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**Research Report**

## The identification of fiscal and macroeconomic imbalances - unexploited synergies under the strengthened EU governance framework

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NO 157 / NOVEMBER 2014

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**NOTE:** This Occasional Paper should not be reported as representing the views of the European Central Bank (ECB). The views expressed are those of the authors and do not necessarily reflect those of the ECB.

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## ABSTRACT

In the light of the lessons learned from the euro area sovereign debt crisis, the EU fiscal and macroeconomic governance framework was overhauled in 2011. Against this background, this paper analyses whether the broadened surveillance of fiscal and macroeconomic indicators under the strengthened governance framework would have facilitated the identification of emerging imbalances, had it been in place before the crisis. The findings suggest that the strengthened governance framework would have given earlier signals about emerging excessive fiscal and macroeconomic imbalances. Euro area countries thus would have been obliged to take preventive and corrective action at an earlier stage, provided that the stricter rules had been effectively implemented. At the same time, the paper concludes that the increased reliance of the EU fiscal governance framework on unobservable magnitudes such as the structural budget balance, which are difficult to measure in real time, will continue to impede the timely identification of underlying fiscal imbalances. It is suggested that the new macroeconomic imbalance procedure could have given earlier indications about the emergence of excessive macroeconomic imbalances, which in turn posed risks for fiscal sustainability. Looking forward, these preliminary findings suggest possible synergies between the, until now largely unrelated, fiscal and macroeconomic governance frameworks.

## NON-TECHNICAL SUMMARY

The existence of unsustainable fiscal policies and macroeconomic imbalances in the euro area was painfully exposed during the sovereign debt crisis. Corrective action had to be taken. At national level, vulnerable euro area Member States started the necessary adjustment process through implementing structural reforms and fiscal consolidation measures. However, the crisis also revealed that the EU governance framework of fiscal and macroeconomic policy coordination did not work effectively and had to be overhauled. Since the start of the crisis, important progress has been achieved in strengthening the resilience of Economic and Monetary Union (EMU), notably through a reinforced governance framework stipulating a stronger control of fiscal and macroeconomic policies. This paper suggests that, had the current framework been in place before the crisis, it would most certainly have facilitated an earlier identification of macroeconomic and budgetary imbalances. Euro area countries thus would have been obliged to take preventive and corrective action at an earlier stage, provided that the stricter rules had been effectively implemented.

Notwithstanding these significant improvements, the paper submits that the fiscal and macroeconomic governance frameworks are not yet sufficiently effective in identifying emerging imbalances in real time. Notably with regard to the Stability and Growth Pact (SGP), misjudging underlying fiscal positions remains an issue as it is difficult to identify potential imbalances in real time. This relates notably to the weakness of the structural budget balance as a real-time surveillance indicator of underlying fiscal positions and efforts. This paper asserts that the Macroeconomic Imbalance Procedure (MIP) could have given earlier indications about the emergence of implicit liabilities which later fuelled excessive fiscal developments, had it been in place before the crisis. In a simple exercise, the indicators captured in the MIP scoreboard turn out to be good complementary indicators of real-time fiscal and macroeconomic developments. One of the key findings of the paper is therefore that synergies could emerge from a joint analysis of the variables of the fiscal and macroeconomic framework, thereby potentially facilitating the early identification of unsustainable developments.

Moreover, while the strengthened framework has certainly improved the possibility to identify emerging imbalances, it can only be effective in avoiding risks to the smooth functioning of EMU if the SGP and the MIP are strictly implemented. The same applies to cases where imbalances are already excessive. A strict application of the SGP and the MIP is of the essence to ensure fiscal sustainability, facilitate the recovery of competitiveness, improve growth prospects and job creation, and therefore ensure the smooth functioning of EMU.



## I INTRODUCTION

In the light of the lessons learned from the euro area sovereign debt crisis, the EU fiscal and economic governance framework was overhauled. Against this background, this paper analyses whether the broadened surveillance of fiscal and macroeconomic indicators under the strengthened governance framework would have been sufficient to signal emerging imbalances, had it already been in place at the start of Stage Three of EMU.<sup>1</sup> The paper finds that, despite the important enhancements to fiscal governance, one shortcoming pertains to the fiscal framework remaining prone to misjudging underlying budgetary positions – thus making it difficult to identify potential fiscal imbalances in real time. This relates notably to the weaknesses of potential output and output gap estimates, key inputs in the computation of the structural budget balance, which itself has become an important indicator of underlying budgetary positions and fiscal adjustment efforts with the 2005 and 2011 Stability and Growth Pact reforms. The increased reliance on structural balances to set policy guidelines seems to have made the framework prone to Goodhart’s law, whereby “any observed statistical regularity will tend to collapse once pressure is placed upon it for control purposes” (Goodhart, 1981).

The paper submits that the new Macroeconomic Imbalance Procedure with its wealth of indicators – introduced with the so-called “six-pack” of regulations in November 2011 – would have given earlier indications on the emergence of excessive economic developments. In this respect, it is shown that the MIP indicators may contain valuable information for correcting the real-time bias in existing measures of underlying fiscal positions. These preliminary findings suggest possible synergies between the fiscal and macroeconomic framework, which have so far been considered as essentially separate procedures.

It should be stressed that this paper deals with the economic analysis underpinning the functioning of the governance framework but not with its effective implementation, which to a large extent depends on the political will of the actors involved, i.e. the European Commission and the Council of Finance Ministers. The experience before the crisis showed that the fiscal rules were at times not implemented in a consistent way, e.g. in 2003 when the ECOFIN Council decided not to act in line with the Commission recommendations for France and Germany. At that time the Governing Council of the ECB publicly stated that it deeply regretted these developments, with the failure to go along with the rules and procedures foreseen in the Stability and Growth Pact risking to undermine the credibility of the institutional framework and the confidence in sound public finances of Member States across the euro area.<sup>2</sup> In response to the crisis the role of the Commission was significantly strengthened and the discretion of the ECOFIN Council significantly limited.<sup>3</sup> This, in principle, should facilitate the consistent implementation of the rules unless the Commission itself becomes excessively politicised. Analysing these important political economy aspects in depth is beyond the scope of this paper which instead concentrates on the economic analysis feeding the decision-making bodies.

The paper is organised as follows. Section 2 first presents some stylised facts about the accumulation of fiscal imbalances in the euro area prior to the sovereign debt crisis. The analysis is based on the application of real-time data, i.e. the bi-annual economic forecasts of the European Commission

1 Stage Three – from 1 January 1999 – began with the irrevocable fixing of exchange rates, the transfer of monetary competence to the ECB and the introduction of the euro.

2 See the statement of the Governing Council on the ECOFIN Council conclusions regarding the correction of excessive deficits in France and Germany published on the ECB website on 25 November 2003: <http://www.ecb.europa.eu/press/pr/date/2003/html/pr031125.en.html>.

3 For a description of the new EU governance framework after the 2011 reform see Koester, Mohl and van Riet (forthcoming).



available each year. The paper then assesses whether the strengthened fiscal governance framework would have been better able to signal arising fiscal imbalances. Section 3 reviews the build-up of economic imbalances prior to the crisis, before similarly assessing whether the enhanced economic governance framework would have been better able to identify accumulating imbalances. Section 4 considers the difficulties in identifying fiscal imbalances and adjustments in real time and tentatively suggests a broader concept of fiscal and economic surveillance. Section 5 concludes.

## 2 FISCAL GOVERNANCE IN THE EURO AREA AND THE IDENTIFICATION OF IMBALANCES

Fiscal developments varied widely across the euro area Member States in the decade prior to the crisis. In some countries, excessive budget deficits and high general government debt ratios had existed for a long time, making them prone to sharp corrections in output growth. Others had recorded seemingly sound fiscal positions, which only painfully turned out to be unsustainable as the sovereign debt crisis intensified. This section presents some stylised facts regarding the accumulation of fiscal imbalances prior to the crisis and the underlying reasons. It then describes and assesses the extent to which these issues have been resolved under the broadened surveillance of fiscal and macroeconomic indicators under the strengthened EU fiscal governance framework.

### 2.1 FISCAL IMBALANCES PRIOR TO THE CRISIS: A SKETCH OF STYLISED FACTS

Looking back, it could be said that governments in many euro area Member States did not sufficiently take advantage of the economic “good times” before the crisis to improve underlying structural fiscal positions. Table 1 indicates – for the years prior to the crisis for which European System of Accounts 1995 (ESA 95) data on structural budget balances are available – that in eight euro area countries structural fiscal positions actually deteriorated in the economic good times of 2003–07. The improvement in structural balances remained rather limited in most of the euro area countries. In several Member States, the improvement in the underlying structural positions was much smaller than envisaged by the Stability and Growth Pact of 2005. As a reference, none of the euro area countries that had not achieved their medium-term budgetary objective (MTO) had complied consistently with the 0.5 percentage point of GDP structural improvement benchmark under the preventive arm of the Pact. Only three euro area countries kept their structural deficit consistently below the 1% of GDP threshold for the structural balance applicable for them.

**Table 1 The preventive arm: developments in structural fiscal positions**

Country	2003	2004	2005	2006	2007	2003–2007	percentage of years with 0.5 p.p. improvement	percentage of years below –1 percentage of GDP
							2003–2007	2003–2007
Belgium	-1.1	-1.4	-0.9	-1.2	-1.2	-0.1	20	20
Germany	-3.2	-2.9	-2.2	-1.7	-0.9	2.3	60	20
Estonia	0.4	1.5	0.1	-1.1	-1.5	-1.9	20	60
Ireland	0.3	1.6	1.7	2.3	-1.5	-1.8	40	80
Greece	-5.6	-7.8	-5.3	-7.2	-7.7	-2.1	20	0
Spain	-0.8	0.3	0.8	1.6	1.0	1.8	40	100
France	-4.6	-4.6	-4.5	-3.9	-4.4	0.3	20	0
Italy	-5.4	-5.1	-5.4	-4.1	-3.3	2.2	40	0
Cyprus	-8.0	-4.9	-2.9	-1.1	2.6	10.6	80	20
Luxembourg	0.6	-0.9	-0.2	0.6	1.6	1.0	60	100
Malta	-6.2	-5.9	-3.8	-2.8	-2.8	3.4	40	0
Netherlands	-1.8	-0.9	0.5	0.4	-1.1	0.7	40	60
Austria	-0.9	-0.7	-1.3	-1.8	-1.9	-1.1	0	40
Portugal	-5.6	-5.7	-6.0	-4.4	-3.7	2.0	40	0
Slovenia	-2.6	-2.5	-2.0	-2.8	-2.9	-0.4	0	0
Slovakia	-2.1	-2.1	-1.8	-3.3	-3.6	-1.5	0	0
Finland	3.3	2.5	2.8	3.0	2.4	-0.9	0	100
<i>Euro area</i>	-3.3	-3.0	-2.6	-2.1	-2.0	1.3	-	-

Sources: Eurostat, own calculations.

Notes: The two columns to the right of the table represent the number of years (i) in which the structural balance improved by the 0.5 percentage point of GDP benchmark under the Stability and Growth Pact as a percentage of the total five years, and (ii) in which the structural balance was below the 1.0% of GDP benchmark for euro area and Exchange Rate Mechanism (ERM II) countries. The figures in italics indicate years in which the MTO was reached.

This insufficient structural fiscal consolidation was in many Member States driven by the fact that strong revenue growth, buoyed by the unsustainable boom in domestic demand, had given rise to structural increases in public expenditure: windfall revenues were spent instead of saved. In a similar vein, in many Member States the “EMU interest dividend” – resulting in a strong fall in the government interest burden – was generally not used for debt reduction.<sup>4</sup> Output gaps and cyclical components tended to be underestimated and structural budget positions overestimated in real time.

Table 2 illustrates this for the case of Spain. The table presents biannual European Commission forecast vintages for Spain’s cyclically adjusted budget balance in 2007.<sup>5</sup> Since 2005 and even in 2007, the cyclical component for Spain had been estimated to be negative in real time. Only in autumn 2008 did cyclical component estimates start to be revised upwards to positive territory. As a result, Spain’s underlying fiscal position was overestimated in real time. As the table shows, the government’s plans for the cyclically adjusted budget balance suffered from an even larger real-time bias. This can also be explained by political economy considerations according to which governments tend to rely on overly optimistic macroeconomic projections to comply with the fiscal surveillance framework requirements but without the commensurate effort.

Not only was the Stability and Growth Pact’s preventive arm inadequate in terms of ensuring the reduction of fiscal imbalances in economic good times, but its corrective arm also proved to be ineffective in pursuing breaches of the deficit and debt reference values in a timely manner.<sup>6</sup> Chart 1 presents the percentage of years (during the eight years prior to the crisis, i.e. between 2000 and 2007) in which a country breached the Maastricht reference values of 3% of GDP for the general government deficit-to-GDP ratio and 60% of GDP for the general government

**Table 2 Cyclically adjusted budget balances and the cyclical component for 2007: different forecast vintages for Spain**

(as a percentage of GDP)				
	EC Forecast vintages		Stability programme vintages	
	Cyclical component	CAB	CAB	
EC Autumn 2010 Forecast	0.6	1.3		
EC Spring 2010 Forecast	0.7	1.2		
EC Autumn 2009 Forecast	0.7	1.2		2009-10 Stability Programme
EC Spring 2009 Forecast	0.6	1.6	-	(EC recalculation)
EC Autumn 2008 Forecast	0.3	2.0		2008 Stability Programme
EC Spring 2008 Forecast	-0.2	2.4	-	(EC recalculation)
EC Autumn 2007 Forecast	-0.2	2.0		2007 Stability Programme
EC Spring 2007 Forecast	-0.5	1.8	2.2	(EC recalculation)
EC Autumn 2006 Forecast	-0.5	1.6		2006 Stability Programme
EC Spring 2006 Forecast	-0.6	1.0	1.5	(EC recalculation)
EC Autumn 2005 Forecast	-0.2	-0.2		2005 Stability Programme
EC Spring 2005 Forecast	-	-	1.2	(EC recalculation)
			0.5	2004 Stability Programme (EC recalculation)

Source: Stability programmes available on the European Commission’s (EC) website (see [http://ec.europa.eu/economy\\_finance/economic\\_governance/sfp/convergence/index\\_en.htm](http://ec.europa.eu/economy_finance/economic_governance/sfp/convergence/index_en.htm)).

Note: The cyclically adjusted budget balances are those as presented in the stability programmes, recalculated by the European Commission based on the commonly agreed cyclical adjustment methodology, European Commission forecast vintages.

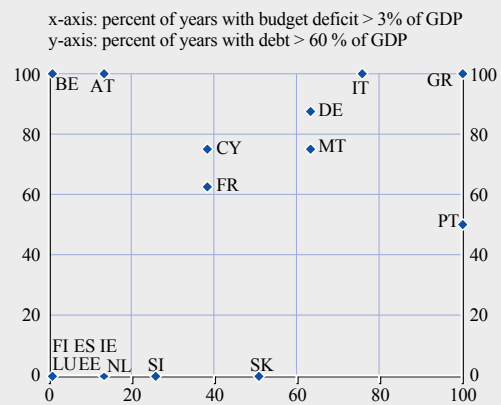
<sup>4</sup> See also European Central Bank (2012).

<sup>5</sup> This abstracts from one-off and temporary measures in order to focus here only on the role of the cyclical component for the estimation of structural budget balances.

<sup>6</sup> Note that under the corrective arm of the Pact, an excessive deficit procedure is triggered if an excessive deficit is identified, which shall be corrected one year thereafter. However, Greece, Italy and Portugal, for example, recorded budget deficits above the reference value for a number of years prior to the crisis without this immediately triggering an EU Council decision on the existence of an excessive deficit. See also Morris et al. (2006).

debt ratio.<sup>7</sup> Based on current data, Greece breached both Maastricht Treaty reference values in every single year of the period considered. Portugal consistently recorded deficits above the 3% of GDP reference value over 2000-07, while Belgium, Italy and Austria recorded government debt ratios in excess of the reference value over the entire period. No fiscal imbalances were exposed in Ireland and Spain under the Treaty's rules, although both Member States came under pressure during the financial crisis. Indeed, both countries had complied with the reference values in each of the eight years considered. At the same time, they were inter alia building up macroeconomic imbalances, which only turned out to be unsustainable when the crisis intensified.

**Chart 1 Fiscal positions in pre-crisis times (2000-07)**



Sources: Eurostat, own calculations.

Consequently, while debt-to-GDP ratios declined in many euro area Member States in the economic good times before the crisis, this reduction was much less than what the situation warranted at the time. Moreover, in several countries general government debt had been above the 60% of GDP reference value for a long time: in Italy, general government debt had remained above 90% of GDP since the end-1980s and in Greece and Belgium since the mid-1990s. In several other euro area countries, general government debt rose above the 60% threshold only over 2001-04 (see Table 3).

**Table 3 General government debt in the euro area in pre-crisis times**

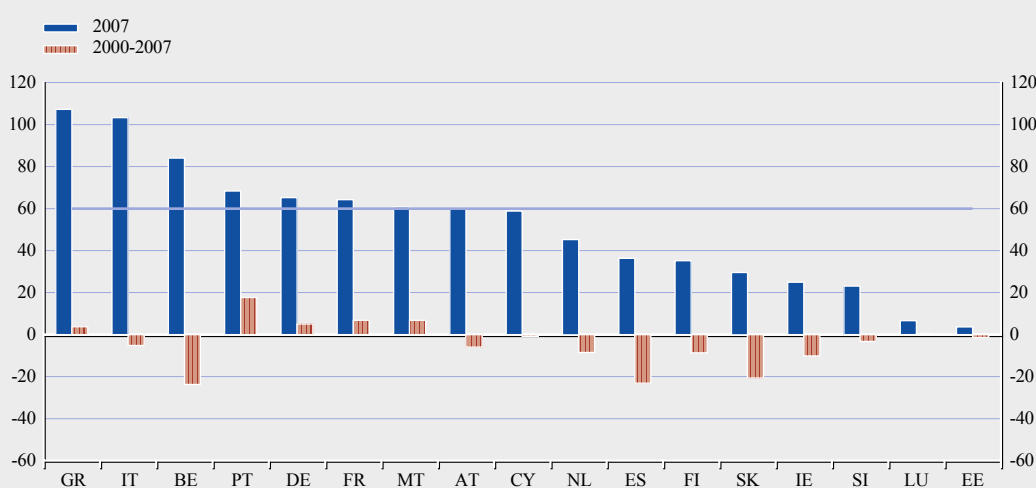
Country	Number of years in which government debt in $t > t-1$		Year in which government debt rose above 60 (90)% of GDP
	2000-2007	in percentages	
Belgium	0	0	1993*
Germany	4	31	2002
Estonia	1	8	-
Ireland	2	15	-
Greece	5	38	1993*
Spain	0	0	-
France	5	38	2003
Italy	2	15	1988*
Cyprus	5	38	2001
Luxembourg	3	23	-
Malta	3	23	2003
Netherlands	2	15	-
Austria	1	8	1993
Portugal	6	46	2004
Slovenia	4	31	-
Slovakia	1	8	-
Finland	1	8	-
Euro area	3	23	n.a.

Sources: Eurostat, own calculations.

Note: \*) indicates the year in which these countries debt ratios rose above 90% of GDP.

7 The thresholds on public debt and deficits are defined in a protocol to the 1992 Treaty on European Union (Maastricht Treaty).

Chart 2 Level and change in government debt-to-GDP ratios over 2000-07



Sources: Eurostat, own calculations.

As a consequence, half of the euro area Member States entered the global financial crisis with debt ratios at or above the Maastricht reference value (see Chart 2).

## 2.2 THE NEW FRAMEWORK FOR FISCAL GOVERNANCE AND THE IDENTIFICATION OF IMBALANCES

Given the weaknesses of the Stability and Growth Pact revealed by the crisis, the EU's fiscal governance framework was overhauled in 2011.<sup>8</sup> On 13 December 2011 the so-called 'six-pack' entered into force, containing four legal acts on strengthened fiscal surveillance and enforcement and two regulations aimed at strengthening economic governance, including the macroeconomic imbalance procedure (see Section 3). As regards fiscal surveillance, the new measures include, under the preventive arm of the Pact, an expenditure rule linking growth in real public spending to a potential growth benchmark to ensure that government revenue windfalls are not spent but used for consolidation. There is an increased focus on government debt, with the introduction of a numerical debt reduction benchmark whereby the excess of debt over 60% of GDP must be reduced by 1/20 each year after a three-year transition period following the abrogation of an excessive deficit procedure (EDP). With regard to the corrective arm of the Pact, the new measures accord equal importance to the government debt criterion and nominal *annual* government budget deficit targets. The 'six-pack' also introduces minimum requirements for national fiscal frameworks and the possibility to impose earlier and gradually increasing sanctions in the case of non-compliance with the fiscal rules under the Pact's preventive and corrective arm. These sanctions are decided based on the "reverse qualified majority voting" principle under which a European Commission recommendation or proposal to the EU Council is considered adopted unless a qualified majority of Member States votes against it. The idea is that the implied strengthening of the Commission's position and the implied reduction in the discretion of the Council will lead to a more consistent implementation of the rules.

<sup>8</sup> See for a survey of the new fiscal rules also Koester et al. (forthcoming) and Barnes et al. (2012).

The so-called “European Semester”, introduced in 2010, is the EU’s annual cycle of economic and fiscal policy guidance and surveillance procedures. It is a major tool for coordinating and steering national economic and budgetary policies towards achieving sustainable growth and sound fiscal positions. As a major part of the Semester, in the spring of each year – and in 2012 for the first time under the ‘six-pack’ regulations – Member States’ respective stability and convergence programmes as well as their plans for national reform are assessed in terms of their compliance with EU fiscal rules and economic policy recommendations. In the context of the European Semester, the Council of the EU issues recommendations on the implementation of the Stability and Growth Pact (as well as the MIP, see Section 3.2).

Furthermore, on 2 March 2012, 25 EU Member States (including all the euro area countries) signed the Treaty on Stability, Coordination and Governance in the Economic and Monetary Union, thereby agreeing to implement the so-called fiscal compact in their national legislation. It became fully binding for most euro area countries on 1 January 2014 after they had implemented the fiscal compact into national legislation. The fiscal compact notably requires countries to achieve close to balanced or surplus structural budget balances (i.e. the structural deficit must not exceed 0.5% of GDP). This is more demanding compared with the initial 1% of GDP structural deficit maximum for euro area and ERM II countries under the preventive arm of the Pact. The fiscal compact includes an automatic mechanism aimed at correcting deviations from the adjustment path towards the medium-term budgetary objective (MTO).<sup>9</sup>

## 2.3 AN ASSESSMENT OF THE NEW FRAMEWORK FOR FISCAL SURVEILLANCE

These changes to the EU fiscal governance framework are an important step towards ensuring sounder fiscal policies. It is true that some of these reforms would no doubt have been unthinkable before the crisis had the negative financial market reactions not put pressure on the need for adjustments (Larch et al., 2010). Nonetheless, the new governance framework has achieved a degree of complexity that renders the intended strengthened surveillance of fiscal policies difficult, even for experts. It has been demonstrated that the original governance framework was not effective in identifying fiscal imbalances in real time and that its rules were not properly implemented and enforced. The following submits that, had the strengthened governance framework been in force since 1999, it would have led to sounder fiscal positions but that important shortcomings remain.

### (1) IDENTIFICATION

Assuming that the strengthened fiscal governance framework had been in place prior to the crisis, would it have been more successful in signalling arising budgetary imbalances? The paper considers that difficulties remain, notably as fiscal governance continues to rely strongly on the structural budget balance as a surveillance indicator.

Looking back, the structural budget balance became prominent under the 2005 reform of the Stability and Growth Pact. Under the preventive arm of the Pact, following the reform, countries

9 The entry into force of the so-called “two-pack” on 30 May 2013 marks the most recent strengthening of the EU fiscal governance framework. Regulation 473/2013 introduces, inter alia, a new exercise for monitoring draft budgetary plans for euro area countries that are not subject to a financial programme, including the issuance by the European Commission of opinions on these plans as well as the option for the Commission to request the submission of revised draft budgetary plans in cases of “particularly serious non-compliance” with the Stability and Growth Pact (SGP). Furthermore, it gives the Commission the possibility to issue autonomous recommendations in the case of a risk of non-compliance with the deadlines to correct excessive deficits and introduces economic partnership programmes for countries in an EDP. Regulation 472/2013 sets down rules on economic adjustment programmes for crisis countries and clarifies their relationship with the SGP.

should implement more structural adjustment in economic good times and less in economic bad times. Under the corrective arm, the structural balance concept has become the core tool for assessing effective action, as incorporated in the notion of “conditional compliance” (see also Larch and Turrini, 2009). However, the structural balance as determined in the context of the EU fiscal governance framework is not reliable given the substantial uncertainty surrounding real-time estimates. Notably, the accuracy of structural budget balance estimates in real time is affected by the uncertainty and volatility of estimates of potential output (an unobservable variable) as well as by the non-linear reactions of tax revenues to sharp movements in GDP.<sup>10</sup> Sharp movements in GDP can result in revenue windfalls or shortfalls to the extent that tax revenues do not move in line with GDP along with standard elasticities. For example, during the build-up and burst of an asset price bubble, taxes on property and financial transactions tend to move more strongly than reflected by standard elasticities, which is captured as changes to the underlying fiscal positions. Thus, these phenomena would be associated with an overestimation of the structural balance in a strong upswing and an underestimation of structural balances in real time during a strong downswing.

In addition to this uncertainty, projections of structural balances also tend to be distorted owing to the pro-cyclicality of the potential output estimates (see also Deutsche Bundesbank, 2012).<sup>11</sup> For example, when looking at the period 2003-13, the size of the output gap of the euro area aggregate has been underestimated in nearly every year (see Annex 1 for detailed charts). That is, during the economic good times prior to the crisis, the negative output gap was smaller or the positive output gap larger than initially expected. Consequently, as discussed above, the impact of the cycle on public finances was either less detrimental or more supportive than expected at first. This pattern, however, does not seem to be symmetric in the sense that in economic bad times output gaps turn out to be larger than initially expected. Indeed, even during the crisis, the negative output gap tended to be either in line with or more limited in size than first anticipated. Even when acknowledging that there will be ex post revisions to the output gap estimates of recent years, these are unlikely to change this overall picture. This pro-cyclicality is derived in part from the estimates of structural unemployment in the European Commission estimates of potential growth. These potential growth estimates are based on a production function approach. The structural part of unemployment captured in this approach by the NAWRU<sup>12</sup> – the non-accelerating wage rate of unemployment – tends to be systematically underestimated as hysteresis phenomena are not properly accounted for. In particular, part of the unemployment that is cyclical at first becomes structural later as unemployed persons find it difficult to re-enter the labour market during economic upswings as, inter alia, part of their human capital has deteriorated over time. Starting with the European Commission’s spring 2014 economic forecast, a new methodology is applied to compute structural unemployment underlying the potential growth estimates, which should reduce the pro-cyclicality of the projections. It is, however, not clear whether the associated bias will be removed. However, for several countries, the new methodology leads to an upward revision in potential growth estimates, implying higher structural balances.

10 See also Morris and Schuknecht (2007) and Reiss (2013).

11 See Gonzalez Cabanillas and Terzi (2012) for an assessment of forecast errors in the European Commission’s macroeconomic forecasts. The authors review real GDP growth, inflation, the general government balance, total investment, the total unemployment rate and the current account-to-GDP ratio, but exclude potential growth and output gap estimates.

12 The NAWRU captures the non-accelerating wage rate of unemployment. It measures the rate of unemployment that is consistent with a non-accelerating wage rate and can therefore be used as a measure of structural unemployment.



As a consequence, structural budget balance estimates of the euro area aggregate had to be revised downwards ex post, implying that the euro area's actual structural position was on average worse than anticipated in real time. Charts 3a and 3b plot the cumulated revisions to real-time estimates of the structural balance and changes therein, summing the difference between the estimates of the indicators in real time and the last outturns. The charts show that in eight of the eleven years over 2003-13 the euro area structural balance turned out to be worse than anticipated in real time. The downward revisions are not small in size, amounting to more than 0.5 percentage point of GDP on average over 2003-13 for the euro area aggregate. This pattern is common to many euro area countries when looking at the period 2003-13. Chart 3b indicates that the main contributors to the downward revision of the euro area aggregate structural balance over 2003-13 are Italy, Spain and France where the structural balance estimates have been revised downwards in all years with the exception of 2010 and the most recent years for Spain. Large revisions also concern Greece and, to a lesser extent, Estonia and Portugal. For these countries the volatility of structural balance estimates is more likely to be related to the uncertainty surrounding the macroeconomic outlook. Less clear-cut conclusions can be drawn when looking at revisions to the annual *changes* in the structural balance. On average, however, the real-time estimates of annual changes in the structural balance have in the past tended to lead to an overestimation of the consolidation effort for some countries.

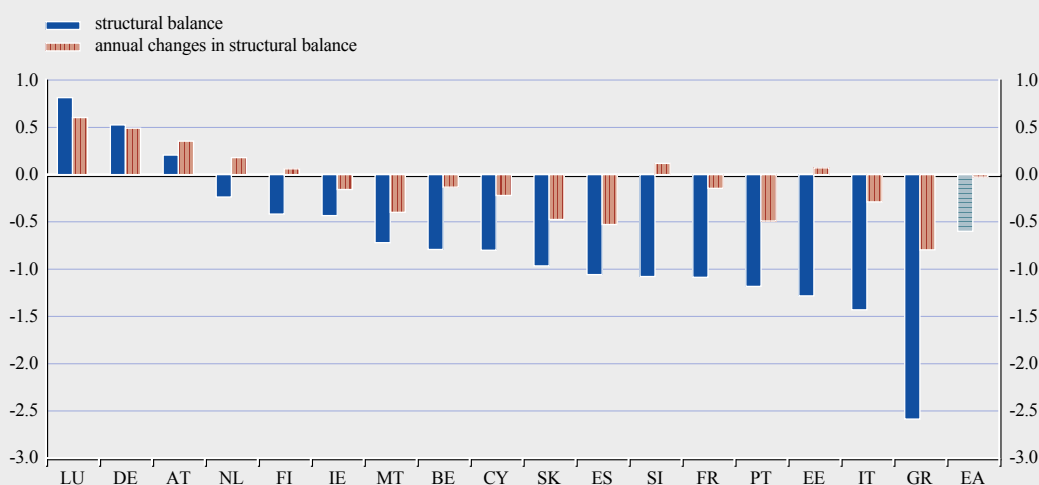
The structural balance is therefore not always a reliable measure of the underlying budgetary position or of fiscal efforts, notably in an environment of rapid changes in macroeconomic conditions.

The uncertainty surrounding the structural balance estimates generally declines closer to the year for which they are forecast. However, the estimates do not usually stabilise, even in the projections

**Chart 3 Quality of structural balance estimates**

(cumulated difference between real-time estimates and last outturns in percentage points)

**a) Average revision of the structural balance and annual changes in the structural balance over the period 2003-13**



Sources: Eurostat, European Commission's economic forecast and own calculations.

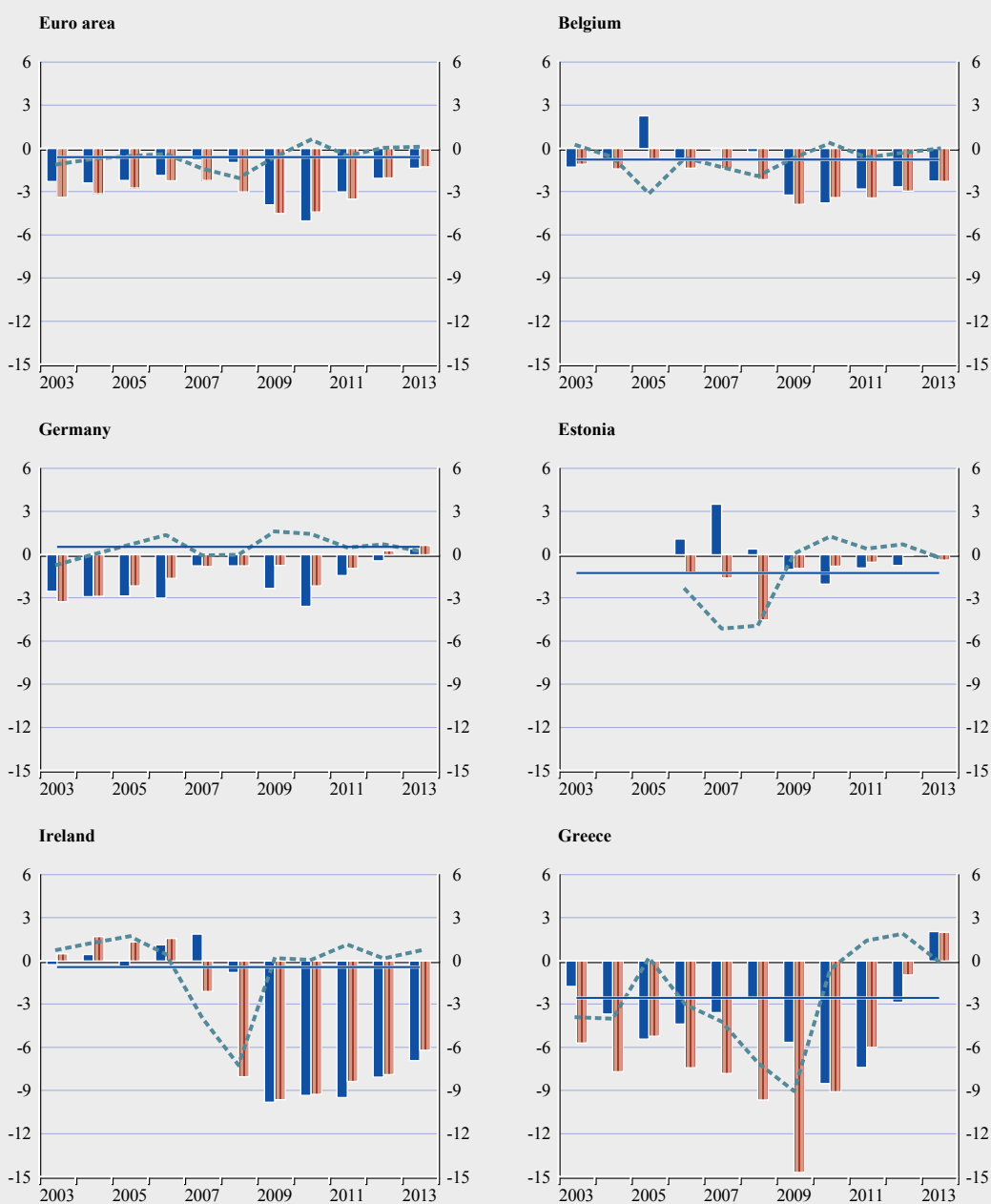
Note: Real-time structural balance estimates before autumn 2006 include the temporary measures as recorded in the European Commission's spring 2007 economic forecast.

Chart 3 Quality of structural balance estimates

(percentage points)

- real time estimate (spring forecast of the same year)
- latest estimate (AMECO spring 2014)
- projection errors
- average revision (2003-2013)

b) Annual revision of the structural balance



Sources: Eurostat, European Commission's economic forecast and own calculations.

Note: Real-time structural balance estimates before autumn 2006 include the temporary measures as recorded in the European Commission's spring 2007 economic forecast.

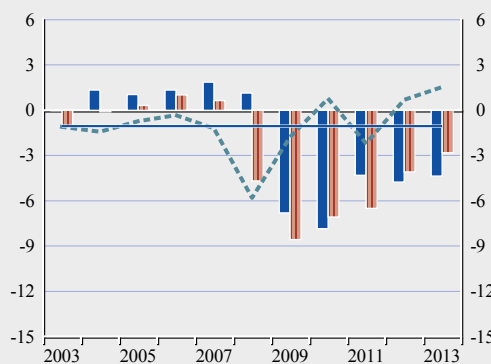
**Chart 3 Quality of structural balance estimates (cont'd)**

(percentage points)

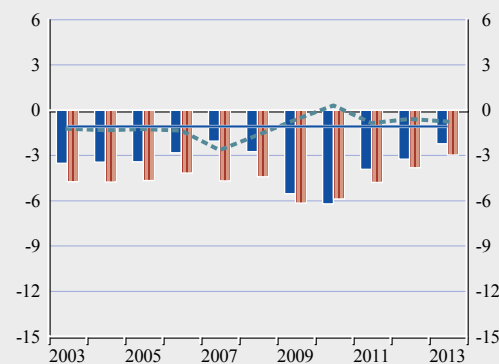
- real time estimate (spring forecast of the same year)
- latest estimate (AMECO spring 2014)
- - - projection errors
- average revision (2003-2013)

**b) Annual revision of the structural balance**

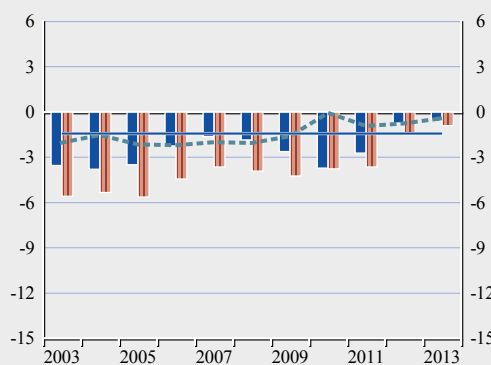
**Spain**



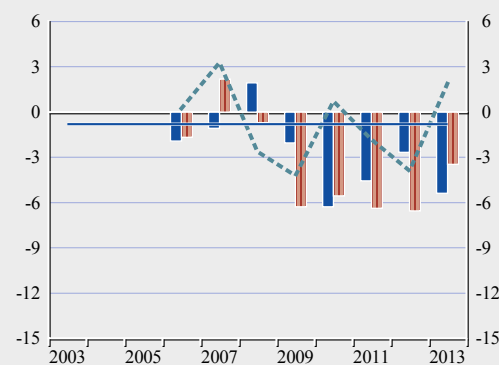
**France**



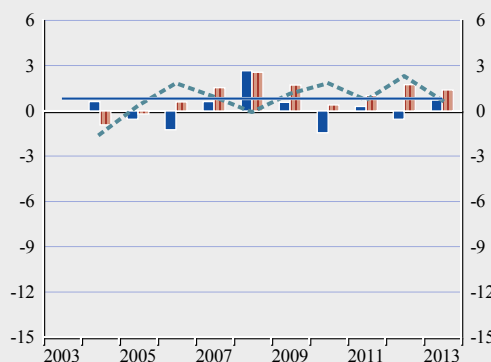
**Italy**



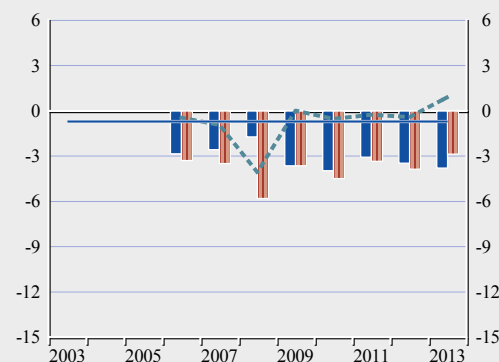
**Cyprus**



**Luxembourg**



**Malta**



Sources: Eurostat, European Commission's economic forecast and own calculations.

Note: Real-time structural balance estimates before autumn 2006 include the temporary measures as recorded in the European Commission's spring 2007 economic forecast.

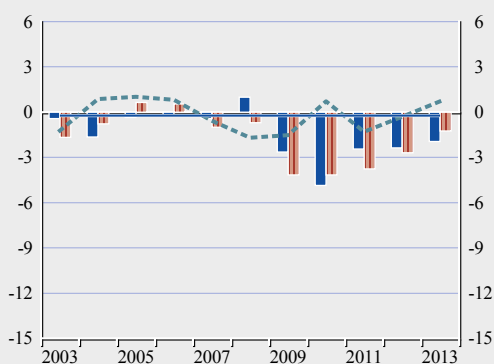
Chart 3 Quality of structural balance estimates (cont'd)

(percentage points)

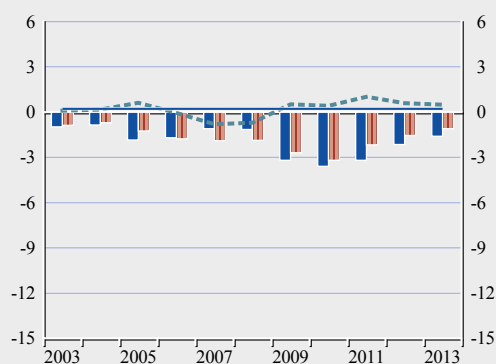
- real time estimate (spring forecast of the same year)
- latest estimate (AMECO spring 2014)
- projection errors
- average revision (2003-2013)

b) Annual revision of the structural balance

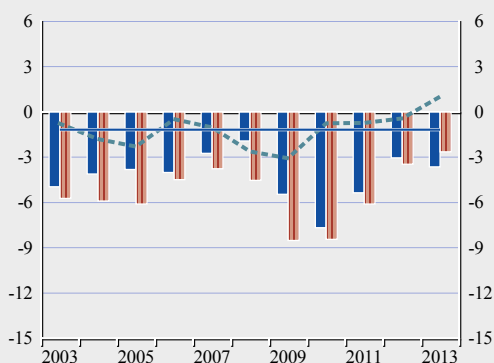
Netherlands



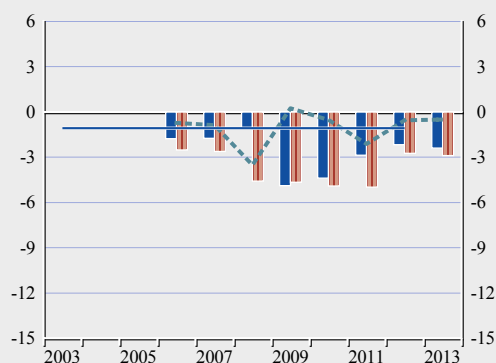
Austria



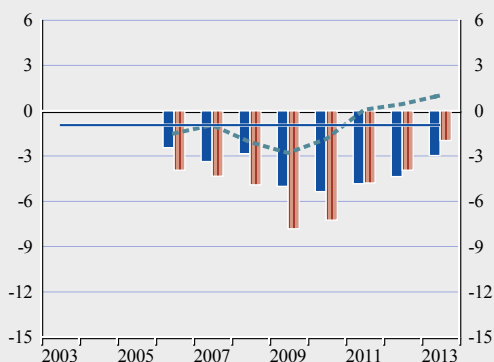
Portugal



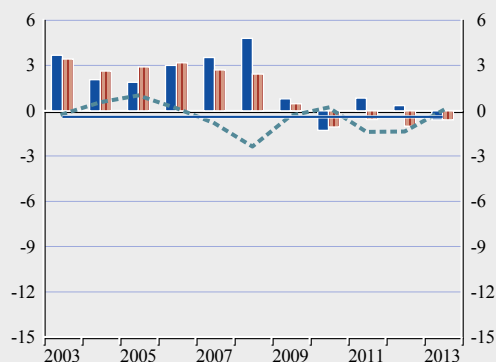
Slovenia



Slovakia



Finland



Sources: Eurostat, European Commission's economic forecast and own calculations.

Note: Real-time structural balance estimates before autumn 2006 include the temporary measures as recorded in the European Commission's spring 2007 economic forecast.

of the current year horizon. As Table 4 shows, in the Commission's spring 2013 forecast, the error for the structural balance in the same year is still larger than 0.5 percentage point of GDP in absolute value terms for ten euro area countries. The same limitations are apparent for the estimates of annual changes in structural budget balances. It is therefore difficult to arrive at a robust forecast and thus a reliable assessment of countries' underlying structural positions and fiscal effort.

The identified problems associated with the pro-cyclicality of potential output growth projections have direct implications for the effectiveness of the strengthened EU fiscal governance framework. For example, the newly introduced expenditure benchmark constrains a measure of real public expenditure growth to potential output growth (see the box for details of the rule).<sup>13</sup> Specifically, the benchmark to which this measure of expenditure growth is applied is a moving average of potential growth over the past five years, the current year and the projections for the next four years. In fact,

**Table 4 Quality of structural balance estimates for 2013, structural balance and annual changes**

(as a percentage of GDP; percentage points)

		Two year ahead	One year ahead		Current year		Actual
		autumn 2011	spring 2012	autumn 2012	spring 2013	autumn 2013	spring 2014
Euro area	structural balance	-2.1	-1.9	-1.3	-1.4	-1.5	-1.3
	annual changes	0.3	0.2	0.9	0.8	0.7	0.8
Belgium	structural balance	-4.0	-2.6	-2.7	-2.3	-2.2	-2.3
	annual changes	0.0	0.1	0.1	0.7	0.8	0.7
Germany	structural balance	-0.4	-0.3	0.3	0.4	0.5	0.6
	annual changes	0.3	0.1	0.1	0.1	0.3	0.4
Estonia	structural balance	-0.9	-0.5	-0.4	-0.2	-0.5	-0.4
	annual changes	-0.4	0.3	0.0	-0.4	-0.4	-0.3
Ireland	structural balance	-8.1	-7.9	-7.5	-6.9	-6.7	-6.2
	annual changes	0.2	0.2	0.4	0.5	0.9	1.7
Greece	structural balance	-3.4	-4.5	0.7	2.0	1.2	2.0
	annual changes	-0.5	-1.6	2.2	3.0	2.2	3.0
Spain	structural balance	-4.3	-4.8	-4.0	-4.4	-4.1	-2.8
	annual changes	-0.1	0.0	2.3	1.1	1.1	1.3
France	structural balance	-3.9	-2.9	-2.0	-2.2	-2.7	-3.0
	annual changes	0.1	0.4	1.3	1.3	0.9	0.8
Italy	structural balance	-0.5	-0.1	-0.4	-0.5	-0.8	-0.9
	annual changes	0.8	0.7	1.0	0.9	0.6	0.6
Cyprus	structural balance	-4.2	-1.7	-4.8	-5.4	-5.5	-3.5
	annual changes	0.1	1.0	-0.2	1.3	1.3	3.1
Luxembourg	structural balance	-0.2	-1.4	-0.9	0.7	0.2	1.4
	annual changes	-0.3	-0.8	0.2	0.6	-0.6	-0.3
Malta	structural balance	-3.8	-3.3	-3.2	-3.8	-3.5	-2.9
	annual changes	-0.3	0.1	0.3	0.3	0.3	1.0
Netherlands	structural balance	-1.4	-2.5	-1.1	-2.0	-2.1	-1.3
	annual changes	0.4	-0.1	1.1	0.7	0.6	1.4
Austria	structural balance	-2.8	-1.8	-2.1	-1.6	-1.6	-1.1
	annual changes	0.0	0.4	0.5	-0.1	0.0	0.5
Portugal	structural balance	-1.8	-1.3	-2.5	-3.6	-3.7	-2.6
	annual changes	0.8	1.8	1.6	0.5	0.5	0.8
Slovenia	structural balance	-4.7	-1.9	-2.0	-2.4	-2.9	-2.9
	annual changes	-0.8	0.3	0.7	0.3	-0.1	-0.1
Slovakia	structural balance	-4.6	-4.6	-3.2	-3.0	-2.3	-2.0
	annual changes	-0.1	-0.2	1.8	1.2	1.7	2.0
Finland	structural balance	0.1	0.3	-0.1	-0.6	-0.8	-0.6
	annual changes	-0.2	0.0	0.5	0.1	-0.1	0.4

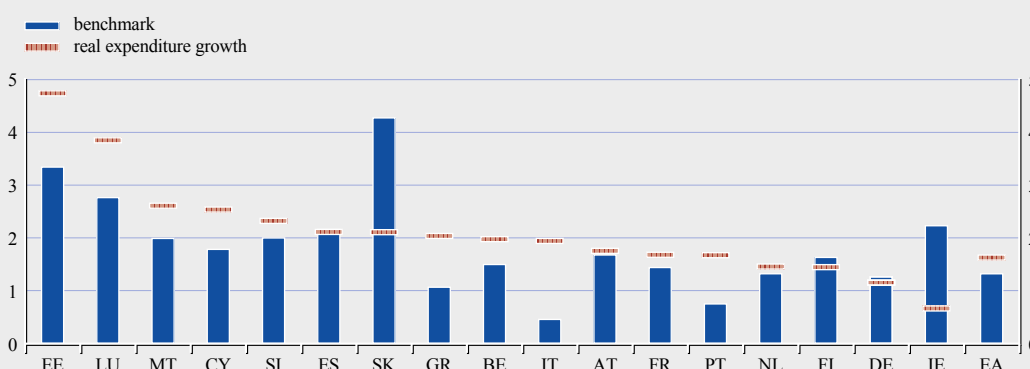
Source: European Commission's economic forecast.

Notes: Actual column refers to the European Commission's spring 2014 economic forecast. Cells with dark grey, grey and light grey background indicate that the forecast error is larger than 2, 1 or 0.5 percentage point(s) respectively in absolute terms.

13 See Banco de España (2011) for an analysis of how an expenditure rule would have applied during the expansion period in Spain.

Chart 4 The expenditure benchmark and real public expenditure growth

(averages; 2003-13)



Sources: European Commission's spring 2014 economic forecast and own calculations.

Note: The expenditure benchmark for each year is calculated as a moving average over six years (i.e. the past three years, the current year and the projections for the next two years).

the application of a modified expenditure benchmark (set up to span over six instead of ten years owing to data availability constraints and covering total real expenditure) as a ceiling to total public expenditure over the period 2003-13 would have markedly restrained public expenditure growth in several countries. As Chart 4 shows, for most countries the expenditure benchmark would have been on average much lower than the observed real expenditure growth over 2003-13. This would have mitigated the negative impact of the spending of windfall revenues on the structural balance.

## Box

### EXPENDITURE RULE (UNDER THE PREVENTIVE ARM OF THE STABILITY AND GROWTH PACT)

“Sufficient progress towards the MTO shall be evaluated on the basis on an overall assessment with the structural balance as the reference, including an analysis of expenditure net of discretionary revenue measures. The presumption is to use revenue windfalls, namely revenues in excess of what can normally be expected from economic growth, for deficit and debt reduction, while keeping expenditure on a stable sustainable path over the cycle. For that purpose, the Commission and the Council will assess the growth path of government expenditure against a reference medium-term rate of potential GDP growth. The reference-medium-term rate of potential GDP growth is based on regularly updated forward-looking projections and backward-looking estimates, taking into account the relevant calculation method provided by the EPC [Economic Policy Committee]. The reference-medium-term rate of potential GDP growth will be the average of the estimates of the previous 5 years, the estimate for the current year and projections for the following 4 years.

The government expenditure aggregate to be assessed should exclude interest expenditure, expenditure on EU programmes fully matched by EU funds revenue, and non-discretionary changes in unemployment benefit expenditure. Due to the potentially very high variability of investment expenditure, especially in the case of small Member States, the government expenditure aggregate should be adjusted by averaging investment expenditure over 4 years.”

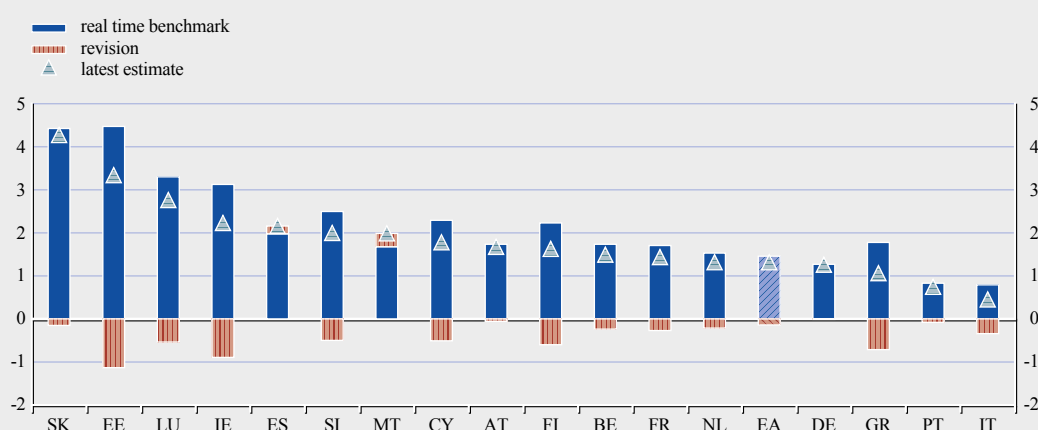
Source: Code of Conduct to the Stability and Growth Pact – Specifications on the implementation of the Stability and Growth Pact and Guidelines on the format and content of Stability and Convergence Programmes, 3 September 2012.

Nevertheless, the expenditure rule still has some weaknesses. As indicated in Chart 5a, when reconstructing this benchmark in real time as a moving average over six years, it turns out that it would have been systematically larger in real time than identified ex post over the period 2003-13. Consequently, expenditure growth according to this benchmark would have been systematically

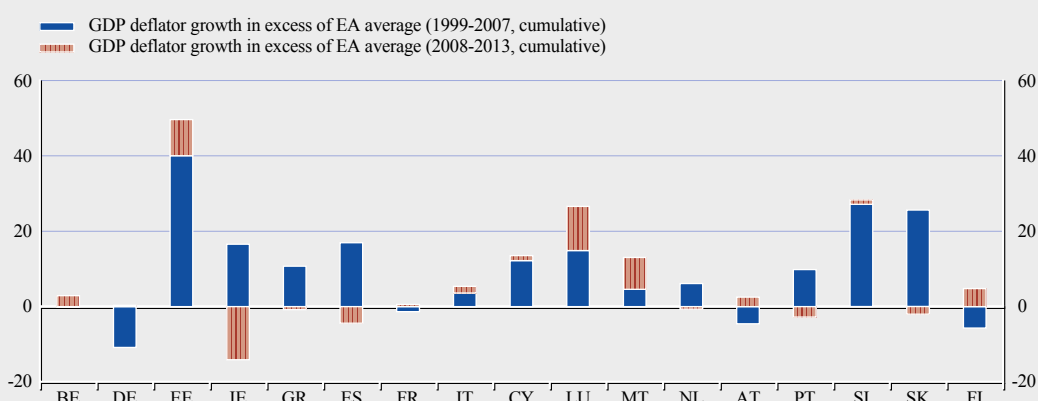
**Chart 5 The expenditure benchmark revisited in real time**

(2003-13)

**a) Revisions to the expenditure benchmark**  
(moving averages (t-3:t+2))



**b) GDP price deflator growth**



Source: European Commission's spring 2014 economic forecast.

Notes: (a) Actual data in line with the European Commission's spring 2014 economic forecast. Real-time forecasts are Commission autumn projections for the same year. The expenditure benchmark is calculated each year as a moving average over an average of six years of real potential GDP growth (i.e. the past three years, the current year and the projections for the next two years). Revisions are calculated each year as the difference between the actual benchmark (European Commission spring 2014 economic forecast) and forecast data (autumn forecast of the same year). Negative revisions indicate an overestimation of the expenditure benchmark. The chart shows averages over the period 2003-13.

(b) All components are reported in cumulative terms.



larger in real time than the benchmark's target. In addition, since the expenditure rule is defined in real terms, the inflation dimension is disregarded. It follows that countries with high nominal public expenditure growth are not penalised by the EU fiscal rules insofar as these fiscal expansions are a result of inflation. Chart 5b presents developments in GDP deflators over the periods 1999-2007 and 2008-13. It shows that in many countries deflators have been markedly in excess of the euro area average. A comparison of the average benchmark in the period 2003-13 and the average GDP deflator growth shows that the expenditure rule would have implied a ceiling for real expenditure which may still have resulted in unsustainable growth of nominal expenditure.

One can conclude that the strengthened fiscal governance framework would have contributed to more prudent budgetary positions, mainly through the more demanding requirements with regard to structural fiscal positions and, inter alia, the need to restrain real expenditure growth. Notwithstanding these improvements, however, weaknesses remain, in particular the insufficient reliability of the structural budget balance as a real-time surveillance indicator. It is therefore essential that fiscal governance is complemented by the surveillance of other indicators, which may provide a better picture of underlying imbalances in real time.

A further strengthening of the governance framework introduced under the six-pack in 2011 pertains to the increased focus on government debt. A numerical debt reduction benchmark was introduced under the preventive arm of the Stability and Growth Pact according to which Member States must reduce debt in excess of 60% of GDP by 1/20 over three years on average. Compliance with the numerical debt benchmark is assessed based on three configurations, namely accounting for a backward-looking benchmark, a forward-looking benchmark and for the impact of the cycle on the level of the government debt ratio. If these three configurations simultaneously indicate non-compliance of the change in government debt with the required reduction, a debt-based EDP will be launched. Again, as indicated in Chart 6, the real-time bias of the output

**Chart 6 Revisions to the cyclical component of the debt benchmark**

(2003-13, cumulative)



Source: European Commission's economic forecast.

Notes: This chart calculates the cyclical component of the debt benchmark as the three-year sum (t, t-1, t-2) of the cyclical component in percentages of GDP. This is a slightly simplified calculation as it ignores the adjustment of GDP in the denominator of the (to be adjusted) debt ratio as this impact is usually small. Actual data are in line with the European Commission's spring 2014 economic forecast. Real-time forecasts are Commission spring projections for the same year. Revisions are calculated each year as the difference between the actual benchmark (European Commission spring 2014 economic forecast) and forecast data (spring forecast of the same year). Positive revisions indicate an underestimation of the cyclical component. The chart shows cumulative values over the period 2003-13.

gap could potentially lead to skewed assessments under the surveillance framework. In fact, owing to a systematic underestimation of the cyclical component in real time, the adjusted debt level and thus the excess over the 60% reference value will be systematically smaller than that identified ex post.<sup>14</sup> Consequently, the recommended reduction under the new numerical debt benchmark will be systematically smaller in real time than the requirements ex post.

## **(2) ENFORCEABILITY AND IMPLEMENTATION**

The Stability and Growth Pact provides the legal basis on which non-compliance with the EU's fiscal rules is assessed and correction of excessive deficits enforced. During the crisis, all euro area Member States except for Luxembourg and Estonia entered an EDP. Several of them were granted deadline extensions as they were considered to have taken effective action in line with their Council recommendations to correct the excessive deficit, but unexpected adverse economic events with major unfavourable consequences for government finances subsequently occurred in these countries.

The assessment of a Member State's compliance with the Council recommendations for correcting the excessive deficit and the decision to grant an EDP deadline extension rest largely on the improvement in the country's structural budget balance. As outlined above, structural balances are "unobservable" and difficult to measure in real time thus making a reliable assessment of compliance a challenging exercise. Since spring 2013 the European Commission uses an amended methodology for assessing whether countries have made the structural effort required under the Council recommendations.<sup>15</sup> To this end, the observed change in the structural balance is adjusted for changes in potential output growth and in revenue elasticities compared with the forecast underlying the Council recommendation. This renders the exercise even more complex and intensifies the problems associated with assessing the structural effort under the EDP.

The European Commission therefore amended the EDP recommendation to include these adjustments as well as the subsequent assessment of effective action. To this end, the new methodology entails a detailed country-specific "bottom-up" analysis of budgetary outturns and the fiscal measures taken as a complement to the assessment of structural effort. When assessing whether a country has taken effective action in response to the Council recommendations, it is crucial that fiscal rules are applied in a symmetrical manner. If the method used to assess effective action accounts for the impact of downward revisions in potential output and revenue windfalls, fiscal discipline must also be fully enforced in economic good times, requiring that countries build sufficient fiscal buffers before a downturn.<sup>16</sup> Consequently, the effects of upward revisions in potential output as well as revenue windfalls need to be fully accounted for.

Generally, there is a need for a systematic analysis of whether countries comply with the Council's fiscal recommendations under the European Semester. To this end, such systematic assessments should focus not only on developments in fiscal positions but also on whether countries have complied with the recommendations on fiscal structural reforms (e.g. reforms pertaining to the fiscal governance framework and to country-specific rigidities). Looking ahead, it is therefore essential that the effectiveness of fiscal surveillance under the European Semester is further increased by a timelier identification and stricter follow-up of emerging fiscal imbalances. The more frequent assessments of effective action allow a more continuous monitoring of fiscal developments. However, at the same time, the annual updates of the country-specific recommendations under the European Semester should also be used to amend fiscal adjustment strategies in a timelier manner in the presence of often outdated EDP recommendations.

<sup>14</sup> For more details, see European Commission (2013).

<sup>15</sup> For more details see European Commission (2013).

<sup>16</sup> See also European Central Bank (2013).

To sum up, in response to the crisis, the EU framework for crisis prevention has been strengthened through enhancements to economic and fiscal surveillance. However, a strict implementation of the existing surveillance rules and a reduction in the level of discretion that remains in carrying out the assessments and issuing recommendations under the Pact (e.g. assessment of effective action under the EDP, the setting of EDP deadlines and the commensurate structural effort in general) would support the prevention and correction of economic and fiscal imbalances.

### 3 MACROECONOMIC GOVERNANCE IN THE EURO AREA AND THE IDENTIFICATION OF IMBALANCES

Since the inception of the euro, several euro area Member States have experienced a build-up of substantial macroeconomic imbalances, despite existing rules stipulating the need for sustainable economic policies in countries participating in EMU. This section first presents some stylised facts about the accumulation of macroeconomic imbalances prior to the crisis. It then surveys and assesses the new economic governance framework.

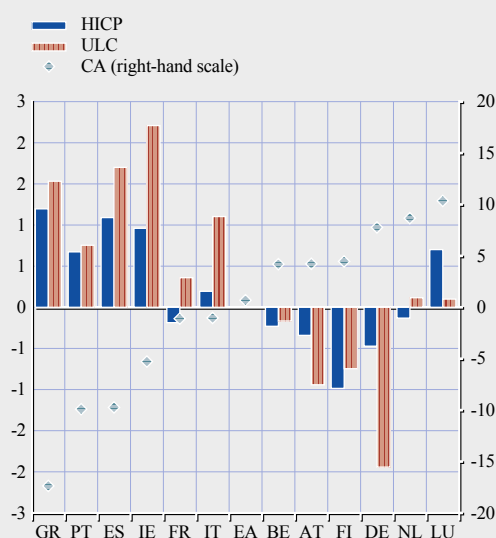
#### 3.1 MACROECONOMIC IMBALANCES PRIOR TO THE CRISIS: A SKETCH OF STYLISED FACTS

In the years prior to the crisis, low real financing costs were coupled with overly optimistic assumptions of households, firms and the public sector about future economic developments. These were some of the key factors contributing to the successive build-up of macroeconomic imbalances in several euro area countries. In particular, they led to a significant cumulative deterioration in competitiveness, with wage growth persistently above labour productivity growth and inflation rates above the euro area average (Chart 7).<sup>17</sup> A number of countries experienced unsustainable credit-financed domestic demand growth and housing bubbles. Owing to deteriorating competitiveness and strong import growth on the back of robust domestic demand, current account deficits increased significantly in some euro area countries (Chart 7). Given that the strong demand largely reflected developments in private and public consumption and investment in the non-tradable sector (in particular in the construction sector, leading to a housing bubble in some countries), there was no corresponding increase in the capacity to service the growing external debt burden.

With the intensification of the crisis in 2008, these macroeconomic imbalances, which were facilitated by unsustainable economic policies, became painfully exposed. However, caution needs to be applied when attributing these developments solely to a lack of awareness among political leaders about the consequences of unsustainable economic policies. The EU legal framework suggests that European Heads of State or Government have – at least to some extent – thought about the implications of unsustainable economic policies. The 1992 Maastricht Treaty recognises the importance of Member States “conduct[ing] their economic policies with a view to contributing to the achievement of the objectives of the Community” (Article 102a),

**Chart 7 Current account balance (as a percentage of GDP in 2007), HICP inflation and ULC growth relative to euro area average**

(average 2001-07)



Source: European Commission.

Notes: ULC refers to unit labour costs. CA refers to the current account balance. Countries are grouped in ascending order of the current account balance (average 2001-07). The chart covers the countries which had joined the euro area by 2001.

<sup>17</sup> In the first years of EMU, the substantial growth in relative costs and prices can be partly attributed to the normal process of real and nominal convergence. However, empirical work has been unable to find unambiguous evidence of catching-up effects (in the form of Balassa-Samuelson effects) at play after the start of Stage Three of EMU. As mentioned previously, Stage Three – from 1 January 1999 – began with the irrevocable fixing of exchange rates, the transfer of monetary competence to the ECB and the introduction of the euro. Earlier studies on the Balassa-Samuelson effect in the euro area (e.g. Hofmann and Remsperger, 2005, and Katsimi, 2004) did not find any significant contribution of cross-country price convergence to national inflation rates in Stage Three of EMU.

stating that Member States must “regard their economic policies as a matter of common concern and ... coordinate them within the Council” (Article 103(1)). Moreover, it is provided that whenever the “economic policies of a Member State are not consistent with the broad guidelines ... or that they risk jeopardising the proper functioning of economic and monetary union, the Council may ... make the necessary recommendations to the Member State concerned” (Article 103(4)).<sup>18</sup>

Thus, while the potential risk of unsustainable national economic policies had already been identified well before the crisis, the weak enforcement possibilities of the provisions and a limited willingness to pursue their implementation reduced their effectiveness. With regard to enforcement, economic policies which risked jeopardising the smooth functioning of EMU could at most receive a (non-legally binding) warning issued by the Commission which did not carry any form of sanction inciting the respective country to change its policies. Moreover, the warning needed to be endorsed by the Council (including representatives from the Member State in question) with a qualified majority. Beyond the question of how effective warnings against unsustainable economic policies could have been in practice, it is important to note that this option has only been used once since the Treaty was enacted in 1992. In 2001 the Commission (endorsed by the Council) submitted a warning that Irish economic policy was inconsistent with the Broad Economic Policy Guidelines adopted by the Council in 2001.<sup>19</sup>

### 3.2 THE NEW FRAMEWORK FOR MACROECONOMIC SURVEILLANCE AND THE IDENTIFICATION OF IMBALANCES

As the crisis emerged, it soon became apparent that the EU economic governance framework had been insufficient to prevent the build-up of macroeconomic imbalances in euro area Member States. The shortcomings related to both the identification and correction of macroeconomic imbalances. As a result, the Council decided to introduce an EU macroeconomic surveillance framework. The ‘Macroeconomic Imbalance Procedure’ was agreed as part of the ‘six-pack’ of economic governance reforms (see also Section 2.2 above).

The MIP comprises specific rules for the detection of macroeconomic imbalances, as well as the prevention and correction of excessive macroeconomic imbalances within the EU. The first step of the MIP is the publication of the Alert Mechanism Report.<sup>20</sup> In this report, the European Commission provides an economic reading of the scoreboard of eleven indicators<sup>21</sup> and corresponding thresholds, which are intended to capture the major sources of macroeconomic imbalances in all Member States. Countries currently the subject of EU-IMF programmes are excluded from the MIP given that enhanced macroeconomic surveillance is already conducted as part of these programmes. On the basis of this report, the Commission selects countries for which an in-depth review should be carried out to see whether early indications regarding macroeconomic imbalances are confirmed. The in-depth review includes fact-finding missions to the country in question and goes beyond the initial reading of the scoreboard. On the basis of each in-depth review, the Commission issues an assessment as to whether the country in question is (i) not experiencing any imbalances,

18 The Maastricht Treaty has been amended several times and the (revised) provisions are now included in the Treaty on the Functioning of the European Union, Articles 120 and 121.

19 A warning was issued to Greece in 2010 but only a few months before the EU-IMF macroeconomic adjustment programme began.

20 The relevant legal acts with regard to the MIP are Regulation (EU) No 1174/2011 of the European Parliament and of the Council of 16 November 2011 on enforcement measures to correct excessive macroeconomic imbalances in the euro area (OJ L 306, 23.11.2011, pp. 8-11) and Regulation (EU) No 1176/2011 of the European Parliament and of the Council of 16 November 2011 on the prevention and correction of macroeconomic imbalances (OJ L 306, 23.11.2011, pp. 25-32).

21 See Table 5 for the eleven scoreboard variables capturing indicators of external imbalances, competitiveness and internal imbalances. For a detailed description of all indicators and thresholds, see European Commission (2012). At the first exercise in 2012, the scoreboard only consisted of 10 indicators. The growth rate of financial liabilities indicator was added for the second exercise in 2013. Supplementary indicators can be used during the analysis where needed.

(ii) experiencing imbalances, or (iii) experiencing excessive imbalances. In the first case, the MIP is terminated. Where it is concluded that imbalances are identified, the Member State concerned will receive country-specific policy recommendations under the “preventive arm” of the procedure (together with the overall country-specific recommendations at the end of the European Semester) with a view to averting potentially harmful developments. Where macroeconomic imbalances are found to be sufficiently severe to be considered excessive, the Excessive Imbalance Procedure (EIP) is triggered under the “corrective arm” of the MIP. In this case, the country concerned has to submit a corrective action plan – which must be agreed with the Council – outlining policy measures aimed at addressing the excessive imbalances. Financial sanctions can be imposed in the case of repeated failure to implement corrective action.

It is noteworthy that within the MIP, in contrast to the fiscal governance framework, most of the indicators of macroeconomic imbalances used in the scoreboard are variables over which policy-makers have no direct control and are therefore more difficult to adjust. More precisely, while the budget balance can be adjusted to the extent that government can agree, e.g. on expenditure cuts and/or tax increases, the current account deficit of an economy is the mirror image of saving and investment preferences of actors in the Member State. It can only be indirectly influenced through policy measures changing the economic conditions under which businesses and individuals operate.<sup>22</sup>

While the possibilities to enforce recommendations to change national economic policies have clearly increased with the new governance framework, the actual implementation of the framework is crucial if it is to be effective. The first application of the MIP in 2012 resulted in a selection of 12 Member States (including seven euro area countries) for an in-depth review following the initial economic reading of the scoreboard of indicators. All 12 countries only received country-specific recommendations via the preventive arm and the corrective arm was not triggered at all. The Council followed the recommendation issued by the Commission by adopting respective CSRs for the countries concerned. The same happened in 2013, when 13 Member States were selected for an in-depth review and all of them received recommendations only via the preventive arm, despite the Commission finding “excessive imbalances” in Spain and Slovenia. The Commission decided against initiating an Excessive Imbalance Procedure mainly in the light of the policy proposals to address the imbalances that had already been announced by the national authorities in the two countries. Also during the latest exercise, the Commission found for three countries (out of the 17 analysed) “excessive imbalance”, namely for Slovenia, Italy and Croatia. However, again policy proposals put forward by authorities to tackle these imbalances were judged sufficient, i.e. the EIP was not applied.<sup>23</sup>

In terms of overall imbalances across countries, the latest official scoreboard of eleven indicators used for the 2014 MIP (Table 5) depicts the respective thresholds breached by the individual euro area countries. The number of thresholds exceeded remains particularly high since, despite adjustments in flow variables (such as the current account, unit labour costs and the real effective exchange rate (REER)), the stock variables present severe vulnerabilities. External, private and public debt variables feature the highest number of countries exceeding the thresholds (grey background).

22 While this holds true overall, policy-makers can influence the current account balance more directly through changes in public investment and consumption, which would in turn affect the trade balance (through imports) and therefore the current account balance. This, however, can only be done to the extent that fiscal governance rules are respected.

23 The MIP was stopped for Denmark, Luxembourg and Malta, in which cases the Commission did not identify noteworthy imbalances.

Table 5 European Commission Scoreboard

	Current account balance	Net International Investment Position	Export market shares	Real Effective Exchange Rate, HICP deflated	Nominal unit labour cost	Private sector credit flow	Private sector debt	General government debt	House prices, consumption deflated	Unemployment rate	Financial liabilities
	(% of GDP, 3 years average)	(% of GDP)	(5 years % change)	(3 years % change)	(3 years % change)	(% of GDP)	(% of GDP)	(% of GDP)	(y-o-y % change)	(3 years average)	(y-o-y % change)
Threshold	+6/-4%	-35%	-6%	+/-5%	+9%	+14%	133%	60%	+6%	+10%	+16.5%
Belgium	-0.4	47.6	-14.9	-4.3	6.6	-1.5	146.4	99.8	-0.2	7.7	-3.9
Germany	6.5	41.5	-13.1	-8.9	3.0	1.5	106.7	81.0	1.8	6.2	4.4
Estonia	0.9	-54.0	6.5	-3.4	-2.8	4.7	129.4	9.8	3.5	13.2	12.9
Ireland	2.3	-112.0	-16.3	-12.2	-10.4	-1.6	306.4	117.4	-11.7	14.4	-0.7
Greece	-7.5	-108.8	-26.7	-4.5	-8.1	-6.8	129.1	156.9	-12.4	18.2	-3.4
Spain	-3.1	-93.2	-14.6	-5.2	-5.6	-10.5	194.4	86.0	-16.9	22.3	3.3
France	-1.8	-21.1	-14.0	-7.8	4.1	3.5	140.6	90.2	-2.3	9.9	-0.1
Italy	-2.3	-24.7	-23.8	-6.2	3.1	-1.0	126.4	127.0	5.4	9.2	7.1
Cyprus	-6.7	-82.4	-26.6	-5.8	0.8	10.0	299.2	86.6	-2.2	8.7	-1.9
Luxembourg	7.0	169.1	-18.3	-2.3	9.8	-5.0	317.4	21.7	2.5	4.8	11.3
Malta	-1.6	24.9	4.5	-7.7	4.9	-1.6	155.1	71.3	0.3	6.6	4.1
Netherlands	8.8	46.8	-12.0	-6.0	3.3	0.2	219.3	71.3	-8.7	4.7	4.9
Austria	2.2	0.4	-21.2	-4.7	4.1	2.7	147.4	74.0	n.a.	4.3	-0.9
Portugal	-6.5	-115.4	-16.0	-4.0	-5.3	-5.4	223.7	124.1	8.6	13.6	-3.6
Slovenia	1.2	-44.9	-19.9	-4.5	0.4	-2.9	113.6	54.4	-8.4	8.1	-0.8
Slovak Republic	-1.7	-64.1	4.2	-3.2	0.9	3.2	73.1	52.4	-5.9	14.0	2.6
Finland	-0.5	18.4	-30.8	-8.3	4.8	9.0	157.8	53.6	0.5	8.0	-0.2

Source: European Commission, 2014 Alert Mechanism Report published in November 2013.

Notes: Cells with yellow background indicate that the country has exceeded the respective threshold of the indicator. Data refer to 2012.

### 3.3 AN ASSESSMENT OF THE NEW FRAMEWORK FOR MACROECONOMIC SURVEILLANCE

Recalling the shortcomings in the governance framework which existed prior to the crisis, this paper has emphasised (i) the lack of tools for identifying imbalances, (ii) the limited possibilities for legal enforcement, and (iii) the implementation of the rules. In a stylised ex post analysis, the new governance framework is assessed against these shortcomings.

#### (1) IDENTIFICATION

Had the MIP existed at the start of Stage Three of EMU in 1999, would the scoreboard of indicators have issued early warnings for the current group of vulnerable countries?<sup>24</sup> Table 6 presents a simple sum of indicators exceeding the relevant scoreboard thresholds per euro area country in a given year. The calculation of thresholds, which in most cases is based on statistical distributions from 1995-2007, is assumed to remain unchanged.<sup>25</sup> These calculations suggest that macroeconomic imbalances in the four EU-IMF programme countries, particularly in Greece, would have been identified early on (around 2003 or 2004). Interestingly, alarm bells would have rung even stronger for Spain, which exceeded six or even seven out of the eleven indicators continuously since 2005. Similarly, macroeconomic imbalances would have been identified more promptly in Cyprus.

24 The group of vulnerable countries comprises the four full EU-IMF programme countries (Ireland, Greece, Cyprus and Portugal), along with Spain, Italy and Slovenia.

25 Backward calculations of thresholds before 1995 are not feasible owing to data availability constraints (Eurostat and European Commission datasets).



However, there are several caveats to assessing the simple sum of indicators exceeding the thresholds. These relate to the selected variables and the threshold computed.

The eleven scoreboard variables were chosen so as to provide a rough filter for a preliminary list of countries which could be exposed to macroeconomic imbalances. However, Regulation 1176 on the prevention and correction of macroeconomic imbalances clearly states that underlying economic developments also need to be considered, i.e. the Commission will undertake an “economic reading” of the scoreboard indicators, i.e. conclusions will not be drawn from a mechanical reading of the scoreboard (Article 3(2)). The economic reading of the scoreboard is essential as the nature of the imbalances can vary significantly throughout Member States. Moreover, the imbalances might not always be detected by the scoreboard indicators. One example is the Commission decision on Slovenia in 2013. The Commission considered that the imbalances were “excessive” although only two indicators had breached the respective threshold according to the scoreboard in the Alert Mechanism Report.<sup>26</sup>

Moreover, the variables are used in different representations. While developments in the current account balance are assessed as a percentage of GDP on a three-year average, the export market share is shown in terms of five-year percentage changes, and financial liabilities or house prices as year-on-year changes. In particular the variables which only consider shorter horizons are likely to miss the stock problem of the variables. By way of example, while persistently and strongly rising house prices would be captured by the scoreboard, the indicator would not signal an imbalance when the prices stop rising, despite the fact that houses remain significantly overvalued (as in Spain in 2008). Such developments would be revealed by the economic reading of the variable.

The threshold symmetry of some of the scoreboard variables should also be closely scrutinised during the economic reading. Such symmetry has been applied to the current account and the REER. While the current account surplus threshold is slightly higher than the deficit threshold (+6%/-4% of GDP), exceeding the threshold on the positive side is seen as an indication of macroeconomic imbalances. However, fundamental differences exist between current account surpluses and deficits, with the latter posing much more serious risks. This has also been acknowledged by the ECOFIN Council, which recalled at a recent meeting “that unlike current account deficits, large and sustained current account surpluses do not raise concerns about the sustainability of external debt or financing capacity that affect the smooth functioning of the euro area; the risks of negative spill-overs for current account surpluses are therefore less pressing than for current account deficits.”<sup>27</sup> Similar arguments apply for a depreciation of the HICP-deflated REER, which is less problematic than a persistent appreciation.

Lastly, indicators are currently represented in absolute terms, i.e. not relative to developments of other euro area countries. However, one of the main aims of the scoreboard is to identify losses in competitiveness and this clearly needs to be looked at in relative terms. More precisely, given that price and cost flexibility are adjustment mechanisms through which countries in a monetary union can recover in the event of shocks, developments in prices and costs in a Member State should be assessed with regard to the euro area average in order to identify losses in competitiveness.

26 For Slovenia, the Commission emphasised the risk to financial sector stability stemming from corporate indebtedness, including through interlinkages with the level of sovereign debt. Moreover, risks were compounded by limited adjustment capacity in labour and capital markets and by an economic structure dominated by State ownership. In addition, the Commission noted that periods of policy uncertainty and legal obstacles to reforms had prevented Slovenia from addressing its imbalances adequately and enhancing its adjustment capacity, thus increasing its vulnerability at a time of heightened sovereign funding stress. None of these factors were well mirrored in the scoreboard. (COM(2013) 199 final).

27 Council conclusions on the Annual Growth Survey 2013. 3220th Economic and Financial Affairs Council meeting, Brussels, 12 February 2013.

Table 6 Retrospective evaluation of the scoreboard since 2001

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Belgium	1	1	2	3	4	3	2	4	4	3	4	3
Germany	1	2	2	2	2	2	3	2	2	3	3	4
Estonia	(5)	(6)	(6)	(7)	(6)	(5)	(7)	(5)	(5)	(4)	2	2
Ireland	2	3	5	6	6	6	5	7	6	6	7	6
Greece	5	5	6	6	7	4	5	4	5	5	6	5
Spain	3	3	5	6	7	7	7	6	6	6	6	6
France	2	2	4	4	4	3	2	2	3	3	3	4
Italy	4	3	4	4	2	2	2	2	3	2	2	3
Cyprus	(2)	(4)	(4)	(7)	(7)	(6)	(6)	4	5	6	6	6
Luxembourg	3	3	4	3	3	3	3	3	3	3	4	4
Malta	(2)	(2)	(4)	(5)	(7)	(5)	(6)	6	6	4	4	3
Netherlands	3	2	3	2	3	2	2	3	4	3	4	5
Austria	1	1	1	1	2	1	2	2	4	4	3	3
Portugal	6	4	5	5	5	5	5	6	5	6	6	6
Slovenia	(2)	(2)	(1)	(2)	(3)	(1)	3	3	3	2	2	2
Slovakia	(4)	(4)	(4)	(4)	(6)	(4)	(6)	(5)	5	5	2	2
Finland	2	2	4	3	2	2	0	2	3	4	4	3

Sources: European Commission and ECB calculations.

Notes: Cells with a light (medium; dark) grey background indicate that the respective country exceeded 5 (6; 7) thresholds of the 11 indicators. Data are in brackets for the years before the country joined the euro area. No background colouring has been attributed in these cases. In the first years of the scoreboard, the number of breaches is lower as variables were sometimes not available. Please see Table 5 for the respective thresholds applied.

One could therefore conclude that the new governance framework, along with the scoreboard of indicators of macroeconomic imbalances, has created some tools for identifying unsustainable economic policies in Member States. However, several issues exist with regard to the construction of the scoreboard indicators and thresholds.

## (2) ENFORCEMENT

The ability to identify macroeconomic imbalances does not mean that the necessary rules are in place – and enforced – to correct them. Prior to the crisis, EU institutions could only issue warnings where a Member State conducted economic policies that were not in line with the smooth functioning of EMU. The MIP Regulations, however, empower the EU institutions with a sanction mechanism under the corrective arm which should contribute to ensuring that euro area Member States comply with their obligations. If a euro area Member State submits a sufficient plan but fails to take agreed action in implementing it, the Council is in the position to impose payment of an interest-bearing deposit of 0.1% of GDP. In the case of repeated non-compliance, the Council can convert the deposit into an annual fine of the same magnitude. In line with the procedure followed under the SGP the decision on sanctions follows the so-called “reverse qualified majority voting” procedure.

However, these enforcement possibilities only exist under the corrective arm of the MIP. No instrument exists to enforce the implementation of policy measures should a euro area Member State not comply with recommendations issued under the preventive arm. In this respect, therefore, recommendations under the preventive arm do not greatly differ from the framework of economic policy coordination which existed before the crisis. Consequently, given that tools to identify the problem and legal enforcement powers have been introduced, an effective implementation of the new governance framework is essential in particular for countries for where “excessive imbalances” have been diagnosed.

### (3) IMPLEMENTATION

In contrast to the *corrective* arm of the SGP (establishing reference values for the budget deficit of 3% of GDP and 60% of GDP for the general government debt ratio which should, in principle, trigger corrective action via the launch of an EDP), the MIP rules do not provide for the same degree of automaticity. This gives the Commission and Council room for discretion, rendering a strict interpretation of the framework essential to ensure effective implementation.

With respect to the MIP, Regulation 1176 provides that it is for the Commission, as the EU's executive body, to identify countries to be the subject of an in-depth review (Article 3(3)), and – at a later stage – to evaluate whether the Member State in question is affected by macroeconomic imbalances and whether these imbalances are excessive (Article 5). However, the final decision rests with the Council as the Commission's recommendations must be adopted by the Council before they can be addressed to the Member State concerned (in accordance with Article 121(4) of the Treaty on the Functioning of the European Union). Where the Commission has recommended the opening of an Excessive Imbalance Procedure and a euro area Member State has not complied with the corrective actions agreed on, the assessment of non-compliance and the subsequent sanctions can only be rejected by the Council with a qualified majority. This means that the full implementation of the procedure where a euro area country exhibits excessive imbalances requires two actions. First, the Commission needs to come to the conclusion that excessive imbalances exist in the Member State concerned (and subsequently that sufficient corrective action has not been taken) and issue recommendations accordingly. Second, the Council needs to adopt the Commission's recommendations, i.e. not reject them by qualified majority.

With the implementation of reverse qualified majority voting concerning the application of sanctions, it is less likely that a Commission recommendation will be “voted down”. However, the MIP Regulations remain relatively vague on the criteria for establishing that there are “excessive imbalances” in a country. It is therefore for the Commission to reach a conclusion from the set of indicators available. Consequently, the strict implementation of the MIP largely depends on the Commission's judgement.

#### 4 INTERACTION BETWEEN THE FISCAL AND MACROECONOMIC GOVERNANCE FRAMEWORK

The difficulties in identifying fiscal imbalances and adjustment in real time raise the question whether the macroeconomic surveillance framework can provide additional signals for the emergence of fiscal imbalances and facilitate their correction (see also Larch et al., 2010). The SGP and the MIP are currently essentially separate procedures. Fiscal policy indicators are included in the MIP to only a small extent, i.e. the government debt-to-GDP ratio as one of the eleven scoreboard indicators. However, as the Commission has clarified, this indicator is “included in the scoreboard not to monitor risks of unsustainable public finances, which are covered by the Stability and Growth Pact, but to be considered together with the indicator on private debt and thereby to offer a broader picture of Member States’ indebtedness” (Commission (2012)).

Similarly, the strengthened Pact is not expressly tied to the development of macroeconomic imbalances. However, as outlined above, the developments of past years have revealed the interconnectedness of unsustainable fiscal policies and macroeconomic imbalances. Applying the identification tools of both procedures retrospectively for each year suggests a similar set of countries experiencing problems.

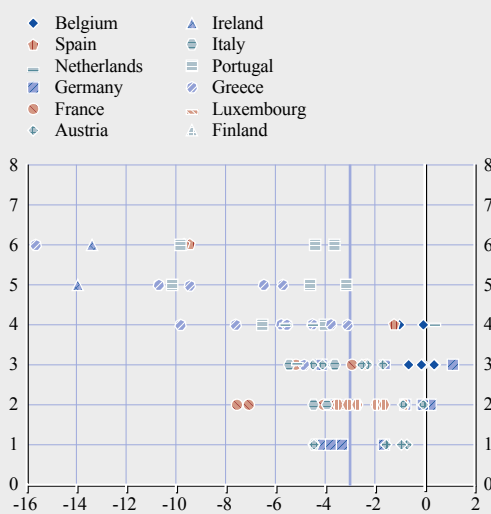
Chart 8 suggests a high correlation between the SGP and MIP outcomes. Looking at countries with a public debt of over 60% of GDP, the higher the budget deficit-to-GDP ratio the higher tends to be the number of thresholds exceeded in the MIP scoreboard. All four EU-IMF programme countries as well as Spain rank in this upper-left-hand part of the chart. This suggests a strong correlation of both procedures.

Against the background of the findings presented in Section 2, it seems that the currently applied method of deriving cyclically adjusted budget balances by using real-time output gap estimates has led, with hindsight, to an underestimation of structural deficits and hence the need for consolidation. At the same time, Chart 8 suggests a correlation of fiscal and macroeconomic developments. Against this background, it could be investigated whether specific variables captured in the MIP scoreboard might serve as indicators for a country’s position in the economic cycle in order to cross-check information from the real-time output gaps used in the strengthened SGP.

Chart 9 therefore recalls the substantial projection error of the output gap estimates in real time by comparing it against the latest vintage of estimates (using the example of three<sup>28</sup> full EU-IMF programme countries – Ireland, Greece and Portugal – as well as Spain with its financial sector programme).

**Chart 8 Interconnection between SGP/ MIP (1999-2011)**

(x-axis: budget deficit as a percentage of GDP; y-axis: number of indicators’ thresholds exceeded in the MIP)



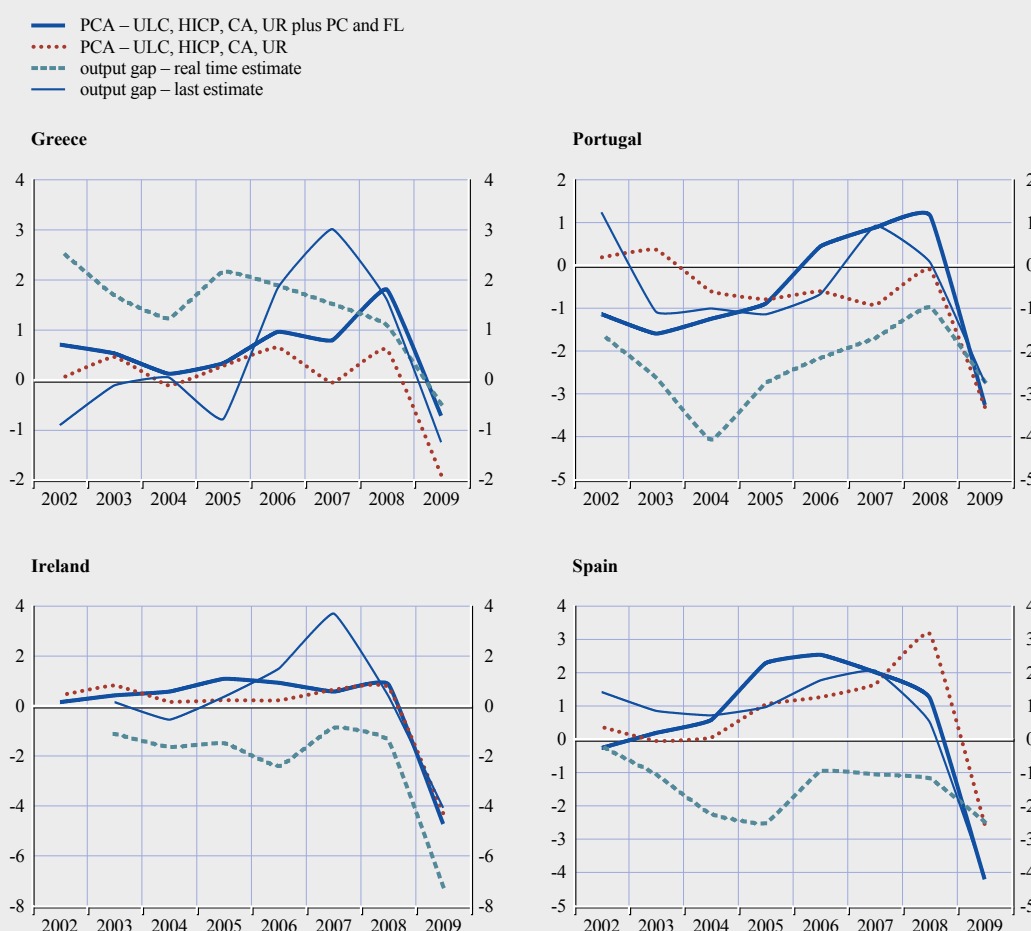
Source: Own calculations.

Notes: Only countries are shown which in a given year have a government debt-to-GDP ratio above 60% of GDP. The vertical line shows the 3% of GDP reference value for the budget deficit.

28 Cyprus is excluded given limited data availability.

In order to compare the information from the MIP framework with existing output gap estimates, a simple Principal Component Analysis (PCA) is applied. Primarily, the flow variables captured in the MIP scoreboard are used, i.e. unit labour costs (ULC), HICP inflation, the current account balance (CA) and the unemployment rate (UR).<sup>29</sup> The first principal component of this set of variables has a surprisingly strong correlation with the final (i.e. the revised) output gap measure. While these preliminary findings should be interpreted with caution, they nonetheless suggest that the information used for the MIP could indeed be a helpful indicator for the real-time measurement of the state of the economy. Thus, it could complement the current output gap estimates and, in turn, potentially address some of the weaknesses in the fiscal governance framework.

**Chart 9 Comparison of output gap estimates**

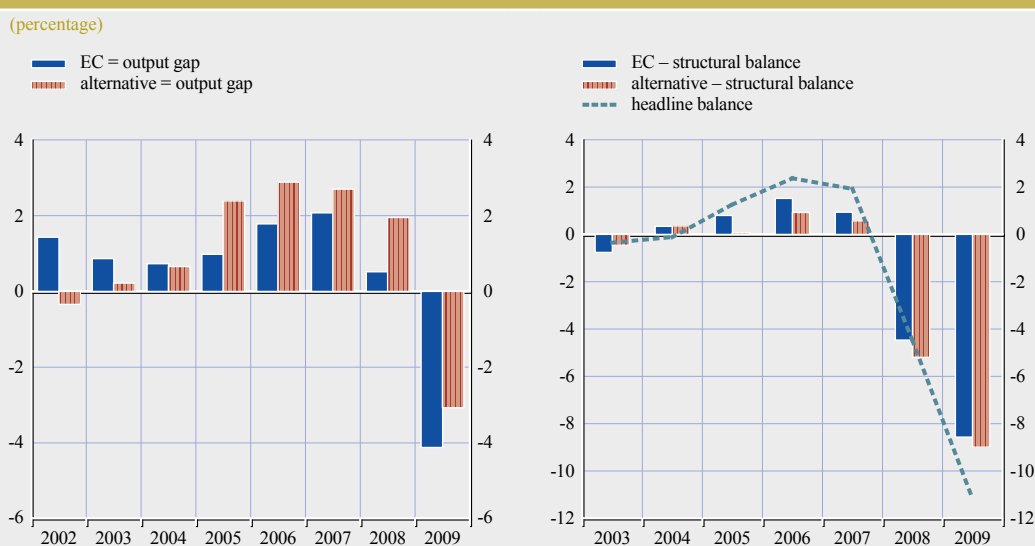


Sources: Eurostat, European Commission and own calculations.

Notes: Output gap data for Ireland start in 2003 owing to data availability constraints. All four charts cover Principal Component Analysis (PCA) with two different groups of variables, as well as the real-time and latest estimates of the output gap. The following data are used: unit labour costs (ULC), HICP inflation, the current account balance (CA), the unemployment rate (UR), private credit (PC) growth and financial liabilities (FL).

29 The underlying variables are used for the exercise since year-on-year developments give a timelier signal of economic developments. This is in contrast to the multiple-year averages used, for example, for the current account indicator in the scoreboard.

Chart 10 Structural balances based on different output gap measures - Spain



Source: European Commission.

While the above-mentioned macro variables seem to provide a better fit for the final output gap measure, the question remains whether the final estimate is the appropriate underlying measure to derive the structural budget balance. It is sometimes argued, e.g. by Borio et al. (2013), that the output gap has been persistently underestimated applying the standard estimation framework. By contrast, the inclusion of financial indicators would result in a more precise mapping of the true output gap. Therefore the set of indicators used in the PCA is augmented by adding private credit (PC) growth and financial liabilities (FL) and the – financially augmented – output gap becomes sizeably larger.<sup>30</sup> This, in turn, suggests that the cyclically adjusted deficit would have been significantly larger prior to the crisis, consequently implying<sup>31</sup> the need for tighter fiscal policies (see Chart 10 for the case of Spain).

The approach applied here in order to provide a better fit for the final output gap measures is admittedly simplistic. It paves the way for further work to establish a more robust complementary measure of the current potential output estimates, which are less prone to ex post revisions.

30 Adding house prices exemplifies this trend for countries with large housing booms, such as Spain. While this overall pattern remains largely unchanged when turning to several euro area non-programme countries (see Chart A.2 in Annex 2), the correlation with the final estimate is somewhat less strong.

31 This might have been less the case had the MIP existed before 1999 and been applied effectively.

## 5 CONCLUSIONS

Progress has been made to strengthen the resilience of EMU since the start of the sovereign debt crisis, particularly through a reinforced governance framework stipulating a stronger control of fiscal and macroeconomic policies. Had the current framework including a broadened surveillance of fiscal and macroeconomic indicators been in place at the start of Stage Three of EMU, it would have certainly facilitated an earlier identification of macroeconomic and budgetary imbalances. Euro area countries thus would have been obliged to take preventive and corrective action at an earlier stage, provided that the stricter rules had been effectively implemented. As regards fiscal positions, the balanced budget rule, the expenditure benchmark and the debt reduction benchmark provide important tools to constrain unsustainable fiscal policies. As concerns macroeconomic imbalances, the MIP scoreboard facilitates the identification of unsustainable developments. Moreover, an important improvement has been the power to impose sanctions in the case of repeated non-compliance, thus strengthening the enforceability of policy recommendations.

Still, one shortcoming pertains to the fiscal framework remaining prone to misjudging underlying budgetary positions and thus identifying potential fiscal imbalances in real time. This relates notably to the weakness of the structural budget balance as a real-time surveillance indicator of underlying budgetary positions and fiscal adjustment efforts.

One of the key findings of the paper is therefore that synergies could emerge from a joint analysis of the variables of the fiscal and macroeconomic framework, thereby potentially facilitating the early identification of unsustainable developments. The paper submits that the MIP would have given earlier indications about the emergence of implicit liabilities which later fuelled excessive fiscal developments. In a simple exercise, the indicators captured in the MIP scoreboard turn out to be good complementary indicators of real-time fiscal and macroeconomic developments. Moreover, when also taking the financial indicators of the scoreboard into account, it seems that even the last vintage of output gaps underestimated the cyclical position. Assuming that this measure captures cyclical developments more accurately, fiscal policies would need to have been tighter to achieve sustainable structural positions.

To conclude, EU fiscal and macroeconomic governance has important tools at hand to identify fiscal and macroeconomic imbalances, though its effective implementation continues to hinge to a large extent on political will. A further strengthening of the framework should build on increasing the synergies of the, until now rather unrelated, fiscal and macroeconomic governance framework. Moreover, beyond the identification of emerging imbalances, it remains of the essence that the SGP and the MIP are strictly implemented to ensure fiscal sustainability, facilitate the recovery of competitiveness and, in turn, improve growth prospects and job creation in the euro area.



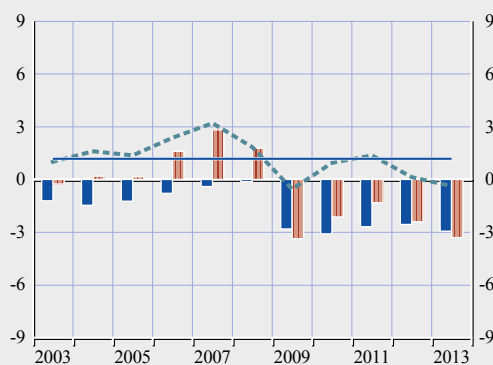
## ANNEX I: REVISION OF THE OUTPUT GAP

Chart AI Revision of the output gap over the period 2003-13 in the euro area countries

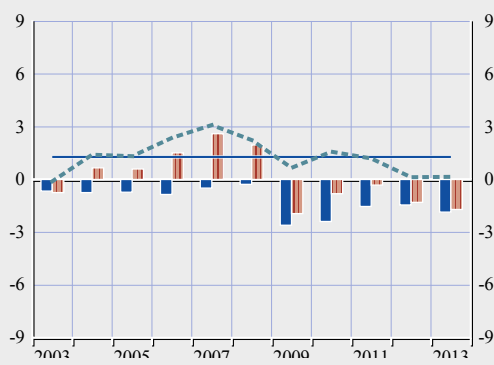
(percentage points)

- real time estimates (spring forecast of the same year)
- latest estimate (AMECO spring 2014)
- projection errors
- average revision (2003-2013)

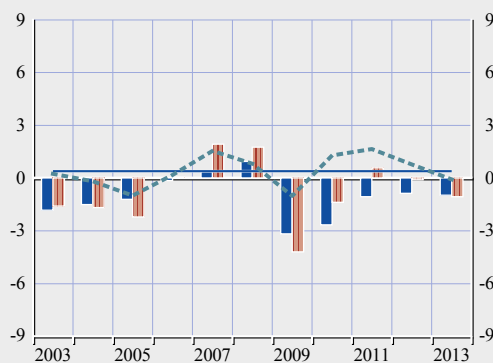
## Euro area



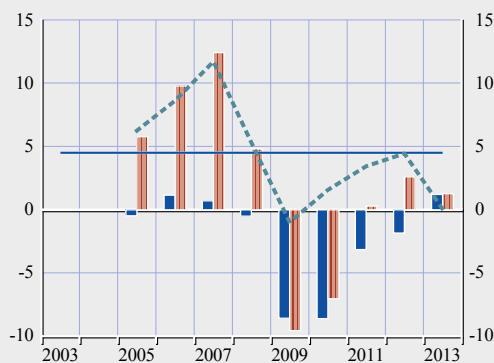
## Belgium



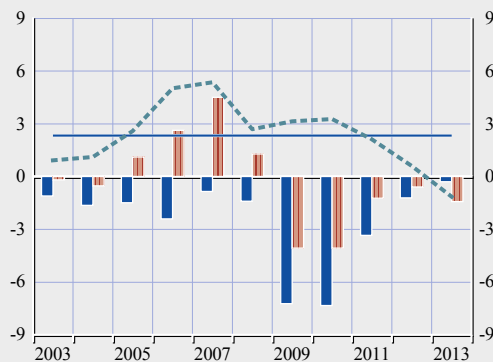
## Germany



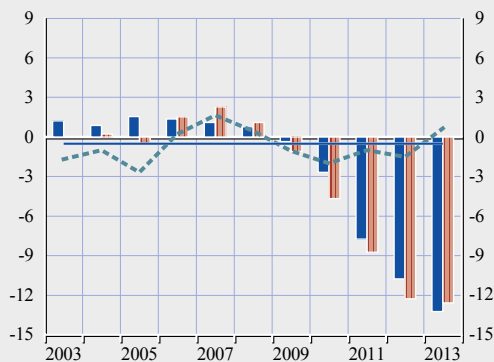
## Estonia



## Ireland



## Greece



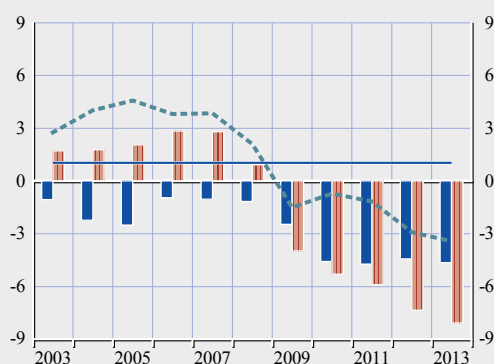
Sources: Eurostat, European Commission's economic forecast and own calculations.

**Chart A1 Revision of the output gap over the period 2003-13 in the euro area countries (cont'd)**

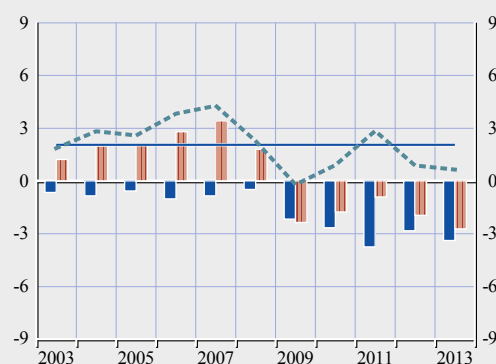
(percentage points)

- real time estimates (spring forecast of the same year)
- latest estimate (AMECO spring 2014)
- projection errors
- average revision (2003-2013)

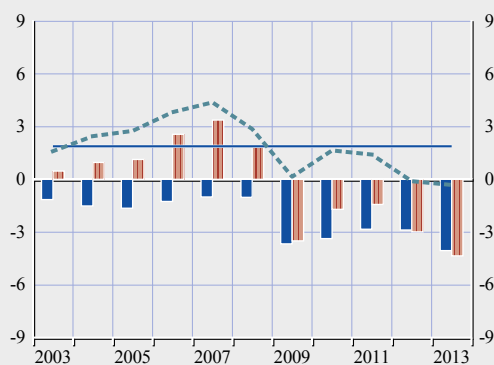
#### Spain



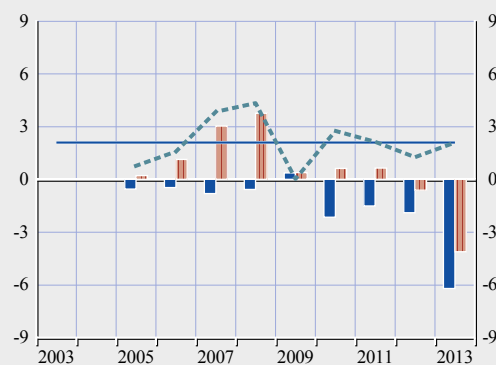
#### France



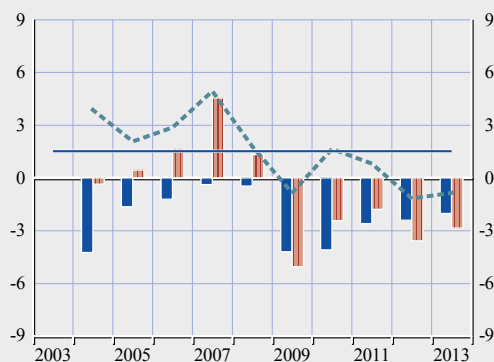
#### Italy



#### Cyprus



#### Luxembourg



#### Malta



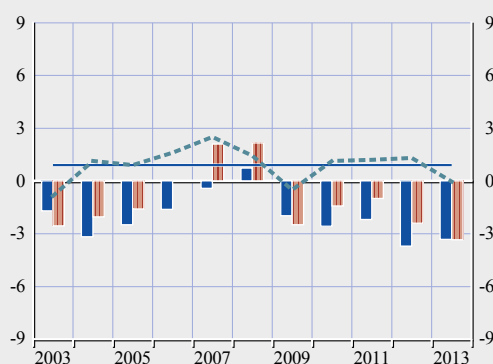
Sources: Eurostat, European Commission's economic forecast and own calculations.

**Chart A1 Revision of the output gap over the period 2003-13 in the euro area countries (cont'd)**

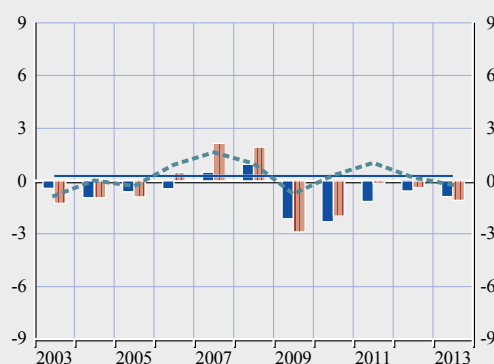
(percentage points)

- real time estimates (spring forecast of the same year)
- latest estimate (AMECO spring 2014)
- projection errors
- average revision (2003-2013)

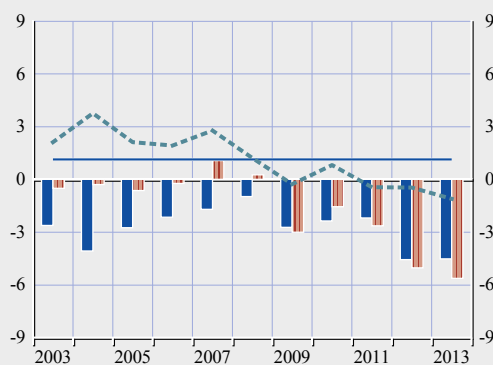
#### Netherlands



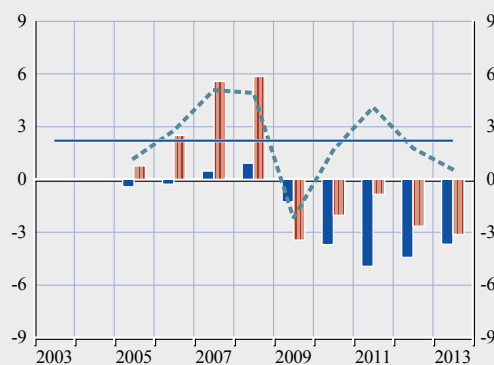
#### Austria



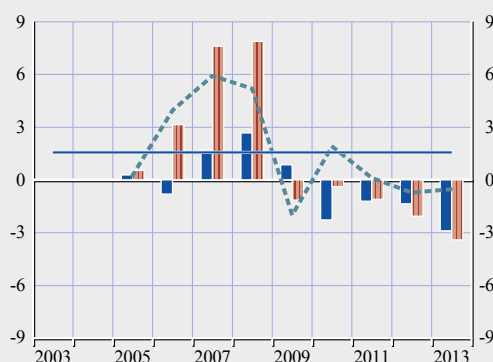
#### Portugal



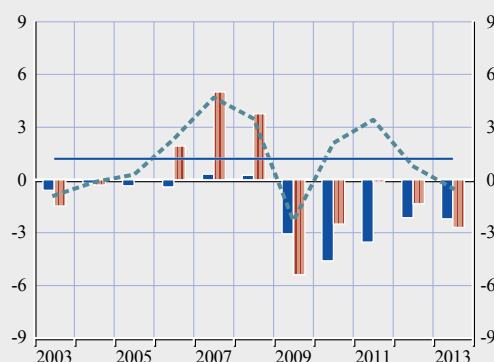
#### Slovenia



#### Slovakia



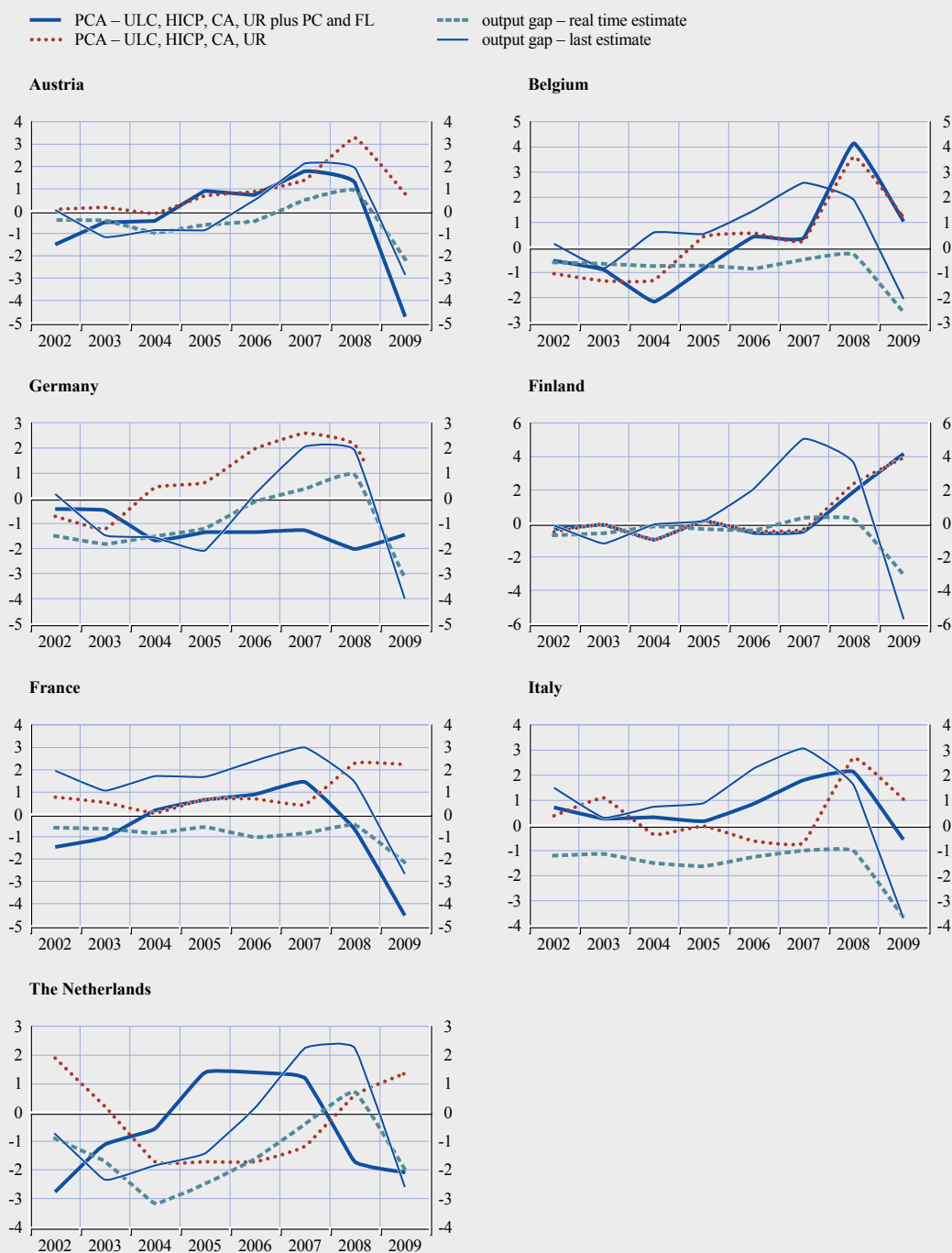
#### Finland



Sources: Eurostat, European Commission's economic forecast and own calculations.

## ANNEX 2: OUTPUT GAP ESTIMATES

Chart A2 Comparison of output gap estimates for non-programme euro area countries



Sources: Eurostat, European Commission and own calculations.

Notes: Limited data availability restricts the set of euro area countries used. All four charts cover Principal Component Analysis (PCA) with two different groups of variables, as well as the real-time and latest estimates of the output gap. The following data are used: unit labour costs (ULC), HICP inflation, the current account balance (CA), the unemployment rate (UR), private credit (PC) growth and financial liabilities (FL).

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