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## Past, present and future outlook

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# Abstract

This paper is about fiscal consolidation measures (i.e. tax hikes and government spending cuts motivated by a desire to reduce the fiscal deficit and public debt) in euro area (EA) countries. The focus is on analysing the growth effects of fiscal adjustments as well as their implications for debt sustainability assessments. I discuss the size and composition of fiscal consolidation by distinguishing three periods: the run-up to the EA, when governments faced the Maastricht criteria for joining the monetary union (1992-1998); before and during the recession triggered by the global financial crisis (1999-2009); and the euro crisis (with a specific focus on the 2011-2013 period). The empirical evidence on the growth effects of fiscal consolidation shows that while fiscal adjustments are contractionary, the negative growth effects were particularly strong and persistent during the euro crisis. With regard to the austerity outlook, I show that, beginning in 2025, EA countries are set to implement fiscal consolidations over multiple years so as to meet reformed EU fiscal rules. The adjustment requirements for some member countries are large in historical comparison. The paper argues that the framework for debt sustainability analysis at the heart of the reformed EU fiscal rules downplays the domestic growth impacts of fiscal adjustments and ignores cross-country spill-overs that magnify domestic growth effects. In all likelihood, the reformed framework underestimates the negative growth effects of fiscal consolidation. I conclude that implementing the multi-year fiscal adjustments required to meet EU fiscal rules may not reduce public debt ratios across the EA's member countries, as the European Commission expects, and that the economic and political implications of austerity may complicate the governance of a fragile EA.



Keywords: Fiscal policy, fiscal consolidation, fiscal multiplier, growth, public debt, euro area

JEL classification: H30, H63, O47

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# 1. Introduction

Fiscal consolidation measures (i.e. tax hikes and spending cuts motivated by a desire to reduce the fiscal deficit and public debt) are back at the centre of attention. The years of the euro crisis in the early 2010s were marked by intense policy debates and research efforts focused on the effects of fiscal austerity on economic growth and public finances (e.g. Blanchard and Leigh 2013; Alesina et al. 2015; Fatas and Summers 2018; Stockhammer et al. 2019), where we define austerity as conscious and sizeable actions of a government to use restrictive fiscal policy over a multi-year period in order to improve the fiscal situation. In more recent years, governments have used large spending programs to tackle the COVID-19 crisis and the energy crisis (e.g. Heimberger 2023a; Sgaravatti et al. 2023), where the early suspension of EU fiscal rules in the pandemic crisis enabled active fiscal policy across the euro area (EA). However, the policy focus has again shifted to bringing fiscal deficits and public debt ratios down by means of fiscal consolidation. In several EA countries, fiscal deficits and public debt ratios remain elevated in comparison to their pre-pandemic levels (e.g. IMF 2024). The fiscal adjustment requirements for EA member countries to meet the reformed EU fiscal rules, which entered into force at the end of April 2024, are substantial. According to the European Commission's reference trajectories, the average fiscal adjustment required in the EA12 is 1.9 percentage points (pp) of GDP over the 2025-2028 period, which is akin to an austerity outlook. However, adjustment requirements range from 4.8 pp of GDP in Finland, 4.3 pp in Italy, 3.7 pp in France, and 3.6 pp in Spain to 1.9 pp in Austria, 0.4 pp in Germany, and 0.0 pp in Ireland (Darvas et al. 2024).[1]

This paper contributes to current debates on fiscal consolidation by reviewing the evidence on the size, composition and growth effects of fiscal adjustments with a focus on the EA's member countries. Furthermore, I put the fiscal consolidation requirements for meeting the reformed EU fiscal rules (EU Regulation 2024) in the years to come into historical perspective and critically assess the assumptions of the underlying debt sustainability framework (European Commission 2024) when it comes to modelling the growth effects of fiscal adjustments.

The historical approach in Section 2 includes an analysis of the 1992-1998 period, when governments had to prepare for joining the EA while being confronted with the entry criteria stipulated in the Maastricht Treaty (e.g. Buti and Giudice 2002). In addition, I assess fiscal adjustments before and during the global financial crisis (GFC) (e.g. Devries et al. 2011) and austerity during the euro crisis (e.g. Heimberger 2017). Section 3 surveys the literature on the growth effects of fiscal consolidations in different time periods (e.g. Alesina and Ardagna 2010; Guajardo et al. 2014; Gechert et al. 2019). The existing empirical evidence suggests that fiscal consolidation dampens economic growth (e.g. Guajardo et al. 2014; Jorda and Taylor 2016), although the output losses depend on various factors, such as macroeconomic conditions and the composition of adjustment packages. Section 4 shows that the fiscal adjustments required to meet the reformed EU fiscal rules from 2025 onwards are large in historical perspective for several EA countries. The European Commission's (2024) debt sustainability framework is at the heart of the reformed EU fiscal rules when it comes to calculating the fiscal adjustment requirements for keeping public debt ratios on a plausibly downward trajectory. I argue that, in all

[1] Fiscal consolidation efforts are measured as an improvement in the primary structural budget balance (in pp of GDP).

likelihood, the reformed EU fiscal rules underestimate the negative growth effects of fiscal consolidation. Section 5 concludes that, with the austerity outlook of multi-year fiscal consolidations to be launched simultaneously across many of the EA's member countries, public debt ratios are set to turn out higher than officially expected. Finally, I provide a discussion of the related policy implications.

# 2. Fiscal consolidation in the past: Maastricht and the euro crisis

This section provides an overview of fiscal consolidations in EA countries in terms of their size and composition. In so doing, I focus on the 11 member states that joined the EA in 1999 plus Greece, which entered two years later, in 2001. I will refer to this group of the 12 earliest members of the EA as the EA12. I focus on three episodes: the fiscal consolidations of the 1990s against the background of the Maastricht Treaty, which set entry criteria for joining the EA; the years before and during the GFC (1999-2009); and fiscal austerity measures of the early 2010s, which were implemented in response to the deterioration in fiscal positions resulting from the GFC and the euro crisis.

Measuring fiscal consolidation is not simple. Looking at changes in headline fiscal balances to gauge the fiscal effort would be misleading, as the fiscal balance is affected by ups and downs of the business cycle (e.g. Heimberger 2023b). Tax revenues increase during an economic upswing, and unemployment-related public spending falls, which automatically leads to an improvement in the fiscal balance without any actual fiscal adjustment effort (and vice versa during a recession). This implies that the fiscal balance is endogenous to changes in economic activity, with the result that one has to find better ways to identify appropriate fiscal consolidation efforts (e.g. Blanchard 1990).

Against this background, I use the two most prominent approaches for tackling this endogeneity problem. The first approach, pioneered by Romer and Romer (2010), relies on 'narrative' fiscal data. The idea is to identify the size and timing of fiscal consolidation measures primarily motivated by a desire to cut the fiscal deficit and not by a desire to proactively work against (anticipated) macroeconomic conditions (Devries et al. 2011). The narrative fiscal consolidation measures are identified by using the records from official budget documents and reports to obtain information on the size, timing and major motivation(s) of the fiscal actions. The second approach assesses changes in cyclically adjusted fiscal data. The headline fiscal balance is corrected for the effects of cyclical conditions on government revenues and spending under the assumption that the output gap (i.e. the difference between actual and potential GDP) is zero. How large a fiscal adjustment is can then be calculated by looking at changes in the 'structural' fiscal balance.[2] I prefer to use the narrative approach, as it is better suited to separately showing tax- and spending-based measures motivated by policy makers' desire to reduce the fiscal deficit or the public debt ratio. Furthermore, the structural balance approach has been shown to suffer from measurement errors correlated with economic developments (e.g. Yang et al. 2015; Gechert and Mentges 2018). What's more, even if the changes in the cyclically adjusted budget balance were to reflect discretionary fiscal policy, they could still be motivated by a desire to respond to cyclical conditions, which may raise concerns about reverse causality (e.g. IMF 2023). While I mostly rely on narrative data, as a consistency check, I compare the assessment of fiscal austerity over the euro-crisis period for both approaches. For the analysis of the austerity outlook from 2025 onwards (in Section 4), I have to stick to using cyclically adjusted fiscal variables, as narrative data are not available.

[2] The 'structural' balance excludes the cyclical component of the fiscal balance in addition to excluding so-called one-off effects (e.g. costs related to bailing out financial institutions or revenues from privatisations).

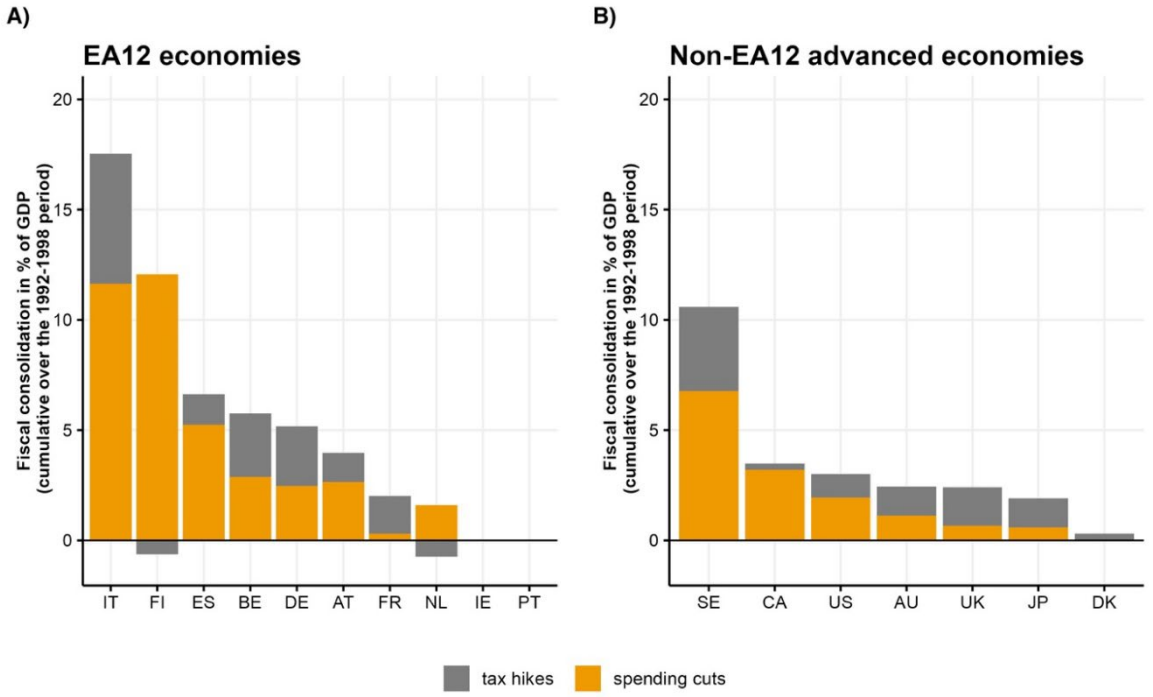
## 2.1. THE MAASTRICHT TREATY AND ENTRY IN THE EURO AREA

The 1992-1993 crisis in the exchange rate mechanisms of the European Monetary System was an important historical moment. In addition to reinforcing the EU member states' commitment to completing the transition to a monetary union, it was also accompanied by higher unemployment and deteriorations in public finances in several EU countries (e.g. Eichengreen 2000). Signed in 1992, the Maastricht Treaty established the entry criteria for member states that wanted to join the monetary union. The treaty introduced the well-known fiscal deficit target of 3% of GDP and the public-debt-to-GDP target of 60%, both of which remain key points of reference in the EU fiscal rules to this day. However, the 3% and 60% targets made it into the Maastricht Treaty by historical coincidence rather than being based on sophisticated economic reasoning. While the 60% debt target was close to the average public debt ratio of the 12 member states of the European Community in the early 1990s, the 3% deficit target was proposed by a low-ranking official in France's Ministry of Economics and Finance for tactical reasons (Priewe 2020). In 1997, the Maastricht Treaty was complemented by the introduction of the Stability and Growth Pact, which established the 3% fiscal deficit as a ceiling.

The Maastricht Treaty set high bars for allowing a member state to join the monetary union. A major part of complying with the treaty was to show fiscal discipline, with one key idea being that member states sharing a currency need to avoid irresponsible fiscal policies that could be a burden for the monetary union as a whole. The underlying concern was that the inflationary effects of domestic fiscal mismanagement may spill over to other members owing to their strong economic ties, thereby complicating the macro-level management of the EA as a whole (e.g. Buti and Giudice 2002). Against this background, member states were supposed to avoid excessive fiscal deficits, as gauged against the reference value of 3% of GDP. In the case of a higher deficit, it would at least have to decline substantially and continuously, ultimately reaching a level not far from the 3% reference value. Furthermore, member states had to record a public debt ratio below 60% of GDP and, in the case of a higher public debt ratio, the respective government at least had to achieve a declining trend so that the debt ratio would approach the 60% limit at a satisfactory pace (e.g. Gali and Perotti 2003).

The pressure to implement fiscal consolidation measures to correct the deterioration in public finances during the early 1990s coincided with the introduction of the Maastricht provisions. After 1992, fiscal deficits declined in nearly all member states, with the calendar for joining the EA putting particular pressure on the countries that did not yet meet the 3% deficit and/or 60% debt limit. The narrative fiscal consolidation data provided by the International Monetary Fund (IMF) (Devries et al. 2011) suggest that the 1992-1998 period (i.e. from the signing of the Maastricht Treaty up to the point when the entry criteria for joining the EA in 1999 had to be met) was characterised by simultaneous fiscal consolidations (see Figure 1). Since IMF data are not available for Greece and Luxembourg, I have to omit these two EA12 countries. Instead, I include data for advanced economies outside of the EA as a point of reference (see Panel B of Figure 1). On average, the 10 remaining EA12 countries covered had a cumulative total fiscal adjustment of 5.3% of GDP over the 1992-1998 period, which represents an average annual adjustment of 0.8% of GDP. The adjustments in Australia, Japan, the UK and the US over the same period were considerably smaller than the EA12 average. Spending cuts accounted for a much larger part of the fiscal adjustments in the EA12, as they contributed an average 3.9% of GDP compared to the 1.5% for tax hikes.

**Figure 1 / Cumulative fiscal consolidation, 1992-1998**




Source: Devries et al. (2011); own calculations.

Going beyond the averages shows that the size of the fiscal adjustment over the 1992-1998 period differs markedly across EA12 countries. Italy embarked on a multi-year austerity path, as it had by far the largest fiscal consolidation: a cumulative adjustment of 17.5% of GDP, with 11.4% coming in spending cuts and 5.9% in tax hikes. Italy pushed for a particularly large fiscal adjustment because its public debt ratio was the highest among the EA 12 countries (at more than 100% of GDP) and its fiscal deficit was larger than 10% of GDP in the early 1990s. In response, Italy increased personal income taxes and social security contributions and reduced public investment, but it also made structural cuts in health services and public employment. In 1996, when the fiscal deficit came in at more that 6%, the government introduced emergency fiscal consolidation measures to meet the 3% deficit criterion (von Hagen et al. 2001). This included a 'tax for Europe', which was a one-off levy on personal incomes meant to reduce the deficit in order to meet the Maastricht criteria. On the other end of the adjustment scale, there were only rather small adjustments in France (2.0%) and in the Netherlands (0.9%) (see Panel A of Figure 1).[3]

Although Finland recorded the second-largest fiscal adjustment over the 1992-1998 period, this was a special case, as the Finnish banking crisis in the early 1990s was a burden for the public budget and triggered fiscal austerity. The large fiscal adjustment in Sweden (the non-EA12 country with the largest fiscal adjustment in Panel B of Figure 1) was also motivated by a desire to bring down the fiscal deficit after the Swedish banking crisis of the early 1990s (e.g. Honkapohja 2009). However, in Finland and Sweden, the goal of meeting the Maastricht Treaty's 3% deficit target by 1998 was also mentioned in budget-related documents of the mid-1990s as a motivation for setting multi-year adjustments. Other

[3] Devries et al. (2011) did not record any narrative fiscal consolidations for Portugal and Ireland over the 1992-1998 period

EA12 countries (e.g. Austria, Belgium, Germany and Spain) undertook fiscal consolidations with the clear goal of meeting the criteria stipulated in the Maastricht Treaty, as fiscal restriction for EA entry was directly mentioned in budget documents and reports as a motivation for deficit reduction in the run-up to joining the EA (Devries et al. 2011).

## 2.2. BEFORE AND DURING THE GLOBAL FINANCIAL CRISIS

Fiscal consolidations were discontinued in many EA countries in 1998 once entering the monetary union was a done deal. The anticipation of the establishment of the EA led to a substantial decline in interest rates on government bonds for countries that faced high rates until the early 1990s. The convergence in interest rates increased fiscal policy makers' room for maneuver (e.g. Baldwin et al. 2015). Although major fiscal consolidation episodes did not take place in the run-up to the GFC, there was still considerable fiscal moderation compared to the 1970s and 1980s, particularly in countries (e.g. Italy) that were considered to be more at risk of experiencing financial shocks (e.g. Heimberger 2024). When the GFC hit, many observers pointed to the lack of fiscal consolidations motivated by a desire to improve fiscal positions in pre-crisis years (e.g. Lane 2012; Shambaugh 2012). The years 2001 to 2005 were marked by debates over Germany's and France's breaching of the Stability and Growth Pact, with the two largest EA countries working against a stricter enforcement of EU fiscal rules (e.g. Fischer et al. 2006).

The years from the launch of the monetary union in 1999 until the GFC were characterised by a buildup of major macroeconomic imbalances resulting from large capital flows from EA core countries to EA periphery countries (e.g. Baldwin et al. 2015), strong private-sector credit creation in some member states, and rising inequality (e.g. Stockhammer 2015). In this environment, the economic track records of EA12 periphery economies (e.g. Ireland and Spain) were relatively favourable in the first years of the common currency, but this masked the development of housing bubbles and private-sector debt overhangs (e.g. Hein et al. 2012; Lane 2012; Heimberger and Kapeller 2017).

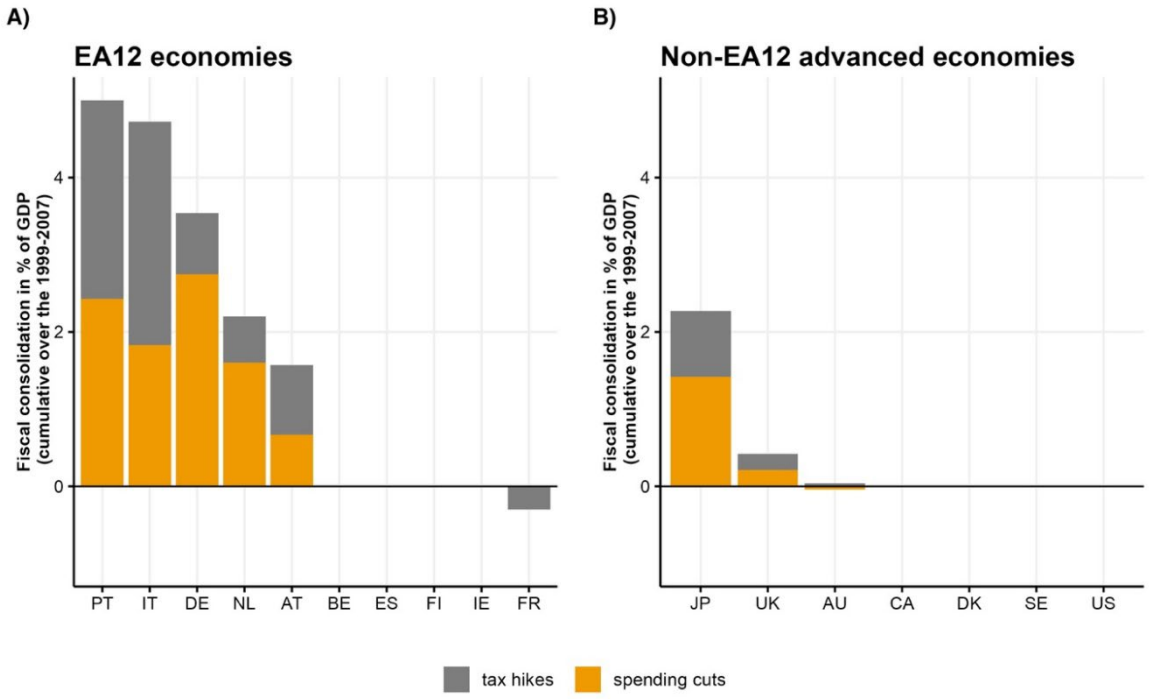
Based on the IMF's narrative identification, the 1999-2007 period (i.e. from the establishment of the common monetary union until the outbreak of the GFC) was marked by some sizeable fiscal adjustments motivated by deficit-reduction desires, but these were concentrated in only a handful of countries (see Figure 2). In the 1999-2007 period, the 10 EA12 countries recorded an average cumulative fiscal adjustment of 1.7% of GDP (or 0.2% per year), which is much lower than the cumulative average of 5.3% (or 0.8% per year) recorded in the 1992-1998 period.[4] While spending cuts (0.9% of GDP) again contributed more to fiscal adjustment in the EA12 than tax hikes (0.8%) did, the latter had a higher share in total adjustment during the 1999-2007 period than during the 1992-1998 period.

Portugal recorded the largest fiscal adjustment in the 1999-2007 period (cumulative: 5% of GDP; per year: 0.6%), which was mainly motivated by desires to meet the government's fiscal deficit target. Following right behind Portugal was Italy, where the main motivation was to get the fiscal deficit below the 3% deficit limit stipulated in the Stability and Growth Pact. The fiscal consolidation episodes in

[4] Note that individual EA12 member states in the 1999-2007 period may have introduced tax hikes and/or spending cuts for primary reasons other than to reduce the fiscal deficit. However, fiscal adjustments motivated by economic conditions or other factors do not feature in the narrative data provided by Devries et al. (2011) and are not our concern here.

Austria in the early 2000s and in the Netherlands and Germany in the mid-2000s were also primarily motivated by the need to comply with EU fiscal rules (Devries et al. 2011).

**Figure 2 / Cumulative fiscal consolidation, 1999-2007**




Source: Devries et al. (2011); own calculations.

When the GFC hit, policy makers in EA12 countries initially responded by implementing fiscal stimulus measures, although the extent of expansionary fiscal policies varied markedly across member countries. Germany came up with a significantly larger stimulus than other EA12 members did, as hard-hit EA periphery countries were more constrained given their weaker fiscal starting positions (e.g. Heimberger and Kapeller 2017). But even in Germany, which was in a comfortable position to support the economy with expansionary policies given its role as the economically and politically strongest EA country, fiscal stimulus spending in response to the recession triggered by the GFC fell short in scale of stimulus measures in China and the US (Khatiwada 2009, Table 4). Although this does not count as stimulus spending, governments bailed out banks and absorbed losses and risks from the unwinding of economic imbalances by using public balance sheets, which contributed to a large increase in fiscal deficits and public debt ratios (e.g. Lane 2012; Shambaugh 2012; Stockhammer 2015).

## 2.3. THE EURO CRISIS

By mid-2010, the discussion on fiscal policy in the EA had fully shifted from supporting economic recovery by means of fiscal stimulus to promoting fiscal austerity to rein in fiscal deficits (e.g. Blyth 2013; Tooze 2018). This political turn was based on the incorrect interpretation that the euro crisis was fiscal in nature (Buti 2020). Jean-Claude Trichet, who was the president of the European Central Bank (ECB) at the time, published an op-ed in the Financial Times in July 2010 arguing that ‘it is now time for all to tighten’ and that ‘[c]onsolidation is a must in such circumstances’ (Trichet 2010). A bit over a year later, then German

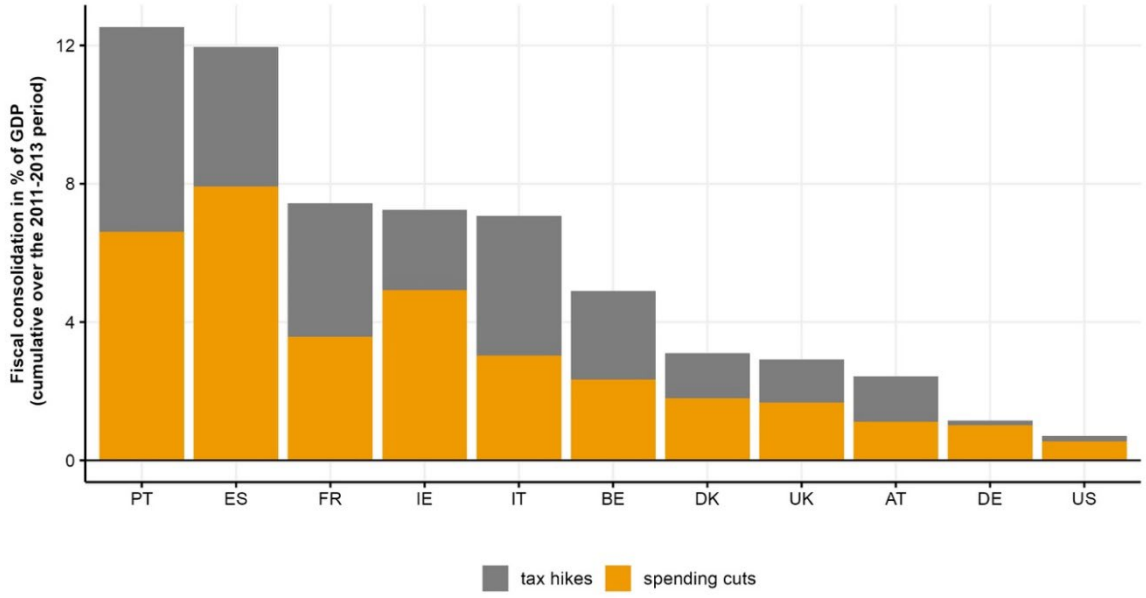
Finance Minister Wolfgang Schäuble argued in the same publication that 'western democracies and other countries faced with high levels of debt and deficits need to cut expenditures, increase revenues and remove the structural hindrances in their economies, however politically painful' (Schäuble 2011). European financial institutions – in particular, Dutch, French and German banks – were heavily exposed to the southern EA countries owing to the substantial shares they held in the government bonds of the latter countries. The official interpretation of the euro crisis ignored the evidence on the role of the buildup and unwinding of macroeconomic imbalances against the background of a lack of institutional and policy preparation, as the euro crisis was originally not fiscal in nature (e.g. Lane 2012; Shambaugh 2012; Baldwin et al. 2015; Celi et al. 2018). Policy makers agreed on a reform of EU fiscal rules in three steps over the 2011-2013 period, thereby introducing more restrictive fiscal targets as well as intensified monitoring and corrective actions (e.g. Heimberger et al. 2020).

Three EA12 countries (i.e. Greece, Ireland and Portugal) were forced to request assistance from the Troika, consisting of the European Commission, the IMF and the ECB. However, the Troika only granted support loans based on strict conditionality, which required stressed countries to implement austerity measures. Other EA member countries (e.g. Italy and Spain) barely avoided an official adjustment program with the Troika, but they still had to implement sizeable fiscal consolidations. This happened against the backdrop of intense pressure from the financial markets, as government bond yields of EA periphery countries rose strongly in comparison to the safety benchmark of Germany. Until mid-2012, when then ECB President Mario Draghi delivered his 'whatever it takes' speech, the ECB did not credibly signal to bond investors that it would backstop government bond markets, if needed. This, in turn, led to major market speculation against individual member countries and destabilised financial markets both in and beyond Europe (e.g. De Grauwe and Ji 2013; Saka et al. 2015).

Although some countries (e.g. Ireland and Latvia) had already started their fiscal adjustments before 2011, the simultaneous turn to fiscal consolidation was typically launched in 2011 and was felt most acutely during the 2011-2013 period (e.g. Heimberger 2017; Tooze 2018). For this reason – and because data coverage is also best for it across multiple sources – I focus on this period.[5] Figure 3 shows narrative data on fiscal consolidation measures over the 2011-2013 period – as collected by Alesina et al. (2015) – that were motivated by a desire to cut the fiscal deficit. I had to omit the Netherlands and Finland due to a lack of data availability in Alesina et al. (2015). The average fiscal adjustment over the 2011-2013 period in eight EA12 countries was considerably larger than during the EA accession period between 1992 and 1999. The majority of the adjustment came in the form of government spending cuts (55.9% of the total adjustment, on average) instead of tax hikes.

[5] Since the European Commission's data on structural (primary) balances only start in 2010, I cannot compute changes of cyclically adjusted variables over the 2010-2013 period (as this would require comparing the end-of 2013 level with the end-of-2009 level). Instead, I must focus on the 2011-2013 period. However, this is not a big issue, as most governments only started with (intense) fiscal adjustments in 2011.

**Figure 3 / Cumulative fiscal consolidation, 2011-2013**




Source: Alesina et al. (2015); own calculations.

Portugal, which formally requested financial assistance from the IMF and European authorities in April 2011, had the largest fiscal adjustment of the countries covered in Figure 3 (12.5% of GDP, with 5.9% coming from tax hikes and 6.6% from spending cuts).[6] Portugal is followed by Spain (12.0%), which was granted financial support from the European Financial Stability Facility in July 2012, as the European Commission monitored the resolution of Spanish banks (Pisani-Ferry et al. 2013). EA core countries (e.g. Austria and Germany) also implemented fiscal consolidation measures in the 2011-2013 period, but the narrative data provided in Alesina et al. (2015) suggest that their adjustment efforts were considerably smaller than those in the EA12 periphery countries.

To cover the entire EA12 country group over the 2011-2013 period, I move to two additional indicators provided by the European Commission to assess the size of fiscal adjustments: changes in the structural primary balance and the discretionary fiscal effort. The use of structural budget balances, which was already introduced at the start of Section 2, relies on the cyclical adjustment of fiscal balances via output-gap and budget-elasticity estimates (Mourre et al. 2014). The discretionary fiscal effort is essentially a mixed method: on the tax revenue side, it uses narrative data on the expected budgetary impact of changes in laws and other measures; on the expenditure side, it calculates the gap between government-spending growth and the trend in output growth while excluding changes in cyclical spending components, since obtaining a full narrative record of spending changes would be too costly against the background of discretionary spending changes at all levels of government (European Commission 2013).

[6] Figure 3 does not include Greece, which had a much larger fiscal adjustment than any other EA country (see Table 1), as narrative data for Greece are unavailable.

Table 1 compares fiscal consolidation efforts in the EA12 countries for the three different indicators. The results are consistent in terms of showing that the southern EA periphery countries had the largest fiscal adjustments. Greece by far comes out on top (see the discretionary fiscal effort in Column 2 and the structural primary balance indicator in Column 3), which is consistent with the existing literature that describes the Greek fiscal consolidation as being by far the most severe (e.g. Pisani-Ferry et al. 2013; Gechert and Rannenberg 2015). Portugal consistently turns out to have the second-largest cumulative fiscal consolidation over the 2011-2013 period, followed by Ireland and Spain. The Netherlands and Austria had a similarly sized fiscal consolidation, but they were only about half the size of the adjustment in Italy. I also consistently find that, among the four largest EA12 countries, all three indicators suggest that Germany had the smallest fiscal consolidation. There is some inconsistency with regard to the fiscal adjustment data, as the change in the structural primary balance typically signals significantly smaller fiscal consolidation efforts than the other two indicators do. Especially in countries with a stronger economic downturn, the change in the structural primary balance may underestimate the extent of fiscal consolidation (e.g. Tereanu et al. 2014; Fatas 2019).

**Table 1 / Cumulative fiscal consolidation in the 2011-2013 period according to different indicators (in % of GDP)**

| | Narrative consolidation | Discretionary fiscal effort | Change in structural primary balance |
|---|---|---|---|
| Greece | | 21.05 | 10.58 |
| Portugal | 12.54 | 12.05 | 7.23 |
| Spain | 11.96 | 7.6 | 6.97 |
| Italy | 7.07 | 5.62 | 3.67 |
| Ireland | 7.25 | 5.47 | 5.34 |
| France | 7.44 | 4.85 | 1.71 |
| Belgium | 4.9 | 3.55 | 0.47 |
| Netherlands | | 3.21 | 2.13 |
| Austria | 2.43 | 2.58 | 1.85 |
| Finland | | 1.86 | 0.21 |
| Germany | 1.15 | 0.32 | 2.21 |
| Luxembourg | | -0.04 | 1.56 |

Source: Narrative data, Alesina et al. (2015); discretionary (fiscal) effort, AMECO Spring 2024, own calculations; structural primary balance, AMECO Spring 2024, own calculations. The fiscal consolidation in the structural primary balance column shows the change in the structural primary balance in 2013 compared to the end of 2010 (in pp of potential GDP). The first two data columns show numbers as a percentage of GDP.

# 3. Growth effects of fiscal consolidation in EA countries

While the previous section documented some stylised facts about fiscal consolidations in the EA in different historical episodes, I will now turn to discussing the empirical literature on the macroeconomic effects of fiscal consolidation. My approach will be to briefly discuss the relevant strands of the literature on a) whether fiscal adjustments can have expansionary effects, which is mainly based on data for the time period before the GFC, and on b) how fiscal austerity affected economic growth and public debt ratios during the euro crisis and its aftermath.

## 3.1. THE EFFECTS OF FISCAL CONSOLIDATIONS BEFORE THE GLOBAL FINANCIAL CRISIS

Giavazzi and Pagano (1990, 1996) kick-started the literature on expansionary (non-Keynesian) effects of fiscal consolidation, as they attempt to show – with case studies on Denmark, Ireland and Sweden – that fiscal consolidation measures can have an expansionary effect on economic growth. The observation that consolidation measures are particularly expansionary if they are largely based on government spending cuts rather than tax hikes has been a recurring finding in this strand of the literature ever since (e.g. Alesina and Perotti 1997; Alesina and Ardagna 2010; Alesina et al. 2019). The general idea is that, at least under certain circumstances, fiscal consolidation can lead to an increase in economic output, even in the short-term and during a recession, as the adjustment improves expectations of a more solid economic recovery – so long as the fiscal consolidation package is well designed in terms of having sizeable, persistent and credible government spending cuts, where tax hikes should only be a small fraction of the overall consolidation (e.g. Botta 2020). Adjustments studied in this literature include the adjustment episode in Ireland in the late 1980s (e.g. Kinsella 2012), but the data also account for the fiscal consolidations of the 1990s motivated by a desire to meet the criteria set forth in the Maastricht Treaty among EA12 countries (e.g. Austria, Finland, Italy, and Spain), as discussed in Section 2.1 (e.g. Alesina and Ardagna 2010).

However, the empirical results on expansionary fiscal adjustments have been challenged on several fronts. First, there are methodological objections, as the literature on expansionary consolidations before the GFC relies on identifying fiscal adjustment by using (large) changes in cyclically adjusted fiscal balances. Breuer (2019) discusses the methodological problems and shows that they lead to biased results. With a corrected approach, the expansionary effects reported in Alesina and Ardagna (2010) disappear. Yang et al. (2015) highlight that corrections of the cyclically adjusted fiscal data used in the literature on expansionary consolidations leads to the conclusion that fiscal adjustments are contractionary. Hernandez de Cos and Moral-Benito (2013) find that the expansionary effects of fiscal adjustments disappear when they allow for feedback effects running from growth to fiscal consolidation.

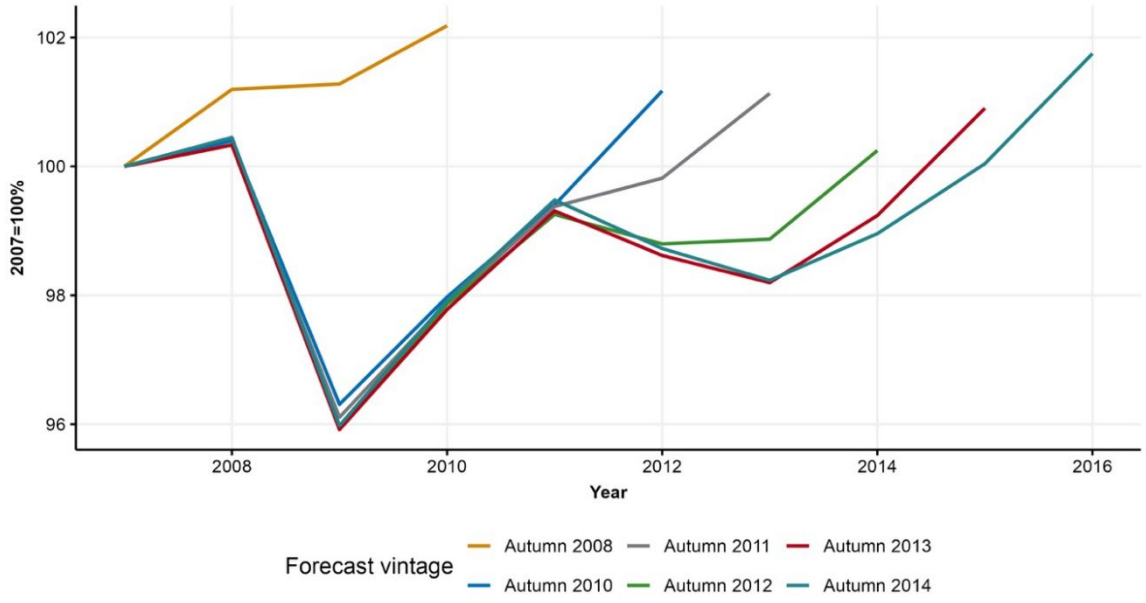
Second, the countries repeatedly cited as examples of expansionary consolidations are special cases that do not stand up to a more in-depth examination of the historical circumstances in terms of economic and institutional conditions. Jorda and Taylor (2016) show that the expansionary austerity result in Alesina and Ardagna (2010) disappears when the economy is in a slump, as their result is entirely driven by what happens during a boom. Fiscal consolidations and their effects cannot be viewed in isolation, as the entire policy mix plays a role, including the interplay with currency devaluations and expansionary monetary policy (e.g. Perrotti 2012; Kinsella 2012; Blyth 2013). Notably, none of this literature focuses on structural medium- and long-term effects of fiscal consolidation that might be due to reduced productive capacity, weakened (public) infrastructures and funding problems for sectors that contribute to long-term growth (e.g. education and research).

Third, in contrast to the literature on non-Keynesian effects of fiscal adjustments, the IMF (2010) used a sample of 15 advanced economies over the 1980-2009 period – including eight EA12 countries (i.e. Belgium, Finland, France, Germany, Ireland, Italy, Portugal and Spain) – and found that fiscal adjustments have a contractionary effect on output in the short term. The IMF (2010) came to this conclusion as a result of not using cyclically adjusted fiscal variables, as these cyclical adjustments do not always accurately distinguish between fiscal changes that are endogenous and those that result from a change in fiscal policy. The IMF (2010) therefore focuses on policy-induced fiscal adjustments based on the narrative record, which produces results that are inconsistent with the literature on expansionary austerity. In fact, fiscal consolidation had contractionary effects over the 1980-2009 period, when a fiscal adjustment of 1% of GDP reduced real output by about 0.5% after two years. The IMF economists Guajardo et al. (2014) later broadly confirmed these findings by analysing 173 fiscal consolidations in 17 OECD countries – including 10 EA12 countries (i.e. Austria, Belgium, Finland, France, Germany, Ireland, Italy, the Netherlands, Portugal and Spain) over the 1978-2009 period. By using the narrative fiscal consolidation data of Devries et al. (2011) (see Sections 2.1 and 2.2 of this paper), Guajardo et al. (2014) show that the results reported in the expansionary austerity literature are biased towards overstating expansionary effects. Instead, they find that fiscal consolidation reduces private consumption and output on impact, with persistent effects over five years, and that both spending- and tax-based fiscal adjustments are contractionary. On average, their estimates point to a cumulative fiscal multiplier of 0.9 within two years after the fiscal adjustment. Jorda and Taylor (2016) correct for potential endogeneity bias in the narrative fiscal data used by Guajardo et al. (2014). Using propensity score-based methods, Jorda and Taylor (2016) find that the effects of fiscal consolidation on growth are always stronger in downturns than in upswings. The loss in real output is 1.0% over two years and 3.5% over five years after a typical fiscal adjustment of 1% of GDP, but losses are relatively small and imprecisely estimated during booms. When the economy is characterised by underutilisation of economic resources (i.e. there is significant economic slack), restrictive fiscal policy has stronger negative growth effects than when the economy is close to or at full capacity utilisation (e.g. Gechert and Rannenberg 2018).

## 3.2. THE EFFECTS OF FISCAL AUSTERITY IN THE CONTEXT OF THE EURO CRISIS

In 2010, the IMF had recommended an early turn towards fiscal adjustment efforts, and the European Commission (2010) had called for a strong commitment to front-loaded fiscal consolidation. However, the years of the euro crisis were marked by large growth-forecast errors, as both the IMF and the European Commission were systematically too optimistic about how EA economies would recover from the recession triggered by the GFC while going for fiscal consolidation measures to rein in fiscal deficits. Figure 4 shows systematic downward revisions of real GDP forecasts of the European Commission for the EA12 over the 2010-2014 period.

**Figure 4 / Real GDP forecasts of the European Commission for the EA12, 2007=100%**



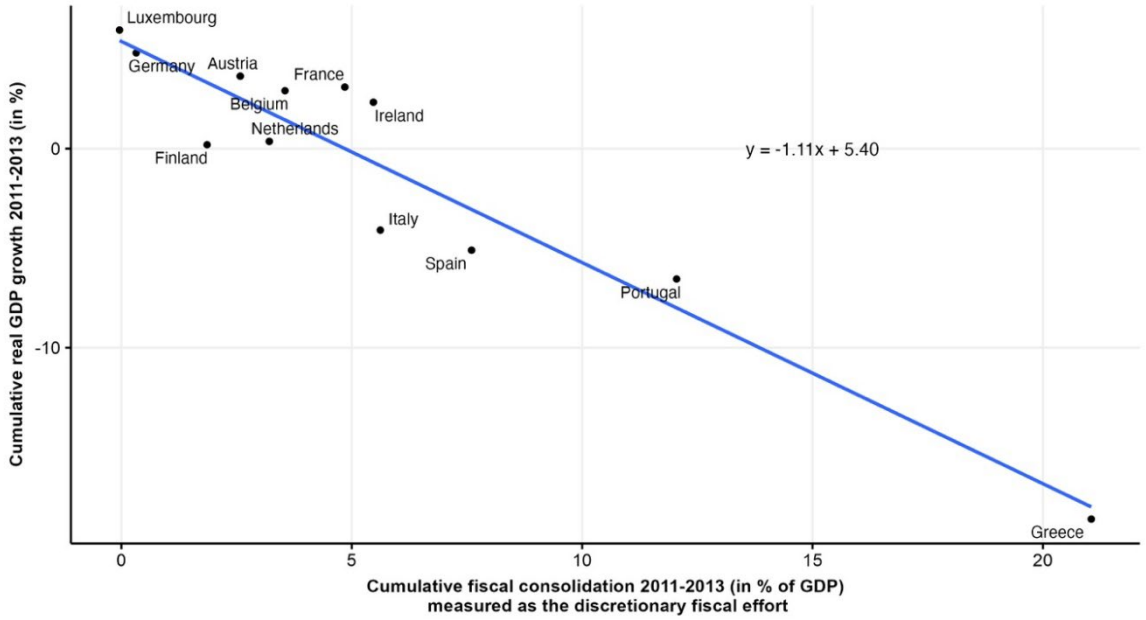

Source: AMECO (different vintages); own calculations. The lines capture different forecast vintages of the European Commission (e.g. the red line for the autumn 2008 forecast and the green line for the autumn 2011 forecast). Data up to the year before the forecast (e.g. up to 2007 in the case of the autumn 2008 forecast and up to 2010 for the autumn 2011 forecast) are actual data (i.e. subject to revisions), and the other values are based on the respective forecast (e.g. all values from 2008 onwards were forecast in autumn 2008, while all values from 2011 onwards were forecast in autumn 2011).

In October 2012, the IMF's flagship World Economic Outlook publication presented an analysis of the sources of these forecast errors (IMF 2012). The analysis argues that the fiscal multipliers used in the IMF's growth forecasts (assumed to be around 0.5) were systematically too low. The IMF's sample of advanced countries included all EA12 countries except Luxembourg. This implied that the IMF had significantly underestimated the negative short-term growth effects of fiscal consolidation. Blanchard and Leigh (2013) presented several robustness checks, including an econometric analysis that accounted for other confounding factors. They confirmed that stronger planned fiscal consolidation in advanced economies was associated with lower economic growth than expected in the forecasts, especially early on in the crisis. Multipliers were underestimated for both tax hikes and spending cuts. The finding reported by Blanchard and Leigh (2013) – namely, that actual fiscal multipliers during the euro crisis

were, on average, substantially above one – implies that a fiscal consolidation of one pp of GDP reduced output by more than one pp.

Figure 5 shows that the depth of the economic downturn in the EA countries over the 2011-2013 period was closely related to the size of the fiscal adjustment. A fiscal consolidation of one pp of GDP (measured based on the discretionary fiscal effort indicator) was associated with a cumulative decline in real GDP of about 1.1 pp. When I use changes in the structural primary balance to measure the size of fiscal adjustments, I find an even larger negative coefficient, which suggests that an improvement of one pp of GDP in the structural primary balance was associated with a 1.8 pp decline in real GDP, which is consistent with findings reported in Heimberger (2017). This indicates that fiscal multipliers in the EA during the 2011-2013 period were, on average, higher than one. Heimberger (2017) shows that this result is robust to analysing the role of outliers, variations in the country group, and the introduction of additional control variables that could explain both the size of fiscal consolidation and real GDP performance, such as the initial sovereign debt position, financial market stress, current account imbalances and the role of household debt. Gechert et al. (2016) estimate the impact of fiscal consolidation on output over the 2011-2013 period based on meta-regression evidence on fiscal multipliers in economic downturns. They report a short-term output loss of 7.7% of GDP due to austerity. Stockhammer et al. (2019) find the largest negative output effects of contractionary fiscal policy in the southern EA countries (i.e. Greece, Portugal and Spain).

**Figure 5 / Austerity and economic growth, 2011-2013**




Source: AMECO (Spring 2024); own calculations.

The empirical literature suggests that the negative growth effects of fiscal adjustment in EA countries were persistent (e.g. Gechert et al. 2019). Fatas and Summers (2018) report evidence pointing to strong hysteresis effects of fiscal policy (i.e. fiscal austerity led to persistently lower output), which suggests that

fiscal adjustments in several EA countries were self-defeating. Especially the EA periphery countries that were under intense pressure to pursue large front-loaded adjustments early in the crisis (e.g. De Grauwe and Ji 2013) found themselves with a depressed economy in 2012. This required even larger fiscal consolidations, which depressed economic growth even more (Heimberger and Kapeller 2017; Fatas 2019). Public debt ratios turned out higher than they would have been under a less severe, backloaded adjustment approach because fiscal consolidation depressed output levels and therefore reduced the denominator of the public-debt-to-GDP ratio.

The surveyed evidence suggests that the growth effects of fiscal austerity during the euro crisis were much more pronounced than in earlier periods. A comparison of the IMF's empirical work suggests that average fiscal consolidation multipliers before the GFC were a bit below unity (IMF 2010; Guajardo et al. 2014), while they were (substantially) above one during the euro crisis, or at least in the early crisis period (IMF 2012; Blanchard and Leigh 2013). Over the 2011-2013 period, EA countries were unable to use currency devaluations or expansionary national monetary policy to offset the negative growth impulse of fiscal adjustments, as several governments had historically done when pursuing fiscal consolidation before they joined the EA (e.g. Blyth 2013). At the same time, the ECB was constrained in its ability to stimulate the economy by cutting interest rates owing to the zero lower bound of nominal interest rates, while the private sector in several EA countries was deleveraging to reduce the private debt burden that resulted from the buildup of macroeconomic imbalances in the run-up to the crisis (e.g. Koo 2015).

Cutting government spending and hiking taxes in an environment marked by economic slack (i.e. idle economic resources) comes with larger negative growth effects, as short-term fiscal multipliers are higher during downturns (Jorda and Taylor 2016; Gechert and Rannenberg 2018). Furthermore, most EA countries pursued fiscal consolidation at the same time, although the size of adjustments varied across countries. To estimate the effects of simultaneous adjustments, Goujard (2017) uses a sample of 17 OECD countries over the 1978-2011 period covering 10 EA12 countries (i.e. Austria, Belgium, Finland, France, Germany, Ireland, Italy, the Netherlands, Portugal and Spain). Based on the narrative approach of identifying fiscal consolidations, he presents empirical evidence that simultaneous fiscal consolidations trigger cross-country spill-over effects between trading partners, and that these spill-overs magnify the domestic growth effects of tax hikes and spending cuts, especially during economic downturns. In a publication series of the European Commission, in 't Veld (2013) also finds substantial spill-over effects of fiscal consolidation in the EA.

# 4. The austerity outlook

Reformed EU fiscal rules came into force on 30 April 2024 (EU Regulation 2024). Although the targets relating to a 3% fiscal deficit and the 60% public debt ratio have remained unchanged, there are important changes compared to the old framework. The mechanical debt-reduction rule of the old framework, according to which public debt ratios had to fall to 60% within 20 years, was abolished. Under the new framework, when the public debt ratio exceeds the 60% reference value or when the fiscal deficit is above the 3% target, the European Commission puts forward a 'reference trajectory'. This is supposed to ensure that, by the end of a fiscal adjustment period of at least four years, the public debt ratio is on a plausibly downward trajectory (or stays at 'prudent' levels) even under adverse scenarios.

In June 2024, the European Commission sent a reference trajectory to all governments that did not meet the 3% limit and/or the 60% target. This reference trajectory can be understood as pre-plan guidance on how much fiscal adjustment each member country would have to implement over the four-year period between 2025 and 2028 to keep the public debt ratio on a plausibly downward trajectory within 10 years after the fiscal adjustment. The reference trajectory is used as an anchor for bilateral negotiations between the European Commission and each individual national government on multi-year fiscal consolidation plans. The deadline for submitting the plans to the European Commission was set for 20 September 2024. Member countries can include a set of investments and reforms, which the European Commission will evaluate to determine whether the measures are growth-enhancing, consistent with debt sustainability, address EU priorities (e.g. investments in decarbonisation or digitalisation), and follow the Commission's country-specific recommendations (e.g. on pension reforms). If the European Commission accepts a set of proposed investments and reforms, the fiscal adjustment period can be lengthened from four years to a maximum of seven years, thereby reducing the annual fiscal consolidation requirements.

The European Commission uses debt sustainability analysis (DSA) to assess whether the public debt ratio will plausibly decline even under adverse scenarios (e.g. Heimberger 2023c).[7] The DSA outcomes show how the public debt ratio will evolve going forward given assumptions on economic growth, interest rates, inflation and fiscal policy. The so-called safeguards, which stipulate minimum fiscal adjustment requirements, will only be applied if they are stricter than the DSA-based fiscal consolidation criterion. However, existing simulations for the reference trajectories show that the DSA-based criteria on fiscal consolidation are binding for eight of the EA12 countries. In particular, the DSA criterion is stricter than the safeguards for all countries with high levels of public debt.[8]

[7] To assess whether the public debt ratio will decline even under adverse assumptions, the European Commission's DSA combines a baseline projection of the public debt ratio with three deterministic stress tests and a stochastic analysis. The fiscal adjustment requirements is computed so as to ensure that a member country passes all these different tests.

[8] The DSA-based criterion is binding for Austria, Belgium, Finland, France, Germany, Greece, Italy, Portugal and Spain. One of the safeguards is only stricter for Finland, the Netherlands, Ireland and Luxembourg. The calculations are an update of Darvas et al. (2023), with the May 2024 forecast of the European Commission being based on the replication of the European Commission's DSA framework, as provided in Welslau (2024); see also Lennard Welslau's github page: https://github.com/lennardwelslau/eu-debt-sustainability-analysis/.

Figure 6 shows the fiscal consolidation requirements to meet the reformed EU fiscal rules for the EA12 countries according to the reference trajectories (grey bars).[9] I have to use cyclically adjusted fiscal variables, as narrative fiscal adjustment projections are not available. The data point to an austerity outlook. Over the four-year period between 2025 and 2028, the average fiscal consolidation in the EA is 1.9 pp of GDP, which is slightly below 0.5 pp of GDP per year. The fiscal adjustment is measured as an improvement in the structural primary fiscal balance (i.e. the cyclically adjusted fiscal balance net of budgetary one-off effects and interest payments).[10] However, Figure 6 also shows that cumulative adjustment requirements differ markedly across EA12 countries – from 4.8 pp of GDP in Finland, 4.3 pp in Italy, 3.7 pp in France, and 3.6 pp in Spain to 1.9 pp in Austria, 0.4 pp in Germany and 0.0 pp in both Ireland and Luxembourg (Darvas et al. 2024). This implies an annual fiscal consolidation requirement of 1.2 pp of GDP in Finland, 1.1 pp in Italy, 0.9 pp in both France and Spain, 0.5 pp in Austria, and 0.1 pp in both Germany and the Netherlands. If governments apply for and get an extension of the adjustment period (from four to up to seven years) based on a proposed set of investments and reforms, the annual fiscal adjustment requirements will be reduced, although the required overall adjustment typically does not change significantly.[11]

Furthermore, the orange bars in Figure 6 indicate the fiscal adjustment based on the structural primary balance during the euro crisis (2011-2014). I include the year 2014 to show a four-year adjustment period comparable to the 2025-2028 period. Among the largest EA12 countries, the data suggest that, to meet the requirements of the reference trajectories in the reformed EU fiscal rules, Italy and France would have to implement fiscal consolidations that are larger than the adjustments made during the euro crisis. Spain would have to deliver a fiscal consolidation that is about half the size of the 2011-2014 adjustment. The three remaining EA periphery countries, which had large adjustments during the euro crisis, would have to make minor or even no adjustments (Portugal: 0.4 pp of GDP; Greece, 0.1 pp; Ireland, 0.0 pp) because they are already posting sizeable structural primary budget surpluses. Finland and Belgium look forward to larger adjustments than during the euro crisis; in Austria, the upcoming adjustment would have to be about the same size as it was over the 2011-2014 period; and, in Germany and the Netherlands, the reference trajectories in the reformed EU fiscal rules demand smaller adjustments than what was implemented during the euro crisis.

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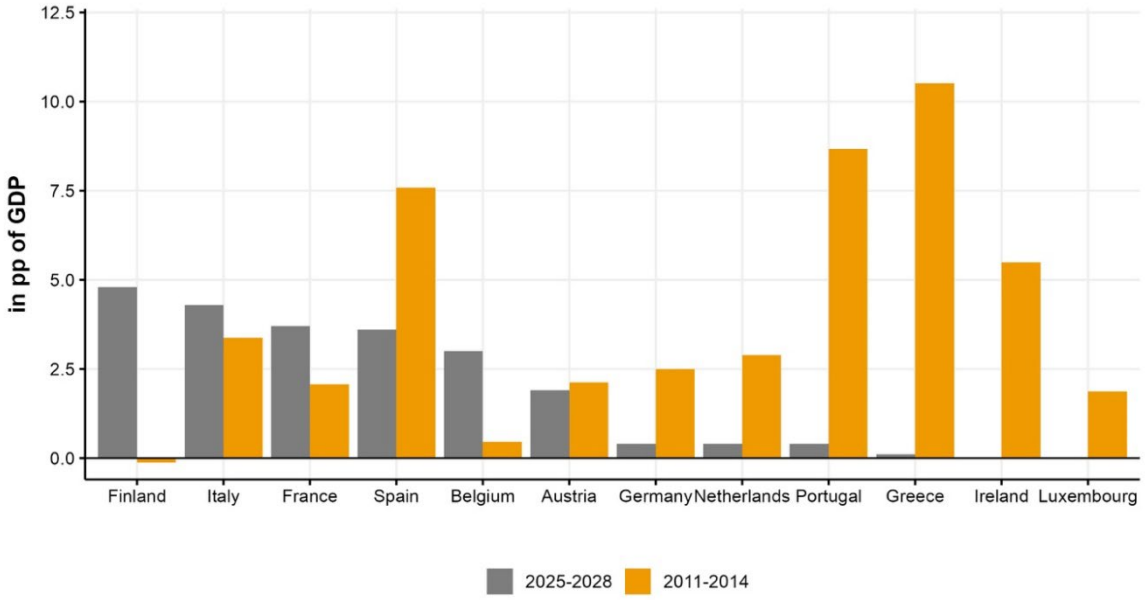
9 These are updated calculations of the fiscal adjustment requirements of the reformed EU fiscal rules under a four-year adjustment period (reference trajectories); in other words, there is no extension to a seven-year adjustment period via a set of investments and reforms. Darvas et al. (2024) use the May 2024 forecast of the European Commission, which is based on the replication of the European Commission's DSA framework, as presented in Darvas et al. (2023). Python code files are available via Lennard Welslau's github page: https://github.com/lennardwelslau/eu-debt-sustainability-analysis/.

10 The reformed EU fiscal rules will translate the adjustment requirements based on the structural primary balance into a so-called net expenditure path. Net expenditures are defined as all government expenditures net of interest payments, discretionary revenue measures (i.e. hikes or reductions in taxes), expenditure on EU programs fully matched by revenue from EU funds, national expenditure that co-finances programs from the EU budget, and cyclical elements of unemployment benefits. The European Commission will use a control account to track annual and cumulative upward and downward deviations of actual net expenditure from the plan. Temporary deviations from the net expenditure path will only be allowed in exceptional circumstances. If a member state markedly deviates from the plan, the respective government will have to implement additional fiscal adjustment measures over a defined period (EU Regulation 2024).

11 In the seven-year case (i.e. with an adjustment period from 2025 to 2031), the annual improvement in the structural primary balance is required to be 0.6 pp of GDP for Finland (instead of 1.2 pp in the four-year scenario) as well as 0.6 pp for Italy (instead of 1.1 pp), 0.5 pp for France (instead of 0.9 pp), 0.3 pp for Austria (instead of 0.5 pp), 0.04 pp for the Netherlands (instead of 0.09 pp), and 0.02 pp for Germany (instead of 0.11 pp) (Darvas et al. 2024).

**Figure 6 / Cumulative fiscal consolidation over the 2025-2028 period (reference trajectories according to the reformed EU fiscal rules) vs. the 2011-2014 period (euro crisis), measured as the improvement in the structural primary balance (in pp of GDP)**



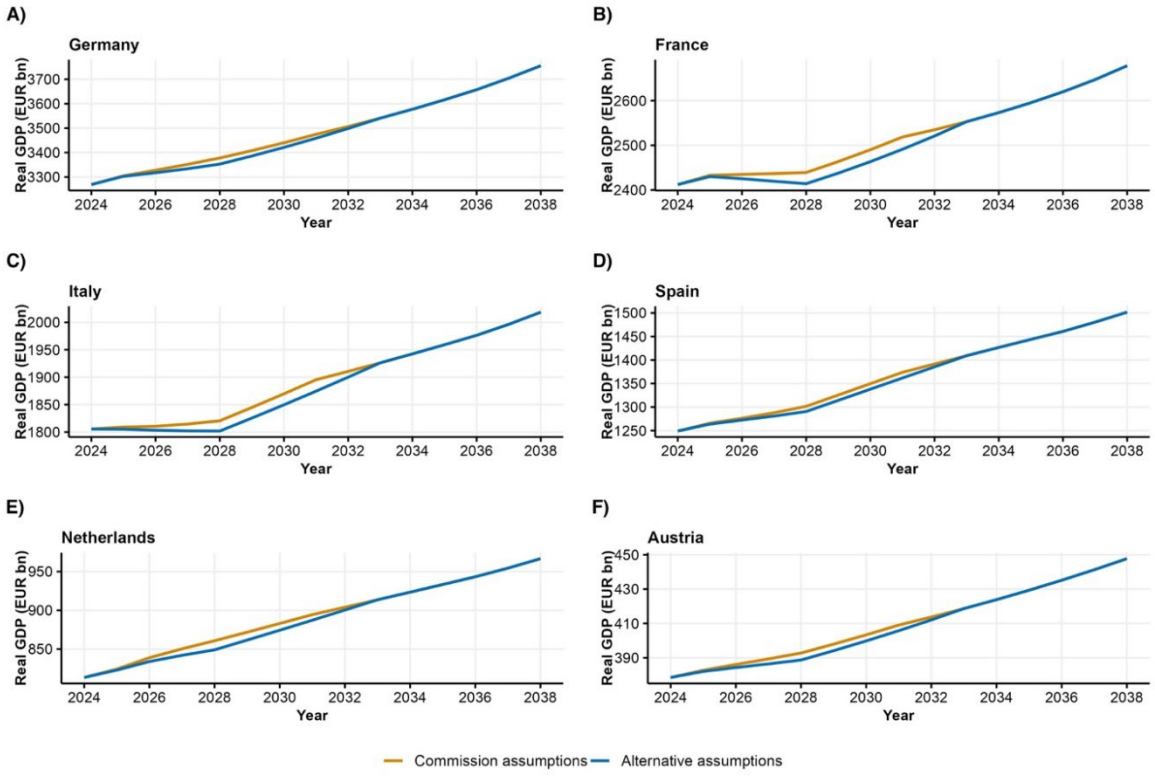

Source: For the years 2011-2014, European Commission's AMECO data set (spring 2024); for the 2025-2028 reference trajectories, Darvas et al. (2024); own calculations. Countries were ordered by the required amount of fiscal consolidation in the reference trajectories for the four-year period from 2025 to 2028 (from highest to lowest adjustment requirement).

The importance of the European Commission's DSA framework when it comes to determining the fiscal adjustment requirements from 2025 onwards calls for an assessment of the underlying assumptions. In what follows, I focus on how fiscal consolidation affects economic growth. The DSA assumptions relevant for linking fiscal consolidation to economic growth affect the projections of GDP levels and, hence, the public-debt-to-GDP ratio, where the latter is the key target variable in the reformed EU fiscal rules, as fiscal adjustment is supposed to ensure that the public debt ratio remains on a plausibly downward trajectory even under adverse assumptions.

Heimberger et al. (2024) discuss in greater detail the European Commission's DSA assumptions on how fiscal adjustment affects growth. In summary, Heimberger et al. (2024) point to three key official assumptions. First, fiscal consolidation affects growth to the same extent in all countries, as the European Commission assumes a constant short-term fiscal multiplier of 0.75 (European Commission 2024: 57). This conflicts with the literature showing that fiscal multipliers vary across countries and time periods, and that negative growth effects of fiscal adjustment are typically much more pronounced during downswings (e.g. Jorda and Taylor 2016; Gechert and Rannenberg 2018). Furthermore, average fiscal consolidation multipliers might be closer to one than the 0.75 assumption suggests (e.g. Gechert 2015; Guajardo et al. 2014). Second, the European Commission assumes that the negative growth effects of fiscal consolidation will dissipate quickly (i.e. within three years after the end of the adjustment period). This assumption may be too optimistic, as the output gap can prove sticky and therefore close more slowly (e.g. DeLong and Summers 2012; Jarocinski and Lenza 2018). Finally, the European Commission runs the DSA country by

country, meaning that it effectively assumes that, even if there are close trade links between EU member countries, fiscal adjustment by trading partners does not spill over into domestic economic activity. This contrasts with empirical results showing that fiscal consolidations by trading partners actually lead to sizeable spill-overs, especially in the EA context (e.g. in ‘t Veld 2013; Goujard 2017).

**Figure 7 / DSA simulations with alternative assumptions, real GDP (EUR bn)**

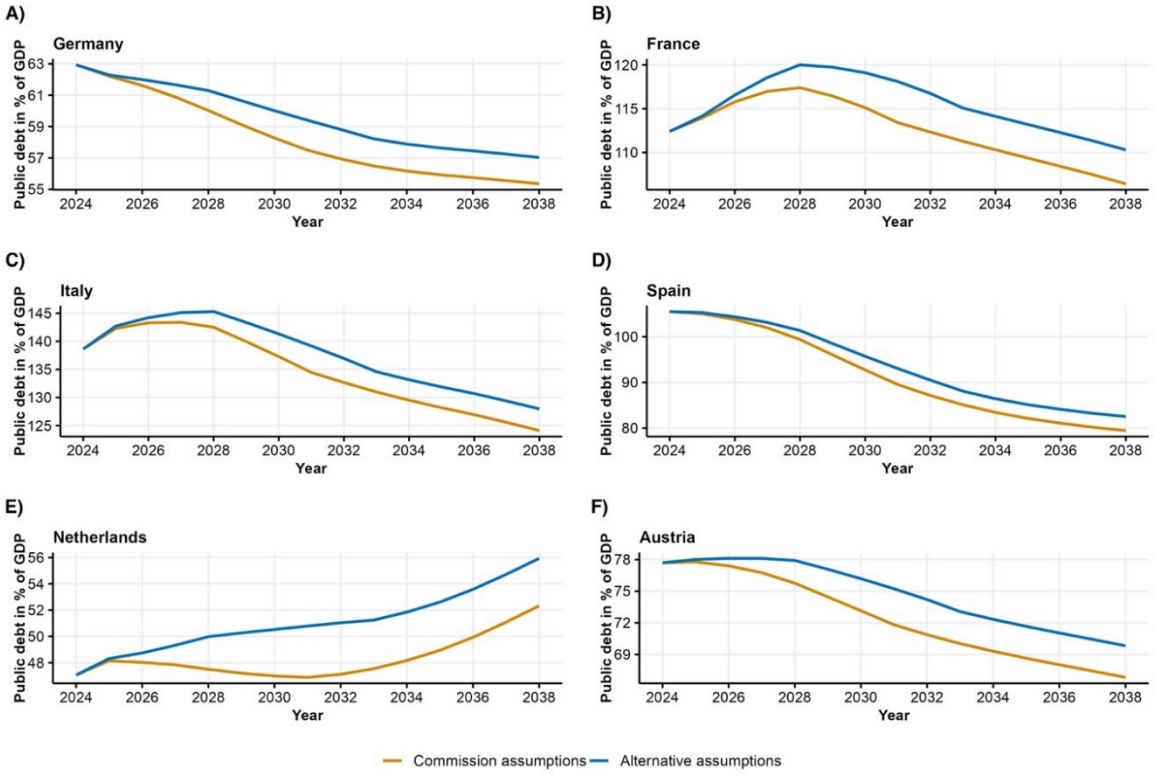



Source: Heimberger et al. (2024), based on the replication of the European Commission’s DSA framework in Welslau (2024). The Commission’s scenario uses the official assumptions of the DSA-based reference trajectories. The alternative assumptions scenario assumes a fiscal multiplier of 0.9 (instead of 0.75 in the Commission’s assumptions), a five-years output gap closure rule (instead of three years), and cross-country spill-overs based on GDP-weighted export links with other countries (instead of no spill-overs).

What would different assumptions on the fiscal multiplier, the dissipation of output effects, and cross-country spill-overs imply for DSA outcomes? Based on Heimberger et al. (2024), Figure 7 shows an alternative simulation of real GDP levels for the five largest EA12 countries (i.e. Germany, France, Italy, Spain and the Netherlands) as well as Austria. Figure 8 presents the corresponding projections for public debt ratios. The baseline simulations build on the adjustment scenarios of the European Commission with a four-year consolidation period between 2025 and 2028, while the structural primary balance is assumed to remain unchanged at the 2028 level (black lines) from 2029 onwards. In the alternative scenario (blue lines), I assume three things: a short-term fiscal multiplier of 0.9 (compared to 0.75 in the Commission’s baseline), which is consistent with the literature pointing to average multipliers slightly below one but close to unity (e.g. Gechert 2015; Carnot and de Castro 2015); an output gap closure after five years (compared to the three years in the baseline); and cross-country spill-over effects of fiscal adjustment by trading partners based on GDP-weighted export links with all other EU countries. This ‘alternative assumptions scenario’, which builds on plausible assumptions given empirical evidence

reported in the literature, is arguably more realistic than the European Commission's baseline, but still rather conservative. In fact, one can easily imagine economic conditions under which average multipliers turn out to be higher than one (as they did during the euro crisis), the dissipation of negative output effects happens even more slowly (as suggested by the hysteresis literature; e.g. DeLong and Summers 2012), and cross-country spill-overs are further magnified (e.g. in 't Veld 2013).

**Figure 8 / DSA simulations with alternative assumptions, public debt in % of GDP**




Source: Heimberger et al. (2024), based on the replication of the European Commission's DSA framework in Welslau (2024). The Commission's scenario uses the official assumptions of the DSA-based reference trajectories. The alternative assumptions scenario assumes a fiscal multiplier of 0.9 (instead of 0.75 in the Commission's assumptions), a five-years output gap closure rule (instead of three years), and cross-country spill-overs based on GDP-weighted export links with other countries (instead of no spill-overs).

The results in Figure 7 show that, under the set of plausible assumptions in the alternative assumptions scenario, real GDP turns out to be significantly lower during the four-year adjustment period and in the five years after the adjustment. In 2033, the output gap closes by assumption (i.e. actual GDP returns to potential GDP). Figure 8 shows for the alternative assumptions scenario that public debt ratios turn out to be higher than under the adjustment baseline. However, the impact varies across countries. In France, the public debt ratio in 2038 is 3.9 pp of GDP higher than under the Commission's assumptions; in Italy, also 3.9 pp; in the Netherlands, 3.6 pp; in Spain, 3.1 pp; in Austria, 3.0 pp; and in Germany, 1.7 pp. Heimberger et al. (2024) show that all the assumption changes (i.e. higher fiscal multiplier, longer output gap closure rule, and cross-country spill-overs) work in the direction of reducing real GDP levels during the adjustment period and increasing public debt ratios compared to the baseline. For countries that have to make significant domestic fiscal adjustments to meet EU fiscal rules (i.e. Austria, France, Italy and Spain), the assumption of a higher fiscal multiplier and a slower dissipation of the

negative growth effects are quantitatively more important than the assumption regarding spill-over effects. For the countries that do not have to adjust much to meet EU fiscal rules (i.e. Germany and the Netherlands), the assumption regarding spill-over effects makes up the largest share of the drop in real GDP growth and the downward movements in the public debt projection compared to the Commission's baseline. Among the six EA12 countries covered, spill-over effects are strongest in the Netherlands, which has the tightest trade links to other EU countries, in particular those that have to make large adjustments. Our simulations also indicate a slightly larger impact of spill-overs in Austria than in Germany. In addition, our analysis suggests that if fiscal consolidation abroad spills over into domestic economic activity, the path of the domestic public debt ratio will be adversely affected. Hence, even countries that do not consolidate much domestically but depend on import demand from other EU partners for their growth models may still experience negative feedback effects.

# 5. Discussion and conclusions

IMF (2023) studies the effect of fiscal consolidations on public debt ratios by using the narrative record for tax hikes and spending cuts driven by a desire to improve public finances for a sample of 21 advanced economies over the 1981-2019 period, including all EA12 countries except for Greece and Luxembourg. IMF (2023) shows that the average fiscal consolidation in advanced countries has a negligible effect on public debt ratios because fiscal consolidation slows economic growth. Successful reductions in public debt ratios by means of fiscal consolidation are only to be expected if specific conditions (e.g. a favourable economic environment and a proper mix of tax hikes and spending cuts) are met. However, the reformed EU fiscal rules do not ensure either a favourable economic environment or a proper fiscal consolidation mix. The underlying debt sustainability analysis (DSA) framework assumes a constant short-term fiscal multiplier of 0.75, which does not account for economic conditions and multiplier variation across countries. With regard to the mix of tax hikes and spending cuts, the rules are agnostic about how governments choose to design their total fiscal consolidation packages to meet their fiscal targets. Therefore, the findings in IMF (2023) raise doubts over whether fiscal consolidations in EA countries will, on average, successfully reduce public debt ratios.

This paper has analysed fiscal austerity and its growth effects in EA countries. Our analysis of the past has focused on comparing the size and composition of fiscal adjustments in three different periods – namely, when member countries had to meet Maastricht Treaty criteria to join the monetary union (e.g. Buti and Giudice 2002); when fiscal consolidations were motivated by desires to comply with EU fiscal rules before the GFC (e.g. Devries et al. 2011); and when a political switch to prioritising fiscal adjustment against the background of financial market pressure led to austerity during the euro crisis (e.g. Blyth 2013). In all three periods, spending cuts accounted for a larger part of the total adjustment than tax hikes. During the euro crisis, fiscal consolidation was larger and more front-loaded than during past episodes, especially in the southern EA periphery countries. The empirical evidence provided by the IMF on the growth effects of fiscal adjustments suggests that fiscal consolidation is contractionary (IMF 2010; Guajardo et al. 2014), which rejects the literature on the expansionary effects of austerity. During the euro crisis, the negative growth effects were particularly strong and persistent, which put upward pressure on public debt ratios in several EA countries (e.g. Heimberger 2017; Fatas and Summers 2018).

With regard to the austerity outlook, I have shown that meeting the reference trajectories in the reformed EU fiscal rules would require sizeable fiscal consolidations over the four-year period between 2025 and 2028, with a required average annual improvement of about 0.5 pp of GDP in the structural primary balance of the EA12 countries. With an extension of the adjustment period to seven years – which is conditional on member states' submitting and the European Commission's accepting investment and reform plans – adjustment requirements would go down to a required average annual improvement of 0.3 pp of GDP in the EA12 countries. However, in large and systemically important EA countries (e.g. France and Italy), fiscal consolidations would still remain large in historical comparison.

The planned fiscal adjustments differ from the period of the euro crisis in some important respects. Today, the EA is better prepared to deal with short-term cases of turbulence due to the institutional reforms implemented in the aftermath of the financial crisis, although important institutional shortcomings remain (e.g. Benassy-Quere et al. 2018). Importantly, the ECB is now a more credible backstop of government bond markets than it was early on in the euro crisis (e.g. De Grauwe and Ji 2022). As long as market investors continue to believe that the ECB will do 'whatever it takes' to stabilise financial markets, large spikes in bond yields may be prevented for individual member countries that have to embark on politically difficult and economically painful fiscal adjustments. The planned fiscal contractions are expected to take place in a more orderly manner than during the euro crisis, as multi-year budget plans negotiated between the European Commission and individual member countries increase the degree of predictability for external observers when it comes to judging the required year-by-year adjustments and deviations from plan. However, it remains to be seen how financial markets will react if individual governments find it difficult to agree on an adjustment plan with the European Commission or when governments are unwilling or unable to deliver on their plans when domestic or external conditions change. Given that the ECB can only conduct government bond purchases under its Transmission Protection Instrument (TPI) if the stressed member country complies with EU fiscal rules and when public debt is deemed sustainable (ECB 2022), it may become difficult for the ECB to serve as a credible backstop if a government acts in such a way that the European Commission and member countries lose trust in that government's ambitions to deliver on fiscal consolidation. Questions regarding bond market stabilisation in case of fiscal deviations from plan may lead to political conflict. In June 2024, German Finance Minister Christian Lindner already suggested that Germany may object if the ECB were to move to lower French government bond yields (Kowalcze 2024). And even if the stressed government then comes up with additional budget cuts, as required, government bond yields may rise if there is financial market stress (Born et al. 2020), thereby making the ECB's job even more difficult.

Against the backdrop of a complex political environment and uncertainty around the macroeconomic and political outlook, the debt sustainability framework underlying the reformed EU fiscal rules in all likelihood underestimates the negative growth effects of planned fiscal consolidations. The European Commission's DSA is important for anchoring the fiscal adjustment requirements to keep public debt ratios on a plausibly downward trajectory. However, the DSA framework uses (overly) optimistic baseline assumptions concerning the fast dissipation of the negative growth effects of austerity and the non-existence of cross-country spill-overs. The simulations in Heimberger et al. (2024), which feature an alternative set of plausible assumptions, suggest that the European Commission underestimates the negative growth effects of fiscal adjustment, with the result that public debt ratios in EA countries will presumably not decline as much as expected over the medium term. In fact, fiscal consolidation during the adjustment period may well lead to economic downturns or at least stagnation, which may trigger a larger-than-expected increase in public debt ratios in the short term, thereby risking a reduction in government approval (Jacques and Haffert 2021) and an erosion of financial market confidence (Born et al. 2020; De Grauwe and Ji 2022).

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