ARTICLES

ENSURING FISCAL SUSTAINABILITY IN THE EURO AREA

The recent financial and economic crisis has led to a very considerable deterioration of fiscal positions in the euro area countries, in terms of both high budget deficits and rising government debt. Government off-balance-sheet liabilities related to support for the financial sector and the consequences of population ageing pose additional significant risks. As a consequence, safeguarding the sustainability of public finances has become one of the major challenges facing policy-makers seeking to consolidate a return to economic and financial stability and to ensure an environment conducive to output growth and price stability. A comprehensive policy response will be necessary to cope with these challenges, comprising the timely correction of excessive deficits, the reduction of government debt to more sustainable levels and a reorganisation of banks to limit the strong interlinkage between government and financial sector balance sheets. These measures need to be complemented by pension and healthcare reforms to alleviate the fiscal burden arising from population ageing and by extensive structural reforms to support potential growth and employment creation. Moreover, economic governance in Europe needs to be strengthened, notably in the euro area, while at the same time the effectiveness of budgetary institutions should be improved at the national level. In this context, effective expenditure rules are a means of promoting fiscal discipline and limiting fiscal vulnerabilities should adverse economic shocks occur in the future.

1 INTRODUCTION

The recent financial and economic crisis has put a heavy burden on public finances in euro area countries. This resulted from three main factors. First, in some countries large fiscal costs are related to capital injections for financial institutions. Second, the economic downturn had an immediate impact on tax receipts and unemployment-related spending. Third, discretionary measures adopted to compensate for declining private demand in the economy had an adverse impact on fiscal positions.[1] At the same time, the state of public finances was already weak in some countries as they entered the downturn because of the lack of progress towards sound fiscal positions in economic good times. As a consequence, government deficits and debt-to-GDP ratios have risen sharply in all euro area countries (albeit from significantly different starting positions and at a different pace). Moreover, governments have assumed substantial contingent liabilities related to the financial sector guarantee schemes. Some countries, which failed to strengthen their resilience to adverse economic shocks by adopting sound fiscal policies and structural reforms prior to the downturn, are now facing acute fiscal sustainability risks that are threatening financial stability and economic growth. As a result, financial assistance was granted to Greece and Ireland in the context of EU/IMF programmes. Country-specific macroeconomic imbalances and fiscal vulnerabilities which before the crisis were underestimated by policy-makers and financial market participants alike have now come to light as destabilising factors.

It is against this background that this article discusses the risks and challenges to fiscal sustainability in EMU. To this end, it starts with an analysis of the concept of fiscal sustainability before turning to the quantification of the accumulated risks for government financing and debt sustainability in the euro area and the scale of the resulting fiscal adjustment needs. The article goes on to provide a detailed view of the structure of government debt, which also takes into account fiscal costs and future risks deriving from government guarantees provided to the financial sector since September 2008 and the financial assistance offered to euro area countries in a crisis situation. Perceptions regarding fiscal sustainability and the resulting market valuation of government debt have direct implications for financial sector soundness. This interlinkage between government and financial sector balance sheets adds to the current fiscal challenges. These are further aggravated by the implicit government

1 For an overview, see van Riet, A. (ed.), "Euro area fiscal policies and the crisis", *Occasional Paper Series*, No 109, ECB, Frankfurt am Main, April 2010.

liabilities associated with the household sector, notably related to the ageing of the population.

The article then takes a closer look at government spending policies since the start of EMU. This analysis identifies the failure to adopt sufficiently prudent spending policies in good economic times as one of the major sources of the fiscal vulnerabilities in euro area countries, which may also have fuelled macroeconomic imbalances. In particular, quantitative simulations show that growth in government expenditure has consistently outpaced potential and long-term GDP growth in most euro area countries, and most notably in those countries which are now facing especially large imbalances. As a consequence, one can argue that budgetary positions could have been substantially more resilient had governments adopted sound expenditure policies in the years preceding the crisis. These findings highlight the need for a manageable operational framework that links fiscal surveillance to an expenditure growth rule as an effective means of promoting fiscal discipline and preventing budgetary vulnerabilities.[2] To enhance compliance with such requirements at the European level, governments should enforce the corresponding expenditure path through effective national fiscal rules.

In sum, the analysis reinforces the view that a comprehensive policy response is necessary to restore sustainability of public finances in the euro area in the aftermath of the financial and economic crisis. First, this will require the timely correction of excessive deficits in line with the provisions of the Stability and Growth Pact and, beyond this, continued consolidation efforts towards medium-term budgetary objectives with a view to reducing government debt to more sustainable levels. For some high-debt countries this may mean maintaining a sizeable budget surplus. Second, vulnerabilities in the financial sector have to be addressed, e.g. by reshaping bank balance sheets. Third, pension and healthcare reforms are required to alleviate the ageing-related fiscal burden, plus further extensive structural reforms to support potential growth and employment creation. Fourth, the effectiveness of budgetary institutions at the national level needs to be improved. Finally, a "quantum leap" in European economic governance is required, notably for the euro area, to ensure the smooth functioning and stability of EMU. Overall, budgetary surveillance and institutions at both the European and the national level should be reinforced to provide stronger incentives for fiscal discipline in the future.[3] In this context, timely and reliable statistics and a strengthening of the European Statistical System also play a crucial role.[4]

Section 2 of this article goes on to present first the concept of fiscal sustainability and then a detailed analysis of the size and structure of government debt in the euro area. Section 3 gives an overview of the main challenges for the sustainability of public finances, including those associated with off-balance-sheet liabilities. Section 4 then assesses euro area expenditure developments since the start of EMU against the benchmark of a neutral spending rule. Conclusions are drawn in Section 5.

2 THE CONCEPT OF FISCAL SUSTAINABILITY

Fiscal sustainability is defined as a government's capacity to service its debt obligations in the long term. A government that has debt outstanding therefore has to run primary surpluses[5] in the future, and these have to be large enough to accommodate the cost of servicing the government's (current and future) debt obligations.[6] In other words, fiscal sustainability requires a government to be

2 A proposal along these lines has been put forward by the European Commission in the context of the ongoing process to strengthen the EU's budgetary surveillance framework.

3 See the article entitled "The reform of economic governance in the euro area: essential elements", *Monthly Bulletin*, ECB, March 2011.

4 See the box entitled, "Statistical governance framework", *Monthly Bulletin*, ECB, March 2011.

5 The primary budget balance is defined as the overall budget balance net of interest expenditure.

6 A more precise assessment of fiscal sustainability would be based on a net debt measure, since governments may also liquidate their financial assets to repay the debt. See also Giammarioli, N. et al., "Assessing fiscal soundness: theory and practice", *Occasional Paper Series*, No 56, ECB, Frankfurt am Main, March 2007.

Table 1 The euro area government debt-to-GDP ratio: changes and underlying factors

(as a percentage of GDP)

	Average 2003-06	2007	2008	2009	2010 projected	2011 projected	2012 projected
Gross debt-to-GDP ratio	**69.3**	**66.1**	**69.8**	**79.2**	**84.2**	**86.7**	**88.0**
Change in the debt ratio	0.1	-2.3	3.6	9.4	5.1	2.4	1.3
Contribution to change:							
Primary balance							
(-surplus/+deficit)	**-0.6**	**-2.3**	**-1.0**	**3.4**	**3.5**	**1.6**	**0.7**
Snowball effect	**0.4**	**-0.5**	**1.4**	**5.1**	**1.1**	**0.6**	**0.4**
Interest expenditure	3.0	2.9	3.0	2.8	2.9	3.0	3.2
Growth effect	-1.3	-1.9	-0.3	3.0	-1.4	-1.2	-1.5
Inflation effect	-1.4	-1.6	-1.3	-0.7	-0.4	-1.2	-1.2
Deficit-debt adjustment	**0.3**	**0.5**	**3.2**	**0.9**	**0.5**	**0.2**	**0.1**

Sources: ESCB, European Commission's European Economic Forecast – autumn 2010.
Note: The European Commission's projections do not include the impact of the activation of the European Financial Stability Facility in the context of the financial support to Ireland.

solvent, i.e. it has to be able to repay its debt at some point in the future (see Box 1).

Gross debt accumulation is driven by three main factors: i) the government primary balance in each period; ii) the "snowball" effect, which captures the joint impact of interest payments on the outstanding stock of debt and of real GDP growth and inflation rates on the debt ratio (through the denominator); and iii) the deficit-debt adjustment,[7] which relates to those transactions or other factors that affect the outstanding stock of debt but are not recorded as part of the primary balance (e.g. acquisitions of shares in companies by the government, which are recorded as financial transactions).

On the basis of this decomposition, Table 1 shows the main drivers of the changes in the euro area gross debt-to-GDP ratio over the periods 2003-06 and 2007-12. The sharp rise in the gross debt ratio which occurred at the peak of the financial and economic crisis (i.e. 2008-10) is expected to moderate from 2011 onwards. This reflects improved economic growth prospects, reduced primary deficits and assumed smaller deficit-debt adjustments than in the past. On the other hand, interest expenditure on the existing stock of debt continues to have an impact on government gross debt accumulation.

7 Also called stock-flow adjustment.

Box 1

FACTORS DRIVING GOVERNMENT DEBT-TO-GDP RATIOS

The starting point for the assessment of fiscal sustainability is the government budget constraint:

$$b_t = \frac{1+i_t}{1+g_t} b_{t-1} - pb_t + sf_t \qquad (1)$$

where b_t is the debt-to-GDP ratio at time t, b_{t-1} is the debt-to-GDP ratio inherited from the previous period, i_t is the nominal (effective) interest rate, g_t is the nominal GDP growth rate, pb_t is the primary balance-to-GDP ratio at time t (i.e. the overall balance net of interest payments), and sf_t is the deficit-debt adjustment-to-GDP ratio, which includes those transactions or other factors that affect the outstanding stock of debt but not the primary balance (e.g. acquisitions of shares in companies by the government, which are recorded as financial transactions).

The dynamic debt accumulation equation follows from the above equation as:

$$\Delta b_t = \frac{i_t - g_t}{1 + g_t} b_{t-1} - pb_t + sf_t \qquad (2)$$

Equation (2) expresses the change in the government debt-to-GDP ratio in each period as the sum of the current primary balance (pb_t), the "snowball" effect (first term on the right-hand side), which captures the joint impact of interest payments on the accumulated stock of debt and of real GDP growth and inflation on the debt ratio (through the denominator), and the deficit-debt adjustment (sf_t).

According to equation (2), a stable or declining debt ratio (i.e. $\Delta b_t \leq 0$) requires a sufficiently large primary surplus to be generated in each period if the nominal interest rate on outstanding debt is higher than the nominal growth rate of the economy and the deficit-debt adjustment is positive.

In general, fiscal policy is deemed sustainable if a government that has debt outstanding is able to generate primary surpluses in the future which are large enough to accommodate the cost of servicing the government's (current and future) debt obligations. More formally, if equation (1) is solved forward it is possible to derive a condition for fiscal sustainability which can be expressed as:*

$$b_0 \leq \sum_{i=1}^{\infty} \rho_i (pb_i) \qquad (3)$$

assuming that the condition $\lim_{T \to \infty} \rho_T b_T \leq 0$ holds (i.e. over an infinite horizon the stock of outstanding debt tends to zero or a positive asset position is built up). b_0 is the initial debt-to-GDP ratio and $\rho_i = (1+g_i)/(1+i_i)\rho_{i-1}$ is the discount factor, which depends on the future values of the GDP growth rate and the interest rate.

* For the sake of simplicity the deficit-debt adjustment is assumed to be zero.

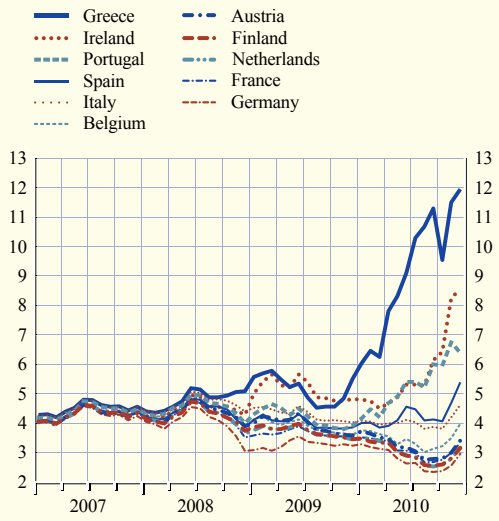
The long-term forward-looking nature of debt sustainability analysis requires an assessment of the linkages between fiscal policies, macroeconomic developments and financial sector risks. With regard to the primary balance, this relates to the willingness and ability of governments to implement consolidation plans. With regard to the macroeconomic factors, the projection of both GDP growth and interest rates needs to take the impact of fiscal policy measures into account: changes in the fiscal policy stance affect output growth and inflation.[8] Moreover, empirical evidence shows that high government debt ratios above a certain threshold have a negative impact on economic growth.[9] Regarding interest rates, the financial and economic crisis has seen a resurgence of the role of fiscal fundamentals as key determinants of sovereign bond yields. As shown in Charts 1 and 2, the countries that have experienced larger increases in spreads vis-à-vis Germany are those whose relative fiscal position has deteriorated more significantly. The emergence of significant cross-country differences during the crisis also reflects the tendency of market participants increasingly to factor in country-specific risks when pricing sovereign bonds. While strong market movements during the crisis to some extent also reflect extraordinarily great uncertainty and heightened risk aversion, it seems likely that, owing to the revival of the market mechanism and its important disciplining function for sovereign borrowers, both risk

8 See the article entitled "The effectiveness of euro area fiscal policies", *Monthly Bulletin,* ECB, July 2010.

9 See e.g. Reinhart, C.M. and Rogoff, K.S., "Growth in a Time of Debt", *American Economic Review*, Vol. 100, No 2, 2010, pp. 573-78, and Checherita, C. and Rother, P., "The impact of high and growing government debt on economic growth: an empirical investigation for the euro area", *Working Paper Series*, No 1237, ECB, Frankfurt am Main, August 2010.

Chart 1 Ten-year government bond yields of selected euro area countries

(monthly averages; percentages per annum)

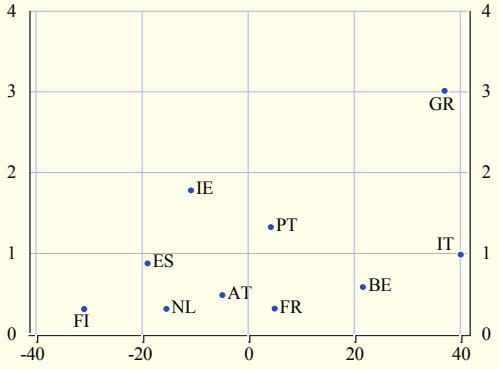


Sources: Bloomberg and ECB calculations.

Chart 2 Ten-year government bond yield spreads and expected government debt-to-GDP ratio (differences relative to Germany)

(averages for 2008-10; percentage points)

x axis: average expected government debt (% GDP) relative to Germany
y axis: average ten-year bond yield spreads relative to Germany



Sources: European Commission, Bloomberg and ECB calculations.
Notes: For each country, the average expected government debt ratio for 2008, 2009 and 2010 is computed using vintages of the European Commission forecasts available at each point in time. Data for government bond spreads relate to the average between 1 January 2008 and 31 December 2010.

premia and spreads will remain at elevated levels compared with the pre-crisis period.

Finally, fiscal sustainability perceptions and the resulting market valuation of government debt have direct implications for financial sector soundness. Given that domestic banks and financial institutions generally hold considerable amounts of government bonds, valuation changes resulting from changes in fiscal sustainability assessments (including from credit rating agencies) can quickly erode market confidence in financial sector soundness. This is compounded if market participants perceive the scope of government support for vulnerable systemic financial institutions to be limited. Financial sector weaknesses, in turn, put additional pressure on the public sector balance sheet, inducing a vicious circle of deteriorating confidence in the soundness of both the public and the financial sectors.[10]

Conversely, ambitious and credible consolidation policies can strengthen fiscal sustainability via the same channels. They improve the primary fiscal balance and reduce debt accumulation. This helps to support real GDP growth in the long term, in particular in combination with structural reforms. Moreover, with a perceived reduction in sovereign risk, risk premia in interest rates decline, alleviating public and private sector financing burdens.[11] Finally, the recovery in government bond prices strengthens the balance sheet of bond holders, notably the domestic banking system.

This analysis implies that a full assessment of fiscal sustainability ideally requires a comprehensive approach where debt dynamics capture the feedback effects between fiscal policies, the macroeconomy and the financial sector, and where additional risks stemming from contingent liabilities, such as those related

10 See, *Financial Stability Review*, ECB, Frankfurt am Main, December 2010.

11 See e.g. Rother, P., Schuknecht, L. and Stark, J., "The benefits of fiscal consolidation in uncharted waters", *Occasional Paper Series*, No 121, ECB, Frankfurt am Main, November 2010.

to government guarantees or financial support to the banking sector, are explicitly taken into account. However, available analytical tools generally rely on a partial equilibrium approach, e.g. using exogenous assumptions for the GDP growth rate and interest rate. Among these tools, long-term simulations are commonly used to assess fiscal sustainability. Starting from the dynamic debt accumulation equation, and based on specific assumptions about the evolution of its key determinants, a pattern for the debt ratio over a certain horizon (e.g. the next 10 or 20 years) is typically obtained.[12] The information gained from the long-term simulations under unchanged fiscal policies can then be used to define synthetic sustainability indicators, which help to quantify the size of the adjustment required to reach a sustainable debt ratio at some point in the future.

In addition to the solvency dimension discussed so far, the liquidity position represents a further important aspect of fiscal sustainability. Whereas solvency is usually assessed over the medium to long term, liquidity is a measure of a government's ability to obtain liquid assets in the required currency in order to meet its short-term financing obligations denominated in that currency. The two dimensions are closely interlinked. Liquid assets can be raised in three main ways: i) by running budgetary surpluses (revenue, especially taxes, minus expenditure), ii) by borrowing funds from the capital market or iii) by selling government assets. The liquidity needs of a government depend on the maturity structure of its existing debt (e.g. the higher the share of debt maturing within the next year, the higher the short-term financing needs) and on the size of its cash deficit. In addition, a currency mismatch between government assets and liabilities may play a role. Liquidity considerations are not independent of sustainability or solvency concerns since investors may be unwilling to provide funding if they consider that a country's fiscal policy may not be sustainable. In particular, investors' worries about long-term sustainability may lead to an abrupt increase in sovereign risk premia and hamper a government's access to capital markets.

3 CHALLENGES FOR FISCAL SUSTAINABILITY IN THE EURO AREA

GENERAL GOVERNMENT DEBT

A common starting point for the assessment of sustainability risks is to examine a country's (explicit) gross debt-to-GDP ratio because high and rising government debt ratios indicate potential sustainability problems.[13] Table 2 shows the evolution of the government debt-to-GDP ratio in euro area countries. By the end of 2009, debt-to-GDP ratios in most euro area countries and the euro area as a whole exceeded the 60% threshold laid down in the Treaty on the Functioning of the European Union (the exceptions being Estonia, Spain, Cyprus, Luxembourg, Slovenia, Slovakia and Finland). Looking ahead, the picture deteriorates further as the government debt ratio for the euro area is expected to rise from 79.2% of GDP at the end of 2009 to 88.0% in 2012. Spain and Cyprus are forecast to exceed the 60% threshold as well. Moreover, Table 2 shows that for most euro area countries the accumulation of debt has to a large extent occurred since the start of the crisis, while a moderate reduction in debt was achieved in the period 1999-2007 for the euro area as a whole and in many individual euro area countries.

As mentioned in the previous section, the maturity structure of the outstanding stock of government debt securities also constitutes an important factor to be considered when

12 The use of long-term simulations in the assessment of fiscal policy sustainability has been criticised in the literature on the grounds that government debt simulations do not emerge as implications of an economic model, but are based on an accounting relation that equates current debt to past debt plus current deficits. As such, the resulting debt simulations do not provide a credible anchor which can be used to formulate expectations about fiscal policy. See Leeper, E., "Monetary Science, Fiscal Alchemy", *NBER Working Paper Series*, No 16510, National Bureau of Economic Research, 2010.

13 Gross government debt is composed of liabilities, i.e. it excludes any assets held by governments that could be used to liquidate debt (in particular those shorter-term financial assets that could quickly be mobilised to redeem government liabilities). While the average amount of financial assets held by governments in the euro area was above 30% of GDP over the period 2007-09, the ratio of financial assets to GDP differs substantially from country to country.

Table 2 Government debt in euro area countries

(as a percentage of GDP)

	1999	2007	2009	2011* (forecast)	2012 (forecast)	Debt accumulation (1999-2007)	Debt accumulation (2008-2012)
Belgium	113.7	84.2	96.2	100.5	102.1	-29.5	12.5
Germany	60.9	64.9	73.4	75.9	75.2	4.0	9.0
Estonia	6.5	3.7	7.2	9.5	11.7	-2.8	7.1
Ireland	48.5	25.0	65.5	107.0	114.3	-23.5	70.0
Greece	94.0	105.0	126.8	150.2	156.0	11.0	45.7
Spain	62.3	36.1	53.2	69.7	73.0	-26.2	33.2
France	58.8	63.8	78.1	86.8	89.8	5.0	22.3
Italy	113.7	103.6	116.0	120.2	119.9	-10.1	13.6
Cyprus	58.9	58.3	58.0	65.2	68.4	-0.6	20.1
Luxembourg	6.4	6.7	14.5	19.6	20.9	0.2	7.3
Malta	57.1	61.7	68.6	70.8	70.9	4.5	7.7
Netherlands	61.1	45.3	60.8	66.6	67.3	-15.8	9.1
Austria	67.2	59.3	67.5	72.0	73.3	-7.9	10.8
Portugal	49.6	62.7	76.1	88.8	92.4	13.2	27.1
Slovenia	-	23.4	35.4	44.8	47.6	-	25.1
Slovakia	47.8	29.6	35.4	45.1	47.4	-18.3	19.6
Finland	45.7	35.2	43.8	51.1	53.0	-10.5	18.9
Euro area	**71.9**	**66.1**	**79.2**	**86.7**	**88.0**	**-5.8**	**18.2**

Sources: ESCB, European Commission (Eurostat News Release 170/2010 of 15 November 2010; European Economic Forecast – autumn 2010).
* The European Commission's projections do not include the impact of the activation of the European Financial Stability Facility in the context of the financial support to Ireland.

assessing short-run fiscal risks. Indeed, higher shares of outstanding short-term government debt may raise refinancing risks since, all other things being equal, the government will need to roll over more maturing debt in the short run. Hence, the interest paid on the debt would be more sensitive to changes in current market interest rates and refinancing conditions would be more affected by deteriorations in the liquidity of sovereign bond markets.

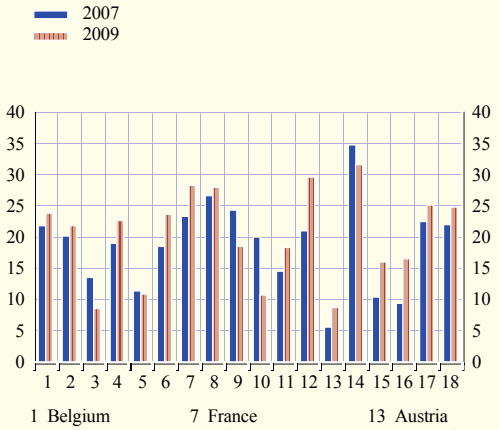
The share of government debt due to mature within a year[14] increased from 22% in 2007 to almost 25% by the end of 2009 in the euro area (see Chart 3(a)). When looking specifically at outstanding euro area government debt securities, monthly data (see Chart 3(b)) confirm the steady increase in the share of securities maturing within one year (representing about 16% of GDP by the end of December 2010 in comparison to 10% of GDP in December 2007). However, the average residual maturity of outstanding euro area government debt securities is rather stable, having declined slightly from around 6.7 to 6.4 years over the period December 2007 to December 2010. Assuming fixed-rate debt contracts,[15] this implies that it takes on average 6.4 years for the interest rate to fully affect governments' interest payments on existing government debt in the euro area, since governments on average need to roll over a fraction of about one-sixth (1/6.4, around 16%) of their existing outstanding debt annually. Short-term risks are thus fairly contained in the euro area as whole, although the situation differs among countries, ranging from an average residual maturity of 3.4 years in Cyprus, and 4.9 years in Germany to around 7.4 years in Austria, Greece and Italy.

Countries may also become more vulnerable when a significant share of government debt is held by non-residents of the country concerned. These may be more sensitive to

14 Residual maturity is the time from the reference date until the contractual redemption date of an instrument. Residual maturity up to one year includes short-term securities, short-term loans and currency and deposits.
15 Note that only around 6% of government debt in the euro area was subject to a variable interest rate in 2009.

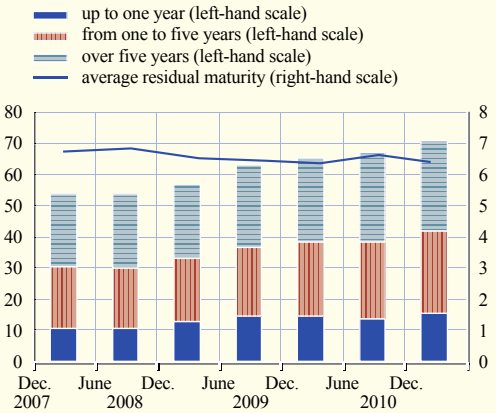
Chart 3 Government debt by residual maturity

a) Share of residual maturity up to one year*
(as a percentage of total government debt)



1 Belgium
2 Germany
3 Estonia
4 Ireland
5 Greece
6 Spain
7 France
8 Italy
9 Cyprus
10 Luxembourg
11 Malta
12 Netherlands
13 Austria
14 Portugal
15 Slovenia
16 Slovakia
17 Finland
18 Euro area

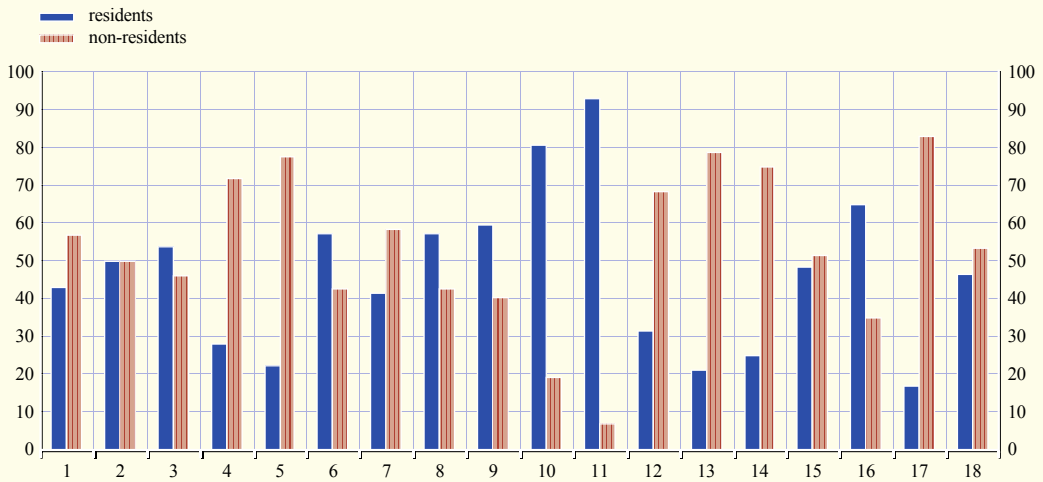
b) Outstanding amount of euro area government debt securities and residual maturity
(as a percentage of GDP; years)



Sources: ESCB – consolidated annual data for Chart 3(a), and ECB calculations – non-consolidated monthly data for Chart 3(b).
* Refers to all Maastricht government debt instruments with a residual maturity of one year or less. Coins, transferable and other deposits are included because they can be redeemed at any time.

Chart 4 Government debt in the euro area countries by holder in 2009

(as a percentage of total)



1 Belgium
2 Germany
3 Estonia
4 Ireland
5 Greece
6 Spain
7 France
8 Italy
9 Cyprus
10 Luxembourg
11 Malta
12 Netherlands
13 Austria
14 Portugal
15 Slovenia
16 Slovakia
17 Finland
18 Euro area

Source: ESCB.

negative economic developments because they generally receive information later or have less precise information than residents. As regards the geographical breakdown, just over half, i.e. 53.5%, of government debt in the euro area is held by non-residents [16] of the issuing country. The current figure confirms a growing trend since 1999, when the government debt held by non-residents was only 32.6%, and is the result of greater integration of financial markets in the EU. However, there are significant differences in the euro area, as government debt is still predominantly owned by residents in several countries, notably in Malta and Luxembourg. By contrast, non-residents are the main investors in government debt in Ireland, Greece, the Netherlands, Austria, Portugal and Finland (see Chart 4). Finally, the fact that government debt in the euro area is mainly denominated in euro (98.5% of the total debt at the end of 2009) limits the exposure of government debt to exchange rate movements.

CONTINGENT LIABILITIES

The previous sub-section discussed explicit government debt which is recorded in government accounts. However, to analyse fiscal sustainability, it is essential also to cover potential government liabilities the materialisation of which depends on future developments. Quantitatively, the most important item among these contingent liabilities is government support measures to the financial sector.

Over the last three years, governments have taken various measures to strengthen the financial system and reduce the systemic risks in the financial sector which emerged in the context of the global financial crisis. The direct costs are recorded in government debt (e.g. capital injections for banks for which the government had to borrow in the market) and the recovery of these costs will depend on the future value of the acquired bank assets. In addition, governments face substantial fiscal risks dependent on conditions attached to various guarantees and other off-balance-sheet items.[17] Although precise information about the magnitude of off-balance-sheet positions is rather limited and fragmented, an important part of the associated risks can be assessed by estimating the contingent liabilities stemming from government interventions since 2008 in the context of the financial crisis. These contingent liabilities typically take the form of guarantees to secure interbank lending and debt issued by special purpose entities. The fiscal risks stemming from the committed off-balance-sheet liabilities depend on the probability of the guarantees being called in and therefore being explicitly recorded in the government deficit and/or debt. This probability is linked to the default risk of the financial institutions whose assets or liabilities were guaranteed.

As illustrated in Table 3, during the period 2008-10 euro area government debt increased by more than 5% of GDP as a direct consequence of government interventions in the financial sector, while the committed contingent liabilities represent around 7.4% of GDP. The guarantees granted by euro area governments are de facto less than half of the implicit ceilings set by the governments, which for the euro area as a whole add up to 19.1% of GDP.[18] The biggest example is the contingent liabilities provided to the Irish banking sector, which still amounted to almost 98% of GDP in 2010. The associated fiscal risk has materialised over the past few years, notably in 2010, when the capital support given to the banking sector, together with other measures, amounted to 23.5% of GDP.

16 Non-resident holders may be holders of government debt anywhere outside the country of reference, i.e. in the rest of the world. In practice, most government debt held by non-residents is held by holders in the euro area.

17 See Giammarioli et al., loc. cit., for a categorisation of government liabilities by their degree of certainty (contingent versus non-contingent liabilities) and whether or not they have a legal basis (explicit versus implicit liabilities). Contingent liabilities occur when the existence of government obligations depends upon the occurrence of a particular event, such as government guarantees to secure bank liabilities in the event the debtor (bank) is unable to meet its liabilities. Implicit liabilities occur when the government obligations do not have a legal basis and arise as a consequence of expectations created by past policies and practices or pressures from interest groups, as for example in the case of accrued future pension rights.

18 In some countries, the difference between the realised and the theoretical amounts is due to the banks' unwillingness to take up the full amount of the guarantees.

Table 3 Cumulated financial sector stabilisation operations and their impact on government debt and contingent liabilities (2008-10)

(as a percentage of GDP)

	Measures with an impact on government debt				Measures with an impact on government contingent liabilities	
	Capital injections	Other measures	Total impact on government debt	*o/w redemptions*	Total contingent liabilities	Ceilling
Belgium	5.7	0.1	5.8	*2.0*	15.9	27.8
Germany	2.0	10.7	12.7	*0.0*	8.1	17.7
Estonia	0.0	0.0	0.0	*0.0*	0.0	0.0
Ireland	10.0	13.5	23.5	*0.0*	97.6	97.6
Greece	1.6	0.6	2.3	*0.0*	16.3	27.2
Spain	0.1	2.0	2.1	*0.0*	5.3	19.0
France	0.2	0.0	0.2	*0.4*	5.1	24.4
Italy	0.3	0.0	0.3	*0.0*	0.0	0.0
Cyprus	0.0	0.0	0.0	*0.0*	17.2	17.2
Luxembourg	6.2	0.0	6.2	*0.2*	0.0	0.0
Malta	0.0	0.0	0.0	*0.0*	0.0	0.0
Netherlands	7.2	2.4	9.6	*8.9*	6.7	34.1
Austria	2.2	0.1	2.2	*0.0*	8.2	18.3
Portugal	0.0	0.0	0.0	*0.0*	4.6	11.7
Slovenia	0.0	4.0	4.0	*0.0*	6.1	33.5
Slovakia	0.0	0.0	0.0	*0.0*	0.0	0.0
Finland	0.0	0.0	0.0	*0.0*	0.0	0.0
Euro area	**1.6**	**3.6**	**5.2**	**0.7**	**7.4**	**19.1**

Source: ESCB.
Notes: The cut-off date was end-February 2011. Contingent liabilities on retail bank deposits are not included.

Moreover, since May 2010, there have been additional contingent liabilities deriving from bilateral and multilateral financial support arrangements [19] for euro area countries in distress, which are subject to strong policy conditionality. The potential impact of the European Financial Stability Facility (EFSF) on government debt (and deficit) in euro area countries is substantial, given that guarantees for EFSF issuance of up to a total ceiling of €440 billion (around 4.8% of GDP at the euro area level) have been provided on a pro rata basis over three years (2010-13).[20] When the EFSF expires in mid-2013, the European Stability Mechanism (ESM) will come into place as a permanent crisis resolution mechanism.

In the cases of Ireland and Greece, support measures are already having an explicit impact on the government debt (and assets) of the contributing euro area countries. The bilateral loans provided to Greece in the framework of the joint EU/IMF support package will have an impact on government debt (and assets) of around 0.9% of GDP over the period 2010-13. With the activation of the EFSF in the context of the financial support given to Ireland a small part of this contingent liability is already becoming explicit debt (about 0.2% of GDP per contributing euro area country).[21]

19 See the box entitled "Recent developments in EU financial stability arrangements", *Monthly Bulletin*, ECB, December 2010.

20 In addition, at the EU level, a European Financial Stabilisation Mechanism (EFSM) has also been created. This is an EU support mechanism which provides credit to Member States in difficulties caused by circumstances beyond their control (based on Article 122(2) of the Treaty on the Functioning of the European Union). Provision of credit support is subject to strong policy conditionality. Under the EFSM the European Commission borrows in the market on behalf of the EU, up to an amount of €60 billion guaranteed under the EU budget. The IMF may contribute up to €30 billion.

21 According to Eurostat Decision 13/2011 of 27 January 2011, the funds raised in the framework of the EFSF – to the extent that they are passed on as loans to countries in distress – must be recorded as gross government debt of the euro area member countries participating in a support operation, in proportion to their share of the guarantee given. In parallel, the loans granted by the EFSF are considered as loans directly granted by these euro area countries, thus also increasing their financial assets. The net revenue streams (such as interest and service fees) will also affect the government balance of those countries.

IMPLICIT LIABILITIES

The population in the euro area is ageing mainly on account of increasing longevity and low birth rates. There is a growing recognition amongst policy-makers that the associated costs of ageing populations constitute a major challenge for fiscal sustainability. The fiscal impact of ageing is expected to be substantial in most euro area countries, with effects starting to become apparent as early as the end of this decade.

The future costs of population ageing can be measured using the net present value of the increase in the primary balance which will be necessary, all other things being equal, to guarantee the sustainability of public finances. It is expected that overall age-related public expenditure will increase, with pensions, health care and long-term care being the main drivers of this development.[22] The European Commission and the EU Economic Policy Committee project that population ageing will lead to an increase of up to 5.2 percentage points in public spending over the period 2010-60 (of which 2.8% will relate to pensions, 1.4% to health care and 1.4% to long-term care) if no corrective action is taken.[23] However, the variation across countries is very large (see Table 4), depending on differences in the pace and timing of ageing, specific features of national pension schemes, and the country's relative position in the pension reform process. Moreover, age-related public expenditure as a share of GDP could increase even further depending on how strongly the recent financial and economic crisis affects fiscal positions and the economic outlook in the coming decades.[24]

Table 4 Age-related government expenditure, 2007-60

(as a percentage of GDP)

	Total changes 2007-60		Total changes 2007-60
Belgium	6.9	Luxembourg	18.0
Germany	4.8	Malta	10.2
Estonia	0.4	Netherlands	9.4
Ireland	8.9	Austria	3.1
Greece	15.9	Portugal	3.4
Spain	9.0	Slovenia	12.8
France	2.7	Slovakia	5.2
Italy	1.6	Finland	6.3
Cyprus	10.8	**Euro area**	**5.2**

Sources: European Commission and Economic Policy Committee, 2009 Ageing Report.
Note: For some countries (e.g. Greece, Spain and the Netherlands) pension reforms have recently been implemented which are not reflected in the table.

IMPLICATIONS FOR FISCAL SUSTAINABILITY

The factors described above all add to the challenges policy-makers in the euro area countries will be facing in the coming decades. To obtain a broad quantification of their implications for fiscal sustainability, Chart 5 presents three stylised scenarios for the path of the euro area government debt-to-GDP ratio until 2031. The scenarios differ with respect to the assumed fiscal stance adopted by the governments, excluding the expected increase in the cost of ageing. In the "baseline" scenario (solid blue line), the primary balance is assumed to stay constant (in line with the European Commission forecast for 2011) over the period 2011-31. In the "0.5 percentage point adjustment" scenario (dashed green line), it is assumed that, starting in 2012, the primary balance improves annually by 0.5 percentage point of GDP until the overall government budget is balanced, and remains at this level thereafter. In the "1 percentage point adjustment" scenario (dotted red line), the

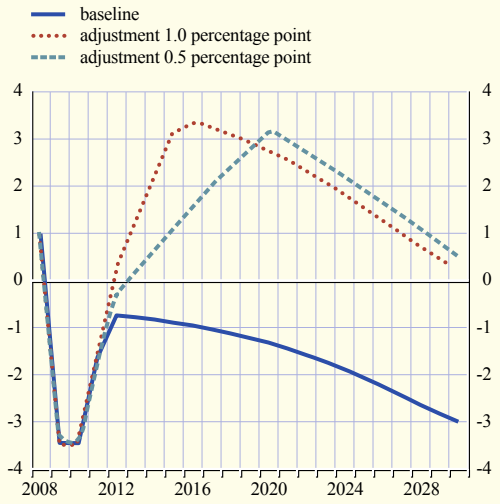
22 The calculation of the net present value of pension liabilities, as measured in national accounts, yields a result of around 330% of GDP for the euro area (at the end of 2007). This figure shows that if all pension-related implicit liabilities are taken into account, euro area government obligations would be more than four times higher than the current explicit government debt. Of this amount, government-managed defined-benefit schemes represent around 50% of GDP, while social security pension schemes account for about 280% of GDP. See *Monthly Bulletin*, ECB, January 2010, and Mink, R., Rodríguez-Vives, M., Barredo, E. and Verrinder, J., "Reflecting Pensions in National Accounts – Work of the Eurostat/ECB Task Force", paper prepared for the 30th General Conference of the International Association for Research in Income and Wealth (IARIW), Slovenia, 2008.

23 See European Commission and Economic Policy Committee, "The 2009 Ageing Report: economic and budgetary projections for the EU-27 Member States (2008-2060)", *European Economy*, No 2, Brussels, 2009.

24 See the box entitled "The 2009 Ageing Report: updated projections for age-related public expenditure", *Monthly Bulletin*, ECB, June 2009.

Chart 5 Euro area primary balance

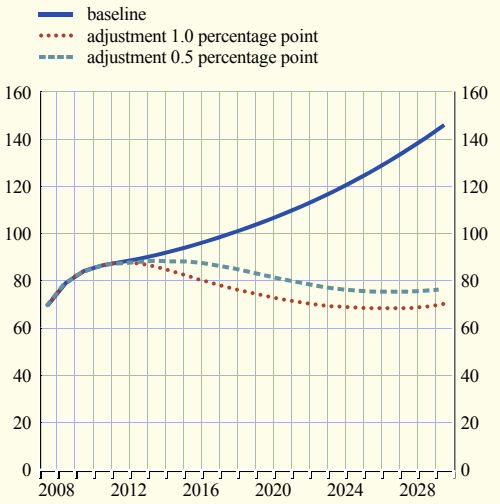
(as a percentage of GDP)



Sources: European Commission and Economic Policy Committee 2009 Ageing Report and ECB simulations.
Note: Primary balance includes the projected increase in the costs of ageing (see Table 4).

Chart 6 Euro area gross government debt

(as a percentage of GDP)



Sources: European Commission and Economic Policy Committee 2009 Ageing Report and ECB simulations.

primary balance is assumed to improve by 1 percentage point of GDP annually until the government budget is balanced and also stays at this level thereafter. The expected increase in the cost of ageing (see Table 4) is then added to each of these primary budget balance paths, thus giving rise to a (uniform) budgetary deterioration in all the scenarios.[25] Furthermore, potential real GDP growth for the euro area is assumed to be 1.2% on average over the simulation period, which is broadly in line with the latest long-term projections of the European Commission.[26] The annual inflation rate is set in accordance with the ECB objective of below but close to 2% over the whole simulation period. Moreover, it is assumed that the average effective interest rate paid on government debt gradually increases from around 3.5% in 2010 to close to 5% in 2030. The analysis is subject to a number of caveats, most notably deriving from the substantial uncertainty associated with the assumptions for growth and interest rates and the possibility that additional capital support to the financial sector might be needed if the guarantees provided by the governments were to be called in. On the other hand, changes in financial assets are not taken into account.

Chart 6 shows that the debt path is clearly not sustainable in the baseline scenario, with the debt-to-GDP ratio rising continuously. The less ambitious consolidation scenario, with an adjustment of 0.5 percentage point of GDP annually, would lead to a continuous increase of the government debt ratio until 2014 and only a gradual reduction thereafter. The debt path would not revert to a firm downward trajectory. In particular, the rising interest payments and the additional budgetary cost of ageing, the impact of which would intensify towards the end of the simulation period, would lead to a flattening out

25 See European Commission and Economic Policy Committee, loc. cit. Note that because of the considerable decline in GDP in the context of the financial and economic crisis, ageing costs may be higher relative to GDP than projected at the time the 2009 Ageing Report was prepared. Meanwhile, some countries have also undertaken pension reforms which would alleviate the projected age-related spending pressures.

26 See European Commission, European Economic Forecast – autumn 2010, *European Economy*, No 7, Brussels, 2010, pp. 48-60.

of the debt path. This pattern would hold even under the more ambitious consolidation effort of 1 percentage point of GDP, albeit at a somewhat lower level, but still above the 60% of GDP reference value for government debt.

4 EFFECTIVE GOVERNMENT EXPENDITURE RULES AS A SAFEGUARD FOR FISCAL SUSTAINABILITY

The budgetary rules of the Treaty and the Stability and Growth Pact[27] have been put in place to ensure sound and sustainable public finances in EMU. However, even before the crisis, the track record as regards compliance with these rules can only be described as mixed.[28] The considerable budgetary loosening in the context of the financial and economic crisis has now led to a situation in which most euro area member countries are subject to an excessive deficit procedure on account of deficit ratios which in many cases are significantly above the 3% reference value. The preceding analysis has highlighted the fact that debt sustainability is at serious risk in many countries. Consequently, urgent policy action is also needed with a view to strengthening budgetary rules and improving incentives for sound public finances in the future. In this context, it is important to identify the determinants of unsustainable developments in the past.

A close examination of budgetary developments over the period of EMU reveals that both the lack of progress towards sound fiscal positions in economic good times and the major fiscal deterioration during the crisis have been strongly driven by adverse primary expenditure developments in euro area countries. In fact, about three-quarters of the deterioration in the euro area general government deficit ratio between 1999 and 2010 from 1.4% to 6.3% of GDP can be attributed to the increase in the primary expenditure ratio (from 44.0% to 48.0%) over that period. Prior to the crisis, expenditure developments in some countries were driven by large windfall revenues related to asset and housing market booms which were spent rather than used to improve fiscal positions towards medium-term budgetary objectives. During the crisis, continued strong expenditure growth in the presence of a sharp contraction in economic activity led to steep increases in government expenditure ratios.

These facts suggest that expenditure policies were overly expansionary, a view which is supported by empirical evidence for the euro area. In particular, the evidence points to a pro-cyclical stance of fiscal policies in economic good times which was predominantly driven by expenditure developments.[29] This is confirmed by a recent analysis which assesses actual spending developments against the benchmark of "neutral" spending policies.[30] The latter are defined as government spending in line with the economic growth potential. Specifically, expenditure rules are constructed under the assumption that governments limit spending growth to nominal potential growth. Expenditure paths based on these rules are derived i) from real-time data (which reflect the information available to policy-makers at the time of budget preparation) and ii) from ex post data (which are more relevant for assessing fiscal sustainability from a medium to long term perspective because real-time data are frequently revised).[31]

27 The Treaty on the Functioning of the European Union states that Member States shall avoid excessive deficits which are defined in relation to reference values set at 3% of GDP for the government deficit and 60% of GDP for government debt. The Stability and Growth Pact constitutes an operational clarification of the Treaty's budgetary rules, requiring Member States to aim for sound medium-term budgetary objectives and laying down procedures for the surveillance and coordination of fiscal policies.

28 See the article entitled "Ten years of the Stability and Growth Pact", *Monthly Bulletin*, ECB, October 2008.

29 See Turrini, A., "Fiscal policy and the cycle in the euro area: The role of government revenue and expenditure", *European Economy – Economic Papers Series*, No 323, European Commission, 2008.

30 For more detailed information on the analysis see Hauptmeier, S., Sanchez Fuentes, A.J. and Schuknecht, L., "Towards expenditure rules and fiscal sanity in the euro area", *Working Paper Series*, No 1266, ECB, Frankfurt am Main, November 2010.

31 For an alternative quantification of the potential benefits of expenditure-rule-based fiscal surveillance see the annex in Larch, M., van den Noord, P. and Jonung, L., "The Stability and Growth Pact: lessons from the great recession", *European Economy – Economic Papers Series*, No 429, European Commission, 2010.

The main results of the analysis of primary government expenditure developments over the first 11 years of EMU are synthesised in Table 5, which shows deviations of actual from rule-based spending. Positive figures illustrate the degree of expansion of expenditure policies in percentage points of GDP accumulated over the periods from 1999 to 2007 and 2009 respectively, compared to a "neutral" expenditure stance. Negative figures indicate the degree of restrictiveness of policies.

When looking at expenditure policies as compared to a rule based on real-time data, the results suggest that primary expenditure developments in the euro area as a whole were somewhat restrictive between 1999 and 2007. If the crisis years 2008 and 2009 are also taken into account, the expenditure ratio was only 0.3 percentage point of GDP higher than it could have been with neutral rule-based policies. However, these results are strongly driven by Germany which, together with Austria and Finland, on average pursued restrictive policies. In contrast, the expenditure stance was on average very expansionary in the four countries that have been characterised by particularly strong macroeconomic imbalances since the start of EMU, namely Ireland, Greece, Spain and Portugal. Here, expenditure ratios would have been between 3.3 and 6.6 percentage points lower with a neutral expenditure stance. It is also noteworthy that more than half of the deviation from neutral spending had already accumulated by 2007.

However, the results for real-time rules are much more benign than those based on ex post rules. This is because all countries experienced annual and cumulative downward revisions in nominal trend growth that averaged around 4% for the euro area for the 1999-2009 period. Judged on the basis of ex post data for potential GDP growth, neutral spending policies should have resulted in primary expenditure ratios around 2 percentage points of GDP lower for the euro area aggregate. For the countries with macro imbalances, public expenditure ratios should have been between around 5-10 percentage points of GDP lower in 2009 than they actually were.

Table 5 Primary expenditure developments in selected euro area countries and the euro area

(as a percentage of GDP)

	Deviations of actual from rule-based spending[1]			
	Real time		Ex post	
	1999-2007	1999-2009	1999-2007	1999-2009
Euro area[2]	**-0.5**	**0.3**	**0.1**	**1.9**
Largest countries				
Germany	-4.0	-3.5	-2.1	-0.9
France	0.8	1.4	0.8	1.8
Italy	1.6	2.0	2.5	3.6
Countries with imbalances				
Spain	3.6	5.9	1.7	5.2
Greece	5.3	6.6	5.0	8.0
Ireland	2.5	4.2	3.9	9.5
Portugal	1.7	3.3	2.0	5.0
Other euro area (12)				
Austria	-1.6	-1.4	-2.7	-2.0
Belgium	1.8	3.6	1.5	4.3
Finland	-1.1	-0.7	-0.7	1.8
Luxembourg	0.3	1.7	-0.7	1.2
Netherlands	1.9	3.7	1.5	4.2

Source: ECB Working Paper No 1266.
Notes: Real-time rules are based on the data available at the time the budget was prepared, while ex post rules are based on the latest available data vintage. Figures are based on the methodology developed in this paper.
1) Positive figures imply that the expenditure stance was expansionary and, thus, led to a higher expenditure ratio than with a neutral expenditure policy.
2) Figures for the euro area refer to the 12 countries mentioned in the table.

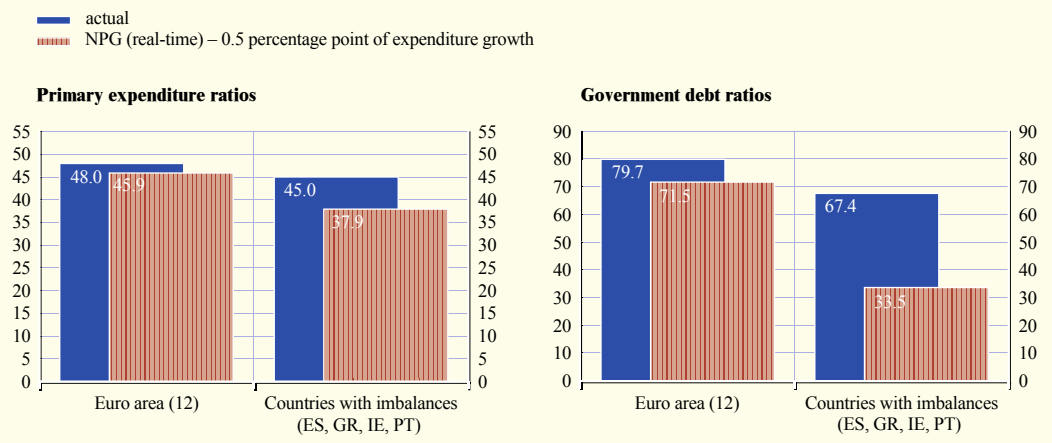
These findings hold important lessons for the design of fiscal institutions and notably expenditure policy rules in the euro area. The pursuit of neutral expenditure policies based on real-time rules would have resulted in sounder public finances. However, given that trend growth in most euro area countries was revised down significantly and consistently, these rules would not have been sufficiently restrictive from an ex post perspective. If this past pattern of forecast revisions broadly continues in the future, expenditure rules based on real-time data would need to be adjusted to give an additional margin of prudence. Operationally, the experience of downward growth revisions of almost half a percentage point of GDP per annum in the euro area suggests a downward adjustment of expenditure growth by a similar margin. A rule consistent with these considerations would be an expenditure growth rule based on real-time nominal potential growth adjusted by a 0.5 percentage point margin of prudence (hereafter referred to as NPG – 0.5 percentage point). Of course, these recommendations apply only to spending dynamics and not to the overall level of spending. In particular, in countries where government spending already exceeds sustainable levels, more ambitious rules with regard to planned expenditure growth would need to be adopted.

The left-hand panel of Chart 7 shows what following such a prudent expenditure rule would have implied for primary government expenditure in the first 11 years of EMU. Government expenditure ratios in the euro area would have been around 2 percentage points of GDP lower in 2009 (brown bar) than the actual figure of 48% of GDP (blue bar). Most notably, for the four countries with macro imbalances the application of the real-time nominal potential growth rule adjusted by a margin of prudence would – on average – have resulted in primary expenditure around 7 percentage points of GDP lower. Overall, for most countries public spending ratios would have been considerably lower in 2009 and typically not much higher than at the start of EMU.

How would this have affected government debt-to-GDP ratios in the euro area? The right-hand panel of Chart 7 compares actual debt ratios in 2009 with those that would have been recorded under the adjusted-NPG rule. The calculations of alternative government debt-to-GDP ratios are affected both directly by deviations of rule-based spending from actual spending and by the increase in the interest burden resulting from changes in the accumulation of government debt. If the prudent expenditure rule had been implemented from 1999, the debt ratio for the

Chart 7 Comparison of actual outcomes and rule-based simulation results in 2009

(as a percentage of GDP)



Source: ECB Working Paper No 1266.
Note: Figures are based on the methodology developed in this paper.

euro area would have been around 8 percentage points of GDP lower by 2009 than it actually was. Much lower expenditure ratios (and thus also deficits) would have led to an average debt of 33.5% of GDP in the four countries with macro imbalances. With such a low level of debt it is very unlikely that these countries would have experienced the sovereign debt crisis that they are currently facing.

The results described above highlight the benefits of linking fiscal surveillance to a prudent expenditure growth rule as an effective means of preventing budgetary vulnerabilities. In the context of the ongoing process to strengthen the EU fiscal framework, the European Commission has proposed complementing the surveillance tools under the preventive arm of the Stability and Growth Pact with an assessment of annual expenditure growth against a prudent medium-term GDP growth rate.[32] This could lead to more sound public finance developments in the future if the underlying growth assumptions are sufficiently prudent and provided the rules are implemented rigorously.

To enhance compliance with such requirements at the European level, governments should enforce the corresponding expenditure path through effective national fiscal rules. Indeed, empirical evidence suggests that rules to restrict government expenditure at the domestic level may be beneficial for spending discipline. A recent econometric study analyses, for selected EU countries, whether expenditure rules can induce governments to adhere to their own spending plans as defined in stability and convergence programmes. The strength of a country's expenditure rules is measured by an index constructed by the European Commission that captures all budgetary provisions that fix numerical targets or ceilings for government expenditure.[33] The study shows that governments tend to overspend relative to their plans when they are "surprised", e.g. by unexpected favourable changes in the macroeconomic environment.[34] At the same time, this pattern of spending slippage is found to be weaker in countries with strict expenditure rules. There is also empirical evidence for a positive link between expenditure deviations and surprising revenue developments which tends to be weaker in countries with tight institutional restrictions on government spending.[35]

In order to be fully effective, such spending rules need to be suitably embedded in national fiscal frameworks. In particular, they should be designed with a view to promoting compliance with commitments under the EU fiscal framework. The positive experiences, e.g. in Sweden, where strictly enforced expenditure ceilings are combined with compatible balanced-budget rules, and in the Netherlands, where there are provisions that restrict the use of windfall revenues, can serve as useful guides.

5 CONCLUSIONS

Sound and sustainable public finances constitute an important foundation for economic growth, financial stability and price stability. This view is reinforced by the ongoing disruptions in some euro area government bond markets which are related, in particular, to the severe fiscal imbalances and vulnerabilities that have accumulated in some member countries. There are significant risks to fiscal sustainability in the aftermath of the financial and economic crisis in euro area countries, as well as in other advanced economies, which call for immediate and comprehensive policy action to address these issues.

First, euro area countries need to implement ambitious consolidation strategies with a view to correcting excessive deficit positions in line

32 See the article entitled "The reform of economic governance in the euro area: essential elements", loc.cit.

33 This index is based on a survey conducted among EU Member States by the Working Group on the Quality of Public Finances attached to the Economic Policy Committee.

34 See Holm-Hadulla, F. Hauptmeier, S. and Rother, P., "The impact of numerical expenditure rules on budgetary discipline over the cycle", *Working Paper Series*, No 1169, ECB, Frankfurt am Main, April 2010.

35 See e.g. Wierts, P., "How do Expenditure Rules affect Fiscal Behaviour?", *DNB Working Paper*, No 166, De Nederlandsche Bank, Amsterdam, 2008.

with their commitments under the Stability and Growth Pact. Beyond this, consolidation efforts towards medium-term budgetary objectives are necessary to reduce government debt to more sustainable levels. For some high-debt countries this may mean maintaining a sizeable budget surplus. Second, vulnerabilities in the financial sector need to be addressed, e.g. by reshaping bank balance sheets. Third, governments need to address the ageing-related challenges via comprehensive reforms of national pension and healthcare systems. These should ensure that the budgetary effects of the imminent increase in old-age dependency ratios are mitigated. Further extensive structural reforms are also needed to support potential growth and employment creation. Fourth, reforms of national budgetary institutions are necessary to improve the incentives for fiscal discipline. In this context, the analysis presented in this article suggests that effectively limiting government spending dynamics by implementing well-designed expenditure rules would be one promising avenue that should be followed to promote sound public finances. Finally, it is crucial that the European economic governance framework is reinforced, notably for the euro area, to ensure the smooth functioning and stability of EMU.