job search assistance programmes are needed in Spain, Greece, Ireland, Portugal and the Slovak Republic, as recommended in *Going for Growth*. Professional services reforms would benefit Turkey where regulations in the sector are amongst the strictest.

1. Röhn (2010) shows that public investment expenditure is the most effective policy instrument given the limited associated offset from higher private saving.

when competitive pressures intensify. Reforms that initially place downward pressure on economy-wide wages are less likely to offer short-run benefits at a time of weak demand.

In the euro area, there is also a need to unblock the bank-lending channel. To this end, speeding-up the restructuring of non-performing loans through stronger bank supervision, debt enforcement and insolvency frameworks is needed. The resolution of the large

amount of distressed debt on banks' balance sheets would also facilitate the development of a market for such assets. In this context, the latest private-sector agreement among Italian financial institutions to create a fund to support the recapitalisation of weaker lenders and facilitate the establishment of a secondary market for non-performing loans, together with the government promise to markedly speed up bankruptcy procedures, are welcome. Improving corporate governance of financial institutions is an important complement to new institutional frameworks.

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## ANNEX 1.1

## *Policy and other assumptions underlying the projections*

**Fiscal policy** settings for 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 the aggregate change in the fiscal balance, the presumption is that it applies equally to the spending and revenue sides, and is spread proportionally across their main components.

- In the United States, the general government underlying primary deficit is assumed to decline to 0.3% of GDP in 2017.
- In Japan, the projections incorporate a 2-percentage point increase in the consumption tax rate to 10% in the second quarter of 2017. Overall, the underlying primary deficit is assumed to improve over the projection period to reach 3.8% 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, spending of allocated funds is being encouraged, the deficit target has increased and quasi-fiscal spending through policy banks is adopted.
- In India, the projections incorporate an increase in public wages and pensions and on-going efforts to improve tax compliance.
- In Brazil, fiscal stance assumptions follow current policy announcements by the government.

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 that of the monetary authorities.

- In the United States, the upper bound of the target federal funds rate range is assumed to be raised gradually to reach 1.5% in December 2017, up from the current level of 0.5%.
- In Japan, the interest rate applied to the policy-rate balance in the complementary deposit facility 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% until the end of 2017.
- In the United Kingdom, the Bank rate is assumed to be increased gradually between February and December 2017, from the current level of 0.5% to 1.25%.



- 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 is assumed to be cut from 4.35% to 3.6% in 2017 and the reserve requirement ratio from 17% to 15%. Liquidity is also assumed to be provided 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 its current level of 6.5% up to the end of 2016 and then be gradually reduced to 6% by the end of 2017.
- In Brazil, the policy rate is assumed to stay at its current level of 14.25% until the end of 2016, and subsequently decline to 12.75% 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 of purchased assets by central banks are assumed to be maintained unchanged until the end of projection horizon. In Japan and the euro area, asset purchases are assumed to continue through the projection period; thereby, long-term interest rates are assumed to remain constant until the end of 2017.

In the United Kingdom and the United States, 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 for 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) for each 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 12 May 2016: one US dollar equals JPY 108.93, EUR 0.88 (or equivalently one euro equals USD 1.14) and 6.51 renminbi.

The **price of a barrel of Brent crude oil** is assumed to remain constant at 45 US dollars throughout the projection period. Non-oil commodity prices are assumed to be constant over the projection period at their average levels of April 2016.

The cut-off date for information used in the projections is 18 May 2016.

## 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,<sup>7</sup> 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 Standard 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).

7. 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 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 2015Q4 (or the latest available) along various dimensions of its financial account structure, and ii) the country-specific change, from 2007 to 2015Q4 (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 <sup>1</sup>	Real effective exchange rate <sup>2</sup>	Household gross debt <sup>3,4</sup>	Non-financial corporation gross debt <sup>1,4</sup>	Real house prices
	2015	2015Q4	2015	% change 2000Q1-15Q4	2015 or latest available	2015 or latest available	% change 2000Q1-15Q4
United States	-0.8	0.1	2.7	-7.2	108.3	113.9	23.6
Japan	-0.2	-0.5	-2.9	-48.6	..	..	-20.1
Germany	-0.1	-0.4	-8.6	-11.3	93.6	71.2	11.3
France	-0.1	0.8	0.1	0.7	104.7	101.2	72.4
Italy	-1.1	2.4	-2.2	11.5	77.3	89.9	10.5
United Kingdom	-0.5	-0.4	5.2	-10.5	152.6	120.5	86.5
Canada	0.5	0.6	3.3	19.7	171.9	153.2	103.0
Australia	0.1	0.0	4.6	31.8	215.5	90.7	107.2
Austria	0.3	1.4	-2.6	-0.9	89.1	91.1	31.0
Belgium	-0.1	0.6	0.0	3.3	112.2	116.6	52.4
Chile	1.0	-0.4	2.0	15.2	..	..	..
Czech Republic	-2.5	-1.4	-0.9	33.1	68.8	63.0	..
Denmark	-0.4	-0.2	-7.0	12.4	304.8	125.4	41.4
Estonia	0.6	-2.0	-1.9	46.9	80.9	97.0	..
Finland	-0.2	2.1	-0.1	0.4	129.9	95.3	25.1
Greece	-0.5	6.8	0.1	5.1	110.2	73.1	-11.9
Hungary	-1.2	-2.4	-4.4	21.0	46.7	77.9	..
Iceland	-2.0	-0.6	-4.2	-13.6	..	266.1	..
Ireland	-5.5	-1.6	-4.5	-9.7	207.4	236.9	15.0
Israel	0.6	-0.5	-4.4	-7.8	..	74.7	48.3
Korea	0.6	0.0	-7.9	7.6	162.7	166.4	31.9
Luxembourg	-2.1	0.3	-5.5	22.7	156.4	315.0	..
Mexico	0.3	-0.6	2.8	-15.8	..	70.7	..
Netherlands	-0.9	1.3	-9.1	-1.3	270.0	128.8	2.6
New Zealand	-0.8	-0.2	3.0	45.7	..	..	122.1
Norway <sup>8</sup>	0.5	1.1	-9.0	31.8	227.2	111.7	93.0
Poland	-0.5	-0.7	0.2	-12.4	64.4	60.5	..
Portugal	-1.4	0.5	-0.5	-3.6	135.7	143.4	-25.3
Slovak Republic	-1.0	0.1	1.1	29.6	62.3	76.9	..
Slovenia	-1.5	0.7	-7.3	-5.2	57.6	92.3	..
Spain	-2.8	2.3	-1.4	4.2	120.8	96.7	27.1
Sweden	-1.7	-0.4	-5.9	-5.9	173.2	131.0	148.6
Switzerland	0.9	0.9	-11.4	34.9	201.9	..	53.3
Turkey	0.5	0.9	4.4	-25.9	..	..	..
Brazil	5.5	..	3.2	-6.4	..	..	..
China	0.2	..	-3.1	105.3	..	..	..
Colombia	1.0	-0.5	6.4	-5.7	..	..	79.5
Costa Rica	1.3	..	4.2	..	..	..	..
India	-0.2	..	1.1	..	..	..	..
Indonesia	0.8	..	2.1	-13.8	..	..	..
Latvia	-0.5	0.0	1.2	17.6	52.6	101.0	..
Lithuania	0.8	-2.0	1.7	17.0	51.4	48.8	..
Russia	4.2	..	-5.3	158.1	..	..	..
South Africa	1.1	..	4.3	-10.0	..	..	114.5

1. In per cent of GDP.

2. Based on unit labour costs.

3. In per cent of gross household disposable income.

4. Gross debt is defined as liabilities less financial derivatives and shares and other equity. Based on consolidated data for most countries.

5. In per cent of total (unweighted) assets.

6. OECD Economic Outlook 99 database.

7. Rating for sovereign debt in foreign currency.

8. 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 Price database; Standards &amp; Poors; OECD calculations; and OECD Economic Outlook 99 database.

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

Core Tier-1 leverage ratio <sup>5</sup>	Financial sector		Public finance			Sovereign credit rating S&P <sup>7</sup>	Country
	Non-performing loans to total loans	Financial corporation gross debt <sup>1,4</sup>	Headline government budget deficit <sup>1,6</sup>	Gross government debt <sup>1,6</sup>	Real 10-year sovereign bond yield-potential GDP growth rate differential		
	Latest available	2015 or latest available	2015	2015	2016Q1 or latest available		
6.3	1.5	338.5	4.4	113.6	-0.9	AA+	United States
4.6	1.5	..	5.4	230.0	-1.8	..	Japan
4.0	2.3	296.6	-0.7	78.7	-3.0	AAA	Germany
3.7	4.0	303.1	3.5	120.8	-1.1	AA	France
5.3	18.0	207.4	2.6	160.2	1.1	BBB-	Italy
4.3	1.4	640.9	4.4	112.8	-1.0	AAA	United Kingdom
3.8	0.5	380.8	1.7	98.5	-0.7	AAA	Canada
4.1	1.0	295.6	1.7	44.2	0.2	AAA	Australia
6.3	3.4	227.3	1.2	106.6	-2.1	AA+	Austria
4.9	3.7	336.9	2.6	126.7	-1.5	AA	Belgium
..	1.9	..	..	..	-3.2	AA-	Chile
..	5.5	130.5	0.4	55.8	-3.0	AA-	Czech Republic
4.5	3.6	408.0	2.1	54.0	-1.1	AAA	Denmark
..	1.0	123.4	-0.4	12.5	..	..	Estonia
4.7	..	226.2	2.7	73.9	-0.8	AA+	Finland
10.0	36.7	190.1	7.3	182.7	11.5	..	Greece
..	11.7	116.3	2.0	97.7	-0.7	..	Hungary
..	..	757.6	0.4	82.9	-0.4	..	Iceland
6.6	14.9	910.2	2.3	115.9	-5.1	A+	Ireland
..	1.8	208.1	2.9	64.8	-3.2	A+	Israel
..	0.6	349.7	-0.8	44.8	-2.4	AA-	Korea
..	0.2	6233.3	-1.2	35.3	-3.4	AAA	Luxembourg
..	2.5	69.7	0.5	..	0.2	BBB+	Mexico
4.4	2.7	743.6	1.8	77.3	-1.2	AAA	Netherlands
..	..	..	0.4	41.9	-0.5	AA	New Zealand
6.9	1.1	228.2	-5.7	38.2	0.9	AAA	Norway <sup>8</sup>
..	4.3	99.3	2.6	66.4	-0.9	..	Poland
6.0	12.0	271.4	4.4	150.3	1.4	BB+	Portugal
..	4.9	120.4	3.0	59.6	-1.8	A+	Slovak Republic
..	10.0	127.3	2.9	98.7	-0.2	A-	Slovenia
5.6	6.3	219.6	5.1	116.3	1.0	BBB+	Spain
3.7	1.2	322.7	0.0	52.3	-3.2	AAA	Sweden
4.9	0.7	..	0.2	45.9	-1.2	..	Switzerland
..	3.0	..	..	..	-1.5	..	Turkey
..	3.3	..	10.4	..	42.5	..	Brazil
..	1.7	..	1.3	..	-4.1	..	China
..	2.9	..	..	..	2.3	..	Colombia
..	1.7	..	..	..	..	..	Costa Rica
..	5.9	..	6.1	..	30.5	..	India
..	2.4	..	2.3	..	2.1	..	Indonesia
..	4.6	150.6	1.3	43.8	-2.8	..	Latvia
..	5.7	78.9	0.2	52.5	..	..	Lithuania
..	..	..	3.6	..	39.3	..	Russia
..	3.1	..	3.9	..	36.4	..	South Africa

1. In per cent of GDP.

2. Based on unit labour costs.

3. In per cent of gross household disposable income.

4. Gross debt is defined as liabilities less financial derivatives and shares and other equity. Based on consolidated data for most countries.

5. In per cent of total (unweighted) assets.

6. OECD Economic Outlook 99 database.

7. Rating for sovereign debt in foreign currency.

8. 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 Price database; Standards &amp; Poors; OECD calculations; and OECD Economic Outlook 99 database.

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

Latest available (in per cent)

	External debt <sup>1</sup>	External bank debt <sup>2</sup>	Short-term external bank debt <sup>2</sup>	Short-term external bank debt <sup>3</sup>	External liabilities <sup>2</sup>	External assets <sup>2</sup>	Foreign exchange reserves <sup>2</sup>	FDI liabilities <sup>1</sup>
	Higher values indicate higher financial stability risk					Higher values indicate lower financial stability risk		
United States	50.5	14.5	5.1	35.2	168.3	127.8	0.7	21.3
Japan	58.3	21.3	17.4	81.4	122.4	192.6	29.4	3.8
Germany	59.4	29.1	14.0	48.3	208.6	257.0	1.9	19.5
France	61.5	58.3	31.8	54.6	323.4	304.1	2.3	13.3
Italy	70.2	25.1	10.1	40.4	166.3	140.0	2.8	15.3
United Kingdom	51.4	61.8	40.8	65.9	525.2	506.9	4.1	13.0
Canada	54.9	27.8	14.8	53.2	173.0	195.8	5.3	31.7
Australia	53.4	24.9	8.0	31.9	190.4	132.2	3.9	25.8
Austria	62.0	43.3	12.1	28.0	260.3	263.5	3.5	31.6
Belgium	43.1	44.4	19.0	42.7	412.2	472.9	3.7	49.7
Chile	28.7	20.3	9.3	45.9	157.7	137.9	17.0	63.8
Czech Republic	39.4	19.1	4.9	25.8	131.5	100.8	35.0	56.5
Denmark	59.9	64.2	39.5	61.6	261.2	307.7	35.5	16.4
Estonia	42.8	6.3	3.4	54.4	173.0	134.4	1.7	54.9
Finland	57.3	51.6	20.2	39.2	361.4	368.2	3.8	16.1
Greece	92.6	20.9	7.3	34.8	267.5	140.6	1.2	4.2
Hungary	24.2	22.1	7.7	34.7	303.2	235.3	27.3	72.2
Iceland	82.9	35.5	8.8	24.8	595.2	245.8	26.9	16.3
Ireland	28.5	129.4	54.7	42.3	1990.1	1921.7	0.8	19.6
Israel	27.3	5.4	2.9	53.5	94.5	117.2	30.0	36.6
Korea	40.8	11.9	7.1	59.4	69.3	83.9	26.7	18.5
Luxembourg	20.0	867.2	297.2	34.3	17870.4	17901.5	1.2	43.2
Mexico	49.1	11.3	4.0	35.3	87.2	49.8	15.8	37.0
Netherlands	34.9	101.4	36.8	36.2	1021.4	1087.3	2.5	53.5
New Zealand	54.8	19.8	7.7	38.7	155.9	93.2	8.9	28.6
Norway	65.5	35.7	12.8	35.8	196.8	378.9	14.8	24.7
Poland	48.5	22.7	6.2	27.3	108.7	48.7	19.4	43.1
Portugal	70.1	31.9	9.0	28.3	289.7	178.2	2.7	23.6
Slovak Republic	50.5	31.0	13.2	42.8	133.5	65.3	2.2	48.7
Slovenia	74.9	18.1	5.0	27.7	140.7	102.8	1.8	22.9
Spain	61.0	32.2	13.1	40.7	237.4	148.7	3.7	23.9
Sweden	51.2	46.7	20.7	44.2	284.5	282.9	10.8	26.8
Switzerland	34.5	62.0	40.6	65.4	570.3	665.4	88.1	34.3
Turkey	68.5	27.7	14.5	52.6	83.5	31.1	13.5	24.7
Argentina	53.2	2.5	1.6	62.1	36.4	50.0	5.4	41.5
Brazil	36.8	13.6	7.5	55.5	80.2	49.8	22.8	50.5
China	27.9	7.9	5.8	73.1	43.9	58.1	32.7	60.2
Colombia	40.5	10.5	4.2	40.3	103.1	55.3	17.1	54.0
Costa Rica	36.5	20.4	6.2	30.5	87.3	41.0	15.2	63.5
India	53.2	10.0	5.5	54.7	43.7	25.8	16.4	30.0
Indonesia	43.2	12.5	6.2	49.5	66.1	22.8	12.2	39.5
Latvia	66.5	10.0	3.5	34.9	182.8	124.0	12.1	32.1
Lithuania	63.0	10.1	3.1	30.3	105.4	60.9	3.7	36.2
Russia	48.6	7.7	3.0	38.6	46.1	61.3	16.6	37.4
Saudi Arabia	17.5	11.1	6.6	59.4	44.3	152.0	94.4	77.4
South Africa	28.9	11.6	4.7	40.8	113.7	128.3	13.3	35.0

1. As per cent of external liabilities.

2. As per cent of GDP.

3. As per cent of external bank debt.

Source: Bank for International Settlements (BIS); International Monetary Fund (IMF); World Bank; and OECD calculations.

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

Change from 2007 (in percentage points)

External debt <sup>1</sup>	External bank debt <sup>2</sup>	Short-term external bank debt <sup>2</sup>	Short-term external bank debt <sup>3</sup>	External liabilities <sup>2</sup>	External assets <sup>2</sup>	Foreign exchange reserves <sup>2</sup>	FDI liabilities <sup>1</sup>	
Positive values indicate an increase in the financial stability risk					Positive values indicate a decrease in the financial stability risk			
-4.7	-5.9	-3.6	-7.7	13.8	-17.7	0.1	2.5	United States
3.3	8.3	8.3	11.7	48.8	68.0	7.2	-0.5	Japan
-9.6	-21.0	-13.8	-7.3	-6.0	21.1	0.4	1.6	Germany
1.5	-9.1	-11.8	-10.1	20.7	11.0	0.3	0.2	France
-1.4	-26.1	-8.2	4.6	7.5	8.0	1.3	0.4	Italy
-11.4	-54.1	-45.8	-8.8	-45.4	-51.0	2.4	3.4	United Kingdom
20.3	4.6	0.2	-9.8	0.1	37.0	2.2	-15.4	Canada
4.6	-7.0	-4.2	-6.2	16.4	22.9	1.1	0.3	Australia
-1.5	-28.9	-14.6	-9.1	-63.5	-49.1	0.5	5.0	Austria
-18.8	-70.6	-69.9	-34.6	-105.1	-76.2	1.3	15.7	Belgium
-3.7	2.1	-0.2	-6.7	56.3	36.0	6.5	3.1	Chile
5.8	-3.5	-3.9	-13.3	20.5	34.3	15.4	-1.0	Czech Republic
-7.9	-7.0	2.7	9.8	9.0	62.1	24.6	-4.9	Denmark
-6.4	-99.2	-20.8	31.4	-36.7	9.0	-14.5	10.0	Estonia
17.9	11.6	7.6	7.6	78.7	116.6	0.8	-2.8	Finland
17.2	-38.2	-9.7	6.2	67.4	46.6	1.0	-4.8	Greece
-7.3	-41.6	-10.1	6.8	-8.3	23.3	9.1	8.2	Hungary
3.7	-256.7	-117.7	-18.5	-138.4	-367.9	13.2	1.2	Iceland
-25.0	-140.4	-96.2	-13.7	561.7	514.2	0.5	5.2	Ireland
-17.5	-3.0	-1.0	7.5	-23.4	-0.2	13.1	11.4	Israel
-2.0	-5.0	-3.3	-2.3	-3.4	28.7	2.4	2.9	Korea
-9.7	-273.9	-203.6	-9.6	4553.4	4605.7	0.9	18.9	Luxembourg
15.4	3.4	1.6	5.1	18.8	20.1	7.0	-6.7	Mexico
-5.6	-33.8	-30.5	-13.5	48.7	132.0	1.0	5.5	Netherlands
-3.6	-5.6	-5.2	-12.1	-23.9	-1.3	-5.1	-3.8	New Zealand
1.5	-25.7	-27.7	-30.0	-28.1	91.6	-2.0	4.9	Norway
2.8	-1.7	0.1	2.5	2.8	5.0	3.0	-2.8	Poland
0.2	-43.1	-18.8	-8.8	-15.1	-25.5	1.8	4.6	Portugal
9.4	-0.8	1.0	4.2	-0.2	-0.9	-24.0	-8.7	Slovak Republic
3.3	-30.3	-8.0	0.7	-2.2	-14.9	-0.5	-2.1	Slovenia
-3.1	-27.2	-5.8	8.9	1.7	0.5	2.9	3.5	Spain
1.4	-7.3	-11.7	-15.7	2.5	2.6	4.9	-5.0	Sweden
-15.9	-110.3	-84.5	-7.2	-19.4	-67.3	77.9	13.7	Switzerland
13.8	8.8	6.2	8.3	0.5	1.9	0.9	-7.3	Turkey
-1.0	-4.3	-1.8	11.8	-21.0	-18.8	-9.6	2.3	Argentina
12.7	5.9	3.9	8.3	8.7	18.2	8.3	15.7	Brazil
-4.3	2.0	2.5	17.9	5.4	-17.6	-15.3	2.9	China
-3.9	3.4	0.0	-19.2	46.8	24.9	6.0	0.1	Colombia
-10.4	-4.8	-5.2	-14.7	19.7	-9.1	-1.5	10.4	Costa Rica
3.6	-1.5	-0.5	2.7	2.5	-7.7	-10.4	4.3	India
-10.0	1.8	0.5	-3.6	4.8	-0.6	-0.1	7.8	Indonesia
-8.3	-70.5	-29.9	-6.5	3.7	29.6	-8.4	7.9	Latvia
0.3	-33.4	-8.9	2.7	-18.2	2.9	-17.6	0.6	Lithuania
13.0	-5.5	-3.3	-9.1	-57.0	-29.6	-22.2	-2.1	Russia
-19.0	2.0	0.9	-2.9	13.7	20.7	13.3	13.8	Saudi Arabia
9.2	0.1	-0.4	-4.4	-0.1	48.1	2.7	-6.4	South Africa

1. As per cent of external liabilities.

2. As per cent of GDP.

3. As per cent of external bank debt.

Source: Bank for International Settlements (BIS); International Monetary Fund (IMF); World Bank; and OECD calculations.