Government debt reduction strategies in the euro area

This article analyses the economic and institutional factors supporting the reduction of government debt-to-GDP ratios from high levels in the euro area. To this end, it reviews past debt reduction episodes and assesses – as an example of an operationalised government debt reduction strategy – the debt rule enshrined in the reformed Stability and Growth Pact (SGP).

1 Introduction

Many euro area countries did not take advantage of the favourable economic conditions prior to the crisis to build up fiscal buffers for future downturns. This contributed to a rapid increase of government debt to high levels after the outbreak of the crisis. There is widespread recognition that high government debt renders countries vulnerable to economic shocks and may hamper growth in a number of ways. Reducing persistently high levels of government debt thus remains one of the main economic policy objectives. As a major lesson from the crisis, in 2011 the EU's fiscal governance framework was therefore strengthened, including by the introduction of a debt rule. This rule operationalises the Maastricht Treaty's debt criterion under the SGP, which had effectively not been implemented until then.

The SGP's debt rule is a constraining factor mostly for countries with very high levels of government debt. In the light of low growth and inflation, some of these countries have recently faced difficulties in delivering the fiscal adjustment required to put debt on the appropriate downward path, despite the declining burden of interest payments. Against this background, this article reviews the experience with past debt reduction episodes and assesses the SGP's debt rule as an example of an operationalised government debt reduction strategy.

The article is structured as follows. Section 2 reflects on the merits of reducing high government debt ratios and considers the main factors underlying recent successful debt reduction episodes. Section 3 first reviews the rise in government debt ratios to high levels during the crisis, before turning to the SGP's debt rule and its enforcement as an example of an operationalised debt reduction strategy. Section 4 provides some conclusions.

2 Government debt and long-term fiscal sustainability

2.1 The economic consequences of high government debt

High government debt poses significant economic challenges and makes the economy less resilient to shocks. It can exert adverse pressure on the economy through multiple channels.

First, a high government debt burden makes the economy more vulnerable to macroeconomic shocks and limits the room for counter-cyclical fiscal policy. High government borrowing requirements can make a country more prone to liquidity shocks and sovereign default risks. Lower real growth or inflation shocks increase the real burden of debt, with larger fiscal costs if the initial level of debt is high. Investors may thus more easily question the sustainability of fiscal policies of a sovereign with a high debt burden, particularly when its fiscal track record and growth prospects are poor. This can increase volatility and restrain economic activity as perceived sovereign vulnerability can spill over to other sectors or jurisdictions, especially in integrated economic and monetary unions.[1] A high debt burden limits the room for fiscal policy to counteract a negative demand shock or may hurt the recovery if pro-cyclical fiscal policies need to be implemented in recessions.

Second, a high government debt burden entails the need to sustain high primary surpluses over long periods[2], which may be difficult under fragile political or economic circumstances. As explained above, high primary surpluses are difficult to maintain under adverse economic conditions. Banking crises in particular are associated with large contingent liabilities, which can quickly lead to a deterioration in fiscal positions, often with lasting effects, stemming from the process of balance sheet repair. In addition, though the ability of a sovereign to sustain large primary surpluses depends, inter alia, on the quality of its institutions and political factors, fiscal fatigue is more likely to set in at very high debt ratios, where the required adjustment needs to be large over a long period. Finally, the proximity of elections tends to reduce the responsiveness of fiscal policy to larger debt burdens.

Third, and related to the points above, the theoretical and empirical literature suggests that high government debt burdens can ultimately impede long-term growth.[3] This is particularly the case when debt is contracted to finance unproductive expenses or to build up public capital stocks that exceed optimal

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1 For a discussion of the relationship between fiscal-monetary and financial sector interactions in Economic and Monetary Union, see the articles entitled "One monetary policy and many fiscal policies: ensuring a smooth functioning of EMU", *Monthly Bulletin*, ECB, July 2008 and "Monetary and fiscal policy interactions in a monetary union", *Monthly Bulletin*, ECB, July 2012.

2 See also the box entitled "Past experiences of EU countries with sustaining large primary budget surpluses", *Monthly Bulletin*, ECB, June 2011.

3 The theoretical and empirical contributions on the topic have grown significantly since the euro area sovereign debt crisis. For recent reviews, see Dieppe, A. and Guarda, P. (eds.), "Public debt, population ageing and medium-term growth", *Occasional Paper Series*, No 165, ECB, 2015; the box entitled "Growth effects of high public debt", *Monthly Bulletin*, ECB, March 2013; and Reinhart, C., Reinhart, V. and Rogoff, K., "Public debt overhangs: advanced-economy episodes since 1800", *Journal of Economic Perspectives*, Vol. 26, No 3, 2012, pp. 69-86.

(growth-maximising) levels.[4] While government debt can help to smooth consumption and finance lumpy investment, such financing is constrained above certain debt thresholds. A long body of research[5] finds that high public debt can affect growth through the channels of sovereign spreads (confidence effects), crowding-out of private investment, reduced capacity to finance future public investment, expansion of precautionary savings (in anticipation of future tax hikes) and increased uncertainty. While country heterogeneity plays an important role, several studies reveal that, on average for a panel of advanced economies, detrimental growth effects may appear at levels of around 80-100% of GDP.[6] Similar debt levels are found in the literature on early signals of sovereign distress. For instance, the debt sustainability analysis framework of the International Monetary Fund adopts a debt ratio of 85% of GDP to flag fiscal risks in advanced economies, with a similar approach being followed in the European Commission's methodology.[7]

The objective of keeping debt ratios at prudent levels, such as below the SGP's 60% threshold, makes it all the more important to create sufficient fiscal buffers to withstand adverse macroeconomic shocks and cope with the projected costs of ageing. Several studies in the literature distinguish between optimal or steady-state debt ratios and risky debt levels or debt limits beyond which governments may default. In many of these studies, steady-state debt ratios are estimated or calibrated at around (or below) 60% of GDP.[8] Arguably, such debt ratios are country-specific and depend on a wide range of factors, such as the structural features of the economy and institutional factors. The amount of assets, especially liquid assets, that governments hold as well as the maturity and ownership structure of government debt are also important determinants of the propensity of investors to hold or shun the debt of a given sovereign. At the same time, debt limits based on past data estimation do not usually take into account various sources of government contingent liabilities. Though the latest projections of age-related public spending in the euro area indicate more favourable developments compared with the past, the burden on public spending is still expected to be significant.[9] Moreover,

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4 See Aizenman, J., Kletzer, K. and Pinto, B., "Economic Growth with Constraints on Tax Revenues and Public Debt: Implications for Fiscal Policy and Cross-Country Differences", *NBER Working Paper,* No 12750, 2007 and Checherita-Westphal, C., Hughes-Hallett, A. and Rother, P., "Fiscal sustainability using growth-maximising debt targets", *Applied Economics*, Vol. 46(6), February 2014, pp. 638-647.

5 See the reviews cited in footnote 3.

6 See for instance Reinhart, Reinhart and Rogoff (2012), op. cit.; Checherita, C. and Rother, P., "The impact of high and growing government debt on economic growth: an empirical investigation for the euro area", *European Economic Review*, Vol. 56, No 7, 2012, pp. 1392-1405; and Cecchetti, S., Mohanty, M. and Zampolli, F., "The real effects of debt", *Working Paper Series*, No 352, Bank for International Settlements, 2011.

7 See *Staff Guidance Note for Public Debt Sustainability Analysis in Market-Access Countries*, IMF, 2013 and *Fiscal Sustainability Report 2015*, European Commission, 2015.

8 Ghosh et al. (2013) find much lower "steady" or long-run debt ratios for euro area countries (on average for the panel, 62% or 74% of GDP depending on the assumptions) compared with default-inducing debt limits. Checherita-Westphal et al. (2014) op. cit. find an optimal debt ratio of 50% of GDP for a panel of euro area countries based on average estimates for the output productivity of public capital. Similarly, Fall et al. (2015) find an "optimal" debt level related to the role of government debt in financing public infrastructure at 50-80% of GDP. See Ghosh, A., Kim, J., Mendoza, E., Ostry, J. and Qureshi, M., "Fiscal Fatigue, Fiscal Space and Debt Sustainability in Advanced Economies", *Economic Journal*, Vol. 123(566), 2013; and Fall, F., Bloch, D., Fournier, J.-M. and Hoeller, P., "Prudent debt targets and fiscal frameworks", *OECD Economic Policy Papers*, No 15, July 2015.

9 See "The 2015 Ageing Report", *European Economy*, 3/2015, European Commission, 2015.

during episodes of financial stress, sufficient fiscal buffers are critical to underpin confidence in the sovereign's ability to safeguard financial stability.[10]

Overall, from a general policy perspective, existing evidence points to the importance of reducing high public debt to restore fiscal sustainability and support stronger fundamentals. While the empirical evidence suggests that the relationship between debt and growth is bi-directional, with economic, financial and sovereign debt crises reinforcing each other's detrimental impact on output and welfare, keeping debt ratios at prudent levels is essential to avoid further sovereign debt crises.

2.2 Lessons from government debt reduction episodes

Various academic works have investigated large past debt reductions and found that a combination of debt-reducing factors was needed.[11] In particular, these include fiscal adjustment, growth-enhancing measures (such as complementary structural reforms), a monetary policy stance that supports the recovery and typically also sizeable privatisation programmes.

Sustained fiscal adjustment requires several elements. More specifically, debt consolidations seem to be most successful when they are based on permanent cuts in current (non-productive) expenditure. Other important factors are a strengthening of institutions, including well-designed rules-based fiscal frameworks, effective public administration, as well as support from other policy areas, in particular a monetary policy oriented towards price stability and structural reforms which reinforce the potential of the economy to grow out of debt. In this context, Box 1 shows some stylised debt scenarios for the euro area which highlight how various factors – such as variations in potential growth and interest rates – impact on the accumulation of government debt.

Past experience shows that many EU Member States have achieved significant primary surpluses over extended periods.[12] This holds true in particular for countries that were confronted with a high and rising government debt-to-GDP ratio.

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10 Given, among other things, the adverse sovereign-bank feedback loops at work during the crisis, the ensuing real economic and financial downturn implied significant fiscal costs and contingent liabilities for governments. For a recent review, see the article entitled "The fiscal impact of financial sector support during the crisis", *Economic Bulletin*, Issue 6, ECB, 2015.

11 See Nickel, C., Rother, P. and Zimmerman, L., "Major public debt reductions: lessons from the past, lessons for the future", *Working Paper Series*, No 1241, ECB, 2012; Baldacci, E., Gupta, S. and Mulas-Granados, C., "Restoring Debt Sustainability After Crises: Implications for the Fiscal Mix", *IMF Working Paper*, WP/10/232, 2010; and Abbas, S., Akitoby, B., Andritzky, J., Berger, H., Komatsuzaki, T. and Tyson, J., "Dealing with High Debt in an Era of Low Growth", *IMF Staff Discussion Note*, SDN/13/07, September 2013.

12 Overall, ten EU Member States (Belgium, Bulgaria, Denmark, Ireland, Spain, Italy, Luxembourg, the Netherlands, Finland and Sweden) have recorded uninterrupted episodes of primary surplus for ten or more years since the late 1970s. In cumulative terms up to 2009, the primary balance surplus stood at over 50% of GDP in seven EU Member States (Belgium, Bulgaria, Denmark, Ireland, Luxembourg, the Netherlands and Finland). See the box entitled "Government debt dynamics and primary budget balance developments in EU Member States", *Monthly Bulletin*, ECB, March 2011 and the box entitled "Past experiences of EU countries with sustaining large primary budget surpluses", *Monthly Bulletin*, ECB, June 2011.

Stabilising and reducing government debt typically required a sustained upfront consolidation effort that allowed the achievement of large primary surpluses, which were maintained over an extended period of time. While the achievement of high primary surpluses may be more difficult in the current weak economic environment, the benign interest rate conditions create fiscal savings, which should be used for debt reduction, especially in the case of high-debt countries.

Box 1
Stylised debt scenarios for the euro area

Public debt dynamics are determined by three main factors, namely the "snowball" effect, the government primary balance and the deficit-debt adjustment (DDA). The standard debt accumulation equation summarises this as follows:[13]

$$\Delta b_t = \frac{i_t - g_t}{1 + g_t} b_{t-1} - pb_t + dda_t$$

The change in the government debt-to-GDP ratio (Δb_t) in each period is expressed as the sum of the current primary balance[14] (pb_t), the snowball effect (first term on the right-hand side[15]), which captures the joint impact of interest payments on the accumulated stock of debt and of real GDP growth and inflation on the debt ratio (through the denominator). Finally, the deficit-debt adjustment (dda_t) relates to that part of the change in the debt-to-GDP ratio which is not reflected in the deficit. Such stock-flow adjustments may derive, for example, from government financial transactions or privatisation receipts. DDAs played an important role during the financial crisis.[16]

Deterministic[17] debt projections are commonly used to analyse fiscal policy scenarios and their impact on the accumulation of debt. In its 2015 Fiscal Sustainability Report[18], the European Commission presents medium-term debt projections for EU Member States together with the aggregates for the EU and the euro area up to the year 2026. Among others, the report refers to a baseline scenario assuming no fiscal policy change as well as a scenario assuming compliance with the requirements of the preventive arm of the SGP. Building on the core assumptions underlying the Commission's 2015 Fiscal Sustainability Report, Chart A shows a number of debt scenarios for the euro area aggregate. The baseline scenario for the euro area assumes potential growth of 1.1% on average over the period 2016-26, while GDP deflator growth would gradually increase from 1.2% in 2016 to 2% by 2020 and remain constant thereafter. The output gap would close by 2020. The implicit interest rate[19] is assumed to increase from 2.5% to 3.7% over the projection horizon. The baseline projections take into account the ageing-related expenditure increases as projected in the European Commission's 2015 Ageing Report.

13 For more details, see the article entitled "Ensuring fiscal sustainability in the euro area", *Monthly Bulletin*, ECB, April 2011.

14 The primary government balance is defined as the headline balance net of interest payments.

15 g_t denotes nominal GDP growth and i_t the average interest rate on outstanding government debt.

16 See the article entitled "The fiscal impact of financial sector support during the crisis", *Economic Bulletin*, Issue 6, ECB, 2015.

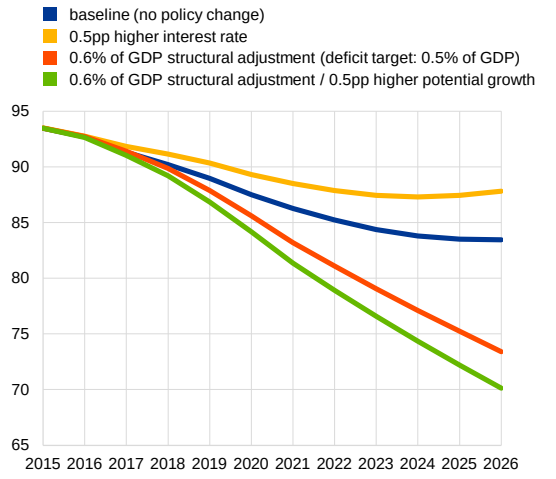
17 Traditional deterministic debt projections build on the debt accumulation equation and typically assess the impact of variations in the determining variables by means of scenario analysis.

18 See http://ec.europa.eu/economy_finance/publications/eeip/pdf/ip018_en.pdf

19 The implicit interest rate on government debt is computed as interest payments on the previous year's debt as a percentage of the current year's debt.

Chart A

Stylised debt scenarios for the euro area



Sources: European Commission's winter 2016 forecast and ECB calculations.

Under a no policy change assumption, aggregate euro area debt as a percentage of GDP would decline from around 94% in 2015 to around 84% in the coming decade (see the blue line in Chart A).[20] This decline corresponds to an average annual decline of the debt ratio of around 1% of GDP between 2016 and 2026. Around two-thirds of the nominal adjustment would result from primary surpluses, while the remainder would be related to an (on average) debt-reducing snowball effect. The latter is, however, projected to become debt-increasing towards the end of the projection horizon in relation to the assumed increase in interest spending. At the same time, higher ageing-related fiscal costs would gradually reduce primary surpluses. Both effects explain the flattening of the debt path in the second half of the projection horizon. The debt adjustment under the no policy change scenario for the euro area aggregate falls short of the requirement of the SGP's debt rule (see Section 3.2 for a description).

A 0.5 percentage point higher interest rate would put debt on an increasing path towards the end of the scenario horizon (see the yellow line in the chart). In this scenario, the implicit interest rate on government debt is assumed to be 0.5 percentage point higher as of 2017. Compared with the baseline scenario (see the blue line), the average debt adjustment over the period 2016-26 would decline from around 1% to 0.5% of GDP. The less favourable debt dynamics would mainly relate to the fact that the snowball effect becomes debt-increasing earlier than in the baseline, given that increases in the interest burden outweigh the debt-reducing impact of nominal GDP growth.

Structural adjustment in keeping with the requirements of the SGP's preventive arm would put the aggregate euro area debt ratio on a steeper declining path in line with the "sufficiently diminishing" requirements of the debt rule (see the red line in Chart A). According to the matrix of adjustment requirements under the preventive arm of the SGP,[21] the scenario assumes an annual improvement in the structural balance of 0.6% of GDP (as of 2017) until a structural deficit target of 0.5% of GDP is reached. Such an adjustment would reduce the debt ratio by around 2% of GDP on average every year until 2026, which would meet the requirement of the SGP's debt rule. The larger debt adjustment compared with the no policy change

[20] The no policy change baseline scenario for the euro area builds on the assumptions from the European Commission's Fiscal Sustainability Report 2015. Up to 2017, the debt projections build on the European Commission's winter 2016 forecast. As of 2018 (and up to 2026), potential growth is assumed to develop in line with the country-specific paths agreed in the Economic Policy Committee's Output Gaps Working Group. Long-term real interest rates are assumed to converge to 3%. Moreover, inflation, as measured by the change in the GDP deflator, is assumed to converge to 2% by 2020 in parallel to the closing of the output gap. The structural balance is assumed to be only affected by the cost of ageing – as projected in the 2015 Ageing Report – and assumed changes in interest spending.

[21] See http://ec.europa.eu/economy_finance/economic_governance/sgp/pdf/2015-01-13_communication_sgp_flexibility_guidelines_en.pdf

baseline would result from a significantly larger average primary surplus of around 1.5% of GDP over the projection horizon.

Assuming higher potential GDP growth results in a more favourable debt path (see the green line in the chart). In this scenario, the structural adjustment is combined with an increase in the growth rate of potential GDP by 0.5 percentage point as of 2016. Such an increase in potential GDP growth could be related, for example, to the implementation of structural reforms. As a result, the snowball effect becomes more negative, i.e. debt-reducing, which results in an average annual decline in the debt of more than 2% of GDP per annum over the period 2016-26. The related debt adjustment would be in line with the "sufficiently diminishing" requirement of the debt rule.

3 The debt rule in the Stability and Growth Pact

3.1 Developments in euro area government debt ahead of the crisis

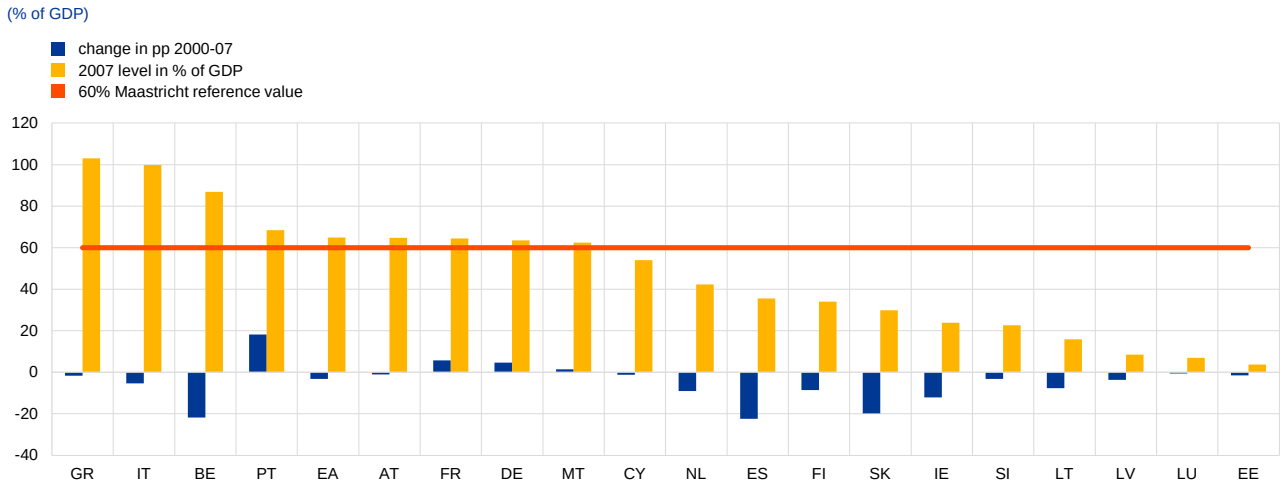
In the years prior to the sovereign debt crisis, many euro area countries did not take advantage of the favourable economic and financial environment to build up fiscal buffers against adverse shocks. Strong but only transitory revenue growth, buoyed by an unsustainable rise in domestic demand, was perceived to be permanent, triggering increases in structural government expenditure. At the same time, in many countries sizeable falls in interest burdens in the run-up to and in the early years of Economic and Monetary Union (EMU) were used largely for higher government expenditure rather than for reducing general government deficits and debt.[22] Hence, many euro area countries either made very little or no progress towards stronger underlying budgetary positions. In a number of member countries, the structural balance actually deteriorated during this period of strong economic growth.[23] Consequently, while general government debt-to-GDP ratios declined in many euro area countries in the years ahead of the crisis, this decline fell significantly short of what would have been desirable under the favourable economic circumstances at that time. In fact, with the notable exception of Belgium, where the high government debt ratio declined by about twenty percentage points, several of the countries which posted the highest government debt ratios within the euro area at the start of the last decade recorded further increases (e.g. Portugal) or only very small declines (e.g. Greece and Italy) in government debt ratios over the period 2000-07 (see Chart 1). Thus, even the boom period before the crisis did not trigger a trend decline in high government debt-to-GDP ratios. In 2007 a number of countries recorded government debt-to-GDP ratios well in excess of the Maastricht Treaty's 60% reference value.

22 See also "EMU and the conduct of fiscal policies", *Monthly Bulletin*, ECB, January 2004.

23 For an overview of fiscal imbalances ahead of the crisis, see Kamps, C., de Stefani, R., Leiner-Killinger, N., Rüffer, R. and Sondermann, D., "The identification of macroeconomic imbalances: unexploited synergies under the strengthened EU governance framework", *Occasional Paper Series*, No 157, ECB, 2014 and van Riet, A. (ed.), "Euro area fiscal policies and the crisis", *Occasional Paper Series*, No 109, ECB, 2010.

Chart 1

Level of and change in government debt-to-GDP ratios during the period 2000-07

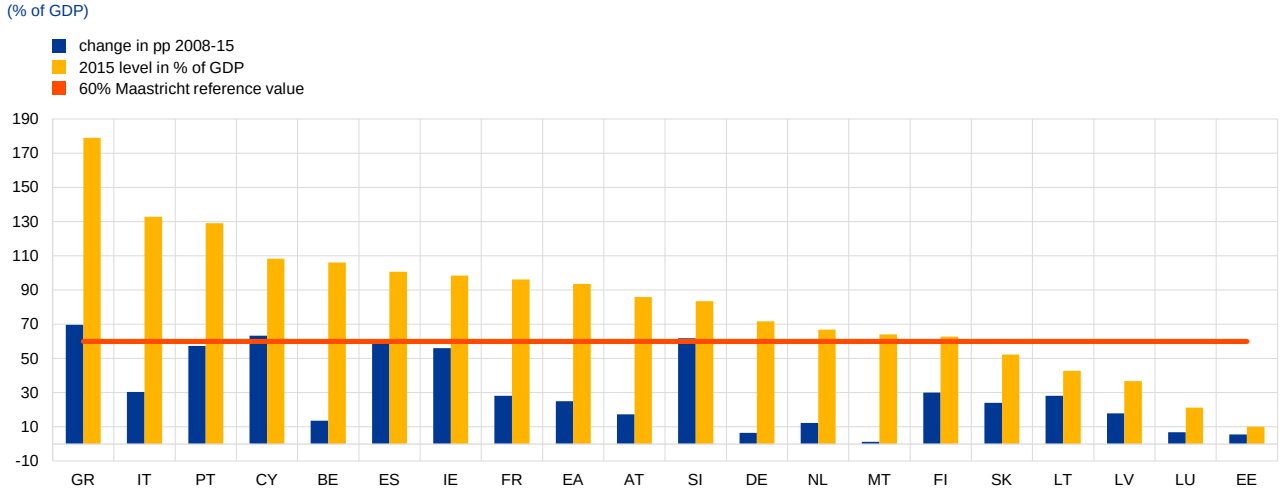


Sources: AMECO and ECB calculations.

When the crisis erupted in 2008, government debt accumulated quickly (see Chart 2). This resulted from drops in real GDP growth, rising bond yields and often sizeable support to the financial sector. The euro area aggregate debt ratio is estimated to have peaked in 2014 at 94.5% of GDP, up from 68.5% in 2007. Only five of the 19 euro area countries are expected to have recorded debt ratios below the 60% of GDP reference value in 2015. And debt ratios above 90% of GDP are expected for eight countries, with these even exceeding 100% in six cases. (See the European Commission's winter 2016 forecast.)

Chart 2

General government debt ratios in the euro area during the period 2008-15



Sources: European Commission's winter 2016 forecast and ECB calculations.

When the EU's Stability and Growth Pact was implemented in 1997, its intention was also to limit the deficit bias prevalent in many EU countries since the 1970s. The tendency of governments to conduct fiscal policies in a short-sighted

manner with an insufficient focus on medium-term spending pressures and long-term fiscal sustainability induces pro-cyclicality and rising government debt ratios.[24] The SGP therefore anchors the EU countries' decentralised fiscal policies based on the Maastricht Treaty's reference values for the government deficit and debt-to-GDP ratios of 3% and 60% of GDP, respectively. Furthermore, the 2005 reform of the SGP introduced, under its preventive arm, medium-term budgetary objectives (MTOs), which set country-specific structural balance targets over the medium term. They are designed, inter alia, to ensure sustainable debt ratios by also taking account of the budgetary costs of ageing.[25]

The Pact's debt criterion has effectively not been implemented since the start of EMU. First, monitoring the SGP's deficit criterion had been deemed sufficient by the European Commission and the European Council to steer countries' fiscal policies towards sustainable government debt positions.[26] This was one of the reasons why significant breaches of the 60% of GDP reference value over a prolonged period of time did not lead the Council to take procedural steps to ensure a return towards the Treaty's debt threshold. Second, the "sufficiently diminishing" requirement of the Treaty[27] had not been operationalised prior to the introduction of the debt reduction benchmark in 2011. Third, large deviations from the benchmark structural effort requirement under the Pact's preventive arm to ensure sufficient progress towards sound fiscal positions were not penalised. In the absence of a correction mechanism for past fiscal slippages, all of this contributed to a piling-up of government debt.

Fiscal rules that target the level of government debt directly have the advantage of keeping track of past fiscal developments. More specifically, developments reflected in changes in the primary budget balance, the evolution of interest spending as well as stock-flow adjustments (such as government support to the financial sector) cumulate into changes in the level of government debt. Effectively enforced debt rules are therefore less prone to a ratcheting-up of

24 See e.g. Hagen, J. von and Harden, I., "Budget processes and commitment to fiscal discipline", *European Economic Review*, Vol. 39, 1995.

25 MTOs are set by Member States according to country-specific circumstances. They must respect minimum values and are designed to serve three goals: (i) Member States maintain a safety margin that prevents them from breaching the 3% deficit reference value during cyclical downturns; (ii) Member States' debts are sustainable taking into consideration the economic and budgetary impact of ageing populations (i.e. by in part frontloading projected ageing-related increases in government spending, while ensuring long-run convergence of the debt ratio to 60%); and (iii) Member States have room for budgetary manoeuvre, in particular when it comes to preserving public investment. For more details, see the box entitled "The effectiveness of the medium-term budgetary objective as an anchor of fiscal policies", *Economic Bulletin*, Issue 4, ECB, 2015.

26 See, for example, Part IV of the European Commission's Report on Public Finances in EMU 2015, which finds that the debt-to-GDP ratio has not played a significant role in determining the Council's recommendations under the excessive deficit procedure.

27 See Article 126(2)(b) of the Treaty on the Functioning of the European Union.

government debt than deficit rules that do not entail the correction of past fiscal slippages.[28, 29]

3.2 The features of the SGP's debt rule

As a major lesson from the sovereign debt crisis, the EU Treaty's debt criterion was operationalised as part of the "six-pack" reforms which came into force in November 2011. Article 126(2) of the Treaty on the Functioning of the European Union foresees that compliance with budgetary discipline in the EU shall be monitored based on "whether the ratio of government debt to gross domestic product exceeds a reference value, unless the ratio is sufficiently diminishing and approaching the reference value at a satisfactory pace". In this vein, the debt rule operationalises the appropriate pace of convergence towards this level over the long term. According to Regulation (EU) No 1467/97, as amended by Regulation (EU) No 1177/2011, the debt-to-GDP ratio is regarded as diminishing sufficiently and approaching the reference value at a satisfactory pace if the differential of the government debt-to-GDP ratio with respect to the 60% of GDP reference value declines by 1/20th on average over a period of three years as a benchmark for debt reduction. With this specification, the debt rule aims to ensure that countries with larger fiscal imbalances, as reflected in higher government debt ratios, make greater efforts to ensure a return to safe debt positions.

The SGP's debt rule is assessed in three configurations. One configuration is backward-looking over the past three years, one is forward-looking over the coming two years and one is adjusted for the impact of the economic cycle. In principle, only if a country breaches the rule in all three configurations can a debt-based excessive deficit procedure (EDP) be opened. For countries subject to an EDP on 8 November 2011, when the debt rule entered into force, transitional provisions apply for the three years following the correction of the excessive deficit. During this transitional period, these countries must progress sufficiently towards meeting the debt reduction benchmark (i.e. the 1/20th rule) at the end of that period, to ensure it is fulfilled thereafter. Progress within this transitional period is measured by the adjustment in the structural budget balance, which has to be in line with the so-called minimum linear structural adjustment (MLSA).[30, 31]

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28 The "fiscal compact" as part of the Treaty on Stability, Coordination and Governance in the Economic and Monetary Union, which was signed by most EU Heads of State or Government on 2 March 2012, entails a balanced budget rule including, in principle, an automatic correction mechanism to be implemented in national law. Germany and Austria have legislated so-called debt rules, which consist of a balanced budget rule with an automatic correction mechanism of past deviations from requirements under the rule.

29 For a discussion, see Eyraud, L. and Wu, T., "Playing by the Rules: Reforming Fiscal Governance in Europe", *IMF Working Paper*, WP/15/67, 2015, p. 35.

30 See the SGP's code of conduct for further details: http://ec.europa.eu/economy_finance/economic_governance/sgp/pdf/coc/code_of_conduct_en.pdf

The SGP's debt rule entails flexibility by taking into account relevant factors. With regard to the preparation of reports under Article 126(3) of the Treaty on compliance with the debt criterion, the SGP foresees a number of relevant mitigating or aggravating factors that can be taken into account in case of non-compliance with the debt reduction benchmark. These factors include developments in the country's medium-term economic position (including cyclical developments), developments in the medium-term budgetary position (including the past track record of adjustment towards the MTO) as well as any other factors which, in the opinion of the Member State for which compliance with the debt criterion is being assessed, are relevant to evaluate compliance (e.g. debt incurred in the form of bilateral and multilateral support between Member States).

3.3 Compliance with the SGP's debt rule so far

The SGP's debt rule has so far only been a binding constraint for a limited number of euro area countries. Among the 14 countries that have recorded debt ratios above the 60% of GDP threshold since the debt rule entered into force, i.e. during the years 2012-15, seven countries were in an EDP. These countries had to comply with the Council's recommendations to correct their excessive deficits. The remaining countries should conduct fiscal policies that ensure both sufficient progress towards the MTO under the SGP's preventive arm and comply with the debt rule to converge towards the Maastricht Treaty's government debt threshold.[32]

For most euro area countries with elevated debt ratios, the debt rule has been less demanding than the Pact's preventive arm. In fact, since it entered into force, only for Belgium and Italy has the debt rule been a binding constraint for fiscal policies. As indicated by Table 1, for these two countries, the structural efforts required to comply with the debt rule (as reflected in the MLSA) were consistently above the 0.5% of GDP adjustment benchmark of the SGP's preventive arm. In line with the logic of the debt rule, the structural effort requirements were larger than for countries with government debt ratios much closer to the 60% of GDP threshold.

Gaps in relation to the fulfilment of the debt rule have been growing, especially in countries with very high debt. For both Belgium and Italy, the minimum linear structural adjustment increased gradually over the period under consideration. This reflects the debt rule's inherent mechanism to correct for past slippages in meeting debt rule requirements during the transitional period. At the same time, the other countries improved their structural balance more strongly than what compliance with

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31 A country's annual structural adjustment under the debt rule should not deviate by more than 0.25% of GDP from the MLSA which ensures that the least stringent condition consistent with the respect of the debt reduction benchmark is met by the end of the transitional period. At the same time, at any point in time during the transitional period, the remaining annual structural adjustment should not exceed 0.75% of GDP. See "Vade mecum on the Stability and Growth Pact", *Occasional Paper Series*, No 151, European Commission, May 2013.

32 Countries that were subject to an EDP on 8 November 2011 are required to deliver a structural effort over a transitional period of three years (i.e. the MLSA). Germany exited its EDP in 2011, Italy in 2012 and Belgium, the Netherlands and Austria in 2013. Malta's debt-based EDP, which was abrogated in 2014, was issued after the six-pack reforms; there is thus no transitional period.

the debt rule would have required. In 2014 the gaps in relation to compliance with the debt rule amounted to 0.8% of GDP in Belgium and 1.2% of GDP in Italy (based on the European Commission's winter 2016 forecast). In 2015 this gap is expected to have risen to around 2% of GDP in the case of Italy.

Table 1

Compliance with the SGP's debt rule and preventive arm

	Correction of excessive deficit	Transitional period for the debt rule	Change in the structural balance (percentage points)				Debt rule requirement during transitional period (i.e. debt benchmark as measured by minimum linear structural adjustment)				Gap in relation to debt rule requirement during transitional period (i.e. minimum linear structural adjustment)				Gap in relation to debt bench-mark
			2012	2013	2014	2015	2012	2013	2014	2015	2012	2013	2014	2015	2015
Belgium	2013	2014-16	0.6	0.7	-0.1	0.2	.	.	0.7	1.1	.	.	0.8	0.9	.
Germany	2011	2012-14	1.2	0.4	0.6	-0.1	0.0	-0.7	-2.6	.	-1.2	-1.1	-3.2	.	-5.2
Ireland	2015	2016-18	1.1	2.1	1.1	0.5	.	.	.	.	.	.	.	.	.
Italy	2012	2013-15	2.0	0.4	-0.2	0.1	.	0.8	1.0	2.3	.	0.4	1.2	2.2	.
Malta	2011	2012-14	-0.9	0.8	0.1	0.4	-0.6	-0.4	-1.7	.	0.3	-1.2	-1.8	.	-4.9
Netherlands	2013	2014-16	1.3	1.3	0.4	-0.6	.	.	-0.6	-1.3	.	.	-1.0	-0.7	.
Austria	2013	2014-16	0.7	0.6	0.5	0.4	.	.	0.1	-0.2	.	.	-0.5	-0.6	

Sources: European Commission's winter 2016 forecast and ECB calculations.
Notes: The table reviews compliance with the SGP's debt rule for the euro area countries. For example, Belgium's excessive deficit was corrected in 2013 and it entered the transitional period towards full compliance with the debt reduction benchmark in 2014. The three-year transitional period thus started in 2014 and ends in 2016. Belgium's requirement under the debt rule is equal to an MLSA of an improvement in the structural balance of 0.7% of GDP in each year of the transitional period 2014-16. In 2014, however, Belgium's structural balance deteriorated by 0.1% of GDP. The gap relative to the MLSA requirement thus rose to 0.8% of GDP in 2014. This gap was distributed evenly across the two remaining years of the transitional period, i.e. 2015 and 2016; consequently, the MLSA rises from an original adjustment requirement of 0.7% of GDP, by 0.4 percentage point, to 1.1% of GDP in 2015. In 2015 Belgium's structural balance is expected to have improved by 0.2% of GDP. The gap in relation to the MLSA of 1.1% of GDP in 2015 thus amounts to 0.9% of GDP (i.e. 1.1% of GDP minus the effort of 0.2% of GDP delivered in 2015).

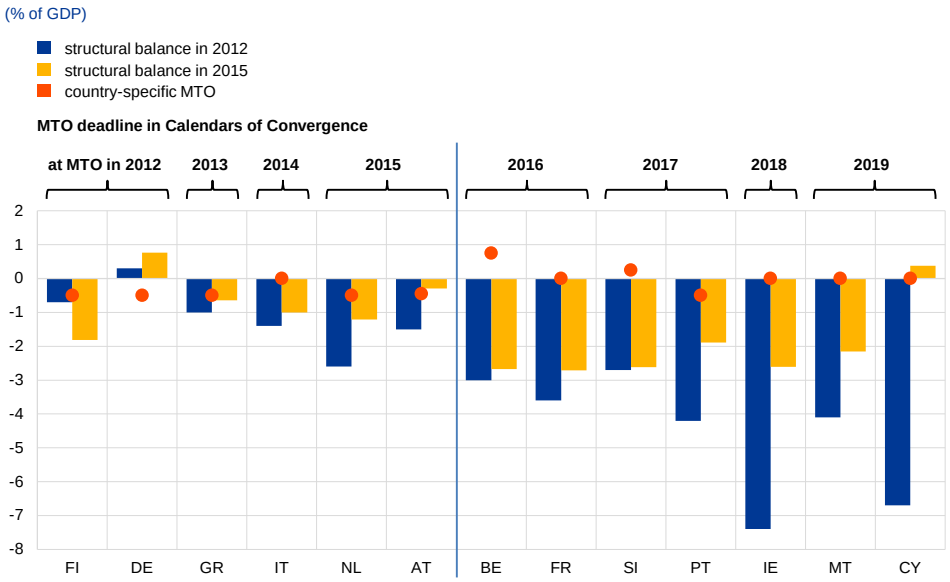
Shortfalls in structural efforts under the SGP's preventive arm, combined with lower adjustment requirements due to the recent flexibility provisions, contributed to gaps in relation to compliance with the debt reduction benchmark (see also Box 2). In 2013 the Commission put forward "calendars of convergence", i.e. country-specific time frames for achieving MTOs by a specified year as a follow-up to the Treaty on Stability, Coordination and Governance in the Economic and Monetary Union, also known as the "fiscal compact".[33] The correction mechanism enshrined in the fiscal compact, which should be triggered automatically at the national level in the event of a "significant deviation" from the MTO or the adjustment path towards it, was supposed to ensure rapid convergence of countries towards their respective MTOs. However, as Chart 3 shows, progress towards the MTOs has not materialised as recommended at that time. In the case of Belgium, these shortfalls explain the gaps vis-à-vis full compliance with the debt rule. In the same vein, had Italy improved its structural balance by about 1.5 percentage points from its level in 2012 to achieve its MTO of a balanced structural budget in 2014 (as put forward in the calendar of convergence), the gap in relation to compliance with the debt rule would have almost closed. Instead, the achievement of MTOs was frequently postponed. This was also associated with the lower adjustment requirements deriving from increased flexibility under the SGP that was granted in

[33] The deadlines for achieving the MTOs were set on the basis of the medium-term budgetary plans presented in the 2013 update of the stability and convergence programmes and in line with the SGP. See "Report on Public Finances in EMU 2013", *European Economy*, Issue 4, European Commission, 2013, Part 1, Annex 1.

2015 following a communication from the Commission.[34] These provisions clarified but also extended the SGP's flexibility as regards the application of the rules with respect to cyclical conditions, structural reforms and government investment.

Chart 3

Gaps in structural balances relative to the 2013 calendars of convergence



Sources: European Commission (winter 2016 forecast and "Report on Public Finances in EMU 2013") and ECB calculations.

Box 2

The consistency of the SGP's preventive arm with the debt rule

By construction, the requirements under the SGP's preventive arm are not necessarily consistent with those of the debt rule. The former aims at achieving and maintaining country-specific MTOs, which constitute the anchor of the preventive arm. The speed of convergence towards the MTO is determined by the matrix of adjustment requirements. The anchor of the SGP's debt rule, on the other hand, is the 60% Treaty debt limit. Convergence towards this anchor should follow the 1/20th rule, which requires that the differential with respect to the reference value be reduced at an average rate of one-twentieth per year as a benchmark. As a result, the speed of adjustment under the preventive arm and the debt rule can deviate. It is also not necessarily the case that the achievement of the country-specific MTO ensures compliance with the debt rule.[35]

In Belgium and Italy, sizeable deviations from the requirements of the (transitional) debt reduction benchmark emerged. At the same time, both countries were considered broadly compliant with the preventive arm. In February 2015 the European Commission issued Article 126(3) reports for Belgium and Italy which came to the conclusion that prima facie, i.e.

34 For further details, see the box entitled "Flexibility within the Stability and Growth Pact", *Economic Bulletin*, Issue 1, ECB, 2015.

35 In its recent communication on steps towards completing EMU, the Commission announced that it would prepare proposals to ensure the consistency of the methodology between the debt rule of the EDP and the Member States' MTOs. See http://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1447860914350&uri=CELEX:52015DC0600

before considering all relevant factors, the debt criterion of the Treaty was not fulfilled in both cases given that the winter 2015 forecast showed sizeable shortfalls vis-à-vis the required structural adjustment. At the same time, both Belgium and Italy were expected to broadly comply with the required adjustment path towards the MTO, which was considered a relevant factor for not opening debt-based EDPs in the two cases. The discrepancies between the assessment under the preventive arm and the assessment of compliance with the SGP's debt rule were related to a number of factors: (i) the adjustment requirements under the preventive arm were lower than the benchmark adjustment of 0.5% of GDP (owing to the use of the flexibility provisions in the case of Italy); (ii) the methodology to assess compliance under the preventive arm differs from the one used under the debt rule; and (iii) deviations from the debt reduction benchmark cumulate over time, while this is not the case for the preventive arm.

Illustrative debt scenarios suggest that full compliance with the requirements of the preventive arm would enable Belgium and Italy to comply with the debt reduction benchmark as of 2019 (see the yellow lines in charts A and B). The full compliance scenarios assume structural adjustment in line with the preventive arm matrix as of 2017 until the country-specific MTO is reached. Belgium would accordingly improve the structural balance by 0.6% of GDP in the period 2017-19 and comply with the forward-looking debt reduction benchmark as of 2019. As a result, government debt would be reduced by around 2.5% of GDP on average per annum to around 80% of GDP in 2026. In the case of Italy, structural adjustments of 0.6% of GDP in 2017 and 2018 and 0.5% of GDP in 2019 would be sufficient to comply with the forward-looking debt reduction benchmark and the MTO by 2019.

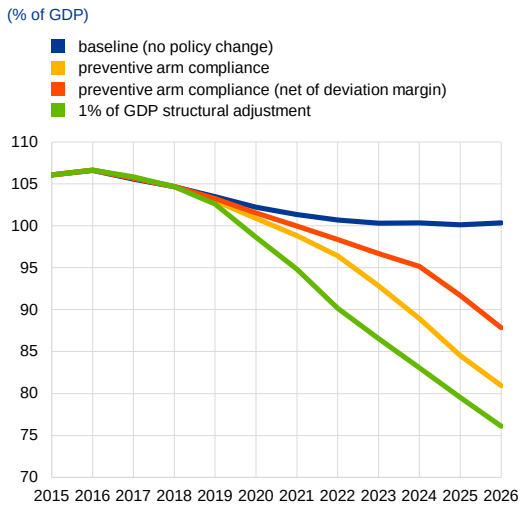
Broad compliance with the requirements of the preventive arm would, however, unduly postpone compliance with the forward-looking debt reduction benchmark by one and four years in Italy and Belgium, respectively (see the red lines in charts A and B). The broad compliance scenarios incorporate the 0.25% of GDP deviation margin preventing procedural steps under the significant deviation procedure of the preventive arm, i.e. structural adjustment requirements and the MTO are lowered by that amount.[36] In the case of Belgium, the 0.25% of GDP lower adjustment would result in a postponement of the achievement of the MTO by three years to 2025. Accordingly, the debt path is flatter. For Italy, the 0.25% of GDP lower annual adjustment would postpone the achievement of the MTO by one year to 2020.

A structural adjustment of 1% of GDP towards the MTO would ensure compliance with the forward-looking debt reduction benchmark as of 2018 in Italy and Belgium, respectively (see the green lines in charts A and B). Under such a scenario, Belgium would reach its MTO in 2020 and reduce its debt to around 75% of GDP in 2026. In Italy, a balanced budget position would be reached in 2018. Debt would decline to around 100% of GDP by 2026.

[36] The recent experience with the implementation of the SGP shows a tendency of Member States to internalise the deviation margin in their budgetary planning so as to avoid procedural steps. For example, in the 2016 round of draft budgetary plans (DBPs), only five out of twelve Member States subject to the preventive arm submitted a plan that was found to be compliant with the requirements, while the remaining countries were assessed to be broadly compliant or at risk of non-compliance. However, no DBP was found to be in particularly serious non-compliance and therefore rejected.

Chart A

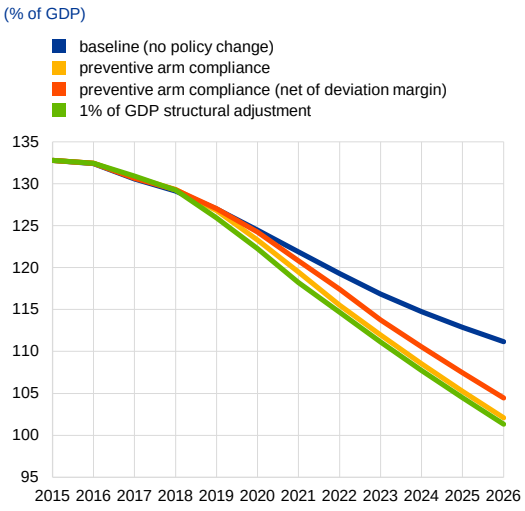
Belgium: government debt scenarios



Sources: European Commission's winter 2016 forecast and ECB calculations.

Chart B

Italy: government debt scenarios



Sources: European Commission's winter 2016 forecast and ECB calculations.

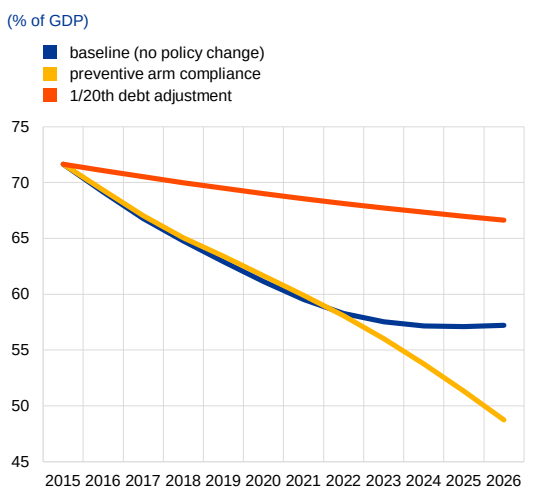
Typically, the debt rule is not a binding constraint for countries with lower debt ratios that have reached their MTO. Charts C and D show a number of debt scenarios for Germany and Austria. The former currently over-achieves its MTO so that the no policy change baseline scenario implies a decline in the debt ratio which is larger than what would occur under preventive arm compliance.[37] The average decline in the debt ratio in the period 2016-26 is also larger than the 1/20th debt reduction benchmark (see the red line in Chart C).[38] In the case of Austria, maintaining the MTO over the 2016-26 horizon would require some structural adjustment (relative to the baseline). The debt path under the preventive arm compliance scenario therefore shows a larger average decline in the debt ratio (see Chart D).

[37] The preventive arm compliance scenario for Germany assumes a gradual loosening of the structural balance until the MTO is reached and maintained as of 2018.

[38] The 1/20th debt reduction benchmark scenario assumes an annual decline in the debt ratio of 1/20th of the difference between debt in the previous year and 60% of GDP.

Chart C

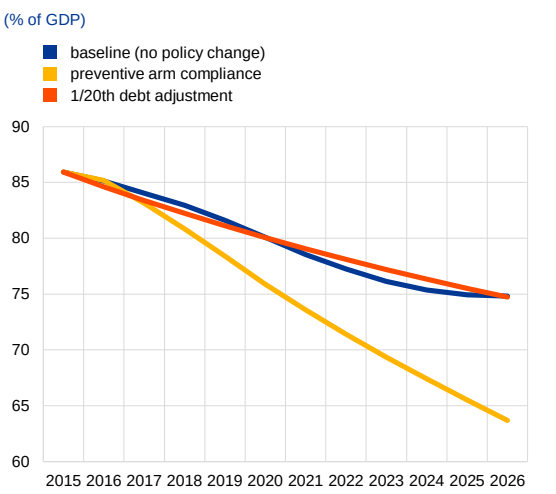
Germany: government debt scenarios



Sources: European Commission's winter 2016 forecast and ECB calculations.

Chart D

Austria: government debt scenarios



Sources: European Commission's winter 2016 forecast and ECB calculations.

3.4 Procedural enforcement of the SGP's debt rule

So far, one EDP has been based on the debt criterion. In May 2013 the Council issued an EDP for Malta and recommended an annual structural adjustment effort of 0.7% of GDP in 2013 and 2014 to ensure the deficit was brought to 2.7% of GDP in 2014, in line with the debt rule. The EDP was abrogated in a timely manner by the 2014 EDP deadline, which necessitated as a procedural prerequisite compliance with the forward-looking debt rule.

The consideration of relevant mitigating factors has so far prevented the opening of an EDP for Italy and Belgium despite significant (cumulative) gaps vis-à-vis the requirements of the transitional debt rule. The Commission's Article 126(3) reports for Belgium and Italy, which were prepared in the light of significant gaps vis-à-vis the requirements, concluded that the countries were at that time compliant with the debt criterion. The Commission, in its assessment, found three factors which were deemed to account for the shortfalls vis-à-vis the MLSA requirements.[39] First, both countries were assessed to be in (broad) compliance with the preventive arm's structural effort requirements (see also Box 2). Second, the reports considered unfavourable economic conditions related, in particular, to low inflation and real negative growth (in the case of Italy). As Box 3 shows, low growth and inflation do indeed affect debt dynamics adversely and thus render compliance with the debt reduction benchmark more difficult. Third, the reports considered the

[39] Relevant factors can be taken into account in the debt rule irrespective of the magnitude of the deviation from the benchmark. By contrast, for countries with debt ratios above 60% of GDP, relevant factors cannot be taken into account for a deficit-based EDP, unless the breach of the reference value is temporary and small.

expected implementation of growth-enhancing structural reforms. However, the reports did not quantify how they expected the structural reforms to ease the debt burden over time.

To account for mitigating factors transparently when assessing compliance with the debt criterion, these factors need to be quantified based on commonly agreed methodologies. The above-mentioned relevant mitigating factors taken into account in the cases of Italy and Belgium indeed appear to have been of particular relevance for the assessment of compliance with the debt criterion as they made these countries' delivery of the structural effort required to comply with the debt reduction benchmark more difficult. However, the Article 126(3) reports do not attribute the entire gap in relation to the debt reduction benchmark to the individual mitigating factors that have been taken into account. The related lack of transparency risks undermining the consistent implementation of the debt rule and thereby its effectiveness and credibility. Thus, relevant factors should be quantified in the analysis and should explain the gap vis-à-vis the requirements under the debt rule in full. To this end, the assessment of compliance with the debt criterion should be based on a method that quantifies the individual impacts of relevant factors such as low growth and inflation as well as the implementation of structural reforms and their contribution to the occurrence of shortfalls vis-à-vis the requirements of the debt reduction benchmark in a transparent manner.[40] A sound methodological framework to do so should be agreed upon ex ante and applied consistently over time. In the absence of such a transparent and coherent implementation, there is a risk that the debt rule will be side-lined.

Box 3
The impact of low inflation and growth on the requirements of the debt rule

Negative inflation surprises tend to make compliance with the requirements of the debt rule more demanding in the short term. Government revenues typically adjust faster to price changes than primary expenditure. The former tend to evolve broadly in line with inflation developments depending on the speed of adjustment of the respective tax bases, whereas, for government expenditure, ceilings are typically set ahead of actual implementation so that inflation surprises would not immediately lead to an adjustment. Fiscal balances therefore tend to be adversely affected by unanticipated declines in inflation. At the same time, to the extent that interest payments are sensitive to short-term inflation developments, e.g. in the case of inflation-indexed bonds or variable rate debt, a negative inflation surprise may drive down interest spending, counteracting the adverse impact on the primary balance. In its Report on Public Finances in EMU 2015[41], the European Commission analysed the impact of the negative inflation surprise of 2014 in EU Member States. The analysis suggests that the impact on fiscal balances was rather low on average.[42] At

40 See also the article entitled "The short-term fiscal implications of structural reforms", *Economic Bulletin*, Issue 7, ECB, 2015, which stresses the importance of quantifying the short-term costs of structural reforms in the context of the SGP's structural reform clause. This is to ensure that this clause, which was broadened by the Commission communication on SGP flexibility in January 2015, is applied in a way that preserves fiscal sustainability and the credible application of the SGP provisions.

41 See http://ec.europa.eu/economy_finance/publications/eeip/pdf/ip014_en.pdf

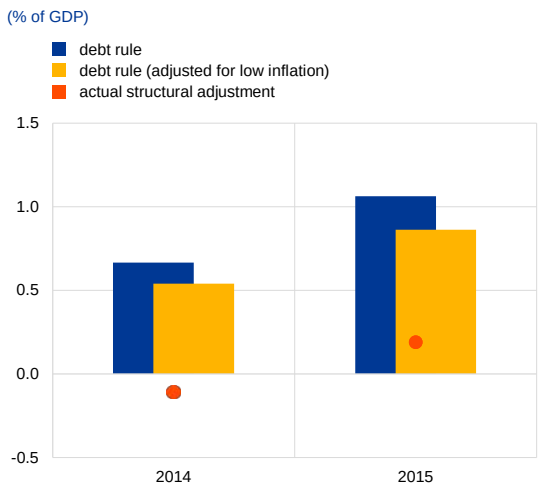
42 According to the analysis, the semi-elasticity of government deficits to a 1 percentage point deflationary surprise amounts to around 0.1% of GDP in the first year and less than that in the second year.

the same time, and more importantly, unanticipated declines in inflation accelerate the accumulation of government debt through a denominator effect, thereby making compliance with the debt reduction benchmark more demanding. If low inflation is accompanied by weak real growth (or a contraction of real GDP) compliance with the debt rule is rendered more difficult. Weak or negative real growth will adversely affect debt dynamics through a larger snowball effect and the negative cyclical impact on the primary balance.

Both in Belgium and Italy, structural adjustment in 2014 and 2015 – according to the European Commission's winter 2016 forecast – fell significantly short of the requirements of the (transitional) debt rule. In Belgium, the structural fiscal position loosened in 2014**,** while an adjustment of 0.7% of GDP was required. Despite some adjustment in 2015, the shortfall compared with the debt rule requirement was significant in that year (i.e. larger than 0.25% of GDP) (see Chart A). In the case of Italy (see Chart B), the structural adjustment of 0.4% of GDP in 2013 fell somewhat short of the MLSA when considering the 0.25% of GDP deviation margin. However, large deviations have occurred in 2014 and 2015.

Chart A

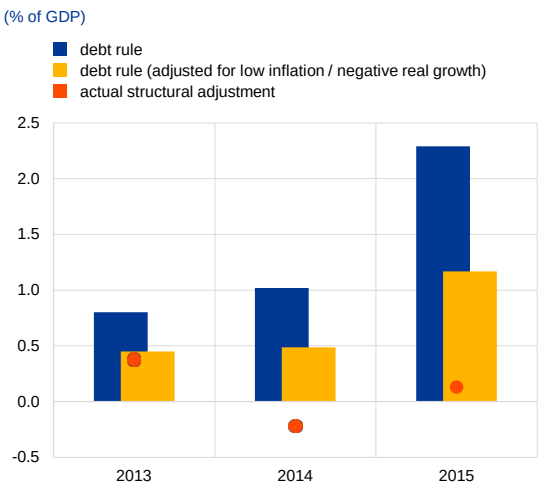
Belgium: debt rule requirements and actual structural adjustment



Sources: European Commission's winter 2016 forecast and ECB calculations.

Chart B

Italy: debt rule requirements and actual structural adjustment



Sources: European Commission's winter 2016 forecast and ECB calculations.

Shortfalls vis-à-vis the debt rule requirements remain significant both in Belgium and Italy when netting out the impact of low inflation and negative growth. Mechanical simulations suggest that the adjustment requirements under the transitional debt rule react sensitively to changes in inflation and growth.[43] In the case of Belgium, assuming GDP deflator growth of 2% as of 2014 would reduce the debt rule requirements in 2014 and 2015 by around 0.2% of GDP per annum (see Chart A). The average structural adjustment of 0.1% of GDP in the period 2014-15, however, falls significantly short of debt rule requirements adjusted for the impact of low inflation (of

[43] The simulations were conducted on the basis of the methodological framework for computing the MLSA for the application of the debt criterion in the transitional period, as laid out in the "Vade mecum on the Stability and Growth Pact" (see http://ec.europa.eu/economy_finance/publications/occasional_paper/2013/pdf/ocp151_en.pdf). Only the denominator effect of higher GDP deflator growth is taken into account given the small size of direct effects on headline deficits.

0.7% of GDP on average in the period 2014-15). For Italy, in addition to the assumption of higher GDP deflator growth as of 2014, the simulations assume real GDP growth of zero in 2014 (while real GDP actually contracted in that year). This reduces the adjustment requirements under the debt rule by around half between 2013 and 2015 (see Chart B). The actual adjustment in 2013 is broadly in line with the requirement under the debt rule adjusted for negative growth and low inflation. However, the structural adjustment in the period 2014-15 falls significantly short of the average adjusted requirement under the debt rule (of around 0.7% of GDP).

4 Conclusions

The reduction of the government debt overhang in the euro area remains a key policy priority. The aggregate debt level continues to exceed 90% of GDP – well above the 60% of GDP reference value of the Treaty. The stylised debt scenarios presented in this article show that fiscal adjustment in line with the requirements of the Stability and Growth Pact would within a decade contribute to a sizeable reduction of the euro area government debt ratio, bringing it closer to the reference level. In the absence of such fiscal action, the downward debt adjustment would be much more limited, owing mainly to mounting ageing-related spending pressures and rising interest spending.

At the Member State level, convergence towards sound fiscal positions and sustainable debt levels will be crucial to regain fiscal buffers and increase economic resilience. The SGP's debt reduction benchmark – introduced in the context of the 2011 six-pack of reforms to operationalise the debt criterion – constitutes an appropriate framework to guide the reduction of still very high debt ratios in many Member States. While providing a numerical benchmark for the pace of debt reduction, it explicitly takes into account cyclical conditions and provides additional flexibility through the consideration of relevant mitigating factors which hinder the required adjustment.

The SGP's debt rule was introduced as a major lesson from the European sovereign debt crisis and should be applied rigorously. Sizeable deviations from the requirements of the transitional debt rule have so far not led to the opening of debt-based EDPs owing to the consideration of relevant mitigating factors. Looking ahead, it should be ensured that compliance with the requirements of the debt reduction benchmark is not unduly delayed.

The application of the debt rule needs to be based on a well-defined and transparent methodological framework in order to ensure a consistent implementation across countries and over time. In particular, only quantifiable relevant factors should be taken into account when assessing compliance with the debt criterion. A proper quantification of the impact of relevant mitigating factors and their contribution to the occurrence of shortfalls vis-à-vis the requirements of the debt reduction benchmark will increase the transparency of the underlying analysis. As a result, the scope for discretion in the application of the debt rule would be reduced, which would support a more effective implementation.

The experience with past debt reduction episodes suggests that bringing down high levels of government debt requires complementary policy action. The price stability-oriented monetary policy already supports economic activity. It should be complemented by further effective structural reforms to increase the euro area's growth potential. Moreover, fiscal adjustment can contribute decisively to helping countries grow out of government debt. To this end, fiscal policies should remain in compliance with the fiscal rules of the SGP. At the same time, all countries should strive for a more growth-friendly composition of their budgetary policies. By converging towards lower levels of government debt and regaining fiscal buffers, the euro area will increase its resilience and fiscal space to cope with potentially adverse economic shocks in the future.