

Chapter 4

MEDIUM AND LONG-TERM DEVELOPMENTS: CHALLENGES AND RISKS

This chapter considers long-term macroeconomic prospects and risks for the OECD

Introduction and summary

The recovery is projected to strengthen in the near term, but there are concerns about the longer-term legacy of the crisis, particularly because of the emergence of unsustainable fiscal imbalances as well as the possible damage to long-term growth prospects. Based on a technical exercise, this chapter considers macroeconomic prospects for OECD economies to the middle of the next decade and the challenges and the associated risks. The projections described in Chapters 1 and 2 suggest that nearly all OECD economies are expected to improve their fiscal balances over the course of this year and next. However, for many this will still leave fiscal balances too weak to stabilise government debt and for others, where debt is stable, it will be at levels which remain too high. Moreover, this chapter also discusses whether the crisis could have a long-lasting adverse effect on the growth rate of output, particularly as a consequence of large fiscal imbalances or continuing financial fragilities, and so lead to a prolonged period of stagnation. An alternative risk of “stagflation” – stagnation combined with inflation – might arise as a consequence of continuing upward pressure on oil and other commodity prices. These risks are examined in the context of previous historical episodes of stagnation and the implications for policy are considered.

Main conclusions are:

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Consolidation needs to stabilise debt are substantial for many countries

- Fiscal consolidation requirements for many countries are substantial. In Japan and the United States, stabilising the debt-to-GDP ratio would require an overall improvement in the underlying primary balance of 10 to 11 percentage points of GDP from the 2010 position, implying a protracted period of fiscal tightening. Other countries for which consolidation requirements are large include Greece, Ireland, Poland, Portugal, the Slovak Republic and the United Kingdom, which all require consolidation of about 6 to 8½ percentage points of GDP from the 2010 position. In addition, for a typical OECD country, additional offsets of 3% of GDP will have to be found over the coming 15 years to meet spending pressures due to increasing pension and health care costs.

On this basis there are large differences in the adequacy of official current plans

- The United States and Japan also stand out because there is, as yet, a lack of any detailed official medium-term fiscal plans that would be sufficient to stabilise debt. In the case of Japan there is a medium-term plan, but it is not sufficiently ambitious. In the United States, there are a number of fiscal plans, but political disagreement makes the extent,

pace and instruments of future consolidation very uncertain. For most other countries where consolidation needs are most severe, official medium-term consolidation plans more than match the requirements to stabilise debt, so that the achievement of such plans would put the debt ratio on a downward path. Nevertheless, in some of these cases the credibility of such plans needs to be enhanced by clearly specifying which spending and revenue instruments will be adjusted.

To reduce debt levels would require much greater consolidation

- Consolidation requirements would be much more demanding if the aim were to return debt-to-GDP ratios to their pre-crisis levels. For the OECD area as a whole the improvement in the underlying primary balance from the 2010 position that would be required to reduce the debt ratio to pre-crisis levels by 2026 would be more than 13 percentage points of GDP, compared to 7 percentage points to simply stabilise debt.

Stagnation risks can arise from not dealing with outstanding banking problems

- The baseline scenario embodies a permanent reduction in the level of potential output as a consequence of the financial crisis, but no long-lasting effect on the growth rate. In contrast, a previous banking crisis in Japan in the 1990s ushered in a prolonged period of stagnation, characterised by low productivity growth, which was partly due to a failure to deal promptly with non-performing bank loans. In the current conjuncture this underlines the importance of resolving outstanding banking problems, especially in Europe where financial weakness and a lack of transparency about exposures represent a risk of stagnation.

Stagnation could both exacerbate and be a symptom of fiscal imbalances

- Stagnation and a deteriorating fiscal position have been associated in the past, with causality possibly operating in both directions. Previous episodes of stagnation have led to an acceleration in debt accumulation, but there is also a risk that deteriorating debt positions may adversely affect trend growth. This underlines the importance of fiscal consolidation to reduce debt levels below thresholds where there might be risks to trend growth as well as to create fiscal space for dealing with future shocks.

Consolidation measures should minimise adverse effects on growth

- Many countries will be undertaking fiscal consolidation over a prolonged period and there is a risk that the sustained adverse effect on demand could delay the recovery and even risk stagnation. In this respect, countries face a difficult choice between front-loaded fast consolidation and more gradual consolidation. Fast consolidation has the advantage that it may reduce the overall scale of required consolidation and reassure financial markets, but it also increases the risk of adversely affecting the recovery particularly if monetary policy is constrained. To improve the terms of this trade-off, countries should put greater weight on measures which will improve long-term fiscal sustainability – for example raising retirement ages or containing future increases in health costs – but which have relatively limited immediate negative effects on demand. To reassure financial markets, it is also important to have a clear medium-term fiscal plan specifying objectives and the instruments

that will be used. Consolidation should also avoid measures, such as reducing public investment or support for R&D, which weaken the supply side and instead target measures which strengthen it.

Structural reforms can bolster resilience, boost growth and help fiscal consolidation

- Other experiences of stagnation – including recent episodes in Japan, Italy and Portugal – suggest that weak structural policy settings may reduce the resilience of economies in dealing with shocks. Structural reforms are thus paramount, not only to bolster resilience against stagnation, but also to promote growth as well as strengthen public finances.

The impact of the crisis on potential output

The crisis has reduced the level of potential output

The downturn has permanently reduced the level of potential output. For the OECD as a whole, potential output is estimated to be around 2½ per cent lower in 2012 when compared with projections made prior to the crisis. This represents a loss of more than a year's growth for the region as a whole. Underlying the loss are reductions in capital endowment as firms have adjusted to the end of cheap financing and increases in long-duration unemployment resulting in hysteresis-type effects leading to higher structural unemployment.

The impact is becoming clearer as more data becomes available

With the start of the crisis now further in the past, estimates of the magnitude of its impact have become clearer with more data. Changes in trend participation rates and capital can now be estimated from recent data and projections to 2012. They indicate that the impacts of the crisis on participation and capital inputs are sizeable but somewhat less dramatic than initially expected.

The largest hits are in some of the smaller economies

For the median OECD country, the impact on potential output is around 3¼ per cent in 2012. The difference vis-à-vis the OECD as a whole is attributable to the variability of the impact of the crisis, as well as a disproportionate negative effect on some of the smaller countries, including Greece and Ireland, which are experiencing losses as large as 13% of potential output by 2012, relative to earlier projections.

Key features of a stylised long-term scenario

The scenario is underpinned by potential output estimates

A long-term baseline scenario has been constructed by extending the short-term projections described in Chapter 1 under a set of stylised assumptions. For OECD countries, the long-term growth path is underpinned by projections of potential output (Box 4.1). Most of the assumptions underlying the scenario tend to be relatively optimistic – beginning with the proposition that the crisis itself only reduces the level of potential output and has no permanent adverse effect on its growth rate and by the assumption that fiscal consolidation does not affect growth. Output gaps are also generally assumed to close by 2015 as a result of sustained above-trend growth with output growing in line with potential thereafter. In a few countries where the output gap in 2012 is exceptionally large, such as Greece, Ireland, Portugal and Spain, the

Box 4.1. Assumptions underlying the baseline scenario

The baseline represents a stylised scenario that is conditional on the following assumptions for the period beyond the short-term projection horizon that ends in 2012:

- The gap between actual and potential output is eliminated by 2015 in all OECD countries, except those where the output gap remains very large in 2012. In the case of the latter, for every 2 percentage points by which the output gap exceeds 6% at the end of 2012 it is assumed to take an additional year to close the gap. This means that for Greece the output gap closes in 2018 and for Ireland, Portugal and Spain in 2016. Once the output gap is closed, GDP grows in line with potential output.
- Participation rates evolve from 2013 to 2026 in a manner consistent with a dynamic cohort effect (Burniaux, Duval and Jaumotte, 2004). The effects on participation of pension reforms legislated up to 2009 have been incorporated.
- Unemployment returns to its estimated structural rate in all OECD countries by 2015. For most countries historical estimates of the structural unemployment rate are based on a Kalman filter method described in Gianella *et al.* (2008). Since then the structural unemployment rate for Poland has also been estimated using the same Kalman filter method. For a few countries, Chile, the Czech Republic, Estonia, Hungary, Israel, Mexico, the Slovak Republic and Slovenia, the structural unemployment estimates are based on a Hodrick-Prescott filter of unemployment. Over the post-crisis period a hysteresis effect is imposed on the structural unemployment rate which is then assumed to eventually return to pre-crisis levels but at a speed which differs across countries based on previous historical experience (Guichard and Rusticelli, 2010); for those countries with more flexible labour markets structural unemployment returns to pre-crisis levels by 2018 and for other countries by 2026.
- Non-oil commodity prices remain unchanged in real terms, while oil prices rise by 1% per annum in real terms after 2012.
- Exchange rates remain unchanged in real terms in OECD countries; real exchange rates for non-OECD countries appreciate in line with growth differentials (through the so-called Balassa-Samuelson effect) from 2012.
- The adverse effects on the level of potential output resulting from the crisis have reached their peak by about 2013.
- After 2012, non-OECD economies show a slow convergence to US growth rates in per capita income (measured in purchasing power parities).
- For the period 2015 to 2026, OECD countries experience a slow convergence to annual labour productivity growth of 1¼ per cent.

Assumptions regarding fiscal and monetary policy are as follows:

- Policy interest rates continue to normalise as output gaps close and beyond that are directed to bring inflation into line with medium-term objectives.
- From 2013 onwards for those countries where the debt-to-GDP ratio is rising, there is a gradual increase in the underlying fiscal primary balance of ½ percentage point of GDP per year through a combination of reduced government spending and higher taxes until the ratio of government debt to GDP is stable given long-term trend growth and long-term interest rates (see Box 4.4 of *OECD Economic Outlook No.88* for further details). The rule is asymmetric so that countries for which the debt ratio is falling are not assumed to undertake fiscal expansion. It should be noted that in many cases this assumption implies a degree of fiscal consolidation which is less ambitious than incorporated in current government plans. In addition, the stylised fiscal rule applied here is not necessarily consistent with national or supra-national fiscal objectives, targets or rules.
- There are no further losses to government balance sheets as a result of asset purchases or guarantees made in dealing with the financial crisis. No contribution to deficit or debt reduction is assumed from government asset sales.
- Effects on public budgets from population ageing and continued upward pressures on health spending (Box 4.2) are not explicitly included, or, put differently, implicitly assumed to be offset by other budgetary measures. However, the impact of pension reforms up to 2009 on future participation are incorporated and will have an effect on calculations of fiscal sustainability to the extent they impact on trend participation and potential growth.

output gap takes longer to close (Box 4.1). Also, with the exception of Japan, countries do not experience deflation, despite continued, and in many cases large, negative output gaps over this period, and eventually return to targeted inflation once output gaps close.¹

Long-term trend growth is lower because of demographic effects

From 2013 onwards, the growth rate of OECD-wide potential output recovers to average about 2% per annum (Table 4.1), below the average potential growth rate of 2¼ per cent per annum achieved over the seven years preceding the crisis. Most of the difference is due to slower growth both in participation rates and in the working-age population, mainly reflecting demographic trends rather than additional effects from the crisis.

Output is assumed to return to potential by 2015 for most countries

Given the assumption that negative output gaps close by 2015 in most countries, and despite slower potential growth, area-wide GDP growth averages almost 3% per annum over the period 2010-15 (Table 4.2), compared to 2½ per cent per annum over the period 2000-07. Unemployment is falling in all countries, with the area-wide unemployment rate down from 8¼ per cent in 2010 to a rate of just over 6¼ per cent by 2015 and just under 6% in 2026, reflecting both the recovery and, perhaps also optimistically, the reversal of post-crisis hysteresis effects.

Most non-OECD countries continue to have strong growth...

Non-OECD countries are included in the baseline using a growth convergence assumption where eventually all countries have productivity growth that is roughly equal to a historical OECD average (1¼ per cent per annum). Since convergence is very slow, this leads to continued strong growth in all the emerging economies – particularly China, India, Russia and Brazil. Strong growth in these regions continues to be a major source of export demand in some OECD economies such as Germany and Japan.

... and imbalances remain to be addressed by structural reforms

Global imbalances, measured in terms of the absolute sum of current account balances divided by world GDP, are projected to increase while not reaching the levels that were attained prior to the crisis. Policy changes to encourage domestic demand in surplus countries and policies to encourage saving in deficit countries can do much to alleviate global imbalances. OECD work on structural policy reform provides guidance in removing distortions that contribute to imbalances. For surplus countries – such as China – this includes removing the incentive for precautionary savings that come from weak government social safety nets – including medical services and retirement pensions, as well as establishing a legal framework facilitating the development of the domestic financial system. In OECD countries, this includes removing incentives for greater consumption in deficit countries (*e.g.* in the United States) and to stimulate investment and capital inflows by implementing product market reforms in surplus countries (*e.g.* in Japan and some European economies). In addition, fiscal consolidation in deficit countries would also be helpful.

1. This is consistent with inflation expectations remaining fairly well anchored (both upwards and downwards) and with the operation of “speed-limit” effects.

Table 4.1. **Growth in total economy potential output and its components**


Annual averages, percentage change

Output Gap	Potential GDP growth			Potential labour productivity growth (output per employee)		Potential employment growth		Components of potential employment ¹						
								Trend participation rate		Working age population		Structural Unemployment		
	2012	2001-2007	2010-2015	2016-2026	2010-2015	2016-2026	2010-2015	2016-2026	2010-2015	2016-2026	2010-2015	2016-2026	2010-2015	2016-2026
Australia	-1.8	3.3	3.2	2.8	1.4	1.4	1.8	1.5	0.4	0.2	1.4	1.2	0.0	0.0
Austria	-1.6	2.2	1.8	1.5	1.2	1.7	0.6	-0.1	0.4	-0.1	0.3	-0.1	0.0	0.0
Belgium	-1.4	2.0	1.3	1.4	0.5	1.3	0.8	0.2	0.3	0.1	0.5	0.0	0.0	0.0
Canada	-2.2	2.8	2.0	1.8	1.1	1.5	0.9	0.3	0.2	0.2	0.7	0.1	0.0	0.0
Chile	0.7	3.9	4.1	3.0	1.6	1.9	2.5	1.1	1.2	0.8	1.1	0.3	0.2	0.0
Czech Republic	-1.7	4.0	2.7	2.2	2.8	2.5	-0.1	-0.3	0.3	0.0	-0.5	-0.4	-0.1	0.0
Denmark	-4.0	1.6	1.1	1.2	0.9	1.3	0.2	0.0	0.2	0.0	0.0	-0.1	0.0	0.1
Estonia	-2.3	5.9	2.4	2.2	3.0	2.5	-0.5	-0.3	0.6	0.2	-0.7	-0.6	-0.1	0.1
Finland	-3.9	3.1	1.6	1.9	1.8	2.1	-0.2	-0.2	0.2	0.2	-0.4	-0.4	0.0	0.0
France	-2.9	2.0	1.5	1.7	1.1	1.5	0.4	0.1	0.2	0.1	0.3	0.0	0.0	0.1
Germany	0.3	1.2	1.5	1.0	1.4	1.7	0.1	-0.7	0.2	0.0	-0.3	-0.7	0.1	0.0
Greece	-11.2	3.7	1.0	1.8	0.9	1.8	0.1	0.0	0.4	0.1	0.0	-0.3	-0.4	0.2
Hungary	-2.7	3.2	1.2	1.5	1.2	1.8	0.0	-0.3	0.6	0.4	-0.3	-0.6	-0.1	0.1
Iceland	-4.6	4.1	1.4	2.3	1.4	1.7	0.0	0.6	0.1	0.1	-0.1	0.4	-0.1	0.1
Ireland	-8.2	5.4	1.1	3.3	1.5	1.8	-0.4	1.5	0.0	0.1	0.0	0.9	-0.4	0.4
Israel	0.3	3.6	4.1	3.4	1.4	1.6	2.7	1.8	0.6	0.3	1.7	1.3	0.2	0.0
Italy	-1.5	0.9	0.5	1.2	0.4	1.4	0.1	-0.1	0.1	-0.1	0.1	-0.1	-0.1	0.1
Japan	-4.4	1.0	1.0	1.4	1.5	1.8	-0.4	-0.4	0.6	0.3	-1.0	-0.7	0.0	0.0
Korea	0.4	4.4	3.8	2.4	2.8	2.2	1.0	0.2	0.4	0.6	0.4	-0.7	0.0	0.0
Mexico	-1.7	2.6	2.9	3.0	1.1	1.5	1.8	1.4	0.3	0.2	1.6	1.2	0.0	0.0
Netherlands	-0.8	2.0	1.2	1.2	0.7	1.2	0.5	-0.1	0.3	0.2	0.1	-0.3	0.0	0.0
New Zealand	-1.3	3.2	2.1	2.3	0.9	1.6	1.2	0.6	0.0	-0.2	1.2	0.9	0.0	0.0
Norway ²	-0.3	3.2	3.0	2.7	1.8	2.3	1.1	0.4	0.1	0.1	1.0	0.3	0.0	0.0
Poland	1.3	4.2	2.9	1.7	2.7	2.3	0.2	-0.6	0.4	0.3	-0.2	-0.9	0.0	0.0
Portugal	-7.5	1.5	1.2	2.3	1.2	1.9	0.1	0.3	0.1	0.2	0.1	0.0	-0.1	0.2
Slovak Republic	-2.2	5.2	3.4	1.8	3.5	2.6	-0.1	-0.8	0.0	-0.1	-0.2	-0.7	0.1	0.0
Slovenia	-1.7	3.5	1.7	1.1	1.7	1.7	0.0	-0.7	0.1	0.0	0.0	-0.7	-0.1	0.1
Spain	-7.0	3.7	1.5	2.4	1.3	1.5	0.1	1.0	0.7	0.2	-0.1	0.3	-0.4	0.5
Sweden	-0.8	2.6	2.0	1.9	1.6	1.9	0.4	0.0	0.0	-0.1	0.4	0.1	0.0	0.0
Switzerland	-0.3	1.9	1.9	1.8	0.8	1.4	1.1	0.4	0.2	0.1	0.7	0.1	0.0	0.0
United Kingdom	-2.7	2.3	1.5	1.9	0.9	1.6	0.6	0.3	0.2	0.0	0.4	0.3	0.0	0.0
United States	-2.4	2.5	2.3	2.2	1.5	1.7	0.7	0.5	-0.1	-0.4	1.0	0.9	0.0	0.0
Euro area	-2.3	1.9	1.3	1.5	1.1	1.6	0.2	0.0	0.3	0.0	0.0	-0.2	-0.1	0.1
OECD	-2.4	2.2	1.8	1.9	1.2	1.6	0.6	0.3	0.1	-0.1	0.5	0.4	0.0	0.1

1. Percentage point contributions to potential employment growth. In some cases, components do not sum to the total because of an adjustment to a national accounts concept of labour input or because of rounding.

2. As a % of mainland potential GDP.

Source: OECD Economic Outlook 89 database.

StatLink  <http://dx.doi.org/10.1787/888932434333>

Public finances

Consolidation requirements

Fiscal consolidation is essential to contain debt ratios in many countries

Fiscal deficits are projected to remain large in 2012, with a substantial component which is not explained by the cycle (Table 4.3), even with an assumption that announced fiscal consolidation plans are implemented in full up to 2012 (see Chapter 1 for an outline of those plans). As a result, debt in many countries will remain on an increasing trajectory in the


Table 4.2. **Macroeconomic trends: summary**

	Real GDP growth		Inflation rate ¹		Unemployment rate		
	2010-15	2016-26	2010	2015-26	2010	2015Q4	2026
Australia	3.5	2.9	1.9	2.5	5.2	5.1	5.1
Austria	2.3	1.6	1.5	2.0	4.4	4.3	4.3
Belgium	2.0	1.4	2.4	2.1	8.3	8.4	8.0
Canada	2.9	1.8	1.3	2.1	8.0	6.6	6.5
Chile	4.8	3.0	0.2	3.0	8.1	7.3	7.2
Czech Republic	3.2	2.2	1.3	2.0	7.3	6.2	5.8
Denmark	2.2	1.3	2.6	2.0	7.2	4.9	4.4
Estonia	4.1	2.2	2.1	2.0	16.8	11.6	10.3
Finland	3.1	1.9	1.0	2.0	8.4	7.7	7.4
France	2.2	1.7	1.2	2.0	9.3	8.7	8.2
Germany	2.3	1.0	2.0	2.0	6.8	7.2	7.2
Greece	0.5	2.4	4.7	2.0	12.5	13.3	8.9
Hungary	2.3	1.5	5.0	3.1	11.2	8.0	6.6
Iceland	2.1	2.3	3.5	2.5	7.5	3.4	2.8
Ireland	2.3	3.5	-2.2	2.0	13.5	10.0	4.7
Israel	4.4	3.4	2.9	2.0	6.6	6.1	6.1
Italy	1.3	1.2	1.5	2.0	8.4	7.1	6.3
Japan	2.1	1.4	-1.5	1.0	5.1	4.1	4.1
Korea	4.3	2.4	2.6	3.1	3.7	3.5	3.5
Mexico	4.0	3.0	3.0	3.0	5.3	3.2	3.2
Netherlands	1.7	1.2	1.7	2.0	4.3	3.7	3.7
New Zealand	3.0	2.3	1.4	2.0	6.5	4.3	4.0
Norway ²	3.4	2.7	1.9	2.5	3.6	3.4	3.3
Poland	3.1	1.6	2.9	2.6	9.6	9.5	9.5
Portugal	1.4	2.5	1.6	2.0	10.8	9.5	6.9
Slovak Republic	3.9	1.8	0.9	2.0	14.4	11.3	11.3
Slovenia	2.0	1.1	2.9	2.0	7.2	6.8	6.3
Spain	2.3	2.7	2.8	2.1	20.1	14.5	8.9
Sweden	3.3	1.9	1.3	2.2	8.4	6.9	6.9
Switzerland	2.3	1.8	0.2	2.0	4.5	3.8	3.7
United Kingdom	2.2	1.9	4.3	2.0	7.9	5.7	5.3
United States	3.1	2.2	1.7	2.0	9.6	5.3	4.9
Euro Area	2.0	1.6	1.8	2.0	9.9	8.7	7.3
OECD	2.8	2.1	1.8	2.3	8.3	6.2	5.6

1. For OECD countries, percentage change from the previous period in the private consumption deflator.

2. As a % of mainland GDP.

Source: OECD Economic Outlook 89 database.

StatLink  <http://dx.doi.org/10.1787/888932434352>

absence of further action.² In these circumstances, additional fiscal consolidation is inevitable for many countries and is here assumed to follow a stylised rule.

2. Government debt in this chapter refers to debt as defined by the System of National Accounts. This definition differs from the Maastricht definition used in the Stability and Growth Pact of the European Union. For euro area countries with unsustainable fiscal positions that have asked for assistance from the European Union and the IMF (Greece, Ireland and Portugal) the change in 2010 in government debt has been approximated by the change in government liabilities recorded for the Maastricht definition of general government debt (see Box 1.3 on policy and other assumptions in Chapter 1).

Table 4.3. **Fiscal trends in the baseline assuming a stylised unambitious consolidation path**


As percentage of nominal GDP (unless otherwise specified)

	Underlying fiscal balance	Number of years of consolidation ¹	Financial balances ²			Net financial liabilities ³			Gross financial liabilities ⁴			Long term interest rate ⁵ (%)		
			2012	2007	2010	2026	2007	2010	2026	2007	2010	2026	2007	2010
Australia	-1.2	1	1.4	-5.9	-0.3	-7	2	9	14	25	32	6.0	5.4	6.1
Austria	-2.4	2	-1.0	-4.6	-1.8	31	44	48	63	79	82	4.3	3.2	5.0
Belgium	-2.6	1	-0.4	-4.2	-3.7	73	81	85	88	101	105	4.3	3.3	6.0
Canada	-2.7	3	1.4	-5.5	-1.4	23	30	38	67	84	90	4.3	3.2	4.6
Czech Republic	-0.7	1	-0.7	-4.7	-0.3	-14	4	7	34	47	48	4.3	3.9	4.5
Denmark	-0.2	0	4.8	-2.9	-0.7	-4	-1	12	34	55	67	4.3	2.9	5.3
Finland	1.0	2	5.2	-2.8	0.7	-73	-64	-43	41	57	79	4.3	3.0	4.4
France	-3.2	5	-2.7	-7.0	-2.7	35	57	65	72	94	103	4.3	3.1	5.6
Germany	-1.6	1	0.3	-3.3	-1.9	42	50	50	65	87	87	4.2	2.7	4.7
Greece	-1.4	3	-6.7	-10.4	-4.4	80	114	117	113	147	146	4.5	9.1	7.9
Hungary	-2.3	0	-5.0	-4.2	-2.6	52	61	57	72	86	84	6.7	7.3	5.0
Iceland	-1.0	3	5.4	-7.8	-2.5	-1	43	41	53	120	118	9.8	5.0	6.6
Ireland	-4.0	7	0.1	-32.4	-4.0	0	59	81	29	102	131	4.3	6.0	6.9
Italy	-1.3	0	-1.5	-4.5	-3.1	87	99	93	113	127	122	4.5	4.0	6.5
Japan ⁶	-5.9	18	-2.4	-8.1	-5.0	81	116	162	167	200	248	1.7	1.1	4.9
Korea	1.2	1	4.7	0.0	2.9	-40	-37	-41	28	34	31	5.4	4.8	5.0
Luxembourg	1.8	0	3.7	-1.7	2.1	-44	-40	-37	12	20	20	4.5	3.2	4.5
Netherlands	-1.7	1	0.2	-5.3	-2.0	28	35	44	52	71	81	4.3	3.0	4.5
New Zealand	-5.4	10	4.5	-4.6	-1.7	-13	-5	37	26	39	78	6.3	5.6	4.9
Poland	-4.1	6	-1.9	-7.9	-1.3	17	29	38	52	62	70	5.5	5.8	4.6
Portugal	-0.9	0	-3.2	-9.2	-1.1	50	69	59	75	103	95	4.4	5.4	5.9
Slovak Republic	-2.8	4	-1.8	-7.9	-1.3	7	20	29	33	45	54	4.5	3.9	5.0
Spain	-1.2	0	1.9	-9.2	-2.4	19	40	52	42	66	78	4.3	4.2	4.7
Sweden	1.6	0	3.6	-0.3	2.2	-23	-26	-36	49	49	30	4.2	2.9	4.1
Switzerland	0.9	0	1.7	0.5	1.2	1	1	-13	47	40	25	2.9	1.6	3.0
United Kingdom	-5.7	9	-2.8	-10.3	-3.7	28	56	83	47	82	109	5.0	3.6	5.6
United States ⁶	-8.2	20	-2.9	-10.6	-6.0	43	67	122	62	94	148	4.6	3.2	7.2
Euro Area	-1.9		-0.7	-6.0	-2.4	42	58	61	72	93	96	4.3	3.6	5.4
OECD	-5.0		-1.3	-7.6	-3.5	38	58	83	73	98	122	4.8	3.5	6.2

Note: These fiscal projections are the consequence of applying a stylised fiscal consolidation path and should not be interpreted as a forecast.

1. The number of years of fiscal consolidation beyond 2012 is determined so as to stabilise the ratio of government debt to GDP, assuming that each year of consolidation amounts to ½ percent of GDP.
2. General government fiscal surplus (+) or deficit (-) as a percentage of GDP.
3. Includes all financial liabilities minus financial assets as defined by the system of national accounts (where data availability permits) and covers the general government sector, which is a consolidation of central, state and local governments and the social security sector.
4. Includes all financial liabilities as defined by the system of national accounts (where data availability permits) and covers the general government sector, which is a consolidation of central, state and local governments and the social security sector. The definition of gross debt differs from the Maastricht definition used to assess EU fiscal positions.
5. Interest rate on 10-year government bonds.
6. Japan and the United States are the only countries for which the required consolidation to stabilise debt is so large in 2012 that it is not achieved in the baseline scenario by 2026 given the assumed pace of consolidation. The number of years of consolidation reported for these countries is an estimate of when debt would be stabilised assuming consolidation continues at the assumed pace.

Source: OECD Economic Outlook 89 database.

StatLink  <http://dx.doi.org/10.1787/888932434371>

Beyond 2012 consolidation is assumed to follow a stylised rule

As a stylised assumption for the baseline, against which alternative fiscal policy scenarios are evaluated, future fiscal consolidation sufficient to stabilise the ratio of government debt to GDP before 2026 has been incorporated (Box 4.1) (Table 4.3). This relatively modest pace of consolidation – assumed to be ½ per cent of GDP per annum reduction in the underlying primary balance from 2013 maintained for as long as it takes to stabilise debt – means that in many cases there is a further build-

up in the ratio of government debt to GDP before it levels off. This makes the requirements for consolidation more challenging still, since debt build-up requires more servicing and thus a higher primary balance to stabilise debt. Moreover, as discussed below, an important factor tending to further increase consolidation requirements is that the differential between interest rates and growth rises over the projection. On the other hand, the effects on fiscal balances from population ageing and continued upward pressures on health costs are not explicitly included in the projection, but these will also add to consolidation pressures (Box 4.2).

Most OECD countries require some consolidation beyond 2012 to stabilise debt ratios

The scale of consolidation required to stabilise debt-to-GDP ratios both in relation to 2010 and, following the projected consolidation, from 2012 is summarised in Table 4.4. For less than one-third of OECD countries shown in the table, the efforts announced already for the short term are sufficient to require no further consolidation to stabilise debt beyond 2012. This category includes Italy, for which the debt ratio is initially very high, but is already on a declining path, and Spain, for which the required consolidation of 4 percentage points of GDP is projected to have already taken place by 2012.

Box 4.2. Health-care and pension spending pressures

On the spending side of general government budgets, additional pressures arise from ageing populations and increases in longevity as well as rising health care costs. On the basis of unchanged policies, and generally conservative assumptions, increases in public spending on health care, long-term care and pensions over the next 15 years are estimated to amount to between 1% and 6% of GDP in the OECD area, largely as a result of ageing (see Table). In the typical OECD country, about two-thirds of that change is coming from health and long-term care expenditures.

Public expenditure on pensions has been growing faster than national income for the past 20 years and is expected to continue to do so over coming decades. Ageing populations are putting pressure on public pensions which are increasing in all but four OECD countries where data are available, amounting to 1% of GDP by 2025 on average. Nevertheless, as a consequence of past pension reforms, which lower benefits and increase the age of retirement, the rate of growth of pension expenditure will be much slower than demographic change alone would have implied. There is, however, scope for further reform. In particular, although half of all OECD countries have, or will be, increasing statutory pension ages, in all but a handful the projected gains in life expectancy over the next four decades are expected to exceed the prospective increase in pension ages (OECD, 2011).

For the average country the increase in public health and long-term care spending over the next 15 years of about 2 percentage points of GDP is about double that for pensions. This is on the basis of a so called “cost-pressure” scenario in which, on top of demographic effects, expenditures are assumed to grow 1% per annum faster than income, which would be broadly consistent with observed trends over the past two decades. This reflects rapidly rising health-care prices and developments of new and costly treatment which put upward pressure on health-care budgets. Spending on health care is already one of the largest public spending items, accounting for more than 15% of general government spending on average in the OECD in 2007 (equal to more than 6% of GDP), up from 12% in 1995. OECD analysis, comparing the efficiency of health systems across different countries, suggests that there is considerable potential for efficiency gains; estimates suggest that public spending reduction could amount to 2% of GDP on average for the OECD area and over 3% of GDP for Greece, Ireland and the United Kingdom (Joumard, André and Nicq, 2010).

Box 4.2. **Health-care and pension spending pressures (cont.)****Changes in ageing-related public spending for selected OECD countries**

Change 2010-25, as percentage points of GDP

	Health care	Long-term care	Pensions	Total
Austria	1.2	0.4	0.7	2.3
Australia	1.4	0.5	0.3	2.2
Belgium	1.0	0.5	2.7	4.2
Canada	1.5	0.5	1.3	3.3
Czech Republic	1.4	0.6	-0.1	1.8
Denmark	1.2	0.3	1.1	2.6
Finland	1.4	0.6	2.7	4.8
France	1.2	0.3	0.4	1.9
Germany	1.2	0.6	0.8	2.6
Greece	1.3	1.0	0.0	2.3
Hungary	1.2	0.6	-0.4	1.4
Iceland	1.4	0.2	1.8	3.4
Ireland	1.3	1.2	0.9	3.4
Italy	1.3	1.0	0.3	2.6
Japan	1.5	0.9	0.2	2.6
Korea	1.7	0.9	1.1	3.7
Luxembourg	1.1	1.0	3.5	5.7
Mexico	1.4	1.0	1.1	3.4
Netherlands	1.4	0.6	1.9	3.8
New Zealand	1.4	0.5	1.2	3.1
Norway	1.1	0.2	2.4	3.8
Poland	1.4	0.9	-1.1	1.2
Portugal	1.3	0.5	0.7	2.5
Slovak Republic	1.5	0.6	0.3	2.4
Spain	1.3	0.9	1.2	3.4
Sweden	1.1	0.2	-0.2	1.2
Switzerland	1.3	0.3	1.2	2.8
Turkey	1.3	0.3	1.7	3.3
United Kingdom	1.1	0.5	0.5	2.1
United States	1.2	0.3	0.3	1.8
Average	1.3	0.6	1.0	2.9

Note: OECD projections for increases in the costs of health and long-term care have been derived assuming unchanged policies and structural trends as of end 2009. The corresponding hypotheses are detailed in OECD (2006) under the heading "cost-pressure scenario". Projections of pension expenditures are taken from OECD (2011), which itself draws on European Commission Sustainability Report (2009) for EU country projections and various national sources for non-EU countries. An exception is Greece where the pension expenditure estimates incorporate OECD estimates of the effects of very recent pension reforms.

Sources: See note above and OECD calculations.

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Substantial consolidation is needed in a number of countries

Among those countries requiring the most consolidation, the United States and Japan are the only countries in which the stylised unambitious consolidation path does not stabilise debt by 2026. For both countries the required improvement in the underlying primary balance in 2010 is about 10 percentage points of GDP, with little improvement in this situation by 2012. Other countries for which consolidation requirements are large just to stabilise debt before the middle of the next decade include Greece, Ireland, Poland, Portugal, the Slovak Republic and the United Kingdom, which all require consolidation of about 6 to 8½ percentage points of GDP

Table 4.4. **Consolidation requirements to stabilise debt over the long term**

As per cent of potential GDP

	Underlying primary balance in 2010	Underlying primary balance required to stabilise debt ¹	Required change in underlying primary balance	Projected change in underlying primary balance in 2010-12	Requirement beyond 2012
	(A)	(B)	(C) = (B) - (A)	(D)	(C) - (D)
Australia	-2.9	1.1	4.0	3.5	0.5
Austria	-1.0	1.1	2.2	1.1	1.0
Belgium	0.5	1.4	0.8	0.3	0.5
Canada	-3.1	-0.3	2.8	1.3	1.5
Czech Republic	-2.4	0.8	3.2	2.7	0.5
Denmark	1.3	0.2	-1.1	-0.5	-0.6
Finland	0.1	1.8	1.7	0.7	1.0
France	-2.5	1.9	4.4	1.9	2.5
Germany	-0.2	1.1	1.3	0.8	0.5
Greece	-1.7	5.0	6.7	5.2	1.5
Hungary	0.7	0.3	-0.4	0.4	-0.8
Iceland	-1.2	4.1	5.3	3.8	1.5
Ireland	-5.3	3.1	8.4	4.9	3.5
Italy	1.4	3.1	1.7	1.9	-0.2
Japan	-5.5	4.3	9.8	1.3	8.5
Korea	-0.4	1.0	1.4	1.0	0.5
Luxembourg	0.8	0.0	-0.8	1.2	-2.0
Netherlands	-2.0	0.5	2.5	2.0	0.5
New Zealand	-2.5	1.0	3.5	-1.6	5.0
Poland	-5.5	1.5	7.0	4.0	3.0
Portugal	-4.9	1.0	5.9	8.4	-2.5
Slovak Republic	-5.7	0.3	6.0	4.0	2.0
Spain	-3.5	0.3	3.8	4.1	-0.2
Sweden	2.0	-0.1	-2.1	0.5	-2.7
Switzerland	1.3	0.1	-1.2	-0.2	-1.1
United Kingdom	-5.7	1.5	7.2	2.8	4.5
United States	-7.0	3.9	10.9	1.2	9.7
Euro Area	-1.1	1.7	2.8	2.0	0.8
OECD	-4.4	2.5	6.9	1.6	5.3

1. Underlying primary balance required in 2026, based on gradual but steady consolidation paths, to stabilise debt-to-GDP ratios in the long-term baseline scenario. Debt stabilisation may take place at undesirably high levels.

Source: OECD calculations.

StatLink  <http://dx.doi.org/10.1787/888932434409>

from the 2010 position. Given the large improvement in the underlying primary balance which is projected to occur between 2010 and 2012, no further consolidation beyond 2012 is required for Portugal, and consolidation of only 1½ to 2 additional percentage points of GDP is required for Greece and the Slovak Republic beyond 2012. For the other countries – Ireland, Poland and the United Kingdom – a further consolidation of 3 to 4½ percentage points of GDP beyond 2012 is required to stabilise debt.

Faster consolidation might reduce the required adjustment

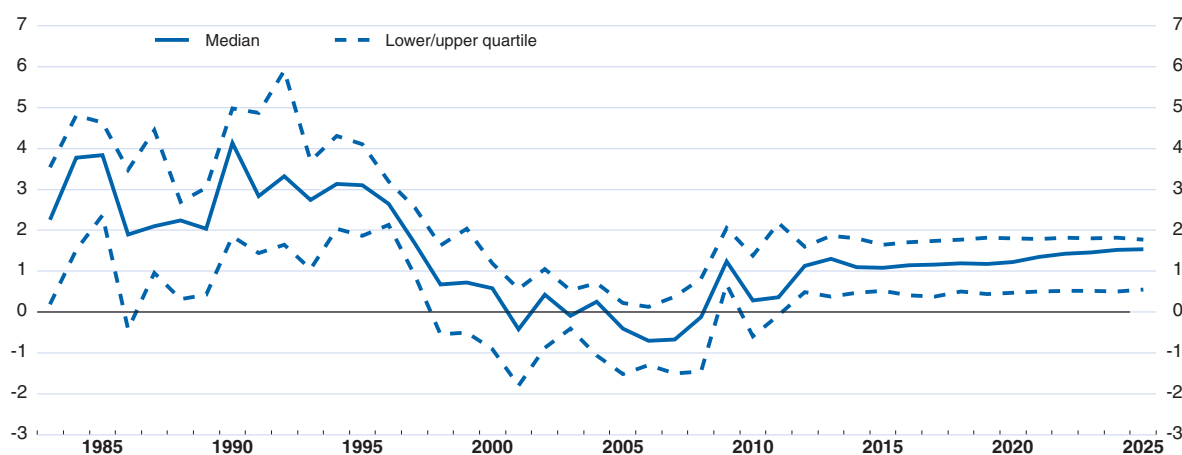
These estimates of total consolidation requirements are, however, dependent on the speed at which consolidation is undertaken. In general, faster consolidation implies that debt stabilises at a lower level, causing lower debt service and requiring less overall consolidation. As an illustrative

example, Ireland requires seven years of consolidation beyond 2012 to stabilise debt in the baseline scenario in which 0.5% of GDP consolidation per year is assumed, implying total consolidation of 3½ percentage points of GDP. Alternatively, in a variant scenario in which there is more rapid consolidation of 1.5% of GDP per year, only two years of consolidation are needed to stabilise debt, implying total consolidation of only 3 percentage points of GDP. However, this result needs to be qualified, because rapid consolidation runs the risk of having a larger cumulative adverse effect on GDP than gradual consolidation, particularly over a period when any offsetting response from monetary policy may be constrained, and this in turn would reduce any difference in the total consolidation required.

Debt dynamics are influenced by the interest rate-growth differential...


Together with the level of the primary balance, debt dynamics are also strongly influenced by the differential between growth and interest rates; higher nominal GDP growth reduces the debt-to-GDP ratio (simply by virtue of increasing the denominator), while higher interest rates raise it by increasing debt service. During the years prior to the crisis, this differential between interest rates and growth was unusually favourable to restraining the build-up of debt; the differential between long-term interest rates on government bonds and nominal potential growth was negative for many OECD economies, compared to an average positive differential of over 200 basis points over the 1980s and 1990s (Figure 4.1). The pre-crisis differential was low mainly because interest rates across the maturity spectrum were unusually low, partly the result of global factors including lower inflation pressures (Bernanke, 2005). Policy rates were also very low for much of this period.

Figure 4.1. **The differential between long-term interest rates and nominal potential growth for 20 OECD countries**



Note: The 20 OECD countries have been chosen on the basis of having consistent time series estimates for potential output and long-term interest rates on 10-year government bonds from 1983. Using nominal potential growth instead of actual GDP growth abstracts from the cycle and so gives a better impression of trend movements in the differential.

Source: OECD calculations.

StatLink  <http://dx.doi.org/10.1787/888932434067>

... which is likely to be much less favourable than prior to the crisis

Over the course of the crisis the interest rate-growth differential has been very volatile, particularly when output fell steeply. However, as output gaps close and financial conditions and policy rates begin to normalise and quantitative easing is unwound, the interest rate-growth differential is expected to increase thereby adding to the pressures on debt accumulation. This partly reflects a reversion to historical norms. In addition, the differential might rise because high and rising government debt adds upward pressure on long-term government bond yields. There is a large and controversial empirical literature that examines the impact of public deficits and debt on long-term government bond yields.³ Drawing on this literature, for the purpose of the current exercise it is assumed that when gross government indebtedness passes a threshold of 75% of GDP then long-term interest rates increase by 4 basis points for every additional percentage point increase in the government debt-to-GDP ratio – an assumption consistent with, for example, the findings of Égert (2010) and Laubach (2009).⁴

Except for Japan, other country-specific influences on long-term interest rates are ignored

For the sake of simplicity, the possible role for a range of country-specific factors, other than debt, in determining government bond yields, is ignored in the stylised projections presented here.⁵ The only exception that is made is for Japan, which has seen a substantial increase in indebtedness over the past two decades with little effect so far on interest rates, probably because of the high proportion of debt which is financed domestically, given the large pool of domestic savings and the stable domestic institutional investor base. To take this into account, and again erring on the optimistic side, the responsiveness of interest rates to debt in Japan is assumed to be only one-quarter that for other countries.⁶

Slow fiscal consolidation implies a further increase in debt

OECD general government gross debt is projected to increase by about 32 percentage points of GDP by 2012 relative to pre-crisis levels and, under the assumptions set out above, by about a further 17 percentage points of GDP by 2026. By assumption, the change in net debt levels, as a percentage of GDP, is similar to that for gross debt, although the level of net debt is

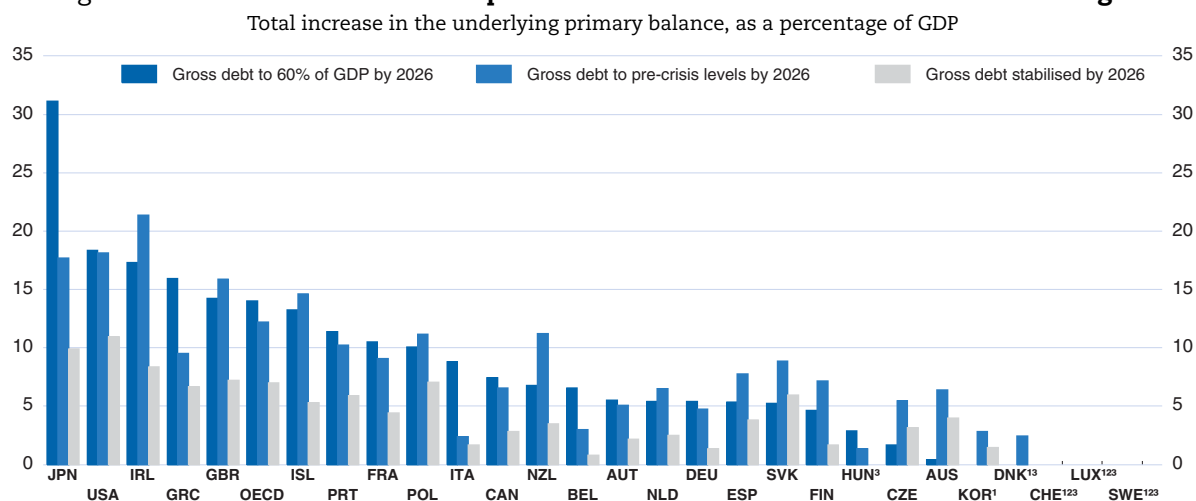
3. See Box 4.5 in OECD (2010b) for a selective survey.
4. Égert (2010) finds that the difference between short-term and long-term interest rates appear to be a non-linear function of public debt for the G7 countries (excluding Japan) in recent years. The estimation results indicate a 4 basis point increase in long-term rates relative to short-term rates for each percentage point of GDP in public debt above 76%. Laubach (2009) focuses on the United States and finds that long-term yields increase about 25 basis points per percentage point increase in the projected deficit-to-GDP ratio, and 3 to 4 basis points per percentage point increase in the debt-to-GDP ratio.
5. Country-specific factors that are found in recent studies to influence government bond yields include financial-sector soundness, price competitiveness, fiscal track record, tax-to-GDP ratios, short-term refinancing needs, bond market liquidity as well as a range of other institutional and structural factors (see, for example, Haugh, Ollivaud and Turner, 2009; Hagen, Schuknecht and Wolswijk, 2010; Sgherri and Zoli, 2009; Caceres, Guzzo and Segoviano, 2010; and Dötz and Fisher, 2010).
6. The consequence of assuming that interest rates in Japan become as sensitive to the debt-to-GDP ratio as for other OECD countries would be to put debt on an explosive path, implying that gradual consolidation of ½ percentage point of GDP per annum would be inadequate even if sustained over several decades.

lower, particularly for Japan, Canada and the Nordic countries.⁷ The magnitude of the area-wide increase in debt is a reflection not least of the magnitude of the increase in some of the largest countries; in particular, the increase in debt by 2026 compared to pre-crisis levels for the United States and Japan is over 80 percentage points of GDP, whereas the median increase across all OECD countries is 21 percentage points of GDP.

Reducing debt levels would require much greater consolidation

The slow pace of consolidation and the high levels of debt reached are in practice unlikely to be sustainable in some countries. The extent of fiscal consolidation needs to be much larger if the aim is to significantly reduce debt-to-GDP ratios, rather than merely stabilise them. Such a reduction would avoid high debt levels and associated high interest rates undermining economic growth and provide a safety margin for public finances to tackle future shocks. Calculations of the cumulative improvement in the primary balance that would be required from 2010 to reduce debt either to pre-crisis (2007) levels or to 60% of GDP by 2026 imply a much greater consolidation effort than to merely stabilise the debt ratio; for the OECD as a whole, on top of the 7 percentage points of GDP to stabilise debt, they imply additional consolidation of 5¼ and 7 percentage points of GDP, respectively (Figure 4.2).

Figure 4.2. **Total consolidation required from 2010 to achieve alternative debt targets**



1. No consolidation is needed to achieve the 60% debt-to-GDP ratio by 2026.
2. No consolidation is needed to achieve the pre-crisis debt-to-GDP ratio.
3. No consolidation is needed to stabilise the debt-to-GDP ratio.

Note: The chart shows the total consolidation required to achieve a gross general government debt-to-GDP ratio equal to 60% of GDP and the pre-crisis (2007) ratio by 2026, assuming the projected improvement in the underlying primary balance between 2010-12 is as shown in column (D) of Table 4.4 with an additional constant improvement in the underlying primary balance each year between 2013 and 2026 calculated so as to achieve the debt target in 2026. These consolidation requirements are then compared with that required to stabilise the debt-to-GDP ratio by 2026, as described in the baseline scenario summarised in Tables 4.3 and 4.4. These calculations are mechanical and will not necessarily ensure that the debt ratio is stable once the target is reached. The definition of gross debt used for the purpose of these calculations is as defined in the system of national accounts and differs from the Maastricht definition used to assess EU fiscal positions.

Source: OECD calculations.

StatLink <http://dx.doi.org/10.1787/888932434086>

7. Net debt is in many respects the superior concept, however, gross debt is more comparable across countries and represents what has to be rolled over and financed through government debt issuance. Moreover, valuation of government assets may in many cases be subject to considerable uncertainty, see Box 1.7 in Chapter 1.

Current consolidation plans

Among countries requiring substantial consolidation...

Most governments recognise the need for further consolidation and have objectives that imply moving back towards more sustainable fiscal positions. Among a group of 12 OECD countries where consolidation needs are greatest (Table 4.5), there are, however, considerable differences in the extent to which such objectives are clearly articulated in terms of credible medium-term fiscal plans.

... US medium-term fiscal plans are unclear...

- In the United States, there are a number of fiscal plans, but political disagreement makes the extent, pace and tools of future consolidation uncertain, as discussed in Chapter 1. Given the scale of the needed consolidation, such plans would need to include the major spending categories, notably entitlement spending and defence outlays, as well as tax increases.

... and those of Japan appear inadequate

- In Japan, the government's medium-term fiscal objectives, announced in June 2010, aimed at halving the primary deficit of the central and local governments by fiscal year (FY) 2015 and eliminating it by FY 2020. This objective is broadly consistent with the stylised baseline scenario to 2020 described above. This in turn implies that, unless there were to be a significant increase in the pace of consolidation thereafter, the debt ratio might not stabilise by 2026. In any case, a detailed medium-term consolidation plan that identifies the revenue and spending measures that will be implemented to achieve these long-term objectives is a priority.

Planned consolidation would put debt on a downward trend in Greece, Ireland and Portugal...

- Very substantial front-loaded consolidation is planned in those euro area countries – Greece, Ireland and Portugal – that have been under pressure from financial markets and requested assistance from the European Union and the IMF. The extent of the planned consolidation beyond 2012 exceeds the stylised rule and would be sufficient to put the debt-to-GDP ratio on a clear downward trajectory.

... and in the United Kingdom

- The fiscal consolidation planned in the United Kingdom is both more substantial and more rapid. If achieved it would put the debt ratio on a downward trend from 2015. The relative speed with which the consolidation is to be achieved implies that the debt ratio would remain below the level projected in the stylised scenario.

There is a need for specific measures to be identified in many countries

- Other EU countries requiring substantial consolidation to stabilise debt – France, Poland, the Slovak Republic and Spain – have targeted a reduction in the overall fiscal deficit to 3% of GDP or below, over the next two to four years. In Belgium and Italy, the deficit targets are closer to balance, but this is warranted to ensure that the debt ratio is put on a clear downward trajectory given the higher initial level of debt.

Table 4.5. **Medium-term fiscal plans in OECD countries requiring substantial consolidation**

	Fiscal situation (% of GDP)			Gross debt in 2010	Summary of latest official medium-term fiscal plans
	Fiscal balance in 2010	Required consolidation to stabilise the debt ratio ¹ by 2026	Required consolidation to achieve pre-crisis debt ratio ² by 2026		
Belgium	-4.2	0.8	3.0	101	Reduce the fiscal deficit to 0.8% of GDP by 2014, with measures not specified yet.
France	-7.0	4.4	9.1	94	Reduce to 5.7% of GDP in 2011 and to 3% by 2013.
Greece	-10.4	6.7	9.5	147	Specific measures, including an ambitious privatisation programme, strict expenditure control, improvements in tax compliance and higher tax rates, to reduce the fiscal deficit to 1% of GDP by 2015 and to maintain a primary surplus of 6%.
Ireland ³	-32.4	8.4	21.4	102	Front-loaded consolidation based primarily on permanent expenditure cuts (reducing public administration and wages) to improve the underlying primary balance by 7.1% of GDP between 2010 and 2014, and a further 0.8% in 2015.
Italy	-4.5	1.7	2.4	127	Reduce the fiscal deficit to 1.5% of GDP by 2013 and 0.3% in 2014. Measures to achieve this are not yet legislated.
Japan	-8.1	9.8	17.7	200	Halve the central and local government deficit from 6½% GDP by fiscal year 2015, and achieve a gradual reduction in the debt ratio from 2021.
Poland	-7.9	7.0	11.2	62	Reduce the fiscal deficit to 5.6% in 2011 and 2.9% of GDP in 2012.
Portugal	-9.2	5.9	10.2	103	Reduce the fiscal deficit below 3% of GDP by 2013 with slightly more than half of the deficit reduction taking place in 2011. Expenditure restraint accounts for over half of the adjustment.
Slovak Republic	-7.9	6.0	8.9	45	Reduce the fiscal deficit below 3% of GDP by 2013, with most consolidation front-loaded in 2011.
Spain	-9.2	3.8	7.8	66	Front-loaded consolidation with about half of the adjustment in 2011 to reduce the fiscal deficit to 3% of GDP by 2013 and to 2.1% in 2014.
United Kingdom	-10.3	7.2	15.9	82	Front-loaded consolidation with largest adjustment on spending, aiming to achieve a cyclically adjusted current balance (that is, excluding net public investment) by fiscal year 2015/16. Addresses entitlement programmes, notably pensions. On the revenue side, raises value added tax rates.
United States	-10.6	10.9	18.1	94	No specific medium-term plan has yet been adopted. The administration objective is to stabilise the federal debt ratio by 2015.

Note: This table summarises official medium-term fiscal plans for those countries where consolidation requirements are judged to be substantial, based on two criteria, either (a) the required increase in the underlying primary balance to stabilise the debt-to-GDP ratio in 2010 is at least 4% points of GDP or (b) gross government debt as a share of GDP exceeds 90% in 2010.

1. Improvement in the underlying primary balance required to stabilise the debt-to-GDP ratio by 2026, assuming that fiscal consolidation in 2010-12 is as projected in Chapters 1 and 2 and thereafter the primary balance follows the stylised path described in Box 4.1.
2. Improvement in the underlying primary balance required to achieve a debt-to-GDP equal to pre-crisis (2007) level by 2026, assuming that fiscal consolidation in 2010-12 is as projected in Chapters 1 and 2 and thereafter there is a constant improvement in the primary balance each year which is just sufficient to achieve the target.
3. Fiscal balance in 2010 includes the one-off impact of recapitalisation in the banking sector - about 20% of GDP.

Sources: Most recent budget documentation or, for EU countries, the latest Stability Programme.

StatLink  <http://dx.doi.org/10.1787/888932434428>

However, for all of the aforementioned countries, detailed consolidation measures to achieve these targets need to be specified to enhance the credibility of the consolidation plan.

The risks of stagnation

Stagnation is a risk

The weakness of the recovery so far in many OECD countries and the still-large downside risks discussed in Chapter 1 motivate a review of recent stagnation episodes among OECD countries with a view to drawing possible lessons that would help avoid stagnation in the current conjuncture.

Historical experiences of stagnation

Three recent episodes of stagnation are identified among OECD countries

There is no commonly accepted definition of stagnation, but it is here taken to be a period of six or more years during which potential output per capita growth is less than 1% per year.⁸ Using potential output eliminates cyclical fluctuations and, although the 1% threshold and the minimum length of spells are arbitrary, the criterion is stringent enough to ensure that the stagnation episodes identified will be both protracted and severe. Applying this criterion to all OECD countries over the period 1995 to 2009 identifies three different episodes: Japan from 1997 to 2002; Portugal from 2003 to 2009; and Italy from 2004 to 2009.

Stagnation followed the 1990s banking crisis in Japan...

The catalyst for the banking crisis in Japan was the collapse of share and land price bubbles at the end of the 1980s, which led to a rise in non-performing loans as construction and real estate companies stopped repaying their loans. Although the problem of bad loans was already obvious by 1992-93 when the non-bank housing loan companies (*jusen*) became insolvent, the authorities chose to adopt a wait-and-see approach because of the large scale of under-capitalisation and insolvency problems in the banking sector. The start of the stagnation episode in 1997 coincides with a sharp escalation of the crisis as a large bank and two large securities firms failed. Share prices of weaker institutions fell, mild bank runs occurred and interbank lending seized up. The resulting credit crunch led to a fall in investment and a cutback in consumption, which in turn fed into weaker growth and further cuts in credit, with the resulting downturn being given further impetus by the Asian crisis in 1997/98.

... which explains the subsequent poor productivity performance...

Large government bailout packages followed to try to recapitalise solvent banks, protect depositors in failed banks and nationalise two major banks. However, recovery of the sector was slow. Competition was distorted by extensive deposit insurance, regulatory forbearance in


8. Alternatively, Reddy and Minoiu (2009) define the onset of a stagnation spell as a year in which a country's per capita real income is lower than at any time in the previous two years and higher than at any time in the subsequent four years. The stagnation spell ends in the first year in which that country's real income is at least 1% higher than it was in the previous year and at least 1% lower than in the subsequent year. The authors found that real income stagnation has affected a large number of countries: 103 out of 168 in their sample during the period 1960 to 2001. Recent stagnation spells in OECD countries include Greece (1981-87), Iceland (1990-94), New Zealand (1988-92) and Switzerland (1992-96).

enforcing capital adequacy rules and lending growth requirements to the SME sector. This allowed even the worst banks to continue raising funds and meant lending standards were not rigorously applied (Hoshi and Kashyap, 2004). The poor performance of the banking sector and the poor discrimination between competing demands for funding by firms may explain some of the decline in the growth of total factor productivity over the stagnation period compared to the previous decade (Table 4.6).

Table 4.6. A decomposition of growth over stagnation episodes
Contributions to growth in potential output per capita

		Portugal 2003-09	Italy 2004-09	Japan 1997-02
Period averages in percentage points				
Capital-labour ratio	Stagnation episode	0.4	0.6	1.0
	Previous decade	1.3	0.9	1.2
	Difference	-1.0	-0.3	-0.3
Trend employment rate	Stagnation episode	0.0	0.3	-0.6
	Previous decade	0.5	0.4	-0.5
	Difference	-0.5	-0.1	0.0
Demographic support ratio	Stagnation episode	-0.1	-0.4	-0.5
	Previous decade	0.1	-0.2	0.1
	Difference	-0.2	-0.2	-0.6
Trend productivity	Stagnation episode	0.3	-0.5	0.9
	Previous decade	0.5	0.1	1.7
	Difference	-0.1	-0.7	-0.8
Total	Stagnation episode	0.7	0.0	0.8
	Previous decade	2.4	1.2	2.5
	Difference	-1.8	-1.3	-1.7
Memorandum: macroeconomic and fiscal variables				
Average annual change in net public debt as share of GDP (Percentage points)	Stagnation episode	3.4	1.2	7.2
	Previous decade	1.3	-0.8	-0.4
	Difference	2.2	2.0	7.6
Average unemployment rate (Percent)	Stagnation episode	7.6	7.2	4.6
	Previous decade	5.2	10.3	2.6
	Difference	2.4	-3.1	2.0

Source: OECD Economic Outlook 88 database.

StatLink  <http://dx.doi.org/10.1787/888932434447>

... although other factors may have played a role

The effects of the banking crisis on growth may have been compounded by other factors, including some weak structural policy settings (such as a high degree of state involvement in business operations and burdensome regulations in some sectors) and macroeconomic policy mistakes. The latter include allowing the economy to slip into a period of deflation, from which it has subsequently been very difficult to escape. An additional contributory factor depressing growth over this period is a decline in the ratio of the working-age to total population (the “demographic support ratio” in Table 4.6) as a result of ageing, which subtracted more than ½ per cent per annum from GDP per capita growth over the stagnation episode.

Portugal's stagnation episode was preceded by a credit boom...

Portugal experienced a credit boom prior to its stagnation episode, which began in 2003. During the five years leading up to monetary union, the nominal long-term interest fell by more than 5 percentage points in Portugal (as well as in Italy and Spain), compared with an average of around 3 percentage points for the euro area as a whole. From 1995 to 2000, the current account deficit rose from virtually zero to more than 10% of GDP as households borrowed massively to finance both consumption and housing (household indebtedness reached 103% of disposable income in 2002 from 39% in 1995). This borrowing fuelled domestic demand, and economic growth in Portugal averaged 4% during the five years to 2000, exceeding the euro area average by 1½ percentage points. When it became clear in the early 2000s that the expectations of continued rapid growth and catch-up on which the spending boom had been premised were not going to be realised, both personal and corporate saving went up and consumption and investment fell sharply, triggering a slowdown, which, combined with a tightening of the fiscal stance, morphed into stagnation. The contribution of growth in capital per worker to growth in potential output per capita fell sharply over the stagnation episode: from 1.3 percentage points on average in the decade to 2003 to only 0.4 percentage points per year over the stagnation episode (Table 4.6).

... and weak structural policy settings have made it difficult to end it

Portugal may have had difficulty shaking off this low-growth period due to weak structural policy settings (OECD, 2010a). Relative to its OECD peers, in 2003 Portugal had low educational attainment, low upper-secondary graduation rates, high public ownership and state control of business operations, restrictive barriers to entry in numerous industries, restrictive regulation in some sectors (such as transport, gas and retail), a relatively high cost of labour, an onerous marginal tax wedge on labour for high earners, strict employment protection legislation and low public support to R&D. The resulting rigidities and the absence of reforms have meant losses in competitiveness as new big players like China increasingly competed with traditional Portuguese exports and businesses were not able to move up the quality chain. This lack of competitiveness has contributed to the economy remaining depressed for many years and is reflected in slower growth in the capital-labour ratio after the credit boom ended.

Italy slipped into stagnation as a consequence of structural weakness

There is no obvious trigger event, such as a banking crisis or the ending of a credit boom, coinciding with the start of Italy's period of stagnation from 2004. Rather, the slowdown in potential growth was long in the making and involved a long-term decline in investment and in trend productivity growth that started in the early 1990s (OECD, 2009a). Such trends are most easily ascribed to weak structural policy settings, which may also have made Italy more vulnerable to shocks or to significant economic changes and thus more likely to experience stagnation. Italy compares poorly against other OECD countries in respect of educational attainment, public ownership and state involvement in

business operations, administrative burdens on entrepreneurship, legal barriers to entry in industries, barriers to foreign direct investment, the restrictiveness of regulations in certain sectors (road, post, professional services), marginal tax wedges on labour and protection for collective dismissals. Such weaknesses have contributed to a persistent and pronounced trend deterioration in measures of competitiveness based on relative unit labour costs. They have also been reflected in a deterioration in the contribution of total factor productivity growth to potential output per capita growth during the stagnation years as well as weaker growth in the capital-labour ratio.

Current stagnation risks

Lingering banking problems represent an adverse risk to growth

A central assumption underlying the baseline projections described in this chapter is that the financial crisis has had an adverse effect on the level of potential output, but will have no lasting effect on its growth rate. This is in line with the average experience following past banking crises (Cerra and Saxena, 2008; Furceri and Mourougane, 2009; Reinhart and Rogoff, 2009; Abiad *et al.*, 2009). There is, however, considerable heterogeneity among individual country episodes, including some where there have been longer-lasting adverse effects on growth rates as illustrated by the Japanese stagnation episode referred to above. Analysing the consequences of six severe OECD banking crises, Haugh, Ollivaud and Turner (2009) find that only in the case of Japan is there evidence of a reduction in the potential growth rate which they attribute to the protracted nature of the banking problems and the resulting misallocation of capital. In the context of the current crisis, this highlights the importance of resolving outstanding banking problems, especially in Europe where a combination of financial weakness and lack of transparency about exposures by some financial institutions represent a downside risk to the outlook (Box 4.3).

Box 4.3. Non-performing loans and financial crises: a historical perspective

Historical experience shows that financial crises (often related to bursting asset bubbles) are usually accompanied by a significant rise in non-performing loans (NPLs). Although the circumstances of the current financial crisis are unique and often country-specific, they share several important parallels with the Nordic (Sweden, Finland and Norway) and the Japanese financial crises of the early 1990s. In both cases, bursting financial asset and property bubbles led to financial turmoil and to recessions. However, the policy responses to the crises were very different:

- In Japan, the authorities injected capital into banks without dealing with the asset side. This approach has often been described as “forbearance and time”; *i.e.* regulators ignore banks’ solvency problems and allow them to make up for unrecognised losses through time (Blundell-Wignall and Slovik, 2011). Consequently, the Japanese crisis dragged on unresolved for the entire 1990s, often referred to in Japan as the “lost decade”. NPLs reached a peak of 9% of total loans only in 2003 and the banking sector recovered only by 2005.

Box 4.3. Non-performing loans and financial crises: a historical perspective (cont.)

- In contrast, in Nordic, governments requested insolvent banks to recognise losses promptly and to transfer bad assets to state-owned asset management companies at book value (OECD, 2009b). Existing shareholders were wiped out and the government took direct ownership of the banks. NPLs in the Nordic countries peaked at around 9% already between 1992 and 1993. The crisis was resolved by 1994, after which business and consumer confidence returned and the economy recovered.


Thus, the historical experience suggests that a prompt recognition of NPLs and an early resolution of banking sector problems is the preferred policy option.

NPLs in most OECD countries increased rapidly during the recent crisis (Table). It has been particularly apparent in countries that had property bubbles (Ireland, Spain and the United States), in Greece since the start of the sovereign debt crisis, and in Iceland, which faced a massive banking crisis. NPLs increased as well in other major OECD countries that were not directly affected by domestic property or sovereign debt crises (France, Germany, Italy and the United Kingdom), while banking systems outside of the United States and Europe (Japan and Canada) appear to have been affected to a much lesser extent.

Bank non-performing loans in selected OECD countries

	2005	2006	2007	2008	2009	2010
	% of total loans					
Australia	0.6	0.6	0.6	1.3	2.0	2.2
Canada	0.5	0.4	0.7	0.8	1.3	1.2
France	3.5	3.0	2.7	2.8	3.6	4.2
Germany	4.1	3.4	2.7	2.9	3.3	...
Greece	6.3	5.4	4.5	5.0	7.7	10.0
Iceland	1.1	0.8	61.2	60.5
Ireland	0.7	0.7	0.8	2.6	9.0	8.6
Italy	5.3	4.9	4.6	4.9	7.0	7.6
Japan	1.8	1.5	1.4	1.6	1.7	1.8
Portugal	1.5	1.3	1.4	1.8	2.8	3.3
Spain	0.8	0.7	0.9	2.8	4.1	4.3
United Kingdom	1.0	0.9	0.9	1.6	3.5	4.0
United States	0.7	0.8	1.4	3.0	5.4	4.9

Source: IMF Financial Soundness Indicators

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After a brief period of forbearance in Ireland – also evident by the failure of the 2010 EU-wide stress test to uncover solvency problems – the banking sector had to recognise very large losses in late 2010. The Irish Financial Measures Programme conducted in early 2011 recognised a further capital shortage of € 24 billion on top of the measures already taken last year (Central Bank of Ireland, 2011). Recapitalisation efforts are also underway in Spain, where in early 2011 the Banco de España required the banking sector to increase its capital base by at least a further € 15 billion (Banco de España, 2011).

Rising government debt poses a risk to the growth outlook...

A second source of concern about growth prospects is the build-up of government indebtedness in the aftermath of the crisis. Results from a relatively small literature suggest a negative impact on growth once government debt passes a certain threshold, typically around 75% or 90% of GDP. In Reinhart and Rogoff (2010), the median real per capita GDP growth rate in advanced economies falls by one percentage point when

gross public debt reaches 90% of GDP and average growth falls even more. In Kumar and Woo (2010), each 10 percentage point increase in the gross debt-to-GDP ratio is associated with a slowdown in annual real per-capita GDP growth of about 0.15-0.2 percentage points per year for advanced economies, the effect being larger when debt goes above 90% of GDP. Applying these results in a ready reckoner fashion to compute the effect of the recent and projected build-up of government debt can lead to rather alarming conclusions: if applied to the baseline projections described above for the OECD area as whole, the estimates imply a loss in the trend GDP growth rate of $\frac{1}{2}$ - $\frac{3}{4}$ percentage point. Moreover, many OECD countries would appear vulnerable with the gross debt-to-GDP ratio in more than half of all OECD countries projected to rise above 75% and in nearly one-third of OECD countries above 90%. The transmission mechanism by which this occurs is likely to involve higher interest rates and a crowding out of private investment and R&D, with adverse consequences for trend productivity growth.

... although causation also runs from slower growth to debt accumulation

At the same time some caution needs to be used in interpreting the findings of this literature, not least because it is difficult to isolate a one-way causal relationship between variables such as trend growth rates and public debt that both move slowly and affect each other. For example, the three episodes of stagnation analysed above, all resulted in a much faster accumulation of government debt (Table 4.6) – but in each case the direction of causation seems to suggest more strongly that stagnation was a cause of the more rapid build-up in government debt rather than a consequence.

Consolidation should minimise adverse effects on growth...

There is unfortunately a trade-off between slowing the accumulation of government debt to stave off its possible negative effect on growth, and the risks that fiscal consolidation itself may create sustained headwinds on the recovery and lead to stagnation. The size of the adverse demand effects will vary by country and depend on the size of the initial fiscal imbalance, the credibility of fiscal consolidation plans, the scope to cut policy interest rates, the fiscal instruments used and the speed of consolidation. Countries face particularly difficult choices regarding the speed of consolidation and the instruments to use, but both provide opportunities to minimise the negative demand effects from consolidation. Fiscal consolidation should be more rapid if there is scope for monetary policy to offset some of the negative demand effects. If the recovery proceeds at the projected pace, the constraints on monetary policy should be less of a concern from 2012 onwards for most countries and the pace of normalisation of interest rates could be then adjusted to partially offset any economic weakness resulting from budget improvements. The contractionary effects of fiscal consolidation could also be partially offset to the extent that credible programmes reduce the risk of sovereign debt defaults, reducing risk premia on government securities which in turn reduce interest rates more generally. Lower long-term interest rates can in turn help boost output in the long-run by raising

investment and productivity. These positive expectational effects that work through financial markets are greater the more clear and credible medium-term fiscal plans are regarding the objectives and the instruments that will be used.

... including by a judicious choice of measures

The terms of the growth trade-off between fiscal consolidation and debt accumulation can be further improved by placing more weight on measures that improve long-term fiscal positions but which have relatively limited immediate negative effects on demand. For instance, raising the retirement age can at the same time reduce long-term fiscal pressures and have a positive impact on potential output from higher labour force participation of older people. It may even raise aggregate demand in the short run as people need to save less for shorter retirement periods. Consolidation should also avoid measures, such as reducing public investment or support for R&D, which weaken the supply side and instead target measures which strengthen it. OECD (2010b) has a detailed discussion of the pros and cons of different fiscal consolidation instruments on both the revenue and spending sides.

Higher oil prices may contribute to stagnation but not be a main cause

A third factor that may hinder economic growth over the medium term is high and rising oil prices. Sharp rises in oil and commodity prices combined with macroeconomic policy mistakes led to stagflation in the 1970s. By draining away funds that consumers would otherwise spend on other things, high oil prices reduce consumption and demand in the short run (see Chapter 1). But high oil prices can affect the economy's supply side as well. They signify greater intensity in the use of other inputs (labour and capital) which are available only in inelastic or limited elastic supply, implying a fall in productive potential. Previous OECD estimates based on a four-factor Cobb-Douglas production approach (OECD, 2008) suggest that a doubling of real oil prices would reduce the steady-state level of output by about 1¼ per cent in the United States and about 1¼ per cent in other (less energy-intensive) OECD economies.⁹ Assuming the shock was in the form of a trend increase in the growth rate of real oil prices, so for example real oil prices doubled over the course of a decade, the medium-term effects of rising real oil prices could reduce the growth rate by 0.1-0.2 percentage points per annum. Still, it seems more likely that rising real oil prices would be a contributory factor to stagnation rather than a principal cause, especially if attendant revenues accruing to oil-producing countries are recycled into safe government securities in major OECD countries, so lowering long-term interest rates.

Demographic change will pull down growth across the OECD

Though not a risk of stagnation because it is already included in the baseline scenario presented above, population ageing and accelerating retirements will provide a negative backdrop to growth prospects across

9. These estimates are likely to exaggerate the long-run costs of higher energy prices because they assume fixed factor shares and do not allow for changes in technology in response to changing relative factor prices.

the OECD. No OECD country is expected to have such a large demographic drag on the growth of potential output per capita as Japan has been experiencing over the past decade, but in nearly all OECD countries a falling demographic support ratio is expected to start pulling per capita growth down within the next ten years. Looking at the 2020-25 period where the demographic effect will be most significant, the drag on annual growth in potential output per capita will be ¼ percentage point per annum or more for several countries. On the other hand, policy changes, especially in public pension provision, and economic necessity may push up the old-age participation rate and increase the average retirement age, offsetting some of the projected impact, which effectively assumes that the maximum age of the working population is fixed at 65.

Structural reforms can help avoid stagnation...

Tentative conclusions from the episodes of stagnation are that weak structural policies make an economy more vulnerable to stagnation and that policy mistakes as seen in Japan can aggravate and prolong it. In the case of Italy it can be argued that this was the underlying cause of stagnation as manifest in the trend deterioration in competitiveness. In the case of Portugal, it may have made it more difficult for the economy to recover from the consequences of a severe shock (in this case the ending of a credit boom). A combination of structural and fiscal reforms thus constitutes the best strategy to reduce the risks that the weak growth observed in many OECD countries in the post-crisis period will turn into stagnation.

... and boost long-term growth, thus facilitating fiscal consolidation

Not only can structural reforms reduce stagnation risks, they can also boost medium- and long-term growth. OECD research has shown that a gradual alignment to OECD best practices of product market regulations, job protection legislation, unemployment benefit systems, activation policies, labour taxes and pension systems could boost aggregate labour productivity levels by several per cent over the next decade in many OECD countries, with large continental European countries such as Italy having the largest benefits to reap from reforms (Bouis and Duval, 2011). By raising potential growth, such reforms would at the same time facilitate fiscal consolidation and help tackle some of the specific legacies of the recession, not least weakness in labour markets that could otherwise turn out to be more persistent and cause higher structural unemployment than assumed in the baseline (see Chapter 1).

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