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Fiscal consolidation: How much, how fast and by what means?

AN ECONOMIC OUTLOOK REPORT

Fiscal consolidation: How much, how fast and by what means?

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More detailed information is available from the *OECD Economics Department Working Paper* series on Fiscal Consolidation:

- Part 1. How much is needed and how to reduce debt to a prudent level?, No. 932
- Part 2. Fiscal multipliers and fiscal consolidations, No. 933
- Part 3. Long-run projections and fiscal gap calculations, No. 934
- Part 4. Case studies of large fiscal consolidation episodes, No. 935
- Part 5. What factors determine the success of consolidation efforts?, No. 936
- Part 6. What are the best policy instruments for fiscal consolidation?, No. 937

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Abstract / Résumé

Fiscal consolidation: How much, how fast and by what means?

The economic and financial crisis was the catalyst for a fiscal crisis that engulfs many OECD countries. Consolidating public finances in order to address the consequences of the crisis, underlying weaknesses and also future spending pressures creates important challenges. Fiscal consolidation requires choices to be made about how much consolidation is needed, how fast it should be implemented and which instruments should be used. Estimates of fiscal gaps suggest that substantial and sustained fiscal tightening will be needed in nearly all countries to bring debt down to prudent levels. However, given a weak global economy, implementing a large fiscal tightening could be particularly costly. Structuring consolidation packages to use instruments with low multipliers initially and enhancing the institutional framework for fiscal policy to lend greater credibility to the commitment to consolidate over time may help minimise the trade-offs with growth in the short run. In most countries there is scope to target spending programmes more effectively and eliminate distortions in taxation. Such measures, buttressed by structural reforms, such as to unsustainable pension systems, can underpin fiscal sustainability, while minimising the costs to long-run growth.

JEL Codes: H62; H63; H68

Keywords: Fiscal consolidation; fiscal gaps

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Consolidation budgétaire : quelle ampleur, quel rythme et quels moyens ?

La crise économique et financière a servi de catalyseur à une crise budgétaire qui submerge de nombreux pays de l'OCDE. Assainir les finances publiques pour faire face aux conséquences de la crise, aux faiblesses sous-jacentes ainsi qu'aux pressions futures sur les dépenses publiques représente un défi majeur pour bon nombre de pays. La consolidation budgétaire implique des choix quant à l'ampleur de la consolidation nécessaire, au rythme auquel elle doit être mise en œuvre et aux moyens à utiliser. Sur la base d'estimations des écarts budgétaires, il semble qu'il faudra un resserrement budgétaire important et durable dans presque tous les pays pour ramener la dette à des niveaux prudents. Cependant, compte tenu de la faiblesse de l'économie mondiale, la mise en œuvre d'un vaste programme de restriction budgétaire pourrait être particulièrement coûteuse. Structurer les programmes de consolidation de façon à utiliser au départ des instruments à multiplicateurs faibles et, à terme, à améliorer le cadre institutionnel de la politique budgétaire afin de rendre plus crédible l'engagement à assainir les finances publiques pourrait aider à réduire au minimum les arbitrages avec la croissance à court terme. Dans la plupart des pays, il est possible de cibler plus efficacement les programmes de dépenses et d'éliminer les distorsions de la fiscalité. Ces mesures, étayées par des réformes structurelles telles que la réforme des systèmes de retraite, qui ne sont plus tenables, peuvent soutenir la viabilité budgétaire tout en réduisant au minimum les coûts pour la croissance à long terme.

Codes JEL : H62 ; H63 ; H68

Mots-clés : Consolidation budgétaire ; assainissement budgétaire ; écart budgétaire

Fiscal consolidation: How much, how fast and by what means?

Key policy messages

- Many countries face enormous fiscal consolidation challenges. Even if debt-to-GDP ratios stabilise over the medium term, they would remain at dangerous levels.
- Countries should reduce debt levels to around 50% of GDP or lower to provide a safety margin against future adverse shocks.
- Some countries – including Greece, Iceland, Ireland, Portugal and Spain – have started fiscal consolidations of between 5% and 12% of GDP, which are very large by historical comparison.
- Other countries, notably, Japan, the United Kingdom and the United States require a fiscal tightening that would exceed 5% of GDP in order to bring their debt back to 50% of GDP by around mid-century.
- Spending pressures, principally from health and long-term care will continue to mount, and could require an additional permanent fiscal tightening of several percentage points of GDP to help keep debt down in the future.
- Due to the scale of consolidation needs, most countries will need a sustained period of fiscal tightening, acting on both the revenue and spending side.
- The extent to which revenue or spending bears the brunt of consolidation will depend on whether spending is already high.
- Given the current state of the economy and the already exhausted monetary stimulus, implementing a large degree of fiscal tightening could be particularly costly.
- Using instruments with low multipliers initially may help minimise the trade-off with growth in the short run, but could involve other trade-offs, such as with credibility of the effort.
- Given the scale of ageing and other spending pressures, reforms to entitlement programmes need to be an important part of any longer-term sustainability strategy.
- Potential budgetary savings have been identified, which are either growth-friendly or have little adverse effect on economic activity. For most countries they amount to between 4% and 10% of GDP. More specifically:
 - Efficiency gains in public spending on health and education could yield savings of 0.5% to 4.5% of GDP in the longer term.
 - There is scope to broaden tax bases by eliminating tax expenditures (such as tax credits or deductions). These can be costly, with individual large items accounting for 1% of GDP or even more in many countries.
 - Environmental taxes, user fees for government services, taxes on immovable property and well-designed financial sector levies could support fiscal consolidation while minimising welfare costs.
- Fiscal institutions and fiscal rules may be helpful in buttressing credibility. In the longer run, better institutional frameworks can help ensure that fiscal policy stays on track.

1. Debt levels are unsustainable in many countries

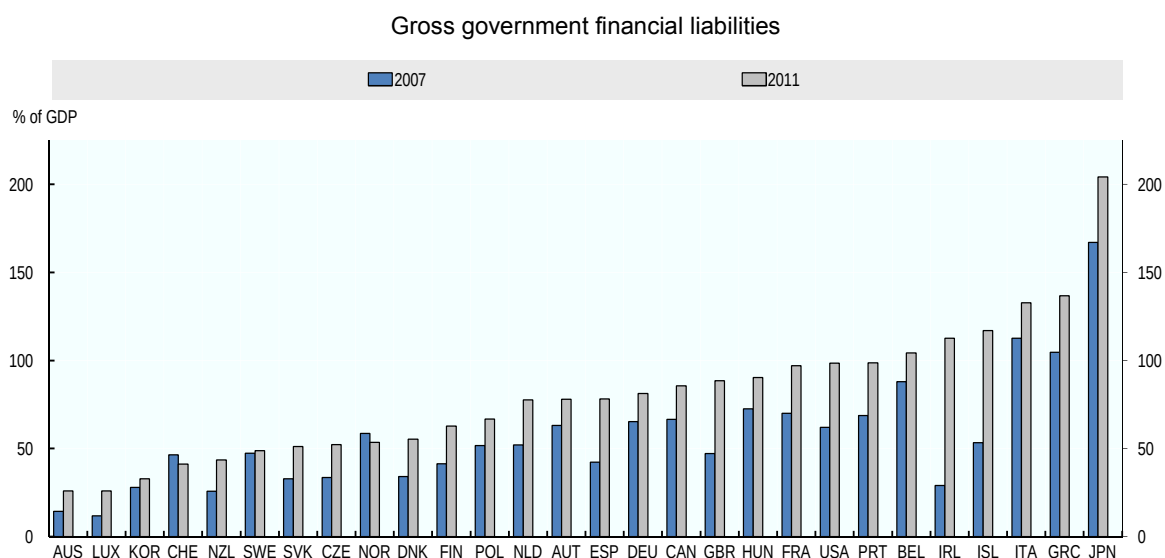
Debt rose as a result of misjudged past policies...

Debt levels in the OECD have trended upwards, with countries often insufficiently ambitious in bringing debt levels down during expansions. In some cases, declines in revenue shares during the expansion, which preceded the crisis, suggest that governments were engaging in a pro-cyclical easing of fiscal policy. This has been a consistent feature of fiscal policy in some European countries since the early 1970s (Égert, 2010). During the most recent expansion, the impact of lower interest rates and in some cases lower debt on debt servicing and the apparent strength of revenues seduced some governments into cutting taxes and relaxing control over spending. Indeed, new estimates of underlying budget balances that adjust not only for the effect of the economic cycle but also take account of asset price effects on revenues suggest much weaker balances as a share of gross domestic product (GDP) in a number of countries, notably Ireland and Spain (Price and Dang, 2011). As such, when fiscal positions appeared to improve before the financial crisis struck, they were often too flattering.

... and also due to the scale of the crisis

What sets this crisis apart is how widespread and rapid the build-up of debt has been, making the need for fiscal consolidation pressing for most OECD countries. The automatic stabilisers played a role, with spending on unemployment benefits surging and tax revenues evaporating. Tax revenues were further dented by asset price movements, which had boosted revenues in the pre-crisis period. Spending further jumped due to governments putting in place support packages and assuming various liabilities. Furthermore, a level shift in potential output as an effect of the crisis meant that prevailing levels of spending became inconsistent with pre-existing tax rates and implied a need to curb spending just to stand still. For the OECD as a whole, gross government debt is expected to rise to unprecedented levels, having exceeded 100% of GDP for the first time in 2011 (Figure 1). In Japan, this ratio has risen to over 200% of GDP. Even in some low-debt countries gross debt increased quite strongly. Only Norway and Switzerland have bucked the trend, reducing debt levels.

Figure 1. **Debt has jumped during the crisis in almost all countries**



Source: OECD Economic Outlook No. 89 Database.

StatLink <http://dx.doi.org/10.1787/888932586523>

Large improvements in fiscal positions will be needed to reduce debt

In most countries, once debt has stabilised it will be at high and sometimes unsustainable levels. A natural question is then what reduction in debt would be warranted. While different debt targets will be appropriate for different countries, a target of around 50% of GDP can nonetheless be supported by some arguments. For example, empirical estimates suggest that the performance of the economy weakens in various respects around debt levels of 70%-80% of GDP: interest rate effects of debt seem to become more pronounced (Égert, 2010), offsetting saving responses to discretionary policy changes become more powerful (Röhn, 2010) and trend growth seems to suffer (Reinhart and Rogoff, 2010; Cecchetti *et al.*, 2011). Building in a safety margin to avoid exceeding the 70%-80% levels in a downturn suggests aiming at a target of 50% or even lower during normal times.

Episodes of debt reduction since the early 1970s hold the general lesson that improvements in the primary balance are important in reducing debt, though at times interest rate and growth dynamics have helped. In earlier periods of very high debt, overhangs were worked off by rapid growth, primary balances and negative real returns as well as in some cases financial repression.

One possible way to deal with a high debt level is to erode it through higher inflation, but this is likely to be accompanied by drawbacks. Such a policy would be most effective when debt is not indexed, maturity is relatively long and rollover requirements are low, since otherwise higher interest rates are likely to accompany higher inflation, which would offset the effects of the latter on the debt burden. Even so, simulations presented in the *OECD Economic Outlook 89* show that for realistic maturity structures of government debt the contribution of inflation to reducing debt would likely be modest (OECD, 2011c). The drawbacks of such an approach to reducing debt would be felt principally through the negative growth effects of higher rates of inflation, some of which may accrue through associated higher price volatility as well as distortions created through interactions with the tax and benefit system (Edey, 1994).

For high inflation to make a marked dent on debt levels, some form of financial repression, such as requiring banks to hold government bonds, would probably be needed to ensure interest rates remain low relative to inflation. Following the end of World War II and until the beginning of the 1980s, financial repression often played a role in reducing the huge stocks of debt accumulated during the war. Reinhart and Sbrancia (2011) estimate that financial repression contributed to a “liquidation effect”, which for example amounted to a reduction of Italian government debt of around 5% annually. However, financial repression has adverse consequences. For example, imbalances which developed as a cause of financial repression contributed to financial crises in the Nordic countries in the late 1980s and early 1990s. Hence, it seems likely that adjustment of the primary balance will have to be the main driver of a move to more sustainable debt levels.

2. Fiscal consolidation is under way

Most countries have already started to consolidate...

Many countries have already started fiscal consolidations, which have implications for economic growth in the short term. In some cases, notably for those countries most under pressure from the bond markets, the on-going and announced tightening is substantial, being large and rapid by historical comparison. Between the trough following the onset of the crisis, which was 2009 for most countries, and the value projected for 2012 in spring 2011, a handful of countries are expected to tighten by more than 5% of GDP. In many of the remaining countries, underlying primary balances are expected to have tightened by more than 2% of GDP.

... but more consolidation will be needed

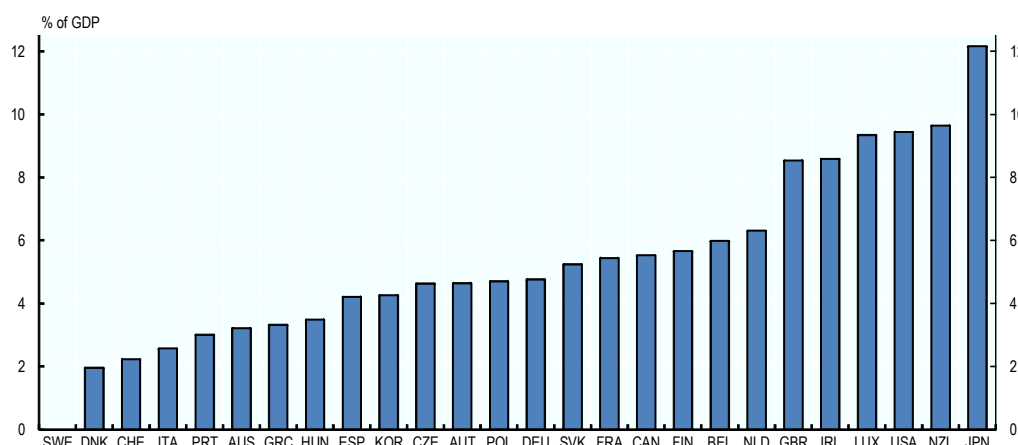
Additional fiscal consolidation will be required beyond 2012. Recent OECD work has assessed these post-2012 needs, both in terms of stabilising debt over the medium term (the mid-2020s at the latest) and also meeting prudent debt targets in the long term (taken to be in 2050). The consolidation requirements to stabilise debt (OECD, 2011c), are based on stylised assumptions about a sustained and gradual annual tightening of the underlying primary balance by 0.5% of GDP until debt stabilisation is reached. Calculation of long-term fiscal gaps on the other hand is based on an alternative stylised assumption that the tightening will be implemented immediately and will be sustained until 2050 to meet a specific debt target (Merola and Sutherland, 2012). Both approaches come to broadly similar conclusions on the magnitude of consolidation needs, but the focus here is on the long-term fiscal gap calculations.

The fiscal gap shows the *immediate* and *permanent* improvement in the underlying primary balance that is required to ensure that debt meets a target at a certain point in time, based on a simplified model of the economy and a number of assumptions about growth, interest rates, inflation and underlying fiscal policy. The baseline simulation shows the immediate tightening of the underlying primary balance in 2013 needed to ensure that gross financial liabilities are 50% of GDP in 2050.

The fiscal gaps vary enormously across countries when projections incorporate spending pressures emanating from pension, health and long-term care spending (Figure 2). For example, the fiscal gaps for Ireland, Japan, Luxembourg, New Zealand, the United Kingdom and the United States exceed 8% of GDP. On the other hand, a number of countries – Denmark, Sweden and Switzerland – either face no or low tightening requirements to meet the debt target in 2050. The fiscal gaps do not change markedly relative to the baseline if alternative debt targets are used. This occurs because even relatively small changes in underlying fiscal positions add up when maintained for 40 years. However, taking government financial assets into consideration may indicate that fiscal positions are in better shape, notably for Japan. In other cases, such as in Finland, the large net asset position reflects pre-funding for pension spending.

Figure 2. How much consolidation is needed: fiscal gap results

Immediate rise in the underlying primary balance needed to bring gross financial liabilities to 50% of GDP in 2050



Note: Projections include health and long-term care and also pension spending.

Source: Merola, R. and D. Sutherland (2012), "Fiscal Consolidation: Part 3. Long-run Projections and Fiscal Gap Calculations", *OECD Economics Department Working Papers*, No. 934, OECD Publishing.

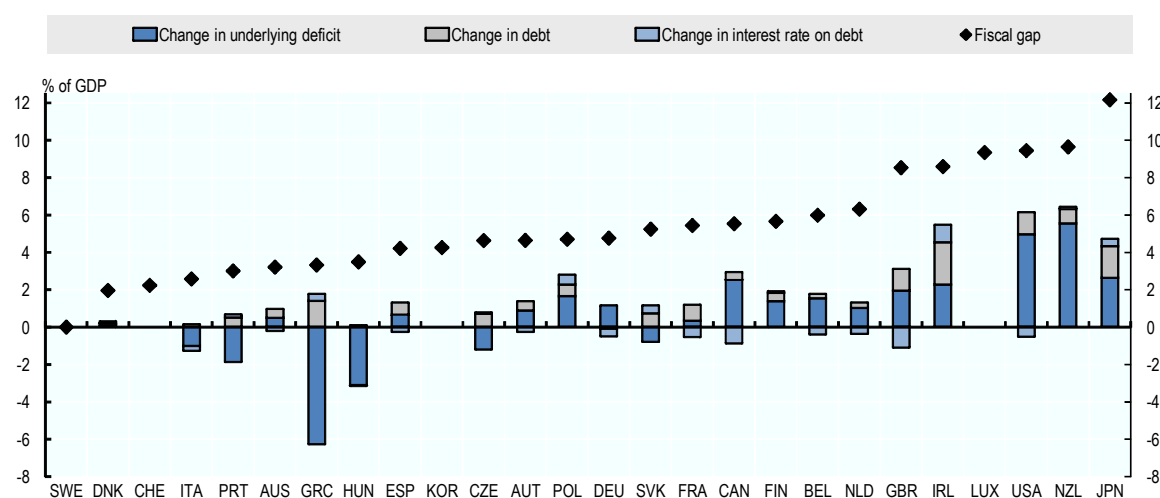
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Addressing the impact of the crisis...

As noted above, the increase in debt between 2007 and 2013 was largely driven by the impact of the financial and economic crisis. The impact of the crisis can be assessed by evaluating the effect of the changes in the underlying fiscal position, the debt level and the interest rate paid on debt (Figure 3).

Figure 3. The impact of the crisis on fiscal gaps

Immediate rise in the underlying primary balance needed to bring gross financial liabilities to 50% of GDP in 2050, and the impact of the change in the underlying deficit, debt level and interest rate on debt between 2007 and 2012



Note: The fiscal gap calculation includes “high” health care and long-term care costs as well as projected increases in pension spending. The contribution of changes in the underlying deficit, debt levels and interest rates are evaluated as the difference from the fiscal gaps in the baseline simulation. A negative contribution implies that the underlying fiscal position improved or the interest rate paid on government debt fell between 2007 and that projected for 2012.

Source: OECD calculations based on *OECD Economic Outlook Database*.

StatLink <http://dx.doi.org/10.1787/888932586561>

While the impact of the crisis has been substantial in some countries, it often represents a relatively small part of the overall fiscal challenge, which is for many countries driven by future pension and health care spending pressures (see below).

- In a number of countries – Korea, Luxembourg and Switzerland – the fiscal gap does not appear to have been affected by the crisis and is driven by projected developments in health and long-term care and pension spending.
- Countries where underlying deficits have deteriorated most – for example, New Zealand and the United States – generally face much larger fiscal gaps.
- In some cases, such as Ireland, debt developments during the crisis have contributed significantly to the fiscal gap.
- A number of countries, notably Canada, Germany, the United Kingdom and the United States have benefited from declines in the interest paid on government debt.

- Countries undertaking large fiscal consolidations, such as Greece, Hungary and Portugal, generally face moderate fiscal gaps due to the assumption that the large improvements in underlying balances achieved by 2012 are maintained.

It may seem ironic that euro area countries with relatively modest fiscal gaps are the victims of a virulent debt crisis whereas other countries with much larger fiscal gaps enjoy very low bond yields at present. This partly reflects concerns about potential needs for intervention in euro area banking systems, but also that euro area debt essentially corresponds to foreign currency denominated debt for the individual country. In the absence of corrective action, higher interest rates could lead to substantial increases in debt, particularly in high debt countries (*e.g.* Japan and Greece) but also for those countries running large structural deficits (*e.g.* the United Kingdom, Ireland, New Zealand and the United States).

... and significant future spending pressures

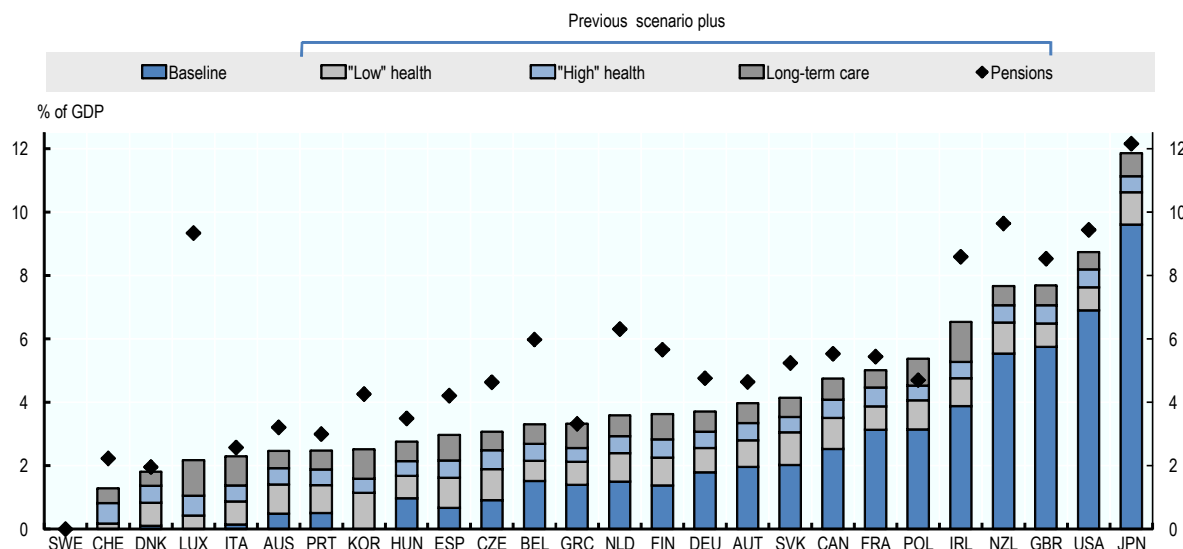
Future spending pressures arising from health and long-term care and pensions account for a significant portion of consolidation needs in all countries, with the exception of Sweden.

- In the case of health care spending, higher levels of spending are not necessarily undesirable, but financing higher spending can create difficulties (Hall and Jones, 2007). Two sets of health care spending projections are used (Oliveira-Martins and de la Maisonnette, 2006). The average projected increases in health and long-term care spending by 2050 are 3½% of GDP in a low spending scenario and around 6% of GDP in a high spending one. As the projected increases are relatively similar across countries, because health spending is not primarily driven by demographics but rather by technological developments in the supply of health care, the impact on the fiscal gaps does not vary much across countries. Nonetheless, the fiscal gaps rise by over 1.5% of GDP in Canada, the Czech Republic, Japan, New Zealand and Switzerland when greater cost pressures affect health spending (Figure 4).
- If pension spending is included it alters radically the fiscal gaps for many countries relative to the baseline scenario (Figure 4). The fiscal gaps of the countries facing the largest pension problems, such as Luxembourg, Belgium and the Netherlands underscore that meeting these challenges would be better addressed by structural reforms rather than by higher taxation which is used to build up financial assets in advance, which are then used as people retire. In some cases, such as Greece and Spain, reforms to the pension systems in 2010, which are incorporated in the projections, have addressed significant pressures emanating from this source. In Sweden and Poland, on the other hand, maintaining the current underlying fiscal position combined with the implications of the notionally-defined contribution pension system means that no additional or less tightening is required to meet a gross financial liabilities debt target of 50% of GDP in 2050.

The fiscal gaps give a common metric for assessing the need for fiscal consolidation rather than providing a normative approach to how such a consolidation should be implemented. When the fiscal gap is large, it may not make sense to implement such a large consolidation effort immediately. Sustaining fiscal policy tightening, even at seemingly modest levels, over very long periods will be necessary but may present a considerable challenge. Finally, as the fiscal gaps are based on meeting arbitrary debt targets in 2050, the evolution of debt is unlikely to be stable as a share of GDP at the end of the simulation, potentially masking pressures that will continue to mount beyond the end of the simulation. When fiscal pressures are mounting over the simulation, debt levels may need to fall to quite low levels before 2050 in order to meet the debt target of 50% of GDP at the end of the simulation.

Figure 4. **Additional fiscal consolidation needs are significant in almost all countries**

Fiscal gaps, baseline and with health and long-term care spending and pensions showing the immediate rise in the underlying primary balance needed to bring gross financial liabilities to 50% of GDP in 2050



Note: "Low" health assumes policy action curbs health spending growth. "High" health is the additional cost pressure in the absence of these policy actions.

Source: Merola, R. and D. Sutherland (2012), "Fiscal Consolidation: Part 3. Long-run Projections and Fiscal Gap Calculations", OECD Economics Department Working Papers, No. 934, OECD Publishing.

StatLink <http://dx.doi.org/10.1787/888932586580>

The pace of consolidation needs to consider short-run growth

The pace of consolidation needs to balance consolidation requirements with the effects of fiscal retrenchment on aggregate demand. Ideally, in the short term, the pace should depend on the state of public finances, the strength of growth, the ability of monetary policy to cushion the demand effects of fiscal tightening, and the need to signal a credible commitment to fiscal consolidation. However, there are significant uncertainties surrounding several of these factors, which makes gauging the appropriate pace of consolidation complicated. These uncertainties would argue for a consolidation strategy that could be implemented flexibly, capable of adjusting the speed and intensity as new information becomes available. Moreover, it argues for implementation that initially favours policies with comparatively low multipliers and reforms that underpin credibility, but have little negative effect on demand in the short run. For example, pension reforms can have large effects on long-term sustainability and may have little negative effect in the short term. Indeed, insofar as postponed retirement allows future pensioners to build up savings over a longer period, there could in principle even be a positive effect.

Early consolidation would be preferable in some cases

Given high government debt-to-GDP ratios, some countries run the risk of unsustainable debt dynamics developing, especially if financing costs spike because of lack of credibility. While interest rates on government debt remain relatively low in many countries, debt levels in the wake of the crisis are significantly higher, implying latent upward pressure on borrowing costs. When debt is high and interest rates likely to respond strongly to further increases in government debt, this can threaten a snowball effect and, hence, tilt the case towards earlier consolidation. Even moderate delays may incur costs with the development of particularly adverse debt dynamics (Corsetti *et al.*, 2011). On average for the OECD, interest payments accounted for around 2.5% of GDP in 2007, but in a scenario

of gradual debt stabilisation over the medium term, the resulting higher debt levels coupled with a normalisation of interest rates could push up interest payments to over 4% of GDP in 2026 (OECD, 2011c). Thus, in countries which are particularly exposed to a financial market reaction the extent of consolidation may need to be larger and the pace faster than may be optimal if the main concern was the strength of the recovery.

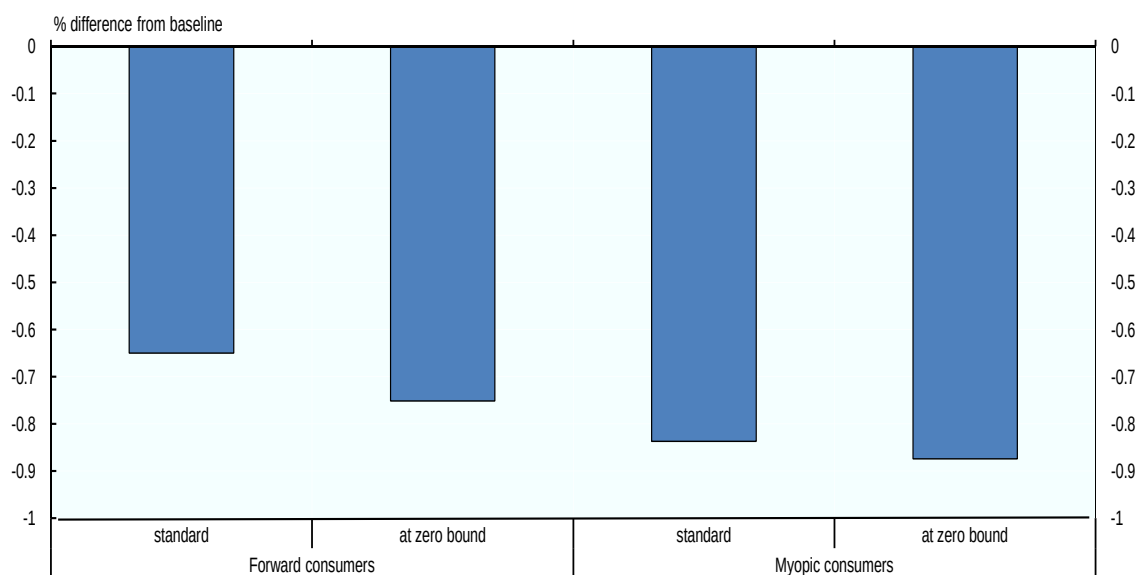
Monetary policy cannot accommodate fiscal consolidation in most countries

With interest rates very low in many countries, monetary policy is unlikely to be able to offer much support through lower rates, arguing for a gradual phasing in of consolidation measures. As economies recover, monetary policy is less likely to face this problem and thus the pace of consolidation could be increased. To explore the implication of the constraints imposed by low interest rates which cannot fall below the zero floor level, a simulation for the United States investigates this constraint during the first year of the simulation (using the NiGEM macro-econometric model, see Barrell *et al.*, 2012). As interest rates cannot fall, household saving does not absorb as much of the shock and output falls by 0.1 percentage points more than in a baseline where interest rates are not already at the zero floor and with forward-looking consumers.

When people make decisions based on past developments (myopic consumers), they are less influenced by short-term interest rates. Hence the zero bound raises the multiplier by less if consumers are myopic rather than forward looking, as can be seen from Figure 5. When consumers are forward-looking (which is equivalent to assuming that the policies in place are credible), the negative multiplier effects are smaller than when compared with scenarios when agents have myopic expectations. The simulations for the United States suggest that the multiplier effect of fiscal consolidation would shrink from -0.9 when all agents are backward looking, to -0.7 when agents are forward looking. In this context, policies and institutions that help commit government to fiscal probity have a potential role in cushioning activity in the short run.

When the state of public budgets does not dictate the pace of consolidation, more gradual tightening may minimise the short-term pain but require a larger overall amount of consolidation. Simulations for the United States, using the long-run model behind the fiscal gaps and therefore assuming no impact of consolidation on output, show that gradual tightening could allow adverse debt dynamics to develop (Figure 6). Thus, too slow a consolidation may require more fiscal tightening to bring debt down to prudent levels. This arises because debt levels above a threshold of around 75% of GDP incur an estimated higher risk premium of 4 basis points for each additional percentage point of debt (Égert, 2010). Fiscal gap calculations examining the mechanical consequences of a short delay in fiscal consolidation generally find that for most countries this has little effect on the necessary overall tightening. However, for countries where actual debt is high or current deficit levels imply a particularly rapid run-up in debt, such as New Zealand, the United Kingdom, the United States and Japan, even a short delay would visibly increase the required tightening of the underlying primary balance to reach prudent debt levels. However, the cost of delay may be exaggerated as the consequences of consolidation on output in the near term cannot be offset by monetary policy.

Figure 5. Impact of the zero lower bound for interest rates on the US consolidation multiplier



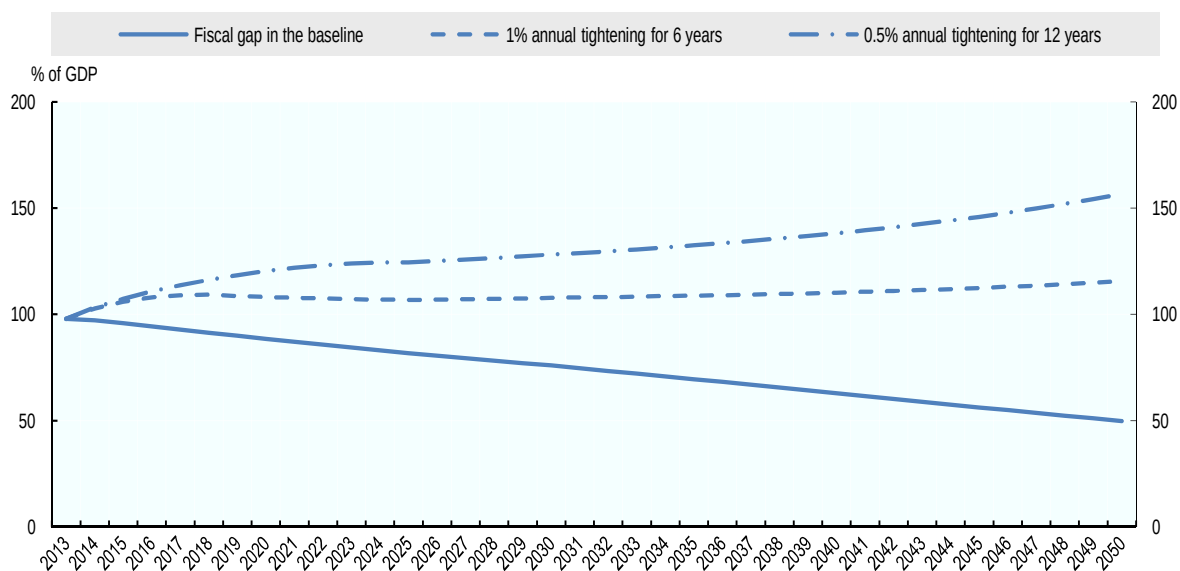
Note: This is the effect of a reduction in government spending on GDP in the first year.

Source: Barrell, R., D. Holland and I. Hurst (2012), "Fiscal Consolidation: Part 2. Fiscal Multipliers and Fiscal Consolidations", *OECD Economics Department Working Papers*, No. 933, OECD Publishing.

StatLink <http://dx.doi.org/10.1787/888932586599>

Figure 6. The pace of fiscal tightening

Evolution of gross financial liabilities for the United States when the underlying primary balance is tightened so that debt is 50% of GDP in 2050 and the consequences of phasing in the same tightening more gradually



Source: Merola, R. and D. Sutherland (2012), "Fiscal Consolidation: Part 3. Long-run Projections and Fiscal Gap Calculations", *OECD Economics Department Working Papers*, No. 934, OECD Publishing.

StatLink <http://dx.doi.org/10.1787/888932586618>

3. How have consolidations been implemented in the past?

While most episodes of tightening of the underlying primary balance in the past have been relatively small, they have reached as much as 11% of GDP, which suggests that sustained consolidations of the scale currently needed are possible. When consolidations succeeded in stabilising debt, a number of economic conditions and policies appear to have contributed to this success.

Stronger growth and falling interest rates help consolidation...

The empirical analysis reported in Molnar (2012) identifies a number of economic conditions that affect the probability of consolidation measures succeeding in stabilising debt (a “successful consolidation”). Successful consolidation episodes are typically supported by somewhat stronger growth than consolidation periods in general. Likewise, falling interest rates help debt stabilisation through reducing debt servicing costs and cushioning the contractionary impact of consolidation. Depreciation of the nominal effective exchange rate seems to be conducive to reducing debt, which may work through competitiveness gains boosting exports, and also appears to lengthen the consolidation episode. These results hold out limited promise of successful consolidation in current circumstances, as growth is modest and the interest rates controlled by central banks are already relatively low.

... while bringing spending under control helps stabilise debt

The design of a consolidation package appears to influence its outcome, particularly its chances of stabilising debt (fiscal rules are discussed below). Bearing in mind that determining the causal links is complicated, consolidations that are based on restraining spending appear to be more effective in stabilising debt and are more durable. However, large consolidations have a higher probability of success in stabilising debt, if achieved by multiple instruments, including both revenue and spending items. Of the specific spending categories, a reduction in social security spending can increase the probability of debt stabilisation, but large cuts may not be sustainable. There is some evidence that cutting subsidies or government wages may help stabilise debt. Relying on cuts of other items, such as social protection and housing, has historically been associated with bigger consolidations, though they do not seem to affect whether the consolidation succeeds in stabilising debt.

In some cases sub-central governments appear to support consolidation. State-level governments pursuing a fiscal tightening can improve the chances of stabilising overall debt. At the local government level, the sensitivity of the estimates to the inclusion of particular countries suggests that in some cases local government actions may have hindered the success in stabilising debt during a consolidation. This may occur either as a reaction to central government trying to shift the burden to other levels of government or as a reflection of the nature of sub-central government spending. For instance, central governments could be tempted to reduce transfers to lower levels of government or burden them with new unfunded spending responsibilities. If this results in ballooning deficits at the sub-central level of government, consolidation efforts could be undermined. In other cases, sub-central governments are responsible for politically sensitive spending, such as health and education, and they could be reluctant to contribute to a consolidation driven by the central government. In this context, governments may need to guard against fiscal liabilities developing at sub-central levels of government.

Lessons can be learned from past large consolidation episodes

Unlike for many past fiscal consolidations, the required fiscal tightening is currently large in many countries and consolidation efforts will have to be sustained for many years. Nonetheless, while the required tightening is often large, it is not without precedent. A number of OECD countries have

implemented large and sustained consolidations in the past, and while these experiences may not be fully comparable with conditions today, these episodes extended over several years, during which budgets improved considerably and debt tended to stabilise and then shrink (Blöchliger *et al.*, 2012).

- Large swings in underlying budget balances were generally implemented over a prolonged period. Debt often began to stabilise a few years after the fiscal tightening began, but often remained above the level before the consolidation began. The government spending-to-GDP share fell, particularly when spending was large relative to GDP. Furthermore, the spending composition tended to change with investment one of the principal casualties. The share of revenues in GDP generally rose gradually prior to and during the consolidation episodes.
- The macroeconomic environment often supported the consolidations and indeed had already turned favourable before consolidation started. Typically growth rates picked up before fiscal tightening began, with the output gap beginning to close although unemployment rates started to decline a bit later. Growth generally returned to robust rates relatively quickly, though sometimes stalled. The favourable growth developments often reflected improving competitiveness. Either prior to or accompanying the beginning of consolidation, large currency depreciations strengthened current account balances. Interest rate developments also often supported consolidation, particularly once it was underway. Long rates on government bonds tended to fall during a consolidation, but only once it was well underway. In current conditions, some of these supporting conditions are unlikely to materialise.
- In most cases, and as noted above, improving primary balances contributed to bringing debt under control (often changing from negative to positive when debt was reduced) with relatively little role played by the net effect of real interest and growth rates. In the case of Italy during the 1990s, however, positive real interest rate effects initially swamped the relatively large primary surpluses and other effects on debt dynamics, contributing to leaving debt 25% of GDP higher at the end of the consolidation episode. For both Japan and the United Kingdom, a significant tightening of the underlying primary balance was insufficient to bring debt down until after the tightening finished.
- Finally, pursuing large-scale consolidation was often not harmful to the incumbent government's election chances. Most consolidation episodes were implemented shortly after an election. More than half of the governments that had started a consolidation were re-elected, and some strengthened consolidation efforts after re-election. In some cases, an incoming government continued the consolidation.

4. The choice of instrument should favour long-term growth

The scale of current needs reinforces the case for using instruments that are friendly to long-term growth. In addition, structural reforms can help, through their implied effects on primary budget balances and to the extent higher growth is beneficial for debt dynamics. Although the “optimal” size of government is not known, the marginal net social costs – including the excess burden of taxation – of additional public spending increase more than proportionately with the additional taxation needed to finance spending. Given the current high level of public spending in many OECD countries and the future spending pressures due to population ageing, a large part of consolidation in these countries probably should consist of cuts in public spending and addressing drivers of future spending pressures. In countries where spending is low, greater emphasis can be put on revenue measures.

Given that spending cuts are largely unavoidable, a key question is how to maximise the positive and minimise the negative impacts on long-run growth, while at the same time considering other

policy objectives such as equity concerns. Potential trade-offs can be mitigated by re-designing tax and benefit systems, but may also require making deeper choices in system design. In some cases, rethinking how distributional goals are achieved may offer scope to reduce transfers while encouraging greater labour force participation. In other cases, scope to minimise costs exists by aiming to improve both allocative efficiency (better use of resources) and technical efficiency (maximising output for a given level of inputs). In most OECD countries, fiscal consolidation will also entail revenue reforms. There is scope to increase revenue by measures to broaden the tax base, particularly by pruning so-called tax expenditures (*e.g.* tax credits and tax deductions). When tax rates need to go up, focussing measures on those tax bases that have less distortionary effects can help to make fiscal consolidation on the revenue side less costly to long-term output. Finally, taxation of negative externalities may improve both welfare and public budgets.

A wide range of instrument options is available

Reforming social transfers

Transfers tend to be progressive, but they can impact on labour force participation and thus design is important. For instance, high unemployment benefits, which fall over time, may have only limited adverse effects on work incentives. Besides design features, the scope of social transfers affects the trade-off with the social dimension. Universal benefits are likely to require a comparatively high tax take to finance them, whereas means-tested transfers limit the total cost, but are likely to introduce adverse incentive effects through higher marginal effective tax rates for many more families. Ultimately, politicians will need to decide the balance between universality and means testing.

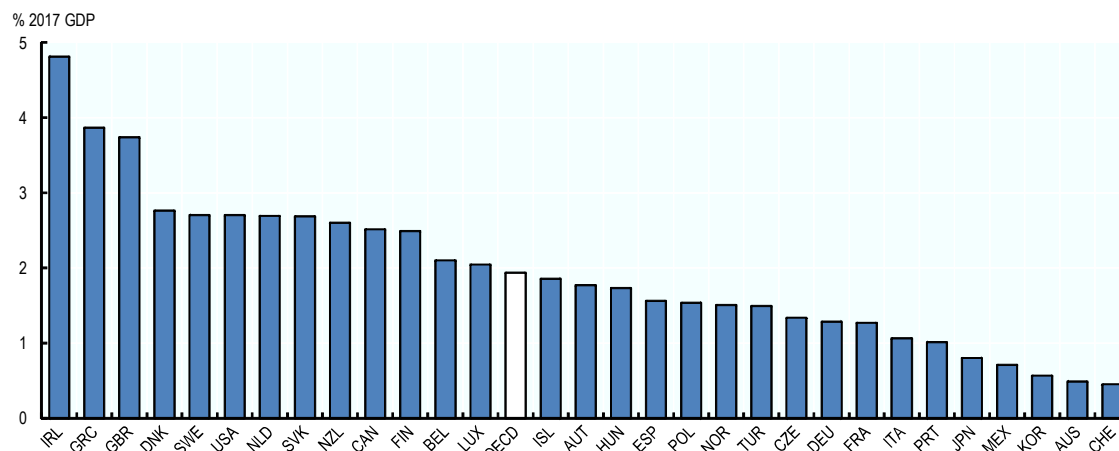
Reforms in a number of countries have aimed to transform social transfers so that vulnerable groups are protected while encouraging greater labour force attachment. For example, reforms include earned income tax credits and other transfers (tax expenditures) that increase the progressivity of the tax and benefit system, reforming previously unconditional unemployment benefit systems, and re-orientating child and family benefits towards employment-conditional measures such as childcare support. In other cases, some transfers, such as disability benefits, have been prone to misuse. Measures which address inflows into disability rolls can be effective in reducing spending while encouraging greater labour force participation. If such measures allowed high spending countries to move towards the current cross-country average spending on family and disability benefits, OECD countries could enjoy savings of over 0.5% of GDP on average and up to almost 3% of GDP in some countries (Table 1), while boosting long-term output.

Greater efficiency of public spending on healthcare and education

Work by the OECD has examined the opportunities to improve the efficiency of service delivery for health and education (similar savings are likely to be available in other spending programmes, see Hagemann, 2012). These are important spending programmes accounting for about a quarter of government spending or on average across OECD countries around 10% of GDP between them.

- No “one-size-fits-all” exists for health care, in the sense that no “model” of health care delivery seems to be universally more cost efficient than other “models”. However, within each “model” countries achieve widely divergent degrees of cost efficiency, suggesting that optimisation at the margin rather than a switch of model is the best way to achieve savings. Indeed, adopting best practice policies could see potential efficiency gains of close to 2% of GDP on average by 2017 (Joumard *et al.*, 2010), thereby allowing savings to be made without compromising service delivery (Figure 7).

Figure 7. Potential savings from greater efficiency in public health care spending



Note: Potential savings represent the difference between a no-reform scenario and a scenario where countries would exploit efficiency gains. The no-reform scenario assumes that between 2007 and 2017 life expectancy and spending increase at the same pace as over the previous 10 years and that the mix between public and private spending remains constant over time.

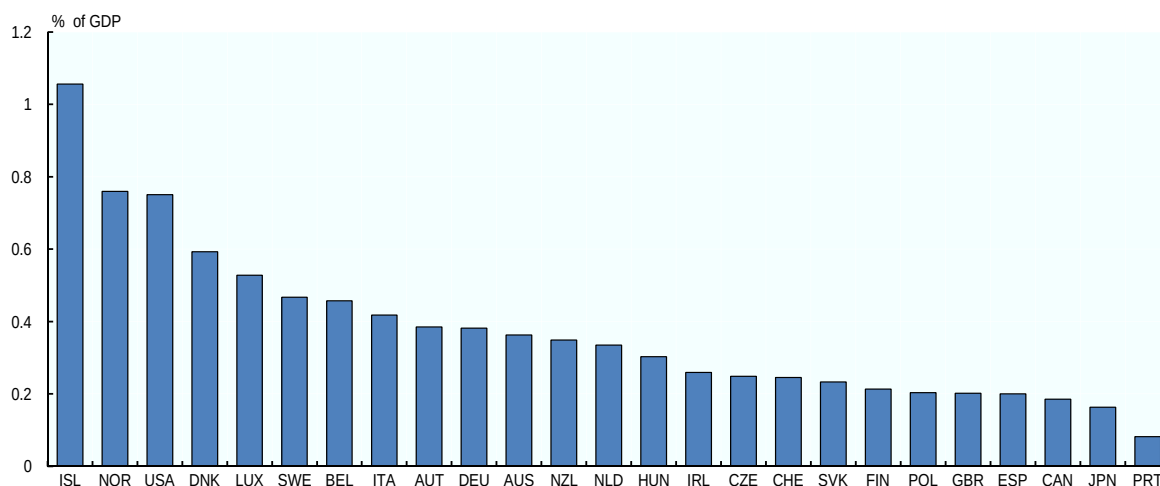
Source: Joumard, I., P. Hoeller, C. André and C. Nicq (2010), *Health Care Systems: Efficiency and Policy Settings*, OECD Publishing.

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- For primary and secondary education, schools adopting best practice measures could realise important savings, up to around 1% of GDP in some cases (Sutherland *et al.*, 2007). The estimates for school savings are based on benchmarking individual school performance against the best-performing schools with similar student populations and resources (using data envelopment analysis). The implications of reducing inefficiency are then translated into aggregate resource savings by the implied possible reduction in staffing costs (Figure 8).

Figure 8. Potential savings from greater efficiency in school spending

2007



Source: Sutherland, D., R. Price, I. Joumard and C. Nicq (2007), "Performance and Indicators for Public Spending Efficiency in Primary and Secondary Education", *OECD Economics Department Working Papers*, No. 546, OECD Publishing.

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Revisiting government wages

While important gains can be achieved through management and pay reforms, reducing the public sector wage bill is a candidate for fiscal consolidation in many countries. On average, the general government wage bill is close to 10% of GDP and accounts for roughly one quarter of overall spending, which will include health and education spending to varying extents across countries. Indeed, there are countries where a large public-private sector wage gap has developed over time. Restoring the relativities that existed in the early 2000s could yield significant savings in a number of countries (Table 1). Ireland and Hungary have demonstrated recently that substantial cuts in public sector wages can be implemented if there is an urgent need for consolidation and a case arising from public-private pay relativities. That said, comparing public and private remuneration levels poses serious challenges, and requires valuation of working conditions and non-wage remuneration, such as defined benefit pension schemes. The ultimate test of adequacy is likely to be the difficulty or ease of recruitment into and retention in the civil service. From this perspective, budgetary savings achievable through reductions in the government wage bill should best be the outcome of a thorough review rather than across-the-board or arbitrary cuts in pay.

Reducing subsidies

Subsidy reduction should rank high on the policy agenda as many subsidies may have surpassed their initial intended objective and may now have adverse economic effects. The elimination of subsidies (as defined in the national accounts), to the average for the OECD could yield sizeable savings in a number of countries (Table 1). Furthermore, by reducing the distortions they create, cutting subsidies offers the potential to boost growth.

Introducing and raising tuition fees

Close to a quarter of public spending on education is to support tertiary education, including in countries, especially in continental Europe, where no tuition fees are levied. As a large share of returns to publicly-funded tertiary education accrue to individuals rather than to society (Blöndal *et al.*, 2002), continued generous public support for higher education can be questioned, although some of the private returns are reduced by progressive taxes. This is more so given the greater prevalence of tertiary education among middle and upper income households. The introduction or increase of tuition fees may also improve educational outcomes, by making universities more responsive to market demands, with long-term gains to human capital, the quality of labour supply, the economy's rate of potential growth, and overall fairness. Introducing or raising tuition fees to the average spending in countries that use tuition fees could yield additional revenues of around 0.4% of GDP (Table 1). Concerns that such reforms would reduce enrolment by students from poor backgrounds could to a large extent be addressed by loan programmes with repayment conditional on the subsequent income level, which would correspondingly reduce the budgetary gains.

Table 1. Contribution of various policy instruments to fiscal consolidation

Per cent of GDP

	AUS	AUT	BEL	CAN	CHE	CZE	DEU	DNK	ESP	FRA	FIN	GBR	GRC	HUN	ISL
1. Social transfers															
A. Family benefits	0.5	0.7	0.6	-	-	0.1	-	1.4	-	1.1	0.9	1.3	-	1.4	1.0
B. Disability benefits	-	0.3	0.2	-	0.5	0.5	-	1.3	0.6	-	0.9	0.3	-	0.6	-
2. Pensions															
A. Eliminate tax breaks	2.7	0.1	0.1	2.0		0.1	0.8		0.2	0.0	0.1	1.2			1.0
3. Health care															
A. Increase efficiency	0.5	1.8	2.1	2.5	0.5	1.3	1.3	2.8	1.6	1.3	2.5	3.7	3.9	1.7	1.9
4. Education															
A. Increase efficiency in primary and secondary education	0.4	0.4	0.5	0.2	0.2	0.2	0.4	0.6	0.2		0.2	0.2		0.3	1.1
B. Introduce or raise tuition fees for tertiary education	-	0.4	0.4	-	0.4	0.3	0.4	0.4	0.2	0.3	0.4	-	0.4	0.4	0.3
5. Government wage bill															
A. Restore public-private sector pay relativities	-	0.3	0.6	-	-	0.4	0.2	2.0	1.0	-	0.5	1.8	-	-	-
6. Reduce subsidies as share of GDP to OECD average	-	2.3	0.8	-	2.4	0.7	-	1.2	-	0.2	-	-	-	-	0.4
7. Broaden VAT base	0.6	-	1.4	-	-	-	0.4	-	1.4	1.4	0.1	1.8	2.0	0.1	0.8
8. Introduce or increase taxes on immovable property	-	0.8	0.6	-	0.9	0.8	0.6	-	0.3	-	0.5	-	0.8	0.7	-
9. Environmental taxes															
A. Cut GHG emissions to 20% below 1990 levels via an emission trading system with full permit auctioning	4.2	1.8	1.8	2.5	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8

Table 1. Contribution of various policy instruments to fiscal consolidation (continued)

	IRL	ITA	JPN	KOR	LUX	MEX	NLD	NZL	NOR	POL	PRT	SVK	SWE	TUR	USA
1. Social transfers															
A. Family benefits	0.7	-	-	-	1.2	-	0.1	1.1	0.9	-	-	-	1.4	-	-
B. Disability benefits	-	-	-	-	0.1	-	0.8	0.7	1.8	0.6	0.3	-	1.3	-	-
2. Pensions															
A. Eliminate tax breaks	1.2	0.0	0.7		0.5	0.2			0.6	0.2	0.1	0.2			0.8
3. Health care															
A. Increase efficiency	4.8	1.1	0.8	0.6	2.0	0.7	2.7	2.6	1.5	1.5	1.0	2.7	2.7	1.5	2.7
4. Education															
A. Increase efficiency in primary and secondary education	0.3	0.4	0.2	-	0.5	-	0.3	0.3	0.8	0.2	0.1	0.2	0.5	-	0.8
B. Introduce or raise tuition fees for tertiary education	0.3	0.2	-	-	0.4	0.1	0.2	-	0.4	0.1	0.1	-	0.4	0.4	-
5. Government wage bill															
A. Restore public-private sector pay relatives	0.9	1.1	0.6	-	0.8	-	0.3	0.9	-	2.2	-	0.8	0.7	-	0.5
B. Reduce subsidies as share of GDP to OECD average	-	-	-	-	0.2	-	0.1	-	0.7	-	-	0.2	0.1	-	-
7. Broaden VAT base	0.4	2.6	-	-	-	2.5	-	-	0.2	1.4	1.2	0.6	-	3.3	
8. Introduce or increase taxes on immovable property	0.2	0.4	-	0.0	0.9	0.8	0.4	-	0.7	-	0.3	0.6	0.2	0.9	-
9. Environmental															
A. Cut GHG emissions to 20% below 1990 levels via an ETS with full permit auctioning	1.8	1.8	1.2		1.8		1.8	4.2		1.8	1.8	1.8	1.8		2.2

Notes:

An empty cell indicates that no information was available. Cells with a dash indicate that no savings are available from this source.

Estimates for family benefits are based on reducing the figure for 2007 reported in the OECD SOCX Database to the unweighted OECD average as a per cent of GDP.

Estimates for disability benefits are based on reducing the figure for 2007 reported in the OECD SOCX Database to the unweighted OECD average as a per cent of GDP.

The elimination of tax breaks for retirement is based on data for 2007 from OECD (2011b), *Pensions at a Glance 2011*.

Health care efficiency estimates are from Jourdain *et al.* (2010).

Education efficiency estimates are based on Sutherland *et al.* (2007) updated to 2007 spending figures.

Tuition fees for tertiary education are based on raising direct household expenditure for tertiary education institutions to the unweighted average of those countries where households spend on this category.

Government wage relatives are based on returning to the government to private sector wage ratio in the early 2000s.

Estimates for subsidies are based on reducing national account data for 2009 to the unweighted OECD average.

The figures for broadening the VAT base assume the mechanical effect of collection efficiency rising to the unweighted OECD average in 2007-08.

The figures for immovable property are based on the unweighted average for 2008 from the Revenue Statistics.

Revenues from greenhouse gas emissions are based on de Serres *et al.* (2010).

Source: Hagemann, R. (2012), "Fiscal Consolidation: Part 6. What are the Best Policy Instruments for Fiscal Consolidation?", *OECD Economics Department Working Paper*, No. 937, OECD Publishing.

Ending unjustified tax expenditures

All OECD governments use tax expenditures to promote a range of policy objectives. The scope of tax expenditures varies greatly across OECD countries, but they account for very substantial revenue leakages in some cases. Not all tax expenditures are undesirable, though. Many, however, are distorting, poorly targeted, and contribute to a lack of transparency. In some cases, estimates of the revenues foregone by tax expenditure can exceed a percentage point of GDP and the aggregate impact of all tax expenditures is likely to exceed several percentage points of GDP in most OECD countries. Typically, the most costly tax expenditures are those aimed at boosting retirement savings, promoting homeownership, health insurance and charitable giving (OECD, 2010).

Two examples reveal the potential importance of reforming personal income tax expenditures for consolidation:

- Tax-favoured treatment of saving for retirement is found to boost retirement savings *per se*, but there is scant evidence that it raises aggregate private saving. Instead, it results in a reallocation of saving from non-tax preferred to tax-preferred vehicles, while causing substantial revenue leakages, which may even reduce aggregate national saving. Phasing out such incentives could yield 1.7% of GDP or more in additional revenues on average across a sample of OECD countries (Antolin *et al.*, 2004).
- Preferential tax treatment of owner-occupied housing is one of the costliest tax preferences in many OECD countries. The most important source of housing-related revenue leakages arises from the tax exemption granted to the implicit rental income of the owner-occupied home. Whereas the owner of a residence that is rented pays tax on the rental payments (less interest and operational costs), the implicit rental income of the owner-occupant is tax-exempt in the vast majority of member countries, except in the Netherlands, Sweden and Switzerland. Despite the exclusion of the implicit rental income, some countries nevertheless also allow the deductibility of mortgage interest, as well as property taxes. In addition, many countries provide favourable treatment to long-term capital gains from the sale of owner-occupied housing, adding further to the post-tax attractiveness of investment in housing. Thus, by removing a bias favourable to owner-occupied housing, reform could not only increase revenue but also improve the allocation of capital, thereby boosting growth.

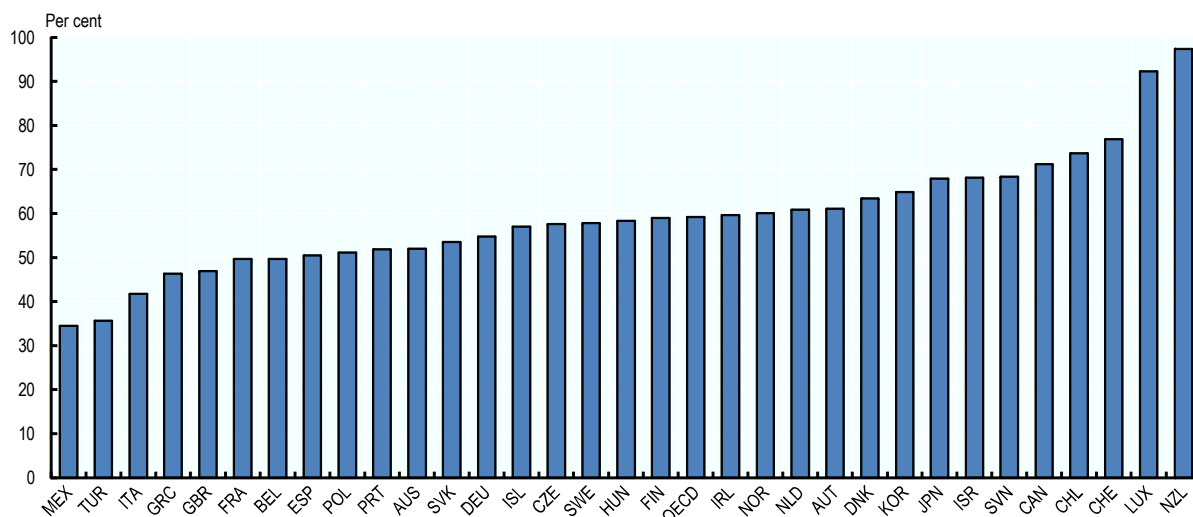
There are also important tax expenditures in indirect taxation. While VAT is widely recognised as an efficient and buoyant revenue source, its revenue potential is not fully used. Indeed, with the exception of New Zealand, a substantial portion of potential revenue is foregone in most countries due to a combination of reduced VAT rates, a narrow base, and low compliance (Figure 9). There is thus considerable scope for boosting revenue through VAT reforms. Direct fiscal consolidation aside, broadening the base and reducing the number of rates offer scope to improve administration and compliance, by reducing complexity and countering political pressure for additional low rates. A more effective means to meet distributional objectives may be to target compensatory cash transfers or refundable tax credits to compensate low-income households.

Financial services are typically exempted from the VAT, largely due to technical difficulties in determining the precise tax base for margin-based services (*i.e.*, intermediation). Since much of VAT paid by financial service providers on inputs is non-recoverable, the sector's VAT exemption causes a number of economic distortions that result in more household consumption of financial services, and less use of and greater self-provision of financial services by businesses. However, the evolution of accounting methods and information systems has reduced the technical obstacles to imposing VAT on financial services considerably. Moreover, following the recent financial crisis, there is increased

interest among governments in both raising revenue from financial institutions and reducing moral hazard in the financial services *via* new taxes on financial services or (elements of) balance sheets.

Figure 9. Value added tax performance

The VAT revenue ratio – average 2007-08



Note: The VAT revenue ratio measures the difference between the VAT revenue actually collected and what would theoretically be raised if VAT was applied at the standard rate to the entire potential tax base in a “pure” VAT regime and all revenue was collected: The VAT revenue ratio equals VAT Revenue/(Consumption * Standard VAT rate)*100.

Source: OECD (2011), *Consumption Tax Trends 2010: VAT/GST and Excise Rates, Trends and Administration Issues*, OECD Publishing.

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Raising rates on less distortionary tax bases

When tax rates need to be raised, some taxes are natural candidates for fiscal consolidation programmes both from an efficiency and revenue-raising perspective. The efficiency costs of taxes on immobile property are lower than on consumption or income, but represent a small share of overall tax revenue in many OECD countries. Where they are low or non-existent, corrective taxes such as so-called “sin” taxes that can help deter harmful behaviours (*e.g.*, alcohol and tobacco consumption), or taxes on polluting activities or consumption (*e.g.*, fossil fuels) can improve welfare while boosting revenues.

Environmental taxes hold the promise of both boosting revenue and helping to achieve environmental objectives by discouraging pollution. While some countries raise considerable revenues from such taxes, reaching 4% of GDP in Denmark and the Netherlands in 2008, their yield is relatively low in several countries, notably Canada, New Zealand and the United States. Nonetheless, imposing a tax on carbon emissions or auctioning tradable emission rights to contain greenhouse gas emissions has become more widespread. For example, the European Union has auctioned permits as part of the Emission Trading Scheme. Despite such developments, many countries maintain differences in taxation depending on fuel type that run counter to estimates of environmental externalities. From a fiscal consolidation perspective, greenhouse gas levies consistent with international action to stabilise atmospheric concentrations of greenhouse gases by 2020, could generate around 2% of GDP (de Serres *et al.*, 2010).

Potential gains from spending and revenue measures

Table 1 brings together estimates quoted above on the potential contributions of spending and revenue measures to fiscal consolidation and could inform a choice of where potential may exist to make savings or increase revenues. Even without being able to quantify all the possible measures across countries, and not taking into account any dynamic effects, the cumulative potential cuts in spending (benchmarked using the OECD average or estimates of potential efficiency gains) and increases in taxation (benchmarked using the OECD average) are sizeable. On average across countries, savings could reach around 7% of GDP, with somewhat more available on the spending side. Furthermore, the potential tends to be somewhat greater in the English-speaking countries which generally face the larger consolidation needs. A large share of the savings in spending would come from reaping efficiency gains, which are likely to take some time to emerge. On the revenue side, relatively large opportunities exist for the greater use of environmental taxes and the broadening of income and indirect tax bases.

5. Structural reforms could help underpin fiscal consolidation

In a number of cases supporting reforms could assist fiscal consolidation. Notably, reforms to unsustainable pension systems will be desirable and likely inevitable in a number of countries. The fiscal gap calculations reveal large pension pressures developing in Luxembourg, the Netherlands and Belgium. Reforms to pension systems that delay retirement and increase labour force participation can significantly reduce long-run budget pressures. Reforms that link retirement age to gains in longevity would ensure that pension systems are robust to future shocks to longevity.

More generally, growth-enhancing structural policy reforms would support fiscal consolidation. This is most obvious in the case when reforms lead to a higher sustainable employment level because such a change will have a permanent impact on the primary balance. The size of the effect will depend on the taxes levied on the additional income and consumption created as well as on whether the reform in question has any direct budgetary impact. The latter will be the case, for example, when additional spending on active labour market policy boosts aggregate spending or a reduction in the duration of unemployment benefit reduces it. But for many structural reforms most of the impact on budgets will arise from higher employment levels, such as in the case of product market reforms that boost competition.

The effects of productivity-enhancing structural reforms on public budgets are less clear. Higher productivity will tend to boost revenues but also spending, unless public/private wage relativities change or transfer income replacement ratios are altered. Hence, the effect on the primary budget balance may be muted. However, to the extent that higher productivity growth is not matched by a corresponding increase in real interest rates, debt dynamics will be favourably affected. Such an effect is particularly likely for individual countries participating in a monetary union since the general structure of interest rates is unlikely to be strongly affected by structural reform in an individual country while at the same time higher growth may lead to a narrowing of risk premia.

6. Reforming budgetary institutions

Strong institutional frameworks can lend credibility to consolidation efforts and underpin the commitment to sustainability. And indeed there have been significant reforms in this area. These include the introduction of fiscal rules and modifications of budget frameworks (such constitutional limits on debt are set in countries such as Germany and Spain, and the reintroduction of PayGo rules in the United States), the establishment of independent fiscal councils or legislative changes to establish more credible institutional frameworks (as in Sweden and the United Kingdom). Fiscal rules

and better fiscal institutions can lend credibility, but they are not a sufficient condition. When a government shows no strong commitment, such rules and institutions are fragile.

Given the wide range of pathologies that give rise to fiscal problems, the appropriate remedy should be related to the cause and the nature of the economy. For example, whether the deficit bias arises due to a common-pool problem or over-optimism and myopia, different types of institutions and rules will provide a remedy. In some cases, these considerations would call for greater budgetary transparency, though when that is not sufficient more formal fiscal rules and fiscal councils may be needed to ensure that fiscal policy remains on track to meet fiscal consolidation targets.

Better budgetary procedures...

Budgetary procedures can support fiscal consolidation and help fiscal policy stay on track while bringing debt down to prudent levels. For example, Larch and Turrini (2008) found evidence that the likelihood of a fiscal consolidation starting and succeeding in controlling debt was higher in countries with stronger budgetary procedures, though this may reflect that the countries with stronger procedures also want fiscal consolidation to succeed. Empirical evidence suggests that the way in which a budget is formulated and implemented can instil greater discipline, while transparency in budget procedures can help hold governments accountable to meeting their objectives. Governments that reformed their budget procedures (including introducing fiscal rules, see below) often in response to crises in the 1990s – such as Australia, Canada, Finland and Sweden – have generally experienced smaller difficulties during the recent crisis, in part because fiscal discipline was maintained during the preceding cyclical peak. An additional attraction of greater transparency and better budgetary procedures is that they help ensure that fiscal rules are observed and the temptation to meet them through fiscal gimmickry is reduced.

Budget formulation can be affected by whether the executive can implement a stricter budget (less subject to pressure from spending ministries and the legislative to alter budgets) and a stricter implementation of the budget law (von Hagen, 1992). Top down budgeting, which sets lump sum allocations that reflect aggregate priorities, coupled with greater ministerial autonomy and accountability are generally conducive to better budgetary outcomes. Strict enforcement of the budget can be underpinned by supporting institutions. For example, requiring ministers to demand a supplementary budget when they approach their spending ceiling or holding them personally responsible for budget implementation can provide strong incentives for fiscal discipline.

Multi-annual budgeting may be conducive to implementing sustained consolidation programmes, and may facilitate reforms that take longer to implement than possible in an annual budget approach. To be effective, however, the medium-term objective should be anchored on a longer-term target, such as a debt target. When combined with a focus on output and performance, a medium-term framework can give a better indication of whether fiscal policy is on track to meet consolidation goals. However, a few governments do not report whether fiscal outturns are consistent with targets. And not all countries that have implemented multi-year budgeting have enjoyed marked improvements in budgetary outcomes, suggesting that other conditions are necessary.

... and combinations of fiscal rules...

An important rationale for the adoption of fiscal rules is related to the reluctance of governments to commit to fiscal discipline and their ability to abandon announced plans before implementation. In this light, fiscal rules may help governments commit and allay the fears of financial markets. Indeed, rules have a role to play in communicating with the public and as such should be relatively simple in order to perform this role effectively.

Fiscal rules can set targets for budget balances, spending and less commonly taxation, as well as ceilings on debt. As fiscal policy is multi-dimensional and the pressures on fiscal policy change over time, a single fiscal rule is unlikely to be optimal at all times. For example, tensions affecting fiscal policy include respecting the inter-temporal budget constraint and long term-sustainability, achieving short-term stabilisation, addressing distributional concerns and promoting allocative efficiency. More complex or state-dependent rules will be more difficult to enforce and communicate, while undermining accountability. There is unlikely to be an easy formula. As such, fiscal rules are difficult to design.

In practice, multiple rules are often used and past empirical analysis found that countries using a suite of rules have managed to sustain fiscal consolidation more successfully than others relying on a single rule (Guichard *et al.*, 2007, IMF, 2009). New econometric work finds that countries that have either spending or budget balance rules or a combination of the two are more likely to stabilise debt (Molnar, 2012). Budget balance rules tend to increase the duration of consolidation episodes. The findings also suggest that more comprehensive fiscal rules – that is the larger part of government activity and the larger number of government levels they cover *inter alia* – are more likely to help stabilise debt. However, causality can also run the other way, as governments that are more committed to debt stabilisation are more likely to adopt fiscal rules or more comprehensive fiscal rules.

The effects of fiscal rules and combinations of them can be examined with macro-econometric scenarios using the NiGEM model (Barrel *et al.*, 2012). Using scenarios to examine the effects of different types and combinations of fiscal rules stochastic simulations were used to show the effect of country-specific shocks to spending and debt on consolidation efforts. Assessing the impact of mechanical fiscal rules on debt developments is one aspect of policy and a fuller analysis would need to consider whether this impact is optimal. Bearing in mind this caveat, fiscal rules that correct for deviations from either debt or deficit targets constrain adverse debt dynamics from developing relative to the baseline (Figure 10). Differences in the impact of fiscal rules across countries reflect differences in the respective economies as captured in the country models and the different size of historical shocks to debt and deficits. Nonetheless, a rough hierarchy of the fiscal rules emerges in their ability to control debt dynamics. Fiscal rules based on deviations from deficit targets and often combinations of rules based on deficit targets and debt targets tend to have a greater impact than rules based solely on debt.

Notwithstanding the attraction of fiscal rules, they may create unwelcome side effects. For example, spending rules may affect allocative efficiency or attempts to restrain aggregate spending could lead to distortions in spending patterns as some programmes are less amenable to short-term discretionary control than others, such as reforms to unsustainable entitlement programmes. Instead, there may be an over-emphasis on measures that have a high short-term payoff, but at the cost of weaker longer-term performance. In addition, fiscal rules may encourage creative accounting. Creative accounting is less likely when the social cost of missing fiscal targets or the probability of being discovered is high (for example, when fiscal transparency is high) (Koen and van den Noord, 2005).

... along with fiscal councils could help

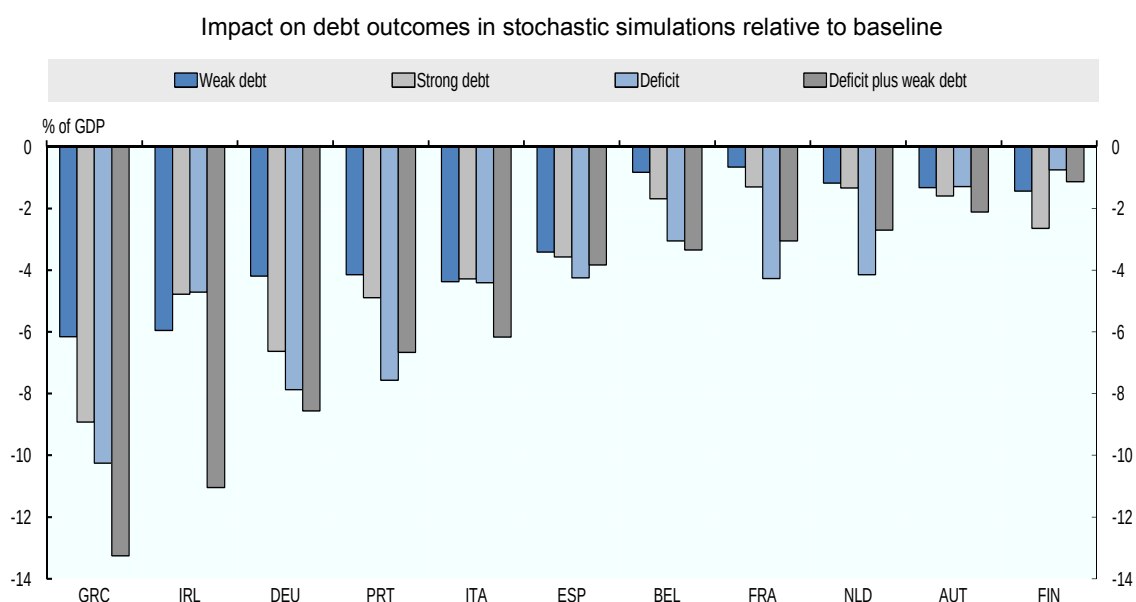
Fiscal councils have the potential to underpin fiscal consolidation through their effect on fiscal performance and by taking a wider view on fiscal consolidation needs than a rule-based system is likely to do on its own. A fiscal council could contribute to improved fiscal performance in a number of ways (Hagemann, 2010). For example, by providing an independent view on fiscal policy, whether related to policy formulation, evaluation or monitoring, they can inform voters and other stakeholders more accurately when fiscal policy is off-track and raise the political costs of fiscal laxity. However, the creation of fiscal councils, as with fiscal rules, may simply be an expression of a

political commitment to consolidation and unless they achieve credibility they may not affect performance, once popular support for consolidation wanes.

Fiscal councils can complement fiscal rules. In some cases, a fiscal council that has sufficient credibility could monitor the implementation of more complex fiscal rules, such as those targeting cyclically-adjusted or underlying balances, which would allow less simplistic fiscal rules to be implemented. Furthermore, an additional attraction with respect to fiscal rules would be for the fiscal council to assist politicians in deciding when a breach of rule was justified by economic conditions and possibly when governments should begin consolidating.

A fiscal monitoring body could complement fiscal rules by having a mandate to comment explicitly on the long-term sustainability of public finances. In some cases, fiscal councils have such mandates, for example by providing long-term analyses (even though many governments already systematically perform these calculations). To be fully effective, the fiscal council may need to comment on whether current policies are consistent with meeting long-term objectives, if medium-term objectives are not explicitly linked to the long-term sustainability of the public finances.

Figure 10. Impact of rules on debt stocks during consolidation



Note: The columns refer to different types of “fiscal rules”. Weak debt refers to a rule that adjusts fiscal policy to deviations of debt from its target level. Strong debt is like weak debt, but forces a faster adjustment. Deficit is an adjustment in fiscal policy to deviations of deficits from deficit targets. The impact is for the upper part of the distribution (the 95th percentile) of the stochastic simulations relative to the same part of the distribution in the baseline simulations. The assumptions used in the simulations are financial markets are forward looking, consumers are myopic, all consolidation measures are permanent and monetary policy targets euro area inflation and the stock of money. The simulation is for the period 2010 to 2015 and all countries are assumed to implement a spending based fiscal consolidation of 1% of GDP.

Source: Barrell, R., D. Holland and I. Hurst (2012), “Fiscal Consolidation: Part 2. Fiscal Multipliers and Fiscal Consolidations”, *OECD Economics Department Working Papers*, No. 933, OECD Publishing.

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Fiscal councils can perform tasks that may mitigate specific political economy problems. When a deficit bias arises from over-optimistic forecasting an independent fiscal council given this task can counter the source of deficit bias. Indeed, there appears to be a relationship between comparatively poor budget outcomes and systematic over-optimism: errors in budget balance forecasts are larger for countries running worse budget positions (Frankel, 2011). However, while independent forecasting can help correct over-optimistic forecasting, deficit biases arising from other pathologies may be better addressed by other approaches such as cautious budget assumptions.

Bibliography

- Antolin, P., A. de Serres and C. Maisonneuve (2004), “Long-Term Budgetary Implications of Tax-Favoured Retirement Plans”, *OECD Economics Department Working Papers*, No. 393, OECD Publishing.
- Barrell, R., D. Holland and I. Hurst (2012), “Fiscal Consolidation: Part 2. Fiscal Multipliers and Fiscal Consolidations”, *OECD Economics Department Working Papers*, No. 933, OECD Publishing.
- Blöchliger, H., D.H. Song and D. Sutherland (2012), “Fiscal Consolidation: Part 4. Case Studies of Large Fiscal Consolidation Episodes”, *OECD Economics Department Working Papers*, No. 935, OECD Publishing.
- Blöndal, S., S. Field and N. Girouard (2002), “Investment in Human Capital through Post-compulsory Education and Training: Selected Efficiency Aspects”, *OECD Economics Department Working Papers*, No. 333, OECD Publishing.
- Cecchetti, S., M. Mohanty and F. Zampolli (2011), “The Real Effects of Debt”, *BIS Working Paper*, No. 352.
- Corsetti, G., K. Kuester, A. Meier and G. Muller (2011), “Sovereign Risks and the Effects of Fiscal Retrenchments in Deep Recessions”, *Federal Reserve Bank of Philadelphia Research Department Working Paper*, No. 11-43.
- Edey, M. (1994), “Costs and Benefits of Moving from Low Inflation to Price Stability”, *OECD Economic Studies*, No. 23, OECD Publishing.
- Égert, B. (2010), “Fiscal Policy Reaction to the Cycle in the OECD: Pro- or Counter-cyclical?”, *OECD Economics Department Working Papers*, No. 763, OECD Publishing.
- Frankel, J. (2011), “Over-optimism in Forecasts by Official Budget Agencies and Its Implications”, *NBER Working Paper*, No. 17239.
- Guichard, S., M. Kennedy, E. Wurzel and C. André (2007), “What Promotes Fiscal Consolidation: OECD Country Experiences”, *OECD Economics Department Working Papers*, No. 553, OECD Publishing.
- Hagemann, R. (2010), “Improving Fiscal Performance through Fiscal Councils”, *OECD Economics Department Working Papers*, No. 829, OECD Publishing.
- Hagemann, R. (2012), “Fiscal Consolidation: Part 6. Policy Instruments for Fiscal Consolidation”, *OECD Economics Department Working Papers*, No. 937, OECD Publishing.
- Hall, R. and C. Jones (2007) “The Value of Life and the Rise in Health Spending”, *Quarterly Journal of Economics* Vol. 122, No. 1, pp. 39–72.
- International Monetary Fund (2009), *Fiscal Rules – Anchoring Expectations for Sustainable Public Finances*, Washington, D.C.
- Joumard, I., P. Hoeller, C. André and C. Nicq (2010), *Health Care Systems: Efficiency and Policy Settings*, OECD Publishing.
- Koen, V. and P. van den Noord (2005), “Fiscal Gimmickry in Europe: One-off Measures and Creative Accounting”, *OECD Economic Department Working Papers*, No. 417, OECD Publishing.
- Larch, M., and A. Turrini (2008), “Received Wisdom and Beyond: Lessons from Fiscal Consolidation in the EU”, *European Economy Economic Papers*, No. 320.
- Merola, R. and D. Sutherland (2012), “Fiscal Consolidation: Part 3. Long-run Projections and Fiscal Gap Calculations”, *OECD Economics Department Working Papers*, No. 934, OECD Publishing.
- Molnar, M. (2012), “Fiscal Consolidation: Part 5. What Factors Determine the Success of Consolidation Efforts?”, *OECD Economics Department Working Papers*, No. 936, OECD Publishing.
- OECD (2010), *Choosing a Broad Base – Low Rate Approach to Taxation*, Tax Policy Study No. 19, OECD Publishing.
- OECD (2011a), *Consumption Tax Trends 2010: VAT/GST and Excise Rates, Trends and Administration Issues*, OECD Publishing.

- OECD (2011*b*), *Pensions at a Glance 2011*, OECD Publishing.
- OECD (2011*c*), *OECD Economic Outlook* 89, Vol. 2011/1, OECD Publishing.
- Oliveira-Martins, J. and C. de la Maisonneuve (2006), “The Drivers of Public Expenditure on Health and Long-term Care: An Integrated Approach”, *OECD Economic Studies*, No. 43, 2006/2, OECD Publishing.
- Price, R. and T. Dang (2011), “Adjusting Fiscal Balances for Asset Price Cycles”, *OECD Economics Department Working Papers*, No. 868, OECD Publishing.
- Reinhart, C. and K. Rogoff (2010), “Growth in a Time of Debt”, *American Economic Review*, Vol. 100, No. 2.
- Reinhart, C. and M. Sbrancia (2011), “The Liquidation of Government Debt”, *NBER Working Paper*, No. 16893.
- Röhn, O. (2010), “New Evidence on the Private Saving Offset and Ricardian Equivalence”, *OECD Economics Department Working Papers*, No. 762, OECD Publishing.
- Serres, A. de, F. Murtin and G. Nicoletti (2010), “A Framework for Assessing Green Growth Policies”, *OECD Economics Department Working Papers*, No. 774, OECD Publishing.
- Sutherland, D., P. Hoeller and R. Merola (2012), “Fiscal Consolidation: Part 1. How Much is Needed and How to Reduce Debt to a Prudent Level?”, *OECD Economics Department Working Papers*, No. 932, OECD Publishing.
- Sutherland, D., R. Price, I. Joumard and C. Nicq (2007), “Performance and Indicators for Public Spending Efficiency in Primary and Secondary Education”, *OECD Economics Department Working Papers*, No. 546, OECD Publishing.
- Von Hagen, J., A.H. Hallett and R.R. Strauch (2002), “Budgetary Consolidation in Europe: Quality, Economic Conditions and Persistence”, *Journal of the Japanese and International Economies*, Vol. 16.