Fiscal Sustainability Report

2012

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EXECUTIVE SUMMARY

The 2012 Fiscal Sustainability Report analyses the sustainability of public finances in the Member States, against the background of the impact of the financial, economic and fiscal crisis and the demographic ageing projected in the 2012 Ageing Report.[2] It responds to the Council request of 10 November 2009 for a new Sustainability Report to be prepared based on updated long-term budgetary projections incorporating the implications of ageing populations.

Analysing prospective government debt developments and risks to fiscal sustainability is crucial at the current juncture for euro-area countries and the EU as a whole to be able to formulate appropriate policy responses and restore credibility and confidence. High levels of public debt and/or significant budget deficits need to be addressed resolutely and promptly so as to ensure the stability of public finances. Failing to do so might prompt strong and sudden policy adjustments at some point.

The deterioration in fiscal positions and increases in government debt since 2008 together with the projected demographic transition, with an ageing population, compound each other and make fiscal sustainability an acute policy challenge. In the coming decades, Europe's population will undergo dramatic demographic changes due to low fertility rates, steady increases in life expectancy and the retirement of the baby-boom generation. According to the joint Commission (Directorate General for Economic and Financial Affairs) – Economic Policy Committee (Ageing Working Group) 2012 Ageing Report, population ageing is expected to have a significant impact on growth and to lead to significant pressures to increase public spending. It will be challenging for Member States to maintain sound and sustainable public finances in the medium and long-term. This requires a credible strategy of entitlements reforms (pensions, health care, long-term care), to address the expected growth in age-related spending.

Fiscal sustainability relates to the ability of a government to assume the financial burden of its debt in the future. Fiscal policy is not sustainable if it implies an excessive accumulation of government debt over time and ever-increasing debt service. Sustainability means avoiding an excessive increase in government liabilities – a burden on future generations – while ensuring that the government is able to deliver the necessary public services, including the necessary safety net in times of hardship, and to adjust policy in response to new challenges.

There is no defined upper limit to sustainable debt levels. Limits to sustainability differ across countries and over time. The capacity to run high debts depends inter alia on the degree of development of financial markets, perceived risks, and trust in the capacity of a government to implement structural reforms and consolidate deficits. It also depends on the degree of global risk aversion and the attractiveness of investments alternative to government bonds. However, countries with high debt ratios – as well as large external imbalances or contingent liabilities – are particularly exposed

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[2] European Commission (DG ECFIN) and Economic Policy Committee (AWG) (2012), *"The 2012 Ageing Report: Economic and budgetary projections for the 27 EU Member States (2010-2060)"*, European Economy, No 2.

to market turbulences, such as changes in interest rates during times of large changes in economic prospects.

Developments in the recent past in some EU Member States have also confirmed that fiscal sustainability challenges are not only of longer-term nature. There is therefore a need for a multidimensional approach, integrating the longer term with an assessment of more immediate challenges and risks, underpinned with supplementary indicators.

The enhancement of the sustainability assessment framework in this report addresses this issue by supplementing the traditional focus on long-term fiscal risks with medium- and short-term risk indicators. This multidimensional approach will make it possible to assess:

• short-term challenges, based on the S0 indicator ('early detection of fiscal stress');

• medium-term challenges, based on the modified S1 indicator ('debt compliance risk');

• long-term challenges, based on the S2 indicator ('ageing-induced fiscal risks').

The S1 and S2 indicators are traditional sustainability indicators based on forecasts for growth and fiscal balances, extrapolated by incorporating the long-term projections of the 2012 Ageing Report, in particular the projected trend in age-related expenditure. The higher the values of the S1 and S2 sustainability indicators, the greater the required fiscal adjustment and thus the sustainability risk. The S0 indicator is a new indicator based on current data, aggregating fiscal and macro-financial variables which have proven to be good predictors of fiscal stress episodes. The methodology for the S0 indicator is fundamentally different from the S1 and S2 indicators mentioned above. It is not a quantification of the required fiscal adjustment as in the case of the S1 and S2 indicators, but a composite indicator which estimates the extent to which there might be a risk of fiscal stress in the short term. Further explanations are provided in the following sections.

Some EU Member States are facing large fiscal challenges and are implementing adjustment programmes monitored by the EU, the IMF and the ECB, so as to restore debt sustainability. The prospects for these countries are assessed frequently, and are therefore not analysed in the report. ([3])

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[3] The countries implementing adjustment programmes are: Greece, Ireland and Portugal. The macroeconomic and budgetary prospects for these 'programme' countries are assessed more frequently than for the other Member States. The time horizon covered by the forecasts for these countries is also different than for the other Member States and assume full implementation of the adjustment programme. See DG ECFINs website at http://ec.europa.eu/economy_finance/index_en.htm , for further details on progress in implementing the adjustment programmes.

FISCAL SUSTAINABILITY
CHALLENGES

Medium- and long-
term fiscal
sustainability
challenges

The assessment of the long-term sustainability of fiscal policy is a well-established component of budgetary surveillance in the EU.

The sustainability assessment over the long- and medium term incorporates the Commission services' autumn 2012 forecast (up to 2014) and the macro-economic scenario of the 2012 Ageing Report, covering GDP growth, interest rates, the starting levels of gross government debt, the structural primary balance and additional costs arising from an ageing population. This is done both in a medium-term perspective, incorporating an assumption of convergence towards the 60% of GDP threshold for government debt by 2030, and in a long-term perspective, incorporating the requirement that debt projections up to 2060 and beyond do not show unsustainable trends.

The medium- and long-term projections incorporate the 2012 Ageing Report projections, according to which there is very little increase in age-related spending up to 2020 (rising by a mere 0.1 p.p. of GDP). This is due to major sustainability-enhancing reforms of pension systems in most EU countries. Yet, there are potential risks involved in their effective implementation, and upward pressures could also arise, in particular in health care provision, and thus costs, and in a longer-term perspective, beyond what is included in the baseline projections. This is analysed using the so-called 'AWG risk' scenarios for health care and long-term care, showing more dynamic expenditure profiles than the 'AWG reference' scenarios, due to non-age related components (i.e. technology). While some countries are already addressing potential future pressure on spending in their health systems, in most there is a need to devise appropriate policy measures to enhance cost-effectiveness in order to be able to improve access to health care without jeopardising the sustainability of the systems. It is, therefore, important not only to deliver on the current plans and to avoid any possible 'implementation gap', but also to devise appropriate additional structural measures so as to restore credibility and confidence at this crucial juncture. Indeed, determination in implementing reforms of pensions and health care systems, thereby reducing future expected entitlement spending, while politically challenging, could also enhance the credibility of government action and thus provide some fiscal space for fiscal consolidation to be pursued at a more gradual pace in the short run. Moreover, the policy agenda in the EU needs to focus on implementing structural reforms so as to boost jobs and growth, in line with the Europe 2020 strategy. This will provide a crucial contribution to bringing down public debt lastingly.

The medium- and long-term debt projections and calculation of sustainability indicators are made on the basis of unchanged policies, therefore not including measures that governments may be considering but have not yet been adopted. At the same time, they assume that the measures underlying the structural fiscal position taken as a starting point will not be reverted or that such a position will not otherwise be altered. They therefore allow an assessment of the challenges Member States are confronted with, unless policies change. Unchanged policy scenarios are commonly adopted technical assumptions for long-term sustainability assessments. Those scenarios are useful to illustrate the size of the policy action that is necessary to ensure sustainable public finances, and show the outcome if no action is taken.

In the context of the financial and economic crisis, the sustainability assessment is undertaken under larger than usual uncertainty. On the one hand, it is difficult to correctly judge the initial structural fiscal position in 2014. This is related to the uncertainty surrounding potential output and the output gap, but also regarding the way tax revenues are affected by the crisis. Furthermore, maintaining for a long time some of the measures undertaken recently and maintaining a high primary balance, in the context of the on-going strong fiscal consolidation, is challenging. Thus, the sustainability risk in the medium-long term may be underestimated when assuming unchanged policy (and fiscal stance) as is done in the central no-policy change scenario. Furthermore, if growth-enhancing reforms are not adopted, the crisis may have a protracted impact on the way our economies grow over the next decade; in this case too, the baseline sustainability indicators in the report would underestimate risks.

Sustainability indicators covering the medium- and long-term (S1 and S2)

The medium-term sustainability indicator, the S1 indicator, shows the budgetary adjustment effort required, in terms of a steady improvement in the structural primary balance to be introduced until 2020, and then sustained for a decade, to bring debt ratios back to 60% of GDP - the debt threshold in the Treaty - in 2030, including financing for any additional expenditure, arising from an ageing population until the end-point date [4]. The timescale has been chosen to be long enough to allow the impact of ageing to be analysed in a meaningful way, while still remaining within the sights of current taxpayers and policy makers.

As regards the medium-term challenges according to the S1 indicator – quantifying the required fiscal adjustment to reach the Treaty's 60% threshold for government debt by 2030 [5] - the following thresholds were used to assess the scale of the sustainability challenge: (i) if the S1 value is less than zero, the country is assigned low risk; (ii) if it is between 0 and 3 (thus requiring a structural adjustment in the primary balance of up to 0.5 p.p. of GDP per year until 2020), it is assigned medium risk; and, (iii) if it is greater than 3 (meaning a structural adjustment of more than 0.5 p.p. of GDP per year is necessary), it is assigned high risk.

The S2 indicator shows the adjustment to the current structural primary balance required to fulfil the infinite horizon inter-temporal budget constraint, that is, current and future government revenue matches current, comprising outstanding government debt, and future expenditure, [6] including paying for any additional expenditure arising from an ageing population. It therefore considers the projected changes in age-related expenditure over a considerably longer time horizon (to 2060 and beyond) [7]. In contrast to the S1 indicator, no specific end-point value for debt is included in the S2 indicator by definition, as the indicator is calculated over an infinite horizon. Therefore, it does not specifically take into account

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[4] In the 2009 Sustainability Report, the S1 indicator was calculated with reference to the debt target of 60% of GDP in 2060.

[5] The gap between current and required primary balance is captured by the S1 indicator ($S1_{2030}^{60\%}$), where the end-point is set to 60% of GDP by 2030.

[6] The inter-temporal budget constraint is satisfied if the projected outflows of the government (current public debt and the discounted value of all future expenditure, including the projected increase in age-related expenditure) are covered by the discounted value of all future government revenue.

[7] Age-related expenditure is assumed to stay constant as a share of GDP at its 2060 level beyond that year over an infinite horizon, as projections are not available after that year.

the required adjustment for high debt countries to reduce their debt below 60% of GDP in line with the rules of the Stability and Growth Pact.

The higher the values of the S2 sustainability indicator, the greater the required fiscal adjustment and thus the fiscal sustainability risk. History provides several examples of periods when a lasting improvement in the fiscal position (primary balance) of up to 2 percentage points of GDP has occurred. However, there have been very few periods of lasting improvements of 6 percentage points or more. In cases where the sustainability gap is large due to high ageing costs, structural reforms geared towards curbing the long-term age-related expenditure trends are a necessary part of the policy adjustment. As was the case in the 2009 Sustainability Report, the following indicative thresholds for the S2 indicator have been retained: (i) if the value of S2 is lower than 2, the country is assigned low risk; (ii) if it is between 2 and 6, it is assigned medium risk; and, (iii) if it is greater than 6, it is assigned high risk.

Components of the S1 and S2 indicators

The initial budgetary position

In the absence of trend increases in expenditure and decreases in revenue, public finances are sustainable if the future primary balances are sufficient to stabilise the debt ratio given the long-term or permanent values of growth and interest rates. Following common practice, these future primary balances are assumed to equal the current primary balance and are maintained over the coming decades. This technical assumption is also called a no-policy-change assumption. Thus, one component of the S1 and S2 indicators corresponds to the gap between the current (or initial) structural primary balance and the debt-stabilising primary surplus to ensure sustainability. (^{8}) This component is referred to as the required permanent adjustment to the *initial budgetary position* (or simply IBP). This report uses the forecasts for 2014, as published in the Commission services' 2012 autumn forecast, for the starting position of both the structural primary balance and debt level.

The sustainability analysis is very sensitive to the budgetary position in the starting year. Therefore, complementary analysis is provided using different starting points (IBPs). In particular, the extent to which the forecasted fiscal position (in 2014) is different from the one observed historically is analysed, so as to appropriately assess the sensitivity of the calculations with respect to the assumed central no-policy-change scenario. Indeed, a particularly high budget balance might lead to 'fiscal fatigue' beyond the medium term, pointing to higher fiscal sustainability risks than captured by the sustainability indicators. Conversely, a particularly low current budget balance might not be the most likely outcome beyond the medium term in a historical perspective, suggesting that the fiscal sustainability risks could be overestimated.

The cost of ageing

Both S1 and S2 indicators include a component which corresponds to *the cost of ageing* (CoA) estimated by the change in age-related spending in the 2012 Ageing Report. This component is the additional adjustment to the primary balance required as a result of these future expenses (either to 2030 or over an infinite horizon). The magnitude of the CoA component for each country

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(^{8}) The long-term debt-stabilising primary balance refers to the primary balance that, if reached, would stabilise the debt in the long-run at its current level. It therefore depends on the long-term prospects for GDP growth and interest rates. It can differ from the short-term debt-stabilizing primary balance, which can be calculated with current nominal GDP growth and nominal interest rates.

depends on both its demographic outlook and its social protection arrangements. The CoA component represents either the change in the primary balance required to pay for the additional expenditure or the size of the required structural reform to social protection schemes to avoid the increase in spending that would otherwise ensue. (⁹)

The debt reduction requirement

The S1 indicator includes an additional component, which also depends directly on the debt requirement set at the end of the time period (60% of GDP in 2030). For countries with starting gross public debt above 60% of GDP, the *required adjustment to reach the target debt by 2030* (DR) term will increase the size of the indicator due to the additional effort to achieve the required debt reduction by 2030. By contrast, for countries with current debt below 60%, the DR component will be negative irrespective of pressures on the budget stemming from long-term trends, and will reduce the overall value of the fiscal gap.

Short-term sustainability challenges

The short-term sustainability indicator (S0)

While the S1 and S2 indicators measure medium-term and long-term sustainability risks respectively, the S0 indicator provides an indication of sustainability challenges in the shorter term. This strengthening of the fiscal sustainability assessment framework as regards the short-term dimension is all the more relevant in the context of the financial and economic crisis, and the ensuing sovereign debt crisis – which was the focus of attention on the conditions under which a government may eventually face difficulties in accessing the market.

As already noted above, the methodology for the S0 indicator is fundamentally different from the S1 and S2 indicators, which quantify the required fiscal adjustment, the 'fiscal gap'. S0 does not assess 'fiscal gaps' but is a composite indicator estimating risks of 'fiscal stress' in the short term, using risk thresholds (based on the observation of past episodes of 'fiscal stress' for relevant variables and their combinations). (¹⁰) The S0 indicator is an 'early-detection indicator', designed to highlight shorter-term (one-year horizon) fiscal sustainability challenges stemming from the fiscal as well as the financial and competitiveness sides of the economy. (¹¹) A whole set of fiscal and financial-competitiveness variables are used to construct the composite indicator S0. Most of the variables included in the scoreboard for the surveillance of macroeconomic imbalances (used in the context of the Macroeconomic Imbalances Procedure) (¹²) are among the financial-competitiveness variables incorporated in the S0 indicator. This duly reflects the evidence, also based on the most recent experience in the EU, on the role that financial and competitiveness variables can play in generating potential fiscal risks.

The methodology lying behind the S0 indicator (referred to as the 'signals approach') (¹³) is based on an endogenous determination of thresholds of risks

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(⁹) The size of a structural reform of social protection schemes (such as public pensions and healthcare) is calculated here as the discounted sum of the spending savings that need to be achieved by such reform.

(¹⁰) See Annex 8.2 for more technical details on the methodology.

(¹¹) An early version of the indicator was presented in European Commission (2011) "2011 Report on Public Finances in EMU", Chapter IV-3, *European Economy* No.3. A more recent version can be found in K. Berti, M. Salto and M. Lequien (2012), "An early-detection index of fiscal stress for EU countries", *European Economy Economic Paper*, forthcoming.

(¹²) See European Commission (2012) "Alert Mechanism Report", COM(2012) 68 final.

(¹³) The methodology was pioneered by G. Kaminsky, S. Lizondo and C.M. Reinhart (1998) "Leading indicators of currency crises", *IMF Staff Papers* Vol. 45, No. 1, and G.L. Kaminsky and C.M. Reinhart (1999) "The twin crises: the causes of banking and balance-of-payments problems", *American Economic Review* vol. 89(3), pp. 473-500. An application of the signals

for fiscal stress for: the overall composite S0 indicator; two thematic sub-indexes incorporating: fiscal variables; financial-competitiveness variables; and for each individual variable incorporated in the composite indicator.

Values of the overall S0 indicator beyond the threshold indicate potential short-term risk for fiscal stress. ([14]) For the countries for which the overall index is below the critical threshold, the methodology would not signal risks of fiscal stress in the year ahead. A more precise identification of the specific sources of short-term fiscal risks at country level is made possible by the analysis of the individual variables, and the values they take relative to their own thresholds.

Results of the analysis

The starting point matters: the crucial importance of the starting fiscal position

A key determinant of the S1 and S2 indicators, as well as for projected debt developments, is the structural primary balance at the end of the forecast horizon (2014). Due to substantial consolidation efforts, in terms of the structural primary balance in 2014, this is estimated to be 2 p.p. of GDP higher than observed on average over the period 1998-2012 in Italy, Poland, Hungary, Malta, Slovakia, Romania and Latvia. A fiscal tightening of 2 p.p. or more is planned in Italy, Spain, Poland, Slovakia, Lithuania, Romania, Slovenia, Cyprus, France, and by as much as 3 ¾ p.p. of GDP in Spain and Italy between 2011 and 2014. Maintaining such primary balances over the medium-term and beyond, as assumed in the no-policy-change scenario, may prove challenging in view of competing budgetary pressures, thereby representing a risk in terms of the projected debt trajectory, which needs to be duly factored in when assessing the outcome of the sustainability analysis. By contrast, the 2014 structural primary balance is 2 p.p. of GDP lower than the average over the period 1998-2012 in Belgium, Denmark and Finland, highlighting that more modest tightening in the wake of the large deterioration in the structural position associated with the economic and financial crisis between 2008 and 2010.

Projected debt developments over the medium term

According to the latest forecast for government debt, in 2014 about half of the Member States would have a debt ratio above the 60% of GDP threshold, and in six countries (Belgium, Spain, France, Italy, Cyprus and the United Kingdom) exceeding the threshold by 30 p.p. of GDP or more.

There is of course uncertainty involved with respect to future debt developments in terms of macroeconomic conditions. For this reason, stochastic projections complement the traditional deterministic projections, and are particularly important to more effectively feature uncertainty of macroeconomic conditions in the analysis of the evolution of the debt-to-GDP ratio in the medium term.

The medium-term debt ratio distribution obtained through stochastic projections allows probabilities to be attached to debt paths (a distinctive feature relative to deterministic projections). The simulations show that the debt-to-GDP ratio for the euro area in 2013-2017 would be between 86% and 96% with an 80% probability. There are however large differences across

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approach for assessing fiscal stress, along the lines of what is also done here, can be found in E. Baldacci, I. Petrova, N. Belhocine, G. Dobrescu, and S. Mazraani (2011) "Assessing fiscal stress", *IMF Working Paper* 11/100.

([14]) At individual variable level, fiscal risks are highlighted by values of the variable *above or below* the variable-specific threshold depending on the variable in question (for instance, risks are signalled by values greater than the threshold for the variable 'change in gross debt over GDP' and for values smaller than the threshold for the variable 'current account over GDP').

countries, reflecting the country-specific volatility of macroeconomic conditions. For instance, while 80% of the debt ratio distribution takes values between 86% and 97% for France and between 25% and 36% for Sweden, the same share of the distribution lies in the much wider interval of 62-94% for Hungary and 27-63% for Latvia.

The debt projections reveal that despite expected improvement in fiscal positions up to 2014, debt is still increasing until that year in the EU as a whole, reaching 88.8% of GDP, influenced by debt-increasing stock-flow adjustments and the 'snow-ball' effect (i.e. the impact of interest expenditure, real GDP growth and inflation on the debt ratio). In addition, the output gap is still negative in 2014, and it is assumed to be closed during the following three years. This results in a cyclical improvement in the primary balance. Moreover, the cost of ageing as a share of GDP is almost stabilized in the years to 2020. These factors keep the government debt ratio roughly constant up to the mid-2020s. However, from then onwards, the ageing costs take hold more firmly, and debt starts rising again. As a result, debt in the EU as a whole is projected to be close to 90% of GDP again in 2030.

The analysis also shows debt developments assuming that, from 2014 on, all Member States will implement fiscal consolidation efforts, measured in terms of an improvement in the structural balance of 0.5% of GDP per year until the medium-term objective (MTO) reported by the country is reached. This consolidation pace – which is the benchmark consolidation effort in the SGP – would lead to EU debt peaking in 2014 at 88.8% of GDP and thereafter the debt level decreasing to close to 60% of GDP in 2030. In addition to the above scenarios, sensitivity tests for debt developments using different assumptions regarding the interest rate (an increase and decrease of 1 p.p. on new and rolled-over debt) have been carried out. The interest rate-growth rate differential is a critical input parameter in determining the future evolution of public debt, and countries with high levels of debt face the possibility of increasing debt burden due to high interest rates.

OVERALL ASSESSMENT OF FISCAL SUSTAINABILITY CHALLENGES ACROSS THE DIFFERENT TIME HORIZONS

The different sustainability risk indicators are complementary. Each indicator is useful with a view to identifying the type of risk and to pinpointing appropriately the timing, the scale and the nature of the sustainability challenge. This allows a comprehensive and multidimensional assessment of risks to fiscal sustainability, which is needed in order to consider possible appropriate policy responses.

A majority of Member States are facing significant risks, but it is also evident that the fiscal risks are not the same for every country. Indeed, risks in some countries are primarily of a short- to medium-term nature, while for others they are of a long-term nature, reflecting a need to address long-term age-related public spending trends.

Overall, fiscal sustainability risks are summarised below and a more detailed summary of the challenges the different Member States are facing is provided further down. Moreover, the country fiches in Chapter 7 provide a detailed assessment by country as regards the sustainability challenges across the different time horizons. As stressed before, due caution must be exercised when interpreting the indicators, and thus the classification of the degree of risk needs to be interpreted with care.

In a **short-term perspective**, risks for fiscal stress have abated in nearly all countries in the last years. While in 2009 almost two thirds of the EU countries were above the critical threshold, indicating at that time elevated risks of fiscal stress for 2010, in following years short-term risks have been progressively reduced. In 2012, according to the S0 indicator highlighting fiscal risks for 2013, only two countries appear to be still at risk (Spain and Cyprus). However, full implementation of the planned adjustment in Spain would go a long way towards reducing the risk for fiscal stress in the short term. These two countries appear to be at high risk also with reference to the **medium term** (according to the S1 indicator), which points to the need for resolute and prompt adjustment to enhance sustainability prospects, prevent potential risks to fiscal sustainability from intensifying and complying with the 60% of GDP government debt threshold in the medium and long term. As regards **long-term sustainability** challenges, the S2 indicator points to a high risk for Cyprus (where the long-term cost of ageing is very high), and to medium risk for Spain (due to lower ageing costs).

For the remaining 22 Member States (Belgium, Bulgaria, the Czech Republic, Denmark, Germany, Estonia, France, Italy, Latvia, Lithuania, Luxembourg, Hungary, Malta, the Netherlands, Austria, Poland, Slovenia, Slovakia, Finland, Sweden and the United Kingdom), while the S0 indicator does not flag risks for fiscal stress in the **short term**, challenges to the sustainability of public finances are rather of a medium- or long-term nature to varying degrees.

• With reference to the **medium term**, for about half of these, in particular Belgium, Slovenia and the United Kingdom (where risks are high according to the S1 indicator), but also the Czech Republic, France, Italy, Lithuania, Luxembourg, Malta, the Netherlands, Austria, Poland, Slovakia and Finland (where risks are medium according to the S1 indicator), implementation of sustainability-enhancing measures, including appropriate fiscal consolidation beyond the forecast horizon, would be needed to comply with the 60% of GDP government debt threshold over the medium term. For the remaining Member States (Bulgaria, Denmark, Germany, Estonia, Latvia, Hungary, Romania and Sweden), medium-term risks appear to be low. For Bulgaria, Latvia and Romania, this is the case thanks to the relatively low debt level (especially in Bulgaria) and the improved structural fiscal positions forecasted for 2014 on the basis of unchanged policy. For Hungary, the improved structural fiscal positions expected to be reached in the medium term (2014) and contributing to low S1 values, would need to be maintained for a very long time to comply with the 60% government debt threshold in the medium term.

• Finally, with respect to **long-term** sustainability challenges, for four of these 22 countries, specifically, Belgium, Luxembourg, Slovenia and Slovakia, the S2 indicator points to a high risk, due mainly to considerable long-term costs of ageing, well above the EU average. For Bulgaria, Denmark, the Czech Republic, Lithuania, Malta, the Netherlands, Austria, Romania and Finland and the United Kingdom, even though the cost of ageing is above the EU average, the risk is medium, thanks to a better initial budgetary position. Germany, Estonia, France, Italy, Latvia, Hungary, Poland and Sweden are at low risk. A number of these countries have already made considerable progress in reforming pension systems (Denmark, Estonia,

France, Italy, Latvia, Hungary, the Netherlands, Poland and Sweden) and, thereby, in addressing long-term ageing-induced fiscal risks. However, long-term challenges are greater when considering risks related to the impact of non-demographic drivers on health care and long-term care spending, as shown by the AWG 'risk scenario', in particular for Germany, France, Lithuania, Malta, the Netherlands, Austria and Poland.

Fiscal sustainability
challenges by
Member State

Member State	Fiscal sustainability challenges
BE	Belgium does not appear to face a risk of fiscal stress in the short-term. Risks to fiscal sustainability are high in a medium- to long-term perspective, influenced by the budgetary impact of the cost of ageing, which derives from a rapidly ageing population and a high level of expenditure on social transfers. Indeed, government debt (97.8% of GDP in 2011 and expected to rise to 101% in 2014) is above the 60% of GDP Treaty threshold. Risks would be lower in the event of the structural primary balance reverting to higher values observed in the past, such as the average for the period 1998-2012. The focus should, therefore, be on resolutely continuing to implement sustainability-enhancing measures. In addition, government debt needs to be reduced. Further containing age-related expenditure growth, including through pension reform, appears necessary to contribute to the sustainability of public finances in the medium- and long-term.
BG	Bulgaria does not appear to face a risk of fiscal stress in the short-term. Nonetheless, there are some indications that the macrofinancial and competitiveness side of the economy continue to pose potential risks. The country does not appear to face medium-term sustainability challenges. Government debt (16.3% of GDP in 2011 and expected to rise to 18.3% in 2014) is well below the 60% of GDP Treaty threshold. The country is at medium risk in the long run due to the cost of ageing, but, given the low debt ratio, it has time available to adjust policies that affect age-related spending. Risks would be lower in the event of the structural primary balance reverting to higher values observed in the past, such as the average for the period 1998-2012. The focus should therefore be on continuing to implement sustainability-enhancing measures that avert potential risks to fiscal sustainability from intensifying in the short term. In addition, further containing age-related expenditure growth would contribute to the sustainability of public finances in the long term.
CZ	The Czech Republic does not appear to face a risk of fiscal stress in the short-term. The country is, however, at medium risk in the medium and long run, mainly due to the cost of ageing in the long-term perspective. Government debt (40.8% of GDP in 2011 and expected to rise to 48.1% in 2014) is below the 60% of GDP Treaty threshold. Risks would be higher in the event of the structural primary balance reverting to lower values observed in the past, such as the average for the period 1998-2012. The focus should, therefore,

	be on containing age-related expenditure growth further so as to contribute to the sustainability of public finances in the long term.
DK	Denmark appears not to face short-term or medium-term sustainability challenges. Government debt (46.5% of GDP in 2011 and expected to fall to 45.3% in 2014) is below the 60% of GDP Treaty threshold, providing the country with fiscal space over the medium term. The country is at medium risk in the long run due to the cost of ageing, but has some time to adjust policies that affect age-related spending. Risks would be lower in the event of the structural primary balance reverting to higher values observed in the past, such as the average for the period 1998-2012. Containing age-related expenditure growth further would contribute to the sustainability of public finances in the long term.
DE	Germany does not appear to face short-term, medium-term or long-term sustainability challenges. However, government debt (80.5% of GDP in 2011) is above the 60% of GDP Treaty threshold. Risks would be higher in the event of the structural primary balance reverting to lower values observed in the past, such as the average for the period 1998-2012, In this case, the risk would worsen from low to medium in the medium- and long-term. The focus should, therefore, be on reducing government debt. Moreover, containing further age-related expenditure growth would contribute to the sustainability of public finances in the long term.
EE	Estonia does not appear to face short-term, medium-term or long-term sustainability challenges. In addition, government debt (6.1% of GDP in 2011) is significantly below the 60% of GDP Treaty threshold. Risks would increase moderately in the event of the structural primary balance reverting to lower values observed in the past, such as the average for the period 1998-2012, the long-term risk assessment would worsen from low to medium, but the medium-term assessment would remain at low risk reflecting the very low debt ratio.
ES	Spain appears to face a risk of fiscal stress in the short term, originating primarily from the fiscal side, but in part also from the macrofinancial and competitiveness side of the economy. Full implementation of the planned adjustment would go a long way towards reducing the risk for fiscal stress. Risks to sustainability are high also in a medium-term perspective, but are medium in the long run, thanks to low ageing costs. However, risks would be lower in the event of the structural primary balance reverting to higher values observed in the past, such as the average for the period 1998-2012. The focus should, therefore, be on resolutely continuing to implement sustainability-enhancing measures that avert potential risks to fiscal sustainability from intensifying in the medium and long term. In addition, government debt (69.3% of GDP in 2011 and expected to continue to rise needs to be reduced. Moreover, further containing age-related expenditure growth appears necessary to

	contribute to the sustainability of public finances in the long term.
FR	France does not appear to face a risk of fiscal stress in the short-term. Nonetheless, there are some indications that the fiscal side of the economy continue to pose potential challenges. In the medium term, sustainability risks are medium, while being low in the long term. Moreover, risks would be higher in the event of the structural primary balance reverting to lower values observed in the past, such as the average for the period 1998-2012. In the latter case, the medium-term risk assessment would worsen from medium to high, while the long-term risk would worsen from low to medium. The focus should, therefore, be on resolutely continuing to implement sustainability-enhancing measures that avert potential risks to fiscal sustainability from materialising in the short term. In addition, government debt (86.0% of GDP in 2011 and expected to rise to 93.8% in 2014) needs to be reduced.
IT	Italy does not appear to face a risk of fiscal stress in the short-term. Sustainability risks appear to be medium in the medium run, while becoming low in a long-term perspective, conditional upon the full implementation of the planned ambitious fiscal consolidation and on maintaining the primary balance well beyond 2014 at the level expected to be reached in that year. Government debt (120.7% of GDP in 2011 and expected to rise to 126.5% in 2014) is above the 60% of GDP Treaty threshold. On the basis of current policies, debt would be on a declining path over the medium term and beyond. But, as the improved structural primary fiscal position expected to be reached by 2014 is rather demanding from both international and country-specific historical standards, strong determination is needed to avoid slippages in the fiscal stance. Indeed, risks would be much higher in the event of the structural primary balance reverting to lower values observed in the past, such as the average for the period 1998-2012. The focus should, therefore, be on resolutely continuing to implement sustainability-enhancing measures and reduce government debt.
CY	Cyprus appears to be at high risk of fiscal stress in the short-term, originating from both the macrofinancial and fiscal side of the economy. The country is also facing high sustainability risks both in the medium and long run. Government debt (71.1% of GDP in 2011 and expected to rise to 102.7% in 2014) is above the 60% of GDP Treaty threshold. Risks would be higher in the event of the structural primary balance reverting to lower values observed in the past, such as the average for the period 1998-2012. The focus should, therefore, be on resolutely continuing to implement sustainability-enhancing measures that avert potential risks to fiscal sustainability from materializing or intensifying in the short term. In addition, further containing age-related expenditure growth, including through pension reform, appears necessary to contribute to the sustainability of public finances in the long term.

LV	On the basis of the sustainability indicators, Latvia does not appear to face short-term, medium-term or long-term sustainability challenges. Government debt (42.2% of GDP in 2011 and expected to rise to 44.9% in 2014) is below the 60% of GDP threshold. This is conditional upon the implementation of the planned fiscal consolidation and on maintaining the primary balance well beyond 2014 at the level expected to be reached in that year. Risks would be higher in the event of the structural primary balance reverting to lower values observed in the past, such as the average for the period 1998-2012. In a longer term perspective, ageing costs are the lowest in the EU, implying a projected steep decline in the public pension replacement ratio.
LT	Lithuania does not appear to face a risk of fiscal stress in the short-term. The country is at medium sustainability risk in both the medium- and long-term perspectives. Government debt (38.5% of GDP in 2011) is below the 60% of GDP threshold. Risks would increase in the event of the structural primary balance reverting to lower values observed in the past, such as the average for the period 1998-2012. Although the medium-term assessment would remain at medium, the long-term assessment would worsen from medium to high. Further containing age-related expenditure growth would contribute to the sustainability of public finances in the long term.
LU	Luxembourg does not appear to face a risk of fiscal stress in the short-term. The country is at medium sustainability risk in the medium-term and at high risk in the long-term perspectives, respectively, mainly due to the budgetary impact of ageing costs. Indeed, government debt (18.3% of GDP in 2011 and expected to rise to 26.9% in 2014) is well below the 60% of GDP threshold. Risks would be even lower in case the structural balance reverted to the higher values observed in the past, such as the average for the period 1998-2012. The medium-term risk assessment would improve from medium to low risk, though Luxembourg would remain at high risk in the long term. The focus should, therefore, be on curbing age-related expenditure in general and pension expenditure in particular.
HU	Overall, Hungary appears not to face a risk of fiscal stress in the short term. Risks to fiscal sustainability are low also in the medium- and long-term perspective, conditional upon the full implementation of the planned ambitious fiscal consolidation and on maintaining the primary balance well beyond 2014 at the level expected to be reached in that year. Indeed, government debt (81.4% of GDP in 2011 and expected to fall to 76.8% in 2014) is above the 60% of GDP Treaty threshold. Risks would be much higher in the event of the structural primary balance reverting to lower values observed in the past, such as the average for the period 1998-2012. The focus should, therefore, be on reducing government debt.
MT	Malta does not appear to face a risk of fiscal stress in the short-term. The country is at medium sustainability risk in the medium- and long-term perspectives, mainly due to the budgetary impact of ageing costs. Government debt (70.9% of GDP in 2011 and expected to rise

	to 72.7% in 2014) is above the 60% of GDP threshold. Risks would be higher in the event of the structural primary balance reverting to lower values observed in the past, such as the average for the period 1998-2012. Both the medium- and long-term risk assessments would worsen from medium to high risk. The focus should, therefore, be on reducing government debt. Moreover, containing age-related expenditure growth further, including through pension reform, appears necessary so as to contribute to the sustainability of public finances in the long term.
NL	The Netherlands does not face a risk of fiscal stress in the short-term. The country is at medium sustainability risk in the medium to long run, influenced by the cost of ageing. Government debt (65.5% of GDP in 2011 and expected to rise to 70.3% in 2014) is above the 60% of GDP Treaty threshold. Risks would be lower in the event of the structural primary balance reverting to higher values observed in the past, such as the average for the period 1998-2012. The focus should, therefore, be on reducing government debt. Moreover, further containing age-related expenditure growth appears necessary to contribute to the sustainability of public finances in the long term.
AT	Austria appears not to face a risk of fiscal stress in the short run. The country is at medium risk in the medium and long run due to the cost of ageing. Indeed, government debt (72.2% of GDP in 2011 and expected to rise to 75.1% in 2014) is above the 60% of GDP Treaty threshold. The focus should, therefore, be on reducing government debt. Moreover, containing age-related expenditure growth further would contribute to the sustainability of public finances in the long term.
PL	Overall, Poland appears not to face a risk of fiscal stress in the short run. The country is at medium sustainability risk in a medium-term perspective and at low risk in a long-term perspective, conditional upon the full implementation of the planned ambitious fiscal consolidation and on maintaining the primary balance well beyond 2014 at the level expected to be reached in that year. Government debt (56.4% of GDP in 2011 and expected to fall to 56.1% in 2014) is below the 60% of GDP Treaty threshold. Risks would be much higher in the event of the structural primary balance reverting to lower values observed in the past, such as the average for the period 1998-2012.
RO	Romania appears not to face a risk of fiscal stress in the short run. The country is at low risk in a medium-term perspective, while being at medium risk in the long term. Government debt (33.4% of GDP in 2011 and expected to rise to 34.8% in 2014) is below the 60% of GDP threshold. Risks would be higher in the event of the structural primary balance reverting to lower values observed in the past, such as the average for the period 1998-2012. Containing age-related expenditure growth further appears necessary to contribute to the sustainability of public finances in the long term, and limit potential risks to fiscal sustainability from materialising in the short term.

SI	Slovenia does not appear to face a risk of fiscal stress in the short-term. The country is at high sustainability risk in the medium and long term, mainly due to the budgetary impact of ageing costs. Government debt (46.9% of GDP in 2011) is expected to rise to 62.3% in 2014, above the 60% of GDP Treaty threshold. Risks would be higher in the event of the structural primary balance reverting to lower values observed in the past, such as the average for the period 1998-2012. The focus should, therefore, be on resolutely continuing to implement sustainability-enhancing measures that avert potential risks to fiscal sustainability. Further containing age-related expenditure growth, including through pension reform, appears necessary to contribute to the sustainability of public finances in the long term.
SK	Slovakia does not appear to face a risk of fiscal stress in the short-term. Nonetheless, there are some indications that the fiscal side of the economy pose potential risks. The country is at medium sustainability risk in the medium run and at high risk in a long-term perspective, mainly due to the budgetary impact of ageing costs reflecting a rapidly ageing society, which has not been addressed in pension reforms prior to 2012. Government debt (43.3% of GDP in 2011 and expected to rise to 55.9% in 2014) is below the 60% of GDP Treaty threshold. Risks would be higher in the event of the structural primary balance reverting to more negative values observed in the past, such as the average for the period 1998-2012. The focus should therefore be on resolutely continuing to implement sustainability-enhancing measures that avert potential risks to sustainability from intensifying in the short term. In addition, based on the current calculations (which do not yet incorporate the latest changes in the PAYG pension scheme adopted in the summer of 2012), further containing age-related expenditure growth, including through pension reform, remains a priority, so as to contribute to the sustainability of public finances in the long term.
FI	Finland appears not to face a risk of fiscal stress in the short-term. The country is at medium sustainability risk in the medium and long run due to the budgetary impact of the cost of ageing. Government debt (49.0% of GDP in 2011 and expected to rise to 55.0% in 2014) is below the 60% of GDP Treaty threshold. Risks would be lower in the event of the structural primary balance reverting to higher values observed in the past, such as the average for the period 1998-2012. The focus should, therefore, be on containing age-related expenditure growth further so as to contribute to the sustainability of public finances in the medium and long term.
SE	Sweden appears not to face short-term, medium-term or long-term sustainability challenges. Government debt (38.4% of GDP in 2011 and expected to fall to 34.1% in 2014) is below the 60% of GDP Treaty threshold, providing the country with some fiscal space over the medium term. Risks would be lower in the event of the structural primary balance reverting to higher values observed in the past, such as the average for the period 1998-2012. Containing age-related expenditure growth further would contribute to the sustainability of

	public finances in the long term.
UK	The United Kingdom does not appear to face a risk of fiscal stress in the short-term. Nonetheless, there are some indications that the fiscal side of the economy pose potential risks. Sustainability risks appear to be high in the medium term, while being at medium in the long run, influenced by the cost of ageing. Indeed, government debt (85% of GDP in 2011 and expected to rise to 95.1% in 2014) is above the 60% of GDP Treaty threshold. Risks would be lower in the event of the structural primary balance reverting to higher values observed in the past, such as the average for the period 1998-2012. The focus should, therefore, be on resolutely continuing to implement sustainability-enhancing measures that avert potential risks to fiscal sustainability from materializing in the short term. In addition, government debt needs to be reduced. Moreover, containing age-related expenditure growth further would contribute to the sustainability of public finances in the long term.

1. SUSTAINABILITY OF PUBLIC FINANCES

1.1. INTRODUCTION

The increasing debt levels in the aftermath of the financial crisis have brought the sustainability of public finances to the fore. In this context, this report aims at providing a comprehensive analysis of the sustainability of public finances across the EU. This will be done by:

- providing and analysing quantitative results on sustainability indicators and debt projections, as well as others factors relevant to sustainability;

- assessing the sustainability challenge in each EU Member State, in light of the quantitative analysis and other relevant factors.

In order to provide a comprehensive assessment, the method to assess the sustainability of public finances is based on both quantitative and qualitative information.

Sustainability of fiscal policies is the ability to continue now and in the future, current policies without change regarding public services and taxation, without causing the debt to rise continuously as a share to GDP. At a first instance it involves a debt level that does not entail – either now or in the foreseeable future – interest payments so large that they cannot be paid. In this respect, an intuitive way to look at debt sustainability is to project debt trajectories under different assumptions to see whether, and under which conditions, debt is on a sustainable path.

A first way of writing down the widest definition of sustainability is to look at the solvency condition for the general government through the government's inter-temporal budget constraint. ([15])

This considers the ability of the government to meet the costs of its current and future debt through future revenues. The inter-temporal budget constraint is satisfied if the projected outflows of the government (current public debt and the discounted value of all future expenditure, including the projected increase in age-related expenditure) are covered by the discounted value of all future government revenue. This is equivalent to a government running sufficiently large primary surpluses (receipts minus spending excluding interest payments) going forward to cover the cost of servicing its debt. The inter-temporal budget constraint can be considered over an infinite horizon, without implying that debt should stand at a particular value at any given point in time. ([16]) In this respect, caution need to be exercised when analysing sustainability challenges. In particular, the specific requirements of the EU fiscal framework enshrined in the Treaty on the functioning of the EU; namely, that government debt shall not exceed 60% of GDP needs to be given due attention. Specific attention must, therefore, be paid to the current level of debt in the EU countries. For this reason, several different indicators (elaborated upon below) are used to assess risks to the sustainability of the public finances.

While the infinite horizon gives a comprehensive picture of the sustainability of public finances, it can prove weak from a policy point of view due to its lack of immediacy and it can raise issues of time consistency. Alternatively, a finite version of the budget constraint can be defined, by setting a target date and a target debt level, allowing an assessment of fiscal sustainability in the medium-term horizon.

While this finite condition does not ensure the sustainability of public finances after the target year, it can provide a clearer policy objective than the inter-temporal budget constraint. In this report ([17]), the finite version of the budget

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([15]) The inter-temporal budget constraint is as follows:

$$D_{t_0} - \sum_{t=t_0+1}^{\infty} \frac{PB_t}{(1+r)^{t-t_0}} = 0$$

where D_{t_0} is gross debt as a share of GDP in the year before the long-term projections, PB_t is the structural primary balance (receipts minus spending excluding debt interest payments) at time t and r is the differential between the nominal interest rate and the nominal GDP growth rate.

([16]) In fact, the inter-temporal budget constraint only requires that the debt does not increase too fast; more precisely, that nominal debt does not increase faster than the nominal interest rate/growth rate differential.

([17]) See "Sustainability Report 2009", European Economy, 9/2009 and respective Commission communication, COM (2009) 545/3.

constraint is assessed with reference to a target date of 2030 and a target level of debt of 60 % of GDP, which is the threshold for the general government gross debt in the Treaty on the functioning of the EU. ([18])

The timescale has been chosen to be long enough to allow the impact of ageing to be analysed in a meaningful way, while still remaining within the sights of current taxpayers and policy makers. It also reflects the recent fiscal commitments of the EU Member States in the enforced Stability and Growth Pact (the so-called "six pack") and the commitments of 25 Member States in the Treaty on Stability, Coordination and Governance (the fiscal part of which has been called "the fiscal compact") to address their budgetary imbalances and reduce their excessive debt ratios. ([19])

To quantify sustainability challenges in the shorter term, an 'early-detection indicator' is also presented. It highlights short-term risks for fiscal stress stemming from the fiscal as well as the financial and competitiveness sides of the economy. It should be stressed that the methodology for this new indicator is different from the 'fiscal gap' indicators mentioned above. It is a composite indicator which estimates the extent to which there might be a risk for fiscal stress in the short-term, using a wide range of macro-financial and fiscal indicators.

A broad set of fiscal and financial-competitiveness variables (28) is used to construct the composite "early-detection indicator". This reflects the recent experience in the EU, on the role that financial and competitiveness variables can play in generating potential fiscal risks.

A comprehensive assessment of fiscal sustainability over the entire time horizon is therefore allowed by the joint consideration of short- medium- and long-term indicators of public finance sustainability.

1.2. FISCAL SUSTAINABILITY IN LIGHT OF AGEING POPULATIONS

The fiscal costs of the crisis and of projected demographic development compound each other and make fiscal sustainability a significant challenge. In the coming decades, Europe's population will undergo dramatic demographic changes due to low fertility rates, continuous increases in life expectancy and the retirement of the baby-boom generation. According to the 2012 Ageing Report, population ageing is expected to have a significant impact on growth and to lead to significant pressures to increase public spending. It will be challenging for Member States to maintain sound and sustainable public finances in the medium and long term. Ensuring fiscal sustainability requires time-consistent policies, which involves addressing budgetary imbalances before the budgetary impact of ageing sets in.

This is of particular importance in the current context, as high deficits and rising debt in some countries, pointing to unsustainable public finances, are shown to have an adverse impact on macro-economic conditions also for other Member States. ([20])

1.3. LONG-TERM AND MEDIUM-TERM SUSTAINABILITY INDICATORS

For the assessment of medium- and long-term sustainability, the levels of gross government debt, the structural primary balance and additional costs arising from ageing population are used in this report to show debt dynamics under different assumptions in the medium and long term. In addition, the fulfilment of both an infinite and a finite version of the inter-temporal budget constraint are looked at. Other things being equal, the higher the future costs of ageing, the harder it

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([18]) Hereafter referred to as the Treaty.
([19]) See
http://ec.europa.eu/economy_finance/economic_governanc e/sgp/pdf/coc/code_of_conduct_en.pdf for the Code of Conduct of the Stability and Growth Pact.

([20]) These spill-over effects can occur via real economy channels e.g. when adverse economic and labour market developments in the country facing sustainability problems may hurt imports from other countries and – via multiplier effects – also domestic demand in these countries. The spill-over effects can also occur via the financial channel, where an increase in foreign investors' risk aversion also towards other countries would lead to higher risk premiums, which would raise financing costs or might even limit access to funding. Where government financing is heavily dependent on foreign investor participation, the financial channel effect might even lead to difficulties in financing the public sector.

is for the inter-temporal constraints to be met, as the primary balance will need to be adjusted to absorb these additional future costs. Corresponding to a finite or infinite horizon of the budget constraint, two sustainability gap indicators are derived, showing the size of the budget adjustment required to ensure that the constraints are met.

The medium term sustainability indicator, or the S1 indicator shows the upfront adjustment effort required, in terms of a steady improvement in the structural primary balance to be introduced until 2020, and then sustained for a decade, to bring debt ratios back to 60% of GDP in 2030, including financing for any additional expenditure until the target date, arising from an ageing population ([21]). A negative value of the S1 indicator does of course not imply that current fiscal policy should be relaxed, since the 60% of GDP value in the Treaty is not a target but a ceiling. Moreover, a negative value does not mean that debt remains below 60% of GDP throughout the projection period, but may well be above initially.

The choice of the debt ratio end-point for the S1 indicator is in line with the debt threshold in the Treaty. In the calculations, is it assumed to converge to 60% of GDP in 2030. In addition, alternative calculations show the required adjustment to reach the pre-crisis (2007) or post-crisis (2014) debt to GDP ratios. The timescale has been chosen to be long enough to allow the impact of ageing to be analysed in a meaningful way, while still remaining within the sights of current taxpayers and policy makers.

The S2 indicator shows the adjustment to the current structural primary balance required to fulfil the infinite horizon inter-temporal budget constraint, including paying for any additional expenditure arising from an ageing population. The adjustment implied by the S2 indicator might lead to debt stabilising at relatively high levels, thus the indicator has to be taken with some caution for high debt countries in view of the SGP requirements.

The two sustainability conditions mainly aim at giving a measure of the sustainability risk that is

intuitive and readily understandable. Alternative presentations of these conditions are also possible. For example, the S2 indicator can be translated into an inter-temporal net worth (INW) indicator which comprises the current net worth (i.e. assets minus liabilities) of the general government together with the sum of discounted future primary balances. Values of the INW indicator based on the same assumptions as the S1 and S2 indicator are also presented in this report.

Table 1.1: **Summarizing the indicators**

	Required adjustment given the initial budgetary position (IBP)		Required adjustment to reach debt to GDP ratio of 60% in 2030 (DR)		Required adjustment due to the cost of ageing (CoA)
S1=	Gap to the debt-stabilising primary balance in 2020 through a steady gradual adjustment	+	Additional adjustment required to reach a debt target of 60% of GDP in 2030	+	Additional adjustment required to finance the increase in public expenditure due to ageing population up to 2030
S2=	Gap to the debt-stabilising primary balance	+	0	+	Additional adjustment required to finance the increase in public expenditure due to ageing population over an infinite horizon

Source: Commission services.

1.3.1. COMPONENTS OF THE SUSTAINABILITY INDICATORS

Initial budgetary position

In the absence of trend increases in expenditure and decreases in revenue, public finances may analytically be considered sustainable if maintaining the current primary balance is sufficient to stabilize the debt ratio, given the long-term or permanent values of growth and interest rates. If however the debt ratio is above the 60% of GDP threshold, the EU fiscal rules stipulate that it should be reduced below it. Thus, the first component of the indicators corresponds to the gap between the current or initial structural primary balance and the debt-stabilising primary surplus to ensure sustainability. ([22]) This component is referred to as the required adjustment to the initial budgetary position (or simply IBP). For the S1 indicator, the gradual improvement in the primary balance implies a higher required adjustment compared to the one that would occur immediately. This required additional adjustment

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([21]) In the 2009 Sustainability Report, the S1 indicator was calculated with reference to the debt endpoint of 60% in 2060.

([22]) The long-term debt-stabilizing primary balance refers to the primary balance that, if reached, would stabilize the debt in the long run at its current level. It therefore depends on the long-term prospects of GDP growth and interest rates. It can differ from the short-term debt-stabilizing primary balance that can be calculated with current nominal GDP growth and nominal interest rates.

is termed in this report "the cost of delay" and it is a part of the IBP for the S1 indicator only.

In order to correctly account for the contribution of the budget balance at the starting year, the structural primary balance is used instead of the actual value of the government primary surplus or deficit. This implies adjusting the starting primary balance for the effect of the business cycle and temporary measures, such as one-off expenditure and revenues, to derive the structural primary balance. This report uses the forecasts for 2014, as published in the European Commission 2012 autumn forecast, for the starting position of both the structural primary balance and debt level. At the same time, complementary analysis are provided taking as a starting point the current year, indicating the size of the sustainability gap that is implicit over the forecast period.

The structural balance requires an estimation of the position of the economic activity relative to its potential, the so-called output gap, and an estimation of the effect of the economic cycles on government revenues and spending. Cyclical adjustment always entails a certain level of imprecision as it is difficult to correctly judge the position of the output gap. In the light of possible structural changes, the potential output of today, as well as its trajectory in the future contain a substantial element of uncertainty. These sources of uncertainty are compounded by the fact that tax elasticities tend to vary over the economic cycle and that they are implicitly affected by asset price changes, which are difficult to model or predict.

The debt reduction requirement

The starting level of debt enters the definition of both indicators through the initial budgetary position, as it determines the size of interest payments on government debt that must be covered. In the case of the S1 indicator, the size of the required adjustment also depends directly on the debt requirement set at end of the time period (60% of GDP in 2030). For countries with starting gross public debt above 60% of GDP the required adjustment to reach the target debt by 2030 (DR) term will increase the size of the indicator due to the additional effort related to the required debt reduction by 2030. For countries with current debt below 60%, the DR component will be negative irrespective of pressures on the budget from long-

term trends and reduce the overall value of the fiscal gap (S1 indicator).

The financial and economic crisis adds an element of uncertainty to the DR. The estimates presented later in the report use debt from 2014 as the starting position. The accumulation of financial assets due to bank bail outs by governments implies that the government gross debt of the affected countries could be increasing faster than implicit by the deficit, which could also have an impact to the debt component of the S1 indicator.

Cost of ageing

Both S1 and S2 indicators include a component which corresponds to the cost of ageing (CoA) estimated by the change in age-related expenditure in the 2012 Ageing Report. This component is the additional adjustment to the primary balance required as a result of these future expenses (either to 2030 or over an infinite horizon). The magnitude of the CoA component for each country depends on both the demographic outlook and their social protection arrangements. The CoA component represents either the change in the primary balance required to pay for the additional expenses or the size of a required structural reform to social protection schemes to avoid the increase in spending that would otherwise ensue. [23]

The future increases in age-related expenditure due to demographic change are added to the initial (and kept constant in the projection exercise) level of other public spending as a share of GDP. For the years beyond 2060 – the horizon of the available demographic projections – further assumptions are also necessary in relation to the infinite-horizon S2 indicator. Beyond that year it is assumed that government revenue and primary expenditure, including age-related expenditure, remain constant as a share of GDP, while interest payments evolve in line with debt developments. If the EU population keeps ageing beyond 2060, this assumption implies underestimating the sustainability gap (S2), though the size of such a projection error is minimised by the discounting of all future flows. The budgetary impact of ageing

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[23] The size of a structural reform to social protection schemes (such as public pensions and healthcare) is calculated here as the discounted sum of the spending savings needed by such reform.

and the uncertainty surrounding the long-term expenditure projections are described further in Chapter 2 This issue is also addressed in more detail in Chapter 4.

Property income

The assumption of no accumulation of financial assets and, therefore, no stock-flow adjustment is kept in this report. It implies that the nominal value of government-owned financial assets remains constant and so there is a decrease in the share of those assets as per cent of GDP. Under the assumption that nominal returns on assets are constant over time, property income from those assets also decreases as a share of GDP. This is clearly the case for interest-bearing assets (bonds) but also applies to shares and other equity.

Returns on assets that are currently owned by government are recorded as property income, and therefore included in government revenue, reducing the general government deficit. This is why the change in the primary balances implied by the property income projections is included in the required adjustment given the initial budgetary position (IBP) term of the sustainability indicators.

Property income received by the Member States is mainly composed of interest received from deposits, bonds and loans; dividends received from shares and withdrawals from the income of quasi-corporations; and rents on land and subsoil assets. Projecting these forward in a detailed way requires forecasting the return on these assets, their future value and the purchases and sales of these assets. The exact method used in this report to project property income together with the projection results is presented in Chapter 8.5.

1.3.2. ASSUMPTIONS USED IN THE ANALYSIS

The sustainability analysis is based on the Commission services' autumn 2012 forecast (up to 2014), and the macro-economic scenario of the 2012 Ageing Report.

The following additional assumptions are also made:

- The increase in age-related expenditure is the AWG reference scenario from the 2012 Ageing Report.

- Non age-related expenditures remain constant as a share of GDP over the projection period.

- Government revenues, except for property income and revenues from pension taxation, remain constant as share of GDP over the projection period.

- Total public expenditure and revenue are assumed to stay constant as a share of GDP after 2060 (i.e. the end-date of long-term projections).

- The primary balance is adjusted by using the budget sensitivities (OECD estimates) in the period until the output gap is assumed to be closed.

- The inflation rate (GDP deflator) converges linearly to 2% when the output gap is closed and remains constant thereafter, for all countries.

- Zero stock-flow adjustment after 2014; this means no further purchases of financial assets or recapitalisations of financial institutions, nor disposal of such assets.

- The consolidation scenarios incorporate a short-run temporary feedback on GDP growth. A 1 percentage points of GDP of budgetary consolidation effort impacts negatively on ("baseline") GDP growth by 0.5 percentage points in the same year. [24]

The debt maturity and governments' refinancing needs are explicitly taken into account. The distinction between short-term and long-term debt in the projections is based on Eurostat data on general government debt, with maturity respectively below and above the year [25], and assuming that current shares of short-term and

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[24] For simplifying reasons, this feedback effect is not included in the S2 indicator, as a one year change in the GDP growth rate would have very limited impact due to the infinite horizon discounting period.

[25] The shares of short-term and long-term debt used in the projections are calculated as averages of Eurostat data over 2009-11.

long-term debt remain constant over the whole projection period. As a result, a more realistic and refined analysis of the evolution of interest expenditure can be conducted, also reflecting differences between short-term and long-term interest rates. This allows the simulation of different effects of expected financial market pressure on the two rates over the projection period (like a situation, for instance, in which countries experience much larger spreads on short-term borrowing compared to long-term).

1.4. HOW TO INTERPRET THE MEDIUM-TERM AND LONG-TERM INDICATORS

The sustainability indicators quantify the fiscal gap that must be closed to ensure the sustainability of the public finances as defined in this report. The larger the value of the indicators, the greater the necessary adjustment to the primary balance to ensure sustainability. A negative value indicates that the inter-temporal budget constraint is met; even some deterioration in the primary balance would not hamper the achievement of the budgetary constraint.

The indicators do not provide any guide as to how the adjustment should take place. Though the sustainability indicators are sometimes referred to as *tax* gaps, the necessary adjustments could occur through different channels, such an increase in government receipts (usually through higher direct or indirect taxes), a reduction in non-age related spending, or through policy responses aimed at reducing the cost of ageing. The choice of the most appropriate measure, or combination of measures, should take into account their potential impact on the economy or on fiscal sustainability, an aspect that deserves duly consideration. For example, a large increase in the tax burden to fill the sustainability gap may itself lead to deterioration in the economy's growth prospects, with adverse consequences for medium- to long-term sustainability.

The sustainability gap indicators are one way of presenting the results of the sustainability analysis. An alternative is to look at the future evolution of the level of debt under different assumptions. This approach, providing a more illustrative presentation of the sustainability challenges that countries face, is reported in Chapter 3.3.

The same overall sustainability gap may be the result of a different combination of the current fiscal position (IBP), the debt target (for the S1 indicator) or the projected increase in age-related expenditure (CoA). In relation to the latter, the S1 and S2 (i.e. the finite- and infinite-horizon versions of the sustainability indicators) also allow the identification of the urgency in addressing the demographic-related sustainability issues.

An optimal policy response to the fiscal sustainability challenges requires an understanding of the underlying factors. A sustainability gap arising primarily from an initial budgetary position that if kept unchanged would be insufficient to stabilise debt, might be easier to rectify politically through tax increases or spending cuts, than one due primarily to the costs of an ageing population. In the latter case, increasing budgetary costs might only become directly visible in the future and necessary reforms may be more difficult to implement and perceived as involving undesirable inter-generational transfers. The overall efficiency of a fiscal consolidation approach (increasing taxes or cutting expenditure), or of approaches based on structural reforms of social protection systems also depends on the source of the sustainability challenges.

Finally, while the indicators are the appropriate tools to assess the sustainability of public finances, there are uncertainties related to the inputs and assumptions used in the analysis. Therefore, not only caution is needed when assessing the indicators, but additional information, also of qualitative nature, not captured by the indicators, needs to be taken duly into account. [26] The rationale for taking into account other relevant factors is further developed in Chapter 5.

1.5. FISCAL SUSTAINABILITY OVER THE SHORT RUN: THE S0 INDICATOR

1.5.1. AN INDICATOR TO DETECT SHORT-TERM RISK OF FISCAL STRESS

While the S1 and S2 indicators respectively measure medium-term and long-term sustainability

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[26] For example a strategy of asset accumulation and debt reduction to prefund for future ageing costs might not be adequately reflected in the sustainability indicators.

risks, the S0 indicator provides an identification of sustainability challenges in the shorter term. A comprehensive assessment of fiscal sustainability over the entire time horizon is therefore allowed by the joint consideration of these three indicators. It should be stressed that the methodology for the S0 indicator is different from the S1 and S2 indicators mentioned above. It is not a quantification of the required fiscal adjustment, like for the S1 and S2 indicators, but a composite indicator which estimates the extent to which there might be a risk for fiscal stress in the short-term, using a wide range of macro-financial and fiscal indicators which have been proven to perform well in detecting situation of fiscal stress in the past.

This strengthening of the fiscal sustainability assessment framework on the short-term dimension is the more relevant in the context of the financial and economic crisis, turned into a sovereign debt crisis – a context in which the focus of attention with regard to fiscal sustainability issues has clearly shifted to the short term.

The S0 indicator is an "early-detection indicator" designed to highlight shorter-term risks (1 year horizon) for fiscal stress stemming from the fiscal as well as the macro-financial and competitiveness sides of the economy. [27] A whole set of fiscal and financial-competitiveness variables (28 variables altogether, 14 in each sub-group – see Table 1.2) [28] is used to construct the composite indicator S0. In particular, most of the variables included in the scoreboard for the surveillance of macroeconomic imbalances (used in the context of the Macroeconomic Imbalances Procedure) [29] are among the financial-competitiveness variables incorporated in the S0 indicator. This duly reflects the evidence, also based on the most recent experience in the EU, on the role that financial and competitiveness variables can play in generating potential fiscal risks.

The methodology lying behind the S0 indicator (the so-called "signals approach") [30] allows for an endogenous determination of thresholds of fiscal risks for the composite indicator itself, for each individual variable incorporated in the composite indicator, as well as two thematic sub-indexes incorporating only fiscal and financial-competitiveness variables respectively (thresholds, based on latest data, are reported in Table 1.2) [31]. Values of the overall S0 indicator, the individual variables, and the two sub-indexes beyond the respective thresholds are read as signals of upcoming (shorter-term) fiscal risks. [32] In particular, for the overall composite indicator S0, a value *above* the threshold signal potential short-term risks for fiscal stress. [33]

Overall shorter-term sustainability challenges can be assessed by focussing on the value taken by the S0 indicator alone, while looking at the two thematic sub-indexes further allows identifying risks emanating from specific areas (fiscal, financial-competitiveness) that may or may not translate into fiscal risks signalled by the overall S0 indicator. For countries for which fiscal risks emerge with regard to one of the two sub-groups of variables, while the S0 only signals no risks, short-term challenges (which do arise with regard to either the fiscal or the financial-competitiveness

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[27] An early version of the indicator was presented in European Commission (2011) "2011 Report on Public Finances in EMU", chapter IV-3, *European Economy* No. 3. A more recent version can be found in K. Berti, M. Salto and M. Lequien (2012), "An early-detection index of fiscal stress for EU countries", *European Economy Economic Paper*, forthcoming.

[28] Almost all financial-competitiveness variables are taken in 1-year lagged values (as indicated by L1 in front of the names of the variables in Table 1.2). In this way, we can use latest historical values also for these variables, for which data availability is generally lagging behind that for fiscal variables.

[29] See European Commission (2012) "Alert Mechanism Report" COM(2012) 68 final.

[30] The methodology has been pioneered by G. Kaminsky, S. Lizondo and C.M. Reinhart (1998) "Leading indicators of currency crises", *IMF Staff Papers* Vol. 45, No. 1, and G.L. Kaminsky and C.M. Reinhart (1999) "The twin crises: the causes of banking and balance-of-payments problems", *American Economic Review* vol. 89, No. 3, pp. 473-500. An application of the signals approach for assessing fiscal stress, along the lines of what is also done here, can be found in E. Baldacci, I. Petrova, N. Belhocine, G. Dobrescu, and S. Mazraani (2011) "Assessing fiscal stress", *IMF Working Paper* 11/100.

[31] See Annex 8.2 for more technical details on the methodology.

[32] It should be noted that, at individual variable level, fiscal risks are highlighted by values of the variable *above or below* the variable-specific threshold depending on the variable in question (for instance, risks are signalled by values greater than the threshold for the variable change in gross debt over GDP and for values smaller than the threshold for the variable current account over GDP).

[33] The indicator value for a given country and a given year is higher, the higher the number of variables signalling fiscal risks and the better the historical performance of the signalling variables at highlighting fiscal risks (the so called "signalling power" as reported in Table 1.2). See Annex 8.2 for more technical details.

side of the economy) are not as acute to generate risks of fiscal stress at aggregate level.

A more precise identification of the specific sources of the short-term risk for fiscal stress at country level is made possible by the analysis of the individual variables, and the values they take relative to their own thresholds.

1.5.2. THE CALCULATION OF THE THRESHOLDS FOR RISK OF FISCAL STRESS

The calculation of the thresholds for short-term risks for fiscal stress lies at the heart of the (non-parametric) signals approach referred to above. Thresholds are separately derived for the composite indicator S0, each of the variables incorporated in the composite indicator, and the two fiscal and financial-competitiveness sub-indexes.

The logic behind the methodology for calculating the thresholds rests on the observation that economies behave in a systematically different way in periods preceding fiscal stress. According to this, time series of the variables used in the analysis (the 28 fiscal and financial-competitiveness variables listed in Table 1.2) [34] and the series of fiscal-stress episodes recorded in the past [35] are used together to determine an optimal fiscal risk threshold for each of the variables in question, based on its past behaviour ahead of fiscal stress episodes.

Such optimal threshold is determined by maximising the "signalling power" of the model, i.e. its ability to correctly predict past fiscal stress. By first distinguishing between the two types of errors that can be made in such a prediction (i.e predicting fiscal stress, for a variable value beyond the threshold, ahead of no fiscal stress episode and predicting no fiscal stress, for a variable value on the safe side of the threshold, ahead of a fiscal

stress episode) [36], the optimal threshold is then determined in a way to minimise the share of missed (in the sense of not signalled) stress episodes plus the share of non-fiscal-stress episodes wrongly signalled as upcoming fiscal stress. [37]

The thresholds for the S0 indicator and the two fiscal and financial-competitiveness sub-indexes are calculated following exactly the same procedure described above for the individual variables in the composite indicator.

Such endogenously determined thresholds are then used in the assessment of short-term risks for fiscal stress as explained in the previous section. Results from such an assessment are in any case to be interpreted with caution. Though the framework described above tends to be rather comprehensive, there are additional dimensions, relevant for the analysis of short-term sustainability challenges, that are necessarily left aside (for instance, factors that are more qualitative in nature or variables for which data availability is limited). The broader background of country-specific contexts is therefore to be kept in mind when reading results.

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[34] A panel of 33 countries was used to calculate the optimal thresholds (all EU countries, except Cyprus, Luxembourg and Malta, plus Australia, Canada, Iceland, Israel Japan, New Zeeland, Norway, Switzerland, United States). Data come from AMECO, EUROSTAT, WEO and BIS. Whenever possible, time series covering the period 1970-2012 are used but for a number of variables data are only available from 1995.

[35] The analysis adopts the definition of fiscal stress proposed by Baldacci et al. (2011). See European Commission (2011) for more details.

[36] More technically, these are respectively called type-I and type-II errors.

[37] This is called total misclassification error. See Annex 8.2 for more technical details.

Table 1.2: **Thresholds and signalling power of S0 indicator, fiscal and financial-competitiveness sub-indexes and individual variables used in the S0 indicator**

Variables	Safety	Threshold	Signaling power*	Type I error	Type II error	Fiscal stress episodes no.**	No fiscal stress episodes no.**
Balance, % GDP	>	-10.17	0.07	0.04	0.89	37	972
Primary balance, % GDP	>	0	0.15	0.42	0.43	35	939
Cyclically adjusted balance, % GDP	>	-3.12	0.24	0.46	0.3	30	806
Stabilizing primary balance, % GDP	<	2.55	0.03	0.12	0.86	28	851
Gross debt, % GDP	<	103.28	0.03	0.06	0.91	33	940
Change in gross debt, % GDP	<	8.24	0.1	0.05	0.84	32	912
Short-term debt, gov't, % GDP	<	16	0.11	0.11	0.79	14	369
Net debt, % GDP	<	58.11	0.11	0.21	0.68	22	591
Gross financing need, % GDP	<	16.83	0.14	0.23	0.63	19	536
Interest rate-growth rate differential	<	5.92	0.08	0.06	0.85	27	831
Change in expenditure of gen. gov't, % GDP	<	2.25	0.14	0.12	0.74	34	945
Change in fin. consumption expend. of gen. gov't, % G	<	0.64	0.18	0.18	0.64	33	883
Old-age dependency ratio 20 years ahead	<	33.93	0.08	0.14	0.78	41	972
Avg yearly change (5 years) in projected age-related public expend. as % of GDP	<	0.26	0.1	0.13	0.77	13	391
Fiscal index	<	0.34	0.22	0.23	0.55	49	1188
L1.net international investment position, % GDP	>	-50.1	0.3	0.15	0.56	27	667
L1.net savings of households, % GDP	>	0.96	0.35	0.25	0.4	20	591
L1.private sector debt, % GDP	<	191.1	0.21	0.15	0.64	14	390
L1.private sector credit flow, % GDP	<	10.9	0.49	0.37	0.14	14	382
L1.leverage, financial corporations	<	2.22	0.02	0.98	0	15	384
L1.short-term debt, non-financial corporations, % GDP	<	27.4	0.23	0.23	0.54	13	354
L1.short-term debt, households, % GDP	<	3.5	0.26	0.35	0.38	13	356
L1.construction, % value added	<	7.25	0.28	0.35	0.38	37	943
L1.current account (3-year backward MA), % GDP	>	-2.45	0.38	0.37	0.25	36	857
L1.change (3 years) of real eff. exchange rate, based on	<	9.76	0.24	0.17	0.59	17	363
L1.change (3 years) in nominal unit labour costs	<	12.7	0.28	0.47	0.25	32	853
Yield curve	>	0.59	0.5	0.36	0.14	29	749
Real GDP growth	>	-0.89	0.1	0.07	0.83	41	994
GDP per capita in PPP, % of US level	>	73.32	0.29	0.44	0.27	44	1020
Financial-competitiveness index	<	0.46	0.5	0.32	0.18	50	1065
Overall index	<	0.44	0.57	0.2	0.23	52	1232

* The signalling power is defined as [1- (type-I error + type-II error)].

** These are respectively the number of fiscal stress episodes and the number of no-fiscal-stress episodes used in the calculation of the threshold and the signalling power.

Source: Commission services.

2. THE ECONOMIC AND BUDGETARY IMPLICATIONS OF AGEING

In the period up to 2060, the EU population is projected to age significantly, with marked social economic consequences. ([38]) A dramatic increase in both total and old age dependency rates is expected to occur in the period up to 2060. For example, in the EU27 the ratio of inactive population aged 65 and more as percentage of the employed (aged 20-64) is projected to increase from 40 in 2010 to 74 in 2060 (i.e. nearly doubling). ([39]) Under unfavourable demographic conditions, financing age-related public policies on a pay-as-you go basis (i.e. through taxation) becomes progressively more challenging as the "economic base" expands at a slower pace than age-related expenditure (for a given set of unchanged social policies). ([40])

This chapter looks at the major demographic factors influencing population projections underlying this report and considers the way in which they are expected to affect (non-fiscal) macroeconomic variables of EU27 Member States, and ultimately their budgetary impact through age-related expenditures.

2.1. POPULATION AGEING

Population ageing is a phenomenon that has been going on in Europe since most of the second half of the twentieth century. It is best visible in the increases in life expectancy and the fall in fertility rates (Graphs 2.1 and 2.2).

([38]) Eurostat's EUROPOP2010 projection, released in April 2011 (News release 80/2011, 8 June 2011) is the basis for the 2012 Ageing Report: EC(DG ECFIN)-EPC (AWG), "The 2012 Ageing Report – Economic and budgetary projections for the 27 EU Member States (2010-2060)", European Economy No 2/2012, which includes detailed long-term budgetary projections for the 27 EU Member States. Eurostat's demographic projections are made under the "convergence" scenario, which assumes that across Member States, fertility rates will gradually raise, converging over the very long-term to those of the forerunners, while life expectancy will continue to increase.

([39]) European Commission (2011), "The 2012 Ageing Report: Underlying assumptions and projection methodologies", European Economy, No. 4, Chapter 2, pp 108.

([40]) Samuelson, P. (1958), "An exact consumption-loan model of interest with and without a social contrivance of money", Journal of Political Economy, vol. 66. Aaron H. (1966), "The social insurance paradox", Canadian Journal of Economics and Political Science, vol. 32.

Graph 2.1 shows a clear positive trend in life expectancy at birth over the last five decades (in six selected EU27 Member States). ([41]) This reflects positive developments over very long periods, due to improvements in living conditions and medical advances since the ninetieth century. Life expectancy is expected to continue to improve in the coming decades, although at a slower pace compared with historical trends, largely because infancy mortality rates are already at very low levels (as the impact of reducing mortality rates of older ages is smaller).

Graph 2.1: **Life expectancy at birth, 1960 to 2010, selected countries (total population)**

Note: Trends across countries are similar. Selection of countries based on the length of time series, retaining countries with data since 1960.
Source: Eurostat.

Graph 2.2: **Fertility rates, 1960-2010, selected countries**

Note: Trends across countries are similar. Selection of countries based on the length of time series, retaining countries with data since 1960.
Source: Eurostat.

([41]) These countries were chosen for having relatively long time series.

At EU27 level life expectancy at birth for women is projected to increase from 82.5 years in 2010 to 89.1 by 2060, while for men it is set to increase from 76.7 years to 84.6. The gender gap in life expectancy at birth is expected to narrow from 5.8 years in 2010 to 4.5 in 2060. In addition, it is in countries that currently have lower life expectancy that the increase is projected to be the largest, reflecting the assumption of a catching-up effect.

Fertility rates have declined sharply in the EU27 since the post-war "baby boom" peak above 2.5 children per woman in the mid 1960s to below the natural replacement rate of 2.1 (see Graph 2.2 for six selected countries). However, recent values suggest a reversal in the declining trend as, on average in the EU27, fertility rates have started to increase since 2000. During the projection period the fertility rate is expected to increase marginally (Table 2.1).

countries, but also in third countries. Traditionally, Germany, France and the United Kingdom recorded the largest number of inflows in the EU, but since 2000 there has been a rise of inflows to Italy, Spain and Ireland. After high inflows to the EU27 in the first half of the 2000s, flows were reduced drastically and even changed direction in some countries after the 2008-2009 economic crisis.

While demographic developments might differ considerably across countries (Graph 2.3), the EU27 population is projected to rise by 14.7 million (2.9%), due to the slight recovery in fertility and relatively dynamic net migration flows. However, the age distribution of the population is projected to undergo radical shifts, reflecting the ageing process.

Graph 2.3: **Change in population between 2010 and 2060**

Source: Eurostat, EUROPOP 2010.

Table 2.1: **Demographic assumptions used for Europop2010 population projections for EU27 Member States**

	Fertility rate (births per woman)		Life expectancy at birth				Net annual migration flow (as % of population)	
			Females		Males			
	2010	2060	2010	2060	2010	2060	2010	2060
BE	1.8	1.8	82.6	89.0	77.3	84.6	0.6	0.2
BG	1.6	1.7	77.5	86.6	70.3	81.7	-0.1	0.0
CZ	1.5	1.6	80.4	87.8	74.3	83.2	0.3	0.2
DK	1.8	1.8	81.1	88.4	77.0	84.4	0.2	0.1
DE	1.4	1.5	82.7	88.9	77.6	84.8	0.1	0.1
EE	1.6	1.7	80.1	88.0	69.8	81.6	0.0	0.0
IE	2.1	2.0	82.0	88.9	77.0	84.5	-0.5	0.2
EL	1.5	1.6	82.8	88.3	77.8	84.9	0.2	0.2
ES	1.4	1.6	84.7	89.9	78.6	85.4	0.2	0.4
FR	2.0	2.0	84.6	90.0	77.9	85.1	0.1	0.1
IT	1.4	1.6	84.2	89.7	78.9	85.5	0.6	0.4
CY	1.5	1.6	82.8	89.0	78.3	85.1	0.3	0.4
LV	1.3	1.5	78.0	87.2	68.3	81.1	-0.2	0.0
LT	1.6	1.7	78.7	87.1	67.7	80.7	-0.4	0.0
LU	1.6	1.7	82.9	89.5	77.8	84.9	1.3	0.4
HU	1.3	1.5	78.4	87.4	70.4	81.9	0.2	0.2
MT	1.4	1.6	82.3	88.9	77.6	84.9	-0.3	0.1
NL	1.8	1.8	82.8	89.1	78.7	85.2	0.2	0.0
AT	1.4	1.6	83.0	89.1	77.6	84.8	0.2	0.3
PL	1.4	1.6	80.1	87.9	71.7	82.4	0.0	0.0
PT	1.3	1.5	82.5	88.6	76.5	84.2	0.2	0.3
RO	1.4	1.6	77.5	86.7	70.0	81.8	0.0	0.0
SI	1.5	1.7	82.3	88.8	75.8	84.0	0.5	0.2
SK	1.4	1.6	79.1	87.4	71.6	82.2	0.2	0.1
FI	1.9	1.9	83.2	89.2	76.6	84.4	0.3	0.1
SE	1.9	1.9	83.4	89.3	79.4	85.5	0.6	0.2
UK	1.9	1.9	82.4	89.1	78.3	85.2	0.3	0.2
EU	1.6	1.7	82.5	89.1	76.7	84.6	0.2	0.2
EA	1.6	1.7	83.5	89.4	77.9	85.0	0.2	0.2

Source: Eurostat

The third factor in population projections is net migration flows. Net migration flows are the hardest to predict being highly volatile and variable across countries, because they depend not only on socio-economic conditions in EU

The EU27 population distribution is shown in the age pyramid (Graph 2.4), while the projected change of the main population age groups are shown by Member State in Graph 2.5. Notably, elderly population (65 and over) is expected to increase by about 12 million between 2010 and 2060, while very elderly population (80 and over) is projected to increase by 7.4 million.

Net migration at EU27 level is projected to stabilise at an annual rate of around 0.2% of the population. Overall, cumulative net migration in the EU27 is projected to add up to 60.7 million people from 2010 to 2060, of which 45.8 million in the euro area.

2.2. LABOUR FORCE PROJECTIONS

The macroeconomic variables outcome of the projected change in the population structure result mainly from the simultaneous reduction in the working age population and the rise in the number of elderly people receiving public transfers. Overall, the old-age dependency ratio, defined as the population aged 65 and more as percentage of employed (aged 20-64), is projected to nearly double, increasing from 40% in 2010 to 74% in 2060. Simultaneously, the working age population (aged 20 to 64) is projected to fall from 307.5 million in 2010 to 264.5 million in 2060.

Graph 2.6 shows the projected trajectory of the working age population and of total employment between 2007 and 2060. The figures come from the 2012 Ageing Report, which works out the economic consequences of ageing over the period 2010 to 2060. Linked to the results of the most recent DG ECFIN economic forecasts available at the time (autumn 2012), the data provided in that report forms the basis for the quantitative assessment of the impact of ageing on public finances carried out in this report.

In the calculation of sustainability indicators, [42] the most recent (autumn 2012) DG-ECFIN's medium term economic forecast for growth and fiscal balances (covering the period up to T+2) are extrapolated by incorporating the long-term projections (up to 2060) of the 2012 Ageing Report on the projected evolution of age-related expenditure on pensions, healthcare, long-term care, education and unemployment benefits. [43] The cut-off date for considering legislated reforms with an impact on (future) age-related expenditure, particularly on pensions, was December 2011. Reforms enacted after that date are briefly described in Box 2 of the 2012 Ageing Report [44], and will be taken into consideration only after the Economic and Policy Committee (EPC) of the EU endorses a favourable "peer review" process carried out by its Sub-Committee on Ageing Populations and Sustainability (AWG). Since publication of the 2012 Ageing Report, pension reforms were peer reviewed and endorsed by the EPC for four Member States, namely Belgium, Denmark, Hungary and the Netherlands. Consequently, projected ageing costs were revised for these countries in order to calculate sustainability indicators. EU27 and euro area averages have changed accordingly.

Graph 2.4:   **Age pyramids for the EU27 in 2010 and 2060**

Source: Eurostat, EUROPOP 2010.

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[42] Specifically, S1 and S2.
[43] The methodologies used to project age-related expenditure are described in detail in the 2012 Ageing Report. In particular, each component is projected separately i.e. feedback effects between the different components are ignored in order to simplify (e.g. pension, healthcare and long-term care reforms do not interact).
[44] On pages 97-98, Box 2: "Latest pension reforms, not incorporated in the Ageing Report 2012 projections".

Graph 2.5:   **Main age groups of the population for all Member States, EU27 and EA17 in 2010 and 2060**
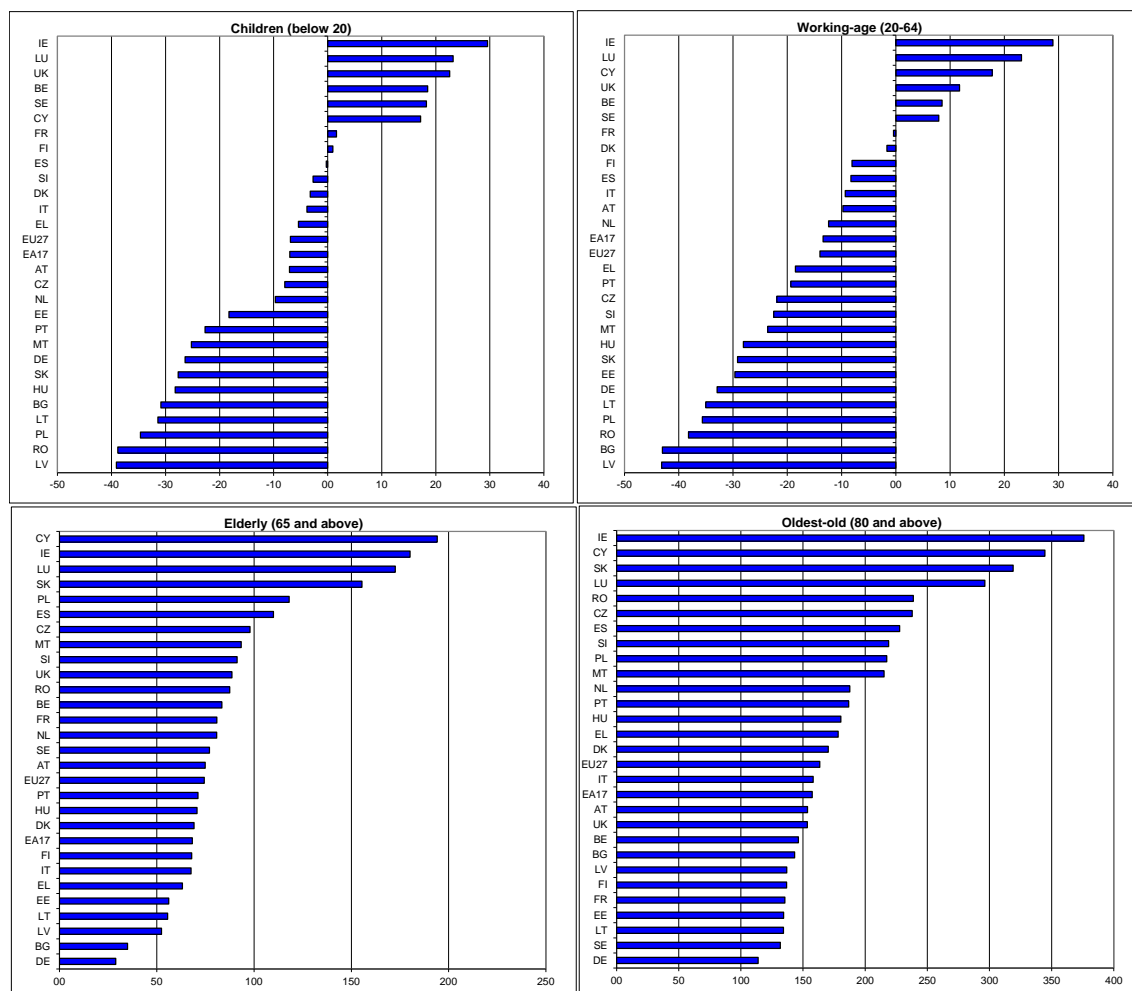
Source: Eurostat, EUROPOP 2010.

Graph 2.6:   **Population of working-age and total employment, EU27**

Source: Commission services, EPC.
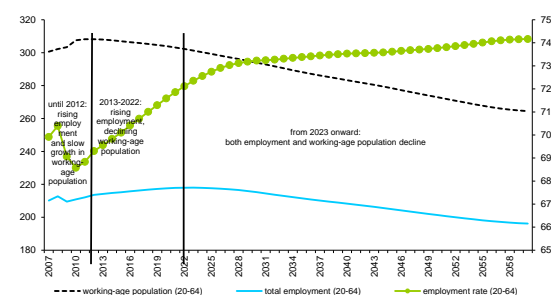
Graph 2.6 shows that the working age population is projected to increase until 2022 and then starts to decline, despite the projected rise in the participation rate (20-64) from 75.6% in 2010 to 78.8% in 2060 in the EU27, most of which will have materialised by 2020. The gender gap in participation rates is expected to continue to narrow gradually, especially in countries where it is currently larger. Overall, employment rates are expected to increase from 68.6% in 2010 to 74% in 2060. Employment rates of older workers are expected to grow substantially as a result of (pension) reforms aimed at prolonging working life in many Member States, and the projected improvement in health conditions of older people. Reforms of pension, healthcare and long-term care systems have been implemented to curb the impact of ageing on future expenditure.

Increasing labour participation rates in most countries and stable net migration flows overall will only moderate the fall in employment due to the decline in working age population, as the past decades' decline in fertility rates works through, over the period 2020 to 2060. Overall, employment (20-64) in the EU27 is projected to decline by about 15 million by 2060.

2.3. LABOUR PRODUCTIVITY AND POTENTIAL GROWTH

Economic growth is driven by changes in total labour input and its productivity. Graph 2.7 shows the long term economic growth projections in the EU27 from 2010 to 2060, in three sub periods. In the period 2010 2020, potential GDP is projected to growth on average by 1.5% per year, of which 0.4% is due to the projected increase in employment. From 2030 onwards, labour input will act as a drag on growth on both the EU27 and in most Member States, reflecting developments in the working age population.

As a result of the fall in labour input, increases in labour productivity will eventually become the only source of economic growth. Trends in total factor productivity growth explain most of labour productivity growth. Total factor productivity growth is assumed to converge towards a rate of 1% by 2060 for all Member States, which given a labour share in income of 0.65, implies a common labour productivity growth rate of 1.5% for all Member States in 2060.

Graph 2.7: **Breakdown of GDP growth in the EU27**
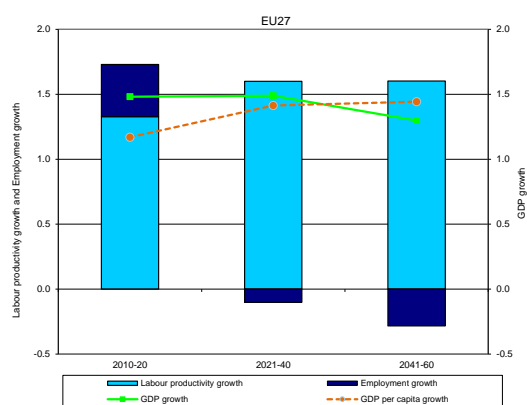
Source: Commission services, EPC.

Graph 2.7 also shows GDP growth per capita. It suggests that over the three periods considered, per capita GDP grows first below total GDP until 2020, overtaking it after 2040, reflecting the fact that per capita values are closely linked to total factor productivity developments, being less affected by changes in labour input.

2.4. BUDGETARY PROJECTIONS

An ageing population raises government expenditure (in percentage of GDP) in the provision of age-related transfers and services. According to the 2012 Ageing Report, the budgetary impact of ageing is projected to be substantial in almost all Member States, with effects becoming apparent already after 2020. The 2012 AR confirms results obtained in previous projection exercises, showing that population ageing is posing a major challenge for public finance sustainability. The 2012 Ageing Report also shows that age related expenditure in 2010 was higher than projected in the 2009 Ageing Report, reflecting the effects of the crisis.

There is considerable uncertainty as to future developments of age-related public expenditure, in particular regarding potential public expenditure increases on health care and long-term care. For this reason, in addition to a baseline scenario – the "AWG reference scenario" – , a risk scenario is also considered – the "AWG risk scenario", the latter reflecting the impact of additional non-demographic drivers of costs for health care and long term care expenditure.

Four age-related items were projected, covering expenditure on public pensions, healthcare, long term care and education. The sum of these four items makes the (strictly) age-related expenditure aggregate. For consistency with previous editions of the Ageing Report, expenditure on unemployment benefits was also projected. The latter is more affected by cyclical developments rather than by long wave demographic factors. The sum of these five items makes the AWG budgetary projections for total age-related expenditures.

Graph 2.8 shows the projected change in the (strictly) age related expenditure between 2010 and 2060 for the AWG reference and risk scenarios.

Graph 2.8: **Projected change in strictly age-related expenditure - AWG reference and risk scenarios, 2010-2060**
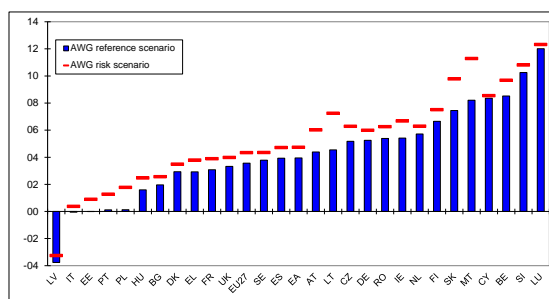
Note: Including pensions, healthcare, long term care and education.
Source: Commission services, EPC.

In the baseline scenario, total AWG's age-related budgetary expenditure is projected to increase on average by 3.6 percentage points of GDP by 2060 in the EU and 4.0 p.p. in the euro area (Table 2.2). In the EU27, most of the projected increase in public spending over the period 2010-2060 will be on pensions (+1.4 p.p. of GDP), long-term care (+1.5 p.p. of GDP) and healthcare (+1.1 p.p. of GDP). In the risk scenario, the total increase in expenditure by 2060 is projected to amount to 4.3 p.p. of GDP in the EU27 and 4.7 in the euro area. This higher projected increase is due to expenditure on healthcare and long-term care, raising both by 1.7 p.p. of GDP by 2060 in the EU.

As regards pensions, reforms were implemented since the completion of the 2009 Ageing Report in a number of Member States (e.g. France, Greece, Italy, the Czech Republic and Spain). They are expected to reduce significantly future increases in public pension expenditure, curbing the budgetary impact of ageing. However, in some other countries, the scale of reforms has been insufficient to stabilise future outlays in terms of GDP ratios and they need to be pursued further to cope with the strong rise in old age dependency ratios in Europe. A key policy response, already implemented in some Member States, is to increase the retirement age and link it with changes in life expectancy (the Czech Republic, Denmark, Greece, Spain, Italy, the Netherlands and Slovakia), together with reducing the generosity of public pension schemes to make these programmes financially more sustainable in view of the demographic trends. In all Member States, the share of public pensioners in the age group below 65 is constantly decreasing over the whole projection horizon (see chapter 5.1).

Overall, expenditure on public pensions is projected to increase by 1.4 percentage points of GDP by 2060 in the EU, from a level of 11.3% of GDP in 2010. The demographic transition to an older population is the only driver behind this increased in public pension expenditure.

In the AWG reference scenario, healthcare expenditure is driven by a combination of changes in the population structure, assuming that half of future gains in life expectancy are spent in good health, and a low impact of income on per capita health care expenditure. The combined effect of these factors is a projected increase in spending of 1.1 p.p. of GDP from 7.1% of GDP in 2010. Increases across countries range from 0.4 p.p. (Belgium and Cyprus) to 2.9 p.p. of GDP (Malta).

In the AWG risk-scenario, which considers the impact of additional non-demographic cost drivers, namely those of technological change (e.g. development of new drugs and treatments) and institutional factors (e.g. widening of health care coverage), expenditure grows in excess of what could be expected on purely demographic factors. In the risk scenario, in the EU27 public expenditure is projected to increase by 1.7 p.p. of GDP from 2010 to 2060 (i.e. +0.6 p.p. of GDP above the reference scenario).

The very old (aged 80+) will be the fastest growing segment of the population in the coming decades. This will put a strong upward pressure on government expenditure for long-term care, because demand for long-term care services raises with frailty and disability at (very) old ages. According to the AWG reference scenario, government expenditure on long-term care is projected nearly to double from 1.8% of GDP in 2010 to 3.4% of GDP in 2060 in the EU27. The risk scenario puts additional pressure on expenditure, by considering the effect of a convergence in real living standards on long-term care expenditure. It represents a projected additional cost of 0.2 p.p. of GDP over the 2010-2060 period in the EU27.

As regards expenditure on education, the AWG reference scenario suggests a small decline in public expenditure in the EU27 (from 4.6% of GDP in 2010 to 4.5% of GDP in 2060), while unemployment benefit expenditure in the EU27 is

projected to decline by 0.3 p.p. of GDP over the long run in the EU.

Overall, on the basis of the reference scenario, the sum of all age-related public expenditure categories is projected to increase by 3.6 p.p. of GDP over 2010-2060 in the EU27 and by 4.0 p.p. in the euro area. There are some marked differences across Member States:

•   The total age-related increase in public expenditure in the reference scenario will be very significant in six Member States (Belgium, Cyprus, Luxembourg, Malta, Slovenia and Slovakia) with a projected increase of 7 p.p. of GDP or more.

•   For a second group of countries – the Czech Republic, Germany, Ireland, Lithuania, the Netherlands, Austria, Romania and Finland – the total age-related increase in public expenditure is more limited, ranging from 4 p.p. to 7 p.p. of GDP.

•   Finally, the increase will be more moderate, 4 p.p. of GDP or less, in Bulgaria, Denmark, Estonia, Greece, Spain, France, Italy, Latvia, Hungary, Poland, Portugal, Sweden and the United Kingdom.

For the EU27 as a whole, the projected increase in total budgetary costs has been revised downwards from the 2009 to the 2012 edition of the Ageing Report (Graph 2.9). In eighteen Member States, the total variation in budgetary costs (in the period covered by the projections) declined between the 2009 and the 2012 Ageing Reports. [45] This downward trend in the expected increase in age-related expenditure largely reflects the adoption of structural reforms on the pension [46] and healthcare sectors in many EU Member States since the completion of the 2009 Ageing Report, more than offsetting the "mechanic" negative impact of the downward revision in the projected total factor productivity growth rate which, ceteris paribus, tends to raise age-related expenditure to GDP ratios by depressing nominal GDP growth.

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[45] For the 2009 Ageing Report the variation is calculated between 2007 and 2060. For the 2012 Ageing Report the variation is calculated between 2010 and 2060.

[46] See Box 2.1 in "The 2012 Ageing Report: Underlying assumptions and projection methodologies", European Economy, No. 4, giving an overview of recent pension reforms legislated in the Member States and reflected in labour force projections.

Table 2.2:   **Increase in total budgetary expenditure, 2010-2060, % of GDP**

| | (1) Pension expenditure | | (2) Healthcare expenditure | | | (3) Long-term care | | | (4) Education expenditure | | (5) Unemployment | | (6)=(1)+(2)+(3)+(4)+(5) Total | | | |
| | | | | Reference scenario | Risk scenario | | Reference scenario | Risk scenario | | | | | | Reference scenario | Risk scenario | |
	2010	2010-2060	2010	2010-2060	2010-2060	2010	2010-2060	2010-2060	2010	2010-2060	2010	2010-2060	2010	2010-2060	2010-2060	
BE	11.1	5.1	6.3	0.4	0.8	2.3	2.7	3.4	5.7	0.4	2.1	-0.1	27.6	8.5	9.7	BE
BG	9.9	1.1	4.3	0.5	1.1	0.5	0.3	0.4	3.5	0.2	0.4	-0.2	18.7	2.0	2.6	BG
CZ	9.1	2.7	6.9	1.7	2.4	0.8	0.7	1.0	3.4	0.2	0.4	-0.1	20.6	5.2	6.3	CZ
DK	10.1	-1.1	7.4	0.9	1.5	4.5	3.4	3.4	7.6	-0.3	0.7	0.0	30.3	2.9	3.5	DK
DE	10.8	2.6	8.0	1.4	2.0	1.4	1.7	1.8	3.9	-0.2	1.0	-0.3	25.2	5.2	6.0	DE
EE	8.9	-1.1	5.2	1.1	1.8	0.5	0.3	0.5	5.2	0.0	0.6	-0.2	20.3	0.0	0.9	EE
IE	7.5	4.1	7.3	1.1	1.7	1.1	1.5	2.1	6.3	0.0	2.6	-1.3	24.9	5.4	6.7	IE
EL	13.6	1.0	6.5	0.9	1.2	1.4	1.2	1.8	3.9	0.1	0.6	-0.2	25.9	2.9	3.8	EL
ES	10.1	3.6	6.5	1.3	1.9	0.8	0.7	0.8	4.2	-0.5	2.0	-1.1	23.6	3.9	4.7	ES
FR	14.6	0.5	8.0	1.4	2.1	2.2	2.1	2.2	5.0	-0.4	1.7	-0.6	31.4	3.1	3.9	FR
IT	15.3	-0.9	6.6	0.6	1.0	1.9	0.9	0.9	4.1	-0.5	0.8	-0.3	28.6	-0.1	0.4	IT
CY	7.6	8.7	2.6	0.4	0.5	0.2	0.1	0.1	6.7	-0.7	0.5	-0.1	17.5	8.4	8.5	CY
LV	9.7	-3.8	3.7	0.5	1.1	0.7	0.4	0.4	4.4	-0.6	0.7	-0.3	19.2	-3.8	-3.3	LV
LT	8.6	3.5	4.9	0.7	1.3	1.2	1.1	3.2	4.4	-0.5	0.4	-0.2	19.6	4.5	7.2	LT
LU	9.2	9.4	3.8	0.7	1.0	1.0	2.1	2.1	3.2	-0.1	0.6	-0.1	17.7	12.0	12.3	LU
HU	11.9	0.5	4.9	1.1	1.7	0.8	0.6	0.9	4.3	-0.5	0.4	-0.1	22.4	1.6	2.5	HU
MT	10.4	5.5	5.4	2.9	3.6	0.7	0.9	3.2	5.1	-1.1	0.4	0.0	21.9	8.2	11.3	MT
NL	6.8	1.7	7.0	1.1	1.6	3.8	3.7	3.7	5.3	-0.5	1.6	-0.3	24.6	5.7	6.3	NL
AT	14.1	2.0	7.4	1.6	2.2	1.6	1.2	2.3	4.9	-0.4	0.8	-0.1	28.8	4.4	6.0	AT
PL	11.8	-2.2	4.9	1.9	2.6	0.7	1.0	1.9	3.9	-0.5	0.2	-0.1	21.6	0.1	1.8	PL
PT	12.5	0.2	7.2	1.1	1.6	0.3	0.3	1.0	4.7	-1.1	1.2	-0.4	26.0	0.1	1.3	PT
RO	9.8	3.7	3.7	1.0	1.4	0.6	1.1	1.5	3.5	-0.1	0.5	-0.3	18.1	5.4	6.3	RO
SI	11.2	7.1	6.1	1.1	1.7	1.4	1.6	1.6	4.7	0.5	0.3	0.0	23.8	10.3	10.8	SI
SK	8.0	5.2	6.2	2.1	3.0	0.3	0.4	1.9	3.1	-0.1	0.2	-0.1	17.8	7.5	9.8	SK
FI	12.0	3.2	6.0	1.0	1.5	2.5	2.6	2.9	5.9	0.2	1.6	-0.3	28.1	6.7	7.5	FI
SE	9.6	0.6	7.5	0.7	1.2	3.9	2.5	2.5	6.3	0.0	0.6	0.0	27.9	3.8	4.3	SE
UK	7.7	1.5	7.2	1.1	1.8	2.0	0.7	0.7	5.0	0.0	0.3	0.0	22.1	3.3	4.0	UK
EU	11.3	1.4	7.1	1.1	1.7	1.8	1.5	1.7	4.6	-0.2	1.1	-0.3	26.0	3.6	4.3	EU
EA	12.2	1.8	7.3	1.1	1.7	1.8	1.7	1.9	4.5	-0.2	1.3	-0.4	27.0	4.0	4.7	EA

Note: For budgetary surveillance purposes, in the case of France and Germany current legislation in the area of long-term care is relevant (see also p. 206 of the 2012 Ageing Report). This changes the long-term care expenditure development up to 2060 in the reference scenario not only for those two countries (France: -0.2 p.p. of GDP; Germany: +0.1 p.p. of GDP), but also for EU and EA averages (EU:+0.9 p.p. of GDP; EA: +0.8 p.p. of GDP). Projected total age-related expenditures up to 2060 in the reference scenario change accordingly (France: +0.8 p.p.; Germany: +3.6 p.p.; EU: +2.9 p.p. and EA: +3.1 p.p. of GDP). The latter figures are used as a reference in the country-specific sustainability assessment in chapter 7.
Source: Commission services, EPC.

Graph 2.9:   **Comparing the 2009 and 2012 Ageing Report**

Change in total expenditure (2007/10-2060), reference scenarios of the
Ageing Report
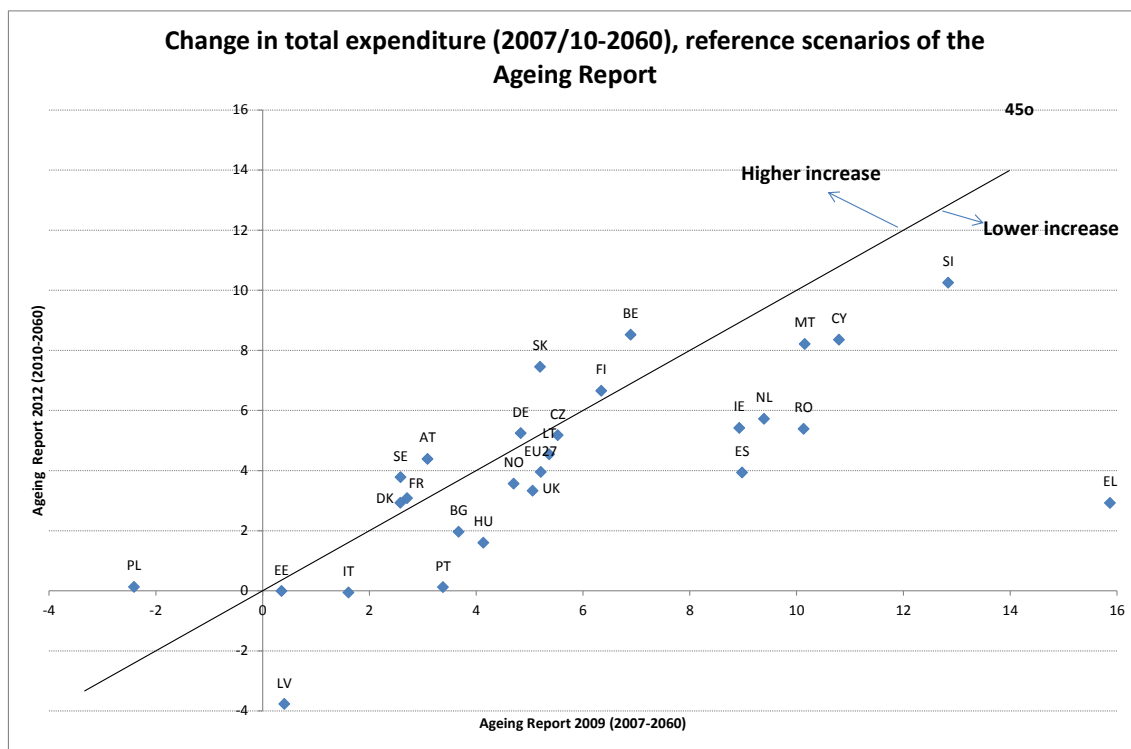
Source: Commission services.

3. QUANTITATIVE RESULTS

This chapter presents the results of the sustainability analysis in terms of the S0, S1 and S2 indicators and their respective components, as described in Chapter 1.

3.1. OVERALL RESULTS OF SHORT-TERM, MEDIUM-TERM AND LONG-TERM INDICATORS

3.1.1. SHORT-TERM SUSTAINABILITY INDICATOR (S0)

The assessment of short-term risks for fiscal stress is based on the S0 indicator, which is a composite indicator aimed at identifying risks in the short-term. [47]

As suggested in Chapter 1.5, the analysis of short-term (one-year ahead) risks for fiscal stress is conducted at three different levels. First of all, and primarily, the value of the S0 indicator is used to assess overall risks. Secondly, the values of the fiscal and financial-competitiveness sub-indexes are taken into account separately to identify countries where fiscal risks emerge from one of the two thematic areas, though not at aggregate level. The consideration of the two sub-indexes is, moreover, relevant also to gain insights on the specific area(s) risks stem from for the countries where overall fiscal sustainability risks are detected to be high by the S0. Finally, the identification of specific sources of vulnerability is done through the analysis at the level of individual variables included in the S0.

With regard to overall short-term risks for fiscal stress, 2012 values of the S0 indicator are reported for EU Member States in Graph 3.1 (values for the previous two years are also reported for reference). As expected, in 2009 more than half of EU countries had a value of the S0 above the threshold, pointing to high risk in the short term. Since then, the situation has improved somewhat

in all countries. In 2012, only two countries (Cyprus and Spain) face short-term risks for fiscal stress, as shown by values of the S0 above its threshold (represented by the horizontal line).

Graph 3.1: **The S0 indicator for EU countries, 2009-2012**
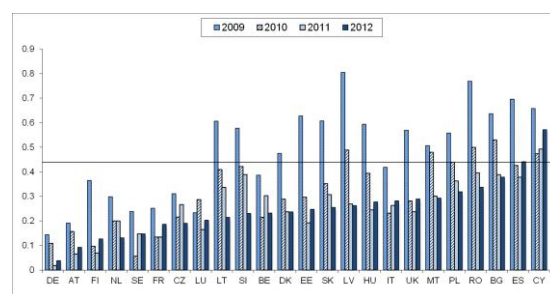
Source: Commission services.

By looking at the two thematic sub-indexes (Graph 3.2 reports 2012 values, and also 2009 values for reference, with thresholds represented by horizontal lines), overall risks can be qualified as stemming from both the fiscal and the financial-competitiveness sides of the economy, or stemming only from the fiscal side. The analysis of the thematic sub-indexes highlights three countries (France, the United Kingdom and Slovakia) facing short-term challenges stemming from the fiscal side, though these are not as acute to be reflected in overall high risks according to the S0 indicator.

The comparison between 2012 and 2009 values shows a substantial improvement intervened both in terms of overall risks highlighted by the S0 (2 countries above the threshold in 2012 against 14 in 2009) and in terms of risks specifically emanating from the fiscal and/or financial-competitiveness side(s) of the economy. Indeed, only one country is above the threshold for both fiscal and financial-competitiveness sub-indexes in 2012 against 10 countries in 2009.

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[47] For more details, see European Commission (2011) "2011 Report on Public Finances in EMU", chapter IV-3, *European Economy* 3/2011, and K. Berti, M. Salto and M. Lequien (2012), "An early-detection index of fiscal stress for EU countries", *European Economy Economic Paper*, forthcoming.

Graph 3.2:   **Fiscal and financial-competitiveness sub-indexes for EU countries, 2009 and 2012**
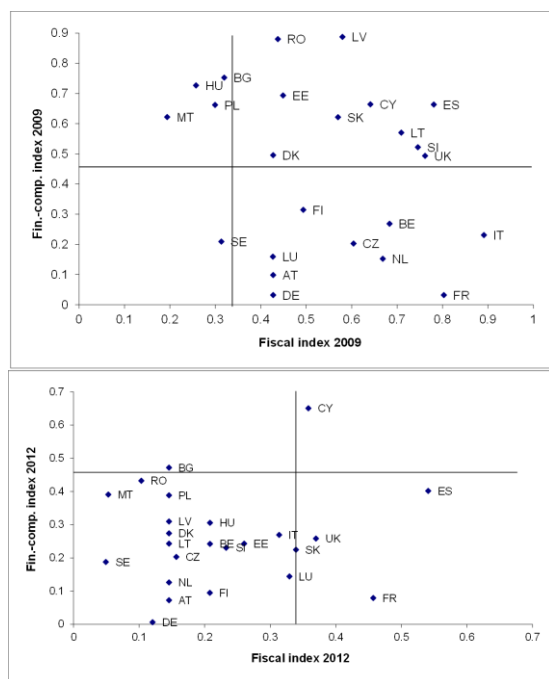
Source: Commission services.

Values taken by the specific variables incorporated in the composite indicator S0 are reported in Table 3.1 and Table 3.2 for the fiscal and financial-competitiveness subgroups respectively [48]

(values above the variable-specific thresholds are highlighted in the tables). The tables allow tracking down the specific sources of fiscal risk for each Member State, thereby possibly identifying areas calling for policy action. [49]

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[48] For six countries (Bulgaria, Cyprus, the United Kingdom, Lithuania, Latvia and Poland), latest available data on net savings of households refer to 2010 so that extrapolations were needed to obtain 2011 values used in the calculation of the S0 indicator for 2012. For other three countries (Luxembourg, Romania and Malta), for which also 2010 values of net savings of households are missing, the variable has been excluded from the computation of the S0 indicator. For the yield curve figures are available till 2011 and are extrapolated for 2012, to be used in the calculation of the S0 indicator for 2012 (the only exception being Estonia, for which also the 2011 value is missing and extrapolated from the 2010 value, and Luxembourg, for which the 2010 value of the variable is also missing, so that the variable drops from the computation of the S0 indicator). Extrapolations respectively for 2011/2012, for the aforementioned variables, were done by adding to the 2010/2011 value 50% of the change recorded for the variable over the previous year. For the variable short-term government debt over GDP, 2011 values are available for all countries, and they are assumed to remain constant for 2012. Finally, the variable net public debt over GDP has been excluded from the computation of the S0 for seven countries (Cyprus, the Czech Republic, Luxembourg,

Malta, Romania, Slovakia and Slovenia), for which data are missing.

[49] As explained in Chapter 1.5, variables common to the scoreboard for the surveillance of macroeconomic imbalances are used here with specific focus on their role in detecting short-term fiscal sustainability challenges.

Table 3.1:   **Fiscal variables used in the S0 indicator, 2011-2012 values**

		Balance (%GDP)	Primary balance (%GDP)	Cycl. adj. balance (%GDP)	Stabil. primary balance (%GDP)	Gross debt (%GDP)	Change gross debt (%GDP)	Short-term debt (%GDP)	Net debt (%GDP)	Gross financing need (%GDP)	Interest growth rate diff.	Change expend. gen. govt (%GDP)	Change consumpt. gen. govt (%GDP)	Old-age depend. ratio 20 years ahead	Change in proj. age-related expend.(%GDP)
BE	2011	-3.9	-0.4	-3.6	-0.1	97.8	2.2	13.3	81.4	21.1	-0.1	0.8	0.1	37.6	0.1
	2012	-3.1	0.5	-2.3	1.7	99.9	2.2	13.3	82.9	19.7	1.8	1.0	0.3	38.2	0.1
BG	2011	-2.0	-1.4	-1.3	-0.4	16.3	0.1	0.5	-11.3		-2.6	-1.8	-0.5	39.3	-0.2
	2012	-1.5	-0.6	-0.8	0.6	19.5	3.2	0.5	-9.7	3.8	3.5	0.8	0.0	39.7	-0.1
CZ	2011	-3.2	-1.9	-3.3	1.0	40.8	3.0	3.9		9.2	2.6	-0.7	-0.6	34.9	0.0
	2012	-3.5	-2.1	-2.7	1.5	45.1	4.3	3.9		9.8	3.7	0.5	0.1	35.2	0.0
DK	2011	-1.9	0.0	0.5	1.2	46.6	3.7	4.4	0.2	3.4	2.9	0.2	-0.5	38.3	0.1
	2012	-4.0	-2.4	-1.8	0.8	45.4	-1.2	4.4	4.1	6.0	1.8	1.7	0.1	39.0	0.1
DE	2011	-0.8	1.8	-0.9	-0.5	80.5	-1.9	12.6	55.3	15.1	-0.7	-2.4	-0.3	49.5	0.0
	2012	-0.2	2.3	0.0	0.8	81.7	1.2	12.6	58.4	12.8	1.0	-0.1	0.2	51.0	0.1
EE	2011	1.2	1.3	1.0	-0.5	6.1	-0.6	0.0	-0.2		-9.2	-2.4	-1.3	36.3	-0.2
	2012	-1.1	-1.0	-1.4	-0.2	10.5	4.4	0.0	4.3		-3.3	2.9	-0.1	36.6	-0.1
ES	2011	-9.4	-7.0	-7.6	1.6	69.3	7.8	10.7	57.5	21.3	2.7	-1.1	-0.5	37.0	0.0
	2012	-8.0	-5.0	-6.0	3.9	86.1	16.8	10.7	78.6	20.0	5.5	-0.9	-1.0	38.0	0.1
FR	2011	-5.2	-2.6	-4.3	0.2	86.0	3.7	13.2	78.8	19.1	0.2	-0.5	-0.4	40.0	0.0
	2012	-4.6	-1.9	-3.3	1.0	90.0	4.1	13.2	83.7	19.1	1.2	0.3	0.1	40.6	0.0
IT	2011	-3.8	1.0	-3.0	2.8	120.7	1.5	19.1	99.6	24.1	2.4	-0.5	-0.6	42.7	-0.1
	2012	-2.8	2.6	-1.3	6.5	126.5	5.8	19.1	103.1	25.1	5.3	1.0	0.0	43.8	-0.1
CY	2011	-6.3	-3.9	-6.1	0.4	71.1	9.7	8.0		11.4	0.7	-0.1	0.0	31.3	0.2
	2012	-5.2	-1.7	-4.4	4.0	89.7	18.6	8.0		8.5	5.6	0.7	0.0	31.5	0.2
LV	2011	-3.4	-2.0	-1.9	-3.2	42.2	-2.3	3.5	31.1		-7.9	-5.3	-1.1	37.0	-0.4
	2012	-1.7	-0.2	-1.2	-1.1	41.9	-0.3	3.5	30.5	3.6	-2.9	-1.6	-0.6	37.6	-0.2
LT	2011	-5.5	-3.7	-4.9	-2.1	38.5	0.6	2.3	34.0		-6.3	-3.4	-1.7	36.3	-0.2
	2012	-3.1	-1.0	-2.6	0.1	41.6	3.1	2.3	35.8	8.0	0.3	-0.6	-0.9	37.0	-0.1
LU	2011	-0.3	0.1	0.2	-0.8	18.3	-0.9	1.6			-4.2	-0.9	-0.3	31.2	0.1
	2012	-1.9	-1.4	-1.1	0.1	21.3	3.0	1.6		3.7	0.7	2.3	0.7	32.1	0.1
HU	2011	4.3	8.5	5.2	0.4	81.4	-0.5	7.1	78.6	20.8	0.6	-0.2	-1.2	33.9	-0.1
	2012	-2.6	1.6	-1.1	1.6	78.4	-3.0	7.1	72.6	23.4	2.1	-0.6	-0.1	34.3	-0.2
MT	2011	-2.7	0.4	-2.8	0.3	70.9	2.6	5.5			0.5	-0.2	0.0	39.4	0.1
	2012	-2.6	0.6	-2.5	0.6	72.3	1.4	5.5		12.9	0.8	0.3	0.2	39.4	0.1
NL	2011	-4.4	-2.4	-3.5	0.6	65.5	2.3	10.6	31.7	17.6	1.0	-1.3	-0.4	41.7	0.0
	2012	-3.6	-1.7	-2.2	1.2	68.8	3.4	10.6	35.1	13.0	1.8	0.0	0.0	42.6	0.1
AT	2011	-2.5	0.1	-2.5	-0.8	72.4	0.5	2.4	52.1	3.8	-1.2	-2.0	-0.5	40.5	0.1
	2012	-3.2	-0.5	-2.9	0.6	74.6	2.1	2.4	54.1	6.7	0.9	1.1	0.1	41.6	0.1
PL	2011	-5.0	-2.3	-5.0	-1.1	56.4	1.6	0.6	25.7	13.9	-2.2	-1.8	-0.9	35.8	-0.1
	2012	-3.4	-0.7	-2.9	0.2	55.5	-0.9	0.6	26.4	10.3	0.3	-0.8	-0.2	36.1	-0.1
RO	2011	-5.5	-4.0	-5.0	-1.4	33.4	2.9	7.6			-5.0	-2.2	-1.8	30.4	-0.1
	2012	-2.8	-1.0	-1.9	0.2	34.6	1.2	7.6		8.5	0.8	-1.7	-0.3	31.3	0.0
SI	2011	-6.4	-4.5	-5.7	1.3	46.9	8.3	0.5			3.5	0.5	0.1	40.2	0.1
	2012	-4.4	-2.0	-3.0	2.9	54.0	7.1	0.5		9.4	6.2	-1.9	-0.3	41.0	0.2
SK	2011	-4.9	-3.4	-4.9	-0.4	43.3	2.3	1.8		6.3	-0.9	-1.8	-1.4	32.2	0.1
	2012	-4.9	-3.1	-4.9	-0.5	51.7	8.4	1.8		7.6	-1.2	-0.6	-0.7	32.7	0.1
FI	2011	-0.9	0.5	0.3	-1.3	49.0	0.4	6.5	-54.1	5.8	-2.8	-1.0	-0.5	43.4	0.2
	2012	-2.0	-0.6	-0.6	0.0	53.1	4.1	6.5	-51.1	4.6	0.1	0.7	-0.1	43.8	0.3
SE	2011	0.2	1.4	0.3	-0.7	38.4	-1.0	9.8	-18.2	3.0	-1.8	-1.2	-0.2	38.0	0.0
	2012	-0.2	1.0	0.6	0.4	37.4	-1.1	9.8	-17.5	2.9	0.9	0.4	0.1	38.5	0.0
UK	2011	-7.8	-4.6	-6.7	0.5	85.0	5.6	14.6	76.6	15.3	0.6	-1.9	-0.9	35.8	0.0
	2012	-6.2	-3.0	-4.6	1.2	88.7	3.7	14.6	83.7	14.8	1.5	-0.1	0.3	36.4	0.0

(highlighted values beyond variable-specific threshold)
Notes: the variable short-term debt of government over GDP is assumed to remain constant in 2012 to 2011 values.
Source: Commission services.

Table 3.2: **Financial-competitiveness variables used in the S0 indicator, 2011-2012 values**

		YieldCurve	Real GDP growth	GDP per capita in PPP (% US level)	L.Net intern. investment position (%GDP)	L.Net savings households (%GDP)	L.Private debt (%GDP)	L.Private credit flow (%GDP)	L.Leverage fin. corp.	L.Short debt nonfin. corp. (%GDP)	L.Short debt households (%GDP)	L.Constructio n (%value added)	L.Current account (%GDP)	L.Change real eff exchange rate	L.Change nom. unit labour costs
BE	2011	2.8	1.8	81.3	64.4	6.0	232.3	13.7	6.7	81.1	1.7	5.6	-0.4	0.2	8.0
	2012	2.9	-0.2	79.4	65.7	5.1	235.7	11.6	8.8	77.8	1.7	5.7	-0.3	-1.2	6.2
BG	2011	1.6	1.7	30.8	-95.4	-3.0	170.1	0.1	5.0	40.1	3.0	7.1	-11.2	3.6	33.9
	2012	1.5	0.8	30.8	-85.6	-3.1	146.0	-6.7	4.7	27.9	2.4	6.5	-3.4	3.0	20.3
CZ	2011	2.5	1.9	55.2	-48.2	3.7	76.9	2.1	6.7	12.1	2.1	7.3	-2.8	-1.3	5.7
	2012	2.5	-1.3	53.9	-49.3	2.6	78.1	2.5	7.2	11.2	2.3	6.8	-3.0	-4.7	3.3
DK	2011	1.4	0.8	85.6	10.1	-0.1	244.0	5.6	5.0	31.0	7.4	4.7	3.9	0.3	11.0
	2012	1.2	0.6	84.7	24.5	-0.1	237.6	-2.2	5.1	29.5	6.4	4.8	5.1	-4.6	5.0
DE	2011	1.2	3.0	82.6	34.9	7.0	127.2	3.1	6.1	21.9	3.0	4.5	6.1	-3.9	6.8
	2012	0.9	0.8	82.1	32.6	6.7	127.8	4.8	6.4	24.2	2.8	4.6	5.9	-3.4	5.9
EE	2011	5.6	8.3	45.8	-72.8	0.3	148.5	-4.4	4.4	16.1	1.1	5.9	-0.9	4.0	9.1
	2012	5.9	2.5	46.4	-57.8	-0.1	132.9	6.8	4.2	13.7	0.8	6.4	2.8	0.2	-6.2
ES	2011	4.1	0.4	67.3	-88.9	4.4	227.2	1.4	10.0	17.5	3.2	10.9	-6.3	-1.4	4.9
	2012	4.4	-1.4	65.5	-91.7	2.9	217.9	-4.1	10.3	15.9	3.0	10.1	-4.3	-0.8	-2.1
FR	2011	1.9	1.7	73.4	-7.8	8.0	158.6	1.8	4.7	22.9	2.0	6.1	-1.5	-2.0	7.7
	2012	1.7	0.2	72.2	-15.9	8.1	160.4	4.0	5.9	23.0	1.9	6.2	-1.6	-3.3	6.0
IT	2011	4.0	0.4	68.8	-24.0	3.4	129.1	3.8	9.8	25.1	3.7	6.1	-2.8	-1.1	8.1
	2012	4.4	-2.3	66.1	-20.6	2.8	128.6	2.6	13.3	26.2	3.8	6.1	-2.9	-1.0	4.4
CY	2011	4.4	0.5	63.4	-35.6	4.2	278.1	23.7	17.0	33.8	12.8	8.9	-12.1	-0.4	7.2
	2012	4.7	-2.3	60.5	-71.3	4.4	287.5	16.1	27.4	35.0	12.9	7.8	-8.4	-3.1	8.8
LV	2011	5.0	5.5	40.2	-80.3	-0.2	140.4	-8.7	9.1	19.9	4.9	5.3	-0.5	7.2	-0.3
	2012	3.3	4.3	41.8	-73.3	-2.2	125.1	-2.5	7.8	16.3	4.5	5.5	3.1	6.9	-15.0
LT	2011	3.5	5.9	45.2	-55.4	-2.2	80.3	-5.6	6.6	11.0	1.1	5.9	-3.0	2.3	1.2
	2012	3.4	2.9	46.3	-52.6	-3.2	70.1	-0.8	7.2	10.5	1.1	6.5	0.0	0.9	-8.4
LU	2011		1.7	186.4	96.6		344.9	7.3	0.5	49.6	2.2	6.0	6.9	1.6	19.2
	2012		0.4	181.3	107.8		326.3	2.5	0.6	39.2	2.1	5.8	7.5	5.3	12.5
HU	2011	1.1	1.6	44.7	-112.8	3.0	154.0	-21.6	5.9	38.5	3.9	4.2	-2.2	-6.9	6.4
	2012	1.1	-1.2	43.7	-105.8	2.8	167.3	6.4	6.1	38.4	3.8	4.0	0.6	-6.7	3.7
MT	2011	3.1	1.9	58.0	7.4		209.3	6.8	3.6	60.9	5.5	4.3	-5.8	4.3	8.2
	2012	3.0	1.0	57.6	5.7		209.9	2.2	3.8	43.1	5.4	4.1	-4.3	3.3	5.8
NL	2011	1.6	1.0	89.5	22.6	1.6	225.3	3.3	2.9	23.8	4.0	5.3	5.7	1.1	7.6
	2012	1.3	-0.3	87.7	35.5	2.4	224.6	0.7	3.1	24.3	3.7	5.3	7.5	-0.9	5.8
AT	2011	1.9	2.7	88.1	-8.1	5.5	164.4	6.8	3.6	18.1	5.8	6.7	3.7	-0.2	8.9
	2012	1.7	0.8	87.3	-2.3	4.3	160.7	4.1	4.2	17.7	5.1	6.8	2.2	0.0	5.9
PL	2011	1.4	4.3	44.3	-65.4	4.2	74.2	3.6	4.0	9.6	3.9	8.1	-5.2	3.1	11.3
	2012	1.2	2.4	44.8	-63.5	4.0	79.5	7.1	4.8	10.1	3.6	8.0	-4.6	-1.1	4.3
RO	2011	1.7	2.5	33.5	-63.8		76.4	1.7	6.9	10.4	1.4	11.0	-6.7	1.1	36.5
	2012	2.2	0.8	33.4	-62.5		71.8	1.8	7.0	11.1	1.3	11.1	-4.3	0.8	12.9
SI	2011	3.6	0.6	58.1	-42.8	4.2	128.2	1.8	6.4	28.8	3.8	6.5	-2.5	-0.3	15.9
	2012	3.9	-2.3	56.0	-41.2	3.1	128.3	1.9	7.0	28.8	3.5	6.0	-0.4	1.6	8.3
SK	2011	3.1	3.2	50.2	-63.2	3.7	72.8	3.3	12.0	14.5	2.6	9.1	-4.2	8.5	9.4
	2012	3.1	2.6	50.7	-64.4	3.0	76.3	3.3	12.5	15.6	2.5	9.1	-2.1	1.8	4.4
FI	2011	1.6	2.7	78.7	11.8	1.9	182.8	6.9	4.7	6.9	3.2	6.7	2.0	-6.3	14.4
	2012	1.3	0.1	77.4	13.1	0.6	178.8	4.6	6.8	7.1	3.0	6.8	0.6	-3.1	9.1
SE	2011	0.2	3.9	86.7	-7.4	4.4	232.8	2.8	3.7	3.4	0.0	5.2	7.5	-2.8	5.1
	2012	-0.7	1.1	85.9	-8.3	5.3	232.2	6.3	4.2	3.6	0.0	5.6	6.6	0.4	1.2
UK	2011	2.2	0.9	74.6	-23.8	1.3	209.2	1.9	11.4	47.4	14.0	6.8	-2.1	-9.6	10.0
	2012	1.9	-0.3	73.1	-17.3	1.4	204.6	1.0	13.4	43.1	12.7	6.8	-2.2	-2.9	8.1

(highlighted values beyond variable-specific threshold)
Notes: variable names preceded by L indicate variables for which values are taken with one-year lag; for Bulgaria, Cyprus, United Kingdom, Lithuania, Latvia and Poland, 2011 values of the variable net savings of households are extrapolated from 2010 values, to be used in the computation of the 2012 value of the S0 indicator; 2012 values of the variable yield curve are extrapolated from 2011 values (only for Estonia, the extrapolation is done from the 2010 value).
Source: Commission services

3.1.2. RESULTS OF THE MEDIUM-TERM SUSTAINABILITY INDICATOR (S1)

To gauge the scale of the fiscal challenge in the medium term, the required fiscal adjustment over the period 2014-2020 to reach a given end-point for the debt-to-GDP ratio by 2030 is calculated. The required fiscal adjustment is captured by the S1 indicator ($S1_{2030}^{60\%}$), where the end-point is set to 60% of GDP by 2030. The structural primary balance is assumed to be linearly improving through 2020; thereafter it tends to deteriorate due to the cost of ageing population (unless this is negative), but the level of structural primary balance still guarantees that the debt end-point is reached by 2030. Graph 3.3 shows estimates of the medium-term sustainability indicator (S1) and its constituent parts. These are: (i) *the required adjustment given the initial budgetary position* (IBP), which is the gap between the structural primary balance in 2014 and the debt-stabilising structural primary balance together with the additional adjustment due to the cost of delay; (ii), *the adjustment necessary to reach the debt end-point* of 60% of GDP in 2060 and (iii) *the required adjustment given the change* in the budgetary position due to the costs of ageing (CoA).

<table>
<tr><td>Graph 3.3:</td><td>**Required adjustment of the structural primary balance implied by the S1 indicator and resulting debt and structural deficit trajectories**</td></tr>
</table>
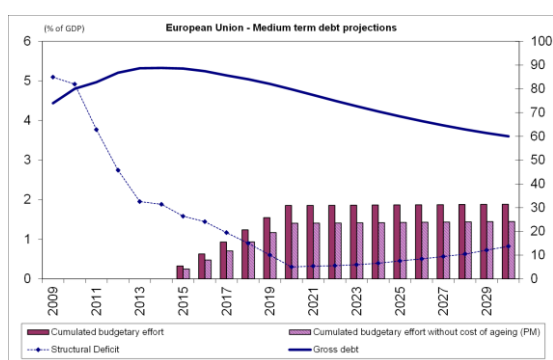
Source: Commission services.

The S1 indicator shows a sustainability gap for the EU-27 countries and for the Euro Area, of 1.8 percentage points and 1.7 percentage points of GDP respectively. The required consolidation effort varies significantly across countries,

depending on the initial structural primary balances, starting debt ratios and the growth prospects over the next 20 years. The additional adjustment of the primary balance required to bring the public debt/GDP ratio to 60% of GDP would be particularly demanding (a budgetary consolidation effort higher than 3 pp. of GDP) in Belgium, Spain, Cyprus, Slovenia and the UK. The consolidation to the structural primary balance implied by the S1 indicator in the EU-27 is shown in Graph 3.3 together with the resulting evolution of debt and the structural balance. In Graph 3.3, the required consolidation without budgetary costs due to ageing populations is also shown, pointing to the medium term benefits achievable through structural reforms.

The decomposition of the S1 indicator in Table 3.3 shows that the structural primary balance in 2014 should be adequate in both the EU-27 and euro area to stabilise debt at its current level. However, due the gradual adjustment of the primary balance, the so-called "cost of delay" subcomponent turns the required adjustment (IBP) positive in the EU-27, while it remains slightly negative for the euro area. The additional adjustment due to the debt requirement of 60% of GDP (DR) is of course positive only for those countries with the initial level of debt over 60% of GDP. The DR component accounts for an additional adjustment of 1.7 pp. of GDP for the EU-27 and 2.0 pp. of GDP for the euro area. Finally, the CoA component accounts for around half a percentage point of GDP of the S1 sustainability gap for the EU-27 and EA, however with large differences across countries.

Table 3.3 provides also the structural primary balances for 2011 and 2014, and the average primary balances over the pre-crisis period 2000-2008. The comparison between current and historical value provides hints of the challenges implied in keeping current or required high levels of primary balances. Indeed, the required adjustment to the structural primary balances, on top of the level expected to be reached in 2014, as indicated by the S1 indicator, exceed previous average values in most countries (except Denmark, Sweden and Finland). However, based on historical evidence, the required adjustment

Table 3.3:   **Quantitative results of the S1 medium-term sustainability indicator**

| | Gross debt 2014 | Average primary balance (2000-2008) | Structural primary balance | | S1 | Required adjustment due to | | | |
| | | | | | | Initial budgetary position | | | |
			2011	2014		Debt stabilizing primary balance	Cost of delay	Debt requirement	Ageing costs
BE	101.0	4.0	-0.1	0.3	**6.2**	0.6	1.0	2.4	2.1
BG	18.3	2.0	-0.7	0.3	**-1.5**	0.2	-0.3	-2.3	0.8
CZ	48.1	-3.1	-1.8	-0.9	**1.3**	1.1	0.2	-0.7	0.7
DK	45.3	4.3	2.2	0.5	**-2.0**	-1.0	-0.3	-0.9	0.2
DE	78.4	0.8	1.8	2.5	**-0.3**	-2.1	-0.1	1.1	0.7
EE	11.2	-0.8	-0.6	0.4	**-3.4**	0.1	-0.5	-3.0	0.2
IE	:	1.1	-4.5	:	:	:	:	:	:
EL	:	-1.0	1.7	:	:	:	:	:	:
ES	97.1	1.5	-5.0	-1.3	**5.3**	2.4	0.9	2.2	-0.3
FR	93.8	-1.0	-1.8	0.5	**1.9**	-0.7	0.3	2.1	0.1
IT	126.5	1.7	1.2	5.0	**0.6**	-3.0	0.1	3.7	-0.3
CY	102.7	0.8	-3.5	-1.1	**8.2**	2.9	1.4	2.4	1.3
LV	44.9	-2.0	-0.2	0.4	**-2.0**	0.0	-0.3	-0.9	-0.8
LT	40.5	-1.5	-3.1	-0.1	**0.3**	0.7	0.1	-1.1	0.7
LU	26.9	1.5	0.6	-0.4	**0.3**	0.2	0.0	-2.0	2.0
HU	76.8	-2.7	-0.2	1.6	**-0.4**	-0.1	-0.1	0.9	-1.3
MT	72.7	-1.6	-0.4	0.4	**2.0**	0.3	0.3	0.7	0.5
NL	70.3	1.9	-1.4	0.2	**2.2**	0.2	0.3	0.6	1.0
AT	75.1	1.3	0.3	0.8	**2.6**	-0.3	0.4	0.9	1.6
PL	56.1	-1.7	-2.4	1.0	**0.1**	-0.3	0.0	-0.2	0.6
PT	:	-1.6	-2.2	:	:	:	:	:	:
RO	34.8	-1.4	-2.3	0.7	**-1.4**	-0.2	-0.2	-1.4	0.4
SI	62.3	-1.4	-2.8	0.1	**3.2**	0.9	0.5	0.1	1.4
SK	55.9	-2.3	-3.8	-0.8	**2.2**	0.8	0.3	-0.2	1.3
FI	55.0	5.2	1.4	0.9	**2.0**	-0.6	0.3	-0.3	2.5
SE	34.1	3.0	1.4	1.7	**-3.6**	-2.0	-0.6	-1.6	0.6
UK	95.1	-0.7	-3.5	-1.5	**5.0**	1.7	0.8	2.1	0.2
EU	88.8	0.8	-0.9	1.2	**1.8**	-0.7	0.3	1.7	0.4
EA	94.5	0.5	-0.4	1.7	**1.7**	-1.2	0.3	2.0	0.4

Source: Commission services.

indicator is not unprecedented. (^{50}) This is notwithstanding the challenge to maintain the favourable budgetary position already reached over almost two decades. Economic theory suggests also that not only high debt levels hinder growth, but also that "fiscal fatigue" sets in at (very) high levels of the debt ratio, meaning that although the primary balance might remain positive, it starts declining when the debt ratio exceeds certain values. (^{51})

Table 3.4 shows the S1 indicator values and yearly adjustment needs with different debt end-points. While the starting budgetary position in 2014 would need to be only slightly improved to stabilize debt at its current level for the EU as a whole, the required adjustment to reach pre-crisis levels (2007 levels) in 2030 would be even higher

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(^{50}) IMF (2010a) shows that "during the past three decades, there have been 14 episodes in advanced economies and 26 in emerging economies when individual countries adjusted their structural primary balance by more than 7 percentage points of GDP".

(^{51}) A. Ghosh, Kim J., Mendoza E., Ostry J., and Qureshi M. (2011), "Fiscal fatigue, fiscal space and debt sustainability in advanced economies", NBER Working Paper No. 16782.

Table 3.4:   **Required adjustment to the structural primary balance to reach a given debt end-point by 2030**

| | Structural Primary balance 2011 | Structural Primary balance 2014 | Required annual adjustment of structural primary balance between 2015 and 2020 | | | Budgetary effort by 2020 (cumulated SPB) | | | Difference in budgetary effort by 2020 (cumulated SPB): +1IR sensitivity test compared to baseline | | |
| | | | 2030 Debt Target | | | | | | | | |
			60 percent of GDP	Pre-crisis levels (2007)	End-forecast levels (2014)	60 percent of GDP	Pre-crisis levels (2007)	End-forecast levels (2014)	60 percent of GDP	Pre-crisis levels (2007)	End-forecast levels (2014)
BE	-0.1	0.3	1.0	0.7	0.5	6.2	4.5	3.3	0.3	0.4	0.5
BG	-0.7	0.3	-0.3	0.2	0.2	-1.5	1.4	1.3	0.3	0.1	0.1
CZ	-1.8	-0.9	0.2	0.6	0.4	1.3	3.5	2.1	0.3	0.2	0.2
DK	2.2	0.5	-0.3	0.1	-0.2	-2.0	0.3	-1.0	0.1	0.0	0.1
DE	1.8	2.5	-0.1	-0.1	-0.3	-0.3	-0.7	-1.5	0.2	0.2	0.3
EE	-0.6	0.4	-0.6	0.1	0.0	-3.4	0.6	0.1	0.2	0.0	0.0
IE	-4.5	:	:	:	:	:	:	:	:	:	:
EL	1.7	:	:	:	:	:	:	:	:	:	:
ES	-5.0	-1.3	0.9	1.2	0.4	5.3	7.1	2.6	0.3	0.2	0.4
FR	-1.8	0.5	0.3	0.3	-0.1	1.9	1.6	-0.5	0.2	0.2	0.4
IT	1.2	5.0	0.1	-0.4	-0.7	0.6	-2.5	-4.1	0.2	0.4	0.5
CY	-3.5	-1.1	1.4	1.4	0.8	8.2	8.3	5.1	0.5	0.5	0.7
LV	-0.2	0.4	-0.3	0.3	-0.2	-2.0	1.7	-0.9	0.4	0.2	0.3
LT	-3.1	-0.1	0.1	0.6	0.3	0.3	3.3	1.7	0.3	0.2	0.3
LU	0.6	-0.4	0.0	0.7	0.4	0.3	4.0	2.6	0.2	0.0	0.1
HU	-0.2	1.6	-0.1	-0.1	-0.3	-0.4	-0.9	-1.6	0.5	0.6	0.6
MT	-0.4	0.4	0.3	0.3	0.2	2.0	1.8	1.0	0.2	0.3	0.3
NL	-1.4	0.2	0.4	0.5	0.2	2.2	3.2	1.5	0.2	0.2	0.3
AT	0.3	0.8	0.4	0.4	0.3	2.6	2.6	1.5	0.3	0.2	0.3
PL	-2.4	1.0	0.0	0.2	0.1	0.1	1.2	0.4	0.3	0.3	0.3
PT	-2.2	:	:	:	:	:	:	:	:	:	:
RO	-2.3	0.7	-0.2	0.3	0.1	-1.4	1.8	0.3	0.2	0.1	0.1
SI	-2.8	0.1	0.5	1.0	0.5	3.2	5.7	3.0	0.3	0.1	0.3
SK	-3.8	-0.8	0.4	0.7	0.4	2.2	4.4	2.5	0.3	0.2	0.3
FI	1.4	0.9	0.3	0.6	0.4	2.0	3.7	2.3	0.3	0.2	0.2
SE	1.4	1.7	-0.6	-0.4	-0.3	-3.6	-2.2	-1.8	0.2	0.1	0.1
UK	-3.5	-1.5	0.8	1.0	0.4	5.0	6.2	2.4	0.1	0.1	0.3
EU	-0.9	1.2	0.3	0.3	0.0	1.8	1.9	-0.2	0.2	0.2	0.3
EA	-0.4	1.7	0.3	0.2	-0.1	1.7	1.3	-0.7	0.2	0.3	0.4

Source: Commission services.

than with the 60% debt end-point, due to fact that several Member States experienced debt levels significantly below 60 % of GDP in 2007. Table 3.4 also shows the impact of an additional one percentage point to the interest rate on new and rolled over debt. This increase in the required adjustment is directly proportional to the current debt ratio and medium-term financing needs of a country.

The consolidation requirements shown here are useful in a post-crisis environment to show the required adjustments to bring debt down to manageable levels in the coming two decades. The projected demographic change after 2030 will however further slow output growth and increase ageing-related costs. Thus, to fully take into account the challenges lying ahead, an even

longer-term view, as the one provided by the sustainability indicator (S2), is warranted.

3.1.3. RESULTS OF THE LONG-TERM SUSTAINABILITY INDICATOR (S2)

Table 3.5 and Graph 3.4 show the calculation of the required fiscal adjustment over an infinite horizon (S2 indicator) and its decomposition into the constituent components (IBP and CoA). The S2 long-term sustainability gap is on average 2.6 percentage points of GDP in the EU-27 and 2.1 percentage points of GDP in the Euro Area. Belgium, Cyprus, Luxembourg, Slovakia and Slovenia experience particularly high sustainability gaps of over 6 percentage points of GDP.

Table 3.5 summarizes all the relevant information on the S2 indicator and its two main components

Graph 3.4:   **Decomposition of the S2 indicator**
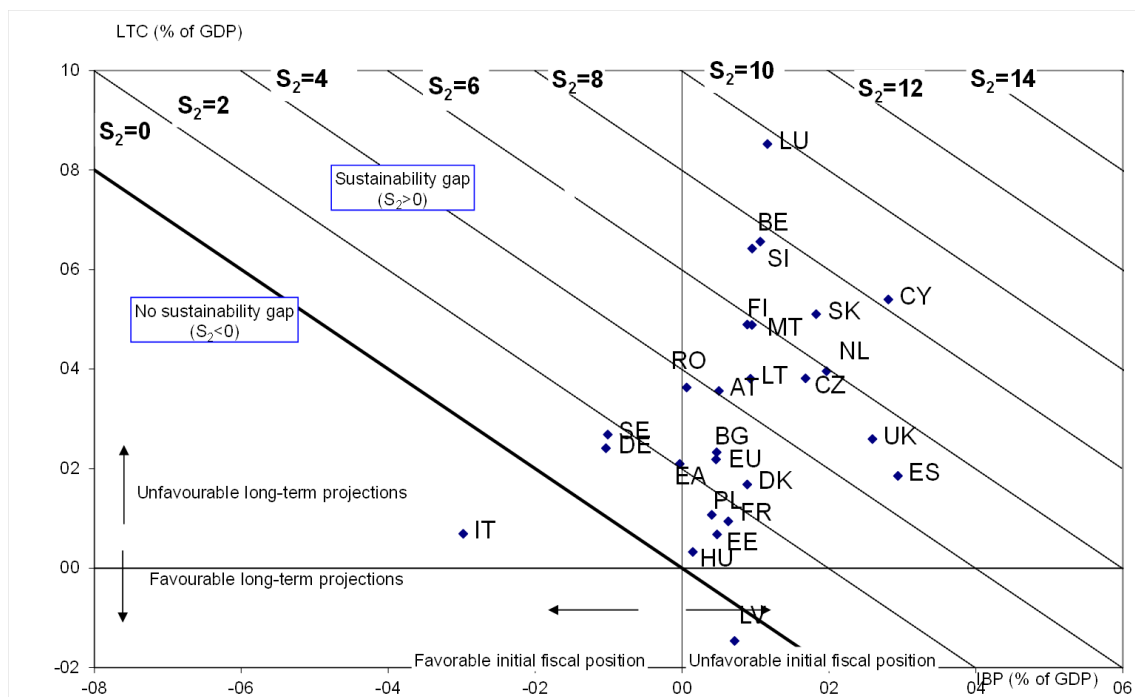
Source: Commission services.

for each country. The further along the horizontal axis countries are in Graph 3.4, the larger the required adjustment to stabilise the debt ratios given the initial budgetary position (IBP), before considering the long-term costs of ageing. If, however, the debt ratio is above the 60% of GDP threshold, the EU fiscal rules stipulate that it should be reduced below it, while this is not a constraint in the S2 indicator. The higher up the vertical axis, the greater the required adjustment due to the long-term change in age-related costs (CoA). The sustainability gap (S2) is the sum of the vertical and horizontal distances from each dot to the solid diagonal line. Countries that are northeast of the solid diagonal line have a sustainability gap; the further away from that line, the greater their gap. Countries that lie southwest of the solid line (in the chart Italy and Latvia) do not have a S2 sustainability gap. The dotted diagonals are isogap lines: two countries located on the same line have the same sustainability gap (S2) over an infinite horizon, though they may have different initial budgetary positions and different ageing-related costs.

Most Member States are in the top right quadrant, showing that their sustainability gap is due to the compounding effects of an unfavourable initial fiscal position and an increase in the budgetary cost of ageing. Germany, Italy and Sweden are in the top left quadrant due to a favourable initial budgetary position in 2014 thanks to the consolidation efforts of previous years. However, for most of them this initial budgetary position is not enough given the expected long-term increase in expenditure due to an ageing population. Only Italy has an initial fiscal position that is favourable enough to absorb the expected increase in costs related to ageing. Latvia is in the bottom left quadrant because of a negative sustainability gap, arising from the projected decrease in age-related spending, which would also compensate for the required adjustment that would have been otherwise necessary on the basis of the initial fiscal position.

The last column in Table 3.5 shows an alternative forward-looking fiscal measure of sustainability,

the intertemporal net worth (INW) (^{52}), defined as the total of the discounted sum of future primary balances under current policies and current net worth (the difference between assets and liabilities, i.e. the negative of net debt). As can be seen from the data, the INW of many EU countries (Belgium, the Czech Republic, Spain, Luxembourg, Malta, the Netherlands, Slovenia, Slovakia and Finland) is deeply negative, confirming S2 results, pointing to the need for substantial fiscal consolidation and reforms of welfare systems to keep age-related expenditures (pensions and health care) under control, in order to bring future liabilities in line with the capacity to generate assets. The INW is positive only for Italy, Latvia and Hungary and only slightly negative for Germany, Estonia and Poland. It must be borne in mind that the INW indicator is sensitive to the assumptions concerning the fiscal balance and the interest rate growth rate differential.

Table 3.5:   **Results of the S2 indicator**

	S2	IBP	LTC	INW
BE	7.4	1.0	6.4	-641.1
BG	2.8	0.5	2.3	-125.7
CZ	5.5	1.7	3.8	-352.3
DK	2.6	0.9	1.7	-202.8
DE	1.4	-1.0	2.4	-39.5
EE	1.2	0.5	0.7	-41.6
ES	4.8	2.9	1.9	-350.9
FR	1.6	0.6	0.9	-108.9
IT	-2.3	-3.0	0.7	179.6
CY	8.2	2.8	5.4	-593.0
LV	-0.7	0.7	-1.5	84.4
LT	4.7	0.9	3.8	-242.3
LU	9.7	1.2	8.5	-765.9
HU	0.5	0.1	0.3	0.8
MT	5.8	1.0	4.9	-328.1
NL	5.9	2.0	4.0	-412.7
AT	4.1	0.5	3.6	-248.7
PL	1.5	0.4	1.1	-52.5
RO	3.7	0.1	3.6	-165.7
SI	7.6	1.1	6.6	-412.2
SK	6.9	1.8	5.1	-435.6
FI	5.8	0.9	4.9	-341.3
SE	1.7	-1.0	2.7	-89.2
UK	5.2	2.6	2.6	:
EU	2.6	0.5	2.2	-115.1
EA	2.1	0.0	2.1	-142.2

Source: Commission services.

3.2. COMPARISON WITH PREVIOUS RESULTS (2009 SR)

The results in this report differ significantly from those presented three years ago in the 2009 Sustainability Report. (^{53}) While for the EU-27 the sustainability gap (S2) was estimated to be as much as 6.5% of GDP in 2009 SR, the current estimate is only 2.6% of GDP. Table 3.6 compares the S2 indicator calculated in this report with the one of 2009. The S2 indicator has deteriorated and become more demanding for Belgium, Bulgaria, Denmark, Estonia, Hungary and Finland. The difference between S2 indicators in the 2012 and 2009 reports is split in Graph 3.5 in two components: (i) the difference that is due to changes in the initial budgetary position, (ii) the difference that is due to the revision in the long-term projection of age-related expenditure (CoA). The graph shows that the CoA component is lower in 15 countries, mainly due to recent reforms to social security systems that have reduced the cost of ageing. The required adjustment due to the initial budgetary position has improved in 18 countries, as a result of consolidation efforts after the economic crisis. (^{54})

Graph 3.5:   **Difference in the components of the S2 in the 2012 and 2009 SR**
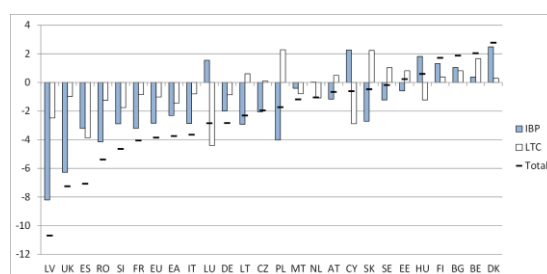
Source: Commission services.

3.3. MEDIUM–TERM DEBT PROJECTIONS

The projected evolution of the government gross debt ratio (including the projected increase in age-related expenditure) is shown in Graph 3.6 for the

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(^{52}) The INW indicator is calculated in this report by using its direct correspondence with the S2 indicators. Data on assets are from AMECO - Financial assets: general government (see the Annex 8.1 for the mathematical derivation of the INW from the S2 indicator).

(^{53}) See European Commission (2009), "Sustainability Report 2009", European Economy No. 9.
(^{54}) The IBP in the 2009 Sustainability Report was calculated taking 2009 as the starting year.

Table 3.6:   **S2 indicator in 2009 and 2012 SR**

	Gross debt		Structural primary balance		SR2009		SR2012	
	2009	2014	2009	2014	S2	CoA	S2	CoA
BE	95.7	101.0	-0.3	0.3	5.3	4.8	7.4	6.4
BG	14.6	18.3	-2.3	0.3	0.9	1.5	2.8	2.3
CZ	34.2	48.1	-4.5	-0.9	7.4	3.7	5.5	3.8
DK	40.6	45.3	2.1	0.5	-0.2	1.4	2.6	1.7
DE	74.5	78.4	1.7	2.5	4.2	3.3	1.4	2.4
EE	7.2	11.2	-0.9	0.4	1.0	-0.1	1.2	0.7
IE	64.9	:	-8.1	:	15.0	6.7	:	:
EL	129.7	:	-9.5	:	14.1	11.5	:	:
ES	53.9	97.1	-6.9	-1.3	11.8	5.7	4.8	1.9
FR	79.2	93.8	-3.7	0.5	5.6	1.8	1.6	0.9
IT	116.4	126.5	0.4	5.0	1.4	1.5	-2.3	0.7
CY	58.5	102.7	-3.6	-1.1	8.8	8.3	8.2	5.4
LV	36.7	44.9	-4.5	0.4	9.9	1.0	-0.7	-1.5
LT	29.3	40.5	-5.7	-0.1	7.1	3.2	4.7	3.8
LU	15.3	26.9	1.2	-0.4	12.5	12.9	9.7	8.5
HU	79.8	76.8	2.2	1.6	-0.1	1.5	0.5	0.3
MT	67.6	72.7	-0.5	0.4	7.0	5.7	5.8	4.9
NL	60.8	70.3	-1.9	0.2	6.9	5.0	5.9	4.0
AT	69.2	75.1	0.0	0.8	4.7	3.1	4.1	3.6
PL	50.9	56.1	-5.4	1.0	3.2	-1.2	1.5	1.1
PT	83.2	:	-5.7	:	5.5	1.9	:	:
RO	23.6	34.8	-8.2	0.7	9.1	4.9	3.7	3.6
SI	35.0	62.3	-3.0	0.1	12.2	8.3	7.6	6.6
SK	35.6	55.9	-6.0	-0.8	7.4	2.9	6.9	5.1
FI	43.5	55.0	2.2	0.9	4.0	4.5	5.8	4.9
SE	42.6	34.1	3.9	1.7	1.8	1.6	1.7	2.7
UK	67.8	95.1	-7.5	-1.5	12.4	3.6	5.2	2.6
EU	73.9	88.8	-2.6	1.2	6.5	3.2	2.6	2.2
EA	79.9	94.5	-1.7	1.7	5.8	3.5	2.1	2.1

Source: Commission services.

EU as a whole. The solid thick line shows the outcome for a stylised scenario ('no-policy-change scenario'), under the assumption of no fiscal consolidation measures beyond those embedded in the autumn 2012 Commission services' forecast (structural primary balance/GDP ratio kept constant at 2014 estimated level) and incorporates expected future age-related spending.

Graph 3.6:   **Medium term debt projections for the EU-27**
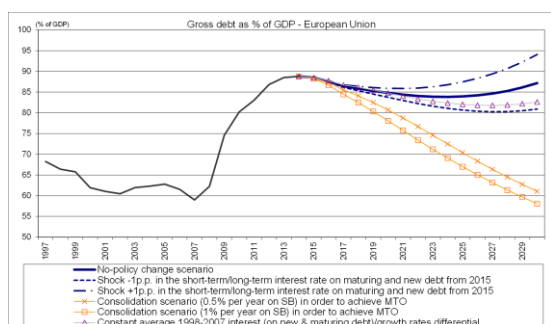
Source: Commission services.

Table 3.7: **Medium term debt projections for the EU-27**

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030
Gross debt ratio	80.0	82.8	86.8	88.7	88.8	88.4	87.6	86.4	85.9	85.3	84.8	83.9	87.2
changes in the debt ratio (1+2+3)	6.1	2.8	4.0	1.9	0.1	-0.3	-0.9	-1.2	-0.6	-0.6	-0.5	0.1	1.1
of which Oustanding (non maturing) debt						69.8	70.6	71.1	72.6	71.1	67.1	69.9	67.1
Rolled-over short-term debt						*11.9*	*11.2*	*10.3*	*9.6*	*9.1*	*8.7*	*8.1*	*8.7*
Rolled-over long-term debt						*6.1*	*5.3*	*4.7*	*3.1*	*4.5*	*8.4*	*5.0*	*9.8*
New short-term debt						*0.1*	*0.1*	*0.0*	*0.1*	*0.1*	*0.1*	*0.1*	*0.2*
New long-term debt						*0.6*	*0.4*	*0.3*	*0.5*	*0.5*	*0.5*	*0.8*	*1.4*
of which (1) Overall primary balance (+ = deficit)	3.9	1.5	0.6	0.2	-0.2	-0.5	-0.9	-1.2	-1.1	-1.1	-1.0	-0.5	0.2
Structural primary balance (kept constant at 2014 lvl)	*2.2*	*0.9*	*-0.3*	*-1.1*	*-1.2*	*-1.2*	*-1.1*	*-1.1*	*-1.1*	*-1.1*	*-1.1*	*-1.1*	*-1.1*
Cyclical component	*1.6*	*0.7*	*0.9*	*1.3*	*1.0*	*0.6*	*0.3*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Ageing cost (incl. revenues pensions tax)	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.1*	*0.1*	*0.5*	*1.0*
Property incomes	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*-0.1*	*-0.1*	*-0.1*	*-0.1*	*0.0*	*0.1*
(2) Snowball effect (interest rate/growth differential)	-0.1	0.7	1.1	1.3	0.2	0.1	-0.1	-0.1	0.5	0.5	0.5	0.6	1.0
Interest expenditure	*3.2*	*3.1*	*3.1*	*3.2*	*3.1*	*3.1*	*3.1*	*3.2*	*3.3*	*3.4*	*3.4*	*3.7*	*3.9*
Growth effect (real)	*-1.5*	*-1.2*	*0.2*	*-0.4*	*-1.4*	*-1.4*	*-1.5*	*-1.6*	*-1.1*	*-1.2*	*-1.2*	*-1.4*	*-1.2*
Inflation effect	*-1.8*	*-1.2*	*-2.2*	*-1.6*	*-1.5*	*-1.6*	*-1.6*	*-1.7*	*-1.7*	*-1.7*	*-1.7*	*-1.6*	*-1.7*
(3) Stock flow adjustment	2.4	0.6	2.2	0.5	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PM : Structural balance (+ = deficit)	4.9	3.8	2.7	2.0	1.9	1.9	1.8	2.0	2.1	2.2	2.4	3.2	4.1
Financing needs (billions EUR)			2784.3	2867.5	2758.3	2642.6	2488.6	2339.0	2086.2	2304.4	2983.8	2835.7	4836.2
Key macroeconomic assumptions													
Actual GDP growth (real)	2.1	1.6	-0.2	0.4	1.6	1.7	1.8	1.8	1.3	1.4	1.5	1.7	1.5
Potential GDP growth (real)						1.0	1.1	1.2	1.3	1.4	1.5	1.7	1.5
Inflation (GDP deflator)	2.5	1.5	2.6	1.8	1.7	1.8	1.9	2.0	2.0	2.0	2.0	2.0	2.0
Implicit interest rate (nominal)	3.8	3.8	3.6	3.6	3.6	3.6	3.8	3.9	4.0	4.1	4.2	4.5	4.7
of which long-term implicit interest rate (nominal)						*3.9*	*3.9*	*3.9*	*4.0*	*4.1*	*4.1*	*4.5*	*4.7*
short-term interest rate (nominal)						*2.1*	*2.7*	*3.4*	*3.7*	*3.9*	*4.2*	*4.2*	*4.2*
long-term interest rate (nominal)						*3.8*	*4.4*	*5.1*	*5.1*	*5.1*	*5.1*	*5.1*	*5.1*

Source: Commission services.

Despite the improvement in fiscal positions up to 2014, debt is increasing until that year in the EU as a whole, reaching 88.8% of GDP, influenced by debt-increasing stock-flow adjustments. Stock-flow adjustments are assumed to be zero beyond the forecast horizon (2014). In addition, the output gap is still negative in 2014, and it is assumed to be closed during the following three years. This results in a cyclical improvement in the primary balance. Moreover, the cost of ageing as a share of GDP is almost stabilized in the years to 2020 (rising only by 0.1 p.p. of GDP between 2014 and 2020). However, from 2021 onwards, the ageing costs take hold more firmly, and debt starts rising. As a result, debt in the EU as a whole is projected to be close to 90% of GDP in 2030, though with large differences across countries.

Table 3.7 above presents a breakdown of the medium-term debt-to-GDP projections ([55]) for the EU that allows gauging the contributions of the main drivers: 1) the primary balance; 2) age-related expenditures; 3) the snow-ball effect ([56]) (country-specific breakdowns are in the Statistical Annex).

([55]) The evolution of the debt ratio can be decomposed as follows:

$$\frac{D_t}{Y_t} = \frac{D_{t-1}}{Y_{t-1}} - \frac{PB_t}{Y_t} + \frac{D_{t-1}}{Y_{t-1}} \frac{i_t - y_t}{1 + y_t} + \frac{SF_t}{Y_t}$$

where t is a time subscript; D, PD, Y and SF are the stock of government debt, the primary balance (which includes age-related expenditure), nominal GDP and the stock-flow adjustment respectively, and i and y represent the average cost of debt and nominal GDP growth.

([56]) The net impact of the counteracting effects of interest rate and GDP growth on debt dynamics.

Table 3.8:   **Medium term debt projections: baseline and alternative projections assuming different annual consolidation efforts (by 0.5 and 1% of GDP), until MTO is achieved**

	End forecast		Baseline Debt				Consolidation effort: 0.5% of SB until MTO is reached			Consolidation effort: 1% of SB until MTO is reached		
	MTO	Structural balance	2014	2015	2020	2030	Debt 2030	Budgetary effort until 2030	MTO reached in	Debt 2030	Budgetary effort until 2030	MTO reached in
BE	0.5	-3.3	101.0	101.8	106.7	147.4	78.1	8.2	2032	59.3	7.6	2019
BG	-0.5	-0.6	18.3	18.5	21.4	37.6	16.9	1.7	2015	16.9	1.7	2015
CZ	-1.0	-1.8	48.1	50.1	54.3	78.7	40.6	3.3	2018	40.0	3.3	2016
DK	-0.5	-0.7	45.3	43.7	37.2	32.2	33.0	1.3	2015	33.0	1.3	2015
DE	-0.5	-0.1	78.4	73.3	64.7	58.1	57.9	1.3	2015	57.9	1.3	2015
EE	0.0	-0.2	11.2	9.1	8.3	14.3	5.5	1.1	2015	5.5	1.1	2015
IE	:	:	:	:	:	:	:	:	:	:	:	:
EL	:	:	:	:	:	:	:	:	:	:	:	:
ES	0.0	-5.3	97.1	103.9	114.4	129.4	72.8	4.5	2026	60.4	3.9	2021
FR	0.0	-2.3	93.8	92.3	89.1	89.1	55.4	2.5	2019	54.0	2.4	2017
IT	0.0	-0.6	126.5	121.5	108.2	66.0	72.9	-1.4	2016	72.8	-1.5	2015
CY	0.0	-5.8	102.7	111.2	127.4	171.8	104.0	8.2	2032	74.0	7.7	2022
LV	-0.5	-3.4	44.9	43.5	41.0	31.7	27.7	-0.8	2017	27.4	-0.9	2016
LT	0.5	-2.1	40.5	42.0	46.5	63.9	20.8	3.3	2021	18.0	3.2	2017
LU	0.5	-3.4	26.9	28.0	30.8	65.5	10.7	5.9	2018	10.2	5.9	2016
HU	-1.5	-2.6	76.8	77.3	76.8	53.1	62.3	-2.0	2017	61.9	-2.0	2016
MT	0.0	-3.0	72.7	73.2	75.2	86.5	44.5	3.2	2021	41.5	3.1	2018
NL	-0.5	-1.3	70.3	70.4	70.6	93.0	49.5	4.4	2018	49.0	4.3	2016
AT	-0.5	-2.2	75.1	73.9	73.8	97.9	51.7	4.5	2018	51.2	4.5	2016
PL	-1.0	-1.2	56.1	55.1	53.4	62.0	42.4	1.5	2016	42.3	1.4	2015
PT	:	:	:	:	:	:	:	:	:	:	:	:
RO	-0.7	-1.0	34.8	33.6	31.5	37.5	27.8	1.4	2015	27.8	1.4	2015
SI	0.0	-2.9	62.3	67.0	75.5	105.5	47.7	5.1	2023	41.3	4.7	2019
SK	-0.5	-4.0	55.9	57.0	61.9	91.6	38.5	4.6	2022	35.4	4.5	2017
FI	0.5	-1.3	55.0	53.9	55.9	91.5	29.0	6.1	2021	28.2	6.1	2016
SE	-1.0	0.9	34.1	29.9	20.8	10.3	31.4	0.2	2015	31.4	0.2	2015
UK	-1.0	-4.8	95.1	97.5	102.3	127.2	72.8	4.9	2023	67.5	4.6	2018
EU	-0.4	-2.0	88.8	87.6	84.8	87.2	61.0	2.4	:	58.0	2.2	:
EA	-0.2	-1.6	94.5	92.8	88.6	86.3	62.8	2.1	:	59.7	2.0	:

Source: Commission services.

3.3.1. CONSOLIDATION SCENARIOS

Table 3.8 shows the results of two further scenarios, built up to examine the long-run implications of a gradual fiscal adjustment. In the 'COM consolidation scenario +0.5 p.p.', from 2014 on, all Member States would implement fiscal consolidation efforts, measured in terms of an improvement of the structural balance by 0.5% of GDP per year until the medium-term objective (MTO) reported by the country in their latest (2012) Stability Programmes (SCPs) is reached. Table 3.8 illustrates that, for the EU as a whole, this consolidation pace – which is the benchmark consolidation effort in the SGP – would be enough to put debt on a declining path towards 60% of GDP in 2030. A consolidation effort of 1% of GDP per year until the MTO of each Member State is reached would result in a faster decline, reaching 60% of GDP before 2030.

Table 3.8 shows the MTOs reported by Member States in the 2012 round of the SCPs ([57]), as well as the consolidation effort in terms of structural primary balances, the starting debt level and the debt level in 2020 and 2030 by Member State. There are large variations across the countries in the consolidation needs and the resulting debt paths. These are laid out in detail in the country fiche Annex.

The consolidation scenarios (by 0.5 p.p. and 1 p.p. per year until the MTOs are reached) incorporate a short-run temporary feedback on GDP growth. In line with recent estimates, the simulations assume that each budgetary consolidation effort of 1 p.p. of GDP impacts negatively on GDP growth by 0.5 percentage point in the same year ("baseline" or "no-policy-change" scenario). ([58]) As expected,

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([57]) For the UK, which did not present a MTO, a value of -1 of GDP is assumed.

([58]) In the IMF's October 2010 World Economic Outlook (Chapter 3) it was found that a fiscal consolidation of 1% of GDP typically reduces GDP growth by 0.5% within 2 years. These results are based on fiscal actions to reduce

this leads to higher projected debt ratios for most EU Member States as they generally have fiscal positions below their MTOs. For the EU as a whole, the impact on the debt level of the assumed feedback effect of fiscal consolidation on output growth is about 1 p.p. of GDP by 2030, though there are substantial differences among Member States. Though these scenarios are based on a number of simplifying assumptions, they suggest that fast debt reduction requires serious consolidation efforts when negative feedback effects on growth are duly taken into account. Fiscal consolidation is forecasted to continue and the structural primary balance would reach 1.2% of GDP in 2014 in the EU.

3.3.2. STRESS TESTS ON DIFFERENT ASSUMPTIONS ON THE INTEREST RATE FOR NEW AND MATURING DEBT

Stress tests are run (Table 3.9 below and Table 3.8 above) to assess the sensitivity of the above-mentioned scenarios to different assumptions on the interest rate-growth differential. This differential is a critical input parameter in determining the future evolution of public debt. At the current juncture, with tense financial markets and in view of potential future increases in short-term interest rates when higher growth is resumed, it is important to check what can be the potential impact of these factors on debt sustainability. Countries with high levels of debt face the possibility of an ever increasing debt burden due to higher interest rates. Empirical evidence also suggests that when debt becomes very large, it may be difficult to generate the primary balance that is necessary to ensure sustainability. ([59]) In turn, a deteriorating domestic outlook for fiscal deficits and debt is likely to be associated with higher interest rates. As the increase in the interest rates only affects new debt issuance and refinancing needs, countries with short average debt maturity rates are more exposed to interest rate shocks than those that have longer debt

maturity rates. The stress test on the interest-rate-growth differential (upper panel 'risk-premium scenario'), is run by assessing the impact due to higher (+1 percentage point) and lower (-1 percentage point) interest rates on new and rolled-over debt through the 20 year projection period. Table 3.9 below and Table 3.8 above clearly show that countries with particularly high debt ratios can be faced with a markedly more demanding consolidation than under the baseline scenario if markets impose a higher risk premium on new and maturing debt that translates in a lasting increase in the average cost of debt.

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the deficit in 15 advanced economies (Australia, Belgium, Canada, Denmark, Finland, France, Germany, Ireland, Italy, Japan, Portugal, Spain, Sweden, UK, US) during 1980-2009.

([59]) See IMF(2010), "Fiscal Space", IMF SPN/10/11.

Table 3.9: **Stress tests on medium term debt projections: +/- 1% interest rate on new and maturing debt scenario (risk-premium scenario)**

	\-1p.p. in the short-term/long-term interest rate on maturing and new debt from 2015														Difference with baseline													
	End forecast		Baseline Debt				Consolidation effort: 0.5% of SB until MTO is reached			Consolidation effort: 1% of SB until MTO is reached					Baseline Debt				Consolidation effort: 0.5% of SB until MTO is reached			Consolidation effort: 1% of SB until MTO is reached		
	MTO	Structural balance	2014	2016	2020	2030	Debt 2030	Budgetary effort until 2030	MTO reached in	Debt 2030	Budgetary effort until 2030	MTO reached in			2014	2016	2020	2030	Debt 2030	Budgetary effort until 2030	MTO reached in	Debt 2030	Budgetary effort until 2030	MTO reached in
BE	0.5	-3.3	101.0	101.7	105.2	137.2	71.3	7.6	2029	58.7	7.1	2019			0.0	-0.2	-1.5	-10.2	-6.8	-0.5	-3	-0.6	-0.5	0
BG	-0.5	-0.6	18.3	18.5	20.9	34.5	16.9	1.5	2015	16.9	1.5	2015			0.0	0.0	-0.5	-3.1	0.0	-0.2	0	0.0	-0.2	0
CZ	-1.0	-1.8	48.1	50.1	53.6	73.0	40.4	2.9	2018	39.9	2.9	2016			0.0	-0.1	-0.8	-5.7	-0.1	-0.4	0	-0.1	-0.3	0
DK	-0.5	-0.7	45.3	43.7	37.1	31.4	33.0	1.2	2015	33.0	1.2	2015			0.0	0.0	-0.1	-0.8	0.0	-0.1	0	0.0	-0.1	0
DE	-0.5	-0.1	78.4	73.3	63.9	53.3	57.7	0.8	2015	57.7	0.8	2015			0.0	-0.1	-0.8	-4.8	-0.1	-0.5	0	-0.1	-0.5	0
EE	0.0	-0.2	11.2	9.1	8.2	13.3	5.5	1.0	2015	5.5	1.1	2015			0.0	0.0	-0.1	-1.0	0.0	-0.1	0	0.0	-0.1	0
IE	:	:	:	:	:	:	:	:	:	:	:	:			:	:	:	:	:	:	:	:	:	:
EL	:	:	:	:	:	:	:	:	:	:	:	:			:	:	:	:	:	:	:	:	:	:
ES	0.0	-5.3	97.1	103.8	112.9	119.4	69.6	3.8	2025	59.6	3.4	2020			0.0	-0.2	-1.5	-10.0	-3.2	-0.7	-1	-0.8	-0.5	-1
FR	0.0	-2.3	93.8	92.2	87.9	82.5	55.0	2.1	2019	53.9	2.1	2016			0.0	-0.1	-1.2	-6.5	-0.4	-0.4	0	-0.1	-0.4	-1
IT	0.0	-0.6	126.5	121.3	106.9	59.8	72.7	-2.0	2016	72.7	-2.0	2015			0.0	-0.2	-1.4	-6.2	-0.2	-0.5	0	-0.2	-0.5	0
CY	0.0	-5.8	102.7	110.9	124.3	155.5	91.1	7.6	2030	71.7	6.8	2021			0.0	-0.2	-3.1	-16.3	-12.9	-0.6	-2	-2.3	-0.8	-1
LV	-0.5	-3.4	44.9	43.4	40.3	28.0	27.6	-1.1	2017	27.4	-1.1	2016			0.0	0.0	-0.7	-3.7	-0.1	-0.3	0	0.0	-0.3	0
LT	0.5	-2.1	40.5	41.9	45.7	58.5	20.4	3.1	2020	18.0	3.0	2017			0.0	-0.1	-0.8	-5.4	-0.4	-0.2	-1	0.0	-0.2	0
LU	0.5	-3.4	26.9	27.9	30.3	61.4	10.7	5.8	2018	10.2	5.8	2016			0.0	0.0	-0.4	-4.1	0.0	-0.1	0	0.0	-0.1	0
HU	-1.5	-2.6	76.8	77.2	75.2	45.6	62.1	-2.6	2017	61.8	-2.6	2016			0.0	-0.1	-1.7	-7.5	-0.2	-0.6	0	-0.1	-0.6	0
MT	0.0	-3.0	72.7	73.1	74.4	80.7	44.1	2.9	2021	41.4	2.8	2018			0.0	-0.1	-0.7	-5.8	-0.4	-0.4	0	-0.2	-0.3	0
NL	-0.5	-1.3	70.3	70.2	69.6	86.5	49.3	4.0	2017	48.9	4.0	2016			0.0	-0.1	-1.0	-6.4	-0.2	-0.4	-1	-0.1	-0.4	0
AT	-0.5	-2.2	75.1	73.9	73.1	91.7	51.6	4.1	2017	51.1	4.1	2016			0.0	-0.1	-0.7	-6.3	-0.1	-0.4	-1	-0.1	-0.4	0
PL	-1.0	-1.2	56.1	55.0	52.7	56.8	42.3	1.1	2016	42.2	1.1	2015			0.0	-0.1	-0.7	-5.1	0.0	-0.4	0	-0.1	-0.4	0
PT	:	:	:	:	:	:	:	:	:	:	:	:			:	:	:	:	:	:	:	:	:	:
RO	-0.7	-1.0	34.8	33.5	30.8	33.8	27.8	1.1	2015	27.8	1.1	2015			0.0	-0.1	-0.7	-3.7	0.0	-0.3	0	0.0	-0.3	0
SI	0.0	-2.9	62.3	66.9	74.7	98.1	46.6	4.6	2022	41.1	4.4	2018			0.0	-0.1	-0.8	-7.5	-1.1	-0.4	-1	-0.2	-0.4	-1
SK	-0.5	-4.0	55.9	56.9	61.0	85.0	37.9	4.3	2021	35.3	4.2	2017			0.0	-0.1	-0.9	-6.6	-0.6	-0.4	-1	-0.1	-0.3	0
FI	0.5	-1.3	55.0	53.8	55.0	85.0	28.6	5.8	2019	28.1	5.8	2016			0.0	-0.1	-0.9	-6.3	0.0	-0.3	-2	0.0	-0.3	0
SE	-1.0	0.9	34.1	29.8	20.5	9.1	31.3	-0.1	2015	31.3	-0.1	2015			0.0	-0.1	-0.3	-1.2	0.0	-0.3	0	0.0	-0.3	0
UK	-1.0	-4.8	95.1	97.4	101.1	120.5	71.5	4.5	2022	67.3	4.3	2018			0.0	-0.1	-1.2	-6.7	-1.2	-0.4	-1	-0.3	-0.3	0
EU	-0.4	-2.0	88.8	87.4	83.7	80.9	60.2	1.9	:	57.8	1.8	:			0.0	-0.1	-1.1	-6.3	-0.9	-0.4	:	-0.2	-0.4	:
EA	-0.2	-1.6	94.5	92.6	87.5	79.7	61.8	1.6	:	59.5	1.5	:			0.0	-0.1	-1.1	-6.6	-1.0	-0.5	:	-0.2	-0.4	:

	+1p.p. in the short-term/long-term interest rate on maturing and new debt from 2015														Difference with baseline													
	End forecast		Baseline Debt				Consolidation effort: 0.5% of SB until MTO is reached			Consolidation effort: 1% of SB until MTO is reached					Baseline Debt				Consolidation effort: 0.5% of SB until MTO is reached			Consolidation effort: 1% of SB until MTO is reached		
	MTO	Structural balance	2014	2016	2020	2030	Debt 2030	Budgetary effort until 2030	MTO reached in	Debt 2030	Budgetary effort until 2030	MTO reached in			2014	2016	2020	2030	Debt 2030	Budgetary effort until 2030	MTO reached in	Debt 2030	Budgetary effort until 2030	MTO reached in
BE	0.5	-3.3	101.0	102.0	108.3	158.6	86.1	8.2	2034	59.9	8.1	2020			0.0	0.2	1.6	11.2	8.8	0.0	2	0.7	0.5	1
BG	-0.5	-0.6	18.3	18.6	21.9	41.0	16.9	1.9	2015	16.9	1.9	2015			0.0	0.0	0.5	3.4	0.0	0.2	0	0.0	0.2	0
CZ	-1.0	-1.8	48.1	50.2	55.1	84.9	40.7	3.7	2018	40.0	3.6	2016			0.0	0.1	0.8	6.2	0.2	0.4	0	0.1	0.3	0
DK	-0.5	-0.7	45.3	43.8	37.3	33.0	33.1	1.4	2015	33.1	1.4	2015			0.0	0.0	0.1	0.8	0.0	0.1	0	0.0	0.1	0
DE	-0.5	-0.1	78.4	73.4	65.5	63.3	58.0	1.8	2015	58.0	1.8	2015			0.0	0.1	0.8	5.3	0.1	0.5	0	0.1	0.5	0
EE	0.0	-0.2	11.2	9.1	8.5	15.4	5.5	1.2	2015	5.5	1.2	2015			0.0	0.0	0.1	1.1	0.0	0.1	0	0.0	0.1	0
IE	:	:	:	:	:	:	:	:	:	:	:	:			:	:	:	:	:	:	:	:	:	:
EL	:	:	:	:	:	:	:	:	:	:	:	:			:	:	:	:	:	:	:	:	:	:
ES	0.0	-5.3	97.1	104.1	116.0	140.3	76.9	5.4	2027	61.3	4.4	2021			0.0	0.2	1.6	11.0	4.1	0.9	1	0.9	0.6	0
FR	0.0	-2.3	93.8	92.5	90.3	96.3	55.9	2.9	2020	54.2	2.8	2017			0.0	0.1	1.2	7.2	0.5	0.4	1	0.2	0.4	0
IT	0.0	-0.6	126.5	121.7	109.6	72.9	73.1	-0.9	2016	73.0	-1.0	2015			0.0	0.2	1.4	6.9	0.2	0.5	0	0.2	0.5	0
CY	0.0	-5.8	102.7	111.4	130.6	189.9	118.4	8.3	2035	77.2	8.6	2023			0.0	0.2	3.2	18.1	14.4	0.1	3	3.2	0.9	1
LV	-0.5	-3.4	44.9	43.5	41.7	35.8	27.7	-0.6	2017	27.4	-0.6	2016			0.0	0.0	0.7	4.1	0.0	0.3	0	0.0	0.3	0
LT	0.5	-2.1	40.5	42.0	47.4	69.9	21.3	3.5	2021	18.1	3.4	2018			0.0	0.1	0.9	5.9	0.5	0.2	0	0.1	0.2	1
LU	0.5	-3.4	26.9	28.0	31.2	70.0	10.8	6.0	2018	10.2	6.0	2016			0.0	0.0	0.4	4.5	0.0	0.1	0	0.0	0.1	0
HU	-1.5	-2.6	76.8	77.4	78.6	61.5	62.5	-1.4	2017	61.8	-1.4	2016			0.0	0.1	1.7	8.4	0.2	0.6	0	0.1	0.6	0
MT	0.0	-3.0	72.7	73.3	75.9	92.9	45.0	3.6	2021	41.7	3.4	2018			0.0	0.1	0.8	6.4	0.5	0.4	0	0.2	0.3	0
NL	-0.5	-1.3	70.3	70.5	71.7	100.0	49.7	4.7	2019	49.0	4.7	2016			0.0	0.1	1.1	7.1	0.2	0.4	1	0.1	0.4	0
AT	-0.5	-2.2	75.1	74.0	74.5	104.7	51.9	4.9	2018	51.3	4.9	2016			0.0	0.1	0.7	6.8	0.2	0.4	0	0.1	0.4	0
PL	-1.0	-1.2	56.1	55.1	54.1	67.6	42.4	1.8	2016	42.3	1.8	2015			0.0	0.1	0.7	5.6	0.1	0.4	0	0.1	0.4	0
PT	:	:	:	:	:	:	:	:	:	:	:	:			:	:	:	:	:	:	:	:	:	:
RO	-0.7	-1.0	34.8	33.7	32.3	41.6	27.8	1.6	2015	27.8	1.6	2015			0.0	0.1	0.8	4.1	0.0	0.3	0	0.0	0.3	0
SI	0.0	-2.9	62.3	67.1	76.3	113.7	49.2	5.6	2024	41.6	5.1	2019			0.0	0.1	0.8	8.1	1.5	0.5	1	0.3	0.4	0
SK	-0.5	-4.0	55.9	57.0	62.8	98.7	39.5	5.0	2023	35.5	4.8	2017			0.0	0.1	0.9	7.2	1.0	0.4	1	0.1	0.3	0
FI	0.5	-1.3	55.0	54.0	56.8	98.6	29.9	6.4	2023	28.2	6.3	2016			0.0	0.1	0.9	7.1	0.9	0.3	2	0.0	0.2	0
SE	-1.0	0.9	34.1	30.0	21.1	11.6	31.4	0.5	2015	31.4	0.5	2015			0.0	0.1	0.3	1.3	0.0	0.3	0	0.0	0.3	0
UK	-1.0	-4.8	95.1	97.6	103.5	134.5	74.3	5.2	2024	67.8	4.9	2019			0.0	0.1	1.2	7.4	1.5	0.4	1	0.3	0.3	1
EU	-0.4	-2.0	88.8	87.7	85.9	94.1	62.1	2.8	:	58.3	2.7	:			0.0	0.1	1.1	6.9	1.1	0.4	:	0.3	0.4	:
EA	-0.2	-1.6	94.5	92.9	89.8	93.6	64.0	2.6	:	60.0	2.4	:			0.0	0.1	1.2	7.3	1.2	0.5	:	0.3	0.5	:

Source: Commission services.

3.3.3. TAKING INTO ACCOUNT UNCERTAINTY THROUGH STOCHASTIC PUBLIC DEBT PROJECTIONS

In this report, results from stochastic public debt projections are presented for each Member State, as well as the Euro Area aggregate. [60] Stochastic projections complement the more traditional deterministic projections presented before, and are particularly important to more effectively feature uncertainty of macroeconomic conditions (interest rates, growth rate and exchange rate) in the analysis of the evolution of the debt-to-GDP ratio.

Deterministic debt projections, as presented before, produce a *single* path for the debt ratio corresponding to a set of pre-defined macroeconomic assumptions (accompanied by single alternative paths produced in the context of standardized sensitivity analysis). On the contrary, stochastic debt projections produce a whole "cone" (a distribution) of debt paths, corresponding to a wide set of possible underlying macroeconomic conditions. The latter are obtained by applying random shocks to the macroeconomic conditions (short-term and long-term interest rates on government bonds, growth rate and exchange rate) [61] assumed in the central scenario. *The size and correlation of such shocks are based on past behaviour of the variables* (and shocks assumed to follow a joint normal distribution). [62] The methodology allows accounting for a very large number of simulated macroeconomic conditions, beyond what is even conceivable in the context of sensitivity analysis for deterministic projections (2000 simulations lie, for instance, behind the results presented in this report).

The standard baseline scenario used in deterministic debt projections presented before is taken here as the central scenario for stochastic debt projections up to 2017. [63] This means that the implicit interest rate and the growth rate in the central scenario correspond to ECFIN forecasts over the forecast horizon and to commonly agreed macroeconomic assumptions from the 2012 Ageing Report beyond the forecast horizon. The structural primary balance also corresponds to forecasts, and is set constant at last forecast value for the following years, following the no-policy-change assumption made in deterministic projections. [64] Stochastic debt projections presented here therefore provide a significantly reinforced sensitivity analysis around the standard baseline scenario.

The debt ratio distribution obtained through stochastic projections allows attaching probabilities to debt paths (a distinctive feature relative to deterministic projections). It is possible, for instance, to attach a probability to the debt ratio of a certain country being higher than a specified value in a given projection year, or to the debt ratio being on a stable or declining path over the projection horizon.

Debt ratio distributions resulting from stochastic projections are summarised by presenting distribution percentiles for a given projection year (Table 3.10 here below reports the median and the difference between some percentiles of the debt-to-GDP ratio distribution in 2017 – last projection year [65] – for each Member State and the EA). Graphical representations are provided through fan charts (Graph 3.7 reports the fan chart for the EA; fan charts for individual Member States are reported in the respective country fiches in Chapter 7).

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[60] For more details see K. Berti (2012) "Stochastic public debt projections using the historical variance-covariance matrix approach for EU countries", *European Economy Economic Paper*, forthcoming.

[61] The exchange rate (euro versus national currency) is used in the debt evolution equation for non-EA Member States, with all public debt denominated in a foreign currency assumed to be denominated in euros (a not too restrictive hypothesis based on ESTAT data).

[62] See Annex 8.3 for more technical details.

[63] This is made possible by the specific methodology for stochastic projections employed here (stochastic debt projections based on the historical variance-covariance matrix approach), which allows incorporating exogenous and independent (in the sense of "model-independent") projections into a stochastic projection model (see di Giovanni and Gardner, 2008, "A simple stochastic approach to debt sustainability applied to Lebanon", *IMF Working Paper* 08/97).

[64] Only the budget cyclical component is assumed to change under the effects of stochastic shocks to the growth rate, as better explained in Annex 8.3.

[65] Stochastic projections typically cover a time span of 5 years, the interval over which the methodology is found to provide meaningful results in the relevant literature.

Table 3.10:   **Median and differences between percentiles of debt-to-GDP ratio distribution in 2017**

Country	Debt ratio in 2012	Proj. median debt ratio in 2017	10th percentile of debt ratio distribution in 2017	90th percentile of debt ratio distribution in 2017	Proj. diff. btw. percentiles 90th and 10th of debt ratio distribution in 2017	Proj. diff. btw. percentiles 60th and 40th of debt ratio distribution in 2017
BE	99.9	105.2	99.2	112.3	13.1	2.5
BG	19.5	17.0	13.5	21.7	8.1	1.6
CZ	45.1	51.1	45.9	56.5	10.7	2.0
DK	45.4	46.3	41.1	52.0	10.9	2.1
DE	81.7	71.3	62.6	82.0	19.4	3.9
EE	10.5	9.2	7.2	11.8	4.5	0.9
ES	86.1	106.5	96.4	118.3	21.9	4.4
FR	90	91.0	85.6	97.0	11.5	2.3
IT	126.5	116.1	106.1	128.0	21.8	4.1
CY	89.7	116.4	106.7	127.6	20.9	4.2
LV	41.9	40.9	27.1	63.3	36.2	7.3
LT	41.6	41.3	32.1	53.6	21.5	4.2
LU	21.3	30.3	25.9	36.5	10.6	1.9
HU	78.4	77.1	62.5	94.4	31.9	6.2
MT	72.3	73.0	63.3	86.5	23.1	4.4
NL	68.8	70.8	65.2	77.9	12.7	2.5
AT	74.6	74.9	71.4	79.2	7.8	1.6
PL	55.5	51.2	45.9	56.9	11.0	2.1
RO	34.6	33.3	23.8	47.6	23.8	4.5
SI	54	70.7	64.7	77.7	13.1	2.7
SK	51.7	58.7	51.4	68.0	16.5	3.4
FI	53.1	56.9	51.5	63.4	11.9	2.3
SE	37.4	29.9	25.0	35.8	10.8	2.1
UK	88.7	97.9	91.2	105.2	14.0	2.9
EA	92.8	91.1	86.4	96.2	9.8	2.0

Source: Commission services.

Results presented in Graph 3.7 show that the debt-to-GDP ratio for the EA in 2017 could be expected to lie roughly between 86% and 96% with an 80% probability (as the two values respectively correspond to the 10th and the 90th distribution percentiles). Cross-country differences in the variance of the distribution of the debt ratio in 2017 (reflecting the country-specific volatility of macroeconomic conditions) are evident from Table 3.10. For instance, while 80% of the debt ratio distribution takes values between 86% and 97% for France and between 25% and 36% for Sweden (with a difference of around 11 p.p. between the 10th and the 90th distribution percentiles for both countries), the same share of the distribution lies in the much wider interval of 62-94% for Hungary and 27-63% for Latvia (a difference respectively of 31.9 and 36.2 p.p. between the 10th and the 90th

percentiles) with medians at around 77% and 41% respectively for the two countries.

For the EA, the debt ratio in 2017 is projected to be higher than 90% with a 60% probability (as the 40th distribution percentile is around 90%). In terms of debt dynamics, from Graph 3.7 it can be seen that, in the presence of temporary shocks to interest rates and growth, the EA's debt ratio is projected to continue rising till 2014 with a probability of around 40%, and start decreasing only afterwards. The debt ratio would stabilise (at around 95%) or decline between 2013 and 2014, despite possible adverse macroeconomic shocks, and would then continue decreasing afterwards, with a probability of 60%.

Graph 3.7:   **Public debt-to-GDP ratio 2013-17, Euro Area – Fan chart based on stochastic debt projections**
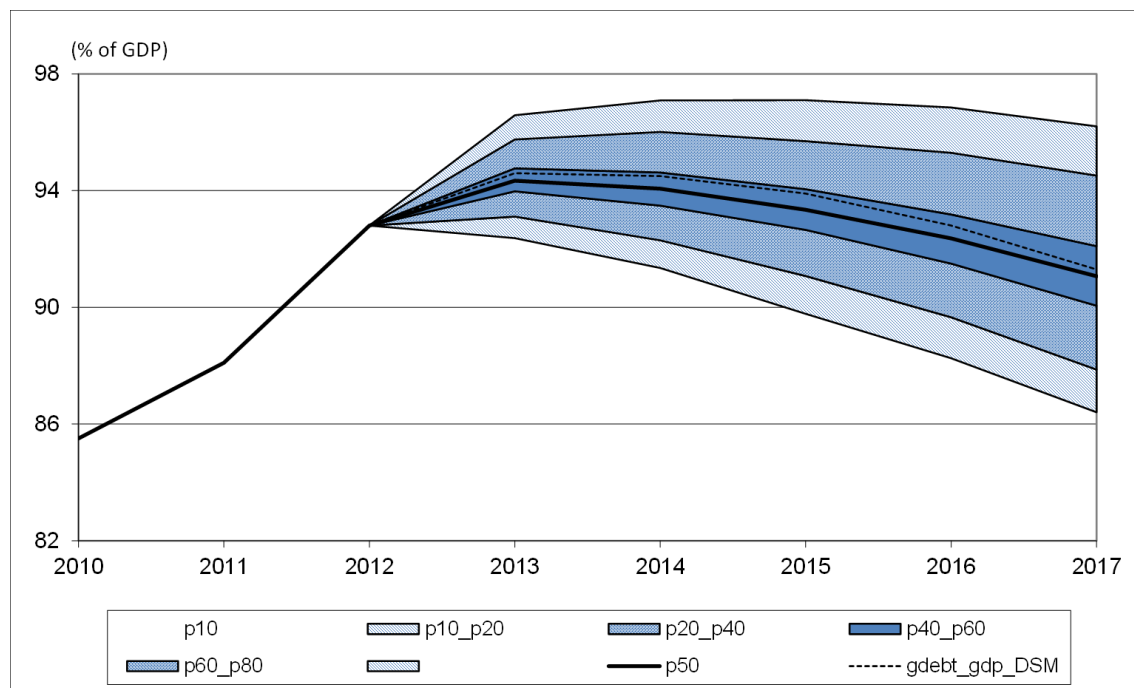
Source: Commission services.

4. SENSITIVITY ANALYSIS ON LONG AND MEDIUM-TERM ASSUMPTIONS

4.1. SENSITIVITY ANALYSIS ON THE INITIAL BUDGETARY POSITION

This section analyse how sensitive are the results on the S1 and S2 sustainability indicators to changes in the starting budgetary position. As can be seen from results of a simulation in Table 4.1, using the latest outturn data available (2011) as starting year of the analysis, instead of the last year of the Commission autumn forecast (2014) would increase the required adjustment as shown by the S1 and S2 indicators. The S1 indicator would increase by around 3 percentage points compared to baseline in both the EU as whole and the Euro area (to reach 4.8% and 4.9% of GDP respectively). The magnitude of the impact on the S2 indicator is smaller, but still over 2 percentage points in both the EU and the Euro area. Using the average structural primary balance of the years 1998-2012 would likewise results in higher S1 and S2 indicator values, though the increase compared to the baseline would be smaller than in the "2011 scenario" for both indicators in the Euro area and in the EU as a whole.

Table 4.1: **Sensitivity scenarios to the initial budgetary position of the S1 and S2 indicators**

	Structural primary balance			S1 baseline	S1 (2011 scenario)	S1 (AVG 98-12 scenario)	S2 (baseline)	S2 (2011 scenario)	S2 (AVG 98-12 scenario)
	2011	2014	AVG 98-12						
BE	-0.1	0.3	3.2	6.2	6.9	2.2	7.4	7.8	4.5
BG	-0.7	0.3	1.8	-1.5	-0.1	-3.7	2.8	3.8	1.2
CZ	-1.8	-0.9	-2.6	1.3	2.6	3.7	5.5	6.4	7.3
DK	2.2	0.5	3.6	-2.0	-4.2	-5.9	2.6	0.7	-0.7
DE	1.8	2.5	1.1	-0.3	0.7	1.6	1.4	2.1	2.9
EE	-0.6	0.4	-0.8	-3.4	-2.1	-1.9	1.2	2.1	2.4
IE	-4.5	:	:	:	:	:	:	:	:
EL	1.7	:	:	:	:	:	:	:	:
ES	-5.0	-1.3	-0.4	5.3	10.9	4.2	4.8	8.7	3.9
FR	-1.8	0.5	-1.3	1.9	5.1	4.3	1.6	4.0	3.4
IT	1.2	5.0	1.8	0.6	6.5	5.3	-2.3	1.6	1.0
CY	-3.5	-1.1	-0.7	8.2	12.0	7.6	8.2	10.7	7.8
LV	-0.2	0.4	-1.7	-2.0	-1.2	0.9	-0.7	-0.2	1.4
LT	-3.1	-0.1	-1.7	0.3	4.8	2.6	4.7	7.9	6.4
LU	0.6	-0.4	1.5	0.3	-1.2	-2.3	9.7	8.7	7.8
HU	-0.2	1.6	-1.1	-0.4	2.6	3.7	0.5	2.4	3.3
MT	-0.4	0.4	-2.1	2.0	3.1	5.3	5.8	6.7	8.4
NL	-1.4	0.2	1.3	2.2	4.4	0.8	5.9	7.5	4.8
AT	0.3	0.8	1.0	2.6	3.2	2.3	4.1	4.6	3.8
PL	-2.4	1.0	-1.9	0.1	4.9	4.1	1.5	5.0	4.5
PT	-2.2	:	:	:	:	:	:	:	:
RO	-2.3	0.7	-1.4	-1.4	2.9	1.5	3.7	6.8	5.9
SI	-2.8	0.1	-1.5	3.2	7.5	5.5	7.6	10.6	9.3
SK	-3.8	-0.8	-3.0	2.2	6.3	5.2	6.9	10.1	9.2
FI	1.4	0.9	4.0	2.0	1.2	-2.2	5.8	5.2	2.6
SE	1.4	1.7	3.1	-3.6	-3.1	-5.4	1.7	2.1	0.3
UK	-3.5	-1.5	-1.3	5.0	7.6	4.7	5.2	7.2	5.0
EU	-0.9	1.2	0.2	1.8	4.8	3.2	2.6	4.8	3.5
EA	-0.4	1.7	0.5	1.7	4.9	3.5	2.1	4.5	3.3

Source: Commission services.

The results confirm that a majority of EU Member States are taking consolidation needs seriously and have introduced measures that will reduce their medium- and long-term sustainability gaps significantly in the forthcoming two years, although in most Member States further measures are still necessary to ensure the medium- and long-term sustainability of their public finances.

4.2. SENSITIVITY ANALYSIS ON THE COST OF AGEING

4.2.1. INTRODUCTION

The main sensitivity scenario considered in this report is the "AWG risk scenario", although a number of additional tests are also carried out in line with the 2012 Ageing Report. [66]

While the "AWG reference scenario" focuses on the budgetary impact mostly due to projected demographic developments, the risk scenario attempts to quantify the uncertainty regarding future developments on healthcare and long-term care expenditure (see Chapter 2).

The "AWG reference scenario" defines a baseline. In the reference scenario, healthcare expenditure is driven by the assumptions that half of future gains in life expectancy are spent in good health and of a moderate impact of income on expenditure. [67]

The "AWG risk scenario" keeps the assumption that half of the future gains in life expectancy are spent in good health, as in the "AWG reference scenario". However, it departs from it by assuming more dynamic spending growth in line with past trends for the EU as a whole. In comparison to the AWG reference scenario, the risk scenario captures the impact of additional non-demographic cost drivers, which may stimulate expenditure growth in excess of what can be expected due to purely demographic factors. The impact of non-demographic drivers on healthcare and long-term care is related, inter alia, to technological change (e.g. development of new drugs and treatments) and institutional factors (e.g. widening of healthcare coverage).

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[66] On sensitivity tests, see section 2.8 page 136 of the 2012 Ageing Report.
[67] The assumption of a common income elasticity of healthcare expenditure, converging from 1.1 in 2010 to unity in 2060.

Graph 4.1:   **The S1 indicator**
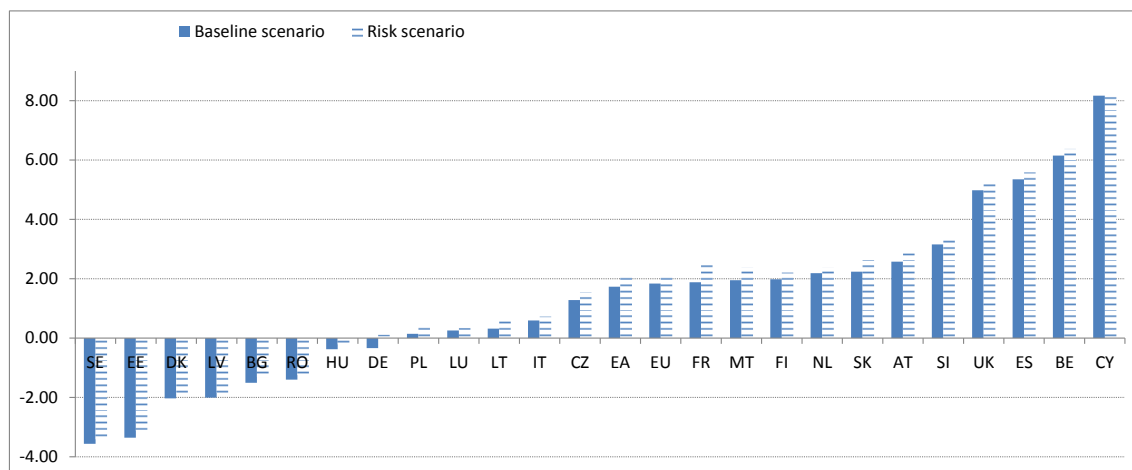
Values ranked in increasing order of the baseline scenario.
Source: Commission services.

4.2.2. BASELINE AND RISK SCENARIOS

In the risk scenario, the impact of non-demographic drivers on future expenditure trends is captured using a common elasticity of healthcare expenditure of 1.3 in 2010 converging to unit by 2060, together with the assumption of convergence of per capita expenditure age-gender profiles to EU averages for those Member States with figures below the EU average.

Graph 4.1 shows the S1 indicator calculated for the baseline and the risk scenario. ([68]) In the EU, the risk scenario involves a cumulated adjustment of 2.2 p.p. of GDP i.e. 0.3 p.p. more than the baseline scenario. In the euro area, S1 increases from 1.7% of GDP in the baseline scenario to 2.1% in the risk one. Across countries, the gap between the risk and reference scenarios varies from +0.03 p.p. of GDP in Cyprus to +0.7 p.p. in France.

Graph 4.2 shows the S2 indicator calculated for the baseline and the risk scenario. ([69]) In the EU, the risk scenario involves a permanent adjustment of

3.6 p.p. of GDP i.e. 0.9 p.p. more than the baseline scenario. In the euro area, S2 increases from 2.1% of GDP in the baseline scenario to 3.2% in the risk one. Across countries, the gap between the risk and reference scenarios varies from +0.1 p.p. of GDP in Cyprus to +2.2 p.p. in France.

A number of additional sensitivity analyses (relative to the baseline scenario) are also considered in line with the more comprehensive set of tests carried out in the 2012 Ageing Report. These tests provide useful information on the robustness of the projections to changes in key underlying assumptions, although results from these sensitivity tests are expected to differ only marginally from the baseline scenario.

The following sensitivity tests are carried out: higher employment rate of older workers (+5 p.p.); higher total employment rate (+1 p.p.); positive labour productivity shock (+0.1 p.p.); higher life expectancy (1 extra year); and lower migration (-10%).

4.2.3. HIGHER EMPLOYMENT RATE OF OLDER WORKERS

The higher employment rate scenario of older workers assumes a 5 p.p. increase in the employment rate for the 55-64 age bracket compared with the baseline projection. This increase is introduced linearly over the period 2016-2025, remaining 5 p.p. higher thereafter. The

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([68]) Recall that S1 shows the upfront adjustment to the structural primary balance required until 2020 to reach the Maastricht debt-to-GDP target of 60% in 2030, including paying for any future additional expenditure (until the target date), arising from an ageing population.
([69]) Recall that S2 shows the permanent (and immediate) adjustment to the current structural primary balance required to fulfil the infinite horizon inter-temporal budget constraint, including paying for any additional expenditure arising from an ageing population.

Graph 4.2:   **The S2 indicator**
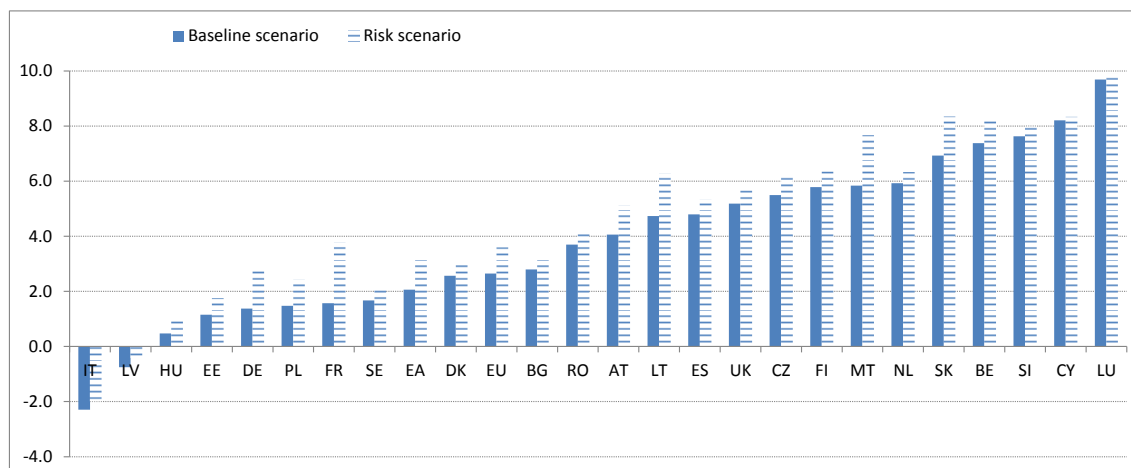
Values ranked in increasing order of the baseline scenario.
Source: Commission services.

higher employment rate of this group of workers is assumed to be achieved through a reduction of the inactive population.

Higher employment would lead to higher GDP growth, a lower number of pensioners and a reduction in the average number of pension-drawing years. All these components tend to reduce the pension to GDP ratio. However, employees would also accumulate additional pension rights, which would tend to increase the pension to GDP ratio. The overall impact of a higher employment of older workers depends on the relative magnitude of these two opposite effects.

4.2.4. HIGHER TOTAL EMPLOYMENT RATE

The higher total employment rate scenario assumes an increase in the employment rate of 1 p.p. compared with the baseline projection for the age-group 20-64. The increase is introduced linearly over the period 2016-2025 and remains 1 p.p. higher thereafter. The higher employment rate is assumed to be achieved by lowering the rate of structural unemployment (the NAWRU).

The higher total employment rate scenario leads to a marginal reduction of 0.1 p.p. in the pension to GDP ratio in the EU compared with the baseline one.

4.2.5. POSITIVE LABOUR PRODUCTIVITY SHOCK

Labour productivity is assumed to grow 0.1 p.p. above the baseline scenario. The increase is introduced linearly during the period 2016-2025, remaining 0.1 p.p. above the baseline thereafter.

A higher productivity growth rate of 0.1 p.p. yields a reduction in almost 0.2 p.p. in the pension to GDP ratio in the EU. However, results vary across countries depending on the indexation rules for pensions. Only in countries where after retirement pensions are not fully indexed to wages does higher productivity growth lead to a decline in the pension to GDP ratio.

4.2.6. HIGHER LIFE EXPECTANCY

This scenario assumes a one year increase in life expectancy at birth by 2060 compared with the baseline scenario.

This increase in life expectancy would result in a higher level of public pension expenditure. As people live longer, they are receiving pension benefits for a longer period, which tends to increase spending. However, the drop in mortality at all ages also leads to a larger labour force, which might therefore also increase GDP and pension contributions. On average across the EU, higher life expectancy would increase the pension to GDP ratio by almost +0.3 p.p. However, the size of this effect varies considerably across countries,

depending on the design of pensions systems, namely on their indexation or not to life expectancy. In countries where the annuity explicitly depends on life expectancy at retirement or where automatic stabilizers of spending are built into the system to compensate for some fiscal imbalances (e.g. sustainability factors), the effect is less pronounced and can even be largely offset.

4.2.7. LOWER MIGRATION

This scenario assumes a 10% reduction in net migration flows compared with the baseline.

On average across the EU, the pension to GDP ratio increases marginally by 0.1 p.p. relatively to the baseline, reflecting the smaller labour force and lower GDP over the projection period, as migrants are assumed to be active in the labour market.

4.2.8. IMPACT OF INCREASING THE RETIREMENT AGE IN LINE WITH LIFE EXPECTANCY

In light of continuous increases in life expectancy over the last couple of decades (roughly one year per decade), and the general expectation that this trend will continue in the coming decades, enormous pressure on public spending on pensions is expected, unless systems are adapted to changing realities. Pension policy affects every person at some stage in life. The conditions for drawing a pension are, therefore, important to clarify, so that people can prepare and adapt during the course of their lives. The key signalling lever for pension policy is the age at which people are given the opportunity to withdraw from the labour market and become a pensioner, that is, the statutory retirement age. For countries with high projected increases in public pension spending, a necessary component will be to adjust the retirement age, taking into account the expected gains in life expectancy in the coming decades. Given the political difficulties countries generally face when they are introducing changes to their pension systems, it is crucial to introduce automatic links to the largely known and anticipated changes in longevity over the medium- and long-term, instead of having recurrent 'hard' negotiations at different points in time, when the longevity gains have materialized.

A pension reform that introduces an automatic link between the statutory retirement age and increases in life expectancy includes not only the advantage of a pension expenditure reduction and sustainability increase due to a lower coverage ratio and a proper recognition of longevity risks. It also gives incentives to work longer and thus to accrue higher pension entitlements. Though adjusting also the pension benefit to longevity would even further contribute to the sustainability of the pension system, potential issues with the adequacy of pensions could arise in a long-term perspective. This is why the Commission takes a comprehensive approach on pension policy issues, and focuses on adapting the retirement age.

Several countries have already introduced an automatic (or quasi-automatic) link between gains in life expectancy and retirement ages in their pension legislation (Denmark, Greece, Italy, the Czech Republic, the Netherlands and Slovakia; Spain would activate it as of 2027).

To assess the potential impact of such a policy measure on the sustainability of pension system (on one side) and to adequacy of pension provision (on the other), a scenario has been simulated in which statutory retirement ages of all Member States are increased in a uniform manner, namely 100% in line with country-specific increases in life expectancy. The purpose is to illustrate the positive impact of respective potential reforms on the sustainability of public finances.

Average exit ages from the labour market vary however significantly between European countries, which are thus in differing positions to address their sustainability challenges through reforms that would postpone retirement: Slovakia and Luxembourg had in 2011 the lowest exit ages, while the highest exit ages were observable in Sweden, Cyprus and Ireland (see Graph 4.3).

In general, the simulated scenario is purely illustrative as it is rather unlikely that retirement ages will increase in proportion to life expectancy across all Member States. One could rather expect retirement ages to converge, that is, to increase more in countries that currently have lower retirement ages, and conversely increase less in countries with relatively high exit ages.

Average exit age from the labour market in 2011
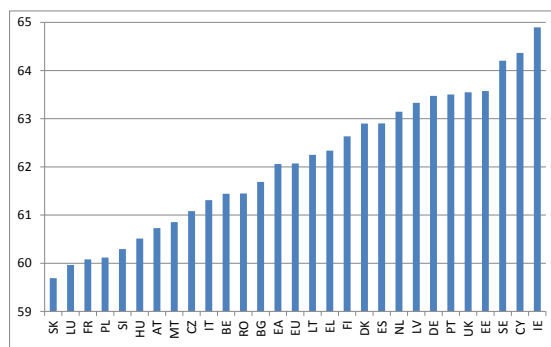
Average exit ages from the labour market based on CSM projections used for 2012 Ageing Report and demographic data based on EUROPOP 2010.
Source: Commission services.

In the absence of policy measures aimed at postponing retirement – like a change in the statutory retirement age or other encouragements for older workers to remain in the labour market – there will only be a very slow increase in exit ages (see Table 4.2).

The average exit age for the EU aggregate would increase from 62.5 in 2011 to 64.7 years in 2060 for men and from 61.7 to 64.3 for women. Thereby, a large part of the exit age increase is already achieved in the next two decades (EU: 64.3 for men and 63.9 for women in 2030), due to implemented pension reforms that lead to a gradual increase of statutory retirement ages.

However, it should be noted that, according to the demographic projections, the remaining life expectancy at 65 is expected to increase from 17.2 years in 2010 to 22.4 in 2060 for men and 20.7 in

2010 to 25.6 years in 2060 for women. Hence, only about half of the increase in life expectancy is currently also reflected in effective retirement age increases, giving thus room for additional adjustment.

Under the postponed retirement scenario assumption that statutory retirement ages are increased 100% in line with gains in life expectancy, EU average exit ages from the labour market would rise to 66.5 years in 2060 for men (+1.8 years in comparison to baseline projections) and 65.8 years for women (+1.5 years) (see Table 4.2).

Moreover, the simulation of such a postponed retirement assumption highlights the following stylised facts:

- The 1:1 link of retirement ages with changes in life expectancy is applied on top of already legislated increases in statutory retirement ages.

- The extension of working lives (done by a parallel shift of exit probabilities to higher ages) increases total labour supply in a proportional manner, thus increasing employment as well as GDP and reducing the number of pensioners.

- The benefit ratio (calculated as the average pension divided by the average wage) is increased due to higher pension contributions based on a longer working life. The average pension itself is also increasing in line with increased GDP growth. Total public pension

Exit age and life expectancy developments over time

	Life expectancy at the age of 65									
	MALE					FEMALE				
	2010	2020	2030	2060	Change	2010	2020	2030	2060	Change
EU	17.2	18.3	19.4	22.4	5.2	20.7	21.8	22.8	25.6	4.9
EA	17.8	18.8	19.8	22.6	4.8	21.4	22.4	23.3	25.9	4.5
	Average exit age from the labour market (baseline)									
	MALE					FEMALE				
	2011	2020	2030	2060	Change	2011	2020	2030	2060	Change
EU	62.5	64.0	64.3	64.7	2.2	61.7	63.3	63.9	64.3	2.6
EA	62.2	64.0	64.4	64.6	2.4	62.0	63.8	64.2	64.6	2.6
	Average exit age from the labour market (postponed retirement scenario)									
	MALE					FEMALE				
	2011	2020	2030	2060	Change	2011	2020	2030	2060	Change
EU	62.5	64.2	64.8	66.5	4.0	61.7	63.4	64.1	65.8	4.1
EA	62.2	64.1	64.6	66.0	3.8	62.0	63.8	64.3	65.7	3.7

Source: Commission services.

expenditure is then calculated according to the (increasing) average pension per projection year times the decreased number of pensioners according to the postponed retirement scenario ([70]).

- Expenditures on other age-related items (health care, long-term care, education and unemployment benefits) evolve in line with the baseline scenario and are only adjusted according to the projected increase in GDP.

GDP effect

Given the increase in exit ages and, as a consequence, in labour supply, annual average potential GDP growth increases to a level of more than 1.5 per cent per year between 2010 and 2040 and to more than 1.4 per cent per year between 2041 and 2060, which represents an average increase of around 0.1 p.p. of GDP relative to the baseline scenario.

Pension expenditure effect

Under the postponed retirement scenario, public pension expenditure would on average increase by 0.8 p.p. between 2010 and 2060 in the EU. The expenditure ratio thus falls by 0.6 percentage points of GDP in comparison to the baseline scenario (+1.4 p.p. up to 2060) mainly because of the lower number of pensions paid, though there is an increase in the average pension and a higher benefit ratio (see Graph 4.4 and Table 4.3). If the benefit ratio was kept at the same level as in the baseline scenario while increasing retirement ages in line with life expectancy, the increasing pension expenditure effect of the demographic change would even be almost outweighed. A projected increase in public pension expenditure of only 0.3 p.p. of GDP would on average remain up to 2060 in the EU. In both alternative scenarios, the main effect is only visible after 2020 when already endorsed increases in retirement ages become fully implemented in the Member States' pension systems and further adjustments according to increases in life expectancy are not legislated under current policies.

([70]) Country-specific 2012 Ageing Report data used to simulate the benefit ratio effect of postponed retirement. For countries with missing data or inconsistent benefit ratio developments, the EU average was applied.

Graph 4.4: **Public pension expenditure in the EU 2010-2060 (as % of GDP)**
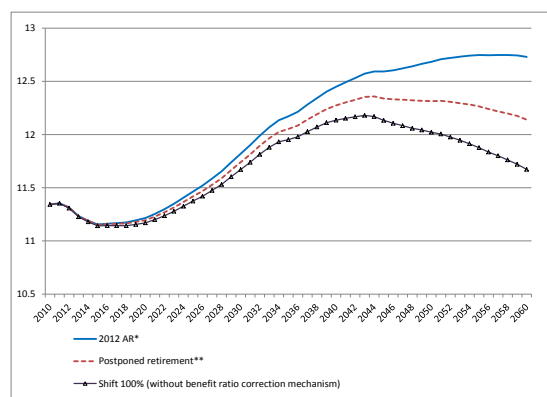
— 2012 AR*
--- Postponed retirement**
—▲— Shift 100% (without benefit ratio correction mechanism)

*: Projections for BE, DK, HU and NL have been updated after the publication of the 2012 Ageing Report. EU average figures have changed accordingly.
**: Country-specific 2012 Ageing Report data used to simulate the benefit ratio effect of postponed retirement. For countries with missing data or inconsistent benefit ratio developments, the EU average was applied.
Source: Commission services.

Table 4.3: **Change in public pension expenditure under postponed retirement assumptions vs. AR 2012**

	change 2010-2060		
	AR 2012*	Postponed retirement	Shift without BR effect
BE	5.1	3.5	3.4
BG	1.1	-1.4	-1.5
CZ	2.7	1.6	1.1
DK	-1.1	-1.5	-1.7
DE	2.6	2.0	1.6
EE	-1.1	-2.0	-2.3
IE	4.1	3.4	2.6
EL	1.0	-0.4	-1.6
ES	3.6	3.2	2.8
FR	0.5	0.3	-0.3
IT	-0.9	-0.9	-0.9
CY	8.7	6.3	6.3
LV	-3.8	-5.0	-5.0
LT	3.5	4.5	1.4
LU	9.4	9.0	6.7
HU	0.5	0.0	-0.8
MT	5.5	4.7	4.1
NL	1.7	1.4	1.4
AT	2.0	1.6	0.4
PL	-2.2	-3.1	-3.2
PT	0.2	-1.2	-1.4
RO	3.7	2.3	1.3
SI	7.1	6.2	6.1
SK	5.2	4.2	2.6
FI	3.2	2.7	1.2
SE	0.6	-0.3	-1.1
UK	1.5	0.6	0.1
EA	1.8	1.4	0.9
EU	1.4	0.8	0.3

*: Projections for BE, DK, HU and NL have been updated after the publication of the 2012 Ageing Report. EA and EU average figures have changed accordingly.
Source: Commission services.

Results however vary widely across countries (see Table 4.3). On the one hand, it should be noted that several Member States (e.g. Spain, Italy, Portugal, Greece, Denmark, Netherlands, Hungary) have already implemented very ambitious reforms with a positive impact on sustainability over the short- and medium-run. This especially holds for countries with existing country-specific links of retirement ages to gains in life expectancy (Czech Republic, Denmark, Greece, Italy, Netherlands; see also chapter 5.1 below). For those countries, a 100% link of retirement ages to life expectancy could even lead to pension expenditure decreases in the long-run (Greece) or confirm already existing decreases (Denmark, Italy). These decreases are also projected for Bulgaria, France, Hungary, Portugal and Sweden, if the benefit ratio was kept constant. On the other hand, to fully stabilize public pension expenditures, further reform measures on top of a retirement age link to gains in life expectancy must be taken in some Member States (e.g. Cyprus, Slovakia, Slovenia, Malta, Luxembourg), e.g. by restricting early retirement possibilities to increase effective retirement ages and by reducing the coverage of their pension systems. Other generosity-reducing reform measures might also be necessary in Member States where the reduction in expenditures due to a lower coverage of the pension system is outweighed by higher pension entitlements of individual pensioners due to longer contribution periods (Spain, Lithuania, Austria). For countries in which a rather strong private 2nd and 3rd pillar role in comparison to the public 1st pillar is expected in the future (Estonia, Latvia, Poland), the retirement age link to life expectancy even further reduces public pension expenditures in the long-run on top of already projected reductions.

Overall sustainability effect

The postponed retirement scenario yields a sustainability gap (S2) for the EU of 2.3 per cent of GDP, which is 0.4 points lower than in the baseline scenario (S2 would be 2.0 if the benefit ratio would be kept constant). Therefore, a substantial gap would still remain as the projected increase on pension expenditure in the baseline scenario is only less than half of the overall long-term increase in age-related expenditure (+1.4 p.p. up to 2060 for public pension spending compared to an overall age-related expenditure increase of

3.6 p.p.). As the remaining expenditure items are kept constant, the overall impact on sustainability is limited but nevertheless still observable: 1/6 of Cost of Ageing (CoA) (the required adjustment given the long-term change in expenditure) and around 1/7 of S2 in the baseline scenario.

Overall adequacy effect

Increasing retirement ages in line with gains in life expectancy allows for accruing higher pension entitlements due to a longer working life. The postponed retirement scenario yields an average EU pension level that is around 4.6% higher in comparison to the baseline scenario in 2060 (see Graph 4.5). Moreover, the decreasing effect on the benefit ratio in the baseline scenario can, at least to some extent, be reduced when postponing retirement in line with gains in life expectancy (27.3% in the baseline scenario vs. 28.6% in the postponed retirement scenario in 2060).

Graph 4.5:   **Benefit ratio and average pension development in the EU under AR2012 and postponed retirement scenario**
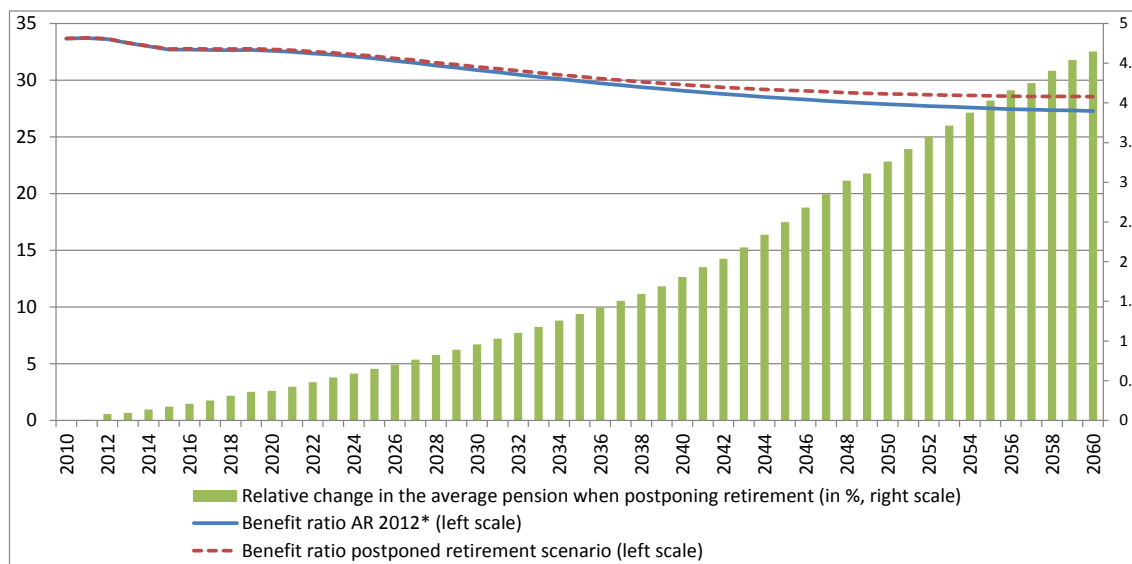
Legend:
- Relative change in the average pension when postponing retirement (in %, right scale)
- Benefit ratio AR 2012* (left scale)
- Benefit ratio postponed retirement scenario (left scale)

*: Projections for BE, DK, HU and NL have been updated after the publication of the 2012 Ageing Report. EU average figures have changed accordingly.
Source: Commission services.

5. OTHER RELEVANT FACTORS TO BE TAKEN INTO ACCOUNT

Chapter 3 of this report presented the calculated values for a number of sustainability indicators, while Chapter 4 discussed uncertainty surrounding them, by carrying out some sensitivity analysis.

This chapter discusses a number of additional factors, not entering in the calculation of sustainability indicators, that are nevertheless important in assessing the overall sustainability of a country's public finances. These additional factors will be taken into consideration in the overall assessments presented in Chapter 6, and in the country-specific analysis presented in chapter 7 of this report.

5.1. PENSION EXPENDITURE PROJECTIONS AND ADEQUACY ISSUES

An ageing population raises challenges for the European societies, not only culturally and organisationally, but also, and in particular, from a financial point of view. Policy makers need to ensure long-term fiscal sustainability in the face of large demographic challenges as well as significant economic uncertainty. The seriousness of the challenge depends on how economies and societies respond and adapt to these changing demographic conditions and whether these challenges are timely addressed.

The sustainability of pension systems represents a main aspect of the financial challenge related to the demographic transition. Pension expenditures absorb an increasing share of public finances, although not to the same extent in every Member State. Countries with less generous schemes or with planned reductions to their generosity face less pressure on their public finances than countries which provide more generous pension benefits, assuming that age profiles are comparable.

At the same time – and in full respect of the financing challenge – there is also a social responsibility of policy makers to ensure that an adequate level of pension entitlements is preserved to guarantee a decent standard of living for ageing populations. Otherwise, sustainability pressures could evolve form a different angle, e.g. due to

higher expenditures for minimum social assistance and poverty reduction measures. Based on current projections, this section draws a picture of policy options on how pension systems can be kept financially sustainable in the future while at the same time preserving an adequate level of pension entitlements.

According to the 2012 Ageing Report projections [71], public pension expenditure in the EU will increase by 1.4 p.p. of GDP over the period 2010-2060 to a level of 12.7% of GDP (see also Graph 5.1 and Chapter 2 on the budgetary effect of ageing). [72]

In the euro area, an increase by 1.8 p.p. of GDP is projected. Yet, changes are far from being similar across Member States. On the one hand, an increase of 9.4 p.p. of GDP is projected for Luxembourg. Slovenia and Cyprus also project a public pension expenditure increase by more than 7 p.p. of GDP. In another three Member States (Slovakia, Belgium and Malta) spending to GDP is projected to grow between 5 to 7 p.p. of GDP. On the other hand, the ratio decreases over the projection horizon in Latvia, Denmark, Italy, Estonia and Poland. For the remaining Member States, an increase of less than 5 p.p. of GDP is expected.

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[71] European Commission (DG ECFIN) and Economic Policy Committee (AWG) (2012), "The 2012 Ageing Report: Economic and budgetary projections for the 27 EU Member States (2010-2060)", European Economy, No. 2. (http://ec.europa.eu/economy_finance/publications/european_economy/2012/pdf/ee2_en.pdf)

[72] Due to recently legislated reforms, projections for Belgium, Denmark, Hungary and Netherlands have been updated after the publication of the Ageing Report 2012, leading to a reduction of the average EU expenditure increase till 2060 from 1.5 to 1.4 p.p. of GDP.

Graph 5.1: **Change in gross public pension expenditure over 2010-2060 (in p.p. of GDP) compared: 2009 and 2012 Ageing Report**
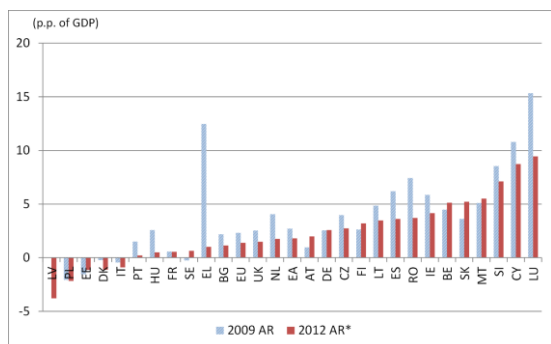
*: Projections for BE, DK, HU and NL have been updated after the publication of the 2012 Ageing Report. EA and EU average figures have changed accordingly.
Source: Commission services.

In the last decade, a majority of Member States has adapted pension systems so as to put them on a more sustainable footing and enable them to weather the demographic changes that are set to take hold in coming years. Consequently, compared with the 2009 Ageing Report projection exercise, pension expenditure in the 2012 Ageing Report are increasing more slowly for the EU (rising by 1.4% of GDP between 2010 and 2060, compared with 2.3% of GDP in the 2009 Ageing Report). [73]

Ageing populations are indeed the main source of rising pension expenditures over time, as becomes visible when splitting public pension expenditures by age groups (see Graph 5.2). Expenditure for age groups younger than 65 is projected to decrease drastically, due to increased retirement ages, increased restrictions for early and disability pensions as well as demographic factors. Even the age group 65-69 shows on average a downward trend in pension expenditure for the EU (from 2.2 p.p. of GDP in 2010 to 1.8 p.p. in 2060), although expenditure is still rising in the next two decades, when the post-war baby-boom generation reaches (increasing) retirement ages.

Graph 5.2: **Public pension expenditure in the EU by age groups between 2010 and 2060 (as % of GDP)**
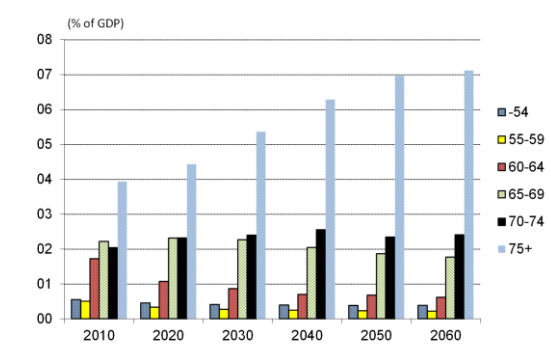
Source: Commission services.

The influence of the demographic transition on the projected increase in pension expenditure can also be clearly observed by breaking down expenditure into five main components, namely: (i) the demographic effect measured by the change in the dependency ratio; (ii) the change in the coverage ratio which considers the number of individuals eligible for public pensions relative to population aged over 65; (iii) the change in the employment rate amongst those of working age; (iv) the benefit ratio which measures the generosity of public pensions in relation to the average wage; and (v) the labour intensity effect. [74]

At the aggregate EU level, the demographic transition to an older population is the only driver behind the projected increase in public pension expenditure between 2010 and 2060 (see Graph 5.3), ranging from around 3 p.p. in the United Kingdom to as much as 14 p.p. in Poland (EU: +8.4 p.p. of GDP; euro area: +8.8 p.p.). In fact, all the other four factors are expected to mitigate – but not fully compensate – the increase induced by the demographic effect.

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[73] Pension reforms that have been legislated during the last three years are one of the main factors responsible for the revisions of projected changes in pension expenditure over the long term. However, changes in the demographic and macro-economic conditions, changes in modelling pension expenditure over the long term and changes in the coverage of the projection (data on pension schemes covered in the projection) may have influenced this result as well.

[74] The decomposition is made according to the following formula:

$$\frac{Pension\ Exp.}{GDP} = \overbrace{\frac{Population\ 65+}{Population\ 20-64}}^{Dependency\ Ratio} \times \overbrace{\frac{Number\ of\ Pensioners}{Population\ 65+}}^{Coverage\ Ratio}$$

$$\times \underbrace{\frac{Population\ 20-64}{Working\ People\ 20-64}}_{1/\ Employment\ Rate} \times \overbrace{\frac{Average\ Pension}{GDP}}^{Benefit\ Ratio} \times$$

$$\underbrace{\frac{Working People\ 20-64}{Hours Worked\ 20-64}}_{1/\ Labour\ intensity} \times \underbrace{\frac{Hours Worked\ 20-64}{Hours Worked\ 20-74}}_{Residual}$$

Stricter eligibility criteria for public pension (through higher retirement age and/or reduced access to early retirement and better control of alternative pathways to early retirement like disability pensions) would limit public pension expenditure in almost every Member State. This is reflected in a strong downward effect of lower coverage ratios (i.e. fewer pensioners in relation to the population aged 65 and above) on public pension expenditure of at least 3 p.p. of GDP is projected in 12 Member States (Slovenia, Finland, Greece, France, Slovakia, Bulgaria, Denmark, the Czech Republic, Romania, Hungary, Poland and Italy). The overall EU contribution is -2.9 p.p. over the period 2010 to 2060 (-2.7 for the euro area).

Increasing employment (also of older working age population) leads to a further reduction in public pension expenditure by 0.9 p.p. until 2060 in the EU (-1.0 p.p. in the euro area).

Furthermore, in most Member States, a rather substantial decline in the public pension benefit ratio (average pension as a share of the economy-wide average wage) over the period 2010 to 2060 is projected (see Table 5.1), amounting to 20% or more in 7 Member States (Estonia, Greece, France, Poland, Romania, Slovakia and Sweden). Only Cyprus projects a slightly increasing public benefit ratio. At the aggregated EU level, this would result in a benefit ratio decrease of 19%.

Graph 5.3: **Decomposition of public pension expenditure development 2010-2060 (% of GDP)**
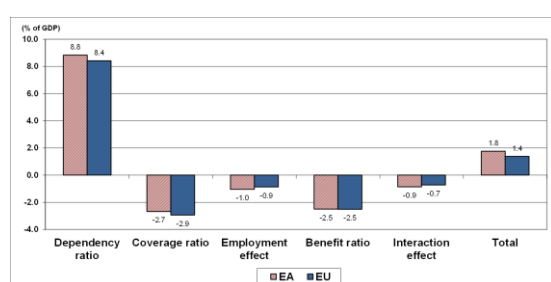
Source: Commission services.

In the EU and the euro area, decreasing benefit ratios will contribute to push down the increasing impact of the demographic effect on public pension expenditure by 2.5 p.p. of GDP (see Graph 5.3). In 9 Member States (France, Estonia, Cyprus, Greece, Romania, Austria, Portugal, Latvia and Poland) the contribution of a decreasing benefit

ratio is quite significant (i.e. above 3 p.p. of GDP). Only in 2 Member States (the UK and Ireland), the contribution of the change in the benefit ratio is supposed to push the expenditure level further upwards.

Several policy approaches that have been applied in recent pension reforms can be identified as a source of decreasing benefit ratios and thus – ceteris paribus – increases in the sustainability of pension systems:

Indexation rule: A majority of Member States (19) will apply indexation rules of pension entitlements that do not fully reflect a 1:1 relationship with nominal wage increases (hence e.g. a mix of wage and price indexation or pure price indexation rules).

Valorisation rule: Pension contributions can also be indexed (valorised) at a lower rate than wage increases (e.g. in Luxembourg, Romania and Finland).

Pensionable earnings reference: Some countries have changed the pensionable earnings reference to calculate pension entitlements from final pay to average pay or increase the number of years that are taken into account when calculating pension benefits (e.g. in Greece, Spain, Austria and Portugal). Moreover, some have increased the contributory period that is necessary to receive full pension entitlements (e.g. in France).

Accrual rates: Accrual rates for public pension entitlements have been adjusted (downsized) to take into account longer contributory periods and increasing retirement ages. Moreover, in some countries they will decline due to stricter eligibility criteria for pension entitlements or a partial shift to second and third pillar schemes (e.g. in Estonia, Latvia, Lithuania and Slovakia).

Sustainability factors: Several countries (Germany, Finland, Spain, Italy, France, Latvia, Poland, Portugal and Sweden) have introduced sustainability factors that change the size of pension benefits based on demographic developments (e.g. life expectancy) or the ratio between pension contributions and expenditures.

Table 5.1:   **Benefit ratios in 2010 and 2060**

	Public pensions (Baseline)				Public pension (higher old-age employment**)				All pensions			
	2010	2030	2060	% change 2010-60	2010	2030	2060	% change 2010-60	2010	2030	2060	% change 2010-60
BE	39.6	40.6	37.7	-4.8	39.6	40.8	37.8	-4.5				
BG	46.1	39.5	37.8	-18.1	46.1	39.6	38.3	-17.1				
CZ	26.2	23.7	25.4	-3.0	26.2	23.8	25.5	-2.8				
DK	35.8	32.9	30.4	-15.1	35.8	32.9	30.4	-15.0	59.3	58.7	68.4	15.4
DE	47.0	41.0	38.5	-18.1	47.0	41.3	38.9	-17.3				
EE	38.7	29.2	20.0	-48.5	38.7	29.5	20.3	-47.7	38.9	30.7	28.9	-25.6
IE												
EL	35.9	35.1	27.6	-23.3								
ES	55.3	52.5	44.8	-18.9	55.3	52.6	45.0	-18.6	58.8	57.2	47.9	-18.4
FR	39.8	35.2	31.7	-20.4								
IT	48.5	49.8	43.6	-10.2	48.5	50.2	44.8	-7.7				
CY	43.3	48.9	44.3	2.2	43.3	48.9	44.7	3.2				
LV												
LT	38.7	33.9	35.1	-9.2	38.7	33.9	35.1	-9.2	38.7	34.5	37.1	-4.0
LU	58.7	57.2	50.7	-13.6	58.7	57.3	51.3	-12.6				
HU	31.2	27.7	25.5	-18.1	31.2	27.7	25.5	-18.1	31.2	27.7	25.5	-18.1
MT	51.2	43.2	47.4	-7.5	51.2	43.7	47.6	-7.1				
NL												
AT	42.3	41.1	35.5	-16.1	42.3	40.9	35.7	-15.6				
PL	46.7	36.7	19.1	-59.2	46.7	36.9	19.2	-58.9	46.7	38.1	22.0	-52.9
PT												
RO	38.7	31.3	26.9	-30.5	38.7	31.3	26.9	-30.5	36.7	31.1	27.6	-24.6
SI	19.2	16.9	17.3	-10.0	19.2	16.5	17.0	-11.5				
SK	43.7	36.7	28.9	-33.9	43.7	37.4	30.6	-30.0				
FI	49.4	48.2	44.1	-10.7	49.4	48.3	44.6	-9.7				
SE	35.3	29.7	25.6	-27.7	35.3	29.6	25.5	-27.8	44.8	41.8	37.3	-16.7
UK												
EU*	41.8	38.0	33.9	-18.8	41.8	38.2	34.2	-18.1				
EA*	44.8	42.1	37.7	-15.7	44.8	42.3	38.2	-14.7				

*: Simple average for benefit ratio (only for those countries that provided figures for the scenario with a higher employment rate of older workers. If calculated for all countries that provided figures for the baseline scenarios, EU averages would drop from 41.4 in 2010 to 33.5 in 2060 and from 43.8 to 36.6 in the euro area in the respective scenario).
**: Higher employment rate of older workers (55-64) by 5 p.p.
The Benefit Ratio is calculated as the average pension benefit (of public pensions and of public and private pensions, respectively), as a share of the economy-wide average wage (gross wages and salaries in relation to employees), as calculated by the Commission services. Public pensions used to calculate the benefit ratio include old-age and early pensions and other pensions. Values for "all pensions" are only presented when projections for private pensions are available.
Source: Commission services, information provided by Member States.

Overall, the expected reduction in the generosity due to lower coverage and benefit levels of pension systems will contribute to lessening the impact of an ageing population on the public finances and thus increase fiscal sustainability. However some countries, especially those for which strong declines in their benefit ratios are projected, may come under significant political pressure to introduce ad hoc increases to pension levels or to generally change their pension systems (rolling back recent reforms) to increase the living standard of pensioners. The same holds for countries that are expected to continue to have relatively low levels of pension provision, even if the current ratio is not expected to undergo any significant future reduction.

Amongst other measures, it should thus be in the interest of policymakers to promote the advantages of working longer in terms of additional pension entitlement accumulation as this can compensate for the reduction in benefit ratios of public pensions (see Table 5.1). Under the assumption of an increased employment rate for older workers (55-64) by 5 p.p. – which could indirectly be reached by a retirement age increase – the projected decrease in the benefit ratio would be reduced in several Member States (Belgium, Bulgaria, Czech Republic, Denmark, Germany, Estonia, Spain, Italy, Luxembourg, Hungary, Malta, Austria, Poland, Slovakia and Finland).

Also the Pension Adequacy Report comes to the conclusion that a longer working life can provide higher pension entitlements in the future, counterbalancing for the large drops in

replacement rates in many countries or even yielding higher replacement rates than today. [75]

Furthermore, it has become common practice in several Member States to build up additional pension entitlements in second and third pillar schemes. As a consequence, the decline in the total pension benefit ratio is smaller in 6 Member States (Estonia, Spain, Lithuania, Poland, Romania and Sweden) when taking into consideration also the influence of occupational and private schemes on pension entitlements (see Table 5.1). Notwithstanding this, the total benefit ratio still declines by 20% or more in Estonia, Poland and Romania. A substantial increase of 14% in the total benefit ratio is only reported in Denmark.

Depending on the performance of asset markets or other economic factors, the provision of support from (defined contribution) private scheme also entails substantial uncertainty in terms of the level of the pensions received. Other influencing factors are the way private pension schemes are organised, how they invest their assets and the kind of guarantees or other support the government provides to those schemes. An alternative would thus be to encourage people to start saving privately for their retirement income.

The European Commission, in its 2012 Annual Growth Survey, as well as in its White Paper on pensions, puts forward several recommendations for further pension reform steps to increase long-term sustainability as well as pension adequacy, using a comprehensive or holistic approach: [76]

- align the retirement age with increases in life expectancy;

- restrict access to early retirement schemes and other early exit pathways;

- support longer working lives by providing better access to life-long learning, adapting work places to a more diverse workforce, and developing employment opportunities for older workers;

- equalise the pensionable age between men and women.

The latest country-specific recommendations [77] in the framework of the 2012 European Semester also highlight the need for pension reforms to increase long-term sustainability and adequacy in several countries.

Linking the statutory retirement age with increases in life expectancy features prominently in the 2012 country recommendations to a number of Member States (Belgium, Spain, Cyprus, Lithuania, Luxembourg, Malta, Netherlands, Austria, Slovenia, Slovakia and Finland), so as to put pension systems on a more sustainable footing. Given the political difficulties countries generally face when they are introducing changes to their pension systems, it is crucial to introduce automatic links to the largely known changes in longevity over the medium- and long-term, instead of having recurrent 'hard' negotiations at different points in time, when the (known) longevity gains have materialized. This type of pension reform would involve not only the advantage of an expenditure reduction due to a lower coverage ratio and a proper recognition of longevity risks (see also section on sustainability impact of increasing the retirement age in line with life expectancy, 4.2.8). It would also provide incentives to work longer, resulting in the accumulation of higher pension entitlements. Indeed, higher retirement ages would permit reconciling the desirable goals of sustainability and adequacy of pension systems, allowing for enhancing retirement incomes trough higher accumulation of income and the accrual of pension rights. Several countries have already introduced an automatic (or quasi-automatic) link between gains in life expectancy and retirement ages in their pension legislation (Denmark, Greece, Italy, the Netherlands, Slovakia and the Czech Republic; Spain would activate it as of 2027).

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[75] Pension Adequacy Report 2012:
http://ec.europa.eu/social/BlobServlet?docId=7805&langId=en
[76] Annual Growth Survey 2012:
http://ec.europa.eu/europe2020/pdf/ags2012_en.pdf; White Paper on Adequate, Safe and Sustainable Pensions:
http://ec.europa.eu/social/BlobServlet?docId=7341&langId=en

[77] http://ec.europa.eu/europe2020/making-it-happen/country-specific-recommendations/index_en.htm

Table 5.2:   **Debt as % of GDP, outturn and forecasted**

	2000	2005	2008	2009	2010	2011	2012 (forecast)	2013 (forecast)	2014 (forecast)	Change 2011-2014
BE	107.8	92.0	89.2	95.7	95.5	97.8	99.9	100.5	101.0	3.2
BG	72.5	27.5	13.7	14.6	16.2	16.3	19.5	18.1	18.3	2.0
CZ	17.8	28.4	28.7	34.2	37.8	40.8	45.1	46.9	48.1	7.3
DK	52.4	37.8	33.4	40.6	42.9	46.6	45.4	44.7	45.3	-1.4
DE	60.2	68.6	66.8	74.5	82.5	80.5	81.7	80.8	78.4	-2.2
EE	5.1	4.6	4.5	7.2	6.7	6.1	10.5	11.9	11.2	5.0
IE	37.5	27.2	44.5	64.9	92.2	106.4	:	:	:	:
EL	104.4	101.2	112.9	129.7	148.3	170.6	:	:	:	:
ES	59.4	43.1	40.2	53.9	61.5	69.3	86.1	92.7	97.1	27.8
FR	57.4	66.7	68.2	79.2	82.3	86.0	90.0	92.7	93.8	7.8
IT	108.5	105.4	106.1	116.4	119.2	120.7	126.5	127.6	126.5	5.8
CY	59.6	69.4	48.9	58.5	61.3	71.1	89.7	96.7	102.7	31.7
LV	12.4	12.5	19.8	36.7	44.5	42.2	41.9	44.3	44.9	2.6
LT	23.6	18.3	15.5	29.3	37.9	38.5	41.6	40.8	40.5	2.0
LU	6.2	6.1	14.4	15.3	19.2	18.3	21.3	23.6	26.9	8.5
HU	56.1	61.7	73.0	79.8	81.8	81.4	78.4	77.1	76.8	-4.6
MT	54.9	69.7	62.0	67.6	68.3	70.9	72.3	73.0	72.7	1.8
NL	53.8	51.8	58.5	60.8	63.1	65.5	68.8	69.3	70.3	4.8
AT	66.2	64.2	63.8	69.2	72.0	72.4	74.6	75.9	75.1	2.7
PL	36.8	47.1	47.1	50.9	54.8	56.4	55.5	55.8	56.1	-0.3
PT	48.4	62.5	71.7	83.2	93.5	108.1	:	:	:	:
RO	22.5	15.8	13.4	23.6	30.5	33.4	34.6	34.8	34.8	1.4
SI	26.3	26.7	22.0	35.0	38.6	46.9	54.0	59.0	62.3	15.5
SK	50.3	34.2	27.9	35.6	41.0	43.3	51.7	54.3	55.9	12.7
FI	43.8	41.7	33.9	43.5	48.6	49.0	53.1	54.7	55.0	6.0
SE	53.9	50.4	38.8	42.6	39.5	38.4	37.4	36.2	34.1	-4.3
UK	41.1	42.2	52.3	67.8	79.4	85.0	88.7	93.2	95.1	10.1
EU	61.9	62.8	63.9	73.9	80.0	82.8	86.8	88.7	88.8	6.0
EA	69.2	70.2	70.2	79.9	85.5	88.1	92.8	94.6	94.5	6.5

Source: Commission services.

5.2.   LEVEL OF DEBT

The initial debt-to-GDP ratio has a marked impact on sustainability ([78]). As explained in previous chapters ([79]), the initial debt ratio affects sustainability indicators through two channels: the initial budgetary position (IBP), and the debt requirement (DR). For a given primary balance, and macroeconomic variables (i.e. interest rates and growth rates), a higher initial debt ratio requires a higher offsetting fiscal adjustment effort (i.e. a rise in the sustainability indicator). Identically, the higher the initial debt gap to attain a given end-point, the stronger the required adjustment.

Beyond these direct effects, resulting from the breaking down of sustainability indicators,

economic theory suggests that debt levels beyond a given threshold are bad for economic growth. The relationship between government debt and growth is weak for debt ratios below a given threshold, but above it, average growth starts falling rapidly. ([80])

The simultaneous presence of non-linearities in the debt-ratio -to-GDP growth relation and in the debt-to-primary balance relation can make the fiscal adjustment much more challenging after unexpected events that rise debt levels, such as after a financial crisis accompanied by a cyclical downturn, eventually requiring governments to assume significant contingent liabilities.

([78]) The definition of debt used in this report is the one used in EU budgetary surveillance procedures. It is gross debt for all government, consolidated at face value. Spending in arrears is not included. Contingent liabilities (which are discussed later in this chapter) and the debts of special purpose vehicles active in the management of the current crisis are not included. The net present value of the accrued-to-date public pensions to be paid is not included.

([79]) See Annex 8.1 for a detailed derivation of the sustainability indicators.

([80]) Reinhart C. and Rogoff K. (2010), "Growth in a Time of Debt", American Economic Review, Vol. 100 No. 2. The thresholds should be country specific, but in practice are derived using panel models.

Table 5.3:   **Structural primary balance as % of GDP, outturn and forecasted**

	2000	2005	2008	2009	2010	2011	2012 (forecast)	2013 (forecast)	2014 (forecast)
BE	5.4	3.3	1.9	-0.3	0.0	-0.1	0.7	0.8	0.3
BG	3.7	1.9	0.9	-2.3	-1.1	-0.7	0.1	0.0	0.3
CZ	-2.0	-1.6	-3.4	-4.5	-3.4	-1.8	-1.0	-1.1	-0.9
DK	4.4	6.0	3.7	2.1	1.7	2.2	1.2	0.3	0.5
DE	3.6	0.6	1.9	1.7	0.2	1.8	2.7	2.7	2.5
EE	-0.1	0.3	-4.3	-0.9	-1.1	-0.6	-0.3	-0.3	0.4
IE	4.7	2.8	-6.1	-8.1	-6.2	-4.5	:	:	:
EL	3.6	-0.9	-4.6	-9.5	-2.9	1.7	:	:	:
ES	1.1	2.6	-2.8	-6.9	-5.7	-5.0	-3.3	-0.2	-1.3
FR	-0.1	-1.8	-1.2	-3.7	-3.3	-1.8	-0.8	0.5	0.5
IT	4.5	-0.8	1.5	0.4	0.9	1.2	4.1	5.1	5.0
CY	0.5	0.7	2.2	-3.6	-3.0	-3.5	-1.1	-0.9	-1.1
LV	-1.0	-1.2	-5.8	-4.5	-1.8	-0.2	0.4	0.3	0.4
LT	0.4	-1.4	-5.1	-5.7	-3.1	-3.1	-0.6	-0.1	-0.1
LU	3.6	-0.1	2.9	1.2	0.3	0.6	-0.6	-0.2	-0.4
HU	2.5	-5.5	-0.2	2.2	0.6	-0.2	2.1	2.5	1.6
MT	-3.9	-0.1	-2.2	-0.5	-1.6	-0.4	-0.4	0.0	0.4
NL	4.2	2.8	1.5	-1.9	-1.8	-1.4	-0.2	0.9	0.2
AT	0.8	1.6	0.7	0.0	-0.7	0.3	0.0	0.6	0.8
PL	-0.5	-1.1	-2.6	-5.4	-5.3	-2.4	-0.3	0.5	1.0
PT	-1.8	-3.5	-1.4	-5.7	-5.5	-2.2	:	:	:
RO	2.1	-1.1	-7.7	-8.2	-4.6	-2.3	0.0	0.4	0.7
SI	-1.8	-0.5	-3.6	-3.0	-2.9	-2.8	-0.4	0.6	0.1
SK	-7.2	-0.1	-2.9	-6.0	-6.0	-3.8	-3.3	-1.2	-0.8
FI	8.1	4.3	3.8	2.2	0.6	1.4	0.5	0.9	0.9
SE	6.1	3.0	3.2	3.9	2.2	1.4	1.6	1.3	1.7
UK	5.6	-2.6	-2.7	-7.5	-5.9	-3.5	-3.2	-2.4	-1.5
EU	2.7	-0.1	-0.4	-2.5	-2.2	-0.8	0.3	1.1	1.1
EA	3.2	0.3	0.1	-1.7	-1.6	-0.4	0.9	1.9	1.7

Source: Commission services.

Simultaneously, a number of authors highlight the need for considerable caution regarding the pace of fiscal adjustment in present circumstances, because of the (risk of a double dip) recession and the zero interest rate trap. [81] The role of a negative feedback loop between fiscal policy and growth is highlighted, meaning that front-loading fiscal adjustment is likely to hurt growth prospects which would delay improvements in fiscal indicators, including debt ratios and sustainability indicators, and eventually undermining political support for the necessary adjustment. [82]

However, a high debt level can severely limit a country's ability to deal with cyclical fluctuations, not only because of the limited space for fiscal discretion, but also because of the risks posed by rising interest rate spreads. An acute episode of widening interest rate spreads can easily develop into a sovereign debt crisis.

The maturity structure of public debt plays also an important role on the potential emergence and unfolding of a debt crisis, because all else being equal, a higher average maturity of debt facilitates its rollover, especially under conditions of market distress.

Table 5.2 above shows the government debt-to-GDP ratios for EU Member States for 2000, 2005, and 2008 to 2011, as well as forecasts for 2012, 2013 and 2014 using the Commission's autumn 2012 economic forecasts. These figures show a marked increase in debt since 2008, basically as a result of the severe economic and financial crisis of 2008-2009.

[81] DeLong B. and Summers L. (2012), "Fiscal Policy in a Depressed Economy".
[82] Cottarelli, C. and Jaramillo L. (2012), "Walking Hand in Hand: Fiscal Policy and Growth in Advanced Economies", WP/12/137.

Table 5.4:   **General government financial assets as % of GDP**

	2000	2005	2008	2009	2010	2011
BE	16.2	13.9	19.3	20.3	19.8	20.6
BG	78.9	39.2	32.1	32.7	31.2	:
CZ	51.7	45.0	41.1	43.6	41.9	:
DK	37.9	35.3	47.6	55.7	56.4	58.5
DE	27.0	22.1	25.0	28.0	36.0	34.9
EE	39.8	40.2	34.4	42.0	49.0	:
IE	23.6	26.6	37.1	44.6	41.1	:
EL	26.5	29.7	27.6	33.4	35.8	36.5
ES	22.3	21.6	25.1	28.8	27.3	27.5
FR	30.4	33.6	33.4	38.6	36.2	:
IT	25.9	26.1	25.2	27.5	27.6	:
CY	25.0	29.2	21.6	25.1	24.1	27.2
LV	23.1	20.7	28.4	41.4	40.0	:
LT	52.0	34.1	24.7	33.0	33.6	:
LU	59.9	56.2	73.2	76.2	75.2	:
HU	29.2	22.5	25.4	27.0	26.1	:
MT	:	36.6	27.5	30.4	31.0	:
NL	28.9	25.7	37.8	38.0	37.2	37.2
AT	36.1	32.7	33.6	33.6	34.4	:
PL	29.9	31.3	37.3	36.3	34.6	31.5
PT	29.7	27.2	26.6	28.8	33.8	43.4
RO	74.9	35.7	20.1	30.8	31.2	:
SI	:	42.5	35.4	43.9	47.2	48.4
SK	45.1	34.2	23.0	22.7	21.9	:
FI	83.5	107.0	92.6	114.6	123.4	112.0
SE	58.8	68.9	64.8	74.5	73.0	69.9
UK	:	:	:	:	:	:
EU	24.9	24.7	26.4	30.5	31.3	:
EA	28.3	27.7	29.6	33.2	34.9	:

Source: Commission services.

5.3.   PRIMARY BALANCE

The primary balance is a crucial determinant of debt dynamics. Table 5.3 above shows the structural primary balance for the years 2000, 2005 and 2008 to 2014, using the Commission's autumn 2012 economic forecasts. Although there is considerable variation across Member States, on average in the EU the structural primary balance is forecast to improve by over 2 p.p. of GDP between 2011 and 2014 (from -0.9% of GDP to 1.2%).

Even in the absence of adverse shocks, a high level of debt involves a high interest burden, thereby requiring maintaining a large primary surplus in order to secure debt sustainability. Gather the political support for a prolonged period of adjustment can be challenging, particularly in cyclical adverse conditions and when additional efforts are required to address age-related costs. How successful is a country in raising the primary surplus and keeping it at relatively high values for long periods depends, inter alia, on institutions

(e.g. the national and EU budgetary frameworks ([83])) and social cohesion.

It can also be argued that the ability and success in reforming social policies in order to contain ageing costs is likely to be correlated with past success in limiting (or reducing) increases in the debt-to-GDP ratio. However, insofar as countries with large sustainability gaps also maintain high levels of debt, this represents an additional risk over and above the high level of debt in itself, which should be used to qualify the country-by-country overall assessment.

In the period 2011-2014, the debt to GDP ratio is expected to increase on average by 6.0 p.p. of GDP in the EU (+6.5 p.p. in the euro area). The debt ratio is forecast to increase in 22 Member States, with increases above 10 p.p. expected in 5 Member

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([83]) See e.g. Part I in Chapter 3 in European Commission (2012), "2012 Report on Public Finances in EMU", European Economy No. 4 and European Commission (2012b), "Fiscal frameworks across Member States: Commission services country fiches from the 2011 EPC peer review", European Economy Occasional Paper No. 91.

States (Spain, Cyprus, Slovenia, Slovakia, and the United Kingdom), see Table 5.2.

5.4. ASSETS

The debt figures used in this report are defined in gross and consolidated terms, meaning that financial and non-financial assets owned by government are not netted out, unless they are liabilities of some government units. There is a considerable cross-country variation in the size of government financial assets (Table 5.4).

Assets should be taken into account when assessing the sustainability of Member States, as their disposal may contribute to reimburse debt and because they generate property income. Assets can have a particular impact on sustainability in cases where the real and book values differ or their returns differ from the interest rate on the debt. Therefore, the evolution of property income is included in the sustainability indicators. ([84])

5.5. CONTINGENT LIABILITIES

Government debt includes the explicit liabilities that governments have incurred through borrowing – short- and long-term loans and bonds – and that they need to service. However, there are a number of other government commitments that are typically not included in debt. These consist of implicit and contingent liabilities. Implicit liabilities are not backed up by law, but involve spending for which there is an expectation that it will continue or materialise. Contingent liabilities are those which the government will only need to assume if certain situations occur.

Implicit and contingent liabilities are not mutually exclusive categories but different dimensions of categorisation. Spending commitments can be either implicit or explicit depending on their legal backing and contingent or non-contingent depending on whether their status depends on the realisation of an uncertain event outside the government's full control.

The scale of contingent commitments of the public sector can only be assessed by setting out explicit parameters that determine what will and will not be considered. This is because aside from the explicit contingent liabilities that are backed up by legal provision – such as guarantees to borrowing of public and private enterprises – there are also implicit contingent liabilities whose scope is open. Moreover, even once the scope of liabilities to be considered has been decided, the data may not be available. An assessment of the value of implicit and contingent liabilities and commitments requires an understanding of the probability that situations giving rise to such liabilities occur, as well as of the size of such liabilities under various possible scenarios. A simulation exercise conducted along these lines is, for instance, presented in the following section with specific focus on the possible (direct) impact of banking sector losses on public finances.

In the light of the economic and financial crisis, many Member States have taken on explicit contingent liabilities to support the functioning of the financial sector (figures in Table 5.5). The risks such measures entail for the public sector differ depending on their nature. Column three in the table, for instance, reports governments' guarantees on bank liabilities. ([85]) These are explicit contingent liabilities representing the magnitude of government underwriting that will not appear on the government's balance sheet unless the guarantees are called in. These contingent liabilities are particularly significant for some Member States (Denmark, Belgium, Cyprus and Spain).

([84]) For a detailed description of property income projections see section 8.5 in the Annex.

([85]) Figures reported in the table are guaranteed outstanding amounts, with reference to State guarantees provided either via a national scheme or an ad-hoc individual rescue operation.

Table 5.5: **Public interventions in the banking sector as a share of GDP (as of January 2012)**

	Recapitalisation	Guarantees on bank liabilities	Relief of impaired assets	Liquidity	Total
BE	4.3	10.6	5.3	0.0	20.3
BG	0.0	0.0	0.0	0.0	0.0
CZ	0.0	0.0	0.0	0.0	0.0
DK	2.4	5.9	2.1	0.0	10.4
DE	1.8	0.5	2.0	0.0	4.3
EE	0.0	0.0	0.0	0.0	0.0
ES	2.0	6.9	1.6	0.1	10.6
FR	0.1	2.7	0.0	0.0	2.8
IT	0.2	5.3	0.0	0.0	5.5
CY	9.9	14.4	0.0	0.0	24.2
LV	3.4	0.2	0.0	3.0	6.5
LT	0.0	0.0	0.0	0.0	0.0
LU	5.7	4.5	0.0	0.1	10.4
HU	0.0	0.0	0.0	0.3	0.3
MT	0.0	0.0	0.0	0.0	0.0
NL	5.2	3.1	1.7	0.6	10.5
AT	2.5	4.0	0.5	0.0	7.0
PL	0.0	0.0	0.0	0.0	0.0
RO	0.0	0.0	0.0	0.0	0.0
SI	0.2	3.4	0.9	0.0	4.4
SK	0.0	0.0	0.0	0.0	0.0
FI	0.0	0.0	0.0	0.0	0.0
SE	0.2	1.1	0.0	0.0	1.2
UK	4.2	1.3	3.5	1.8	10.9
EU	2.3	4.0	1.4	0.4	8.1
EA	2.2	4.9	1.1	0.2	8.5

Source: Commission services.

In addition to State guarantees on bank liabilities, governments have supported their financial sectors through recapitalisations, relief of impaired assets and liquidity support interventions. Recapitalisations, or capital injections, appear on the public sector's balance sheet and provide governments with assets for future selling, whose future value is nevertheless subject to uncertainty. ([86]) Impaired asset relief ([87]) and liquidity support interventions (i.e. all interventions aimed at supporting liquidity and providing extra financing to banks thanks to State guarantees) are a mixed set of interventions, some of which transfer risk to the public sector without an outlay appearing in debt, thereby also increasing the explicit contingent liabilities of the government. ([88])

5.5.1. CONTINGENT LIABILITIES LINKED TO PUBLIC SUPPORT TO THE BANKING SECTOR (SYMBOL MODEL)

The economic and financial crisis has highlighted the importance of complementing fiscal sustainability analyses with evaluations of governments' contingent liabilities stemming from risks in the banking sector. As shown by recent experiences, a government's decision to support a distressed banking sector can have a sizeable impact on public finances. This points to the need to consider the possibility for bank defaults as "tail events" (i.e. events that are possible, but have a small probability of materialising), under which public finances should be stress-tested.

The analysis presented in this section is limited to the potential direct impact of possible banking losses on public finances, meaning the impact that a decision to support part of the distressed banking sector would have on the government's budget. Excluded are "second-round effects" linked to the fiscal consequences of possible bank defaults. ([89])

([86]) Recapitalisations, as reported in Table 5.5, are capital injections (defined as the difference between injections and redemptions) that are provided via a national scheme or an ad-hoc individual rescue operation.

([87]) Figures on impaired asset relief interventions in Table 5.5 refer to amount of assets acquired or guaranteed by the State (acquisition value or outstanding guaranteed value) to improve banks' balance sheets, either via a national scheme or an ad-hoc individual rescue operation.

([88]) For an explanation on the recording of these measures in national accounts, see Section II.1 in European Commission (2009) "2009 Report on Public Finances in EMU", *European Economy,* No. 5.

([89]) As explained in Part IV, Chapter 2 of European Commission (2011), "2011 Report on Public Finances in EMU" *European Economy,* No. 3, the relationship between the government's budget and banks' balance sheets is not uni-directional but rather circular and dynamic. Dynamic

Estimates of the potential impact of banking losses on public finances are obtained using SYMBOL (Systemic Model of Banking Originated Losses), a model that has been developed by the European Commission's Joint Research Centre (JRC), the Directorate General Internal Market and Services and academic experts. [90] The model allows estimating aggregate banking losses that derive from bank defaults, accounting for banks' capital and the existence of banking safety net tools. Model simulations can be flexibly run under different assumptions on the existing regulatory environment, showing a reduction in estimated contingent liabilities for the government's budget under the (recently proposed) reinforced future banking regulatory framework, as better highlighted in what follows.

Two scenarios are considered in terms of different regulatory settings:

A. A baseline scenario, where banks' capital complies with Basel II minimum capital requirements (8% of Risk Weighted Assets) under the Basel II less stringent definition of regulatory capital, Deposit Guarantee Schemes (DGS) are in place and contagion between banks is assumed to take place via the interbank market.

B. A future regulatory scenario, where banks' capital complies with minimum capital requirements set equal to 10.5% of Risk Weighted Assets under the new Basel Accord's (so called Basel III) more stringent definition of regulatory capital; ex-ante Deposit Guarantee Schemes

(DGS) and Resolution Funds (RF) [91] are jointly set at an amount corresponding to 1% of covered deposits in each country (0.5% for each instrument); a 10% Loss Absorbing Capacity for each single bank is guaranteed thanks to the introduction of bail-in ([92]) ([93]); contagion between banks (through the interbank market) does not take place. [94]

The two scenarios have been identified to represent respectively the existing regulatory environment (baseline scenario) and a future regulatory environment, in which all banks' capital will comply with Basel III minimum capital requirements and all additional banking safety net tools will be in place to protect public finances from possible banking losses. The size of ex-ante DGS/RF and bail-in tools in the latter scenario were chosen on the basis of what indicated (for DGS/RF) and suggested (for bail-in) in the European Commission's proposal for a directive establishing a framework for the recovery and resolution of credit institutions and investment firms. [95]

Under each of the two aforementioned scenarios, probability distributions of individual banks' losses are simulated by the model and aggregated into a simulated probability distribution of aggregate

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effects are, however, out of the scope of the analysis presented here, which focusses exclusively on the direct uni-directional impact of banking losses on the government's budget. We do not take account, for instance, of the fact that changes in value of sovereign bonds can affect banks as Eurosystem banks use high-graded government bonds as collateral to obtain liquidity from the ECB (with the amount of liquidity depending on the grading of the assets). Likewise, we do not consider the possibility of higher funding costs due to a downgrading of banks, following the downgrading of the country.

[90] More details on SYMBOL are reported in Annex 4. For reference, see R. De Lisa, S. Zedda, F. Vallascas, F. Campolongo and M. Marchesi (2011), "Modeling deposit insurance scheme losses in a Basel 2 framework", *Journal of Financial Services Research* 40(3). The model is presented also in European Commission (2011), "2011 Report on Public Finances in EMU" *European Economy* No. 3.

[91] Resolution funds are funds financed by banks, aimed at supporting the orderly resolution of defaulting banks, thus avoiding contagion between banks and other spill-over effects.

[92] Bail-in refers to the existence of a legal framework ensuring that part of the losses of defaulted banks (out of the scope of intervention of DGS/RF) are absorbed by bondholders and by non-covered depositors. A 10% Loss Absorbing Capacity means that we assume each bank's regulatory capital and bail-inable liabilities is equal to 10% of total liabilities (defined as total assets minus regulatory capital).

[93] DGS, RF and bail-in are assumed to operate sequentially: first DGS and bail-in; then, if needed, RF. For further details, see Annex XIII of the Impact Assessment accompanying the proposal for a directive establishing a framework for the recovery and resolution of credit institutions and investment firms, SWD(2012) 166 final (http://ec.europa.eu/internal_market/bank/docs/crisis-management/2012_eu_framework/impact_assessment_final_en.pdf).

[94] Contagion effects are ruled out consistently with the assumption of DGS, RF and bail-in being in place.

[95] COM(2012) 280/3. See art 93(1) for DGS/RF and art. 39(1), plus the last paragraph on page 13 of the same document, for bail-in tools (the document is available online at the following link: http://ec.europa.eu/internal_market/bank/docs/crisis-management/2012_eu_framework/COM_2012_280_en.pdf).

banking losses, as described more in detail in Annex 8.4. Potential costs to public finances are determined as losses left uncovered by banks' excess capital (capital in excess of the 8% minimum capital requirement) ([96]) ([97]) and by the other regulatory banking safety net tools (DGS/RF and bail-in).

Simulated average distributions of aggregate bank losses hitting public finances are presented respectively for the EU and the Euro Area in Table 5.6 and Table 5.7. These tables clearly show the very substantial improvement in protection to public finances that will be provided by the future regulatory regime. In particular, attention should be focussed, in Table 5.6 and Table 5.7, on the simulated aggregate losses corresponding to the 99.95 and the 99.99 percentiles of the aggregate bank loss distribution (as simulated crises corresponding to these distribution percentiles represent bank crises that are similar to the recent one). ([98]) Results in the tables show that moving from the baseline to the future regulatory scenario, the maximum public finance costs massively decrease both for the EU and the Euro Area. Losses for public finances are reduced from around 24-30% of GDP to around 1.5-3.5% of GDP in correspondence to the aforementioned percentiles.

Table 5.6: **Distribution of losses from bank defaults hitting public finances in the various scenarios for EU-27**

Distribution percentile	Scenario A		Scenario B	
	€ bn	% GDP	€ bn	% GDP
90	7.29	0.06%	0.00	0.00%
95	57.79	0.46%	0.00	0.00%
99	471.48	3.73%	1.10	0.01%
99.9	2382.88	18.85%	94.76	0.75%
99.95	3079.55	24.36%	186.47	1.47%
99.99	3830.29	30.30%	411.97	3.26%
99.999	4674.08	36.97%	842.33	6.66%

Source: Commission services.

Table 5.7: **Distribution of losses from bank defaults hitting public finances in the various scenarios for Euro Area**

Distribution percentile	Scenario A		Scenario B	
	€ bn	% GDP	€ bn	% GDP
90	7.29	0.08%	0.00	0.00%
95	57.79	0.61%	0.00	0.00%
99	416.16	4.42%	1.10	0.01%
99.9	1582.33	16.79%	79.39	0.84%
99.95	2218.73	23.55%	152.02	1.61%
99.99	2740.45	29.09%	325.08	3.45%
99.999	3370.19	35.77%	640.94	6.80%

Source: Commission services.

([96]) The fact that only banks' excess capital is considered to be able to absorb losses represents a case where the other tools of the banking safety net or, if necessary, public finances are called to provide the capital that is necessary to avoid any undercapitalized bank going out of operations because of its possible systemic importance. This assumption is in line with how state aid measures for the banking sector have actually been applied in the recent financial crisis.

([97]) Excess capital is defined as capital in excess of 8% minimum capital requirement under both scenarios A and B. This means that, out of the 10.5% Basel III minimum capital requirement, only the so called "capital conservation buffer" of 2.5% is considered able to absorb losses.

([98]) The SYMBOL simulated aggregate bank losses distribution can be compared with the state aid given during the recent financial crisis in order to assess which part of the simulated distribution best replicates the effects of the crisis started in 2008. This exercise (performed in section 1 of Annex XIII of the aforementioned Impact Assessment - SWD(2012) 166/3) leads to the conclusion that the recent crisis is an event comprised between percentiles 99.95 and 99.99 of the SYMBOL simulated aggregate bank losses distribution. These two percentiles can therefore be used to estimate how losses for public finance would turn out to be in case another crisis comparable to the recent one was to happen in the future.

Table 5.8: **Probability of public finances being hit by banking losses higher than 0.1% of GDP under different scenarios**

	Scenario A	Scenario B
BE	0.39%	0.08%
BG	0.24%	0.14%
CZ	0.32%	0.12%
DK	0.81%	0.12%
DE	1.35%	0.05%
EE	0.01%	0.01%
ES	1.59%	0.43%
FR	7.11%	0.83%
IT	14.61%	0.14%
CY	14.53%	1.64%
LT	0.44%	0.19%
LU	0.66%	0.10%
LV	0.50%	0.21%
HU	0.26%	0.07%
MT	0.32%	0.12%
NL	0.48%	0.13%
AT	1.73%	0.13%
PL	0.59%	0.32%
RO	0.09%	0.06%
SI	2.79%	0.32%
SK	0.23%	0.09%
FI	1.06%	0.04%
SE	0.25%	0.06%
UK	2.72%	0.17%
EU27	4.02%	0.26%
EA	4.81%	0.29%

* Results for EE need to be interpreted with caution give the small sample size (see Annex 8.4 for more details). In SYMBOL simulations, this may give rise to unstable results (particularly when contagion is assumed, as in scenario A).
Source: Commission services.

future regulatory scenario, the average probabilities of non-irrelevant costs to public finances for the EU and the Euro Area fall from around 4-5% to around 0.3%.

Results presented in Table 5.8 provide information on the probability that governments' contingent liabilities linked to bank losses do materialise. The focus here is exclusively on "non-irrelevant" costs to public finances (defined as costs higher than 0.1% of GDP). [99] Results show that probabilities of such non-irrelevant costs fall significantly for practically all countries in the future regulatory scenario (scenario B in the table), where all banking safety net instruments (including bail-in) are fully in place, compared to the baseline scenario (scenario A in the table), in which, as explained above, there is no bail-in of private investors. [100] Passing from the current to the

[99] The 0.1% threshold is used both to represent non-irrelevant losses and to improve the numerical stability of the results. It should be noted that the probabilities of costs to public finances presented in the European Commission's 2011 Report on Public Finances in EMU are based on a zero threshold, as opposed to the threshold of 0.1% of GDP used here.

[100] In the baseline scenario, the risk of government's liabilities created by the banking sector is relatively high (but always below 10%) for some big countries (France, Italy, United Kingdom). For all of these countries risks drop dramatically under the new regulatory scenario.

Table 5.9: **Conditional probability of losses to public finances above given thresholds under different scenarios (conditional on at least one bank default having taken place)**

	Scenario A		Scenario B	
	Threshold 0.5% of GDP	**Threshold 3% of GDP**	**Threshold 0.5% of GDP**	**Threshold 3% of GDP**
BE	76%	46%	22%	2%
BG	47%	4%	31%	1%
CZ	35%	6%	10%	0%
DK	31%	8%	7%	0%
DE	2%	0%	0%	0%
EE	71%	68%	71%	68%
ES	63%	29%	23%	8%
FR	99%	51%	7%	0%
IT	50%	1%	1%	0%
CY	99%	99%	10%	3%
LT	32%	10%	29%	1%
LU	99%	99%	24%	17%
LV	63%	5%	47%	2%
HU	96%	70%	49%	26%
MT	73%	58%	63%	53%
NL	47%	30%	16%	7%
AT	42%	6%	4%	0%
PL	56%	3%	35%	1%
RO	56%	22%	41%	1%
SI	99%	98%	59%	14%
SK	79%	5%	43%	0%
FI	99%	8%	2%	0%
SE	30%	17%	4%	0%
UK	87%	37%	8%	1%
EU27	58%	25%	11%	2%
EA	54%	24%	10%	3%

* Results for EE need to be interpreted with caution give the small sample size (see Annex 8.4 for more details). In SYMBOL simulations, this may give rise to unstable results (particularly when contagion is assumed, as in scenario A).
Source: Commission services.

While results in Table 5.8 are informative with regard to the probability that contingent liabilities materialise, results in Table 5.9 provide information on the probability of a "*relatively large*" impact on public finances, should risks materialise. These results are presented in Table 5.9 in the form of probabilities (*conditional on at least one bank default having taken place*) of losses to public finances higher than given thresholds (0.5% and 3% of GDP). We can see that the probability of a relatively large impact of banking losses on public finances decreases very significantly in the future regulatory scenario both for the EU and the Euro Area as compared to the baseline scenario (a decrease from over 50% to 10-11% for the 0.5% threshold, and from over 20% to 2-3% for the 3% threshold).

In terms of country-specific results, Table 5.9 shows that, in the baseline scenario, the probability of costs to public finances above 0.5% of GDP, conditional on banking losses having materialised, would be high (higher than 85%) for France, Cyprus, Luxembourg, Hungary, Slovenia, Finland and the United Kingdom. By raising the threshold to 3% of GDP, the probability of relatively large costs to public finances would still be very high (98-99%) only for Cyprus, Slovenia and Luxembourg (for Luxembourg this is most likely

due to the very large size of its banking sector compared to the size of the domestic economy).

In the future regulatory scenario, costs to public finances higher than 0.5% of GDP, conditional on banking losses having taken place, cannot be excluded (probability higher than 10%) for many countries (Belgium, Bulgaria, Estonia ([101]), Spain, Lithuania, Luxembourg, Latvia, Hungary, Malta, Netherlands, Poland, Romania, Slovenia, Slovakia). However, costs to public finances higher than 3% of GDP would become extremely unlikely (probability lower than 10%) for all countries but Estonia ([102]), Luxembourg, Hungary, Malta and Slovenia.

In Table 5.8 and Table 5.9 significant differences in results across countries are observed mainly in the baseline scenario, but much less in the new regulatory scenario. This hints at the capacity of the newly proposed regulatory measures *to reduce and harmonise* across countries the risk for public finances arising from possible banking losses, as well as the size of the impact on public finances once banking losses materialise.

5.6.   THE LEVEL OF THE CURRENT TAX RATIO

The medium- and long-term sustainability indicators (S1 and S2) show the required adjustment to public finances to make public finances sustainable. In the absence of reforms that curb the costs of ageing, or cuts in other expenditure categories, the sustainability gap needs to be closed by adjusting tax revenues. The feasibility of this will depend, in part, on the pre-existing situation in the different Member States. Member States with high levels of tax revenues, might find it difficult to increase taxes further. This is both because it might be politically difficult to persuade taxpayers to increase taxes or the concerns related to the deadweight cost of high taxes on the economy, as higher taxes will usually constitute a disincentive to work and reduce competitiveness. Conversely, amongst some countries with traditionally high levels of tax, there

might be other factors that would ease the pressure against tax raising measures. For example, Member States with relatively efficient tax and expenditure systems, or which place more weight on distributional than efficiency arguments, might be more willing to have larger government sectors. ([103])

Graph 5.4 below shows the total general government tax burden (including social security contributions) as a share of GDP for 2011 and for the 2000–10 period on average.

Graph 5.4:   **Tax burden in 2000-10 and 2011**
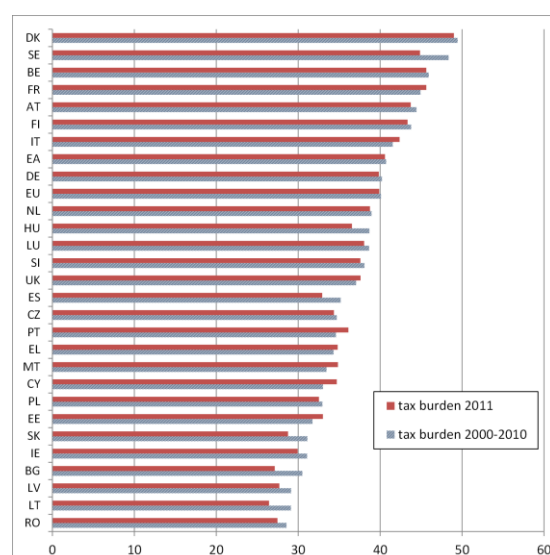
Source: Commission services.

([101]) Results for Estonia need to be interpreted with caution given the small sample size (see Annex 8.4 for more details). In SYMBOL simulations, this may give rise to unstable results (particularly when contagion is assumed, as in scenario A).

([102]) See previous footnote.

([103]) A more detailed assessment of tax policy challenges can be found in: European Commission (2012), *"Tax reforms in EU Member States 2012"*, European Economy, No. 6.

6. OVERALL ASSESSMENT OF CHALLENGES TO THE SUSTAINABILITY OF PUBLIC FINANCES

6.1. INTRODUCTION

Developments in the recent past in some EU Member States has shown that fiscal sustainability challenges are not only of longer-term nature and, thus, an assessment of more immediate challenges and risks, underpinned with supplementary indicators, is warranted.

The enhancement of the sustainability assessment framework in this report addresses this issue by complementing the traditional focus on long-term fiscal risks with medium- and short-term risk indicators, i.e. :

- short-term challenges based on the S0 indicator ('early detection' of fiscal stress);

- medium-term challenges based on the modified S1 indicator ('debt compliance risk'), and;

- long-term challenges based on the S2 indicator, ('ageing-induced fiscal risks').

This chapter presents an overall assessment covering these three dimensions for all countries. It also explains in a systematic way how the risks associated to the different indicators and relevant features are examined in order to reach an overall sustainability assessment. It should be noted that the methodology for the S0 indicator is fundamentally different from the S1 and S2 indicators, which quantifies the required fiscal adjustment, the 'fiscal gap'. The S0 indicator does not indicate 'fiscal gaps' but is a composite indicator estimating risks for "fiscal stress" in the short-term, using thresholds of fiscal risks determined endogenously (based on the observation of past episodes of 'fiscal stress'). As such, it complements the fiscal gap indicators S1 and S2 in the fiscal sustainability analysis.

Some EU Member States are facing large fiscal challenges and are implementing adjustment programmes monitored by the EU, the IMF and the ECB, so as to restore debt sustainability. The prospects for these countries are assessed

frequently, and are therefore not analysed in the report. ([104])

6.2. FISCAL SUSTAINABILITY CHALLENGES

6.2.1. SHORT-TERM FISCAL SUSTAINABILITY CHALLENGES

Table 6.1 lists the main indicators that are taken into account to produce a comprehensive assessment of challenges to fiscal sustainability for the EU Member States.

Starting with the assessment of short-term risks for fiscal stress, based on the new S0 indicator, ([105]) the third panel of Table 6.1 shows the values of the indicator and its components. ([106])

The following critical threshold (endogenously determined, see Chapter 1) for short-term risks of fiscal stress has been estimated for the S0 indicator. Countries with a value for the overall indicator above the threshold (0.44) in 2012 are classified as being at risk of fiscal stress in the short term.

([104]) Countries implementing adjustment programmes are: Greece, Ireland and Portugal. The prospects for these 'programme' countries are assessed more frequently than for the other Member States. The time horizon covered by the forecasts for these countries is also different than for the other Member States and assume full implementation of the adjustment programme. See DG ECFINs website at http://ec.europa.eu/economy_finance/index_en.htm, for further details on progress with implementation of adjustment programmes and updated forecasts and sustainability assessments.

([105]) This indicator was presented in Chapter 3, Part IV of the 2011 Report on Public Finances in EMU. The methodology will be presented more extensively in the forthcoming DG ECFIN Economic Paper ("An early-detection index of fiscal stress for EU countries" by K. Berti, M. Salto and M. Lequien).

([106]) In addition, the third panel of Table 6.1 shows the current status of Member States according to the EUs multilateral budgetary surveillance (whether in EDP, or undertaking an adjustment programme). Nearly all Member States are implementing corrective measures (all countries except of Bulgaria, Germany, Estonia, Luxembourg, Finland and Sweden are under EDP or adjustment programmes), fiscal policies are not (yet) in line with the EU fiscal framework. Also, aside of the new S0 indicator, some additional indicators are shown, namely: (i) the yield curve; and, (ii) the gross refinancing needs. These are components of the S0 indicator.

Table 6.1:   **Sustainability indicators**

	Long-term — Sustainability indicator (S2)								Medium-term												Short-term — Sustainability indicator (S0)					
	Baseline scenario	of which: CoA	due to: pension	due to: care	due to: Others	of which: IBP	Risk scenario	of which: CoA (diff. to baseline)	Gov. Debt 2011	Gov. Debt 2014	Debt change (p.p.)	SPB avg 1998-2012	SPB 2011	SPB 2014	SPB change (p.p.)	S1 Baseline	S1 Risk	Status	Yield curve diff., pp. (2011)	Gross financing needs, % GDP (2012)	Overall 2009	Overall 2010	Overall 2011	Overall 2012	Fiscal 2012	Fin.-comp. 2012
BE	7.4	6.4	3.9	2.2	0.4	1.0	8.2	0.8	97.8	101.0	3.2	3.2	-0.1	0.3	0.4	6.2	6.4	EDP (2012)	2.8	19.7	0.39	0.21	0.30	0.23	0.21	0.24
BG	2.8	2.3	1.6	0.6	0.2	0.5	3.2	0.4	16.3	18.3	2.0	1.8	-0.7	0.3	0.9	-1.5	-1.3		1.6	3.8	0.64	0.53	0.39	0.38	0.15	0.47
CZ	5.5	3.8	2.0	1.6	0.3	1.7	6.2	0.7	40.8	48.1	7.3	-2.6	-1.8	-0.9	0.9	1.3	1.5	EDP (2013)	2.5	9.8	0.31	0.22	0.27	0.19	0.16	0.20
DK	2.6	1.7	-1.4	3.4	-0.3	0.9	3.0	0.4	46.6	45.3	-1.4	3.6	2.2	0.5	-1.8	-2.0	-1.9	EDP (2013)	1.4	6.0	0.48	0.29	0.24	0.24	0.15	0.27
DE	1.4	2.4	1.5	1.0	0.0	-1.0	2.8	1.4	80.5	78.4	-2.2	1.1	1.8	2.5	0.7	-0.3	0.1		1.2	12.8	0.14	0.11	0.02	0.04	0.12	0.01
EE	1.2	0.7	-0.1	0.9	-0.2	0.5	1.8	0.6	6.1	11.2	5.0	-0.8	-0.6	0.4	1.0	-3.4	-3.1		5.6		0.63	0.30	0.19	0.25	0.26	0.24
ES	4.8	1.9	2.2	1.5	-1.9	2.9	5.3	0.6	69.3	97.1	27.8	-0.4	-5.0	-1.3	3.7	5.3	5.6	EDP (2014)	4.1	20.0	0.70	0.43	0.38	0.44	0.54	0.40
FR	1.6	0.9	0.6	0.9	-0.5	0.6	3.8	2.2	86.0	93.8	7.8	-1.3	-1.8	0.5	2.3	1.9	2.5	EDP (2013)	1.9	19.1	0.25	0.13	0.13	0.19	0.46	0.08
IT	-2.3	0.7	-0.3	1.2	-0.2	-3.0	-2.0	0.3	120.7	126.5	5.8	1.8	1.2	5.0	3.8	0.6	0.7	EDP (2012)	4.0	25.1	0.42	0.23	0.26	0.28	0.31	0.27
CY	8.2	5.4	5.5	0.3	-0.4	2.8	8.3	0.1	71.1	102.7		-0.7	-3.5	-1.1	2.4	8.2	8.2	EDP (2012)	4.4	8.5	0.66	0.47	0.49	0.57	0.36	0.65
LV	-0.7	-1.5	-1.4	0.5	-0.6	0.7	-0.4	0.3	42.2	44.9	2.6	-1.7	-0.2	0.4	0.6	-2.0	-1.8	EDP (2012)	5.0	3.6	0.81	0.49	0.27	0.26	0.15	0.31
LT	4.7	3.8	3.0	1.1	-0.3	0.9	6.3	1.5	38.5	40.5	2.0	-1.7	-3.1	-0.1	3.0	0.3	0.7	EDP (2012)	3.5	8.0	0.61	0.41	0.34	0.22	0.15	0.24
LU	9.7	8.5	6.4	2.1	0.0	1.2	9.9	0.2	18.3	26.9	8.5	1.5	0.6	-0.4	-1.0	0.3	0.3			3.7	0.23	0.29	0.17	0.20	0.33	0.14
HU	0.5	0.3	-0.2	1.0	-0.5	0.1	1.0	0.5	81.4	76.8	-4.6	-1.1	-0.2	1.6	1.8	-0.4	-0.2	EDP (2012)	1.1	23.4	0.59	0.39	0.24	0.28	0.21	0.31
MT	5.8	4.9	3.0	2.4	-0.5	1.0	7.7	1.8	70.9	72.7	1.8	-2.1	-0.4	0.4	0.8	2.0	2.4	EDP (2011)	3.1	12.9	0.51	0.48	0.30	0.29	0.05	0.39
NL	5.9	4.0	1.0	3.5	-0.5	2.0	6.3	0.4	65.5	70.3	4.8	1.3	-1.4	0.2	1.5	2.2	2.4	EDP (2013)	1.6	13.0	0.30	0.20	0.20	0.13	0.15	0.13
AT	4.1	3.6	1.7	1.9	-0.1	0.5	5.1	1.0	72.4	75.1	2.7	1.0	0.3	0.8	0.5	2.6	2.9	EDP (2013)	1.9	6.7	0.19	0.16	0.07	0.09	0.15	0.07
PL	1.5	1.1	-0.6	1.7	-0.1	0.4	2.4	0.9	56.4	56.1	-0.3	-1.9	-2.4	1.0	3.3	0.1	0.4	EDP (2012)	1.4	10.3	0.56	0.44	0.36	0.32	0.15	0.39
RO	3.7	3.6	2.4	1.3	-0.1	0.1	4.2	0.5	33.4	34.8	1.4	-1.4	-2.3	0.7	3.0	-1.4	-1.2	EDP (2012)	1.7	8.5	0.77	0.50	0.40	0.34	0.10	0.43
SI	7.6	6.6	4.6	1.7	0.2	1.1	8.0	0.3	46.9	62.3	15.5	-1.5	-2.8	0.1	2.9	3.2	3.3	EDP (2013)	3.6	9.4	0.58	0.42	0.39	0.23	0.23	0.23
SK	6.9	5.1	3.5	1.7	-0.1	1.8	8.3	1.4	43.3	55.9	12.7	-3.0	-3.8	-0.8	3.1	2.2	2.6		3.1	7.6	0.61	0.35	0.31	0.26	0.34	0.22
FI	5.8	4.9	2.0	2.6	0.3	0.9	6.4	0.6	49.0	55.0	6.0	4.0	1.4	0.9	-0.6	2.0	2.2		1.6	4.6	0.37	0.10	0.07	0.13	0.21	0.09
SE	1.7	2.7	0.0	2.5	0.2	-1.0	2.1	0.4	38.4	34.1	-4.3	3.1	1.4	1.7	0.4	-3.6	-3.4		0.2	2.9	0.24	0.06	0.15	0.15	0.05	0.19
UK	5.2	2.6	1.2	1.3	0.1	2.6	5.7	0.5	85.0	95.1	10.1	-1.3	-3.5	-1.5	1.9	5.0	5.2	EDP (2014/15)	2.2	14.8	0.57	0.28	0.24	0.29	0.37	0.26
EU	2.6	2.2	1.1	1.5	-0.4	0.5	3.2	1.0	82.8	88.8	6.0	0.2	-0.9	1.2	2.0	1.8	2.2									
EA	2.1	2.1	1.2	1.4	-0.5	0.0	3.2	1.1	88.1	94.5	6.5	0.5	-0.4	1.7	2.2	1.7	2.1									

Source: Commission services.

Graph 6.1:   **S0 indicator**
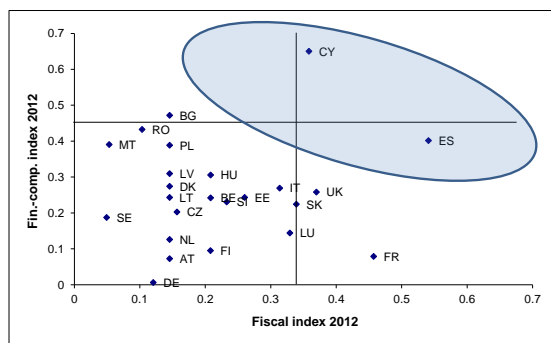
Source: Commission services.

For the countries for which the overall index is below the critical threshold, the methodology would not signal risks of stress fiscal in the year ahead.

In 2009, almost two thirds of the countries were above the critical threshold, indicating at that time elevated risks for 2010. Since then, risks have abated in nearly all countries (see Table 6.1 and Chapter 3.3). Short-term risks were reduced and only six countries appeared to be at risk for 2011. In 2012, highlighting risks of fiscal stress in 2013, only two countries still appear to be at risk (Spain and Cyprus).

Graph 6.2:   **Government primary balance, % of GDP**
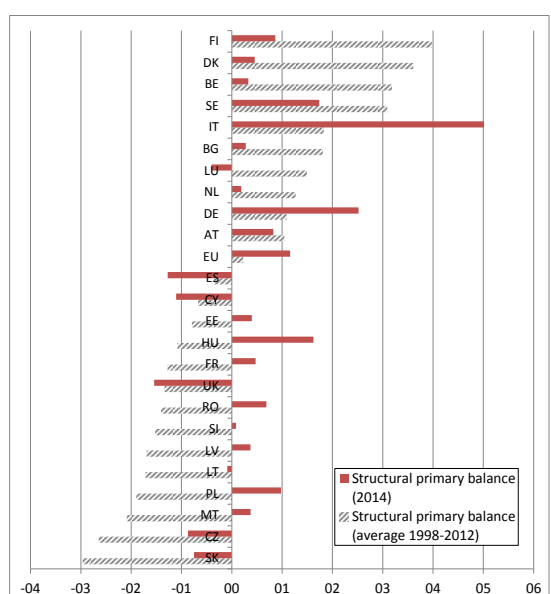
Source: Commission services.

6.2.2. MEDIUM-TERM FISCAL SUSTAINABILITY CHALLENGES

To gauge the scale of the fiscal challenge in a medium-term perspective, the required fiscal adjustment to reach the Treaty's 60% threshold for government debt is analysed. This gap between current and required primary balance is captured by the S1 indicator ($S1_{2030}^{60\%}$), where the end-point is set to 60% of GDP by 2030.

It is indeed important to pay due attention to the path of government debt in the period up to 2030. According to the latest forecast for government debt (2014), about half of the Member States have a debt ratio above the 60% of GDP threshold. Of those, some countries (Belgium, Spain, France, Italy, Cyprus and the United Kingdom) would need to reduce their debt ratio by 30 pp. of GDP or more to reach the threshold.

Graph 6.3:   **Government debt (2014), % of GDP**
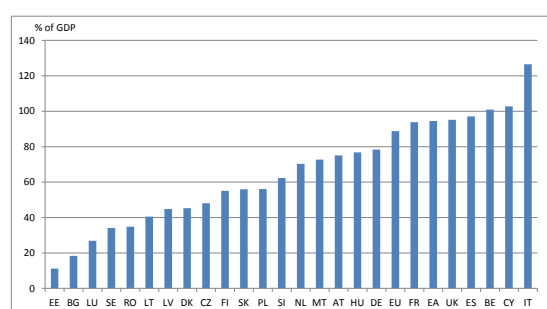
Source: Commission services.

The consolidation requirements are important in a post-crisis environment to assess the required adjustments to bring debt down to manageable levels in the coming two decades.

The key determinant of the Initial Budgetary Position (IBP) is the structural primary balance at the end of the forecast horizon (2014). Due to substantial consolidation efforts, in terms of the structural primary balance in 2014, this is estimated to be 2 pp. of GDP higher than observed on average over the period 1998-2012 in Italy, Poland, Hungary, Malta, Slovakia, Romania and Latvia. A fiscal tightening of 2 pp. or more is planned in Italy, Spain, Poland, Slovakia, Lithuania, Romania, Slovenia, Cyprus, France, and by as much as 3 ¾ pp. of GDP in Spain and Italy between 2011 and 2014 (see Table 6.1).

Maintaining such primary balances over the medium term and beyond, as assumed in the no-policy-change scenario, may prove challenging in view of competing budgetary pressures, thereby representing a risk in terms of the projected debt trajectory. By contrast, the 2014 structural primary balance is 2 pp. of GDP lower than the average over the period 1998-2012 in Belgium, Denmark and Finland, highlighting that more modest tightening in the wake of the large deterioration in the structural position associated with the economic and financial crisis between 2008 and 2010.

The extent to which the forecasted fiscal position (in 2014) is different from the one observed historically is analysed, so as to appropriately assess the sensitivity of the calculations with respect to the central no-policy-change scenario. Indeed, a particularly high budget balance might lead to 'fiscal fatigue' beyond the medium term, pointing to higher fiscal sustainability risks than captured by the sustainability indicators. By contrast, a particularly low current budget balance might not be the most likely outcome beyond the medium term in historical perspective, suggesting that the fiscal sustainability risks could be overestimated.

The initial budgetary position – the IBP component – suggests that the structural primary balance in 2014 should be adequate in both the EU as a whole and in the euro area to stabilise debt at its current level. However, the gradual adjustment of the primary balance, the so-called "cost of delay" subcomponent mitigates this effect, though it still remains slightly negative for the EU and for the euro area. Hence, the IBP contributes to attenuate fiscal sustainability challenges in less than one quarter of Member States (Bulgaria, Denmark, Germany, Estonia, France, Italy, Latvia, Hungary, Poland, Romania, Finland and Sweden). For the other Member States, the initial budgetary position compounds the long-term cost of ageing. The additional adjustment due to the debt requirement of 60% of GDP (DR) is of course positive only for those countries with the initial level of debt over 60% of GDP. The DR component accounts for an additional adjustment of 1.7 pp. of GDP for the EU as a whole and 2 pp. of GDP for the euro area (see Table 3.3).

The following indicative thresholds for medium-term sustainability risks when using the S1 indicator were used: (i) if the S1 value is less than zero, the country is assigned low risk; (ii) if it is between 0 and 3 (i.e. a structural adjustment in the primary balance of up to 0.5 pp. of GDP per year until 2020), it is assigned medium risk; and, (iii) if it is greater than three (i.e. a structural adjustment of more than 0.5 pp. of GDP per year), it is assigned high risk.

On this basis, the medium-term risk classification would result in five Member States being at 'high' risk (Belgium, Spain, Cyprus, Slovenia and the United Kingdom). Eleven Member States being at 'medium' risk (the Czech Republic, France, Italy, Lithuania, Luxembourg, Malta, the Netherlands, Austria, Poland, Slovakia and Finland). Finally, eight Member States being at 'low' risk (Bulgaria, Denmark, Germany, Estonia, Latvia, Hungary, Romania and Sweden).

Graph 6.4:   **S1 indicator**
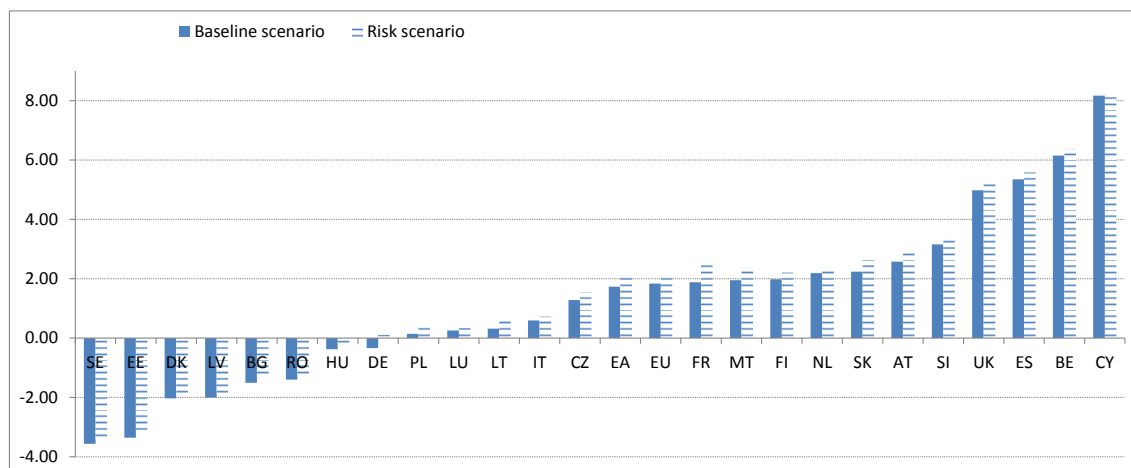
Note: The Risk Scenario, in addition to the impact of demographic changes, reflects the impact of additional non-demographic drivers of costs for health care and long-term expenditure.
Source: Commission services.

6.2.3. LONG-TERM FISCAL SUSTAINABILITY CHALLENGES

Based on the S2 indicator, quantifying the adjustment need to fill the gap vis-à-vis the debt-stabilising primary balance and to finance future increases in age-related expenditure, countries can be grouped into different risk categories as regards long-term sustainability.

The higher the values of the S2 sustainability indicator, the higher is the required fiscal adjustment and thus the fiscal sustainability risk. If however the current debt ratio is above 60% of GDP, the EU fiscal rules, enshrined in the Treaty, stipulate that it should be reduced below this threshold, irrespective of the eventual fiscal pressures stemming from population ageing.

History shows that there are several examples of periods when a durable improvement of the fiscal position (primary balance) up to 2 percentage points of GDP has occurred. However, there has been very few periods of durable improvements of 6 percentage points of more. In cases where the sustainability gap is high due to high ageing costs, structural reforms geared towards curbing the long-term age-related expenditure trends is a necessary part of the policy adjustment.

As was the case in the 2009 Sustainability Report, the following indicative thresholds for the S2

indicator have been retained: (i) if the S2 value is lower than two, the country is assigned low risk; (ii) if it is between two and six, it is assigned medium risk; and, (iii) if it is greater than six, it is assigned high risk. On this basis, the long-term risk classification would result in 5 Member States being at 'high' risk, 11 Member States being at 'medium' risk, and 8 Member States being at 'low' risk (see Table 6.2). In terms of the different Member States situation, the following points can be made:

- The S2 sustainability gap is very large and risks appear to be high in the following Member States: Belgium, Cyprus, Luxembourg, Slovenia and Slovakia. When considering also the impact of non-demographic drivers on future health care and long-term care costs (as in the AWG "risk scenario"), coping with the future prospects would be even more challenging for these countries, in particular in Belgium and Slovakia.

- For a second group of countries – Bulgaria, the Czech Republic, Denmark, Spain, Lithuania, Malta, the Netherlands, Austria, Romania, Finland and the United Kingdom - the S2 sustainability gap is less pronounced, and they appear to be at medium risk. In terms of the AWG "risk scenario", coping with the future prospected health care and long-term care

Graph 6.5:   **S2 indicator**
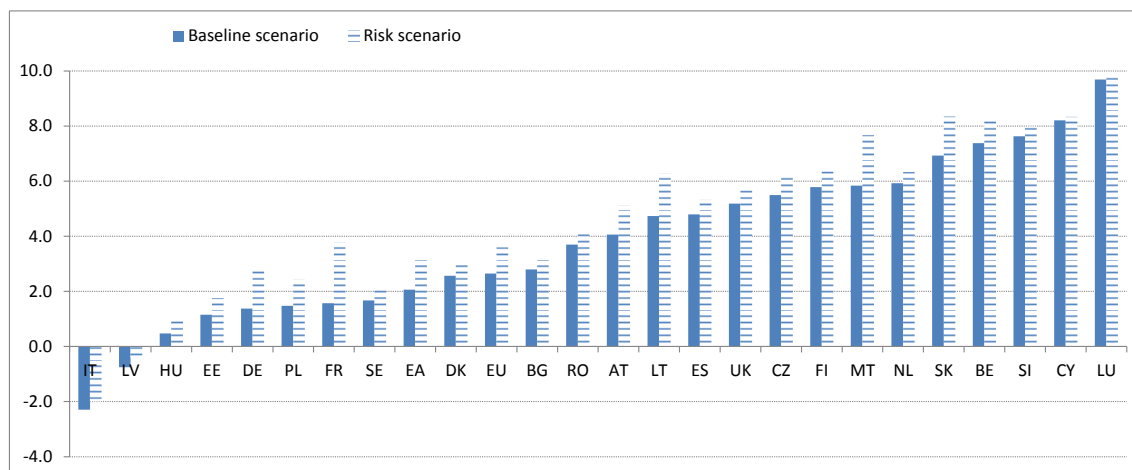
Source: Commission services.

expenditure would be more challenging, in particular in the Czech Republic, Lithuania, Malta, the Netherlands and Finland, where the increase would point to high risk.

- Finally, the S2 sustainability gap is more moderate in Germany, Estonia, France, Italy, Latvia, Hungary, Poland and Sweden and risks appear to be low. However, when considering also the impact of non-demographic drivers on future health care and long-term care costs (as in the AWG "risk scenario"), coping with the future prospects would be more demanding, especially in Germany, France, Poland and Sweden, where the increase would point to medium risk.

When assessing the long-term sustainability challenges, it is also important to look at the nature and source of the challenge the countries are facing, in particular whether this challenge is related to the initial budgetary position (IBP component) or whether it is related to the long-term ageing costs (CoA component).

In terms of the different Member States' situation, the following points can be made with respect to the long-term cost of ageing:

- The ageing costs are expected to be very significant in Belgium, the Czech Republic, Cyprus, Lithuania, Luxembourg, Malta, the Netherlands, Austria, Romania, Slovenia, Slovakia and Finland, with a projected increase

of 3 pp. of GDP or more. In terms of the AWG risk scenario, coping with the future prospects is deemed to be even more challenging for these countries.

- For a second group of countries – Bulgaria, Denmark, Germany, Spain, Poland, Sweden and the United Kingdom - the ageing costs are less pronounced, ranging from 1 pp. to 3 pp. of GDP. When considering also the impact of non-demographic drivers on future health care and long-term care costs (as in the AWG "risk scenario"), coping with the future prospects is deemed to be more challenging, and especially so in Germany, Sweden and the United Kingdom, where the increase would be in excess of 3 pp. of GDP.

- Finally, the increase will be more moderate, less than 1 pp. of GDP, in Estonia, France, Italy and Hungary, and even negative in Latvia. However, in terms of the AWG risk scenario, coping with the future prospects is deemed to be more demanding, especially in Estonia, France, Italy and Hungary, where the increase would be 1 pp. of GDP or more, though the overall change would remain below the EU average.

The initial budgetary position – the IBP component – contributes to attenuate fiscal sustainability challenges in a few Member States (Germany, Italy and Sweden). For the other Member States, the initial budgetary position

compounds the long-term cost of ageing. As noted above when discussing the S1 indicator, the S2 indicator, and in particular the IBP component, is based on the fiscal position at the end of the forecast horizon (2014), which is assumed to remain constant in the future, in addition to the projected long-term fiscal trends in age-related expenditure. The extent to which this fiscal position is different from what has been observed historically needs to be taken into consideration when assessing fiscal risks.

6.3. RECONCILING THE FISCAL SUSTAINABILITY CHALLENGES ACROSS THE DIFFERENT TIME HORIZONS

The different risk indicators are complementary. Each indicator is useful in view of identifying the type of risk and to pinpoint appropriately the *timing*, the *scale* and the *nature* of the sustainability challenge. This allows a comprehensive and multidimensional assessment of risks to fiscal sustainability, which is needed in order to consider possible appropriate policy responses.

As stressed before, due caution must be exercised when interpreting the indicators, and thus the classification of the degree of risk needs to be interpreted with care.

In a **short-term perspective**, according to the S0 indicator highlighting risk for fiscal stress in 2013, only two countries appear to be still at risk (Spain and Cyprus). However, full implementation of the planned adjustment in Spain would go a long way towards reducing the risk for fiscal stress in the short term. These two countries appear to be at high risk also with reference to the **medium term** (according to the S1 indicator). This points to the need for resolute and prompt adjustment to enhance sustainability prospects, prevent potential risks to fiscal sustainability from intensifying and complying with the 60% of GDP government debt threshold in the medium term. As regards **long-term sustainability** challenges, the S2 indicator points to a high risk for Cyprus (where the long-term cost of ageing is very high), and to medium risk for Spain (due to lower ageing costs).

For the remaining 22 Member States (Belgium, Bulgaria, the Czech Republic, Denmark, Germany,

Estonia, France, Italy, Latvia, Lithuania, Luxembourg, Hungary, Malta, the Netherlands, Austria, Poland, Romania, Slovenia, Slovakia, Finland, Sweden and the United Kingdom), while the S0 indicator does not flag risks for fiscal stress in the **short term**, challenges to the sustainability of public finances are rather of a medium- or long-term nature to varying degrees.

•   With reference to the **medium term**, for about half of these, in particular Belgium, Slovenia and the United Kingdom (where risks are high according to the S1 indicator), but also the Czech Republic, France, Italy, Lithuania, Luxembourg, Malta, the Netherlands, Austria, Poland, Slovakia and Finland (where risks are medium according to the S1 indicator), implementation of sustainability-enhancing measures, including appropriate fiscal consolidation beyond the forecast horizon, would be needed to comply with the 60% of GDP government debt threshold over the medium term. For the remaining Member States (Bulgaria, Denmark, Germany, Estonia, Latvia, Hungary, Romania and Sweden), medium-term risks appear to be low. For Bulgaria, Latvia and Romania, this is the case thanks to the relatively low debt level (especially in Bulgaria) and the improved structural fiscal positions forecasted for 2014 on the basis of unchanged policy. For Hungary, the improved structural fiscal positions expected to be reached in the medium term (2014) and contributing to low S1 values, would need to be maintained for a very long time to comply with the 60% government debt threshold in the medium term.

•   Finally, with respect to **long-term** sustainability challenges, for four of these 22 countries, specifically, Belgium, Luxembourg, Slovenia and Slovakia, the S2 indicator points to a high risk, due mainly to considerable long-term costs of ageing, well above the EU average. For Bulgaria, Denmark, the Czech Republic, Lithuania, Malta, the Netherlands, Austria, Romania and Finland and the United Kingdom, even though the cost of ageing is above the EU average, the risk is medium, thanks to a better initial budgetary position. Germany, Estonia, France, Italy, Latvia, Hungary, Poland and Sweden are at low risk. A number of these countries have already made considerable progress in reforming pension systems (Denmark, Estonia, France, Italy, Latvia, Hungary, the Netherlands, Poland and

Sweden) and, thereby, in addressing long-term ageing-induced fiscal risks. However, long-term challenges are greater when considering risks related to the impact of non-demographic drivers on health care and long-term care spending, as shown by the AWG 'risk scenario', in particular for Germany, France, Lithuania, Malta, the Netherlands, Austria and Poland.

7. COUNTRY SPECIFIC SUSTAINABILITY ASSESSMENT

7.1. BELGIUM

7.1.1. OVERALL ASSESSMENT

Belgium does not appear to face a risk of fiscal stress in the short-term. Risks to fiscal sustainability are high in a medium- to long-term perspective, influenced by the budgetary impact of the cost of ageing, which derives from a rapidly ageing population and a high level of expenditure on social transfers. Indeed, government debt (97.8% of GDP in 2011 and expected to rise to 101% in 2014) is above the 60% of GDP Treaty threshold. Risks would be lower in the event of the structural primary balance reverting to higher values observed in the past, such as the average for the period 1998-2012. The focus should, therefore, be on resolutely continuing to implement sustainability-enhancing measures. In addition, government debt needs to be reduced. Further containing age-related expenditure growth, including through pension reform, appears necessary to contribute to the sustainability of public finances in the medium- and long-term.

Belgium needs to implement long-term sustainability enhancing policies equivalent to a permanent improvement of 7.4 pp. of GDP in the structural primary balance to close the fiscal gap according to the S2 indicator. This effort is significantly above the average improvement required for the EU as a whole (2.6 pp.), reflecting the worse ageing-cost component.

Indeed, for Belgium the 2012 Ageing Report shows a very significant projected increase (+2.0 pp.) in total age-related public expenditure over GDP already over the years 2010-20. In particular, public pension expenditure is projected to increase by 1.6 pp. of GDP (one of the largest increases among EU countries). [107]

The Belgian government has recently (2011) reached an agreement on a reform of the social security system designed to boost older workers' labour market participation and to curb age-related expenditure. In particular, the reform tightens eligibility requirements for early retirement and gradually rolls back early exit or pre-retirement systems, it extends the reference period for the calculation of benefits, and reduces pension rights accrued during periods of inactivity. These reforms represent an important step in the efforts made to curb age-related expenditure. Nonetheless, in line with the 2012 Council recommendation, Belgium should continue to improve the long-term sustainability of public finances by curbing age-related expenditure, in particular by taking further steps to ensure an increase in the effective retirement age, including through restricting relatively lenient eligibility conditions (in terms of age and career length) for early retirement, and widespread early exit systems, as well as through linking the statutory retirement age to life expectancy.

7.1.2. DETAILED DESCRIPTION OF RESULTS

The S0 indicator is used to assess risks for fiscal stress in the following year. It is an "early-detection indicator" based on a wide list of economic indicators, covering fiscal, financial and competitiveness variables. [108] Based on the S0, Belgium does not appear to face risks for fiscal stress. Some fiscal variables (net public debt over GDP and government's gross financing needs) are nonetheless beyond their critical thresholds in 2012. The size and structure of private debt is also critical, with private debt, [109] private sector credit flow, leverage of financial corporations and short-term debt of non-financial corporations above critical values. No short-term risks for fiscal stress arise from the competitiveness side.

The Belgian government debt in 2014, the base year of the analysis, is forecast to be 101% of GDP, up from 97.8% in 2011. The structural

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[107] The latest pension reform has been taken into account in the projections. Total age-related public expenditures have been updated accordingly after the publication of the 2012 Ageing Report. See Table 2.2.

[108] The S0 indicator reflects up-to-date evidence on the role played by fiscal and financial-competitiveness variables in creating potential fiscal risks. It should be stressed that the methodology for the S0 indicator is fundamentally different from the S1 and S2 indicators. S0 is not a quantification of the required fiscal adjustment effort like the S1 and S2 indicators, but a composite indicator which estimates the extent to which there might be a risk for fiscal stress in the short-term.

[109] The consolidated private debt level is substantially lower than non-consolidated private debt, reflecting a high amount of intra-company loans. This is largely explained by the high credit provisions among companies, which is partly related to advantageous tax regimes.

primary balance is forecast to improve from -0.1% in 2011 to 0.3% of GDP in 2014.

The Belgian debt ratio of 101% of GDP in 2014 requires an improvement in the structural primary balance in order to attain the Maastricht debt ratio ceiling of 60% of GDP. This is reflected in the medium-term sustainability gap indicator, S1 ([110]), which is 6.2% of GDP for Belgium, well above the EU average of 1.8%, mainly reflecting a substantially larger required adjustment due to ageing costs and, to a smaller extent, a worse initial budgetary position.

Based on the budgetary position in 2014, using the Commission services' 2012 autumn forecasts, and the projected increase in age-related expenditure (2012 Ageing Report), Belgium has a long-term sustainability gap, S2 ([111]), of 7.4% of GDP, which is significantly above the EU average (2.6%). The Belgian sustainability gap largely reflects the required adjustment due to the long-term cost of ageing (6.4 pp.), mainly driven by the pension expenditure component (3.9 pp.), followed by the health care and long-term care component (2.2 pp.) (see Table 6.1).

Considering the expected health care and long-term care expenditure increases in the medium-long term due to non-demographic drivers (in particular advances in medicine), as reflected in the AWG risk scenario ([112]), the required adjustment linked to the cost of ageing is even

higher (7.2 pp.), and the S2 sustainability gap increases to 8.2% of GDP.

In the 2009 Sustainability Report, the S2 gap was 5.3% of GDP. The difference between the results in the previous report and the current results (+2.1 pp.) stems almost exclusively from the increased required adjustment due to the long-term cost of ageing.

Graph 7.1: **Determinants of fiscal sustainability - Belgium**
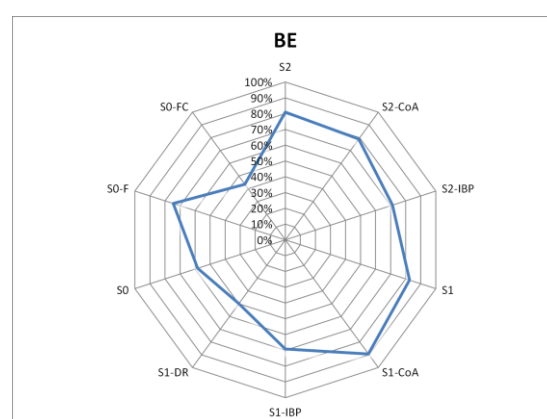
Note on interpretation: This chart allows for the comparison of countries on the basis of the main indicators that are taken into account: S0, S1 and S2 and their components. The scale for each variable corresponds to the range of the data in the EU (highest value of all countries: 100%, lowest: 0%). The higher the sustainability risks are, in relative terms, the higher are the values (closer to the outer area of the chart). Legend: CoA: ageing cost component, IBP: Initial budgetary position component, DR: debt requirement component, F: fiscal subindex, FC: financial-competitiveness subindex.
Source: Commission services

([110]) The S1 indicator shows the upfront adjustment effort required, in terms of a steady improvement in the structural primary balance to be introduced until 2020, and then sustained for a decade, to bring debt ratios back to 60% of GDP in 2030, including financing for any additional expenditure until the target date, arising from an ageing population.

([111]) The S2 indicator shows the immediate and permanent adjustment required to satisfy an inter-temporal budgetary constraint, including the costs of ageing. The S2 indicator has two components: i) the initial budgetary position (IBP) which gives the gap to the debt stabilising primary balance; and ii) the additional adjustment required due to the cost of ageing in present value terms. The main assumption used in the derivation of S2 is that in an infinite horizon the growth in the debt ratio is bounded by the interest rate differential (i.e. the difference between the nominal interest and the real growth rates); thereby not necessarily implying that the debt ratio will fall below the EU Treaty 60% debt threshold.

([112]) The AWG risk scenario assumes a more dynamic profile for health care and long-term care costs due to non-demographic drivers (in particular, advances in medicine).

7.2. BULGARIA

7.2.1. OVERALL ASSESSMENT

Bulgaria does not appear to face a risk of fiscal stress in the short-term. Nonetheless, there are some indications that the macrofinancial and competitiveness side of the economy continue to pose potential risks. ([113]) The country does not appear to face medium-term sustainability challenges. Government debt (16.3% of GDP in 2011 and expected to rise to 18.3% in 2014) is well below the 60% of GDP Treaty threshold. The country is at medium risk in the long run due to the cost of ageing, but, given the low debt ratio, it has time available to adjust policies that affect age-related spending. Risks would be lower in the event of the structural primary balance reverting to higher values observed in the past, such as the average for the period 1998-2012. The focus should therefore be on continuing to implement sustainability-enhancing measures that avert potential risks to fiscal sustainability from intensifying in the short term. In addition, further containing age-related expenditure growth would contribute to the sustainability of public finances in the long term.

The 2012 Ageing Report shows a projected increase in total age-related public expenditure by 2.0 pp. of GDP over the years 2010-60 (below the EU average of 2.9 pp. of GDP). In particular, over the aforementioned period public pension expenditure is projected to increase by 1.1 pp. of GDP (against an EU average of 1.4 pp.).([114])

Bulgaria needs to implement long-term sustainability enhancing policies equivalent to a permanent improvement of 2.8 pp. of GDP in the structural primary balance to close the fiscal gap according to the S2 indicator. This effort is only slightly above the average improvement required for the EU as a whole (2.6 pp.).

Bulgaria has a low level of government debt, well below the 60% reference value, providing the country with fiscal space over the medium term.

Under a no-policy-change assumption, debt would increase from 18.3% of GDP in 2014 to 21.4% in 2020 and 37.6% in 2030.

Moreover, Bulgaria has recently introduced a pension reform that accelerates the planned retirement age increase to 65 for men and 63 for women. The introduction of CPI indexation will also help to further curb pension expenditure costs in the future and thus to limit sustainability risks in the medium and long run. In line with the 2012 Council recommendation, Bulgaria should moreover take further steps to reduce risks to the sustainability and the adequacy of the pension system in parallel, for example by making the statutory retirement age the same for men and women with full career contributions, as well as implementing tighter criteria and controls for the allocation of invalidity pensions.

7.2.2. DETAILED DESCRIPTION OF RESULTS

The S0 indicator is used to assess risks for fiscal stress in the following year. It is an "early-detection indicator" based on a wide list of economic indicators, covering fiscal, macrofinancial and competitiveness variables. ([115]) Based on the S0 indicator (relying on latest historical data), Bulgaria does not appear to be at risk risks for fiscal stress. Nonetheless, there are some indications that the macrofinancial and competitiveness side of the economy continue to pose potential challenges. Competitiveness variables like the net international investment position, the current account (3-year average) and the (3-year) change in nominal unit labour costs (2011 values, as these are used to compute the 2012 value of the S0) are beyond critical values. ([116])

([113]) Financial-competitiveness variables are taken in lagged values, meaning that 2011 figures (last available historical data) are used to compute the S0 in 2012 (while for fiscal variables 2012 figures are used).

([114]) See Table 2.2.

([115]) The S0 indicator reflects up-to-date evidence on the role played by fiscal and financial-competitiveness variables in creating potential fiscal risks. It should be stressed that the methodology for the S0 indicator is fundamentally different from the S1 and S2 indicators. S0 is not a quantification of the required fiscal adjustment effort like the S1 and S2 indicators, but a composite indicator which estimates the extent to which there might be a risk for fiscal stress in the short-term.

([116]) The current account balance has been improving rapidly. Despite an improvement mirroring steep corrections in the current account, the negative net international investment position is expected to remain large and, accordingly, a factor of vulnerability in the foreseeable future. However, this indicator should also be interpreted in conjunction with

The Bulgarian government debt in 2014, the base year of the analysis, is forecasted to be 18.3% of GDP, up from 16.3% in 2011 (but far below the EU average of 88.8%). The structural primary balance is forecasted to improve from a deficit of 0.7% of GDP in 2011 to a surplus of 0.3% in 2014.

The low Bulgarian debt ratio is providing fiscal space in the medium term. This is reflected in the negative value (-1.5% of GDP) of the medium-term sustainability gap indicator, S1. ([117])

Based on the budgetary position in 2014, using the Commission services' 2012 autumn forecasts, and the projected increase in age-related expenditure (2012 Ageing Report), Bulgaria has a long-term sustainability gap, S2 ([118]), of 2.8% of GDP, slightly above the EU average (2.6%). The Bulgarian sustainability gap largely reflects the required adjustment due to the long-term cost of ageing (2.3 pp.), which is mainly driven by the pension expenditure component (1.6 pp.) (see Table 6.1).

Considering the expected health care and long-term care expenditure increases in the medium-long term due to non-demographic drivers (in particular advances in medicine), as reflected in

the AWG risk scenario ([119]), the required adjustment linked to the cost of ageing is higher (2.7 pp.), and the S2 sustainability gap increases to 3.2% of GDP.

In the 2009 Sustainability Report, the S2 gap for Bulgaria was 0.9% of GDP. The difference between the results in the previous report and the current results (+1.9 pp.) stems from both the worsened initial budgetary position and the increased required adjustment due to the long-term cost of ageing.

Graph 7.2: **Determinants of fiscal sustainability - Bulgaria**
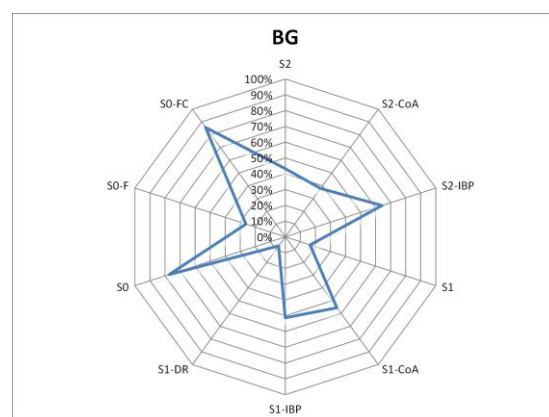
Note on interpretation: This chart allows for the comparison of countries on the basis of the main indicators that are taken into account: S0, S1 and S2 and their components. The scale for each variable corresponds to the range of the data in the EU (highest value of all countries: 100%, lowest: 0%). The higher the sustainability risks are, in relative terms, the higher are the values (closer to the outer area of the chart). Legend: COA: ageing cost component, IBP: Initial budgetary position component, DR: debt requirement component, F: fiscal subindex, FC: financial-competitiveness subindex.
Source: Commission services.

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the very high FDI stock, leading to substantially lower net external debt. The increase in nominal unit labour costs was very small in the first half of 2012, and the 3-year moving average is expected to fall when 2012 data will be taken into account. Nevertheless, growth in wages and unit labour costs is foreseen to be relatively strong looking forward.

([117]) The S1 indicator shows the upfront adjustment effort required, in terms of a steady improvement in the structural primary balance to be introduced until 2020, and then sustained for a decade, to bring debt ratios back to 60% of GDP in 2030, including financing for any additional expenditure until the target date, arising from an ageing population.

([118]) The S2 indicator shows the immediate and permanent adjustment required to satisfy an inter-temporal budgetary constraint, including the costs of ageing. The S2 indicator has two components: i) the initial budgetary position (IBP) which gives the gap to the debt stabilising primary balance; and ii) the additional adjustment required due to the cost of ageing in present value terms. The main assumption used in the derivation of S2 is that in an infinite horizon the growth in the debt ratio is bounded by the interest rate differential (i.e. the difference between the nominal interest and the real growth rates); thereby not necessarily implying that the debt ratio will fall below the EU Treaty 60% debt threshold.

([119]) The AWG risk scenario assumes a more dynamic profile for health care and long-term care costs due to non-demographic drivers (in particular, advances in medicine).

7.3. CZECH REPUBLIC

7.3.1. OVERALL ASSESSMENT

The Czech Republic does not appear to face a risk of fiscal stress in the short-term. The country is, however, at medium risk in the medium and long run, mainly due to the cost of ageing in the long-term perspective. Government debt (40.8% of GDP in 2011 and expected to rise to 48.1% in 2014) is below the 60% of GDP Treaty threshold. Risks would be higher in the event of the structural primary balance reverting to lower values observed in the past, such as the average for the period 1998-2012. The focus should, therefore, be on containing age-related expenditure growth further so as to contribute to the sustainability of public finances in the long term.

The 2012 Ageing Report shows a projected increase in total age-related public expenditure by 5.2 pp. of GDP over the years 2010-60 (above the EU average of 2.9 pp. of GDP). In particular, over the aforementioned period public pension expenditure is projected to increase by 2.7 pp. of GDP (against an EU average of 1.4 pp.), while healthcare and long-term care spending is projected to rise by 2.3 pp. (against an EU average of 2.0 pp.). ([120])

The Czech Republic needs to implement long-term sustainability enhancing policies equivalent to a permanent improvement of 5.5 pp. of GDP in the structural primary balance to close the fiscal gap according to the S2 indicator. This effort is above the average improvement required for the EU as a whole (2.6 pp.), mainly reflecting the higher required adjustment due to the long-term cost of ageing but also the worse initial budgetary position.

Under a no-policy-change assumption, public debt would increase from 48.1% of GDP in 2014 to 54.3% in 2020 and 78.7% in 2030.

Recent pension reforms (including an increase in statutory retirement age) have provided relevant responses to long-term fiscal sustainability challenges, though not being enough to fully address them. The 2011 Council recommendation to link the enacted increases in the statutory retirement age to life expectancy has not been explicitly addressed in the reform package, and this exposes the system to the risk of under- or over-reaction to future changes in life expectancy. Similarly, the 2012 recommendation to reconsider plans allowing an earlier exit from the labour market has not been addressed. Further reforming the public pension system would improve the sustainability of public finances. Promoting effective participation, especially of younger workers, in the envisaged funded scheme could help counter the projected increase in the dependency ratio and thereby improve retirement incomes.

7.3.2. DETAILED DESCRIPTION OF RESULTS

The S0 indicator is used to assess risks for fiscal stress in the following year. It is an "early-detection indicator" based on a wide list of economic indicators, covering fiscal, macrofinancial and competitiveness variables. ([121]) Based on the S0 indicator, the Czech Republic does not appear to face risks for fiscal stress. Few individual variables included in the S0 composite indicator (the primary balance, the real GDP growth rate and, to a rather small extent, the current account) are beyond critical values.

The Czech government debt in 2014, the base year of the analysis, is forecasted to be 48.1% of GDP, up from 40.8% in 2011 (but still significantly below the EU average of 88.8%). The structural primary deficit is forecasted to narrow from 1.8% of GDP in 2011 to 0.9% in 2014.

The low debt ratio is reflected in the medium-term sustainability gap indicator, S1 ([122]), which is at 1.3% of GDP, below the EU average of 1.8%.

([120]) See Table 2.2.

([121]) The S0 indicator reflects up-to-date evidence on the role played by fiscal and financial-competitiveness variables in creating potential fiscal risks. It should be stressed that the methodology for the S0 indicator is fundamentally different from the S1 and S2 indicators. S0 is not a quantification of the required fiscal adjustment effort like the S1 and S2 indicators, but a composite indicator which estimates the extent to which there might be a risk for fiscal stress in the short-term.

([122]) The S1 indicator shows the upfront adjustment effort required, in terms of a steady improvement in the structural primary balance to be introduced until 2020, and then sustained for a decade, to bring debt ratios back to 60% of GDP in 2030, including financing for any additional

Based on the budgetary position in 2014, using the Commission services' 2012 autumn forecasts, and the projected increase in age-related expenditure (2012 Ageing Report), ([123]) the Czech Republic has a long-term sustainability gap, S2 ([124]), of 5.5% of GDP, above the EU average (2.6%). The Czech sustainability gap largely reflects the required adjustment due to the long-term cost of ageing (3.8 pp.), which is driven by the pension expenditure component (2 pp.), followed by the healthcare and long-term care component (1.6 pp.) (see Table 6.1).

Considering the expected health care and long-term care expenditure increases in the medium-long term due to non-demographic drivers (in particular advances in medicine), as reflected in the AWG risk scenario ([125]), the required adjustment linked to the cost of ageing is higher (4.5 pp.), and the S2 sustainability gap increases to 6.2% of GDP.

In the 2009 Sustainability Report, the S2 gap for the Czech Republic was 7.4% of GDP. The difference between the results in the previous report and the current results (-1.9 pp.) stems exclusively from the improved initial budgetary position, as the long-term component overall has remained practically unchanged.

Graph 7.3:   **Determinants of fiscal sustainability - Czech Republic**

Note on interpretation: This chart allows for the comparison of countries on the basis of the main indicators that are taken into account: S0, S1 and S2 and their components. The scale for each variable corresponds to the range of the data in the EU (highest value of all countries: 100%, lowest: 0%). The higher the sustainability risks are, in relative terms, the higher are the values (closer to the outer area of the chart). Legend: COA: ageing cost component, IBP: Initial budgetary position component, DR: debt requirement component, F: fiscal subindex, FC: financial-competitiveness subindex.
Source: Commission services.

expenditure until the target date, arising from an ageing population.

([123]) Pension expenditure projections take into account pension reforms legislated before December 2011.

([124]) The S2 indicator shows the immediate and permanent adjustment required to satisfy an inter-temporal budgetary constraint, including the costs of ageing. The S2 indicator has two components: i) the initial budgetary position (IBP) which gives the gap to the debt stabilising primary balance; and ii) the additional adjustment required due to the cost of ageing in present value terms. The main assumption used in the derivation of S2 is that in an infinite horizon the growth in the debt ratio is bounded by the interest rate differential (i.e. the difference between the nominal interest and the real growth rates); thereby not necessarily implying that the debt ratio will fall below the EU Treaty 60% debt threshold.

([125]) The AWG risk scenario assumes a more dynamic profile for health care and long-term care costs due to non-demographic drivers (in particular, advances in medicine).

7.4. DENMARK

7.4.1. OVERALL ASSESSMENT

Denmark appears not to face short-term or medium-term sustainability challenges. Government debt (46.5% of GDP in 2011 and expected to fall to 45.3% in 2014) is below the 60% of GDP Treaty threshold, providing the country with fiscal space over the medium term. The country is at medium risk in the long run due to the cost of ageing, but has some time to adjust policies that affect age-related spending. Risks would be lower in the event of the structural primary balance reverting to higher values observed in the past, such as the average for the period 1998-2012. Containing age-related expenditure growth further would contribute to the sustainability of public finances in the long term.

Denmark needs to implement long-term sustainability enhancing policies equivalent to a permanent improvement of 2.6 pp. of GDP in the structural primary balance to close the fiscal gap according to the S2 indicator. This effort is similar to the average improvement required for the EU as a whole (2.6 pp.). The sustainability gap should also be seen in the light of the very volatile revenue items (such as pension yield tax and North Sea oil revenues) included in the structural primary balance.

The recent pension reform ([126]) contributes further to stabilize pension spending. Still, given the projected increase in age-related expenditure (+2.9 pp. of GDP up to 2060) ([127]), the focus should be put on containing long-term public spending trends, mainly care-related expenditure, in order to diminish the sustainability gap. Ensuring sufficient primary surpluses over the medium-term would improve the sustainability of public finances.

7.4.2. DETAILED DESCRIPTION OF THE RESULTS

The S0 indicator is used to assess risks for fiscal stress in the following year. It is an "early-detection indicator" based on a wide list of

economic indicators, covering fiscal, macrofinancial and competitiveness variables. ([128]) Based on the S0, Denmark does not appear to face risks for fiscal stress. Very few individual variables included in the S0 composite indicator (mainly private sector and household indebtedness) are above critical values.

The medium and long-term sustainability analysis takes the last year of the Commission services forecast as a starting point (2014), reflecting a no-policy change assumption. The Danish government debt in 2014, the base year of the analysis, is forecasted to be 45.3% of GDP, down from 46.5% in 2011 (significantly below the EU average of 88.8%). The structural primary surplus is forecasted to narrow from 2.2% of GDP in 2011 to 0.5% in 2014.

The low debt ratio is reflected in the medium-term sustainability gap indicator, S1 ([129]), which is -2% of GDP, much below the EU average of 1.8%.

The long-term sustainability analysis shows that based on the initial budgetary position (2014), and the projected trends in age related expenditure, Denmark has a long-term sustainability gap (S2 ([130])) of 2.6% of GDP. The adverse impact on the sustainability gap stemming from the long-term

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([126]) The latest pension reform has been taken into account in the projections. Total age-related public expenditures have been updated accordingly after the publication of the 2012 Ageing Report.
([127]) See Table 2.2.

([128]) The S0 indicator reflects up-to-date evidence on the role played by fiscal and financial-competitiveness variables in creating potential fiscal risks. It should be stressed that the methodology for the S0 indicator is fundamentally different from the S1 and S2 indicators. S0 is not a quantification of the required fiscal adjustment effort like the S1 and S2 indicators, but a composite indicator which estimates the extent to which there might be a risk for fiscal stress in the short-term.
([129]) The S1 indicator shows the upfront adjustment effort required, in terms of a steady improvement in the structural primary balance to be introduced until 2020, and then sustained for a decade, to bring debt ratios back to 60% of GDP in 2030, including financing for any additional expenditure until the target date, arising from an ageing population.
([130]) The S2 indicator shows the immediate and permanent adjustment required to satisfy an inter-temporal budgetary constraint, including the costs of ageing. The S2 indicator has two components: i) the initial budgetary position (IBP) which gives the gap to the debt stabilising primary balance; and ii) the additional adjustment required due to the cost of ageing in present value terms. The main assumption used in the derivation of S2 is that in an infinite horizon the growth in the debt ratio is bounded by the interest rate differential (i.e. the difference between the nominal interest and the real growth rates); thereby not necessarily implying that the debt ratio will fall below the EU Treaty 60% debt threshold.

cost of ageing (1.7% of GDP, is below the EU average of 2.2% of GDP), is compounded by the larger required adjustment in the initial budgetary position. Indeed, the required adjustment to stabilise the debt ratio is 0.9 pp. of GDP, above the EU average (0.5% of GDP). The increase in the long-term cost of ageing (AWG reference scenario) is mainly driven by health-care and long-term care expenditure, while the ratio of pension expenditure to GDP is expected to fall over the long-term (in the period to 2060) (see Table 6.1).

Pension expenditures in Denmark's flat-rate public pension system are projected to decrease in the medium and long run thanks to the strong reform measures implemented, most recently in 2011, with a pension system being robust to demographic change. One of the main reasons is the indexation of the retirement age to gains in life expectancy. ([131]) As a result, medium- and long-term sustainability risks in Denmark remain very limited. Moreover, a recently legislated pension reform that accelerates the already planned retirement age increase and restrict the coverage of the public voluntary early retirement scheme helps to decrease public pension expenditure even further.

Considering the additional expected health care and long-term care expenditure increases in the medium- long term due to non-demographic drivers, in particular advances in medicine (as reflected in the AWG "risk scenario" ([132])), the cost of ageing is higher (+3.7% of GDP).

In the 2009 Sustainability Report, the S2 gap was -0.2% of GDP. The difference between the results in the previous report and the current results (+2.8 pp.) stems mainly from the significant deterioration of the initial budgetary position (-2.5 pp.). In addition, the component of the long-term cost of ageing is higher, by 0.3 pp. of GDP, due to higher projected expenditure for long-term care.

The change in the initial budgetary position compared to the 2009 report should be seen in the light of the developments in the structural primary balance. From 2011-2014, the estimated structural

primary balance is set to deteriorate from 2.2% of GDP to 0.5 % of GDP, but this includes very volatile revenue items such as pension yield tax and North Sea oil revenues. When measuring the effect of net discretionary measures, a consolidation of around 1½% of GDP is projected between 2010 and 2013. ([133]) Hence, the deterioration in the initial budgetary position (and thus the S2 indicator) compared to the 2009 Sustainability Report, may be overstated.

Graph 7.4:   **Determinants of fiscal sustainability - Denmark**
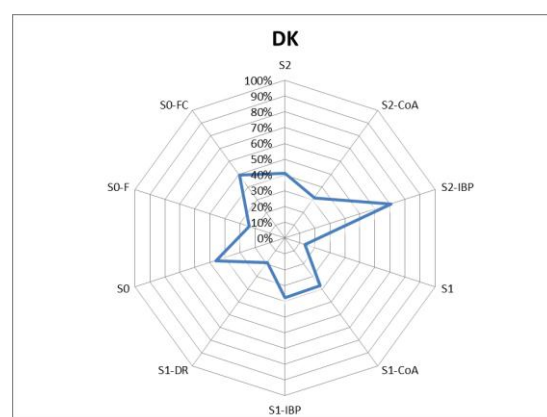
Note on interpretation: This chart allows for the comparison of countries on the basis of the main indicators that are taken into account: S0, S1 and S2 and their components. The scale for each variable corresponds to the range of the data in the EU (highest value of all countries: 100%, lowest: 0%). The higher the sustainability risks are, in relative terms, the higher are the values (closer to the outer area of the chart). Legend: COA: ageing cost component, IBP: Initial budgetary position component, DR: debt requirement component, F: fiscal subindex, FC: financial-competitiveness subindex.
Source: Commission services.

([131]) Depending on parliamentary approval.
([132]) The AWG risk scenario assumes a more dynamic profile for health care and long-term care costs due to non-demographic drivers.

([133]) See European Commission (2012), "Commission Staff Working Document: Assessment of the 2012 national reform programme and convergence programme for Denmark".

7.5. GERMANY

7.5.1. OVERALL ASSESSMENT

Germany does not appear to face short-term, medium-term or long-term sustainability challenges. However, government debt (80.5% of GDP in 2011) is above the 60% of GDP Treaty threshold. Risks would be higher in the event of the structural primary balance reverting to lower values observed in the past, such as the average for the period 1998-2012, In this case, the risk would worsen from low to medium in the medium- and long-term. The focus should, therefore, be on reducing government debt. Moreover, containing further age-related expenditure growth would contribute to the sustainability of public finances in the long term.

Germany needs to implement long-term sustainability enhancing policies equivalent to a permanent improvement of 1.4 pp. of GDP in the structural primary balance to close the fiscal gap according to the S2 indicator. This is an effort below the average improvement required for the EU27 as a whole (+2.6 pp.), which reflects a relatively favourable initial position given that the long-term change in age-related expenditure in Germany is only slightly above the EU average.

Under a no-policy change assumption, debt would decrease from 78.4% of GDP in 2014 to 64.7% in 2020 and 58.1% in 2030, thereby attaining the 60% of GDP reference value by 2030.

The 2012 Ageing Report shows a projected increase in total age-related public expenditure of 3.6 pp. of GDP over the years 2010-2060 (above the EU average of 2.9 pp. of GDP). Expenditure increases by major age related expenditure components are: +2.6 pp. of GDP for pensions (+1.4 pp. in the EU) and +1.5 pp. for healthcare and long-term care (+2.0 pp. in the EU). ([134])

The 2011 healthcare reform has slowed down expenditure growth in the short-term, thanks mainly to cost reductions for pharmaceuticals. However, additional efforts to improve efficiency in healthcare are needed to contain further expected expenditure increases in the medium-

term due to demographic change and technological advances in medical care.

7.5.2. DETAILED DESCRIPTION OF RESULTS

The S0 indicator is used to assess risks for fiscal stress in the following year. It is an "early-detection indicator" based on the processing of a wide list of economic indicators, covering fiscal, macrofinancial and competitiveness variables. ([135])The indicator used to assess risks for fiscal stress (S0) is below the critical value, thereby not giving any early warning of the presence of short-term risks for 2013. ([136]) Indeed, Germany faces relatively favourable borrowing conditions.

The German government debt in 2014, the base year of the analysis, is forecast to be 78.4% of GDP, down from 80.5% in 2011. The structural primary surplus is forecast to reach 2.5% of GDP in 2014, rising from 2011 (1.8% of GDP).

The medium-term sustainability gap (S1) ([137]) of -0.3% of GDP (baseline scenario), ([138]) is significantly below the EU average of 1.8% of GDP, reflecting both a relatively better initial structural budgetary position, together with a lower required effort to reduce the debt ratio to 60% of GDP by 2030, while the ageing cost component is slightly higher than the EU average (Table 3.3). The S1 indicator calculated using the risk scenario

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([134]) See Table 2.2.

([135]) The S0 indicator reflects up-to-date evidence on the role played by fiscal and financial-competitiveness variables in creating potential fiscal risks. It should be stressed that the methodology for the S0 indicator is fundamentally different from the S1 and S2 indicators. S0 is not a quantification of the required fiscal adjustment effort like the S1 and S2 indicators, but a composite indicator which estimates the extent to which there might be a risk for fiscal stress in the short-term.

([136]) Only two variables measuring the fiscal side of S0 are above their safety thresholds (net debt to GDP and the old age dependency ratio).

([137]) The S1 indicator shows the upfront adjustment effort required, in terms of a steady improvement in the structural primary balance to be introduced until 2020, and then sustained for a decade, to bring debt ratios back to 60% of GDP in 2030, including financing for any additional expenditure until the target date, arising from an ageing population.

([138]) While the baseline scenario (i.e. the "AWG reference scenario") focuses on the budgetary impact mostly due to projected demographic developments, the risk scenario attempts to quantify the uncertainty regarding future developments on healthcare and long-term care expenditure (see Chapter 2).

suggests the need for a marginally higher cumulated fiscal effort (+0.1 pp.), but considerably smaller than the EU27 average of +2.2 pp.

The long-term sustainability analysis shows that on the basis of the budgetary position of 2014, using the 2012 Commission Services' autumn forecast, and the projected increase in age related expenditure (2012 Ageing Report), Germany has a sustainability gap (S2) ([139]) of 1.4% of GDP (baseline scenario), which is below the EU average (2.6%). The German sustainability gap largely reflects the long-term cost of ageing (+2.4 pp. of GDP), which is driven by an increase in pensions (+1.5 pp.) and healthcare and long-term care (+1.0 pp.). The initial budgetary position in terms of the structural primary balance, giving the required adjustment to stabilise the debt ratio at the current value, is negative (-1.0% of GDP), reflecting a relatively sound starting budgetary position (see Table 6.1).

In the event of the structural primary balance falling below the last forecast value (2014) to the average for the period 1998-2012, the evaluation of the medium term risk would worsen from low to medium (S1 increasing from -0.3 to 1.6), while the assessment of the long-term risk would move Germany from the low risk country group to the medium risk one (S2 increasing from 1.4 to 2.9).

The contribution of the projected increase in pension expenditure to S2 (+1.5 pp.) is slightly above the EU average of +1.1pp., reflecting the extent of ageing in Germany as in the coming two decades the statutory retirement age will gradually increase to 67 years of age, while maximum penalties for early retirement will also rise significantly. Moreover, the sustainability factor that adjusts pension entitlements to changes in the ratio of pensioners to contributors will help limiting sustainability risks of the pension system in the medium- and long-term.

Considering risks associated with the dynamic growth in healthcare and long term care expenditure due to non-demographic factors, such as the development of new drugs and treatments and/or the widening of healthcare systems' coverage, the sustainability gap (S2) in the risk scenario would amount to 2.8 pp. of GDP i.e. 1.4 pp. more of GDP than in the baseline scenario.

In the 2009 Sustainability Report, the S2 gap was 4.2% of GDP. The difference between the results of 2012 and 2009 (-2.8 pp.) is due to both the improved initial budgetary position (-1.9 pp.) and the reduction in the long-term costs of ageing (-0.9 pp.).

Graph 7.5: **Determinants of fiscal sustainability - Germany**
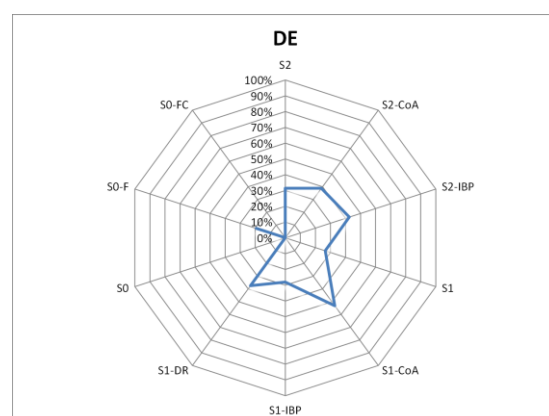
Note on interpretation: This chart allows for the comparison of countries on the basis of the main indicators that are taken into account: S0, S1 and S2 and their components. The scale for each variable corresponds to the range of the data in the EU (highest value of all countries: 100%, lowest: 0%). The higher the sustainability risks are, in relative terms, the higher are the values (closer to the outer area of the chart). Legend: COA: ageing cost component, IBP: Initial budgetary position component, DR: debt requirement component, F: fiscal subindex, FC: financial-competitiveness subindex.
Source: Commission services.

([139]) The S2 indicator shows the immediate and permanent adjustment required to satisfy an inter-temporal budgetary constraint, including the costs of ageing. The S2 indicator has two components: i) the initial budgetary position (IBP) which gives the gap to the debt stabilising primary balance; and ii) the additional adjustment required due to the costs of ageing. The main assumption used in the derivation of S2 is that in an infinite horizon, the growth in the debt ratio is bounded by the interest rate differential (i.e. the difference between the nominal interest and the real growth rates); thereby not necessarily implying that the debt ratio will fall below the EU Treaty 60% debt threshold.

7.6. ESTONIA

7.6.1. OVERALL ASSESSMENT

Estonia does not appear to face short-term, medium-term or long-term sustainability challenges. In addition, government debt (6.1% of GDP in 2011) is significantly below the 60% of GDP Treaty threshold. Risks would increase moderately in the event of the structural primary balance reverting to lower values observed in the past, such as the average for the period 1998-2012, the long-term risk assessment would worsen from low to medium, but the medium-term assessment would remain at low risk reflecting the very low debt ratio.

Estonia needs to implement long-term sustainability enhancing policies equivalent to a permanent improvement of 1.2 pp. of GDP in the primary balance to close the fiscal gap according to the S2 indicator, which is facilitated by the fact that Estonia has the lowest debt ratio across EU Member States. This is an effort below the average improvement required for the EU27 as a whole (+2.6 pp.), which reflects the projected lower rise in age-related expenditure in Estonia relatively to the EU27 average as the initial budgetary position is at the EU27 average level.

Estonia has a very low level of government debt. Under a no-policy change assumption, debt would remain below 15% of GDP by 2030 (8.3% in 2020 and to 14.3% in 2030). Although recent reform measures undertaken in the field of pensions have reduced sustainability risks, the projected decline in the benefit ratio could pose a risk to the adequacy of pension entitlements. The public pension replacement ratio is projected to decline from 36% in 2010 to 20% in 2060.

The 2012 Ageing Report shows full stabilisation in total age-related public expenditure (+0.0 pp. of GDP) over the years 2010-2060 (clearly below the EU average of +2.9 pp. of GDP). The expected decline in pension expenditure: -1.1 pp. of GDP (+1.4 pp. in the EU), practically offsets the expected increase of +1.4 pp. of GDP in healthcare

and long-term care expenditure (+2.0 pp. in the EU). ([140])

7.6.2. DETAILED DESCRIPTION OF RESULTS

The S0 indicator is used to assess risks for fiscal stress in the following year. It is an "early-detection indicator" based on the processing of a wide list of economic indicators, covering fiscal, macrofinancial and competitiveness variables. ([141]) The indicator used to assess risks for fiscal stress (S0) is below critical values, thereby not giving any early warning of the presence of short-term risks for 2013. ([142]) ([143])

The Estonian government debt in 2014, the base year of the analysis, is forecast to attain 11.2% of GDP. The structural primary balance is projected to improve from a deficit of 0.6% of GDP in 2011 to a surplus of 0.4% in 2014.

The low Estonian debt ratio of 11.2% of GDP in 2014 is creating some fiscal space in the medium-term, as reflected in the negative S1 ([144]) value (-3.4% of GDP), before the inter-temporal effects of age-related costs are taken into account.

([140]) See Table 2.2.
([141]) The S0 indicator reflects up-to-date evidence on the role played by fiscal and financial-competitiveness variables in creating potential fiscal risks. It should be stressed that the methodology for the S0 indicator is fundamentally different from the S1 and S2 indicators. S0 is not a quantification of the required fiscal adjustment effort like the S1 and S2 indicators, but a composite indicator which estimates the extent to which there might be a risk for fiscal stress in the short-term.
([142]) S0 improved significantly since 2009.
([143]) The sub-component of S0 related to financial and competitiveness has a number of variables with figures below their safety thresholds, namely the net international investment position (NIIP), and the leverage of financial corporations. However, the NIIP is improving rapidly, reflecting current account surpluses and a positive denominator effect due to GDP growth. Moreover, half of net external liabilities represent foreign direct investment, which contributes to limiting external liquidity-related risks. Even though the leverage of financial corporations (debt to equity ratio) of Estonia is slightly above the threshold, this largely consists of liabilities towards parent banks.
([144]) The S1 indicator shows the upfront adjustment effort required, in terms of a steady improvement in the structural primary balance to be introduced until 2020, and then sustained for a decade, to bring debt ratios back to 60% of GDP in 2030, including financing for any additional expenditure until the target date, arising from an ageing population.
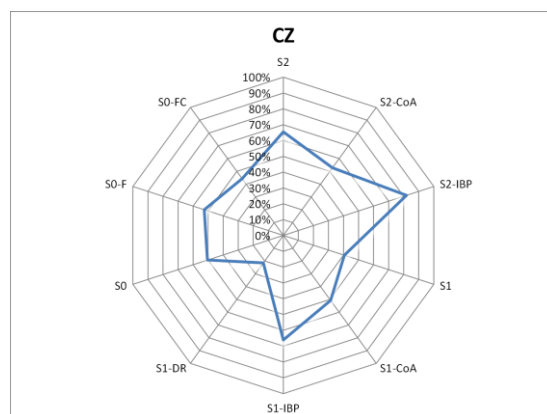
The long-term sustainability analysis shows that on the basis of the budgetary position of 2014, using the 2012 Commission Services' autumn forecast, and the projected increase in age-related expenditure (2012 Ageing Report), Estonia has a sustainability gap (S2) ([145]) of 1.2% of GDP (baseline scenario), ([146]) which is below the EU average (2.6%). The Estonian sustainability gap reflects a long-term cost of ageing below the EU average, whereas the initial budgetary position is at the EU average. The long term cost of ageing is projected to increase by +0.7 pp. of GDP, driven by an increase in healthcare and long term care (+0.9 pp.) (see Table 6.1).

Risks are low in the event of the structural primary balance falling below the last forecast value (2014) to the average for the period 1998-2012. In this scenario, the evaluation of the medium-term risk would remain low (S1 increasing from -3.4 pp. to -1.9 pp.), while the evaluation of the long-term risk would move from low to medium (S2 increasing from 1.2 pp. to 2.4 pp.).

Estonia's public pension system is a defined benefit system. Expenditure is projected to decrease in the medium and long run (-1.1 pp. of GDP between 2010 and 2060), mainly due to three reasons: an increase in the statutory retirement age to 65 in the medium-run, a pension indexation formula that is less generous than projected wage and GDP increases, as well as the introduction of a mandatory funded private pension pillar that partially reduces the financial burden of the public pensions. As a result, medium- and long-term sustainability risks of the Estonian pension system remain limited. The public pension replacement ratio is projected to decline from 36% in 2010 to

20% in 2060, potentially raising adequacy issues, and posing the risk of higher public pension expenditure in the future.

Considering risks associated with the dynamic growth in healthcare and long-term care expenditure due to non-demographic factors, such as the development of new drugs and treatments and/or the widening of healthcare systems' coverage, the sustainability gap (S2) in the risk scenario would amount to 1.8 pp. of GDP i.e. 0.6 pp. more than in the baseline scenario.

In the 2009 Sustainability Report, the S2 gap was 0.9% of GDP. The difference between the results of 2012 and 2009 (+0.3 pp.) is due to the upward revision in the long-term costs of ageing (+0.8 pp.), partly offset by a relative improvement in the initial budgetary position (-0.6 pp.).

Graph 7.6:   **Determinants of fiscal sustainability - Estonia**
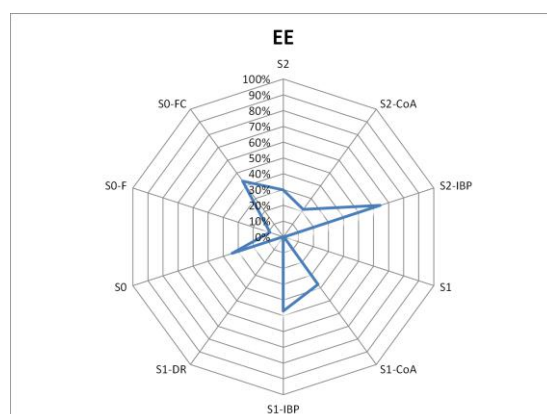
Note on interpretation: This chart allows for the comparison of countries on the basis of the main indicators that are taken into account: S0, S1 and S2 and their components. The scale for each variable corresponds to the range of the data in the EU (highest value of all countries: 100%, lowest: 0%). The higher the sustainability risks are, in relative terms, the higher are the values (closer to the outer area of the chart). Legend: COA: ageing cost component, IBP: Initial budgetary position component, DR: debt requirement component, F: fiscal subindex, FC: financial-competitiveness subindex.
Source: Commission services.

([145]) The S2 indicator shows the immediate and permanent adjustment required to satisfy an inter-temporal budgetary constraint, including the costs of ageing. The S2 indicator has two components: i) the initial budgetary position (IBP) which gives the gap to the debt stabilising primary balance; and ii) the additional adjustment required due to the costs of ageing. The main assumption used in the derivation of S2 is that in an infinite horizon, the growth in the debt ratio is bounded by the interest rate differential (i.e. the difference between the nominal interest and the real growth rates); thereby not necessarily implying that the debt ratio will fall below the EU Treaty 60% debt threshold.

([146]) While the baseline scenario (i.e. the "AWG reference scenario") focuses on the budgetary impact mostly due to projected demographic developments, the risk scenario attempts to quantify the uncertainty regarding future developments on healthcare and long-term care expenditure (see Chapter 2).

7.7. SPAIN

7.7.1. OVERALL ASSESSMENT

Spain appears to face a risk of fiscal stress in the short term, originating primarily from the fiscal side, but in part also from the macrofinancial and competitiveness side of the economy. Full implementation of the planned adjustment would go a long way towards reducing the risk for fiscal stress. Risks to sustainability are high also in a medium-term perspective, but are medium in the long run, thanks to low ageing costs. However, risks would be lower in the event of the structural primary balance reverting to higher values observed in the past, such as the average for the period 1998-2012. The focus should, therefore, be on resolutely continuing to implement sustainability-enhancing measures that avert potential risks to fiscal sustainability from intensifying in the medium and long term. In addition, government debt (69.3% of GDP in 2011 and expected to continue to rise needs to be reduced. Moreover, further containing age-related expenditure growth appears necessary to contribute to the sustainability of public finances in the long term.

The 2012 Ageing Report shows a projected increase in total age-related public expenditure by 3.9 pp. of GDP over the years 2010-60 (above the EU average of 2.9 pp. of GDP). In particular, over the aforementioned period public pension expenditure is projected to increase by 3.6 pp. of GDP (against an EU average of 1.4 pp.), while healthcare and long-term care spending is projected to rise by 1.9 pp. (against an EU average of 2.0 pp.). ([147])

Spain needs to implement long-term sustainability enhancing policies equivalent to a permanent improvement of 4.8 pp. of GDP in the structural primary balance to close the fiscal gap according to the S2 indicator. This effort is clearly above the average improvement required for the EU as a whole (2.6 pp.), reflecting the worse initial budgetary position.

Under a no-policy-change assumption, debt would increase from 97.1% of GDP in 2014 to 114.4% in 2020 and 129.4% in 2030. Measures should therefore be taken in order to put the debt ratio on a downward path and progressively narrow the gap with the 60% of GDP reference value.

Spain has undergone a major public pension reform in 2011 with visible positive impact on pension spending. Next to an increase in the retirement age up to 67 in 2027, Spain also plans to introduce a sustainability factor that adjusts the fundamental parameters of the pension system every 5 years to changes in life expectancy. ([148]) Nevertheless, projected public pension expenditures remain clearly above the EU average up to 2060, even when taking into account the reform effects. As a consequence, sustainability risks in the Spanish pension system are observable in the medium and long run. In line with the 2012 Council recommendations, Spain should thus ensure that the sustainability factor of the pension system includes a clear link of the retirement age to changes in life expectancy so that pension expenditures can be curbed in the long-run.

7.7.2. DETAILED DESCRIPTION OF RESULTS

The S0 indicator is used to assess risks for fiscal stress in the following year. It is an "early-detection indicator" based on a wide list of economic indicators, covering fiscal, macrofinancial and competitiveness variables. ([149]) Short-term risks for fiscal stress arise for Spain based on the S0 indicator, with risks stemming primarily from the fiscal side. The primary balance, the cyclically adjusted balance, the stabilising primary balance, the change in gross public debt, net debt and government's gross financing needs remain critical for 2013. Private sector debt is also beyond its critical threshold (highlighting the need for further deleveraging), as is the leverage of financial corporations. On the competitiveness side, the current account and the net international investment position (whose

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([147]) See Table 2.2.

([148]) A concrete specification of the sustainability factor has not been legislated yet.

([149]) The S0 indicator reflects up-to-date evidence on the role played by fiscal and financial-competitiveness variables in creating potential fiscal risks. It should be stressed that the methodology for the S0 indicator is fundamentally different from the S1 and S2 indicators. S0 is not a quantification of the required fiscal adjustment effort like the S1 and S2 indicators, but a composite indicator which estimates the extent to which there might be a risk for fiscal stress in the short-term.

negative value results from persistently high current account deficits in the past) are both beyond critical levels. Construction as a percentage of value added is well beyond its threshold in 2012, with a further downsize of the sector to be expected. The real GDP growth rate is also below its critical level.

The Spanish government debt in 2014, the base year of the analysis, is forecasted to be 97.1% of GDP (above the EU average of 88.8%), up from 69.3% in 2011. The structural primary deficit is forecasted to narrow from 5% of GDP in 2011 to 1.3% in 2014.

The medium-term sustainability gap indicator, S1 ([150]), is 5.3% of GDP for Spain, above the EU average of 1.8% of GDP, reflecting a significantly worse initial budgetary position.

Based on the budgetary position in 2014, using the Commission services' 2012 autumn forecasts, and the projected increase in age-related expenditure (2012 Ageing Report), Spain has a long-term sustainability gap, S2 ([151]), of 4.8% of GDP, which is above the EU average (2.6%). Main component of the Spanish long-term sustainability gap is the required adjustment to stabilise the debt ratio given the initial budgetary position (2.9 pp.), followed by the required adjustment due to the long-term cost of ageing (1.9 pp.). The latter is driven by the pension expenditure component (2.2 pp.), followed by the health care and long-term care component (1.5 pp.), partly offset by the negative education and unemployment benefit expenditure component (-1.9 pp.) (see Table 6.1).

Considering the expected health care and long-term care expenditure increases in the medium-long term due to non-demographic drivers (in particular advances in medicine), as reflected in the AWG risk scenario ([152]), the required adjustment linked to the cost of ageing is higher (2.4 pp.), and the S2 sustainability gap increases to 5.3% of GDP.

In the 2009 Sustainability Report, the S2 gap for Spain was 11.8% of GDP. The difference between the results in the previous report and the current results (-7 pp.) stems from both the substantially improved initial budgetary position (-3.2 pp.) and the reduction in the long-term cost of ageing (-3.8 pp.), thanks to the recent pension reform.

Graph 7.7:   **Determinants of fiscal sustainability - Spain**

Note on interpretation: This chart allows for the comparison of countries on the basis of the main indicators that are taken into account: S0, S1 and S2 and their components. The scale for each variable corresponds to the range of the data in the EU (highest value of all countries: 100%, lowest: 0%). The higher the sustainability risks are, in relative terms, the higher are the values (closer to the outer area of the chart). Legend: COA: ageing cost component, IBP: Initial budgetary position component, DR: debt requirement component, F: fiscal subindex, FC: financial-competitiveness subindex.
Source: Commission services.

([150]) The S1 indicator shows the upfront adjustment effort required, in terms of a steady improvement in the structural primary balance to be introduced until 2020, and then sustained for a decade, to bring debt ratios back to 60% of GDP in 2030, including financing for any additional expenditure until the target date, arising from an ageing population.

([151]) The S2 indicator shows the immediate and permanent adjustment required to satisfy an inter-temporal budgetary constraint, including the costs of ageing. The S2 indicator has two components: i) the initial budgetary position (IBP) which gives the gap to the debt stabilising primary balance; and ii) the additional adjustment required due to the cost of ageing in present value terms. The main assumption used in the derivation of S2 is that in an infinite horizon the growth in the debt ratio is bounded by the interest rate differential (i.e. the difference between the nominal interest and the real growth rates); thereby not necessarily implying that the debt ratio will fall below the EU Treaty 60% debt threshold.

([152]) The AWG risk scenario assumes a more dynamic profile for health care and long-term care costs due to non-demographic drivers (in particular, advances in medicine).

7.8. FRANCE

7.8.1. OVERALL ASSESSMENT

France does not appear to face a risk of fiscal stress in the short-term. Nonetheless, there are some indications that the fiscal side of the economy continue to pose potential challenges. In the medium term, sustainability risks are medium, while being low in the long term. Moreover, risks would be higher in the event of the structural primary balance reverting to lower values observed in the past, such as the average for the period 1998-2012. In the latter case, the medium-term risk assessment would worsen from medium to high, while the long-term risk would worsen from low to medium. The focus should, therefore, be on resolutely continuing to implement sustainability-enhancing measures that avert potential risks to fiscal sustainability from materialising in the short term. In addition, government debt (86.0% of GDP in 2011 and expected to rise to 93.8% in 2014) needs to be reduced.

France needs to implement long-term sustainability enhancing policies equivalent to a permanent improvement of 1.6 pp. of GDP in the primary balance to close the fiscal gap according to the S2 indicator. This is an effort below the average improvement required for the EU27 as a whole (+2.6 pp.), which reflects the projected lower rise in age-related expenditure in France relatively to the EU27 average, more than offsetting a slightly less favourable initial budgetary position. Overall, pension reforms will contribute to improving fiscal sustainability. (^{153})

Under a no-policy change assumption, although the debt ratio would decrease from 93.8% of GDP in 2014 to 89.1% in 2030, additional fiscal consolidation measures would be needed in order to further narrow the gap with the 60% of GDP reference value.

The 2012 Ageing Report shows a projected increase in total age-related public expenditure of 0.8 pp. of GDP over the years 2010-2060 (below the EU average of 2.9 pp. of GDP). Expenditure increases by major age related expenditure components are: +0.5 pp. of GDP for pensions (+1.4 pp. in the EU) and +1.2 pp. for healthcare and long-term care (+2.0 pp. in the EU). (^{154})

7.8.2. DETAILED DESCRIPTION OF RESULTS

The S0 indicator is used to assess risks for fiscal stress in the following year. It is an "early-detection indicator" based on the processing of a wide list of economic indicators, covering fiscal, macrofinancial and competitiveness variables. (^{155}) The overall indicator used to assess risks for fiscal stress (S0) is below the critical value. However, the fiscal side of the economy still indicate possible risks. (^{156})

The French government debt in 2014, the base year of the analysis, is forecast to increase to 93.8% of GDP from 86.0% of GDP in 2011, although the structural primary balance is forecast to move from a deficit of 1.8% of GDP in 2011 to a surplus of 0.5% in 2014.

The medium term sustainability gap indicator (S1) (^{157}) of +1.9% of GDP (baseline scenario) (^{158}) is slightly above the EU average

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(^{153}) Recent pension reforms enacted in 2012, re-establishing the right to retire at 60 years of age on a full pension for workers who started working before 20 years of age, representing a partial rollback of previous pension reforms, have not been reviewed in the AWG nor endorsed by the parent Committee (EPC) so its effects are not factored-in in the sustainability analysis.

(^{154}) See Table 2.2.
(^{155}) The S0 indicator reflects up-to-date evidence on the role played by fiscal and financial-competitiveness variables in creating potential fiscal risks. It should be stressed that the methodology for the S0 indicator is fundamentally different from the S1 and S2 indicators. S0 is not a quantification of the required fiscal adjustment effort like the S1 and S2 indicators, but a composite indicator which estimates the extent to which there might be a risk for fiscal stress in the short-term.
(^{156}) Variables measuring the size and maturity structure of public debt (net debt to GDP and gross financing needs), together with primary balance (both actual and cyclical adjusted) are above the critical threshold for 2013.
(^{157}) The S1 indicator shows the upfront adjustment effort required, in terms of a steady improvement in the structural primary balance to be introduced until 2020, and then sustained for a decade, to bring debt ratios back to 60% of GDP in 2030, including financing for any additional expenditure until the target date, arising from an ageing population.
(^{158}) While the baseline scenario (i.e. the "AWG reference scenario") focuses on the budgetary impact mostly due to projected demographic developments, the risk scenario attempts to quantify the uncertainty regarding future developments on healthcare and long-term care expenditure (see Chapter 2).

(1.8% of GDP) (Table 3.3), while the initial structural budgetary position is close to the EU average. The S1 indicator calculated using the risk scenario suggests the need for a higher cumulated fiscal effort (+2.5 pp. of GDP), which is above the EU27 average (+2.2 pp. of GDP).

The long-term sustainability analysis shows that on the basis of the budgetary position of 2014, using the 2012 Commission Services' autumn forecast, and the projected increase in age-related expenditure (2012 Ageing Report), France has a sustainability gap (S2) (^{159}) of 1.6% of GDP, which is below the EU average (2.6%). The French sustainability gap reflects both the long-term cost of ageing and the initial budgetary position. The long-term cost of ageing is projected to increase by +0.9 pp. of GDP, driven by an increase in pensions (+0.6 pp.) and healthcare and long-term care (+0.9 pp.). The initial budgetary position in terms of the structural primary balance, giving the required adjustment to stabilise the debt ratio at the current value, is positive (+0.6 pp.), but is only marginally above the average increase in the EU27 (+0.5 pp.) (see Table 6.1).

Risks rise in the event of the structural primary balance falling below the last forecast value (2014) to the average for the period 1998-2012. In this scenario, the evaluation of the medium term risk would move France from the group of countries with medium to high risk (S1 increasing from 1.9 to 4.3), while the evaluation of the long-term risk would worsen from low to medium (S2 increasing from 1.6 to 3.4).

Expenditure in the French pay-as-you-go public pension system is projected to increase moderately and clearly below the EU27 average in the long-run. The price indexation mechanism for all pensions as well as a sustainability factor for private sector pensions that links the full pension

period to increases in life expectancy, help to ensure that sustainability risks in the French pension system remain limited in the medium- and long term. Nevertheless, in line with the 2012 Council recommendation, a continuous review of the sustainability and adequacy of the pension system should be guaranteed and measures taken, if needed.

Considering risks associated with the dynamic growth in healthcare and long-term care expenditure due to non-demographic factors, such as the development of new drugs and treatments and/or the widening of healthcare systems' coverage, the sustainability gap (S2) in the risk scenario would amount to 3.8 pp. of GDP i.e. 2.2 pp. more than in the baseline scenario.

In the 2009 Sustainability Report, the S2 gap was 5.6% of GDP. The difference between the results of 2012 and 2009 (-4.0 pp.) is due both to the improvement in the initial budgetary position (-3.2 pp.) and the reduction in the long-term costs of ageing (-0.9 pp.).

Graph 7.8:   **Determinants of fiscal sustainability - France**
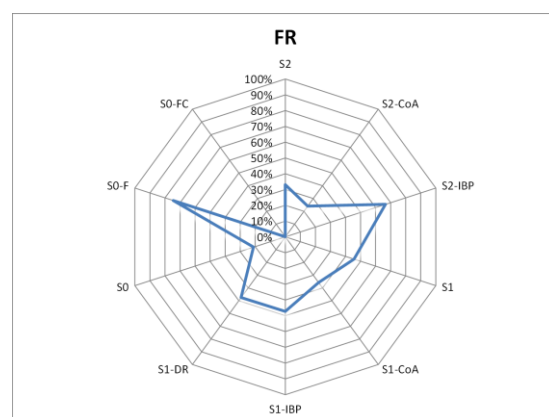
Note on interpretation: This chart allows for the comparison of countries on the basis of the main indicators that are taken into account: S0, S1 and S2 and their components. The scale for each variable corresponds to the range of the data in the EU (highest value of all countries: 100%, lowest: 0%). The higher the sustainability risks are, in relative terms, the higher are the values (closer to the outer area of the chart). Legend: COA: ageing cost component, IBP: Initial budgetary position component, DR: debt requirement component, F: fiscal subindex, FC: financial-competitiveness subindex.
Source: Commission services.

(^{159}) The S2 indicator shows the immediate and permanent adjustment required to satisfy an inter-temporal budgetary constraint, including the costs of ageing. The S2 indicator has two components: i) the initial budgetary position (IBP) which gives the gap to the debt stabilising primary balance; and ii) the additional adjustment required due to the costs of ageing. The main assumption used in the derivation of S2 is that in an infinite horizon, the growth in the debt ratio is bounded by the interest rate differential (i.e. the difference between the nominal interest and the real growth rates); thereby not necessarily implying that the debt ratio will fall below the EU Treaty 60% debt threshold.

7.9. ITALY

7.9.1. OVERALL ASSESSMENT

Italy does not appear to face a risk of fiscal stress in the short-term. Sustainability risks appear to be medium in the medium run, while becoming low in a long-term perspective, conditional upon the full implementation of the planned ambitious fiscal consolidation and on maintaining the primary balance well beyond 2014 at the level expected to be reached in that year. Government debt (120.7% of GDP in 2011 and expected to rise to 126.5% in 2014) is above the 60% of GDP Treaty threshold. On the basis of current policies, debt would be on a declining path over the medium term and beyond. But, as the improved structural primary fiscal position expected to be reached by 2014 is rather demanding from both international and country-specific historical standards, strong determination is needed to avoid slippages in the fiscal stance. Indeed, risks would be much higher in the event of the structural primary balance reverting to lower values observed in the past, such as the average for the period 1998-2012. The focus should, therefore, be on resolutely continuing to implement sustainability-enhancing measures and reduce government debt.

Given the substantial reforms implemented in the field of pensions, long-term ageing induced fiscal risks are limited for Italy.

7.9.2. DETAILED DESCRIPTION OF RESULTS

The S0 indicator is used to assess risks for fiscal stress in the following year. It is an "early-detection indicator" based on a wide list of economic indicators, covering fiscal, macrofinancial and competitiveness variables. [160] Overall, the S0 is below critical values, thereby not giving any early-warning of the presence of short-term risks for fiscal stress for 2013. [161] However,

the sub-component of the S0 related to the fiscal side has a number of variables with figures above their safety thresholds. The Italian government debt-to-GDP ratio is far above both the EU average and the 60% Treaty reference value. Variables measuring the size and maturity structure of public debt (gross and net debt over GDP, short-term debt over GDP), the stabilising primary balance and gross financing needs remain critical for 2013. The real GDP growth rate is below its critical level.

The medium- and long-term sustainability analysis takes the last year (2014) of the Commission services' autumn 2012 forecasts as the starting point, reflecting a no-policy change assumption. The structural primary balance is forecasted to reach a sizeable surplus of 5 % of GDP in 2014 (EU: 1.2% of GDP). This is higher than 1.2% of GDP recorded in 2011, and above the average structural primary balance of 1.8% of GDP recorded over the period 1998-2012.

The medium-term sustainability analysis shows that, given the considerable size of the adjustment needed to achieve the Treaty reference debt ratio in a reasonable time frame, relying on the strong initial budgetary position and the negative ageing cost component, the medium-term sustainability gap (S1 ([162])) is 0.6% of GDP, under the condition that the consolidation effort up to 2014 is not reversed thereafter. This result is therefore conditional upon the very high structural primary surplus forecasted for 2014 (5% of GDP) being maintained after that year. As mentioned above, such a structural primary surplus is considerably higher than what has been observed historically for Italy (2.6% of GDP on average over the last 15 years).

The long-term sustainability analysis shows that, based on the initial budgetary position (2014) and the projected trends in age-related expenditure, Italy has a negative long-term sustainability gap (S2 ([163])) (-2.3 % of GDP). This means that, on the

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[160] The S0 indicator reflects up-to-date evidence on the role played by fiscal and financial-competitiveness variables in creating potential fiscal risks. It should be stressed that the methodology for the S0 indicator is fundamentally different from the S1 and S2 indicators. S0 is not a quantification of the required fiscal adjustment effort like the S1 and S2 indicators, but a composite indicator which estimates the extent to which there might be a risk for fiscal stress in the short-term.

[161] The S0 indicator improved significantly since 2009.

[162] The S1 indicator shows the upfront adjustment effort required, in terms of a steady improvement in the structural primary balance to be introduced until 2020, and then sustained for a decade, to bring debt ratios back to 60% of GDP in 2030, including financing for any additional expenditure until the target date, arising from an ageing population.

[163] The S2 indicator shows the immediate and permanent adjustment required to satisfy an inter-temporal budgetary

basis of current policies (structural primary surplus kept constant at 5% of GDP after 2014), public finances would be on a sustainable path. The moderate adverse impact on the sustainability gap stemming from the long-term cost of ageing (0.7% of GDP, below the EU average of 2.2% of GDP) is more than counterbalanced by the initial budgetary position (given the high structural primary surplus). Indeed, the required adjustment to stabilise the debt ratio is negative (-3% of GDP) and clearly below the EU average (0.5% of GDP). The increase in the long-term cost of ageing (AWG reference scenario) is mainly driven by healthcare and long-term care expenditure (+1.6 pp. over 2010-60, against an EU average of +2.0 pp.), while the ratio of pension expenditure to GDP is expected to fall thanks to the strong reform measures implemented in the field of pensions, most recently in 2011 (see Table 6.1). ([164])

Considering the additional expected healthcare and long-term care expenditure increases in the medium-long term due to non-demographic drivers, in particular advances in medicine (as reflected in the AWG "risk scenario" ([165])), the cost of ageing is higher (+1% of GDP). Yet, the S2 sustainability gap remains negative in this risk scenario.

In the 2009 Sustainability Report, the S2 gap was 1.4% of GDP. The difference between the results in the previous report and the current results (-3.7 pp.) stems mainly from the substantially stronger initial budgetary position (2.9 pp.), but also from the long-term cost of ageing, which has decreased

by 0.8 pp. of GDP thanks to the recent pension reforms.

Graph 7.9: **Determinants of fiscal sustainability - Italy**
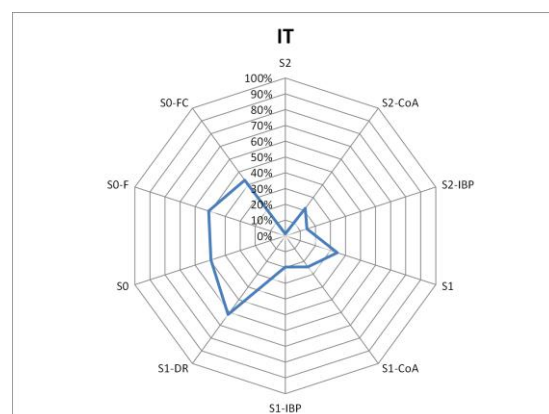
Note on interpretation: This chart allows for the comparison of countries on the basis of the main indicators that are taken into account: S0, S1 and S2 and their components. The scale for each variable corresponds to the range of the data in the EU (highest value of all countries: 100%, lowest: 0%). The higher the sustainability risks are, in relative terms, the higher are the values (closer to the outer area of the chart). Legend: COA: ageing cost component, IBP: Initial budgetary position component, DR: debt requirement component, F: fiscal subindex, FC: financial-competitiveness subindex.
Source: Commission services.

constraint, including the costs of ageing. The S2 indicator has two components: i) the initial budgetary position (IBP) which gives the gap to the debt stabilising primary balance; and ii) the additional adjustment required due to the cost of ageing in present value terms. The main assumption used in the derivation of S2 is that in an infinite horizon the growth in the debt ratio is bounded by the interest rate differential (i.e. the difference between the nominal interest and the real growth rates); thereby not necessarily implying that the debt ratio will fall below the EU Treaty 60% debt threshold.

([164]) The main changes introduced include: the automatic linkage of retirement age to life expectancy (adopted in 2010); the rise in both statutory and effective retirement age; the increase in social contribution for the self-employed; and the partial non-indexation of pension transfers (all adopted in December 2011).

([165]) The AWG risk scenario assumes a more dynamic profile for healthcare and long-term care costs due to non-demographic drivers.

7.10. CYPRUS

7.10.1.OVERALL ASSESSMENT

Cyprus appears to be at high risk of fiscal stress in the short-term, originating from both the macrofinancial and fiscal side of the economy. The country is also facing high sustainability risks both in the medium and long run. Government debt (71.1% of GDP in 2011 and expected to rise to 102.7% in 2014) is above the 60% of GDP Treaty threshold. Risks would be higher in the event of the structural primary balance reverting to lower values observed in the past, such as the average for the period 1998-2012. The focus should, therefore, be on resolutely continuing to implement sustainability-enhancing measures that avert potential risks to fiscal sustainability from materializing or intensifying in the short term. In addition, further containing age-related expenditure growth, including through pension reform, appears necessary to contribute to the sustainability of public finances in the long term.

Indeed, the 2012 Ageing Report shows a high projected increase in total age-related public expenditure over the years 2010-60 (8.4 pp. of GDP, against an EU average of 2.9 pp. of GDP). In particular, over the aforementioned period public pension expenditure is projected to increase by 8.7 pp. of GDP (against an EU average of 1.4 pp.), while healthcare and long-term care spending is projected to rise by 0.5 pp. (against an EU average of 2.0 pp.). [166]

Cyprus needs to implement long-term sustainability enhancing policies equivalent to a permanent improvement of 8.2 pp. of GDP in the structural primary balance to close the fiscal gap according to the S2 indicator. This effort is substantially above the average improvement required for the EU as a whole (2.6 pp.), reflecting the significant ageing-cost component.

Under a no-policy-change assumption, debt would increase from 102.7% of GDP in 2014 to 127.4% in 2020 and to 171.8% in 2030. Efforts should therefore be made in order to ensure that the debt ratio is put on a long-term downward path.

7.10.2.DETAILED DESCRIPTION OF RESULTS

The S0 indicator is used to assess short term risks for fiscal stress in the following year. It is an "early-detection indicator" based on a wide list of economic indicators, covering fiscal, macrofinancial and competitiveness variables. [167] Short-term risks for fiscal stress arise for Cyprus from the macrofinancial, competitiveness and fiscal sides.

The Cypriot government debt in 2014, the base year of the analysis, is forecasted to be 102.7% of GDP, (up from 77.1% in 2011), significantly above the EU average of 88.8%. The structural primary balance is forecasted to improve from a deficit of 3.5% in 2011 to a deficit of 1.1% in 2014.

The medium-term sustainability gap indicator, S1 ([168]), is at 8.2% of GDP, is due to the required adjustment to the initial budgetary position (4.3 pp.), the debt reduction requirement (2.4 pp.) and ageing costs (1.3 pp.).

Based on the budgetary position in 2014, using the Commission services' 2012 autumn forecasts, and the projected increase in age-related expenditure (2012 Ageing Report), Cyprus has a long-term sustainability gap, S2 ([169]), of 8.2% of GDP, which

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[166] See Table 2.2.

[167] The S0 indicator reflects up to date evidence on the role played by fiscal and financial-competitiveness variables in creating potential fiscal risks. It should be stressed that the methodology for the S0 indicator is fundamentally different from the S1 and S2 indicators. S0 is not a quantification of the required fiscal adjustment effort like the S1 and S2 indicators, but a composite indicator which estimates the extent to which there might be a risk for fiscal stress in the short-term.

[168] The S1 indicator shows the upfront adjustment effort required, in terms of a steady improvement in the structural primary balance to be introduced until 2020, and then sustained for a decade, to bring debt ratios back to 60% of GDP in 2030, including financing for any additional expenditure until the target date, arising from an ageing population.

[169] The S2 indicator shows the immediate and permanent adjustment required to satisfy an inter-temporal budgetary constraint, including the costs of ageing. The S2 indicator has two components: i) the initial budgetary position (IBP) which gives the gap to the debt stabilising primary balance; and ii) the additional adjustment required due to the cost of ageing in present value terms. The main assumption used in the derivation of S2 is that in an infinite horizon the growth in the debt ratio is bounded by the interest rate differential (i.e. the difference between the nominal interest and the real growth rates); thereby not necessarily implying that the debt ratio will fall below the EU Treaty 60% debt threshold.

is significantly above the EU average (2.6%). The Cypriot sustainability gap primarily reflects the required adjustment due to the long-term cost of ageing (5.4 pp.), mainly driven by the increase in pension expenditure (5.5 pp.) and, to a smaller extent, by the increase in healthcare and long-term care (0.3 pp.) (see Table 6.1).

Considering the expected health care and long-term care expenditure increases in the medium-long term due to non-demographic drivers (in particular advances in medicine), as reflected in the AWG risk scenario ([170]), the required adjustment linked to the cost of ageing is slightly higher (5.5 pp.), and the S2 sustainability gap increases to 8.3% of GDP.

In the 2009 Sustainability Report, the S2 gap was 8.8% of GDP. The difference between the results in the previous report and the current results (-0.6 pp.) stems mainly from the decreased required adjustment due to the long-term cost of ageing (from 8.3 in the 2009 Sustainability Report to the current 5.4), the required adjustment in the initial budgetary position has however deteriorated significantly (from -0.5 pp. in the 2009 Sustainability Report to the current 2.8 pp.) ([171]).

Graph 7.10:   **Determinants of fiscal sustainability - Cyprus**
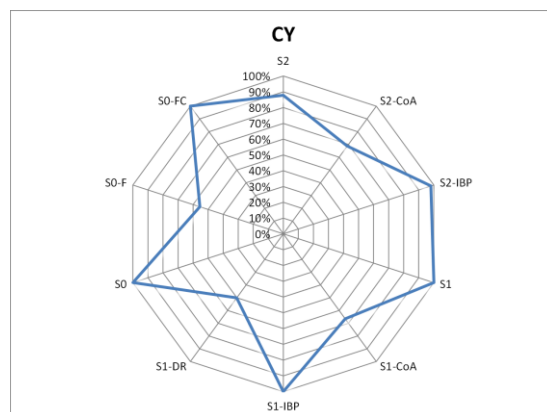
Note on interpretation: This chart allows for the comparison of countries on the basis of the main indicators that are taken into account: S0, S1 and S2 and their components. The scale for each variable corresponds to the range of the data in the EU (highest value of all countries: 100%, lowest: 0%). The higher the sustainability risks are, in relative terms, the higher are the values (closer to the outer area of the chart). Legend: COA: ageing cost component, IBP: Initial budgetary position component, DR: debt requirement component, F: fiscal subindex, FC: financial-competitiveness subindex.
Source: Commission services.

([170]) The AWG risk scenario assumes a more dynamic profile for health care and long-term care costs due to non-demographic drivers (in particular, advances in medicine).
([171]) The ratio of public pension expenditure to GDP in 2060 in the latest round of projections (Ageing Report 2012) is lower than in the previous round (2009).

7.11. LATVIA

7.11.1.OVERALL ASSESSMENT

On the basis of the sustainability indicators, Latvia does not appear to face short-term, medium-term or long-term sustainability challenges. Government debt (42.2% of GDP in 2011 and expected to rise to 44.9% in 2014) is below the 60% of GDP threshold. This is conditional upon the implementation of the planned fiscal consolidation and on maintaining the primary balance well beyond 2014 at the level expected to be reached in that year. Risks would be higher in the event of the structural primary balance reverting to lower values observed in the past, such as the average for the period 1998-2012. In a longer term perspective, ageing costs are the lowest in the EU, implying a projected steep decline in the public pension replacement ratio.

Results of the analysis do not suggest the need of introducing additional sustainability-enhancing measures. However, this assessment is based on the assumption that continued sufficient primary surpluses will be secured over the medium term, as planned in the 2012 convergence programme. Strengthening the fiscal framework remains important, thereby limiting policy errors that could create unsustainable trends in budgetary outcomes.

Latvia has a relatively low level of government debt, which is below the 60% reference level. Under a no policy change assumption, the debt ratio would decline to 31.7% in 2030.

The 2012 Ageing Report shows a projected decrease in total age-related public expenditure of 3.8 pp. of GDP over the years 2010-2060 (contrasting with an average increase of 2.9 pp. of GDP in the EU). The expected decline in pension expenditure: -3.8 pp. of GDP (+1.4 pp. in the EU), more than offsets the expected increase of +0.9 pp. of GDP in healthcare and long-term care expenditure (+2.0 pp. in the EU). [172] However, the implied steep decline in the replacement ratio for public pensions (from 48% in 2010 to 15% in 2060) raises the issue of their adequacy, posing the risk of higher public pension expenditure in the future.

7.11.2.DETAILED DESCRIPTION OF RESULTS

The S0 indicator is used to assess risks for fiscal stress in the following year. It is an "early-detection indicator" based on the processing of a wide list of economic indicators, covering fiscal, macrofinancial and competitiveness variables. [173] The overall indicator used to assess risks for fiscal stress (S0) is below critical values, thereby not giving any early-warning of the presence of short term risks for 2013.

The Latvian government debt in 2014, the base year of the analysis, is forecast to attain 44.9% of GDP, while the structural primary balance is forecast to improve from a deficit of 0.2% of GDP in 2011 to a surplus of 0.4% in 2014.

The Latvian debt ratio of 44.9% of GDP in 2014 is below the EU average of 88.8% of GDP, which together with negative values for both the S1 and S2 indicators suggest that risks are limited both on the medium- and long-term horizons.

The medium-term sustainability gap (S1) [174] is negative (-2.0 pp. of GDP in the baseline scenario), [175] reflecting both strong planned fiscal consolidation in the period up to 2014 and the assumption of maintaining the primary balance at that level, together with the relatively low current debt to GDP ratio. The S1 indicator calculated using the risk scenario suggests a high resilience in case of adverse developments on health care and long-term care, as the indicator remains negative at -1.8 pp. of GDP.

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[172] See Table 2.2.

[173] The S0 indicator reflects up-to-date evidence on the role played by fiscal and financial-competitiveness variables in creating potential fiscal risks. It should be stressed that the methodology for the S0 indicator is fundamentally different from the S1 and S2 indicators. S0 is not a quantification of the required fiscal adjustment effort like the S1 and S2 indicators, but a composite indicator which estimates the extent to which there might be a risk for fiscal stress in the short-term.

[174] The S1 indicator shows the upfront adjustment effort required, in terms of a steady improvement in the structural primary balance to be introduced until 2020, and then sustained for a decade, to bring debt ratios back to 60% of GDP in 2030, including financing for any additional expenditure until the target date, arising from an ageing population.

[175] While the baseline scenario (i.e. the "AWG reference scenario") focuses on the budgetary impact mostly due to projected demographic developments, the risk scenario attempts to quantify the uncertainty regarding future developments on healthcare and long-term care expenditure (see Chapter 2).

The long term sustainability analysis shows that on the basis of the budgetary position of 2014, using the 2012 Commission Services' autumn forecast, and the projected increase in age-related expenditure (2012 Ageing Report), Latvia has a negative sustainability gap (S2) ([176]) of -0.7% of GDP. This means that on the basis of current policies, and projected future decreases in age-related expenditure, ([177]) public finances are on a sustainable path. This outcome is mainly due to the required adjustment on account of the long-term cost of ageing (-1.5 pp. of GDP). The initial budgetary position in terms of the structural primary balance, giving the required adjustment to stabilise the debt ratio at the current value, is positive (+0.7 pp.), which is only slightly above the average for the EU27 (+0.5 pp.) (see Table 6.1).

Risks are moderate in the event of the structural primary balance falling below the last forecast value (2014) to the average for the period 1998-2012. In this scenario, the evaluation of the medium term risk would move Latvia from low to medium risk (S1 increasing from -2.0 to 0.9), while the evaluation of the long-term risk would remain low (S2 increasing from -0.7 to 1.4).

The notional defined contribution public pension system in Latvia shows rather low sustainability risks in the medium- and long run. Public pension expenditures are even projected to decrease drastically up to 2060. The main reasons are the partial shift of public pension to the mandatory funded private pillar, implying a steep decline in public pension replacement ratio, together with the introduction of a new indexation rule as of 2014, indexing pensions only on prices. However, current projections on pension expenditure are based on the assumption that contributions to

private pension schemes will be restored to 6% as of 2013 in line with the convergence programme and the 2012 Council recommendation, whereas more recently it has been decided to increase the contribution rate only to 4% in 2013, delaying the restoration of the 6% rate to 2016.

Considering risks associated with the dynamic growth in healthcare and long-term care expenditure due to non-demographic factors, such as the development of new drugs and treatments and/or the widening of healthcare systems' coverage, the sustainability gap (S2) in the risk scenario would amount to -0.4 pp. of GDP i.e. 0.3 pp. more than in the baseline scenario.

In the 2009 Sustainability Report, the S2 gap was 9.9% of GDP. The difference between the results of 2012 and 2009 (-10.6 pp.) is mainly due to the improvement in the initial budgetary position (-8.2 pp.), but also to a reduction in the long-term costs of ageing (-2.5 pp.).

Graph 7.11:   **Determinants of fiscal sustainability - Latvia**
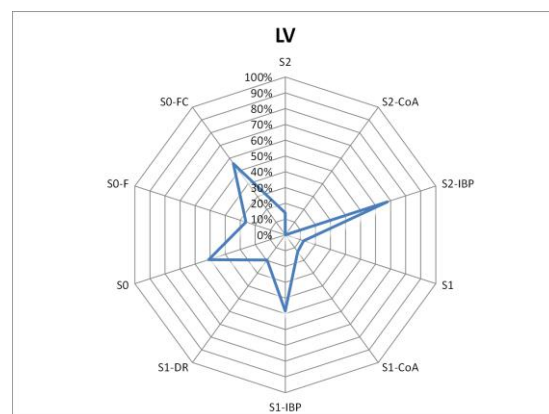
Note on interpretation: This chart allows for the comparison of countries on the basis of the main indicators that are taken into account: S0, S1 and S2 and their components. The scale for each variable corresponds to the range of the data in the EU (highest value of all countries: 100%, lowest: 0%). The higher the sustainability risks are, in relative terms, the higher are the values (closer to the outer area of the chart). Legend: COA: ageing cost component, IBP: Initial budgetary position component, DR: debt requirement component, F: fiscal subindex, FC: financial-competitiveness subindex.
Source: Commission services.

([176]) The S2 indicator shows the immediate and permanent adjustment required to satisfy an inter-temporal budgetary constraint, including the costs of ageing. The S2 indicator has two components: i) the initial budgetary position (IBP) which gives the gap to the debt stabilising primary balance; and ii) the additional adjustment required due to the costs of ageing. The main assumption used in the derivation of S2 is that in an infinite horizon, the growth in the debt ratio is bounded by the interest rate differential (i.e. the difference between the nominal interest and the real growth rates); thereby not necessarily implying that the debt ratio will fall below the EU Treaty 60% debt threshold.

([177]) The projected steep decline in the public pension replacement ratio might pose a risk for public expenditure in the future.

7.12. LITHUANIA

7.12.1. OVERALL ASSESSMENT

Lithuania does not appear to face a risk of fiscal stress in the short-term. The country is at medium sustainability risk in both the medium- and long-term perspectives. Government debt (38.5% of GDP in 2011) is below the 60% of GDP threshold. Risks would increase in the event of the structural primary balance reverting to lower values observed in the past, such as the average for the period 1998-2012. Although the medium-term assessment would remain at medium, the long-term assessment would worsen from medium to high. Further containing age-related expenditure growth would contribute to the sustainability of public finances in the long term.

Lithuania needs to implement long-term sustainability enhancing policies equivalent to a permanent improvement of 4.7 pp. of GDP in the primary balance to close the fiscal gap according to the S2 indicator. This is an effort above the average improvement required for the EU27 as a whole (+2.6 pp.), which reflects the projected larger rise in age-related expenditure in Lithuania relatively to the EU27 average, while the effort required on account of the initial budgetary position (+0.9 pp.) is also above the EU27 average (+0.5 pp.).

Under a no-policy change assumption, debt would increase to 46.5% of GDP in 2020 and 63.9% in 2030. Therefore, additional fiscal consolidation is needed beyond the forecast horizon to put debt on a downward path. Recent pension reform measures have contributed to the improvement of fiscal sustainability, but further comprehensive reforms are needed to curb the projected substantial increase in age-related expenditure.

The 2012 Ageing Report shows a projected increase in total age-related public expenditure of 4.5 pp. of GDP over the years 2010-2060 (above the EU average of 2.9 pp. of GDP). Expenditure increases by major age related expenditure components are: +3.5 pp. of GDP for pensions

(+1.4 pp. in the EU) and +1.8 pp. for healthcare and long-term care (+2.0 pp. in the EU). [178]

7.12.2. DETAILED DESCRIPTION OF RESULTS

The S0 indicator is used to assess risks for fiscal stress in the following year. It is an "early-detection indicator" based on the processing of a wide list of economic indicators, covering fiscal, macrofinancial and competitiveness variables. [179] Overall, the indicator used to assess short-term risks for fiscal stress (S0) is below critical values, thereby not giving any early-warning of the presence of short-term risks for 2013. [180] [181]

The Lithuanian government debt in 2014, the base year of the analysis, is forecast to be 40.5% of GDP, rising from 38.5% of GDP in 2011. The structural primary balance is forecast to improve significantly from a deficit of 3.1% of GDP in 2011 to a nearly balanced position in 2014 (-0.1% of GDP).

The medium-term sustainability gap (S1) [182] is close to zero (+0.3 pp. of GDP in the baseline scenario), [183] reflecting both strong planned fiscal consolidation and a relatively low current debt to GDP ratio. The S1 indicator calculated using the risk scenario suggests resilience to higher

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[178] See Table 2.2.

[179] The S0 indicator reflects up-to-date evidence on the role played by fiscal and financial-competitiveness variables in creating potential fiscal risks. It should be stressed that the methodology for the S0 indicator is fundamentally different from the S1 and S2 indicators. S0 is not a quantification of the required fiscal adjustment effort like the S1 and S2 indicators, but a composite indicator which estimates the extent to which there might be a risk for fiscal stress in the short-term.

[180] S0 improved significantly since 2009.

[181] However, the sub-component of S0 related to financial and competitiveness has a number of variables with figures above their safety thresholds, namely the net international investment position, and net savings of households.

[182] The S1 indicator shows the upfront adjustment effort required, in terms of a steady improvement in the structural primary balance to be introduced until 2020, and then sustained for a decade, to bring debt ratios back to 60% of GDP in 2030, including financing for any additional expenditure until the target date, arising from an ageing population.

[183] While the baseline scenario (i.e. the "AWG reference scenario") focuses on the budgetary impact mostly due to projected demographic developments, the risk scenario attempts to quantify the uncertainty regarding future developments on healthcare and long-term care expenditure (see Chapter 2)..

healthcare and long-term care expenditures (S1 +0.7).

The long-term sustainability analysis shows that on the basis of the budgetary position of 2014, using the 2012 Commission Services' autumn forecast, and the projected increase in age-related expenditure (2012 Ageing Report), Lithuania has a sustainability gap (S2) ([184]) of 4.7% of GDP, which is larger than the EU27 average (2.6%). The Lithuanian sustainability gap largely reflects the long-term cost of ageing (+3.8 pp. of GDP), which is driven by an increase in pensions (+3.0 pp.) and healthcare and long-term care (+1.1 pp.). The initial budgetary position in terms of the structural primary balance, giving the required adjustment to stabilise the debt ratio at the current value, is +0.9 pp. which is also above the EU average of +0.5 pp. (see Table 6.1).

Risks would increase in the event of the structural primary balance falling below the last forecast value (2014) to the average for the period 1998-2012. In this scenario, although the evaluation of the medium term risk would remain at medium (S1 increasing from 0.3 to 2.6), the evaluation of the long-term risk would worsen from medium to high (S2 increasing from 4.7 to 6.4).

Ageing Report 2012 pension projections for the defined benefit pension system in Lithuania show an increase that is clearly above EU27 average in the long-run. Although the retirement age increase to 65 years of age in the year 2026 for both men and women helps to reduce pension expenditures in the medium-term, demographic pressures and the absence of a sustainability factor will lead to the increase in pension spending up to 2060. In line with the 2012 Council recommendation, Lithuania should thus adopt a comprehensive pension reform aligning the statutory retirement age to changes in life expectancy, establishing a

clear rule for the indexation of pensions as well as improving complementary savings schemes.

Considering risks associated with the dynamic growth in healthcare and long-term care expenditure due to non-demographic factors, such as the development of new drugs and treatments and/or the widening of healthcare systems' coverage, the sustainability gap (S2) in the risk scenario would amount to 6.3 pp. of GDP i.e. more 1.6 pp. than in the baseline scenario.

In the 2009 Sustainability Report, the S2 gap was 7.0% of GDP. The difference between the results of 2012 and 2009 (-2.3 pp.) reflects mainly the reduction of the contribution of the initial budgetary position (-3.0 pp.), given the moderate increase in the long term costs of ageing (+0.6 pp.).

Graph 7.12:   **Determinants of fiscal sustainability - Lithuania**
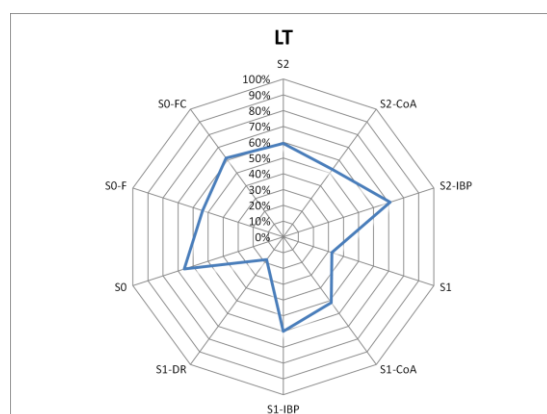
Note on interpretation: This chart allows for the comparison of countries on the basis of the main indicators that are taken into account: S0, S1 and S2 and their components. The scale for each variable corresponds to the range of the data in the EU (highest value of all countries: 100%, lowest: 0%). The higher the sustainability risks are, in relative terms, the higher are the values (closer to the outer area of the chart). Legend: COA: ageing cost component, IBP: Initial budgetary position component, DR: debt requirement component, F: fiscal subindex, FC: financial-competitiveness subindex.
Source: Commission services.

([184]) The S2 indicator shows the immediate and permanent adjustment required to satisfy an inter-temporal budgetary constraint, including the costs of ageing. The S2 indicator has two components: i) the initial budgetary position (IBP) which gives the gap to the debt stabilising primary balance; and ii) the additional adjustment required due to the costs of ageing. The main assumption used in the derivation of S2 is that in an infinite horizon, the growth in the debt ratio is bounded by the interest rate differential (i.e. the difference between the nominal interest and the real growth rates); thereby not necessarily implying that the debt ratio will fall below the EU Treaty 60% debt threshold.

7.13. LUXEMBOURG

7.13.1. OVERALL ASSESSMENT

Luxembourg does not appear to face a risk of fiscal stress in the short-term. The country is at medium sustainability risk in the medium-term and at high risk in the long-term perspectives, respectively, mainly due to the budgetary impact of ageing costs. Indeed, government debt (18.3% of GDP in 2011 and expected to rise to 26.9% in 2014) is well below the 60% of GDP threshold. Risks would be even lower in case the structural balance reverted to the higher values observed in the past, such as the average for the period 1998-2012. The medium-term risk assessment would improve from medium to low risk, though Luxembourg would remain at high risk in the long term. The focus should, therefore, be on curbing age-related expenditure in general and pension expenditure in particular.

Luxembourg needs to implement long-term sustainability enhancing policies equivalent to a permanent improvement of 9.7 pp. of GDP in the primary balance to close the fiscal gap according to the S2 indicator. This is an effort significantly above the average improvement required for the EU as a whole (+2.6 pp.), reflecting the projected higher age-related expenditure in Luxembourg relatively to the EU average, while the initial budgetary position adds to long-term costs.

Under a no-policy change assumption, the debt ratio would increase to 30.8% of GDP in 2020 and 65.5% in 2030. The pension reform proposal introduced in Parliament plans a limited and very gradual introduction of a new method to calculate future pension outlays to be finalised by 2052, thereby allowing for a significant rise in age related expenditure and government debt until the end of the transition period.

The 2012 Ageing Report shows a projected increase in total age-related public expenditure of 12 pp. of GDP over the years 2010-2060 (much above the EU average of 2.9 pp. of GDP). Expenditure increases by major age related expenditure components are: +9.4 pp. of GDP for pensions (+1.4 pp. in the EU) and +2.8 pp. for

healthcare and long-term care (+2.0 pp. in the EU). [185]

The current low debt ratio, reflected in the relatively low value of the S1 indicator, together with the accumulated government assets buys time for the Luxembourgish pension system to adjust further, thereby reducing sustainability risks, but does not seem to constitute a sufficient guarantee of long term sustainability.

7.13.2. DETAILED DESCRIPTION OF RESULTS

The S0 indicator is used to assess risks for fiscal stress in the following year. It is an "early-detection indicator" based on the processing of a wide list of economic indicators, covering fiscal, macrofinancial and competitiveness variables. [186] Overall, the indicator used to assess risks for fiscal stress (S0) is below critical values, thereby not giving any early-warning of the presence of short-term risks for 2013. [187]

The Luxembourgish government debt in 2014, the base year of the analysis, is forecast to increase to 26.9% of GDP from 18.3% in 2011, while the structural primary balance is projected to deteriorate from a surplus of 0.6% of GDP in 2011 to a deficit of 0.4% in 2014.

The Luxembourgish debt ratio of 26.9% of GDP in 2014 is well below the Maastricht debt threshold of 60% of GDP and the EU27 average of 88.8% of GDP. [188] This is reflected in the medium-term sustainability gap (S1), [189] which is just slightly

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[185] See Table 2.2.
[186] The S0 indicator reflects up-to-date evidence on the role played by fiscal and financial-competitiveness variables in creating potential fiscal risks. It should be stressed that the methodology for the S0 indicator is fundamentally different from the S1 and S2 indicators. S0 is not a quantification of the required fiscal adjustment effort like the S1 and S2 indicators, but a composite indicator which estimates the extent to which there might be a risk for fiscal stress in the short-term.
[187] Although some variables are above critical values, namely the primary balance ratio, the private debt ratio, and the short-term debt of non-financial corporations.
[188] i.e. controlling for the initial budgetary position and the cost of ageing, the gap between the actual debt ratio and the 60% of GDP target calls for a budgetary effort below average.
[189] The S1 indicator shows the upfront adjustment effort required, in terms of a steady improvement in the structural primary balance to be introduced until 2020, and then sustained for a decade, to bring debt ratios back to 60% of GDP in 2030, including financing for any additional

positive (+0.3% of GDP in the baseline scenario). ([190]) The S1 indicator calculated using the risk scenario is also +0.3% of GDP, showing a high resilience to the scenario used for healthcare and long-term care expenditure.

The long-term sustainability analysis shows that on the basis of the budgetary position of 2014, using the 2012 Commission Services' autumn forecast, and the projected increase in age-related expenditure (2012 Ageing Report), Luxembourg has a sustainability gap (S2) ([191]) of 9.7% of GDP, which is the highest in the EU27. The Luxembourgish sustainability gap mainly reflects the very high long-term cost of ageing (+8.5 pp. of GDP), which is driven by an increase in pensions (+6.4 pp.) and healthcare and long-term care (+2.1 pp.). The initial budgetary position in terms of the structural primary balance, giving the required adjustment to stabilise the debt ratio at the current value, is positive (+1.2 pp.), reflecting a relatively unfavourable starting budgetary position (see Table 6.1).

Risks decrease in the event of the structural primary balance increasing above the last forecast value (2014) to the average for the period 1998-2012. In this scenario, the evaluation of the medium term risk would improve from medium to low risk (S1 decreasing from 0.3 to -2.3), while the evaluation of the long-term risk would remain at high risk (S2 decreasing from 9.8 to 7.8).

The defined benefit public pension system in Luxembourg shows the highest projected pension

expenditure increase up to 2060, according to 2012 Ageing Report figures, mainly due to a deteriorating dependency ratio (pensioners over contributors). As a result, Luxembourg shows a relatively high long-term sustainability challenge. The currently proposed pension reform will help decreasing the financial burden in the pension system. Nevertheless, in line with the 2012 Council recommendation, the proposed pension reform should be strengthened by taking additional measures to limit early retirement and taking further steps to increase the effective retirement age, including linking the statutory retirement age (currently at 65) to changes in life expectancy.

Considering risks associated with the dynamic growth in healthcare and long-term care expenditure due to non-demographic factors, such as the development of new drugs and treatments and/or the widening of healthcare systems' coverage, the sustainability gap (S2) in the risk scenario would amount to 9.9 pp. of GDP, i.e. 0.2 pp. more than in the baseline scenario.

In the 2009 Sustainability Report, the S2 gap was 12.5% of GDP. The difference between the results of 2012 and 2009 (-2.8 pp.) reflects a reduction in the long-term costs of ageing (-4.4 pp.), which is partly offset by a deterioration in the initial budgetary position (+1.6 pp.).

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expenditure until the target date, arising from an ageing population.

([190]) While the baseline scenario (i.e. the "AWG reference scenario") focuses on the budgetary impact mostly due to projected demographic developments, the risk scenario attempts to quantify the uncertainty regarding future developments on healthcare and long-term care expenditure (see Chapter 2).

([191]) The S2 indicator shows the immediate and permanent adjustment required to satisfy an inter-temporal budgetary constraint, including the costs of ageing. The S2 indicator has two components: i) the initial budgetary position (IBP) which gives the gap to the debt stabilising primary balance; and ii) the additional adjustment required due to the costs of ageing. The main assumption used in the derivation of S2 is that in an infinite horizon, the growth in the debt ratio is bounded by the interest rate differential (i.e. the difference between the nominal interest and the real growth rates); thereby not necessarily implying that the debt ratio will fall below the EU Treaty 60% debt threshold.

Graph 7.13:   **Determinants of fiscal sustainability - Luxembourg**
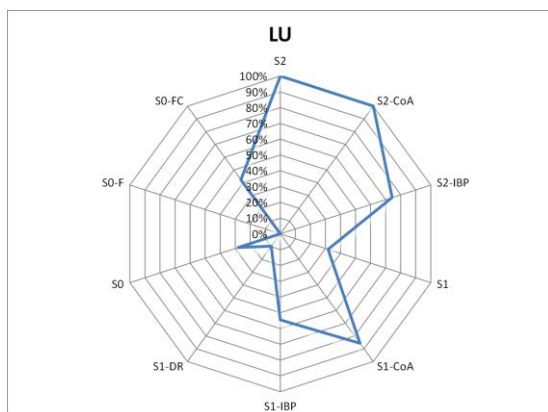
Note on interpretation: This chart allows for the comparison of countries on the basis of the main indicators that are taken into account: S0, S1 and S2 and their components. The scale for each variable corresponds to the range of the data in the EU (highest value of all countries: 100%, lowest: 0%). The higher the sustainability risks are, in relative terms, the higher are the values (closer to the outer area of the chart). Legend: COA: ageing cost component, IBP: Initial budgetary position component, DR: debt requirement component, F: fiscal subindex, FC: financial-competitiveness subindex.
Source: Commission services.

7.14. HUNGARY

7.14.1. OVERALL ASSESSMENT

Overall, Hungary appears not to face a risk of fiscal stress in the short term. Risks to fiscal sustainability are low also in the medium- and long-term perspective, conditional upon the full implementation of the planned ambitious fiscal consolidation and on maintaining the primary balance well beyond 2014 at the level expected to be reached in that year. Indeed, government debt (81.4% of GDP in 2011 and expected to fall to 76.8% in 2014) is above the 60% of GDP Treaty threshold. Risks would be much higher in the event of the structural primary balance reverting to lower values observed in the past, such as the average for the period 1998-2012. The focus should, therefore, be on reducing government debt.

Hungary needs to implement long-term sustainability enhancing policies equivalent to a permanent improvement of 0.5 pp. of GDP in the structural primary balance to close the fiscal gap according to the S2 indicator. This effort is well below the average improvement required for the EU as a whole (2.6 pp.), mainly reflecting the better ageing-cost component and, to a smaller extent, the initial budgetary position.

Under a no-policy-change assumption, debt would increase from 76.8% of GDP in 2014 to 77.9% in 2018 to then decrease to 53.1% in 2030.

The 2012 Ageing Report shows for Hungary a projected increase in total age-related public expenditure by 1.6 pp. of GDP over the years 2010-60 (EU average: +2.9 pp.). ([192])

7.14.2. DETAILED DESCRIPTION OF RESULTS

The S0 indicator is used to assess risks for fiscal stress in the following year. It is an "early-detection indicator" based on a wide list of economic indicators, covering fiscal, macrofinancial and competitiveness variables. ([193])

Based on the S0 indicator, Hungary does not appear to face short-term risks for fiscal stress. Nonetheless, some individual variables included in the S0 composite indicator are above critical values. These are, on the fiscal side, the net public debt and government's gross financing needs; on the competitiveness side, the net international investment position, and, with regard to the structure of private debt, the short-term debt of households and short-term debt of non-financial corporations. The real GDP growth rate in 2012 is also below its critical level.

The Hungarian government debt in 2014, the base year of the analysis, is forecasted to be 76.8% of GDP, down from 81.4% in 2011. The structural primary balance is forecasted to improve from -0.2 in 2011 to 1.6% in 2014.

The negative value (-0.4% of GDP) of the medium-term sustainability gap indicator, S1 ([194]), well below the EU average of 1.8% of GDP, is mainly reflecting the negative ageing-cost component.

Based on the budgetary position in 2014, using the Commission services' 2012 autumn forecasts, and the projected increase in age-related expenditure (2012 Ageing Report), Hungary has a long-term sustainability gap, S2 ([195]), of 0.5% of GDP, which

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([192]) The latest pension reform has been taken into account in the projections. Total age-related public expenditures have been updated accordingly after the publication of the 2012 Ageing Report. See Table 2.2.

([193]) The S0 indicator reflects up-to-date evidence on the role played by fiscal and financial-competitiveness variables in

creating potential fiscal risks. It should be stressed that the methodology for the S0 indicator is fundamentally different from the S1 and S2 indicators. S0 is not a quantification of the required fiscal adjustment effort like the S1 and S2 indicators, but a composite indicator which estimates the extent to which there might be a risk for fiscal stress in the short-term.

([194]) The S1 indicator shows the upfront adjustment effort required, in terms of a steady improvement in the structural primary balance to be introduced until 2020, and then sustained for a decade, to bring debt ratios back to 60% of GDP in 2030, including financing for any additional expenditure until the target date, arising from an ageing population.

([195]) The S2 indicator shows the immediate and permanent adjustment required to satisfy an inter-temporal budgetary constraint, including the costs of ageing. The S2 indicator has two components: i) the initial budgetary position (IBP) which gives the gap to the debt stabilising primary balance; and ii) the additional adjustment required due to the cost of ageing in present value terms. The main assumption used in the derivation of S2 is that in an infinite horizon the growth in the debt ratio is bounded by the interest rate differential (i.e. the difference between the nominal interest and the real growth rates); thereby not necessarily implying that the debt ratio will fall below the EU Treaty 60% debt threshold.

is well below the EU average (2.6%). The Hungarian sustainability gap mainly reflects the required adjustment due to the long-term cost of ageing (0.3 pp.), driven by the healthcare and long-term care component (1 pp.), partly offset by the pension expenditure component (-0.2 pp.) and the education and unemployment benefit expenditure component (-0.5 pp.) (see Table 6.1).

The recently legislated pension reform (in 2012) of the Hungarian defined-benefit (DB) public pension system abolishes almost all early retirement possibilities (with the exception for women with 40 contributory years) and introduces a price indexation mechanism. As a result, public pension expenditure is projected to increase only marginally in the long run (+0.5 pp. of GDP). The medium- and long-term sustainability challenge is accordingly rather low.

Considering the expected health care and long-term care expenditure increases in the medium-long term due to non-demographic drivers (in particular advances in medicine), as reflected in the AWG risk scenario ([196]), the required adjustment linked to the cost of ageing is higher (0.8 pp.), and the S2 sustainability gap increases to 1% of GDP.

In the 2009 Sustainability Report, the S2 gap was -0.1% of GDP. The difference between the results in the previous report and the current results (+0.6 pp.) stems from the significantly worsened initial budgetary position, partly offset by the better ageing cost component.

Graph 7.14: **Determinants of fiscal sustainability - Hungary**
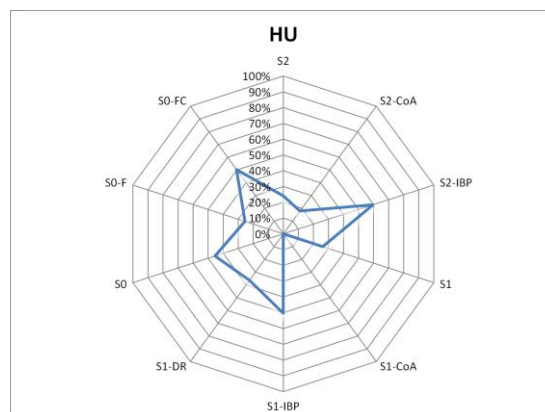
Note on interpretation: This chart allows for the comparison of countries on the basis of the main indicators that are taken into account: S0, S1 and S2 and their components. The scale for each variable corresponds to the range of the data in the EU (highest value of all countries: 100%, lowest: 0%). The higher the sustainability risks are, in relative terms, the higher are the values (closer to the outer area of the chart). Legend: COA: ageing cost component, IBP: Initial budgetary position component, DR: debt requirement component, F: fiscal subindex, FC: financial-competitiveness subindex.
Source: Commission services.

([196]) The AWG risk scenario assumes a more dynamic profile for health care and long-term care costs due to non-demographic drivers (in particular, advances in medicine).

7.15. MALTA

7.15.1. OVERALL ASSESSMENT

Malta does not appear to face a risk of fiscal stress in the short-term. The country is at medium sustainability risk in the medium- and long-term perspectives, mainly due to the budgetary impact of ageing costs. Government debt (70.9% of GDP in 2011 and expected to rise to 72.7% in 2014) is above the 60% of GDP threshold. Risks would be higher in the event of the structural primary balance reverting to lower values observed in the past, such as the average for the period 1998-2012. Both the medium- and long-term risk assessments would worsen from medium to high risk. The focus should, therefore, be on reducing government debt. Moreover, containing age-related expenditure growth further, including through pension reform, appears necessary so as to contribute to the sustainability of public finances in the long term.

Malta needs to implement long-term sustainability enhancing policies equivalent to a permanent improvement of 5.8 pp. of GDP in the primary balance to close the fiscal gap according to the S2 indicator. This is an effort above the average improvement required for the EU as a whole (+2.6 pp.), which reflects the projected larger rise in age-related expenditure in Malta relatively to the EU average, while the effort required on account of the initial budgetary position (+1.0 pp.) is also higher than on average in the EU (+0.5 pp.).

Under a no-policy change assumption, debt would increase to 75.2% of GDP in 2020 and 86.5% of GDP in 2030. To improve sustainability, it will be necessary to implement further reforms in the Maltese social security systems, particularly on pensions, to curb the projected long-term increase in age-related expenditure.

The 2012 Ageing Report shows a projected increase in total age-related public expenditure of 8.2 pp. of GDP over the years 2010-2060 (much above the EU average of 2.9 pp. of GDP). Expenditure increases by major age related expenditure components are: +5.5 pp. of GDP for pensions (+1.4 pp. in the EU) and +3.8 pp. for

healthcare and long-term care (+2.0 pp. in the EU). [197]

The projected increase in pension expenditure as a share of GDP accounts for more than half of the total increase in age-related expenditure between 2010 and 2060, reflecting, inter alia, the very gradual increase in the statutory retirement age (to 65 years of age only by 2027), together with a more dynamic indexation of the ceiling on pensionable income introduced in the 2006 pension reform, while there is no intention to establish a link between the effective retirement age and life expectancy.

7.15.2. DETAILED DESCRIPTION OF RESULTS

The S0 indicator is used to assess risks for fiscal stress in the following year. It is an "early-detection indicator" based on the processing of a wide list of economic indicators, covering fiscal, macrofinancial and competitiveness variables. [198] Overall, the indicator used to assess short-term risks for fiscal stress (S0) is below critical values, thereby not giving any early-warning of the presence of risks for 2013. [199] [200]

The Maltese government debt in 2014, the base year of the analysis, is forecast to be 72.7% of GDP (below the EU27 average of 88.8% of GDP), rising from 70.9% of GDP in 2011. The structural primary balance is forecast to increase from a deficit of 0.4 of GDP in 2011 to a surplus of 0.4 of GDP in 2014.

The medium-term sustainability gap (S1) [201] is +2.0% of GDP (baseline scenario), [202] which is

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[197] See Table 2.2.

[198] The S0 indicator reflects up-to-date evidence on the role played by fiscal and financial-competitiveness variables in creating potential fiscal risks. It should be stressed that the methodology for the S0 indicator is fundamentally different from the S1 and S2 indicators. S0 is not a quantification of the required fiscal adjustment effort like the S1 and S2 indicators, but a composite indicator which estimates the extent to which there might be a risk for fiscal stress in the short-term.

[199] S0 improved significantly since 2009.

[200] Although the sub-component of S0 related to financial and competiveness has a number of variables with figures above the safety thresholds, namely the private debt ratio, short-term debt of non-financial corporations, short-term debt of households, and the current account ratio.

[201] The S1 indicator shows the upfront adjustment effort required, in terms of a steady improvement in the structural primary balance to be introduced until 2020, and then

just slightly above the EU27 average of 1.8% of GDP, reflecting a relatively worse initial structural budgetary position. The S1 indicator calculated using the risk scenario suggests the need for a higher cumulated fiscal effort (+2.4 pp. of GDP), which is above the EU27 average (+2.2 pp. of GDP).

The long term sustainability analysis shows that on the basis of the budgetary position of 2014, using the 2012 Commission Services' autumn forecast, and the projected increase in age-related expenditure (2012 Ageing Report), Malta has a sustainability gap (S2) ([203]) of 5.8% of GDP, which is larger than the EU average (2.6%). The Maltese sustainability gap largely reflects the long-term cost of ageing (+4.9 pp. of GDP), which is driven by an increase in pensions (+3.0 pp.) and healthcare and long-term care (+2.4 pp.). The initial budgetary position in terms of the structural primary balance, giving the required adjustment to stabilise the debt ratio at the current value, adds 1.0 pp. of GDP to the required total adjustment effort (see Table 6.1).

Risks are considerable in the event of the structural primary balance falling below the last forecast value (2014) to the average for the period 1998-2012. In this scenario, the evaluation of the medium term risk would move Malta from medium to high risk (S1 increasing from 2.0 to 5.3), while the evaluation of the long-term risk would also worsen from medium to high (S2 increasing from 5.8 to 8.4).

Public pension expenditures in Malta are projected to increase sharply and clearly above the EU27 average in the long-run. This mainly results from the very gradual increase of the retirement age to 65 in the medium-term, the relatively high generosity of the pension system, as well as population ageing. Consequently, Malta shows increasing sustainability challenges in the medium- and long-run. To counterbalance these challenges, the 2012 Council recommendation called for immediate action to ensure the long-term sustainability of the pension system, comprising an increase in the effective retirement age, including through a significant acceleration of the progressive increase in the statutory retirement age and through a clear link between the statutory retirement age and life expectancy.

Considering risks associated with the dynamic growth in healthcare and long-term care expenditure due to non-demographic factors, such as the development of new drugs and treatments and/or the widening of healthcare systems' coverage, the sustainability gap (S2) in the risk scenario would amount to 7.7 pp. of GDP i.e. 1.9 pp. more than in the baseline scenario.

In the 2009 Sustainability Report, the S2 gap was 7.0% of GDP. The difference between the results of 2012 and 2009 (-1.2 pp.) reflects mainly the reduction in the long-term costs of ageing (-0.8 pp.).

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sustained for a decade, to bring debt ratios back to 60% of GDP in 2030, including financing for any additional expenditure until the target date, arising from an ageing population.

([202]) While the baseline scenario (i.e. the "AWG reference scenario") focuses on the budgetary impact mostly due to projected demographic developments, the risk scenario attempts to quantify the uncertainty regarding future developments on healthcare and long-term care expenditure (see Chapter 2).

([203]) The S2 indicator shows the immediate and permanent adjustment required to satisfy an inter-temporal budgetary constraint, including the costs of ageing. The S2 indicator has two components: i) the initial budgetary position (IBP) which gives the gap to the debt stabilising primary balance; and ii) the additional adjustment required due to the costs of ageing. The main assumption used in the derivation of S2 is that in an infinite horizon, the growth in the debt ratio is bounded by the interest rate differential (i.e. the difference between the nominal interest and the real growth rates); thereby not necessarily implying that the debt ratio will fall below the EU Treaty 60% debt threshold.

Graph 7.15:   **Determinants of fiscal sustainability - Malta**
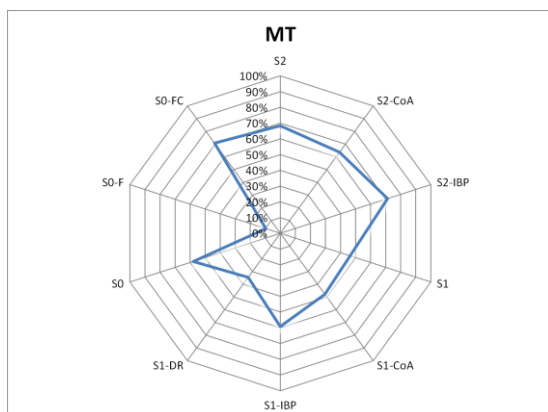
Note on interpretation: This chart allows for the comparison of countries on the basis of the main indicators that are taken into account: S0, S1 and S2 and their components. The scale for each variable corresponds to the range of the data in the EU (highest value of all countries: 100%, lowest: 0%). The higher the sustainability risks are, in relative terms, the higher are the values (closer to the outer area of the chart). Legend: COA: ageing cost component, IBP: Initial budgetary position component, DR: debt requirement component, F: fiscal subindex, FC: financial-competitiveness subindex.
Source: Commission services.

7.16. NETHERLANDS

7.16.1. OVERALL ASSESSMENT

The Netherlands does not face a risk of fiscal stress in the short-term. The country is at medium sustainability risk in the medium to long run, influenced by the cost of ageing. Government debt (65.5% of GDP in 2011 and expected to rise to 70.3% in 2014) is above the 60% of GDP Treaty threshold. Risks would be lower in the event of the structural primary balance reverting to higher values observed in the past, such as the average for the period 1998-2012. The focus should, therefore, be on reducing government debt. Moreover, further containing age-related expenditure growth appears necessary to contribute to the sustainability of public finances in the long term.

Indeed, the 2012 Ageing Report shows a projected increase in total age-related public expenditure by 5.7 pp. of GDP over the years 2010-60 (almost double the EU average of 2.9 pp. of GDP), highlighting risks to public finances related to a rapidly ageing society. [204] In particular, over the aforementioned period healthcare and long-term care spending is projected to rise by 4.8 pp. (against an EU average of 2.0 pp.), with the increase mainly due to the long-term care component displaying the highest projected increase among EU countries (+3.7 pp.). Public pension expenditure is projected to increase by 1.7 pp. of GDP (against an EU average of 1.4 pp.).

The country needs to implement long-term sustainability enhancing policies equivalent to a permanent improvement of 5.9 pp. of GDP in the structural primary balance to close the fiscal gap according to the S2 indicator. This effort is significantly above the average improvement required for the EU as a whole (2.6 pp.), reflecting both the worse ageing-cost component and the initial budgetary position.

Under a no-policy-change assumption, debt would increase from 70.3% of GDP in 2014 to 70.6% in 2020 and 93% in 2030. Efforts should therefore be made in order to ensure that the debt ratio is put on a downward path, progressively narrowing the gap with the 60% of GDP reference value.

Ensuring sufficient primary surpluses over the medium-term would improve the sustainability of public finances. The recent pension reform will contribute to containing age-related expenditure.

7.16.2. DETAILED DESCRIPTION OF RESULTS

The S0 indicator is used to assess risks for fiscal stress in the following year. It is an "early-detection" indicator based on a wide list of economic indicators, covering fiscal, macrofinancial and competitiveness variables. [205] Based on the S0 indicator, the Netherlands does not face short-term risks for fiscal stress. Nonetheless, some individual variables included in the S0 composite indicator are above critical values. These are, on the fiscal side, the primary balance, and variables related to the size and structure of private debt (private debt over GDP and gross short-term debt of households).

The Dutch government debt in 2014, the base year of the analysis, is forecast to be 70.3% of GDP, up from 65.5% in 2011, but still below the EU average of 88.8%. The structural primary deficit is forecast to improve from 1.4% of GDP in 2011 to 0.2% in 2014.

The medium-term sustainability gap indicator, S1 [206], is 2.2% of GDP, above the EU average of 1.8% of GDP, reflecting both the initial budgetary position and a larger required adjustment due to ageing costs.

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[204] The latest pension reform that was legislated after the publication of the 2012 Ageing Report has been taken into account in the projections. Total age-related public expenditures have been updated accordingly. See Table 2.2.

[205] The S0 indicator reflects up-to-date evidence on the role played by fiscal and financial-competitiveness variables in creating potential fiscal risks. It should be stressed that the methodology for the S0 indicator is fundamentally different from the S1 and S2 indicators. S0 is not a quantification of the required fiscal adjustment effort like the S1 and S2 indicators, but a composite indicator which estimates the extent to which there might be a risk for fiscal stress in the short-term.

[206] The S1 indicator shows the upfront adjustment effort required, in terms of a steady improvement in the structural primary balance to be introduced until 2020, and then sustained for a decade, to bring debt ratios back to 60% of GDP in 2030, including financing for any additional expenditure until the target date, arising from an ageing population.

Based on the budgetary position in 2014, using the Commission services' 2012 autumn forecasts, and the projected increase in age-related expenditure (2012 Ageing Report), the Netherlands has a long-term sustainability gap, S2 [207], of 5.9% of GDP, which is significantly above the EU average (2.6%). The Dutch sustainability gap mostly reflects the required adjustment due to the long-term cost of ageing (4 pp.), which is mainly driven by the healthcare and long-term care component (3.5 pp.), followed by the pension expenditure component (1 pp.), partly offset by the education and unemployment benefit expenditure component (-0.5 pp.). The required adjustment given the initial budgetary position is also substantial (2 pp.) (see Table 6.1).

The Netherlands has recently (in 2012) adopted a reform of its flat-rate first pillar pension scheme that introduces a gradual increase in the retirement age from 65 to 67 until 2023 and a link to gains in life expectancy thereafter. [208] As a result, projected pension expenditures increases are reduced substantially and will remain only slightly above the EU average in the long run. Nevertheless, according to the 2012 Council recommendation, the Netherlands should ensure that the reforms of the first pillar are also mirrored in the important second pillar occupational schemes so that reform effects can fully materialize.

Considering the expected health care and long-term care expenditure increases in the medium to long term due to non-demographic drivers (in particular advances in medicine), as reflected in

the AWG risk scenario [209], the required adjustment linked to the cost of ageing is higher (4.4 pp.), and the S2 sustainability gap increases to 6.3% of GDP.

In the 2009 Sustainability Report, the S2 gap for the Netherlands was 6.9% of GDP. The difference between the results in the previous report and the current results (-1 pp.) stems from the decreased required adjustment due to the long-term cost of ageing.

Graph 7.16:   **Determinants of fiscal sustainability - Netherlands**
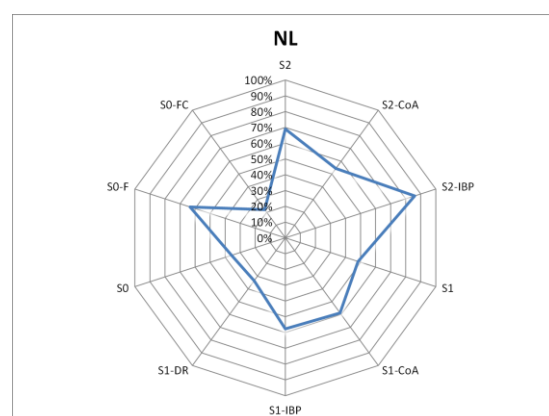
Note on interpretation: This chart allows for the comparison of countries on the basis of the main indicators that are taken into account: S0, S1 and S2 and their components. The scale for each variable corresponds to the range of the data in the EU (highest value of all countries: 100%, lowest: 0%). The higher the sustainability risks are, in relative terms, the higher are the values (closer to the outer area of the chart). Legend: COA: ageing cost component, IBP: Initial budgetary position component, DR: debt requirement component, F: fiscal subindex, FC: financial-competitiveness subindex.
Source: Commission services.

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[207] The S2 indicator shows the immediate and permanent adjustment required to satisfy an inter-temporal budgetary constraint, including the costs of ageing. The S2 indicator has two components: i) the initial budgetary position (IBP) which gives the gap to the debt stabilising primary balance; and ii) the additional adjustment required due to the cost of ageing in present value terms. The main assumption used in the derivation of S2 is that in an infinite horizon the growth in the debt ratio is bounded by the interest rate differential (i.e. the difference between the nominal interest and the real growth rates); thereby not necessarily implying that the debt ratio will fall below the EU Treaty 60% debt threshold.

[208] The new government has announced that the retirement age will increase to 67 in 2021 and then be linked to life expectancy, but this has not yet been legislated and is therefore not incorporated in the analysis.

[209] The AWG risk scenario assumes a more dynamic profile for health care and long-term care costs due to non-demographic drivers (in particular, advances in medicine).

7.17. AUSTRIA

7.17.1. OVERALL ASSESSMENT

Austria appears not to face a risk of fiscal stress in the short run. The country is at medium risk in the medium and long run due to the cost of ageing. Indeed, government debt (72.2% of GDP in 2011 and expected to rise to 75.1% in 2014) is above the 60% of GDP Treaty threshold. The focus should, therefore, be on reducing government debt. Moreover, containing age-related expenditure growth further would contribute to the sustainability of public finances in the long term.

The 2012 Ageing Report shows a projected increase in total age-related public expenditure of 4.4 pp. of GDP over the years 2010-2060 (above the EU average of 2.9 pp. of GDP). Expenditure increases by major age related expenditure components are: +2.0 pp. of GDP for pensions (+1.4 pp. in the EU) and +2.8 pp. for healthcare and long-term care (+2.0 pp. in the EU). ([210])

Austria needs to implement long-term sustainability enhancing policies equivalent to a permanent improvement of 4.1 pp. of GDP in the structural primary balance to close the fiscal gap according to the S2 indicator. This effort is above the average improvement required for the EU as a whole (2.6 pp.), reflecting the higher long-term cost of ageing.

In order to raise the effective retirement age, the Austrian authorities have recently (2012) enacted reforms to restrict access to the invalidity pension scheme and the early retirement scheme with deductions. The impact of these reforms has not been taken into account in the long-term budgetary projections. Nevertheless, given that the projected increase in age-related public expenditure is above the EU average, long-term public spending trends, mainly related to pensions and healthcare, should be further contained.

7.17.2. DETAILED DESCRIPTION OVERVIEW OF THE RESULTS

The S0 indicator is used to assess risks for fiscal stress in the following year. It is an "early-

detection indicator" based on a wide list of economic indicators, covering fiscal, macrofinancial and competitiveness variables. ([211]) Based on the S0, Austria does not appear to face short-term risks for fiscal stress. Nonetheless, some individual variables included in the S0 composite indicator are above critical values ([212]).

The Austrian government debt in 2014, the base year of the analysis, is forecasted to be 75.1% of GDP (below the EU average of 87.3%), up from 72.4% in 2011. The structural primary surplus is forecasted to increase from 0.3% of GDP in 2011 to 0.8% in 2014.

The medium-term sustainability gap indicator, S1 ([213]), is 2.6% of GDP for Austria, above the EU average of 1.8% of GDP.

Based on the budgetary position in 2014, using the Commission services' 2012 autumn forecasts, and the projected increase in age-related expenditure (2012 Ageing Report), Austria has a long-term sustainability gap, S2 ([214]), of 4.1% of GDP, which is above the EU average (2.6%). The main

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([210]) See Table 2.2.

([211]) The S0 indicator reflects up-to-date evidence on the role played by fiscal and financial-competitiveness variables in creating potential fiscal risks. It should be stressed that the methodology for the S0 indicator is fundamentally different from the S1 and S2 indicators. S0 is not a quantification of the required fiscal adjustment effort like the S1 and S2 indicators, but a composite indicator which estimates the extent to which there might be a risk for fiscal stress in the short-term.

([212]) Among the fiscal variables the primary balance is beyond its critical level. As regards financial-competitiveness indicators the leverage of financial institutions and short-term household debt pose risks for fiscal stress in the short term.

([213]) The S1 indicator shows the upfront adjustment effort required, in terms of a steady improvement in the structural primary balance to be introduced until 2020, and then sustained for a decade, to bring debt ratios back to 60% of GDP in 2030, including financing for any additional expenditure until the target date, arising from an ageing population.

([214]) The S2 indicator shows the immediate and permanent adjustment required to satisfy an inter-temporal budgetary constraint, including the costs of ageing. The S2 indicator has two components: i) the initial budgetary position (IBP) which gives the gap to the debt stabilising primary balance; and ii) the additional adjustment required due to the cost of ageing in present value terms. The main assumption used in the derivation of S2 is that in an infinite horizon the growth in the debt ratio is bounded by the interest rate differential (i.e. the difference between the nominal interest and the real growth rates); thereby not necessarily implying that the debt ratio will fall below the EU Treaty 60% debt threshold.

component of the Austrian long-term sustainability gap is the required adjustment due to the long-term cost of ageing (3.6 pp.), while the required adjustment to stabilise the debt ratio given the initial budgetary position is relatively small (0.5 pp.) (see Table 6.1).

Austria has recently introduced pension reform measures that restricts early and disability pension accessibility. These measures is likely to contribute to reduce public pension expenditure that is, according to Ageing Report 2012 figures, projected to increase slightly above EU average up to 2060 (though the actual impact of the reform remains to be quantified). In general, Austria shows rather medium sustainability challenges for its pension system in the medium- and long-run. To further restrict these challenges, several steps could be taken. In line with the 2012 Council recommendations, Austria should bring forward the harmonisation of the statutory retirement age between men and women and ensure that the effective retirement age is rising, including through linking the statutory retirement age to gains in life expectancy.

Considering the expected health care and long-term care expenditure increases in the medium-long term due to non-demographic drivers, (in particular advances in medicine), as reflected in the AWG risk scenario ([215]), the required adjustment linked to the cost of ageing is higher (4.6 pp.), and the S2 sustainability gap increases to 5.1% of GDP.

In the 2009 Sustainability Report, the S2 gap for Austria was 4.7% of GDP. The difference between the results in the previous report and the current results (-0.6 pp.) stems from the substantial improvement in the initial budgetary position (-1.1 pp.), while the long-term cost of ageing has increased (+0.5 pp.).

Graph 7.17: **Determinants of fiscal sustainability - Austria**
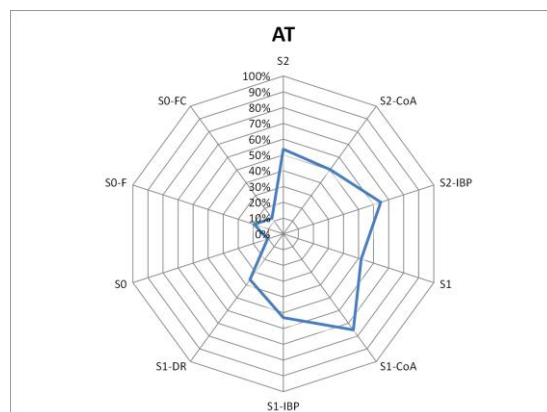
Note on interpretation: This chart allows for the comparison of countries on the basis of the main indicators that are taken into account: S0, S1 and S2 and their components. The scale for each variable corresponds to the range of the data in the EU (highest value of all countries: 100%, lowest: 0%). The higher the sustainability risks are, in relative terms, the higher are the values (closer to the outer area of the chart). Legend: COA: ageing cost component, IBP: Initial budgetary position component, DR: debt requirement component, F: fiscal subindex, FC: financial-competitiveness subindex.
Source: Commission services.

([215]) The AWG risk scenario assumes a more dynamic profile for health care and long-term care costs due to non-demographic drivers (in particular, advances in medicine).

7.18. POLAND

7.18.1. OVERALL ASSESSMENT

Overall, Poland appears not to face a risk of fiscal stress in the short run. The country is at medium sustainability risk in a medium-term perspective and at low risk in a long-term perspective, conditional upon the full implementation of the planned ambitious fiscal consolidation and on maintaining the primary balance well beyond 2014 at the level expected to be reached in that year. Government debt (56.4% of GDP in 2011 and expected to fall to 56.1% in 2014) is below the 60% of GDP Treaty threshold. Risks would be much higher in the event of the structural primary balance reverting to lower values observed in the past, such as the average for the period 1998-2012.

The 2012 Ageing Report shows a limited projected increase in total age-related public expenditure over the years 2010-60 (0.1 pp. of GDP, against an EU average of 2.9 pp. of GDP). In particular, over the aforementioned period healthcare and long-term care spending is projected to rise by 2.9 pp. (against an EU average of 2.0 pp.), while public pension expenditure is projected to decrease. (216)

Poland needs to implement long-term sustainability enhancing policies equivalent to a permanent improvement of 1.5 pp. of GDP in the structural primary balance to close the fiscal gap according to the S2 indicator. This effort is below the average improvement required for the EU as a whole (2.6 pp.), mainly reflecting the most favourable ageing-cost component.

Under a no-policy-change assumption, debt would decrease from 56.1% of GDP in 2014 to 53.4% in 2020, and then increase to 62% in 2030.

7.18.2. DETAILED DESCRIPTION OF RESULTS

The S0 indicator is used to assess risks for fiscal stress in the following year. It is an "early-detection indicator" based on a wide list of economic indicators, covering fiscal, macrofinancial and competitiveness variables. (217)

Based on the S0 indicator, Poland does not appear to face short-term risks for fiscal stress. Nonetheless, some individual variables included in the S0 composite indicator are above critical values for 2013. These are, on the fiscal side, the primary balance and, on the competitiveness side, the current account and the net international investment position. Short-term debt of households and construction in percentage of value added are also beyond their critical thresholds, though to a small extent.

The Polish government debt in 2014, the base year of the analysis, is forecasted to be 56.1% of GDP, down from 56.4% in 2011. The structural primary balance is forecasted to improve from a deficit of 2.4% in 2011 to a surplus of 1% in 2014.

The medium-term sustainability gap indicator, S1 is 0.1% of GDP, below the EU average of 1.8% of GDP, reflecting the smaller adjustment required to reach the Treaty reference debt ratio in a reasonable time span. (218)

Based on the budgetary position in 2014, using the Commission services' 2012 autumn forecasts, and the projected increase in age-related expenditure (2012 Ageing Report), Poland has a long-term sustainability gap, S2 (219), of 1.5% of GDP, which is below the EU average (2.6%). The Polish

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(216) See Table 2.2.
(217) The S0 indicator reflects up-to-date evidence on the role played by fiscal and financial-competitiveness variables in

creating potential fiscal risks. It should be stressed that the methodology for the S0 indicator is fundamentally different from the S1 and S2 indicators. S0 is not a quantification of the required fiscal adjustment effort like the S1 and S2 indicators, but a composite indicator which estimates the extent to which there might be a risk for fiscal stress in the short-term.

(218) The S1 indicator shows the upfront adjustment effort required, in terms of a steady improvement in the structural primary balance to be introduced until 2020, and then sustained for a decade, to bring debt ratios back to 60% of GDP in 2030, including financing for any additional expenditure until the target date, arising from an ageing population.

(219) The S2 indicator shows the immediate and permanent adjustment required to satisfy an inter-temporal budgetary constraint, including the costs of ageing. The S2 indicator has two components: i) the initial budgetary position (IBP) which gives the gap to the debt stabilising primary balance; and ii) the additional adjustment required due to the cost of ageing in present value terms. The main assumption used in the derivation of S2 is that in an infinite horizon the growth in the debt ratio is bounded by the interest rate differential (i.e. the difference between the nominal interest and the real growth rates); thereby not necessarily implying that the debt ratio will fall below the EU Treaty 60% debt threshold.

sustainability gap mainly reflects the required adjustment due to the long-term cost of ageing (1.1 pp.), exclusively driven by the healthcare and long-term care component (1.7 pp.), partly offset by the pension expenditure component (-0.6 pp.) (see Table 6.1).

Public pension expenditures in the Polish pension system are supposed to decrease in the long-run. The main reasons are the larger share of notional defined contribution (NDC) pensioners in comparison to defined-benefit (DB) system pensioners, restrictions in early retirement, as well as a shift from first pillar public pensions to mandatory private pillar schemes. Moreover, a recently adopted increase in the statutory retirement age to 67 in 2040 for both men and women will probably further decrease public pension expenditure in the long-run. As a consequence, sustainability challenges to the Polish pension system remain on the low side. Nevertheless, in line with the 2012 Council recommendation, Poland should further restrict early retirement options and take steps to integrate special schemes (e.g. for miners) in the general scheme.

Considering the expected health care and long-term care expenditure increases in the medium-long term due to non-demographic drivers (in particular advances in medicine), as reflected in the AWG risk scenario ([220]), the required adjustment linked to the cost of ageing is higher (2 pp.), and the S2 sustainability gap increases to 2.4% of GDP.

In the 2009 Sustainability Report, the S2 gap for Poland was 3.2% of GDP. The difference between the results in the previous report and the current results (-1.7 pp.) is determined by the significantly improved initial budgetary position, partly offset by the significantly increased required adjustment due to the long-term cost of ageing.

Graph 7.18:   **Determinants of fiscal sustainability - Poland**
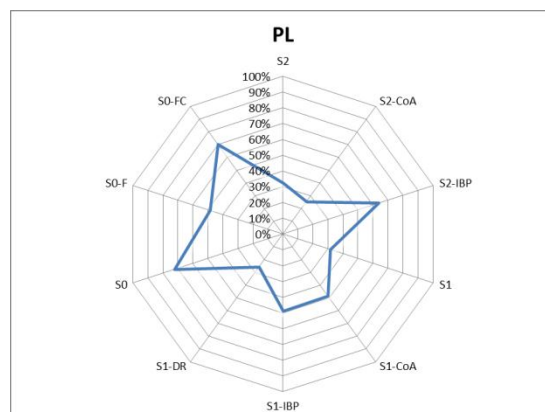
Note on interpretation: This chart allows for the comparison of countries on the basis of the main indicators that are taken into account: S0, S1 and S2 and their components. The scale for each variable corresponds to the range of the data in the EU (highest value of all countries: 100%, lowest: 0%). The higher the sustainability risks are, in relative terms, the higher are the values (closer to the outer area of the chart). Legend: COA: ageing cost component, IBP: Initial budgetary position component, DR: debt requirement component, F: fiscal subindex, FC: financial-competitiveness subindex.
Source: Commission services.

([220]) The AWG risk scenario assumes a more dynamic profile for health care and long-term care costs due to non-demographic drivers (in particular, advances in medicine).

7.19. ROMANIA

7.19.1. OVERALL ASSESSMENT

Romania appears not to face a risk of fiscal stress in the short run. The country is at low risk in a medium-term perspective, while being at medium risk in the long term. Government debt (33.4% of GDP in 2011 and expected to rise to 34.8% in 2014) is below the 60% of GDP threshold. Risks would be higher in the event of the structural primary balance reverting to lower values observed in the past, such as the average for the period 1998-2012. Containing age-related expenditure growth further appears necessary to contribute to the sustainability of public finances in the long term, and limit potential risks to fiscal sustainability from materialising in the short term.

Romania needs to implement long-term sustainability enhancing policies equivalent to a permanent improvement of 3.7 pp. of GDP in the primary balance to close the fiscal gap according to the S2 indicator. This is an effort above the average improvement required for the EU27 as a whole (+2.6 pp.), which reflects the projected higher increases in age-related expenditure in Romania relatively to the EU average, only partly offset by a more favourable initial budgetary position.

Under a no-policy change assumption, the debt ratio would start rising around 2020, although remaining well below the 60% of GDP reference value by 2030 (37.5%). Therefore, additional consolidation measures could be considered beyond the forecast horizon to curb growth in age related expenditure, particularly on pensions, and strengthening fiscal sustainability over the long-term.

The 2012 Ageing Report shows a projected increase in total age-related public expenditure of 5.4 pp. of GDP over the years 2010-2060 (above the EU average of 2.9 pp. of GDP). Expenditure increases by major age related expenditure components are: +3.7 pp. of GDP for pensions (+1.4 pp. in the EU) and +2.1 pp. for healthcare and long-term care (+2.0 pp. in the EU). (²²¹)

7.19.2. DETAILED DESCRIPTION OF RESULTS

The S0 indicator is used to assess risks for fiscal stress in the following year. It is an "early-detection indicator" based on the processing of a wide list of economic indicators, covering fiscal, macrofinancial and competitiveness variables. (²²²) The indicator used to assess short-term risks for fiscal stress (S0) dropped below critical values in 2012, although only marginally for the macrofinancial and competitiveness side of the economy. (²²³)

The Romanian government debt in 2014, the base year of the analysis, is forecast to increase to 34.8% of GDP from 33.4% of GDP in 2011, although the structural primary balance is forecast to markedly improve from a deficit of 2.3% of GDP in 2011 to a surplus of 0.7% in 2014.

The medium-term sustainability gap (S1) (²²⁴) is even negative (-1.4% of GDP in the baseline scenario), (²²⁵) reflecting the low debt to GDP ratio. The S1 indicator calculated using the risk scenario remains nearly unchanged (-1.2%), showing resilience to higher health care and long-term care expenditure.

The long-term sustainability analysis shows that on the basis of the budgetary position of 2014, using the 2012 Commission Services' autumn forecast, and the projected increase in age-related expenditure (2012 Ageing Report), Romania has a

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(²²¹) See Table 2.2.

(²²²) The S0 indicator reflects up-to-date evidence on the role played by fiscal and financial-competitiveness variables in creating potential fiscal risks. It should be stressed that the methodology for the S0 indicator is fundamentally different from the S1 and S2 indicators. S0 is not a quantification of the required fiscal adjustment effort like the S1 and S2 indicators, but a composite indicator which estimates the extent to which there might be a risk for fiscal stress in the short-term.

(²²³) A number of variables are still beyond critical values, namely the net international investment position, and the current account balance.

(²²⁴) The S1 indicator shows the upfront adjustment effort required, in terms of a steady improvement in the structural primary balance to be introduced until 2020, and then sustained for a decade, to bring debt ratios back to 60% of GDP in 2030, including financing for any additional expenditure until the target date, arising from an ageing population.

(²²⁵) While the baseline scenario (i.e. the "AWG reference scenario") focuses on the budgetary impact mostly due to projected demographic developments, the risk scenario attempts to quantify the uncertainty regarding future developments on healthcare and long-term care expenditure (see Chapter 2).

sustainability gap (S2) ([226]) of 3.7% of GDP, which is above the EU average (2.6%). The Romanian sustainability gap nearly entirely reflects the long-term cost of ageing (+3.6 pp.), which is driven by an increase in pensions (+2.4 pp.) and healthcare and long-term care (+1.3 pp.). The initial budgetary position in terms of the structural primary balance, giving the required adjustment to stabilise the debt ratio at the current value, is close to zero (+0.1 pp.) (see Table 6.1).

Risks are considerable in the event of the structural primary balance falling below the last forecast value (2014) to the average for the period 1998-2012. In this scenario, the evaluation of the medium term risk would move Romania from low to medium risk (S1 increasing from -1.4 to 1.5), while the evaluation of the long-term risk would remain medium (S2 increasing from 3.7 to 5.9).

According to Ageing Report 2012 figures, public pension expenditures in Romania are projected to increase more than 2 pp. above EU27 average until 2060. The reasons for that can be seen in an ageing population, the rather low retirement age in the long-run (65 for men, 63 for women) and the pure price indexation that is only applied after 2030. Moreover, the private mandatory funded scheme is still in an early stage and will only to a small extent be able to take over the financial burden of the first pillar public pensions in the future. As a consequence, sustainability challenges are assessed as medium risk in the long-run. Further reforms of the pension system with cost-saving effects would contribute to decrease this long-term challenge.

Considering risks associated with the dynamic growth in healthcare and long-term care expenditure due to non-demographic factors, such as the development of new drugs and treatments and/or the widening of healthcare systems' coverage, the sustainability gap (S2) in the risk

scenario would amount to 4.2 pp. of GDP i.e. more 0.5 pp. than in the baseline scenario.

In the 2009 Sustainability Report, the S2 gap was 9.1% of GDP. The difference between the results of 2012 and 2009 (-5.4 pp.) is due mainly to the improvement in the initial budgetary position (-4.1 pp.) supported by a reduction in the long-term costs of ageing (-1.3 pp.).

Graph 7.19:   **Determinants of fiscal sustainability - Romania**
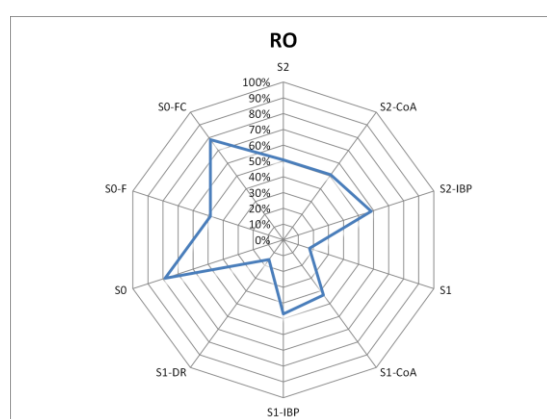
Note on interpretation: This chart allows for the comparison of countries on the basis of the main indicators that are taken into account: S0, S1 and S2 and their components. The scale for each variable corresponds to the range of the data in the EU (highest value of all countries: 100%, lowest: 0%). The higher the sustainability risks are, in relative terms, the higher are the values (closer to the outer area of the chart). Legend: COA: ageing cost component, IBP: Initial budgetary position component, DR: debt requirement component, F: fiscal subindex, FC: financial-competitiveness subindex.
Source: Commission services.

([226]) The S2 indicator shows the immediate and permanent adjustment required to satisfy an inter-temporal budgetary constraint, including the costs of ageing. The S2 indicator has two components: i) the initial budgetary position (IBP) which gives the gap to the debt stabilising primary balance; and ii) the additional adjustment required due to the costs of ageing. The main assumption used in the derivation of S2 is that in an infinite horizon, the growth in the debt ratio is bounded by the interest rate differential (i.e. the difference between the nominal interest and the real growth rates); thereby not necessarily implying that the debt ratio will fall below the EU Treaty 60% debt threshold.

7.20. SLOVENIA

7.20.1. OVERALL ASSESSMENT

Slovenia does not appear to face a risk of fiscal stress in the short-term. The country is at high sustainability risk in the medium and long term, mainly due to the budgetary impact of ageing costs. Government debt (46.9% of GDP in 2011) is expected to rise to 62.3% in 2014, above the 60% of GDP Treaty threshold. Risks would be higher in the event of the structural primary balance reverting to lower values observed in the past, such as the average for the period 1998-2012. The focus should, therefore, be on resolutely continuing to implement sustainability-enhancing measures that avert potential risks to fiscal sustainability. Further containing age-related expenditure growth, including through pension reform, appears necessary to contribute to the sustainability of public finances in the long term.

Indeed, the 2012 Ageing Report shows a high projected increase in total age-related public expenditure over the years 2010-60 (10.3 pp. of GDP, against an EU average of 2.9 pp. of GDP). In particular, over the aforementioned period public pension expenditure is projected to increase by 7.1 pp. of GDP (against an EU average of 1.4 pp.), while healthcare and long-term care spending is projected to rise by 2.7 pp. (against an EU average of 2.0 pp.). ([227])

Slovenia needs to implement long-term sustainability enhancing policies equivalent to a permanent improvement of 7.6 pp. of GDP in the structural primary balance to close the fiscal gap according to the S2 indicator. This effort is substantially above the average improvement required for the EU as a whole (2.6 pp.), mostly reflecting the least favourable ageing-cost component, and to a smaller extent, the worse initial budgetary position.

Under a no-policy-change assumption, debt would increase from 62.3% of GDP in 2014 to 75.5% in 2020 and 105.5% in 2030. Efforts should therefore be made in order to ensure that the debt ratio is put on a long-term downward path.

([227]) See Table 2.2.

7.20.2. DETAILED DESCRIPTION OF RESULTS

The S0 indicator is used to assess risks for fiscal stress in the following year. It is an "early-detection indicator" based on a wide list of economic indicators, covering fiscal, macrofinancial and competitiveness variables. ([228]) Short-term risks for fiscal stress do not appear to arise for Slovenia. Nonetheless, some variables are beyond critical levels in 2012. Among these are the primary balance and the stabilising primary balance on the fiscal side, as well as the real GDP growth rate and the interest rate-growth rate differential. Furthermore, risks may be more elevated than the S0 indicator might suggest due to the extent of existing government guarantees and the further contingent liabilities, particularly in the banking sector.

The Slovenian government debt in 2014, the base year of the analysis, is forecasted to be 62.3% of GDP, up from 46.9% in 2011, but still well below the EU average of 88.8%. The structural primary balance is forecasted to improve from a deficit of 2.8% in 2011 to a surplus of 0.1% in 2014.

The medium-term sustainability gap indicator, S1 ([229]), is at 3.2% of GDP, mainly due to the required adjustment to cope with ageing costs, but also to the initial budgetary position.

Based on the budgetary position in 2014, using the Commission services' 2012 autumn forecasts, and the projected increase in age-related expenditure (2012 Ageing Report), Slovenia has a long-term sustainability gap, S2 ([230]), of 7.6% of GDP, which

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([228]) The S0 indicator reflects up-to-date evidence on the role played by fiscal and financial-competitiveness variables in creating potential fiscal risks. It should be stressed that the methodology for the S0 indicator is fundamentally different from the S1 and S2 indicators. S0 is not a quantification of the required fiscal adjustment effort like the S1 and S2 indicators, but a composite indicator which estimates the extent to which there might be a risk for fiscal stress in the short-term.

([229]) The S1 indicator shows the upfront adjustment effort required, in terms of a steady improvement in the structural primary balance to be introduced until 2020, and then sustained for a decade, to bring debt ratios back to 60% of GDP in 2030, including financing for any additional expenditure until the target date, arising from an ageing population.

([230]) The S2 indicator shows the immediate and permanent adjustment required to satisfy an inter-temporal budgetary constraint, including the costs of ageing. The S2 indicator has two components: i) the initial budgetary position (IBP) which gives the gap to the debt stabilising primary balance;

is significantly above the EU average (2.6%). The Slovenian sustainability gap primarily reflects the required adjustment due to the long-term cost of ageing (6.6 pp.), mainly driven by the pension expenditure component (4.6 pp.) and, to a smaller extent, by the healthcare and long-term care component (1.7 pp.) (see Table 6.1).

Slovenia's defined-benefit (DB) public pension system shows the third highest projected pension expenditures increase in the long-run, according to 2012 Ageing Report figures. The main reasons are the relatively low retirement ages in the long run (63 for men, 61 for women), a generous wage indexation mechanism, easy accessibility to early retirement, as well as the demographic pressure in the upcoming decades. Consequently, Slovenia shows high sustainability challenges for its pension system in the long run. A currently debated pension reform might help to reduce pension expenditures in the short run. Yet, according to the 2012 Council Recommendation, several parameters of the pension system need to be tackled: an equalisation of statutory retirement ages for men and women; an increase in the effective retirement age, including through linking the statutory retirement age to life expectancy; a reduction of early retirement possibilities and a review of the pension indexation mechanism.

Considering the expected health care and long-term care expenditure increases in the medium-long term due to non-demographic drivers (in particular advances in medicine), as reflected in the AWG risk scenario [231], the required adjustment linked to the cost of ageing is slightly higher (6.9 pp.), and the S2 sustainability gap increases to 8% of GDP.

In the 2009 Sustainability Report, the S2 gap was 12.2% of GDP. The difference between the results in the previous report and the current results (-4.6

pp.) mainly stems from the required adjustment in the initial budgetary position (from 3.9 pp. in the 2009 Sustainability Report to the current 1.1 pp.), reinforced by the decreased required adjustment due to the long-term cost of ageing (from 8.3 pp.in the 2009 Sustainability Report to the current 6.6 pp.). [232]

Graph 7.20:   **Determinants of fiscal sustainability - Slovenia**
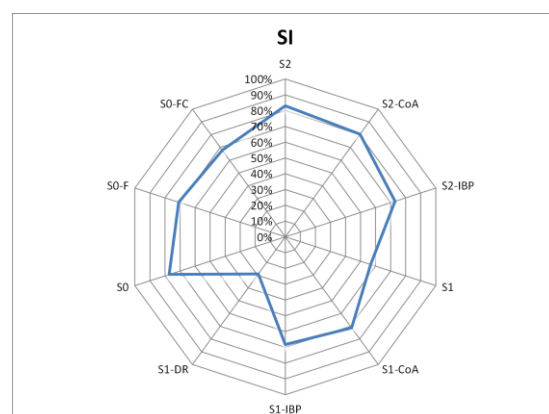
Note on interpretation: This chart allows for the comparison of countries on the basis of the main indicators that are taken into account: S0, S1 and S2 and their components. The scale for each variable corresponds to the range of the data in the EU (highest value of all countries: 100%, lowest: 0%). The higher the sustainability risks are, in relative terms, the higher are the values (closer to the outer area of the chart). Legend: COA: ageing cost component, IBP: Initial budgetary position component, DR: debt requirement component, F: fiscal subindex, FC: financial-competitiveness subindex.
Source: Commission services.

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and ii) the additional adjustment required due to the cost of ageing in present value terms. The main assumption used in the derivation of S2 is that in an infinite horizon the growth in the debt ratio is bounded by the interest rate differential (i.e. the difference between the nominal interest and the real growth rates); thereby not necessarily implying that the debt ratio will fall below the EU Treaty 60% debt threshold.

[231] The AWG risk scenario assumes a more dynamic profile for health care and long-term care costs due to non-demographic drivers (in particular, advances in medicine).

[232] The ratio of public pension expenditure to GDP in 2060 in the latest round of projections (Ageing Report 2012) is lower than in the previous round (2009). The main reason for this drop is however not based on substantial pension reform efforts during the last 3 years but rather on a different set of demographic projections (EUROPOP 2010).

7.21. SLOVAKIA

7.21.1. OVERALL ASSESSMENT

Slovakia does not appear to face a risk of fiscal stress in the short-term. Nonetheless, there are some indications that the fiscal side of the economy pose potential risks. The country is at medium sustainability risk in the medium run and at high risk in a long-term perspective, mainly due to the budgetary impact of ageing costs reflecting a rapidly ageing society, which has not been addressed in pension reforms prior to 2012. Government debt (43.3% of GDP in 2011 and expected to rise to 55.9% in 2014) is below the 60% of GDP Treaty threshold. Risks would be higher in the event of the structural primary balance reverting to more negative values observed in the past, such as the average for the period 1998-2012. The focus should therefore be on resolutely continuing to implement sustainability-enhancing measures that avert potential risks to sustainability from intensifying in the short term. In addition, based on the current calculations (which do not yet incorporate the latest changes in the PAYG pension scheme adopted in the summer of 2012), further containing age-related expenditure growth, including through pension reform, remains a priority, so as to contribute to the sustainability of public finances in the long term.

Indeed, the 2012 Ageing Report shows a significant projected increase in total age-related public expenditure over the years 2010-60 (7.5 pp. of GDP, against an EU average of 2.9 pp. of GDP). In particular, over the aforementioned period public pension expenditure is projected to increase by 5.2 pp. of GDP (against an EU average of 1.4 pp.), while healthcare and long-term care spending is projected to rise by 2.5 pp. (against an EU average of 2.0 pp.). [233]

Slovakia needs to implement long-term sustainability enhancing policies equivalent to a permanent improvement of 6.9 pp. of GDP in the structural primary balance to close the fiscal gap according to the S2 indicator. This effort is well above the average improvement required for the EU as a whole (2.6 pp.), reflecting the least

favourable ageing-cost component and the worse initial budgetary position.

Under a no-policy-change assumption, debt would increase from 55.9% of GDP in 2014 to 61.9% in 2020 and to 91.6% in 2030. Efforts should therefore be made to ensure that the debt ratio is put on a long-term downward path.

7.21.2. DETAILED DESCRIPTION OF RESULTS

The S0 indicator is used to assess risks for fiscal stress in the following year. It is an "early-detection indicator" based on a wide list of economic indicators, covering fiscal, macrofinancial and competitiveness variables. [234] Based on the S0 indicator, Slovakia does not appear to be at risk for fiscal stress in the short-term. However, the fiscal side of the economy still indicate potential challenges. Individual variables included in the S0 composite indicator that are above critical values are, on the fiscal side, the primary balance, the cyclically adjusted balance and the change in gross public debt, and, on the competitiveness side, the net international investment position. The leverage of financial corporations and construction in percentage of value added are also beyond their critical thresholds.

The government debt in 2014, the base year of the analysis, is forecast to be 55.9% of GDP, up from 43.3% in 2011, but still well below the EU average of 88.8%. The structural primary deficit is forecast to improve from 3.8% in 2011 to 0.8% in 2014.

The medium-term sustainability gap indicator, S1 [235], is 2.2% of GDP, due to both the ageing

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[233] See Table 2.2.

[234] The S0 indicator reflects up-to-date evidence on the role played by fiscal and financial-competitiveness variables in creating potential fiscal risks. It should be stressed that the methodology for the S0 indicator is fundamentally different from the S1 and S2 indicators. S0 is not a quantification of the required fiscal adjustment effort like the S1 and S2 indicators, but a composite indicator which estimates the extent to which there might be a risk for fiscal stress in the short-term.

[235] The S1 indicator shows the upfront adjustment effort required, in terms of a steady improvement in the structural primary balance to be introduced until 2020, and then sustained for a decade, to bring debt ratios back to 60% of GDP in 2030, including financing for any additional expenditure until the target date, arising from an ageing population.

cost component and the required adjustment given the initial budgetary position.

Based on the budgetary position in 2014, using the Commission services' 2012 autumn forecasts, and the projected increase in age-related expenditure (2012 Ageing Report) ([236]), Slovakia has a long-term sustainability gap, S2 ([237]), of 6.9% of GDP, which is far above the EU average (2.6%). The sustainability gap in Slovakia mainly reflects the required adjustment due to the long-term cost of ageing (5.1 pp.), driven by the pension expenditure component (3.5 pp.) and, to a smaller extent, by the healthcare and long-term care component (1.7 pp.).The required adjustment is also substantial given the initial budgetary position (1.8 pp.) (see Table 6.1).

Public pension expenditures in Slovakia are projected to increase far above the EU average in the long run, mainly due to demographic changes, relatively generous indexation and a statutory retirement age that was so far only expected to rise to 62. Consequently, Slovakia currently shows rather high sustainability challenges in its pension system in the medium and long run. To tackle this challenge, Slovakia has recently adopted adjustments to the PAYG pension pillar such as linking the pensionable age to life expectancy as of 2017, and a gradual shift to inflation-based indexation. These reform measures were not considered in the current assessment, but are expected to have a positive impact on the sustainability of the pension system and public finances in general (though the actual impact of the reform remains to be quantified). In line with the 2012 Council recommendation, Slovakia should moreover ensure the stability and viability of the fully funded pillar.

Considering the expected health care and long-term care expenditure increases in the medium-long term due to non-demographic drivers (in particular advances in medicine), as reflected in the AWG risk scenario ([238]), the required adjustment linked to the cost of ageing is higher (6.5 pp.), and the S2 sustainability gap increases to reach 8.3% of GDP.

In the 2009 Sustainability Report, the S2 gap was 7.4% of GDP. The difference between the results in the previous report and the current results (-0.5 pp.) mainly stems from the significantly smaller required adjustment related to the initial budgetary position, counterbalanced by the higher required adjustment due to the long-term cost of ageing.

Graph 7.21:   **Determinants of fiscal sustainability - Slovakia**
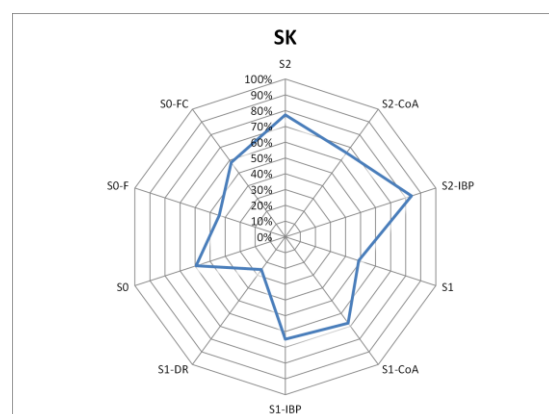
Note on interpretation: This chart allows for the comparison of countries on the basis of the main indicators that are taken into account: S0, S1 and S2 and their components. The scale for each variable corresponds to the range of the data in the EU (highest value of all countries: 100%, lowest: 0%). The higher the sustainability risks are, in relative terms, the higher are the values (closer to the outer area of the chart). Legend: COA: ageing cost component, IBP: Initial budgetary position component, DR: debt requirement component, F: fiscal subindex, FC: financial-competitiveness subindex.
Source: Commission services.

([236]) Pension expenditure projections take into account pension reforms legislated before December 2011.

([237]) The S2 indicator shows the immediate and permanent adjustment required to satisfy an inter-temporal budgetary constraint, including the costs of ageing. The S2 indicator has two components: i) the initial budgetary position (IBP) which gives the gap to the debt stabilising primary balance; and ii) the additional adjustment required due to the cost of ageing in present value terms. The main assumption used in the derivation of S2 is that in an infinite horizon the growth in the debt ratio is bounded by the interest rate differential (i.e. the difference between the nominal interest and the real growth rates); thereby not necessarily implying that the debt ratio will fall below the EU Treaty 60% debt threshold.

([238]) The AWG risk scenario assumes a more dynamic profile for health care and long-term care costs due to non-demographic drivers (in particular, advances in medicine).

7.22. FINLAND

7.22.1. OVERALL ASSESSMENT

Finland appears not to face a risk of fiscal stress in the short-term. The country is at medium sustainability risk in the medium and long run due to the budgetary impact of the cost of ageing. Government debt (49.0% of GDP in 2011 and expected to rise to 55.0% in 2014) is below the 60% of GDP Treaty threshold. Risks would be lower in the event of the structural primary balance reverting to higher values observed in the past, such as the average for the period 1998-2012. The focus should, therefore, be on containing age-related expenditure growth further so as to contribute to the sustainability of public finances in the medium and long term.

The 2012 Ageing Report shows a significant projected increase in total age-related public expenditure over the years 2010-60 (6.7 pp. of GDP, against an EU average of 2.9 pp. of GDP). In particular, over the aforementioned period public pension expenditure is projected to increase by 3.2 pp. of GDP (against an EU average of 1.4 pp.), while healthcare and long-term care spending is projected to rise by 3.5 pp. (against an EU average of 2.0 pp.). (^{239})

Finland needs to implement long-term sustainability enhancing policies equivalent to a permanent improvement of 5.8 pp. of GDP in the structural primary balance to close the fiscal gap according to the S2 indicator. This effort is significantly above the average improvement required for the EU as a whole (2.6 pp.), reflecting the worse ageing-cost component.

Under a no-policy-change assumption, debt would increase only slightly, from 55.0% of GDP in 2014 to 55.9% in 2020, but would thereafter increase rapidly reaching 91.5% in 2030. Efforts should therefore be made to ensure that the debt ratio is put on a long-term downward path.

In June 2011, a commitment to increase the effective retirement age to 62.4 years by 2025 was included in the government programme. In 2012, the social partners agreed: to raise the part-time

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pension age limit from 60 to 61 years; to limit early retirement, to raise pension contributions by 0.4% per year in 2015-2016 and to reinforce older workers' obligations to take part in activation measures and to carry out a pension reform no later than 1.1.2017. Nonetheless, additional measures that control expenditure increases in the health system and link the statutory retirement age with increases in life expectancy would further contribute to the long-term sustainability of public finances.

7.22.2. DETAILED DESCRIPTION OF THE RESULTS

The S0 indicator is used to assess risks for fiscal stress in the following year. It is an "early-detection indicator" based on a wide list of economic indicators, covering fiscal, macrofinancial and competitiveness variables. (^{240}) Based on the S0, Finland does not appear to face short-term risks for fiscal stress.

The Finnish government debt in 2014, the base year of the analysis, is forecasted to be 55.0% of GDP, up from 49.0% in 2011. The structural primary balance is forecasted to worsen from 1.4% of GDP in 2011 to 0.9% in 2014.

In order to attain the Maastricht debt ratio ceiling of 60% of GDP in 2030 the structural primary balance requires an improvement. An effort should therefore be made in order to ensure that the debt ratio does not exceed the 60% of GDP reference value.

This is reflected in the medium-term sustainability gap indicator, S1 (^{241}), which is 2.0% of GDP for Finland, slightly above the EU average of 1.8%,. The S1 sustainability gap is solely due to the

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(^{239}) See Table 2.2.

(^{240}) The S0 indicator reflects up-to-date evidence on the role played by fiscal and financial-competitiveness variables in creating potential fiscal risks. It should be stressed that the methodology for the S0 indicator is fundamentally different from the S1 and S2 indicators. S0 is not a quantification of the required fiscal adjustment effort like the S1 and S2 indicators, but a composite indicator which estimates the extent to which there might be a risk for fiscal stress in the short-term.

(^{241}) The S1 indicator shows the upfront adjustment effort required, in terms of a steady improvement in the structural primary balance to be introduced until 2020, and then sustained for a decade, to bring debt ratios back to 60% of GDP in 2030, including financing for any additional expenditure until the target date, arising from an ageing population.

substantial required adjustment due to ageing costs by 2030.

Based on the budgetary position in 2014, using the Commission services' 2012 autumn forecasts, and the projected increase in age-related expenditure (2012 Ageing Report), Finland has a long-term sustainability gap, S2 ([242]), of 5.8% of GDP, which is significantly above the EU average (2.6%). The Finnish sustainability gap is mainly due to the required adjustment due to the long-term cost of ageing (4.9 pp.) (see Table 6.1).

Finland's defined-benefit (DB) pension system shows a projected increase in public pension expenditures that is somewhat above EU average in the long-run, mainly due to demographic developments. Since 2010, a life-expectancy coefficient adjusts pensions upon retirement to the change in longevity. This helps to prevent even higher pension expenditures. As a result, Finland shows medium sustainability challenges to its pension system in the long run. To reduce these challenges, in June 2011, a commitment to increase the effective retirement age to 62.4 years by 2025 was included in the government programme. In 2012, the social partners agreed: to raise the part-time pension age limit from 60 to 61 years; to limit early retirement, to raise pension contributions by 0.4% per year in 2015-2016, to reinforce older workers' obligations to take part in activation measures and to carry out a pension reform no later than 1.1.2017. Nonetheless, additional measures that control expenditure increases in the health system and link the statutory retirement age with increases in life expectancy – in line with the 2012 Council recommendation – would further contribute to the long-term sustainability of public finances.

Considering the expected health care and long-term care expenditure increases in the medium-long term due to non-demographic drivers, (in particular advances in medicine), as reflected in the AWG risk scenario ([243]), the required adjustment linked to the cost of ageing is even higher (5.5 pp.), and the S2 sustainability gap increases to 6.4% of GDP.

In the 2009 Sustainability Report, the S2 gap was 4.0% of GDP. The difference between the results in the previous report and the current results (+1.8 pp.) stem from the increased required adjustment due to the initial budgetary position (+1.4 pp.) and the long-term cost of ageing (+0.4 pp.).

Graph 7.22: **Determinants of fiscal sustainability - Finland**
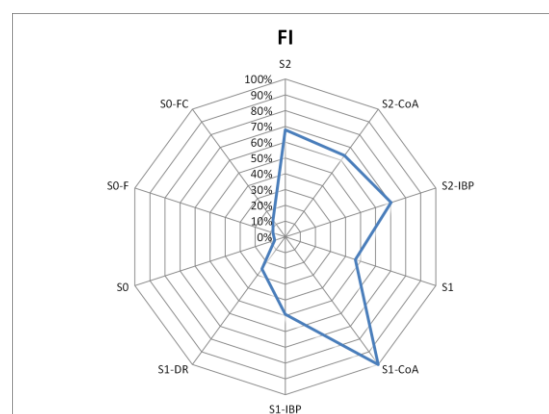
Note on interpretation: This chart allows for the comparison of countries on the basis of the main indicators that are taken into account: S0, S1 and S2 and their components. The scale for each variable corresponds to the range of the data in the EU (highest value of all countries: 100%, lowest: 0%). The higher the sustainability risks are, in relative terms, the higher are the values (closer to the outer area of the chart). Legend: COA: ageing cost component, IBP: Initial budgetary position component, DR: debt requirement component, F: fiscal subindex, FC: financial-competitiveness subindex.
Source: Commission services.

([242]) The S2 indicator shows the immediate and permanent adjustment required to satisfy an inter-temporal budgetary constraint, including the costs of ageing. The S2 indicator has two components: i) the initial budgetary position (IBP) which gives the gap to the debt stabilising primary balance; and ii) the additional adjustment required due to the cost of ageing in present value terms. The main assumption used in the derivation of S2 is that in an infinite horizon the growth in the debt ratio is bounded by the interest rate differential (i.e. the difference between the nominal interest and the real growth rates); thereby not necessarily implying that the debt ratio will fall below the EU Treaty 60% debt threshold.

([243]) The AWG risk scenario assumes a more dynamic profile for health care and long-term care costs due to non-demographic drivers (in particular, advances in medicine).

7.23. SWEDEN

7.23.1. OVERALL ASSESSMENT

Sweden appears not to face short-term, medium-term or long-term sustainability challenges. Government debt (38.4% of GDP in 2011 and expected to fall to 34.1% in 2014) is below the 60% of GDP Treaty threshold, providing the country with some fiscal space over the medium term. Risks would be lower in the event of the structural primary balance reverting to higher values observed in the past, such as the average for the period 1998-2012. Containing age-related expenditure growth further would contribute to the sustainability of public finances in the long term.

Sweden needs to implement long-term sustainability enhancing policies equivalent to a permanent improvement of 1.7 pp. of GDP in the structural primary balance to close the fiscal gap according to the S2 indicator. This effort is below the average improvement required for the EU as a whole (2.6 pp.), reflecting the better initial budgetary position.

The reformed pension system contributes to stable pension spending. Still, given the relatively high projected increase in total age-related expenditure (+3.8 pp. of GDP; EU: +2.9 pp.) ([244]), the focus should be put on containing long-term public spending trends, mainly care-related expenditure, in order to diminish the sustainability gap. Ensuring sufficient primary surpluses over the medium-term, as planned, contribute to the sustainability of public finances.

7.23.2. DETAILED DESCRIPTION OF THE RESULTS

The S0 indicator is used to assess short term risks for fiscal stress in the following year. It is an "early-detection indicator" based on a wide list of economic indicators, covering fiscal, macrofinancial and competitiveness variables. ([245])

Based on the S0, Sweden does not appear to face short-term sustainability challenges. Only private debt is above the critical value.

The medium and long-term sustainability analysis takes the last year of the Commission services forecast as a starting point (2014), reflecting a no-policy change assumption. The Swedish government debt in 2014, the base year of the analysis, is forecasted to be 34.1% of GDP, down from 38.4% in 2011 (significantly below the EU average of 88.8%). The structural primary surplus is forecasted to expand from 1.4% of GDP in 2011 to 1.7% in 2014.

The low debt ratio is reflected in the medium-term sustainability gap indicator, S1 ([246]), which is -3.6% of GDP, much below the EU average of 1.8%.

The long-term sustainability analysis shows that, based on the initial budgetary position (2014) and the projected trends in age related expenditure, Sweden has a long-term sustainability gap (S2 ([247])) of 1.7% of GDP. The adverse impact on the sustainability gap stemming from the long-term cost of ageing (2.7% of GDP, above the EU average of 2.2% of GDP), is partially offset by the strong initial budgetary position (IBP). Indeed, the IBP contributes to limit the sustainability gap (by 1 pp. of GDP) (see Table 6.1). The increase in the long-term cost of ageing (AWG reference scenario) is mainly driven by health-care and long-term care expenditure, while the ratio of pension

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([244]) See Table 2.2.

([245]) The S0 indicator reflects up-to-date evidence on the role played by fiscal and financial-competitiveness variables in creating potential fiscal risks. It should be stressed that the methodology for the S0 indicator is fundamentally different from the S1 and S2 indicators. S0 is not a quantification of the required fiscal adjustment effort like the S1 and S2 indicators, but a composite indicator which estimates the

extent to which there might be a risk for fiscal stress in the short-term.

([246]) The S1 indicator shows the upfront adjustment effort required, in terms of a steady improvement in the structural primary balance to be introduced until 2020, and then sustained for a decade, to bring debt ratios back to 60% of GDP in 2030, including financing for any additional expenditure until the target date, arising from an ageing population.

([247]) The S2 indicator shows the immediate and permanent adjustment required to satisfy an inter-temporal budgetary constraint, including the costs of ageing. The S2 indicator has two components: i) the initial budgetary position (IBP) which gives the gap to the debt stabilising primary balance; and ii) the additional adjustment required due to the cost of ageing in present value terms. The main assumption used in the derivation of S2 is that in an infinite horizon the growth in the debt ratio is bounded by the interest rate differential (i.e. the difference between the nominal interest and the real growth rates); thereby not necessarily implying that the debt ratio will fall below the EU Treaty 60% debt threshold.

expenditure to GDP is expected to be almost stable.

Public pension expenditure in the Swedish notional defined contribution (NDC) PAYG is projected to grow only marginally in the long run (+0.6 pp. of GDP up to 2060) thanks to the strong reform measures implemented in the 1990s in the field of pensions, with a system being robust to demographic change. The only moderate growth of the public pensions is partly explained by the growing importance of the mandatory fully funded private premium pension which leads to lower financial pressure in the first pillar. Moreover, the NDC nature of the public pension system guarantees that pension annuities are adjusted to life expectancy changes at the date of retirement. Consequently, sustainability challenges in the Swedish pension system remain low in the medium- and long-run.

Considering the additional expected health care and long-term care expenditure increases in the medium- to long-term due to non-demographic drivers, in particular advances in medicine (as reflected in the AWG "risk scenario" ([248])), the cost of ageing is higher (0.4 pp. of GDP higher than the baseline).

In the 2009 Sustainability Report, the S2 gap was 1.8% of GDP, close to that estimated in this report. Looking at the components, the initial budgetary position is much stronger (+1.2 pp.), while the component of the long-term cost of ageing is now higher by broadly the same magnitude, largely due to higher projected expenditure for health care and long-term care.

Graph 7.23: **Determinants of fiscal sustainability - Sweden**
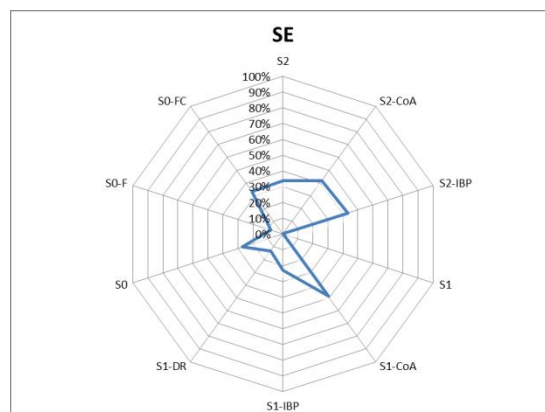
Note on interpretation: This chart allows for the comparison of countries on the basis of the main indicators that are taken into account: S0, S1 and S2 and their components. The scale for each variable corresponds to the range of the data in the EU (highest value of all countries: 100%, lowest: 0%). The higher the sustainability risks are, in relative terms, the higher are the values (closer to the outer area of the chart). Legend: COA: ageing cost component, IBP: Initial budgetary position component, DR: debt requirement component, F: fiscal subindex, FC: financial-competitiveness subindex.
Source: Commission services.

([248]) The AWG risk scenario assumes a more dynamic profile for health care and long-term care costs due to non-demographic drivers.

7.24. UNITED KINGDOM

7.24.1. OVERALL ASSESSMENT

The United Kingdom does not appear to face a risk of fiscal stress in the short-term. Nonetheless, there are some indications that the fiscal side of the economy pose potential risks. Sustainability risks appear to be high in the medium term, while being at medium in the long run, influenced by the cost of ageing. Indeed, government debt (85% of GDP in 2011 and expected to rise to 95.1% in 2014) is above the 60% of GDP Treaty threshold. Risks would be lower in the event of the structural primary balance reverting to higher values observed in the past, such as the average for the period 1998-2012. The focus should, therefore, be on resolutely continuing to implement sustainability-enhancing measures that avert potential risks to fiscal sustainability from materializing in the short term. In addition, government debt needs to be reduced. Moreover, containing age-related expenditure growth further would contribute to the sustainability of public finances in the long term.

The United Kingdom needs to implement long-term sustainability enhancing policies equivalent to a permanent improvement of 5.2 pp. of GDP in the primary balance to close the fiscal gap according to the S2 indicator. This is a higher effort than for the average improvement required for the EU as a whole (+2.6 pp.), mainly influenced by an unfavourable initial budgetary position and a long-term cost of ageing close to the EU average.

7.24.2. DETAILED DESCRIPTION OF THE RESULTS

The S0 indicator is used to assess short term risks for fiscal stress in the following year. It is an "early-detection indicator" based on a wide list of economic indicators, covering fiscal, macrofinancial and competitiveness variables. [249]

Based on the S0, the UK does not appear to be at risk for fiscal stress in a short-term perspective. However, the fiscal side of the economy still indicate potential challenges. [250] Variables measuring the size of public debt (net debt to GDP), together with primary balance (both actual and cyclical adjusted) are pointing to risks for 2013.

The UK's government debt in 2014, the base year of the analysis, is forecast to increase to 95.1% of GDP from 85% of GDP in 2011, although the structural primary deficit is forecast to narrow from 3.5% of GDP in 2011 to 1.5% in 2013.

The medium term sustainability gap indicator (S1) [251] of +5% of GDP, which is above the EU average of 1.8% of GDP, reflecting both a relatively worse initial structural budgetary position, together with a slightly above the EU average effort required to reduce the debt ratio to 60% of GDP by 2030.

The long-term sustainability analysis shows that on the basis of the budgetary position in 2014, using the 2012 Commission Services' autumn forecast, and the projected increase in age-related expenditure (2012 Ageing Report), the UK has a sustainability gap (S2 [252]) of 5.2% of GDP, which is above the EU average (2.6%). The sustainability gap reflects both the long term cost of ageing and the initial budgetary position. The long-term cost of ageing is projected to increase by +2.6 pp. of GDP, driven by an increase in

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[249] The S0 indicator reflects up-to-date evidence on the role played by fiscal and financial-competitiveness variables in creating potential fiscal risks. It should be stressed that the methodology for the S0 indicator is fundamentally different from the S1 and S2 indicators. S0 is not a quantification of the required fiscal adjustment effort like the S1 and S2 indicators, but a composite indicator which estimates the extent to which there might be a risk for fiscal stress in the short-term.

[250] As regards financial-competitiveness indicators, private sector and household indebtedness are above critical values.

[251] The S1 indicator shows the upfront adjustment effort required, in terms of a steady improvement in the structural primary balance to be introduced until 2020, and then sustained for a decade, to bring debt ratios back to 60% of GDP in 2030, including financing for any additional expenditure until the target date, arising from an ageing population.

[252] The S2 indicator shows the immediate and permanent adjustment required to satisfy an inter-temporal budgetary constraint, including the costs of ageing. The S2 indicator has two components: i) the initial budgetary position (IBP) which gives the gap to the debt stabilising primary balance; and ii) the additional adjustment required due to the cost of ageing in present value terms. The main assumption used in the derivation of S2 is that in an infinite horizon the growth in the debt ratio is bounded by the interest rate differential (i.e. the difference between the nominal interest and the real growth rates); thereby not necessarily implying that the debt ratio will fall below the EU Treaty 60% debt threshold.

healthcare and long-term care (+1.3 pp.), and pensions (+1.2 pp.) (see Table 6.1). The unfavourable initial budgetary position in terms of the structural primary balance implies that the required adjustment to stabilise the debt ratio at the current value is +2.6 pp.

The first pillar State Pension in the UK – consisting of a flat-rate component, an earnings-related part as well as a means-tested pension credit – shows only a moderate projected expenditure increase (+1.5 pp. of GDP up to 2060). While demographic trends and a very generous indexation approach push expenditures upwards, the increase in the retirement age to 68 by 2046 will help to reduce eligibility of the pension system and thus restrict pension spending in the long-run. As a result, sustainability challenges to the pension system in the long-run are close to that of the EU as a whole.

Considering the risks associated with the dynamic growth in healthcare and long-term care expenditure due to non-demographic factors, such as the development of new drugs and treatments and/or the widening of healthcare systems' coverage, the sustainability gap (S2) in the AWG risk scenario would amount to 5.7 pp. of GDP, i.e. 0.5 pp. more than in the baseline scenario.

In the 2009 Sustainability Report, the S2 gap was 12.4% of GDP. The difference between the results in the previous report and the current results (-7.2 pp.) stems mainly from the significant improvement of the initial budgetary position (-6.2 pp.). In addition, the component of the long-term cost of ageing is lower, by 1 pp. of GDP, influenced by the recent pension reforms.

Graph 7.24:   **Determinants of fiscal sustainability - United Kingdom**
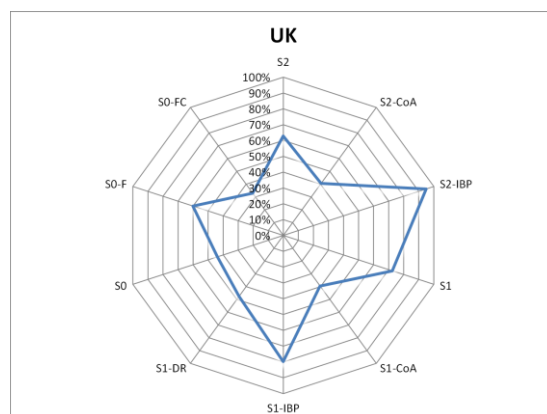
Note on interpretation: This chart allows for the comparison of countries on the basis of the main indicators that are taken into account: S0, S1 and S2 and their components. The scale for each variable corresponds to the range of the data in the EU (highest value of all countries: 100%, lowest: 0%). The higher the sustainability risks are, in relative terms, the higher are the values (closer to the outer area of the chart). Legend: COA: ageing cost component, IBP: Initial budgetary position component, DR: debt requirement component, F: fiscal subindex, FC: financial-competitiveness subindex.
Source: Commission services.

8. ANNEXES

8.1. DERIVATION OF THE S1, S2 AND INW INDICATORS

t: year's index.

t_0: year preceding the start of the projection.

$t0 + 1$: start of the fiscal adjustment.

$t1$: end of the fiscal adjustment (relevant for S1).

t_2: target year for the debt (relevant for S1).

t_3: defines the end of the projection period (e.g. 2060).

With $t_0 < t_1 < t_2 < t_3$.

D_t: debt-to-GDP ratio.

PB_t: ratio of structural primary balance-to-GDP.

$\Delta PB_t \equiv PB_t - PB_{t_0}$: change in the structural primary balance relative to the base year (i.e. t_0).

$\Delta A_t \equiv A_t - A_{t_0}$: change in age-related costs relative to the base year (i.e. t_0).

c: the annual increase in the primary structural balance between t_{0+1} and t_1 (with $t_{0+1} < t_1 < t_2$).

$S_1 \equiv c(t1 - t_0)$ defines the S1 indicator as the total adjustment.

r: differential between the nominal interest rate and the nominal GDP growth rate i.e.

$$1 + r = \frac{1+R}{1+G}$$ where R and G are respectively the nominal interest rate and the nominal growth rate.

In case the interest rate / growth rate differential is time varying we consider:

$\alpha_{s;v} \equiv (1 + r_{s+1})(1 + r_{s+2}) \ldots (1 + r_v)$ as the accumulation factor that transforms 1 unit in period s to period v.

It should be noted that the actual calculations of S1 and S2 indicators also includes propriety income and tax revenue on pensions, although they are not explicitly included in the derivations in order to simplify them and facilitate the interpretation of results. Their inclusion would be trivial, implying "adding" terms to the formulas similar to that for "ageing costs".

Derivation of the S1 indicator ([253])

Let us assume that the consolidation effort increases at a yearly constant rate ($c>0$), between periods t_{0+1} (inclusive) and t_1 (inclusive), thereafter being kept constant.

$$\Delta PB_i \equiv PB_i - PB_{t_0} = c(i - t_0) - \Delta A_i \qquad for\ t_0 < i \le t_1 \tag{1i}$$

$$\Delta PB_i \equiv PB_i - PB_{t_0} = c(t_1 - t_0) - \Delta A_i \qquad for\ t_2 \ge i > t_1 \tag{1ii}$$

The debt ratio target $Dt2$ can be written as: ([254])

$$D_{t_2} = D_{t_0}\alpha_{t_0;t_2} - \sum_{i=t_0+1}^{t_2}\left(PB_i \alpha_{i;t_2}\right) \tag{2}$$

Replacing (1) into (2):

$$D_{t_2} = D_{t_0}\alpha_{t_0;t_2} - \sum_{i=t_0+1}^{t_1}\left(PB_{t_0} + c(i - t_0)\right)\alpha_{i;t_2}$$

$$-\sum_{i=t_1+1}^{t_2}\left(PB_{t_0} + c(t_1 - t_0)\right)\alpha_{i;t_2} + \sum_{i=t_0+1}^{t_2}\left(\Delta A_i \alpha_{i;t_2}\right) \tag{3}$$

After some straightforward manipulations (basically rearranging terms), ([255]) we can

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([253]) The S1 indicator shows the upfront adjustment effort required, in terms of a steady improvement in the structural primary balance to be introduced until t1, to bring the debt ratio back to a given level in t2, including financing for any additional expenditure until the target date, arising from an ageing population.

([254]) Taking first differences of (2), the usual debt dynamic equation is obtained: $D_t = (1 + r_t)D_{t-1} - PB_t$.

([255]) In addition, constant multiplicative terms are systematically taken out of summation signs.

breakdown S1 into the following main components:

$$S_1 \equiv \underbrace{c(t_1 - t_0)}_{T} = \underbrace{\frac{D_{t_0}(\alpha_{t_0;t_2} - 1)}{\sum_{i=t_0+1}^{t_2}(\alpha_{i;t_2})} - PB_{t_0}}_{A}$$

$$+ c\underbrace{\frac{\sum_{i=t_0+1}^{t_1}\left((t_1 - i)\alpha_{i;t_2}\right)}{\sum_{i=t_0+1}^{t_2}(\alpha_{i;t_2})}}_{B}$$

$$+ \underbrace{\frac{D_{t_0} - D_{t_2}}{\sum_{i=t_0+1}^{t_2}(\alpha_{i;t_2})}}_{C} + \underbrace{\frac{\sum_{i=t_0+1}^{t_2}(\Delta A_i \alpha_{i;t_2})}{\sum_{i=t_0+1}^{t_2}(\alpha_{i;t_2})}}_{D}$$

(4)

where (T) is the total adjustment (the S1 indicator by definition); (A) the strict initial budgetary position (i.e. the gap to the debt-stabilizing primary balance); (B) the cost of delaying the adjustment; (C) the required additional adjustment due to the debt target (DR); and (D) the additional required adjustment due to the costs of ageing (CoA). The total initial budgetary position (IBP) is the sum of A and B i.e. includes the cost of delaying the adjustment.

Derivation of the S2 indicator

S2 assumes both an infinite horizon and a constant adjustment effort. This indicator is appropriate to assess the long-term fiscal sustainability in face of ageing costs. (^{256})

Let us assume that the required adjustment (S2) is immediate and constant i.e. starting at t0+1 and pursuing indefinitely:

$$\Delta PB_i \equiv PB_i - PB_{t_0} = S_2 - \Delta A_i \quad for \; i > t_0$$

(5)

Recall the solution to the debt dynamic equation:

$$D_t = D_{t_0}\alpha_{t_0;t} - \sum_{i=t_0+1}^{t}\left(\text{PB}_i \alpha_{i;t}\right)$$

(6i)

Let us take limits of the solution to the debt dynamic equation:

$$D_{t_0} = \lim_{t \to \infty}\left(\frac{D_t}{\alpha_{t_0;t}}\right) + \lim_{t \to \infty}\sum_{i=t_0+1}^{t}\left(\frac{\text{PB}_i}{\alpha_{t_0;i}}\right)$$

(6ii)

Either both limits of the two right-hand-side terms of equation 6ii fail to exist, or if one of them exists, so does the other. (^{257}) This reflects the equivalence between the no-Ponzi game condition and (satisfying) an intertemporal budget constraint.

Let us assume that the no-Ponzi game condition (also called transversality condition) for debt sustainability is satisfied, namely that the discounted present value of debt (in the very long-term or in the infinite horizon) will tend to zero. This essentially means that the government does not serve its debt (principal and interest) by issuing new debt on a regular basis.

$$\lim_{t \to \infty}\left(\frac{D_t}{\alpha_{t_0;t}}\right) = 0$$

(6iii)

Condition 6iii means that, over the very long-term, the present value of debt must decline towards zero, implying that asymptotically, the debt ratio cannot growth at a rate equal or higher than the (growth-adjusted) interest rate, which is what would happen if debt and interest were systematically paid by issuing new debt (i.e. a Ponzi game).

Assuming the no-Ponzi game condition (6iii) and replacing (5) into (6ii), one obtains the intertemporal budget constraint: (^{258})

(^{256}) Note that the derivation of S2 does not assume that either the initial sequence of primary balances or the fixed annual increase (S2) are optimal according to some criterion. S2 should be considered as a benchmark and not as a policy recommendation or as a measure of the actual adjustment needed in any particular year.

(^{257}) Escolano J. (2010), "A practical guide to public debt dynamics, fiscal sustainability, and cyclical adjustment of budgetary aggregates", Fiscal Affairs Department, IMF.

(^{258}) Equivalently, using the intertemporal budget constraint (7) into (6ii) one obtains the no-Ponzi game condition (6iii).

$$D_{t_0} = \lim_{t \to \infty} \sum_{i=t_0+1}^{t} \left(\frac{\text{PB}_i}{\alpha_{t_0;i}} \right) = \sum_{i=t_0+1}^{\infty} \left(\frac{\text{PB}_{t_0} + S_2 - \Delta A_i}{\alpha_{t_0;i}} \right)$$

$$(7)$$

According to the theory on the convergence of series, necessary conditions for the series in equation 7 to converge are for the primary balance to be bounded and the interest rate differential in the infinite horizon to be positive. [259] The latter is equivalent to the modified golden rule, stating that the nominal interest rate exceeds the real growth rate (i.e. $\lim_{t \to \infty} r_t > 0$). [260]

After some rearranging, [261] we can breakdown S2 into the following two components:

$$S_2 = \underbrace{\frac{D_{t_0}}{\sum_{i=t_0+1}^{\infty} \left(\frac{1}{\alpha_{t_0;i}} \right)} - \text{PB}_{t_0}}_{A} + \underbrace{\frac{\sum_{i=t_0+1}^{\infty} \left(\frac{\Delta A_i}{\alpha_{t_0;i}} \right)}{\sum_{i=t_0+1}^{\infty} \left(\frac{1}{\alpha_{t_0;i}} \right)}}_{B}$$

$$(8)$$

where (A) is the initial budgetary position i.e. the gap to the debt stabilising primary balance; and (B) the additional required adjustment due to the costs of ageing.

If $\alpha_{s;v} \equiv (1 + r_{s+1})(1 + r_{s+2}) \dots (1 + r_v) = (1 + r)^{v-s}$ is a product of constants, then equation 8 can be simplified further, by noting that:

$$\sum_{i=t_0+1}^{\infty} \left(\frac{1}{\alpha_{t_0;i}} \right) = \sum_{i=t_0+1}^{\infty} \left(\frac{1}{(1+r)^{i-t_0}} \right) = \frac{1}{r}$$

$$(9)$$

For a constant discounting factor, (8) can be written as:

$$S_2 = \underbrace{r D_{t_0} - \text{PB}_{t_0}}_{A} + \underbrace{r \sum_{i=t_0+1}^{\infty} \left(\frac{\Delta A_i}{\alpha_{t_0;i}} \right)}_{B}$$

$$(10)$$

Derivation of the steady state debt level (at the end of the projection period) corresponding to S2

Assuming that the intertemporal budget constraint is satisfied and that the primary balance and the interest rate differential are constant at their stationary levels (after the end of the projection period), then the debt ratio remains constant at the value attained at the end point of the projection period. Where t_3 defines the end of the projection period.

Using the lag operator, [262] the debt dynamic equation can be written as:

$$D_t = \left(1 + r_{t_3} \right) D_{t-1} - \text{PB}_t =$$
$$- \frac{\text{PB}_t}{1 - (1 + r_{t_3})L} \quad for \quad t \geq t_3 - 1$$

$$(11)$$

where L is the lag operator. As $\left(1 + r_{t_3} \right) > 1$, the term $\frac{1}{1 - (1 + r_{t_3})L}$ is usually written as $- \frac{(1 + r_{t_3})^{-1} L^{-1}}{1 - (1 + r_{t_3})^{-1} L^{-1}}$ and expanded as the infinite geometric progression:

$$\frac{1}{1 - (1 + r_{t_3})L} = - \frac{(1 + r_{t_3})^{-1} L^{-1}}{1 - (1 + r_{t_3})^{-1} L^{-1}} = -\left(1 + r_{t_3} \right)^{-1} L^{-1} \left[1 + \left(1 + r_{t_3} \right)^{-1} L^{-1} + \left(1 + r_{t_3} \right)^{-2} L^{-2} + \cdots + \right]$$

$$(11i)$$

Replacing 11i into 11:

$$D_t = \frac{\text{PB}_{t+1}}{1 + r_{t_3}} + \frac{\text{PB}_{t+2}}{(1 + r_{t_3})^2} + \frac{\text{PB}_{t+3}}{(1 + r_{t_3})^3} + \cdots + = \sum_{i=1}^{\infty} \frac{\text{PB}_{t+i}}{(1 + r_{t_3})^i}$$

$$(12)$$

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[259] The latter is an application of the convergence ratio test.
[260] The modified golden rule derives from efficiency considerations of the growth path and the preference of economic agents for current versus future consumption (see Blanchard and Fischer (1989), Chapter 2, pp. 45).
[261] In addition, constant multiplicative terms are systematically taken out of summation signs.

[262] The lag operator, L, is defined by the transformation $L^n y_t = y_{t-n}$, where n can be any integer (positive or negative). The lag operator can be manipulated in a similar way to any algebraic quantity, playing an extremely useful role in carrying out algebraic manipulations in time series analysis (see Harvey (1981), "Time Series Models", John Wiley & Sons, New York).

Recall that after t_3, the primary balance and interest rate differential are constant, then the debt ratio is also constant and given by:

$$\overline{\overline{D}} \equiv D_t = \sum_{i=1}^{\infty}\left(\frac{\text{PB}_{t_3+i}}{(1+r_{t_3})^i}\right) =$$

$$\text{PB}_{t_3} \sum_{i=1}^{\infty}\left(\frac{1}{(1+r_{t_3})^i}\right) = \frac{\text{PB}_{t_3}}{r_{t_3}} \quad for \quad t \geq t_3 - 1$$

$$(12\text{ii})$$

where $\overline{\overline{D}}$ is the constant debt ratio after the end of the projection period.

Using (5), at the end of the projection period, the primary balance can be calculated as:

$$PB_{t_3} = PB_{t_0} + S_2 - \Delta A_{t_3}$$

$$(13)$$

Replacing (13) into (12ii), the constant (steady-state) debt ratio ($\overline{\overline{D}}$) is given by:

$$\overline{\overline{D}} = \frac{\text{PB}_{t_3}}{r_{t_3}} = \frac{PB_{t_0} + S_2 - \Delta A_{t_3}}{r_{t_3}} \quad for \quad t \geq t_3 - 1$$

$$(14)$$

The S2 adjustment implies that the sum of debt and the discounted present value of future changes in aged-related expenditure is (approximately) constant over time

Replacing equations (5) and (10) into (12), and assuming a constant interest rate differential, the following equation is obtained:

$$D_t + \sum_{i=t+1}^{\infty}\left(\frac{\Delta A_i}{(1+r)^{i-t}}\right) = D_{t_0} + \sum_{i=t_0+1}^{\infty}\left(\frac{\Delta A_i}{(1+r)^{i-t_0}}\right)$$

$$(15)$$

Equation (15) can be interpreted as follows. Implementing a permanent annual improvement in the primary balance amounting to S2 (equation 8), which is both necessary and sufficient to secure intertemporal solvency, implies that the sum of explicit debt (the first term in both sides) and the variation in age-related expenditure or implicit debt (the second terms in both sides) is (approximately) constant over time. Note that for

time varying interest rate differentials, equation (15) holds as an approximation during transitory phases. [263]

Derivation of the INW indicator

The intertemporal net worth (INW) indicator can be interpreted as a measure of government's net financial wealth, assuming unchanged policies and including projected/implicit future liabilities due to ageing.

INW is given by net worth (a_{t_0}) in the base year (t_0) minus the discounted sum of all future primary balances required to secure intertemporal sustainability (i.e. S2). Net worth is the difference between government assets and liabilities i.e. the negative of net debt.

Accordingly, the intertemporal net worth indicator is derived from S2 as:

$$inw_{t_0} = a_{t_0} - S_2 \sum_{i=t_0+1}^{\infty}\left(\frac{1}{\alpha_{t_0;i}}\right)$$

$$(16)$$

For a constant discount factor, using (9) equation (16) simplifies to:

$$inw_{t_0} = a_{t_0} - \frac{S_2}{r}$$

$$(17)$$

8.2. THE EARLY-DETECTION INDICATOR OF FISCAL STRESS (S0)

8.2.1. THE METHODOLOGY FOR THE CALCULATION OF THE THRESHOLDS

For each variable used in the composite indicator S0 the optimal threshold is chosen in a way to minimise, based on historical data, the sum of the number of fiscal stress signals sent ahead of no-fiscal-stress episodes (false positive signals – type-I error) and the number of no-fiscal-stress signals

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[263] In the steady state, equations (14) and (15) imply that both the debt and the variation in age-related expenditure are constant over time.

sent ahead of fiscal stress episodes (false negative signals – type-II error), with different weights attached to the two components. Table 8.1 reports the four possible combinations of events.

	Fiscal stress episode	No-fiscal-stress episode
Fiscal stress signal	True Positive signal	False Positive signal (type I error)
No-fiscal-stress signal	False Negative signal (type II error)	True Negative signal

Source: Commission services.

Formally, for each variable i the optimal threshold (t_i^*) is such as to minimise the sum of type I and type II errors for variable i (respectively fiscal stress signals followed by no-fiscal stress episodes - False Positive signals - and no-fiscal-stress signals followed by fiscal stress episodes – False Negative signals) as from the following total misclassification error for variable i (TME_i): [264]

$$t_i^* = \arg\min_{t_i \in T_i}\left(TME_i(t_i)\right) =$$

$$= \arg\min_{t_i \in T_i}\left(\frac{FN_i(t_i)}{Fs} + \frac{FP_i(t_i)}{Nfs}\right) \quad i = 1,\ldots,n$$

(1)

where T_i = set of all values taken by variable i over all countries and years in the panel; $FN_i(t_i)$ = total number of false negative signals sent by variable i (over all countries and years) based on threshold t_i; $FP_i(t_i)$ = total number of false positive signals sent by variable i (over all countries and years) based on threshold t_i; Fs = total number of fiscal stress episodes recorded in the data; Nfs = total number of no-fiscal-stress

episodes recorded in the data; [265] n = total number of variables used.

It is straightforward to see from (1) that in the minimisation problem False Negative signals are weighted more than False Positive signals as:

$$\frac{1}{Fs} > \frac{1}{Nfs}$$

This is due to the fact that the total number of fiscal stress episodes recorded over a (large enough) panel of countries will be typically much smaller than the total number of non-fiscal-stress episodes. This is a positive feature of the model as we might reasonably want to weigh the type II error more than the type I given the more serious consequences deriving from failing to correctly predict a fiscal stress episode relative to predicting a fiscal stress episode when there will be none.

The threshold for variable i (with $i = 1,\ldots, n$) obtained from (1) is common to all countries in the panel. We define it as a common *absolute* threshold (a critical value for the level of public debt to GDP, or general government balance over GDP, for instance) but it could also be defined as a common *relative* threshold (a common percentage tail of the country-specific distributions). [266] In the latter case, while the optimal percentage tail obtained from (1) is the same for all countries, the associated absolute threshold will differ across countries reflecting differences in distributions (country j's absolute threshold for variable i will reflect the country-specific history with regard to that variable). Both the aforementioned methods were applied and a decision was made to focus exclusively on the first, given that the second one tends to produce sensitive country-specific absolute thresholds for variable i only for those countries having a history of medium to high values for the variable concerned (or medium to

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[264] Following this methodological approach the optimal threshold will be such as to balance between type I and type II errors. For variables for which values above the threshold would signal fiscal stress, a relatively low threshold would produce relatively more false positive signals and fewer false negative signals, meaning higher type I error and lower type II error; the opposite would be true if a relatively high threshold was chosen.

[265] Here we simplify on the total number of fiscal stress and non-fiscal-stress episodes as in fact also these numbers vary across variables. This is due to the fact that data availability constraints do not allow us to use the whole series of episodes for all variables.

[266] See, for instance, C.M. Reinhart, M. Goldstein and G. Kaminsky (2000) "Assessing financial vulnerability, an early warning system for emerging markets: introduction", *MPRA Paper* No. 13629; R. Hemming, M. Kell and A. Schimmelpfennig (2003) "Fiscal vulnerabilities and financial crises in emerging market economies", *IMF Occasional Paper* 218.

low, depending on what the fiscal-stress-prone side of the distribution is), while country-specific thresholds would not be meaningful for the rest of the sample.

The TME function in equation (1) is the criterion we used to calculate the thresholds but it is not the only possible criterion used in the literature. The minimisation of the noise-to-signal ratio (*NSR*) is another possible option. ([267]) In this case the optimal threshold for variable i (t_i^*) is obtained as:

$$t_i^* = \arg\min_{t_i \in T_i}\left(NSR_i(t_i)\right) = \frac{FP_i(t_i)/Nfs}{TP_i(t_i)/Fs}$$

$$i = 1, \ldots, n$$

(2)

where $TP_i(t_i)$ = total number of true positive signals sent by variable i (over all countries and years) based on threshold t_i. The TME minimisation was preferred to this alternative criterion based on the size of the total errors produced (same choice and justification offered by Baldacci et al., 2011).

8.2.2. THE CALCULATION OF THE COMPOSITE INDICATOR S0

The early-detection indicator of fiscal stress (S0) is constructed in a similar way to what done in Baldacci et al. (2011) and Reinhart et al. (2000). ([268]) To a certain country j and year t, a 1 is assigned for every variable i that signals fiscal stress for the following year (a dummy d^i is created for each variable i such that $d_{jt}^i = 1$ if a

fiscal stress signal is sent by the variable and $d_{jt}^i = 0$ otherwise, i.e. if a no-fiscal-stress signal is sent or the variable is missing). The value of the composite indicator S0 for country j and year t ($S0_{jt}$) is then calculated as the weighted number of variables having reached their optimal thresholds with the weights given by the "signalling power" of the individual variables:

$$S0_{jt} = \sum_{i=1}^{n} w_i d_{jt}^i = \sum_{i=1}^{n} \frac{z_i}{\sum_{k=1}^{n} h_{jt}^k \cdot z_k} d_{jt}^i$$

(3)

where n = total number of variables; $z_i = 1 -$ (type I error + type II error) = signalling power of variable i; and $h_{jt}^k \in \{0,1\}$ is an indicator variable taking value 1 if variable k is observed for country j at time t and 0 otherwise. ([269]) The variables are therefore assigned higher weight in the composite indicator, the higher their past forecasting accuracy. ([270])

8.3. STOCHASTIC DEBT PROJECTIONS BASED ON THE VARIANCE-COVARIANCE MATRIX OF HISTORICAL SHOCKS

This Annex provides a description of the methodology used for stochastic debt projections based on the historical variance-covariance matrix approach, ([271]) and the data used to implement it. ([272])

([267]) See, for instance, Reinhart, Goldstein and Kaminsky (2000); Hemming, Kell and Schimmelpfennig (2003).

([268]) See K. Berti, M. Salto and M. Lequien (2012) "An early-detection index of fiscal stress for EU countries" *European Economy Economic Paper*, forthcoming. The difference with Baldacci et al. (2011) is that we are not using a system of "double weighting" of each variable incorporated in the composite indicator based on the weight of the subgroup of variables it belongs to (for us fiscal and financial-competitiveness variables) and the weight of the individual variable within the group. The difference with Reinhart et al. (2000) is in the way the individual variables' weights are computed (they use as weights the inverse of the noise-to-signal ratios of the individual variables as they apply the NSR criterion, rather than the TME minimisation).

([269]) This ensures that the sum of the weights is equal to 1 regardless of data availability (which is of course necessary to be able to analyse the evolution of the composite indicator).

([270]) Moreover, as evident from (3), the weight attached to each variable is decreasing in the signalling power attached to the other variables, as well as in the number of variables available for a given country and year.

([271]) Following di Giovanni and Gardner (2008).

([272]) For more details see K. Berti (2012) "Stochastic debt projections based on the historical variance-covariance

8.3.1. THE METHOD TO OBTAIN (ANNUAL) STOCHASTIC SHOCKS TO MACROECONOMIC VARIABLES

Stochastic shocks are simulated for four macroeconomic variables entering the debt evolution equation: nominal short-term interest rate, nominal long-term interest rate, nominal growth rate and exchange rate. First, the methodology requires transforming the time series of quarterly data for each macroeconomic variable x into series of historical quarterly shocks δ_q^x as follows:

$$\delta_q^x = x_q - x_{q-1}$$

A Monte Carlo simulation is then run by extracting random vectors of quarterly shocks over the projection period (2013-17) from a joint normal distribution with zero mean and variance-covariance matrix identical to that of historical (quarterly) shocks. The quarterly shocks (ε_q) obtained in this way are aggregated into annual shocks to nominal short-term interest rate, nominal long-term interest rate, nominal growth, and exchange rate for non-EA countries, as follows:

- the shock to nominal growth g in year t is given by the sum of the quarterly shocks to growth:

$$\varepsilon_t^g = \sum_{q=1}^{4} \varepsilon_q^g$$

- the shock in year t to the nominal exchange rate e is given by the sum of the quarterly shocks to the exchange rate:

$$\varepsilon_t^e = \sum_{q=1}^{4} \varepsilon_q^e$$

- the shock in year t to the nominal *short-term* interest rate i^S is given by the sum of the quarterly shocks to the short-term interest rate:

$$\varepsilon_t^{i^S} = \sum_{q=1}^{4} \varepsilon_q^{i^S}$$

The calculation of the shock to the nominal short-term interest rate in annual terms is justified based on the fact that the short-term interest rate is defined here as the interest rate on government bonds with maturity below the year. With the equation above, we rule out persistence of short-term interest rate shocks over time, exactly as done in standard deterministic projections. In other words, unlike the case of the long-term interest rate (see below), a shock to the short-term interest rate occurring in any of the quarters of year t is not carried over beyond year t.

- the aggregation of the quarterly shocks to the nominal *long-term* interest rate i^L into annual shocks takes account of the persistence of these shocks over time. This is due to the fact that long-term debt issued/rolled over at the moment where the shock takes place will remain in the debt stock, for all years to maturity, at the interest rate conditions holding in the market at the time of issuance. [273] A shock to the long-term interest rate in year t is therefore carried over to the following years in proportion to the share of maturing debt that is progressively rolled over (Bloomberg data on weighted average maturity is used to implement this). For countries where average weighted maturity of debt T is equal or greater than the number of projection years (5 years, from 2013 to 2017), the annual shock to long-term interest rate in year t is defined as:

$$\varepsilon_t^{i^L} = \frac{1}{T} \sum_{q=1}^{4} \varepsilon_q^{i^L} \quad \text{if } t = 2013$$

$$\varepsilon_t^{i^L} = \frac{2}{T} \sum_{q=-4}^{4} \varepsilon_q^{i^L} \quad \text{if } t = 2014$$

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matrix approach for EU countries", *European Economy Economic Paper*, forthcoming.

[273] The implicit assumption is made here that long-term government bonds are issued at fixed interest rates only.

$$\varepsilon_t^{i^L} = \frac{3}{T} \sum_{q=-8}^{4} \varepsilon_q^{i^L} \quad \text{if } t = 2015$$

$$\varepsilon_t^{i^L} = \frac{4}{T} \sum_{q=-12}^{4} \varepsilon_q^{i^L} \quad \text{if } t = 2016$$

$$\varepsilon_t^{i^L} = \frac{5}{T} \sum_{q=-16}^{4} \varepsilon_q^{i^L} \quad \text{if } t = 2017$$

where q = -4, -8, -12, -16 respectively indicate the first quarter of years t-1, t-2, t-3 and t-4.

The set of equations above clearly allows for shocks to the long-term interest rate in a certain year to carry over to the following years, till when, on average, debt issued at those interest rate conditions will remain part of the stock.

For countries where the average weighted maturity of debt is smaller than the number of projection years, the equations above are adjusted accordingly to reflect a shorter carryover of past shocks. For instance, countries with average weighted maturity T = 3 years will have the annual shock to the long-term interest rate defined as follows: ([274])

$$\varepsilon_t^{i^L} = \frac{1}{3} \sum_{q=1}^{4} \varepsilon_q^{i^L} \quad \text{if } t = 2013$$

$$\varepsilon_t^{i^L} = \frac{2}{3} \sum_{q=-4}^{4} \varepsilon_q^{i^L} \quad \text{if } t = 2014$$

$$\varepsilon_t^{i^L} = \sum_{q=-8}^{4} \varepsilon_q^{i^L} \quad \text{if } t \geq 2015$$

Finally, the weighted average of annual shocks to short-term and long-term interest rates (with weights given by the shares of short-term debt, α^S, and long-term debt, α^L, over total) gives us the annual shock to the implicit interest rate i:

$$\varepsilon_t^i = \alpha^S \varepsilon^{i^S} + \alpha^L \varepsilon^{i^L}$$

8.3.2. APPLYING STOCHASTIC SHOCKS TO THE CENTRAL SCENARIO

All results from stochastic projections presented in this report refer to a scenario in which shocks are assumed to be temporary. In this case, annual shocks (ε_t) are applied to the baseline value of the variables (implicit interest rate i_t, nominal growth rate g_t and exchange rate e_t) each year as follows:

$g_t = \bar{g}_t + \varepsilon_t^g$ with $\bar{g}_t$ = baseline (from standard deterministic projections) nominal GDP growth at year t

$i_t = \bar{i}_t + \varepsilon_t^i$ with $\bar{i}_t$ = baseline (from standard deterministic projections) implicit interest rate at year t

$e_t = \bar{e}_t + \varepsilon_t^e$ with $\bar{e}_t$ = nominal exchange rate as in DG ECFIN forecasts if t within forecast horizon; nominal exchange rate identical to last forecasted value if t beyond forecast horizon

In other words, if the shock in year t were equal to zero, the value of the variable would be the same as in the standard deterministic baseline projections.

The temporary shock to GDP growth translates into a shock to the balance (as a ratio to GDP) through the budget cyclical component. ([275]) The impact on the balance is calculated by using the same EC-OECD (country-specific) estimated coefficients of budget balance sensitivity to the cycle (s) that are used in standard deterministic projections. Thus, the shock to the balance b linked to the shock in GDP growth is given by the following:

$$\varepsilon_t^b = s \cdot \varepsilon_t^g$$

([274]) Annual shocks to the long-term interest rate for countries with weighted average maturities of 2 and 4 years will be defined in a fully analogous way.

([275]) The budget cyclical component is calculated as the output gap multiplied by the coefficient of budget sensitivity to the cycle.

8.3.3. THE DEBT EVOLUTION EQUATION

Through the steps described above we obtain series, over the whole projection period, of simulated nominal growth rate, implicit interest rate, nominal exchange rate and changes in the budget cyclical component that can be used in the debt evolution equation to calculate debt ratios over a 5-year horizon, starting from the last historical value. The debt evolution equation takes the following form:

$$d_t = \alpha^n d_{t-1} \frac{1+i_t}{1+g_t} + \alpha^f d_{t-1} \frac{1+i_t}{1+g_t} \frac{e_t}{e_{t-1}} - b_t + c_t + f_t$$

where dt = debt-to-GDP ratio in year t

α^n = share of total debt denominated in national currency [276]

α^f = share of total debt denominated in foreign currency

bt = structural primary balance over GDP in year t

ct = change in age-related costs over GDP in year t relative to base year (2012) [277]

ft = stock-flow adjustment over GDP in year t

All the steps above (extraction of random vectors of quarterly shocks over the projection horizon; aggregation of quarterly shocks into annual shocks; calculation of the corresponding simulated series of implicit interest rate, nominal growth rate, exchange rate and change in the budget cyclical component; calculation of the corresponding path for the debt ratio) are repeated 2000 times. This allows us to obtain yearly distributions of the debt-to-GDP ratio over 2013-17, from which we extract the percentiles to construct the fan charts.

8.3.4. THE DATA USED

For the calculation of the historical variance-covariance matrix, quarterly data on nominal short-term and long-term interest rates are taken from IMF-IFS and OECD; quarterly data on nominal growth rate come from ESTAT and IMF-IFS; quarterly data on nominal exchange rate for non-EA countries come from ESTAT.

Results using the methodology described above were derived for all EU countries by using both short-term and long-term interest rates, whenever possible based on data availability, to keep in line with standard deterministic projections. This was indeed possible for the vast majority of EU countries, the only exceptions being Bulgaria, Cyprus, Estonia and Romania. [278]

In general, data starting from the late 70s-early 80s till the second/third quarter of 2012 were used to calculate the historical variance-covariance matrix for old Member States, whereas for the Member States that joined more recently the data used generally cover the period from the late 90s-early 2000 till the third quarter of 2010 or second/third quarter of 2012.

8.4. BANKING LOSSES AND POTENTIAL IMPACT ON PUBLIC FINANCES: SYMBOL MODEL

This annex briefly presents the methodology used for the estimation of the *direct* potential impact of possible banking losses on public finances based on the SYMBOL model (SYstemic Model of Banking Originated Losses), developed by a joint team of Commission services (JRC and DG MARKT) and academic experts. [279]

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[276] Shares of public debt denominated in national and foreign currency are kept constant over the projection period at the latest (2011) ESTAT data, completed with 2010 OECD data for those countries (Denmark and Sweden) for which ESTAT data were not available.

[277] Figures on age-related costs from the 2012 Ageing Report were used.

[278] For Estonia we only used the short-term interest rate as quarterly data on the long-term rate were not available; for Bulgaria and Cyprus we used the long-term interest rate only as data on the short-term rate were not available for most recent years; for Romania we used the long-term interest rate only as a too short time series was available for the short-term rate.

[279] More details on the methodology can be found in R. De Lisa, S. Zedda, F. Vallascas, F. Campolongo and M. Marchesi (2011) "Modeling deposit insurance scheme losses in a Basel 2 framework", *Journal of Financial Services Research* 40(3). The methodology is presented also in European Commission (2011) "2011 Report on Public Finances in EMU", *European Economy* No.3.

The model first estimates the default probabilities of bank obligors as assessed by the country's banking system regulator. These estimates are used to evaluate individual banks' default risks. The distribution of losses for the banking system as a whole is then obtained by aggregating individual banks' losses. Such an aggregate probability distribution of bank losses is derived by country under different assumptions with regard to the regulatory regime in place (respectively the current and future regulatory scenarios described in Chapter V.4.1). As different regulatory regimes entail different risks, an estimate of potential costs to public finances due to possible banking losses is separately provided for each assumed regulatory regime. All these steps are described in more detail below.

8.4.1. ESTIMATION OF DEFAULT PROBABILITIES OF INDIVIDUAL BANKS' OBLIGORS

SYMBOL estimates the probability distributions of individual bank's losses using two main sources of information: 1) publicly available information on banks' financial statements; 2) publicly available capital requirements set by national regulators, from which it is possible to derive the "implied" average default probability of the individual banks' asset/loan portfolios.

On banks' financial statements, the main data source used in the simulations is Bankscope, a proprietary database produced by the private company Bureau van Dijk. The dataset covers a representative sample of banks in all EU countries. ([280]) When needed and when possible, data were integrated with public information on banks' financial statements released by supervisory

authorities and/or central banks. In addition, ECB data were used by the Commission Joint Research Centre (JRC) to complete or correct the input dataset for SYMBOL. Information on sample coverage (accompanied by descriptive statistics) by country is provided in Table 8.2 for reference (sample coverage is expressed as total assets of banks in the sample over estimated total assets for the entire population of banks in each Member State, as from ECB statistics; ([281]) reference year is 2011).

The Basel framework in which banks operate imposes minimum capital requirements for credit risk, allowing banks to absorb all unexpected losses with an ex-ante theoretical probability of 99.9%. Unexpected losses are computed by regulators by category of loans, according to a standard statistical model of credit risk and an assessment, made by each bank (and not made public), of the default probability of each loan class. The model adopted by the regulators is public, as are all relevant parameters used for its computation (with the aforementioned exception of the default probabilities of banks' obligors assessed by the banks themselves and validated by the regulators). ([282]) Using publicly available data on capital requirements ([283]) and the values, set by regulators, for the other parameters of the credit

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([280]) Institutions are listed in Bankscope under various categories according to their main activities. They are also further divided according to the accounting system they use (consolidated versus unconsolidated type). To the purpose of our analysis, the focus is generally restricted to commercial, cooperative and savings banks of the unconsolidated type. But in order to have more data for some countries (Bulgaria, Cyprus, Czech Republic, Estonia, Finland, Greece, Hungary, Ireland, Latvia, Malta, Poland, Portugal, Romania, Slovenia, Slovakia) the input dataset for SYMBOL constructed by JRC also includes, for the aforementioned countries, banks falling into different categories from commercial, cooperative and savings (i.e. bank holdings and holding companies, finance companies - credit card, factoring and leasing, investment banks, real estate and mortgage banks, specialised governmental credit institutions).

([281]) For countries' aggregates on total assets of credit institutions and monetary financial institutions, information from the ECB datawarehouse was used (see http://www.ecb.int/stats/money/aggregates/bsheets/html/index.en.html; and http://www.ecb.int/stats/money/consolidated/html/index.en.html).

([282]) In SYMBOL unexpected losses are computed according to the Basel Foundation Internal Ratings Based (FIRB) formula, which is a calibrated version of the Vasicek model for portfolio losses, explained in more detail in O.A. Vasicek (1991, "Limiting loan loss probability distributions" KMV Corporation). In Basel Committee on Banking Supervision (2005, "An explanatory note on the Basel II IRB risk weight functions") the Basel FIRB approach is discussed in more detail. The recent revision of the Basel framework, known as Basel III, has modified some of the parameters of the FIRB formula and raised the standards to be satisfied to meet minimum capital requirements. Basel Committee on Banking Supervision (2010, "Basel III: a global regulatory framework for more resilient banks and banking systems") provides details on the Basel III accord.

([283]) As capital requirements are often missing in banks' financial statements reported in Bankscope, estimation techniques have been used by JRC to reconstruct the missing values (relying on the strong observed correlation between two variables, capital requirements and common equity).

Table 8.2: **Coverage and descriptive statistics of samples used for SYMBOL simulations (euro bn. 2011 data)**

Country	Tot. no. of banks	No. of group 1 banks*	Sample in % of population	Total assets	Interbank debt	Interbank credit	Covered deposits	Minimum capital requirements	Regulatory capital
BE	20	2	50%	546.78	82.43	87.60	189.04	17.67	18.53
BG	13	0	56%	22.86	2.31	2.68	9.75	1.39	2.31
CZ	16	0	71%	113.51	11.72	13.61	44.40	4.67	6.57
DK	79	3	52%	575.78	109.87	67.60	108.51	20.03	27.71
DE	1112	6	63%	5187.10	980.97	819.17	1115.08	135.42	185.01
EE	2	0	27%	3.74	0.66	0.43	1.23	0.24	0.42
ES	83	8	55%	1885.64	325.39	120.62	628.10	102.80	113.63
FR	148	10	83%	5393.84	914.63	865.55	1066.48	236.58	212.29
IT	392	7	57%	2152.35	156.80	134.97	479.11	83.81	103.50
CY	8	0	43%	53.22	13.87	4.64	11.22	2.21	1.78
LT	9	0	98%	19.81	5.12	2.10	7.93	1.16	1.42
LU	32	1	59%	399.89	145.89	123.01	83.63	14.24	22.60
LV	17	0	68%	17.65	2.25	3.71	4.66	0.91	1.40
HU	8	1	40%	42.38	11.85	7.97	8.35	2.61	3.18
MT	10	0	36%	18.50	3.51	2.62	9.03	1.15	1.71
NL	18	4	87%	2040.94	409.08	512.96	473.29	69.25	92.23
AT	107	0	35%	346.17	61.52	45.55	65.88	10.20	17.07
PL	24	1	61%	179.53	22.24	5.47	40.02	11.38	14.76
RO	8	0	52%	44.84	9.75	1.46	8.85	2.36	3.74
SI	15	0	84%	43.37	11.07	4.52	15.90	3.15	2.28
SK	8	0	33%	18.07	1.54	0.44	6.66	0.92	1.34
FI	9	1	83%	502.10	88.72	100.53	63.24	10.22	12.18
SE	57	3	55%	573.34	78.67	130.73	122.80	16.60	24.99
UK	66	9	92%	7128.23	1492.13	1244.00	1435.44	249.47	242.97

* Group 1 banks are banks with Tier 1 capital greater than 3bn euros.
Source: Commission services.

risk model, [284] SYMBOL estimates the implied average default probability of individual banks' obligors reflecting the assessments done by the banks, *and based on the assumption that banks' assets entirely consist of loans*. [285] The average probability of default of the credit portfolio of each bank is therefore estimated consistently with Basel minimum capital requirements for credit risk.

8.4.2. COMPUTATION OF AGGREGATE BANKING LOSSES AND ESTIMATED IMPACT ON PUBLIC FINANCES

As explained in the previous section, the distribution of individual banks' losses is computed on the basis of the estimated average probability of default of each individual bank's obligors. [286] Starting from the estimated average probability of default of each individual bank's obligors, SYMBOL generates individual bank's credit losses via a Monte Carlo simulation according to the Basel FIRB (Foundation Internal Ratings Based) loss distribution function. Banks' simulated losses are then compared with banks' excess capital: whenever losses are greater than excess capital, banks are assumed to default. Individual banks' losses exceeding banks' excess capital are then combined to obtain estimated aggregate banking losses for a given country. Losses are then divided by the sample size to obtain the aggregate loss

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[284] The other parameters, set at their default values, are the Loss Given Default (LGD) parameter, the correlation between banks' assets, maturity and other correction parameters.

[285] This means that all capital requirements considered in the model are for credit risk. But in fact, banks' assets are not entirely made up of loans, and, beyond credit risk, there are also capital requirements that derive from market risk, counterparty risk, operational risk, etc. These are not accounted for in the model. However, except for vary large banks with extensive and complex trading agreements, the simplifying assumption that banks' assets are made only of loans and, as a consequence, that capital requirements only derive from these, can be considered not excessively distortive as credit risk usually accounts for a very large share of banks' total minimum capital requirements.

[286] The probability of individual bank default is obviously different, though related, from the probability of default of its obligors. The former also depends, inter alia, on 1) the possibility that other banks fail and transmit their losses to the bank via the interbank market and 2) the functioning of the regulatory system.

distribution for the entire population of banks in a country.

The probability distribution of aggregate losses is computed under different assumptions as from the two scenarios described in Chapter V.4.1. In the future regulatory scenario contagion is ruled out, meaning that banks are considered to orderly default with no contagion effects to other banks via the interbank market. In the current regulatory scenario, on the contrary, contagion effects are assumed to take place. This captures systemic linkages between banks that go beyond the correlation of their assets. ([287]) Under the assumption of contagion, whenever a bank defaults, it is assumed that 40% of its interbank debits are passed on as losses to creditor banks ([288])and distributed among them according to a criterion of proportionality (i.e. the portion of loss absorbed by each surviving bank is proportional to the share of its creditor exposure in the interbank market). A contagion effect takes place when the passing on of these losses causes other bank defaults, with multiple rounds possible.

Having obtained estimates for the aggregate bank losses, it becomes possible to estimate the potential impact on public finances from defaults in the banking sector. In this exercise, banking losses are first covered by banks' excess capital, if any. In case this is not sufficient to fully cover losses, so that the bank defaults, the tools in place in the regulatory financial safety net are called upon (this may include, depending on the specific scenario under consideration, Deposit Guarantee Schemes, DGS, aimed at protecting depositors; bank Resolution Funds, RF, ([289])allowing the orderly

resolution of defaulting banks and preventing contagion effects; bail-in legal provisions, whereby bondholders and non-covered depositors absorb part of the defaulting bank losses, out of the scope of intervention of DGS/RF) ([290]). Losses that are not absorbed by these regulatory instruments are supposed to be covered by the government, as experienced in the current financial crisis.

The model allows estimating both the probability that public finances are hit by banking losses, and the amount of public funds needed to cover losses after exhausting the protection provided by the financial safety net tools assumed to be in place.

8.5. PROPERTY INCOME PROJECTIONS

The evolution of property income over time has been considered in the assessment of the long-term sustainability of public finances since the 2007/08 round of assessments. Property income received by Member States is mainly composed of interest received from deposits, bonds and loans; dividends on shares and withdrawals from the income of quasi-corporations; rents on land and subsoil assets. Carrying out projection on property income in a detailed way requires forecasting the return on these assets, their future value and the purchases and sales of these assets. Making projections manageable, a number of simplifying assumptions are made.

In order to model in the future the progression of property income, the key assumption is that there is no stock-flow adjustment, meaning that government debt is only driven by the general government balance and there is no net sale or purchase of financial assets in the future. Rather The implication is therefore for these assets to remain constant in nominal terms rather than as a share of GDP. In other words it is assumed that property income received by a government is used to reimburse debt through its contribution to the general government balance, rather than to purchase other assets. When short-term assets (such as bonds) mature, they are therefore

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([287]) Only contagion via the domestic interbank market is modelled in the current version of SYMBOL. Simulations also take into account the correlation between assets of different banks due to the presence of common shocks in the economy.

([288]) A loss of 40% on the interbank exposure is coherent with the upper bound indicated in the relevant literature (see, for instance, C. James (1991) "The loss realized in bank failures", *Journal of Finance*, vol. 46; P.E. Mistrulli (2007) "Assessing financial contagion in the interbank market: maximum entropy versus observed interbank lending patterns", *Bank of Italy Working Paper* n. 641; C. Upper and A. Worms (2004) "Estimating bilateral exposures in the German interbank market: is there danger of contagion?", *European Economic Review* 8).

([289]) Resolution Funds are privately financed funds, whose function is to support crisis management authorities in their effort to avoid contagion between banks and limiting systemic risk.

([290]) See the recent Commission Proposal for a Directive establishing a framework for the recovery and resolution of credit institutions and investment firms, COM (2012) 280/3 (http://ec.europa.eu/internal_market/bank/crisis_manageme nt/index_en.htm#framework2012).

implicitly assumed to be replaced with other bonds of the same nominal value.

The stock of assets that generate income for Member States' governments is not always known. By making a no stock-flow adjustment assumption, the evolution of property income can be modelled by just using assumptions on the future evolution of rate of return on assets. In modelling the rate of return, a distinction is made between income received from bonds, equity and rents.

The projections of property income (D.4 in ESA95) distinguish between income received from bonds (D.41), from equity (D.42) and rents (D.45) ([291]).

All returns on bonds (D.41) are assumed to be used for debt-reduction. For the projections, the rate of 5% (as agreed in the AWG: steady state real interest rate of 3% and inflation rate of 2%) is applied from 2015 on; before, the yield of a 10-year government bond is used. As regards, income from equity, D.42 only reports distributed returns, so that the value reported in national accounts in the starting year may only be a fraction of the overall return on equity, with the remaining fraction representing a valuation effect. As a simplifying assumption, the AWG decided to keep the dividend-to-GDP ratio constant over time, thereby implicitly assuming continuing valuation effects in line with nominal GDP growth. For rent from land and subsoil assets (D.45), it was assumed that the ratio of rents-to-GDP would remain constant over time, except for Denmark and Netherlands, where the stock of subsoil assets is assumed to be exhausted by 2050, so that D.45 as a percentage of GDP will converge to the EU average by 2050.

Given these assumptions, the projected path of property income over time only depends on the stock of bonds held at the start of the projection period, as the other two components of property income remain constant as a share of GDP. The higher the share of bond holdings, the steeper the decline in property income over time.

In calculating the sustainability gaps, property income received by governments is explicitly modelled in a way that is different from government revenues in general, albeit using simplifying assumptions. Government revenues in general are a function of the tax bases and the rates chosen by the government. Property income differs from this generalised assumption in that it is determined by market conditions rather than policy settings.

However, for the purpose of the sustainability indicators, neither the stock of assets is evaluated nor is the market (risk-adjusted) expected rate of return on these assets estimated. Instead, the long-term projections assume a uniform nominal rate of return in the long-run on all assets and liabilities (that is, the expected risk-adjusted rate of return on assets equals the rate of interest on government debt under a no-arbitrage condition). This allows taking the property income recorded in the starting year as the only information required for the approximation of net debt. ([292])

([291]) In the calculation of sustainability indicators (S1 and S2), the projected path of property income is conventionally included in the sub-indicator "initial budgetary position" (IBP).

([292]) Future acquisitions of assets by the government are treated as equivalent to purchases of government debt, so that their effect on the sustainability gap is entirely captured by the projected primary balance; the outstanding amount of assets is assumed to remain constant and, thus, the projected property income (included in the primary balance) will correspondingly decline as a proportion of GDP.

Table 8.3:   **Property income projections in 2009 and 2012**

Country	Change 2010-2060	
	2012 projections	2009 projections
BE	-0.2	-0.2
BG	-0.5	-0.2
CZ	-0.2	-0.3
DK	-1.3	-1.1
DE	-0.2	-0.2
EE	-0.8	-0.3
ES	-0.5	-0.3
FR	-0.1	-0.2
IT	-0.2	-0.2
CY	-0.4	-0.5
LT	-0.4	-0.2
LU	-0.2	-0.2
LV	-0.7	-0.8
HU	-0.4	-0.2
MT	-0.2	-0.1
NL	-1.7	-1.4
AT	-0.4	-0.6
PL	-0.5	-0.4
RO	-0.1	-0.1
SI	-0.2	-0.1
SK	-0.3	-0.4
FI	-1.4	-1.5
SE	-0.6	-0.8
UK	-0.2	-0.3

Source: Eurostat, Commission services.

Table 8.3 shows the projections of property income in the 2009 projection round and the ones using the 2012 Ageing Report (and the latest available EUROSTAT data: 2010). The table shows that property income is projected to fall over time for all Member States, with the most significant falls being for Denmark, the Netherlands and Finland. While for the first two countries this is explained by the abovementioned assumption on the evolution of the stock of subsoil assets, in the Finnish case, this is driven by the high level of bond holdings, which contribute about half of the country's significant income from property.

9. STATISTICAL ANNEX

9.1. BELGIUM

Belgium - Summary table

Long-term projections

	2010	2015	2020	2025	2030	2035	2040	2045	2050	2055	2060
Budgetary projections											
AWG reference scenario	27.6	28.4	29.5	31.3	32.8	34.0	34.7	35.3	35.7	36.1	36.1
AWG risk scenario	27.6	28.5	29.8	31.6	33.3	34.6	35.5	36.2	36.7	37.2	37.2
Revenues from pensions taxation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Property incomes	0.7	0.7	0.7	0.7	0.7	0.6	0.6	0.6	0.6	0.5	0.5

Sustainability indicators

S0 indicator	2009	2010	2011	2012	Critical threshold		
Overall index	0.39	0.22	0.30	0.23	0.44		
Fiscal sub-index	0.68	0.46	0.46	0.21	0.34		
Financial competitiveness sub-index	0.27	0.12	0.24	0.24	0.46		

S1 indicator	Baseline scenario	AWG risk scenario	2011 scenario	AVG 98-12 scenario			
Overall index	6.2	6.4	6.9	2.2			
of which Initial Budgetary position	0.6	0.6	1.1	-2.4			
Cost of delaying adjustment	1.0	1.1	1.1	0.4			
Debt requirement	2.4	2.4	2.5	2.1			
Ageing costs	2.1	2.3	2.1	2.1			

S2 indicator	Baseline scenario	AWG risk scenario	2011 scenario	AVG 98-12 scenario	2009 Sustainability Report		
Overall index	7.4	8.2	7.8	4.5	5.3		
of which Initial Budgetary position	1.0	1.0	1.4	-2.0	0.6		
Long term component	6.4	7.2	6.4	6.4	4.8		
of which Pensions	3.9	3.9	3.9	3.9	:		
Health & Long-term care	2.2	3.0	2.2	2.2	:		
Others	0.4	0.4	0.4	0.4	:		

Debt projections - Baseline

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030
Gross debt ratio	95.5	97.8	99.9	100.5	101.0	101.4	101.8	102.4	103.5	105.0	106.7	121.9	147.4
changes in the debt ratio (1+2+3)	-0.1	2.2	2.2	0.6	0.4	0.5	0.4	0.5	1.2	1.5	1.8	3.9	5.8
of which Oustanding (non maturing) debt			79.8	78.0	79.1	79.0	79.2	79.5	85.4	85.4	79.1	93.1	105.5
Rolled-over short-term debt			13.3	13.6	13.7	13.7	13.8	13.8	13.9	14.1	14.3	16.0	19.1
Rolled-over long-term debt			4.7	8.4	7.8	8.2	8.4	8.5	3.1	4.1	11.6	8.9	16.9
New short-term debt			0.3	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.5	0.8
New long-term debt			1.9	0.5	0.4	0.4	0.3	0.5	1.0	1.3	1.5	3.4	5.1
of which (1) Overall primary balance (+ = deficit)	0.4	0.4	-0.5	0.0	0.1	0.1	0.0	0.1	0.3	0.6	0.9	2.7	4.3
Structural primary balance (kept constant at 2014 lvl)	0.0	0.1	-0.7	-0.8	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3
Cyclical component	0.4	0.3	0.2	0.7	0.4	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0
Ageing cost (incl. revenues pensions tax)	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.4	0.7	1.0	1.2	3.0	4.5
Property incomes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
(2) Snow ball effect (interest rate/grow th differential)	-0.5	-0.1	1.6	0.7	0.1	0.4	0.4	0.4	0.8	0.8	0.8	1.2	1.5
Interest expenditure	3.7	3.4	3.5	3.5	3.5	3.5	3.6	3.7	4.0	4.1	4.2	5.3	6.6
Growth effect (real)	-2.3	-1.7	0.2	-0.7	-1.6	-1.3	-1.3	-1.3	-1.1	-1.2	-1.3	-1.8	-2.3
Inflation effect	-1.9	-1.9	-2.1	-2.1	-1.8	-1.8	-1.9	-2.0	-2.0	-2.0	-2.1	-2.3	-2.8
(3) Stock flow adjustment	-0.1	2.0	1.1	-0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PM : Structural balance (+ = deficit)	3.3	3.4	2.7	2.7	3.1	3.2	3.4	3.8	4.2	4.7	5.1	7.9	10.8
Financing needs (billions EUR)			76.1	87.7	87.8	92.8	96.8	100.9	82.7	92.0	134.0	166.1	287.8

Key macroeconomic assumptions	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030
Actual GDP grow th (real)	2.4	1.8	-0.2	0.7	1.6	1.3	1.3	1.3	1.1	1.2	1.3	1.5	1.6
Potential GDP grow th (real)			0.9	0.9	1.0	1.0	1.0	1.0	1.1	1.2	1.3	1.5	1.6
Inflation (GDP deflator)	2.0	2.0	2.2	2.1	1.8	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0
Implicit interest rate (nominal)	3.7	3.6	3.6	3.5	3.5	3.6	3.8	3.9	4.0	4.1	4.3	4.7	4.8
of which long-term implicit interest rate (nominal)			4.0	4.0	3.9	3.8	3.9	3.9	4.0	4.1	4.2	4.7	4.9
short-term interest rate (nominal)			1.3	1.3	1.6	2.1	2.7	3.3	3.6	3.9	4.2	4.2	4.2
long-term interest rate (nominal)			3.6	3.1	3.4	4.0	4.6	5.1	5.1	5.1	5.1	5.1	5.1

Debt projections - Sensitivity tests

Gross debt ratio	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030
-1p.p. in the short-term/long-term interest rate from 2014	95.5	97.8	99.9	100.5	101.0	101.4	101.7	102.0	102.8	103.9	105.2	116.9	137.2
+1p.p. in the short-term/long-term interest rate from 2014	95.5	97.8	99.9	100.5	101.0	101.4	102.0	102.8	104.2	106.1	108.3	127.2	158.6
-0.5p.p. GDP grow th from 2014	95.5	97.8	99.9	100.5	101.0	101.9	102.8	103.9	105.6	107.6	109.9	128.2	157.6
+0.5p.p. GDP grow th from 2014	95.5	97.8	99.9	100.5	101.0	100.9	100.8	100.9	101.5	102.4	103.7	116.0	138.0
Constant average 98-07 interest/grow th rates differential	95.5	97.8	99.9	100.5	101.0	101.4	102.0	102.7	103.9	105.3	106.9	120.6	144.1
Constant average 98-12 structural primary balance	95.5	97.8	99.9	98.1	95.7	93.4	90.9	88.6	86.8	85.3	84.0	83.3	91.9
Consolidation scenario (0.5% per year on SB) to achieve MTO	95.5	97.8	99.9	100.5	101.0	101.2	100.8	100.1	99.4	98.6	97.4	89.9	78.1
Consolidation scenario (1.0% per year on SB) to achieve MTO	95.5	97.8	99.9	100.5	101.0	100.9	99.8	97.8	95.3	92.2	88.9	73.1	59.3
Consolidation path (SPB) until 2020 to meet 60% debt target in 2030	95.5	97.8	99.9	100.5	101.0	101.2	100.4	98.6	96.1	92.9	88.8	70.3	60.0
Consolidation path (SPB) until 2020 to meet pre-crisis debt target in 2030	95.5	97.8	99.9	100.5	101.0	101.4	100.9	99.8	98.4	96.5	94.0	84.7	84.0
Consolidation path (SPB) until 2020 to meet post-crisis debt target in 2030	95.5	97.8	99.9	100.5	101.0	101.5	101.3	100.7	100.1	99.1	97.7	94.8	101.0

Cumulated budgetary effort	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030
Consolidation scenario (0.5% per year on SB) to achieve MTO	:	:	:	:	:	0.5	1.0	1.5	2.0	2.5	3.1	5.6	8.2
Consolidation scenario (1.0% per year on SB) to achieve MTO	:	:	:	:	:	1.0	2.0	3.1	4.1	4.8	5.1	6.5	7.6
Consolidation path (SPB) until 2020 to meet 60% debt target in 2030	:	:	:	:	:	1.0	2.1	3.1	4.1	5.1	6.2	6.2	6.2
Consolidation path (SPB) until 2020 to meet pre-crisis debt target in 2030	:	:	:	:	:	0.7	1.5	2.2	3.0	3.7	4.5	4.5	4.5
Consolidation path (SPB) until 2020 to meet post-crisis debt target in 2030	:	:	:	:	:	0.5	1.1	1.6	2.2	2.7	3.3	3.3	3.3

Gross debt as % of GDP - BELGIUM - Medium term debt projections

(% of GDP)

No-policy change scenario
Shock -1p.p. in the short-term/long-term interest rate on maturing and new debt from 2015
Shock +1p.p. in the short-term/long-term interest rate on maturing and new debt from 2015
Consolidation scenario (0.5% per year on SB) in order to achieve MTO
Consolidation scenario (1% per year on SB) in order to achieve MTO
Constant average 1998-2007 interest (on new & maturing debt)/growth rates differential

Stochastic debt projections 2013-17, BELGIUM

(% of GDP)

p10_p20   p20_p40   p40_p60
p60_p80   p80_p90   p50   gdebt_gdp_DSM

BELGIUM - Medium term debt projections - Debt maturity structure (as % of GDP)

(% of GDP)

Oustanding (non maturing) debt   Rolled-over short-term debt   Rolled-over long-term debt
New short-term debt   New long-term debt

BELGIUM - Medium term debt projections - Consolidation scenario (0.5% per year on SB) in order to achieve MTO

Cumulated budgetary effort   Structural Deficit   Gross debt

BELGIUM - Medium term debt projections - Consolidation paths (SPB) until 2020 that would ensure meeting the 60% debt target in 2030

Cumulated budgetary effort   Cumulated budgetary effort without cost of ageing (PM)
Structural Deficit   Gross debt

BELGIUM - Medium term debt projections - Consolidation scenario (1% per year on SB) in order to achieve MTO

Cumulated budgetary effort   Structural Deficit   Gross debt

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9.2. BULGARIA

Bulgaria - Summary table

Long-term projections

	2010	2015	2020	2025	2030	2035	2040	2045	2050	2055	2060
Budgetary projections											
AWG reference scenario	18.7	17.2	18.0	18.5	18.6	18.7	19.2	19.9	20.7	20.9	20.6
AWG risk scenario	18.7	17.4	18.3	18.9	19.0	19.2	19.7	20.5	21.3	21.5	21.2
Revenues from pensions taxation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Property incomes	1.2	1.2	1.1	1.0	0.9	0.9	0.8	0.8	0.7	0.7	0.7

Sustainability indicators

S0 indicator	2009	2010	2011	2012	Critical threshold			
Overall index	**0.64**	**0.53**	**0.39**	**0.38**	**0.44**			
Fiscal sub-index	0.32	0.16	0.16	0.15	0.34			
Financial competitiveness sub-index	0.75	0.67	0.47	0.47	0.46			

S1 indicator	Baseline scenario	AWG risk scenario	2011 scenario	AVG 98-12 scenario				
Overall index	**-1.5**	**-1.3**	**-0.1**	**-3.7**				
of which *Initial Budgetary position*	*0.2*	*0.2*	*1.2*	*-1.4*				
Cost of delaying adjustment	*-0.3*	*-0.2*	*0.0*	*-0.6*				
Debt requirement	*-2.3*	*-2.3*	*-2.1*	*-2.5*				
Ageing costs	*0.8*	*1.0*	*0.8*	*0.8*				

S2 indicator	Baseline scenario	AWG risk scenario	2011 scenario	AVG 98-12 scenario	2009 Sustainability Report			
Overall index	**2.8**	**3.2**	**3.8**	**1.2**	**0.9**			
of which *Initial Budgetary position*	*0.5*	*0.5*	*1.4*	*-1.1*	*-0.6*			
Long term component	*2.3*	*2.7*	*2.3*	*2.3*	*1.5*			
of which Pensions	*1.6*	*1.6*	*1.6*	*1.6*	*:*			
Health & Long-term care	*0.6*	*0.9*	*0.6*	*0.6*	*:*			
Others	*0.2*	*0.2*	*0.2*	*0.2*	*:*			

Debt projections - Baseline

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030
Gross debt ratio	**16.2**	**16.3**	**19.5**	**18.1**	**18.3**	**18.4**	**18.5**	**19.0**	**19.6**	**20.4**	**21.4**	**28.6**	**37.6**
changes in the debt ratio (1+2+3)	**1.6**	**0.1**	**3.2**	**-1.5**	**0.3**	**0.1**	**0.1**	**0.5**	**0.6**	**0.8**	**1.0**	**1.6**	**1.9**
of which *Oustanding (non maturing) debt*			*15.2*	*16.2*	*16.6*	*15.1*	*13.4*	*12.6*	*16.6*	*15.6*	*14.7*	*18.0*	*29.1*
Rolled-over short-term debt			*0.5*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.4*	*0.4*	*0.4*	*0.5*	*0.7*
Rolled-over long-term debt			*0.6*	*1.5*	*1.1*	*2.8*	*4.7*	*5.6*	*2.1*	*3.6*	*5.3*	*8.5*	*6.0*
New short-term debt			*0.1*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
New long-term debt			*3.1*	*0.0*	*0.3*	*0.1*	*0.1*	*0.5*	*0.6*	*0.8*	*1.0*	*1.6*	*1.9*
of which **(1) Overall primary balance (+ = deficit)**	**2.5**	**1.4**	**0.6**	**0.6**	**0.1**	**0.0**	**-0.1**	**0.3**	**0.3**	**0.5**	**0.6**	**1.2**	**1.4**
Structural primary balance (kept constant at 2014 lvl)	*1.1*	*0.7*	*-0.1*	*0.0*	*-0.3*	*-0.3*	*-0.3*	*-0.3*	*-0.3*	*-0.3*	*-0.3*	*-0.3*	*-0.3*
Cyclical component	*1.5*	*0.8*	*0.7*	*0.6*	*0.4*	*0.3*	*0.1*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Ageing cost (incl. revenues pensions tax)	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*-0.1*	*-0.1*	*0.4*	*0.5*	*0.6*	*0.7*	*1.2*	*1.3*
Property incomes	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.1*	*0.1*	*0.1*	*0.2*	*0.2*	*0.3*	*0.3*
(2) Snow ball effect (interest rate/grow th differential)	**0.3**	**-0.4**	**0.4**	**0.3**	**0.0**	**0.1**	**0.2**	**0.2**	**0.3**	**0.3**	**0.4**	**0.4**	**0.5**
Interest expenditure	*0.8*	*0.7*	*0.7*	*1.0*	*0.8*	*0.9*	*1.0*	*1.1*	*1.0*	*1.1*	*1.1*	*1.3*	*1.7*
Growth effect (real)	*-0.1*	*-0.3*	*-0.1*	*-0.3*	*-0.4*	*-0.4*	*-0.4*	*-0.5*	*-0.4*	*-0.3*	*-0.3*	*-0.4*	*-0.5*
Inflation effect	*-0.4*	*-0.8*	*-0.2*	*-0.4*	*-0.4*	*-0.4*	*-0.4*	*-0.4*	*-0.4*	*-0.4*	*-0.4*	*-0.5*	*-0.7*
(3) Stock flow adjustment	**-1.2**	**-0.9**	**2.2**	**-2.4**	**0.1**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
PM : Structural balance (+ = deficit)	**1.7**	**1.3**	**0.8**	**0.9**	**0.6**	**0.6**	**0.8**	**1.3**	**1.4**	**1.5**	**1.7**	**2.5**	**3.1**
Financing needs (billions EUR)			**1.7**	**0.8**	**0.7**	**1.5**	**2.4**	**3.1**	**1.5**	**2.5**	**3.6**	**6.8**	**6.5**

Key macroeconomic assumptions	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030
Actual GDP grow th (real)	0.4	1.7	0.8	1.4	2.0	2.1	2.4	2.6	1.9	1.8	1.6	1.3	1.5
Potential GDP grow th (real)			0.7	1.1	1.4	1.7	1.9	2.1	1.9	1.8	1.6	1.3	1.5
Inflation (GDP deflator)	2.8	5.0	1.0	2.3	2.5	2.4	2.2	2.0	2.0	2.0	2.0	2.0	2.0
Implicit interest rate (nominal)	4.3	4.1	5.3	4.8	5.3	5.7	5.9	5.9	5.5	5.4	5.3	5.1	5.0
of which long-term implicit interest rate (nominal)			*4.2*	*5.2*	*4.9*	*5.3*	*5.7*	*5.9*	*5.6*	*5.6*	*5.4*	*5.1*	*5.0*
short-term interest rate (nominal)			*6.9*	*1.0*	*7.1*	*6.1*	*5.0*	*3.9*	*4.0*	*4.1*	*4.1*	*4.1*	*4.1*
long-term interest rate (nominal)			*9.7*	*1.4*	*9.6*	*8.1*	*6.5*	*5.0*	*5.0*	*5.0*	*5.0*	*5.0*	*5.0*

Debt projections - Sensitivity tests

Gross debt ratio	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030
-1p.p. in the short-term/long-term interest rate from 2014	16.2	16.3	19.5	18.1	18.3	18.4	18.5	18.9	19.4	20.1	20.9	27.0	34.5
+1p.p. in the short-term/long-term interest rate from 2014	16.2	16.3	19.5	18.1	18.3	18.4	18.6	19.1	19.8	20.8	21.9	30.2	41.0
-0.5p.p. GDP grow th from 2014	16.2	16.3	19.5	18.1	18.3	18.5	18.7	19.3	20.0	20.9	22.0	29.8	39.6
+0.5p.p. GDP grow th from 2014	16.2	16.3	19.5	18.1	18.3	18.3	18.3	18.7	19.3	20.0	20.8	27.5	35.7
Constant average 98-07 interest/grow th rates differential	16.2	16.3	19.5	18.1	18.3	18.4	18.5	18.6	18.6	18.6	18.7	19.0	19.3
Constant average 98-12 structural primary balance	16.2	16.3	19.5	16.2	15.0	13.6	12.1	10.9	9.9	9.0	8.3	6.3	5.7
Consolidation scenario (0.5% per year on SB) to achieve MTO	16.2	16.3	19.5	18.1	18.3	18.3	18.2	17.9	17.8	17.6	17.5	17.3	16.9
Consolidation scenario (1.0% per year on SB) to achieve MTO	16.2	16.3	19.5	18.1	18.3	18.3	18.2	17.9	17.7	17.6	17.5	17.3	16.9
Consolidation path (SPB) until 2020 to meet 60% debt target in 2030	16.2	16.3	19.5	18.1	18.3	18.7	19.3	20.5	22.1	24.1	26.6	42.1	60.0
Consolidation path (SPB) until 2020 to meet pre-crisis debt target in 2030	16.2	16.3	19.5	18.1	18.3	18.3	17.9	17.7	17.4	17.0	16.5	16.2	17.2
Consolidation path (SPB) until 2020 to meet post-crisis debt target in 2030	16.2	16.3	19.5	18.1	18.3	18.0	17.8	17.5	17.2	16.8	16.9	18.3	

Cumulated budgetary effort	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030
Consolidation scenario (0.5% per year on SB) to achieve MTO	:	:	:	:	:	0.1	0.3	0.8	0.8	0.9	1.1	1.6	1.7
Consolidation scenario (1.0% per year on SB) to achieve MTO	:	:	:	:	:	0.1	0.3	0.8	0.8	0.9	1.1	1.6	1.7
Consolidation path (SPB) until 2020 to meet 60% debt target in 2030	:	:	:	:	:	-0.3	-0.5	-0.8	-1.0	-1.3	-1.5	-1.5	-1.5
Consolidation path (SPB) until 2020 to meet pre-crisis debt target in 2030	:	:	:	:	:	0.2	0.5	0.7	0.9	1.2	1.4	1.4	1.4
Consolidation path (SPB) until 2020 to meet post-crisis debt target in 2030	:	:	:	:	:	0.2	0.4	0.7	0.9	1.1	1.3	1.3	1.3

Gross debt as % of GDP - BULGARIA - Medium term debt projections

Stochastic debt projections 2013-17, BULGARIA

BULGARIA - Medium term debt projections - Debt maturity structure (as % of GDP)

BULGARIA - Medium term debt projections - Consolidation scenario (0.5% per year on SB) in order to achieve MTO

BULGARIA - Medium term debt projections - Consolidation paths (SPB) until 2020 that would ensure meeting the 60% debt target in 2030

BULGARIA - Medium term debt projections - Consolidation scenario (1% per year on SB) in order to achieve MTO

9.3.   CZECH REPUBLIC

Czech Republic - Summary table

Long-term projections

	2010	2015	2020	2025	2030	2035	2040	2045	2050	2055	2060
Budgetary projections											
AWG reference scenario	20.6	20.1	20.5	21.1	21.6	22.0	22.6	23.4	24.4	25.3	25.7
AWG risk scenario	20.6	20.2	20.8	21.5	22.1	22.7	23.3	24.2	25.3	26.4	26.8
Revenues from pensions taxation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Property incomes	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.6	0.6	0.6

Sustainability indicators

S0 indicator	2009	2010	2011	2012	Critical threshold		
Overall index	**0.31**	**0.22**	**0.27**	**0.19**	**0.44**		
Fiscal sub-index	0.60	0.32	0.32	0.16	0.34		
Financial competitiveness sub-index	0.20	0.18	0.25	0.20	0.46		

S1 indicator	Baseline scenario	AWG risk scenario	2011 scenario	AVG 98-12 scenario			
Overall index	**1.3**	**1.5**	**2.6**	**3.7**			
of w hich *Initial Budgetary position*	*1.1*	*1.1*	*2.1*	*2.9*			
Cost of delaying adjustment	*0.2*	*0.2*	*0.4*	*0.6*			
Debt requirement	*-0.7*	*-0.7*	*-0.6*	*-0.5*			
Ageing costs	*0.7*	*0.9*	*0.7*	*0.7*			

S2 indicator	Baseline scenario	AWG risk scenario	2011 scenario	AVG 98-12 scenario	2009 Sustainability Report		
Overall index	**5.5**	**6.2**	**6.4**	**7.3**	**7.4**		
of w hich Initial Budgetary position	1.7	1.7	2.6	3.5	3.7		
Long term component	3.8	4.5	3.8	3.8	3.7		
of which Pensions	*2.0*	*2.0*	*2.0*	*2.0*	*:*		
Health & Long-term care	*1.6*	*2.3*	*1.6*	*1.6*	*:*		
Others	*0.3*	*0.3*	*0.3*	*0.3*	*:*		

Debt projections - Baseline

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030
Gross debt ratio	**37.8**	**40.8**	**45.1**	**46.9**	**48.1**	**49.3**	**50.1**	**50.6**	**51.7**	**52.9**	**54.3**	**64.4**	**78.7**
changes in the debt ratio (1+2+3)	**3.6**	**3.0**	**4.3**	**1.8**	**1.2**	**1.3**	**0.8**	**0.5**	**1.1**	**1.2**	**1.5**	**2.4**	**3.2**
of w hich *Oustanding (non maturing) debt*			*34.0*	*38.0*	*39.2*	*40.2*	*41.1*	*42.1*	*42.8*	*37.6*	*41.0*	*52.2*	*61.1*
Rolled-over short-term debt			*3.9*	*4.3*	*4.5*	*4.6*	*4.7*	*4.8*	*4.8*	*4.9*	*5.0*	*5.9*	*7.1*
Rolled-over long-term debt			*3.0*	*2.8*	*3.2*	*3.3*	*3.5*	*3.3*	*3.0*	*9.2*	*6.8*	*4.0*	*7.3*
New short-term debt			*0.4*	*0.2*	*0.1*	*0.1*	*0.1*	*0.0*	*0.1*	*0.1*	*0.1*	*0.2*	*0.3*
New long-term debt			*3.9*	*1.6*	*1.1*	*1.1*	*0.7*	*0.5*	*1.0*	*1.1*	*1.3*	*2.2*	*2.9*
of w hich **(1) Overall primary balance (+ = deficit)**	**3.4**	**1.9**	**2.1**	**1.9**	**1.7**	**1.4**	**1.0**	**0.9**	**1.0**	**1.1**	**1.2**	**1.8**	**2.4**
Structural primary balance (kept constant at 2014 lvl)	*3.4*	*1.8*	*1.0*	*1.1*	*0.9*	*0.9*	*0.9*	*0.9*	*0.9*	*0.9*	*0.9*	*0.9*	*0.9*
Cyclical component	*0.0*	*0.1*	*1.1*	*0.8*	*0.8*	*0.5*	*0.3*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Ageing cost (incl. revenues pensions tax)	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*-0.1*	*0.0*	*0.1*	*0.2*	*0.3*	*0.4*	*0.9*	*1.4*
Property incomes	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*-0.1*	*-0.1*	*0.0*	*0.0*	*0.0*	*0.0*	*0.1*
(2) Snow ball effect (interest rate/grow th differential)	**-0.3**	**0.1**	**2.4**	**0.4**	**0.1**	**-0.1**	**-0.3**	**-0.4**	**0.1**	**0.1**	**0.2**	**0.6**	**0.8**
Interest expenditure	*1.6*	*1.5*	*1.5*	*1.6*	*1.6*	*1.6*	*1.7*	*1.8*	*1.9*	*2.0*	*2.1*	*2.8*	*3.6*
Growth effect (real)	*-0.8*	*-0.7*	*0.5*	*-0.4*	*-0.9*	*-1.0*	*-1.1*	*-1.2*	*-0.8*	*-0.8*	*-0.9*	*-1.0*	*-1.3*
Inflation effect	*-1.0*	*-0.8*	*0.4*	*-0.9*	*-0.5*	*-0.7*	*-0.8*	*-1.0*	*-1.0*	*-1.0*	*-1.0*	*-1.2*	*-1.5*
(3) Stock flow adjustment	**0.5**	**1.1**	**-0.2**	**-0.5**	**-0.6**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
PM : Structural balance (+ = deficit)	**4.8**	**3.2**	**2.5**	**2.6**	**2.4**	**2.4**	**2.4**	**2.6**	**2.8**	**3.0**	**3.4**	**4.6**	**5.9**
Financing needs (billions EUR)			**17.1**	**14.0**	**14.4**	**15.4**	**15.7**	**15.6**	**16.8**	**30.0**	**27.1**	**29.9**	**51.8**
Key macroeconomic assumptions													
Actual GDP grow th (real)	2.5	1.9	-1.3	0.8	2.0	2.2	2.3	2.4	1.6	1.7	1.7	1.7	1.7
Potential GDP grow th (real)			1.3	1.4	1.4	1.4	1.5	1.6	1.6	1.7	1.7	1.7	1.7
Inflation (GDP deflator)	3.1	2.0	-0.9	2.0	1.1	1.4	1.7	2.0	2.0	2.0	2.0	2.0	2.0
Implicit interest rate (nominal)	4.1	3.7	3.6	3.4	3.4	3.5	3.6	3.8	3.9	4.2	4.3	4.7	4.9
of which long-term implicit interest rate (nominal)			*3.9*	*3.8*	*3.7*	*3.6*	*3.6*	*3.7*	*3.8*	*3.9*	*4.2*	*4.7*	*4.9*
short-term interest rate (nominal)			*1.5*	*1.3*	*1.7*	*2.2*	*2.8*	*3.5*	*3.7*	*3.9*	*4.2*	*4.2*	*4.2*
long-term interest rate (nominal)			*3.3*	*2.6*	*3.2*	*3.8*	*4.4*	*5.1*	*5.1*	*5.1*	*5.1*	*5.1*	*5.1*

Debt projections - Sensitivity tests

Gross debt ratio	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030
-1p.p. in the short-term/long-term interest rate from 2014	37.8	40.8	45.1	46.9	48.1	49.3	50.1	50.5	51.4	52.4	53.6	61.7	73.0
+1p.p. in the short-term/long-term interest rate from 2014	37.8	40.8	45.1	46.9	48.1	49.3	50.2	50.8	52.0	53.4	55.1	67.3	84.9
-0.5p.p. GDP grow th from 2014	37.8	40.8	45.1	46.9	48.1	49.6	50.6	51.3	52.6	54.1	55.8	67.5	83.7
+0.5p.p. GDP grow th from 2014	37.8	40.8	45.1	46.9	48.1	49.1	49.7	49.9	50.7	51.7	52.9	61.6	74.1
Constant average 98-07 interest/grow th rates differential	37.8	40.8	45.1	46.9	48.1	49.3	50.1	50.3	50.9	51.4	51.7	53.1	55.3
Constant average 98-12 structural primary balance	37.8	40.8	45.1	48.5	51.4	54.4	56.9	59.1	62.0	65.0	68.3	88.0	112.5
Consolidation scenario (0.5% per year on SB) to achieve MTO	37.8	40.8	45.1	46.9	48.1	49.0	48.9	48.0	47.3	46.7	46.0	43.2	40.6
Consolidation scenario (1.0% per year on SB) to achieve MTO	37.8	40.8	45.1	46.9	48.1	48.6	48.1	47.1	46.4	45.8	45.2	42.4	40.0
Consolidation path (SPB) until 2020 to meet 60% debt target in 2030	37.8	40.8	45.1	46.9	48.1	49.3	49.8	49.8	50.1	50.3	50.4	53.3	60.0
Consolidation path (SPB) until 2020 to meet pre-crisis debt target in 2030	37.8	40.8	45.1	46.9	48.1	49.0	48.8	47.8	46.6	45.0	42.9	33.9	27.9
Consolidation path (SPB) until 2020 to meet post-crisis debt target in 2030	37.8	40.8	45.1	46.9	48.1	49.2	49.4	49.0	48.8	48.3	47.6	46.1	48.1

Cumulated budgetary effort	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030
Consolidation scenario (0.5% per year on SB) to achieve MTO	:	:	:	:	:	0.5	1.0	1.5	1.7	1.9	2.1	2.8	3.3
Consolidation scenario (1.0% per year on SB) to achieve MTO	:	:	:	:	:	1.0	1.4	1.5	1.7	1.8	2.1	2.7	3.3
Consolidation path (SPB) until 2020 to meet 60% debt target in 2030	:	:	:	:	:	0.2	0.4	0.6	0.9	1.1	1.3	1.3	1.3
Consolidation path (SPB) until 2020 to meet pre-crisis debt target in 2030	:	:	:	:	:	0.6	1.2	1.8	2.3	2.9	3.5	3.5	3.5
Consolidation path (SPB) until 2020 to meet post-crisis debt target in 2030	:	:	:	:	:	0.4	0.7	1.1	1.4	1.8	2.1	2.1	2.1

Gross debt as % of GDP - CZECH REPUBLIC - Medium term debt projections

Stochastic debt projections 2013-17, CZECH REPUBLIC

CZECH REPUBLIC - Medium term debt projections - Debt maturity structure (as % of GDP)

CZECH REPUBLIC - Medium term debt projections - Consolidation scenario (0.5% per year on SB) in order to achieve MTO

CZECH REPUBLIC - Medium term debt projections - Consolidation paths (SPB) until 2020 that would ensure meeting the 60% debt target in 2030

CZECH REPUBLIC - Medium term debt projections - Consolidation scenario (1% per year on SB) in order to achieve MTO

9.4. DENMARK

Denmark - Summary table

Long-term projections

	2010	2015	2020	2025	2030	2035	2040	2045	2050	2055	2060
Budgetary projections											
AWG reference scenario	30.3	30.9	30.8	31.1	31.8	32.5	32.9	33.0	33.0	33.1	33.3
AWG risk scenario	30.3	31.0	31.0	31.4	32.2	32.9	33.3	33.5	33.5	33.7	33.8
Revenues from pensions taxation	4.5	4.8	4.8	4.7	4.7	4.8	5.0	5.2	5.1	5.0	5.0
Property incomes	2.3	2.2	2.9	2.5	2.1	1.9	1.6	1.4	1.2	1.1	1.0

Sustainability indicators

S0 indicator	2009	2010	2011	2012	Critical threshold		
Overall index	0.48	0.29	0.24	0.24	0.44		
Fiscal sub-index	0.43	0.15	0.15	0.15	0.34		
Financial competitiveness sub-index	0.50	0.35	0.27	0.27	0.46		

S1 indicator	Baseline scenario	AWG risk scenario	2011 scenario	AVG 98-12 scenario			
Overall index	-2.0	-1.9	-4.2	-5.9			
of which Initial Budgetary position	-0.9	-0.9	-2.5	-3.9			
Cost of delaying adjustment	-0.3	-0.3	-0.6	-0.9			
Debt requirement	-0.9	-0.9	-1.2	-1.3			
Ageing costs	0.2	0.3	0.1	0.1			

S2 indicator	Baseline scenario	AWG risk scenario	2011 scenario	AVG 98-12 scenario	2009 Sustainability Report		
Overall index	2.6	3.0	0.7	-0.7	-0.2		
of which Initial Budgetary position	0.9	0.9	-0.9	-2.3	-1.6		
Long term component	1.7	2.1	1.6	1.6	1.4		
of which Pensions	-1.4	-1.4	-1.4	-1.3	:		
Health & Long-term care	3.4	3.8	3.3	3.2	:		
Others	-0.3	-0.3	-0.3	-0.3	:		

Debt projections - Baseline

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030
Gross debt ratio	42.9	46.6	45.4	44.7	45.3	45.2	43.7	41.9	40.2	38.7	37.2	31.9	32.2
changes in the debt ratio (1+2+3)	2.3	3.7	-1.2	-0.7	0.5	0.0	-1.5	-1.9	-1.7	-1.5	-1.4	-0.5	0.7
of which Oustanding (non maturing) debt			39.5	39.1	38.3	41.2	40.4	41.4	38.8	38.7	36.1	31.7	27.5
Rolled-over short-term debt			3.7	3.3	3.3	3.3	2.3	0.4	0.2	0.0	0.0	0.0	0.0
Rolled-over long-term debt			2.2	2.4	3.2	0.8	1.0	0.0	1.2	0.0	1.1	0.2	4.1
New short-term debt			0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
New long-term debt			0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7
of which (1) Overall primary balance (+ = deficit)	0.8	0.1	2.4	0.9	0.6	0.3	-1.0	-1.4	-1.4	-1.3	-1.2	-0.3	0.7
Structural primary balance (kept constant at 2014 lvl)	-1.7	-2.2	-1.2	-0.3	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5
Cyclical component	2.5	2.3	3.6	1.1	1.0	0.7	0.4	0.0	0.0	0.0	0.0	0.0	0.0
Ageing cost (incl. revenues pensions tax)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.2	-0.2	-0.1	0.3	1.0
Property incomes	0.0	0.0	0.0	0.0	0.0	0.0	-0.9	-0.8	-0.7	-0.7	-0.6	-0.2	0.1
(2) Snow ball effect (interest rate/grow th differential)	-0.1	1.2	1.0	0.2	-0.1	-0.4	-0.5	-0.5	-0.2	-0.2	-0.3	-0.2	-0.1
Interest expenditure	2.0	1.8	1.9	1.5	1.1	1.1	1.1	1.1	1.1	1.1	1.0	1.0	1.0
Growth effect (real)	-0.5	-0.3	-0.3	-0.7	-0.6	-0.7	-0.8	-0.8	-0.5	-0.5	-0.6	-0.5	-0.4
Inflation effect	-1.5	-0.3	-0.6	-0.6	-0.7	-0.8	-0.8	-0.9	-0.8	-0.8	-0.8	-0.6	-0.6
(3) Stock flow adjustment	1.5	2.5	-4.6	-1.7	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PM : Structural balance (+ = deficit)	0.0	-0.5	0.3	0.8	0.6	0.7	-0.3	-0.3	-0.3	-0.2	-0.1	0.6	1.7
Financing needs (billions EUR)			14.3	14.1	18.0	10.9	9.2	1.3	4.1	0.0	3.6	0.8	21.4
Key macroeconomic assumptions													
Actual GDP grow th (real)	1.3	0.8	0.6	1.6	1.3	1.6	1.7	1.7	1.3	1.4	1.5	1.7	1.4
Potential GDP grow th (real)			0.3	0.5	0.7	1.0	1.1	1.2	1.3	1.4	1.5	1.7	1.4
Inflation (GDP deflator)	3.8	0.8	1.4	1.4	1.5	1.7	1.8	2.0	2.0	2.0	2.0	2.0	2.0
Implicit interest rate (nominal)	4.3	4.2	3.4	2.5	2.4	2.5	2.6	2.7	2.8	2.8	2.8	3.2	3.5
of which long-term implicit interest rate (nominal)			4.4	3.9	3.1	2.7	2.7	2.7	2.7	2.8	2.8	3.1	3.3
short-term interest rate (nominal)			-2.3	-5.1	-0.9	0.4	1.9	3.6	3.8	3.9	4.1	4.1	4.1
long-term interest rate (nominal)			-4.5	-9.3	-1.6	0.6	2.9	5.1	5.0	5.0	5.0	5.0	5.0

Debt projections - Sensitivity tests

Gross debt ratio	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030
-1p.p. in the short-term/long-term interest rate from 2014	42.9	46.6	45.4	44.7	45.3	45.2	43.7	41.8	40.1	38.5	37.1	31.6	31.4
+1p.p. in the short-term/long-term interest rate from 2014	42.9	46.6	45.4	44.7	45.3	45.2	43.8	41.9	40.3	38.8	37.3	32.3	33.0
-0.5p.p. GDP grow th from 2014	42.9	46.6	45.4	44.7	45.3	45.5	44.2	42.5	41.0	39.6	38.3	33.6	34.2
+0.5p.p. GDP grow th from 2014	42.9	46.6	45.4	44.7	45.3	45.0	43.3	41.3	39.4	37.7	36.1	30.4	30.3
Constant average 98-07 interest/grow th rates differential	42.9	46.6	45.4	44.7	45.3	45.2	43.7	41.9	40.2	38.7	37.3	32.0	32.4
Constant average 98-12 structural primary balance	42.9	46.6	45.4	41.4	39.1	36.3	32.0	27.4	22.8	18.4	14.0	-5.9	-21.8
Consolidation scenario (0.5% per year on SB) to achieve MTO	42.9	46.6	45.4	44.7	45.3	45.1	44.2	43.1	42.2	41.3	40.5	36.3	33.0
Consolidation scenario (1.0% per year on SB) to achieve MTO	42.9	46.6	45.4	44.7	45.3	45.1	44.2	43.1	42.2	41.3	40.5	36.3	33.0
Consolidation path (SPB) until 2020 to meet 60% debt target in 2030	42.9	46.6	45.4	44.7	45.3	45.6	44.8	43.8	43.5	43.6	44.1	49.0	60.0
Consolidation path (SPB) until 2020 to meet pre-crisis debt target in 2030	42.9	46.6	45.4	44.7	45.3	45.3	43.8	41.8	39.9	38.1	36.4	29.3	27.5
Consolidation path (SPB) until 2020 to meet post-crisis debt target in 2030	42.9	46.6	45.4	44.7	45.3	44.3	42.9	41.9	41.2	40.7	40.2	45.3	

Cumulated budgetary effort	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030
Consolidation scenario (0.5% per year on SB) to achieve MTO	:	:	:	:	:	0.2	-0.8	-0.8	-0.8	-0.6	-0.6	0.3	1.3
Consolidation scenario (1.0% per year on SB) to achieve MTO	:	:	:	:	:	0.2	-0.8	-0.8	-0.8	-0.6	-0.6	0.3	1.3
Consolidation path (SPB) until 2020 to meet 60% debt target in 2030	:	:	:	:	:	-0.3	-0.7	-1.0	-1.4	-1.7	-2.0	-2.0	-2.0
Consolidation path (SPB) until 2020 to meet pre-crisis debt target in 2030	:	:	:	:	:	0.1	0.1	0.2	0.2	0.3	0.3	0.3	0.3
Consolidation path (SPB) until 2020 to meet post-crisis debt target in 2030	:	:	:	:	:	-0.2	-0.3	-0.5	-0.7	-0.8	-1.0	-1.0	-1.0

Gross debt as % of GDP - DENMARK - Medium term debt projections

Stochastic debt projections 2013-17, DENMARK

DENMARK - Medium term debt projections - Debt maturity structure (as % of GDP)

DENMARK - Medium term debt projections - Consolidation scenario (0.5% per year on SB) in order to achieve MTO

DENMARK - Medium term debt projections - Consolidation paths (SPB) until 2020 that would ensure meeting the 60% debt target in 2030

DENMARK - Medium term debt projections - Consolidation scenario (1% per year on SB) in order to achieve MTO

9.5. GERMANY

Germany - Summary table

Long-term projections

	2010	2015	2020	2025	2030	2035	2040	2045	2050	2055	2060
Budgetary projections											
AWG reference scenario	25.2	24.6	25.1	25.9	26.8	27.5	28.0	28.3	28.6	28.8	28.8
AWG risk scenario	25.2	24.9	25.6	26.6	27.7	28.6	29.4	30.0	30.6	31.0	31.1
Revenues from pensions taxation	1.7	1.7	1.8	2.0	2.1	2.3	2.4	2.5	2.5	2.6	2.6
Property incomes	0.9	0.9	1.1	1.0	1.0	0.9	0.9	0.8	0.8	0.7	0.7

Sustainability indicators

S0 indicator	2009	2010	2011	2012	Critical threshold
Overall index	**0.14**	**0.11**	**0.02**	**0.04**	**0.44**
Fiscal sub-index	0.43	0.37	0.05	0.12	0.34
Financial competitiveness sub-index	0.03	0.01	0.01	0.01	0.46

S1 indicator	Baseline scenario	AWG risk scenario	2011 scenario	AVG 98-12 scenario
Overall index	**-0.3**	**0.1**	**0.7**	**1.6**
of w hich *Initial Budgetary position*	*-2.1*	*-2.1*	*-1.4*	*-0.6*
Cost of delaying adjustment	*-0.1*	*0.0*	*0.1*	*0.3*
Debt requirement	*1.1*	*1.1*	*1.2*	*1.2*
Ageing costs	*0.7*	*1.1*	*0.7*	*0.7*

S2 indicator	Baseline scenario	AWG risk scenario	2011 scenario	AVG 98-12 scenario	2009 Sustainability Report
Overall index	**1.4**	**2.8**	**2.1**	**2.9**	**4.2**
of w hich Initial Budgetary position	-1.0	-1.0	-0.3	0.5	0.9
Long term component	2.4	3.8	2.4	2.4	3.3
of which Pensions	*1.5*	*1.5*	*1.5*	*1.5*	*:*
Health & Long-term care	*1.0*	*2.4*	*1.0*	*1.0*	*:*
Others	*0.0*	*0.0*	*0.0*	*0.0*	*:*

Debt projections - Baseline

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030
Gross debt ratio	82.5	80.5	81.7	80.8	78.4	76.0	73.3	70.8	68.6	66.6	64.7	58.7	58.1
changes in the debt ratio (1+2+3)	**8.0**	**-1.9**	**1.2**	**-0.9**	**-2.4**	**-2.4**	**-2.6**	**-2.5**	**-2.2**	**-2.1**	**-1.9**	**-0.8**	**0.4**
of w hich *Oustanding (non maturing) debt*			*60.9*	*59.4*	*61.2*	*61.8*	*59.8*	*61.2*	*61.9*	*61.1*	*50.6*	*54.2*	*48.1*
Rolled-over short-term debt			*12.6*	*12.3*	*10.7*	*9.2*	*7.7*	*6.1*	*4.6*	*3.3*	*2.9*	*1.5*	*1.1*
Rolled-over long-term debt			*7.1*	*9.1*	*6.4*	*5.0*	*5.9*	*3.5*	*2.2*	*2.1*	*11.1*	*3.0*	*8.5*
New short-term debt			*0.2*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
New long-term debt			*1.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.3*
of w hich (1) Overall primary balance (+ = deficit)	1.6	-1.8	-2.3	-2.2	-2.2	-2.3	-2.7	-2.7	-2.6	-2.5	-2.3	-1.7	-0.8
Structural primary balance (kept constant at 2014 lvl)	*-0.2*	*-1.8*	*-2.7*	*-2.7*	*-2.5*	*-2.5*	*-2.5*	*-2.5*	*-2.5*	*-2.5*	*-2.5*	*-2.5*	*-2.5*
Cyclical component	*1.8*	*0.1*	*0.4*	*0.5*	*0.3*	*0.2*	*0.1*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Ageing cost (incl. revenues pensions tax)	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.1*	*0.1*	*0.2*	*0.3*	*0.4*	*1.0*	*1.8*
Property incomes	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*-0.3*	*-0.3*	*-0.3*	*-0.3*	*-0.3*	*-0.2*	*-0.1*
(2) Snow ball effect (interest rate/grow th differential)	-0.9	-0.2	0.9	0.7	-0.5	0.0	0.1	0.2	0.4	0.4	0.4	0.9	1.2
Interest expenditure	*2.7*	*2.8*	*2.6*	*2.5*	*2.4*	*2.2*	*2.2*	*2.3*	*2.4*	*2.3*	*2.3*	*2.5*	*2.6*
Growth effect (real)	*-3.0*	*-2.4*	*-0.7*	*-0.7*	*-1.6*	*-0.9*	*-0.8*	*-0.7*	*-0.6*	*-0.5*	*-0.5*	*-0.4*	*-0.3*
Inflation effect	*-0.7*	*-0.6*	*-1.0*	*-1.1*	*-1.2*	*-1.3*	*-1.4*	*-1.5*	*-1.4*	*-1.4*	*-1.3*	*-1.2*	*-1.1*
(3) Stock flow adjustment	*7.3*	*0.1*	*2.5*	*0.5*	*0.3*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
PM : Structural balance (+ = deficit)	**2.3**	**0.7**	**-0.2**	**-0.3**	**-0.3**	**-0.4**	**-0.6**	**-0.4**	**-0.2**	**-0.2**	**-0.1**	**0.8**	**1.8**
Financing needs (billions EUR)			550.9	578.9	479.8	410.0	403.2	293.9	212.1	176.3	466.1	170.2	433.4
Key macroeconomic assumptions													
Actual GDP grow th (real)	4.2	3.0	0.8	0.8	2.0	1.2	1.1	1.0	0.8	0.8	0.8	0.7	0.5
Potential GDP grow th (real)			1.4	1.5	1.6	1.0	0.9	0.8	0.8	0.8	0.8	0.7	0.5
Inflation (GDP deflator)	0.9	0.8	1.2	1.4	1.6	1.7	1.9	2.0	2.0	2.0	2.0	2.0	2.0
Implicit interest rate (nominal)	3.6	3.2	3.1	3.0	2.9	3.0	3.2	3.4	3.4	3.5	3.8	4.3	4.7
of which long-term implicit interest rate (nominal)			*3.5*	*3.5*	*3.3*	*3.2*	*3.2*	*3.3*	*3.4*	*3.4*	*3.5*	*4.3*	*4.6*
short-term interest rate (nominal)			*1.1*	*1.1*	*1.0*	*1.7*	*2.5*	*3.4*	*3.7*	*3.9*	*4.2*	*4.2*	*4.1*
long-term interest rate (nominal)			*2.8*	*2.5*	*1.9*	*3.0*	*4.1*	*5.1*	*5.1*	*5.1*	*5.1*	*5.0*	*5.0*

Debt projections - Sensitivity tests

Gross debt ratio	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030
-1p.p. in the short-term/long-term interest rate from 2014	82.5	80.5	81.7	80.8	78.4	76.0	73.3	70.6	68.2	66.0	63.9	56.2	53.3
+1p.p. in the short-term/long-term interest rate from 2014	82.5	80.5	81.7	80.8	78.4	76.0	73.4	71.1	69.0	67.2	65.5	61.4	63.3
-0.5p.p. GDP grow th from 2014	82.5	80.5	81.7	80.8	78.4	76.4	74.1	71.9	70.1	68.4	66.8	62.6	63.9
+0.5p.p. GDP grow th from 2014	82.5	80.5	81.7	80.8	78.4	75.6	72.6	69.7	67.2	64.8	62.5	55.0	52.7
Constant average 98-07 interest/grow th rates differential	82.5	80.5	81.7	80.8	78.4	76.0	73.5	71.1	69.1	67.1	65.3	60.0	60.0
Constant average 98-12 structural primary balance	82.5	80.5	81.7	82.4	81.3	80.4	79.1	78.0	77.3	76.7	76.4	78.8	87.9
Consolidation scenario (0.5% per year on SB) to achieve MTO	82.5	80.5	81.7	80.8	78.4	76.5	74.8	73.2	71.8	70.4	69.0	62.7	57.9
Consolidation scenario (1.0% per year on SB) to achieve MTO	82.5	80.5	81.7	80.8	78.4	76.5	74.8	73.2	71.8	70.4	69.0	62.7	57.9
Consolidation path (SPB) until 2020 to meet 60% debt target in 2030	82.5	80.5	81.7	80.8	78.4	76.3	73.9	71.6	69.6	67.7	66.1	60.5	60.0
Consolidation path (SPB) until 2020 to meet pre-crisis debt target in 2030	82.5	80.5	81.7	80.8	78.4	76.3	74.0	71.9	70.0	68.5	67.2	63.5	65.2
Consolidation path (SPB) until 2020 to meet post-crisis debt target in 2030	82.5	80.5	81.7	80.8	78.4	76.4	74.3	72.6	71.3	70.4	70.0	71.1	78.4
Cumulated budgetary effort	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2025**	**2030**
Consolidation scenario (0.5% per year on SB) to achieve MTO	:	:	:	:	:	-0.8	-1.1	-0.9	-0.7	-0.5	-0.4	0.5	1.3
Consolidation scenario (1.0% per year on SB) to achieve MTO	:	:	:	:	:	-0.8	-1.1	-0.9	-0.7	-0.5	-0.4	0.5	1.3
Consolidation path (SPB) until 2020 to meet 60% debt target in 2030	:	:	:	:	:	-0.1	-0.1	-0.2	-0.2	-0.3	-0.3	-0.3	-0.3
Consolidation path (SPB) until 2020 to meet pre-crisis debt target in 2030	:	:	:	:	:	-0.1	-0.2	-0.3	-0.5	-0.6	-0.7	-0.7	-0.7
Consolidation path (SPB) until 2020 to meet post-crisis debt target in 2030	:	:	:	:	:	-0.3	-0.5	-0.8	-1.0	-1.3	-1.5	-1.5	-1.5

Gross debt as % of GDP - GERMANY - Medium term debt projections

Legend:
- No-policy change scenario
- Shock -1p.p. in the short-term/long-term interest rate on maturing and new debt from 2015
- Shock +1p.p. in the short-term/long-term interest rate on maturing and new debt from 2015
- Consolidation scenario (0.5% per year on SB) in order to achieve MTO
- Consolidation scenario (1% per year on SB) in order to achieve MTO
- Constant average 1998-2007 interest (on new & maturing debt)/growth rates differential

Stochastic debt projections 2013-17, GERMANY

Legend:
- p10_p20
- p20_p40
- p40_p60
- p60_p80
- p80_p90
- p50
- gdebt_gdp_DSM

GERMANY - Medium term debt projections - Debt maturity structure (as % of GDP)

Legend:
- Outstanding (non maturing) debt
- Rolled-over short-term debt
- Rolled-over long-term debt
- New short-term debt
- New long-term debt

GERMANY - Medium term debt projections - Consolidation scenario (0.5% per year on SB) in order to achieve MTO

Legend:
- Cumulated budgetary effort
- Structural Deficit
- Gross debt

GERMANY - Medium term debt projections - Consolidation paths (SPB) until 2020 that would ensure meeting the 60% debt target in 2030

Legend:
- Cumulated budgetary effort
- Cumulated budgetary effort without cost of ageing (PM)
- Structural Deficit
- Gross debt

GERMANY - Medium term debt projections - Consolidation scenario (1% per year on SB) in order to achieve MTO

Legend:
- Cumulated budgetary effort
- Structural Deficit
- Gross debt

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9.6. ESTONIA

Estonia - Summary table

Long-term projections

	2010	2015	2020	2025	2030	2035	2040	2045	2050	2055	2060
Budgetary projections											
AWG reference scenario	20.3	19.0	19.3	19.7	19.9	19.7	19.6	19.7	20.0	20.4	20.3
AWG risk scenario	20.3	19.2	19.6	20.1	20.4	20.3	20.3	20.5	20.8	21.2	21.2
Revenues from pensions taxation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Property incomes	2.2	2.1	1.7	1.6	1.5	1.5	1.5	1.4	1.4	1.4	1.4

Sustainability indicators

S0 indicator	2009	2010	2011	2012	Critical threshold
Overall index	**0.63**	**0.30**	**0.19**	**0.25**	**0.44**
Fiscal sub-index	0.45	0.05	0.05	0.26	0.34
Financial competitiveness sub-index	0.69	0.38	0.24	0.24	0.46

S1 indicator	Baseline scenario	AWG risk scenario	2011 scenario	AVG 98-12 scenario		
Overall index	**-3.4**	**-3.1**	**-2.1**	**-1.9**		
of w hich *Initial Budgetary position*	*0.0*	*0.0*	*1.0*	*1.2*		
Cost of delaying adjustment	*-0.5*	*-0.5*	*-0.3*	*-0.3*		
Debt requirement	*-3.0*	*-3.0*	*-3.0*	*-3.0*		
Ageing costs	*0.2*	*0.3*	*0.2*	*0.2*		

S2 indicator	Baseline scenario	AWG risk scenario	2011 scenario	AVG 98-12 scenario	2009 Sustainability Report	
Overall index	**1.2**	**1.8**	**2.1**	**2.4**	**0.9**	
of w hich *Initial Budgetary position*	*0.5*	*0.5*	*1.5*	*1.7*	*1.1*	
Long term component	*0.7*	*1.3*	*0.7*	*0.7*	*-0.1*	
of which Pensions	*-0.1*	*-0.1*	*-0.1*	*-0.1*	*:*	
Health & Long-term care	*0.9*	*1.5*	*0.9*	*0.9*	*:*	
Others	*-0.2*	*-0.2*	*-0.2*	*-0.2*	*:*	

Debt projections - Baseline

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030
Gross debt ratio	**6.7**	**6.1**	**10.5**	**11.9**	**11.2**	**9.8**	**9.1**	**8.6**	**8.4**	**8.3**	**8.3**	**10.5**	**14.3**
changes in the debt ratio (1+2+3)	**-0.5**	**-0.6**	**4.4**	**1.3**	**-0.7**	**-1.3**	**-0.8**	**-0.5**	**-0.2**	**-0.1**	**0.0**	**0.6**	**0.9**
of w hich *Oustanding (non maturing) debt*			*5.6*	*9.9*	*11.2*	*9.8*	*9.1*	*4.0*	*6.2*	*8.3*	*7.8*	*9.3*	*12.2*
Rolled-over short-term debt			*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Rolled-over long-term debt			*0.5*	*0.6*	*0.0*	*0.0*	*0.0*	*4.6*	*2.1*	*0.0*	*0.5*	*0.6*	*1.2*
New short-term debt			*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
New long-term debt			*4.4*	*1.3*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.6*	*0.9*
of w hich (1) Overall primary balance (+ = deficit)	**-0.3**	**-1.3**	**1.0**	**0.3**	**-0.5**	**-0.9**	**-0.5**	**-0.3**	**-0.2**	**0.0**	**0.1**	**0.6**	**0.8**
Structural primary balance (kept constant at 2014 lvl)	*1.1*	*0.6*	*0.3*	*0.3*	*-0.4*	*-0.4*	*-0.4*	*-0.4*	*-0.4*	*-0.4*	*-0.4*	*-0.4*	*-0.4*
Cyclical component	*-1.3*	*-1.9*	*0.7*	*0.0*	*-0.1*	*-0.3*	*-0.1*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Ageing cost (incl. revenues pensions tax)	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*-0.3*	*-0.4*	*-0.3*	*-0.2*	*-0.1*	*0.0*	*0.4*	*0.6*
Property incomes	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.1*	*0.4*	*0.4*	*0.5*	*0.5*	*0.5*	*0.6*	*0.6*
(2) Snow ball effect (interest rate/grow th differential)	**0.0**	**-0.6**	**-0.2**	**-0.4**	**-0.6**	**-0.4**	**-0.3**	**-0.2**	**-0.1**	**0.0**	**0.0**	**0.0**	**0.1**
Interest expenditure	*0.3*	*0.1*	*0.1*	*0.3*	*0.2*	*0.2*	*0.2*	*0.1*	*0.3*	*0.3*	*0.3*	*0.5*	*0.6*
Growth effect (real)	*-0.2*	*-0.5*	*-0.2*	*-0.3*	*-0.5*	*-0.3*	*-0.2*	*-0.2*	*-0.2*	*-0.2*	*-0.2*	*-0.2*	*-0.3*
Inflation effect	*-0.1*	*-0.2*	*-0.2*	*-0.3*	*-0.4*	*-0.3*	*-0.2*	*-0.2*	*-0.2*	*-0.2*	*-0.2*	*-0.2*	*-0.3*
(3) Stock flow adjustment	***-0.2***	***1.3***	***3.6***	***1.4***	***0.4***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
PM : Structural balance (+ = deficit)	**1.2**	**0.7**	**0.4**	**0.4**	**-0.2**	**-0.5**	**-0.2**	**-0.1**	**0.1**	**0.3**	**0.4**	**1.0**	**1.5**
Financing needs (billions EUR)			**0.8**	**0.4**	**0.0**	**0.0**	**0.0**	**1.0**	**0.5**	**0.0**	**0.1**	**0.4**	**0.8**
Key macroeconomic assumptions													
Actual GDP grow th (real)	3.3	8.3	2.5	3.1	4.0	2.6	2.2	2.0	2.3	2.2	2.1	2.3	2.0
Potential GDP grow th (real)			2.2	3.1	3.7	3.0	2.7	2.4	2.3	2.2	2.1	2.3	2.0
Inflation (GDP deflator)	0.7	2.9	3.2	3.1	3.2	2.8	2.4	2.0	2.0	2.0	2.0	2.0	2.0
Implicit interest rate (nominal)	2.1	2.3	2.6	1.7	1.7	1.7	1.7	3.4	3.8	3.8	3.9	4.8	4.9
of which long-term implicit interest rate (nominal)			*2.3*	*2.6*	*1.7*	*1.7*	*1.7*	*1.7*	*3.4*	*3.8*	*3.8*	*4.7*	*4.9*
short-term interest rate (nominal)			*1.1*	*-1.3*	*0.0*	*0.9*	*2.0*	*3.3*	*3.6*	*3.8*	*4.1*	*4.1*	*4.1*
long-term interest rate (nominal)			*2.8*	*-3.0*	*0.0*	*1.7*	*3.3*	*5.0*	*5.0*	*5.0*	*5.0*	*5.0*	*5.0*

Debt projections - Sensitivity tests

Gross debt ratio	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030
-1p.p. in the short-term/long-term interest rate from 2014	6.7	6.1	10.5	11.9	11.2	9.8	9.1	8.6	8.3	8.2	8.2	10.0	13.3
+1p.p. in the short-term/long-term interest rate from 2014	6.7	6.1	10.5	11.9	11.2	9.8	9.1	8.6	8.4	8.4	8.5	11.0	15.4
-0.5p.p. GDP grow th from 2014	6.7	6.1	10.5	11.9	11.2	9.9	9.2	8.7	8.5	8.5	8.6	10.9	14.9
+0.5p.p. GDP grow th from 2014	6.7	6.1	10.5	11.9	11.2	9.8	9.0	8.5	8.2	8.1	8.1	10.1	13.7
Constant average 98-07 interest/grow th rates differential	6.7	6.1	10.5	11.9	11.2	9.8	9.1	8.6	8.0	7.5	7.1	6.8	7.6
Constant average 98-12 structural primary balance	6.7	6.1	10.5	12.4	12.8	12.6	12.9	13.5	14.4	15.5	16.7	24.9	35.2
Consolidation scenario (0.5% per year on SB) to achieve MTO	6.7	6.1	10.5	11.9	11.2	10.3	9.7	9.4	9.0	8.6	8.3	6.8	5.5
Consolidation scenario (1.0% per year on SB) to achieve MTO	6.7	6.1	10.5	11.9	11.2	10.3	9.7	9.4	9.0	8.6	8.3	6.8	5.5
Consolidation path (SPB) until 2020 to meet 60% debt target in 2030	6.7	6.1	10.5	11.9	11.2	10.4	10.7	11.9	13.8	16.4	19.7	38.6	60.0
Consolidation path (SPB) until 2020 to meet pre-crisis debt target in 2030	6.7	6.1	10.5	11.9	11.2	9.7	8.8	8.0	7.2	6.4	5.7	3.9	3.7
Consolidation path (SPB) until 2020 to meet post-crisis debt target in 2030	6.7	6.1	10.5	11.9	11.2	9.8	9.0	8.5	8.1	7.8	7.6	8.5	11.2

Cumulated budgetary effort	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030
Consolidation scenario (0.5% per year on SB) to achieve MTO	:	:	:	:	:	-0.5	-0.2	-0.1	0.2	0.3	0.4	0.9	1.1
Consolidation scenario (1.0% per year on SB) to achieve MTO	:	:	:	:	:	-0.5	-0.2	-0.1	0.2	0.3	0.4	0.9	1.1
Consolidation path (SPB) until 2020 to meet 60% debt target in 2030	:	:	:	:	:	-0.6	-1.1	-1.7	-2.2	-2.8	-3.4	-3.4	-3.4
Consolidation path (SPB) until 2020 to meet pre-crisis debt target in 2030	:	:	:	:	:	0.1	0.2	0.3	0.4	0.5	0.6	0.6	0.6
Consolidation path (SPB) until 2020 to meet post-crisis debt target in 2030	:	:	:	:	:	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1

Gross debt as % of GDP - ESTONIA - Medium term debt projections

Stochastic debt projections 2013-17, ESTONIA

ESTONIA - Medium term debt projections - Debt maturity structure (as % of GDP)

ESTONIA - Medium term debt projections - Consolidation scenario (0.5% per year on SB) in order to achieve MTO

ESTONIA - Medium term debt projections - Consolidation paths (SPB) until 2020 that would ensure meeting the 60% debt target in 2030

ESTONIA - Medium term debt projections - Consolidation scenario (1% per year on SB) in order to achieve MTO

9.7. SPAIN

Spain - Summary table

Long-term projections

	2010	2015	2020	2025	2030	2035	2040	2045	2050	2055	2060
Budgetary projections											
AWG reference scenario	23.6	24.5	24.4	23.9	23.6	24.1	25.3	26.6	27.5	27.8	27.5
AWG risk scenario	23.6	24.6	24.6	24.2	24.0	24.7	25.9	27.3	28.2	28.6	28.3
Revenues from pensions taxation	0.6	0.6	0.6	0.6	0.6	0.7	0.7	0.8	0.8	0.8	0.8
Property incomes	1.0	1.0	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.5

Sustainability indicators

S0 indicator	2009	2010	2011	2012	Critical threshold			
Overall index	0.70	0.43	0.38	0.44	0.44			
Fiscal sub-index	0.78	0.39	0.39	0.54	0.34			
Financial competitiveness sub-index	0.66	0.44	0.38	0.40	0.46			

S1 indicator	Baseline scenario	AWG risk scenario	2011 scenario	AVG 98-12 scenario				
Overall index	5.3	5.6	10.9	4.2				
of which Initial Budgetary position	2.5	2.5	6.5	1.5				
Cost of delaying adjustment	0.9	0.9	1.8	0.7				
Debt requirement	2.2	2.2	2.8	2.2				
Ageing costs	-0.3	-0.1	-0.3	-0.3				

S2 indicator	Baseline scenario	AWG risk scenario	2011 scenario	AVG 98-12 scenario	2009 Sustainability Report			
Overall index	4.8	5.3	8.7	3.9	11.9			
of which Initial Budgetary position	2.9	2.9	6.8	2.0	6.1			
Long term component	1.9	2.4	1.8	1.9	5.7			
of which Pensions	2.2	2.2	2.2	2.2	:			
Health & Long-term care	1.5	2.1	1.5	1.5	:			
Others	-1.9	-1.9	-1.9	-1.9	:			

Debt projections - Baseline

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030
Gross debt ratio	61.5	69.3	86.1	92.7	97.1	100.8	103.9	106.2	109.2	112.0	114.4	122.8	129.4
changes in the debt ratio (1+2+3)	7.5	7.8	16.8	6.6	4.4	3.7	3.1	2.3	3.0	2.8	2.5	1.2	1.7
of which Oustanding (non maturing) debt			51.1	65.7	70.8	76.1	79.4	84.2	88.1	89.3	69.8	96.0	93.9
Rolled-over short-term debt			10.7	13.3	14.3	15.0	15.6	16.0	16.4	16.8	17.3	18.7	19.6
Rolled-over long-term debt			7.5	7.1	7.6	6.0	5.8	3.7	1.7	3.1	24.9	6.9	14.1
New short-term debt			2.6	1.0	0.7	0.6	0.5	0.3	0.5	0.4	0.4	0.2	0.3
New long-term debt			14.2	5.6	3.7	3.1	2.7	1.9	2.6	2.3	2.1	1.0	1.5
of which (1) Overall primary balance (+ = deficit)	7.7	7.0	5.0	2.2	2.5	2.1	2.2	1.8	1.8	1.7	1.6	1.2	0.9
Structural primary balance (kept constant at 2014 lvl)	5.7	5.0	3.3	0.2	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
Cyclical component	2.1	2.0	1.7	2.0	1.2	0.8	0.4	0.0	0.0	0.0	0.0	0.0	0.0
Ageing cost (incl. revenues pensions tax)	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.1	0.0	-0.5	-0.8
Property incomes	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.4	0.4	0.4	0.4	0.4
(2) Snowball effect (interest rate/growth differential)	2.3	1.4	3.7	3.4	2.0	1.6	0.9	0.5	1.2	1.0	0.8	0.0	0.9
Interest expenditure	2.3	2.2	2.8	3.8	4.1	4.2	4.4	4.6	4.8	5.0	5.1	5.7	6.1
Growth effect (real)	0.2	-0.3	1.0	1.3	-0.8	-1.1	-1.7	-2.1	-1.4	-1.8	-2.1	-3.3	-2.7
Inflation effect	-0.2	-0.6	-0.1	-1.7	-1.3	-1.5	-1.8	-2.0	-2.1	-2.1	-2.2	-2.4	-2.5
(3) Stock flow adjustment	-2.4	-0.5	8.2	1.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PM : Structural balance (+ = deficit)	7.6	7.5	6.3	4.0	5.3	5.5	6.2	6.3	6.5	6.6	6.7	6.9	6.9
Financing needs (billions EUR)			367.7	284.6	283.9	273.9	281.7	262.8	260.7	290.7	594.3	447.0	741.5
Key macroeconomic assumptions													
Actual GDP growth (real)	-0.3	0.4	-1.4	-1.4	0.8	1.1	1.7	2.0	1.4	1.7	1.9	2.8	2.2
Potential GDP growth (real)			-1.0	-1.3	-1.3	0.2	0.8	1.1	1.4	1.7	1.9	2.8	2.2
Inflation (GDP deflator)	0.4	1.0	0.2	1.9	1.4	1.6	1.8	2.0	2.0	2.0	2.0	2.0	2.0
Implicit interest rate (nominal)	3.6	4.0	4.3	4.5	4.4	4.4	4.5	4.6	4.7	4.7	4.8	4.9	5.0
of which long-term implicit interest rate (nominal)			4.6	4.8	4.9	4.8	4.8	4.8	4.9	4.9	4.9	5.0	5.1
short-term interest rate (nominal)			1.7	2.1	2.0	2.4	2.8	3.3	3.6	3.9	4.2	4.2	4.2
long-term interest rate (nominal)			5.2	5.6	4.4	4.6	4.9	5.1	5.1	5.1	5.1	5.1	5.1

Debt projections - Sensitivity tests

Gross debt ratio	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030
-1p.p. in the short-term/long-term interest rate from 2014	61.5	69.3	86.1	92.7	97.1	100.8	103.9	105.8	108.5	110.9	112.9	117.5	119.4
+1p.p. in the short-term/long-term interest rate from 2014	61.5	69.3	86.1	92.7	97.1	100.8	104.1	106.6	110.0	113.1	116.0	128.4	140.3
-0.5p.p. GDP growth from 2014	61.5	69.3	86.1	92.7	97.1	101.3	104.9	107.7	111.3	114.6	117.7	129.1	139.0
+0.5p.p. GDP growth from 2014	61.5	69.3	86.1	92.7	97.1	100.3	102.9	104.7	107.2	109.4	111.3	116.9	120.5
Constant average 98-07 interest/growth rates differential	61.5	69.3	86.1	92.7	97.1	100.8	104.0	105.9	108.2	110.0	111.2	108.9	103.4
Constant average 98-12 structural primary balance	61.5	69.3	86.1	92.9	96.4	99.1	101.3	102.7	104.8	106.6	108.1	111.8	113.5
Consolidation scenario (0.5% per year on SB) to achieve MTO	61.5	69.3	86.1	92.7	97.1	100.5	102.9	103.9	105.1	105.5	105.1	91.7	72.8
Consolidation scenario (1.0% per year on SB) to achieve MTO	61.5	69.3	86.1	92.7	97.1	100.3	101.9	101.6	101.0	99.1	95.8	76.0	60.0
Consolidation path (SPB) until 2020 to meet 60% debt target in 2030	61.5	69.3	86.1	92.7	97.1	100.7	102.9	103.3	103.4	102.3	99.9	81.2	60.0
Consolidation path (SPB) until 2020 to meet pre-crisis debt target in 2030	61.5	69.3	86.1	92.7	97.1	100.6	102.3	101.9	101.0	98.5	94.4	66.7	36.2
Consolidation path (SPB) until 2020 to meet post-crisis debt target in 2030	61.5	69.3	86.1	92.7	97.1	101.0	103.8	105.3	107.1	108.1	108.3	103.8	97.1
Cumulated budgetary effort	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030
Consolidation scenario (0.5% per year on SB) to achieve MTO	:	:	:	:	:	0.5	1.0	1.5	2.0	2.6	3.1	5.6	4.5
Consolidation scenario (1.0% per year on SB) to achieve MTO	:	:	:	:	:	1.0	2.0	3.1	4.1	5.1	6.1	4.9	3.9
Consolidation path (SPB) until 2020 to meet 60% debt target in 2030	:	:	:	:	:	0.9	1.8	2.7	3.6	4.5	5.3	5.3	5.3
Consolidation path (SPB) until 2020 to meet pre-crisis debt target in 2030	:	:	:	:	:	1.2	2.4	3.6	4.8	5.9	7.1	7.1	7.1
Consolidation path (SPB) until 2020 to meet post-crisis debt target in 2030	:	:	:	:	:	0.4	0.9	1.3	1.7	2.2	2.6	2.6	2.6

Gross debt as % of GDP - SPAIN - Medium term debt projections

Stochastic debt projections 2013-17, SPAIN

SPAIN - Medium term debt projections - Debt maturity structure (as % of GDP)

SPAIN - Medium term debt projections - Consolidation scenario (0.5% per year on SB) in order to achieve MTO

SPAIN - Medium term debt projections - Consolidation paths (SPB) until 2020 that would ensure meeting the 60% debt target in 2030

SPAIN - Medium term debt projections - Consolidation scenario (1% per year on SB) in order to achieve MTO

9.8. FRANCE

France - Summary table

Long-term projections

	2010	2015	2020	2025	2030	2035	2040	2045	2050	2055	2060
Budgetary projections											
AWG reference scenario	31.4	31.1	31.1	31.2	31.7	32.3	32.5	32.5	32.5	32.4	32.2
AWG risk scenario	31.4	31.5	31.7	32.1	32.9	33.9	34.5	34.8	35.1	35.2	35.3
Revenues from pensions taxation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Property incomes	0.8	0.8	0.9	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.7

Sustainability indicators

S0 indicator	2009	2010	2011	2012	Critical threshold		
Overall index	**0.25**	**0.13**	**0.13**	**0.19**	**0.44**		
Fiscal sub-index	0.80	0.46	0.46	0.46	0.34		
Financial competitiveness sub-index	0.03	0.01	0.01	0.08	0.46		

S1 indicator	Baseline scenario	AWG risk scenario	2011 scenario	AVG 98-12 scenario			
Overall index	**1.9**	**2.5**	**5.1**	**4.3**			
of which *Initial Budgetary position*	*-0.6*	*-0.6*	*1.7*	*1.1*			
Cost of delaying adjustment	*0.3*	*0.4*	*0.8*	*0.7*			
Debt requirement	*2.1*	*2.1*	*2.5*	*2.4*			
Ageing costs	*0.1*	*0.6*	*0.1*	*0.1*			

S2 indicator	Baseline scenario	AWG risk scenario	2011 scenario	AVG 98-12 scenario	2009 Sustainability Report		
Overall index	**1.6**	**3.8**	**4.0**	**3.4**	**5.6**		
of which *Initial Budgetary position*	*0.6*	*0.6*	*3.0*	*2.4*	*3.8*		
Long term component	*0.9*	*3.1*	*0.9*	*0.9*	*1.8*		
of which Pensions	*0.6*	*0.6*	*0.6*	*0.6*	*:*		
Health & Long-term care	*0.9*	*3.1*	*0.9*	*0.9*	*:*		
Others	*-0.5*	*-0.5*	*-0.5*	*-0.5*	*:*		

Debt projections - Baseline

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030
Gross debt ratio	82.3	86.0	90.0	92.7	93.8	93.3	92.3	90.9	90.4	89.8	89.1	86.7	89.1
changes in the debt ratio (1+2+3)	**3.1**	**3.7**	**4.1**	**2.7**	**1.1**	**-0.5**	**-1.0**	**-1.4**	**-0.6**	**-0.6**	**-0.7**	**-0.1**	**0.8**
of which *Oustanding (non maturing) debt*			*67.7*	*68.8*	*71.8*	*72.2*	*72.5*	*73.2*	*75.6*	*74.0*	*73.5*	*69.5*	*66.5*
Rolled-over short-term debt			*13.2*	*13.8*	*14.2*	*14.1*	*13.4*	*12.4*	*12.0*	*11.5*	*11.1*	*9.9*	*10.0*
Rolled-over long-term debt			*5.1*	*7.4*	*6.7*	*7.0*	*6.4*	*5.3*	*2.9*	*4.3*	*4.5*	*7.4*	*11.7*
New short-term debt			*0.6*	*0.4*	*0.2*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.1*
New long-term debt			*3.4*	*2.3*	*0.9*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.7*
of which **(1) Overall primary balance (+ = deficit)**	**4.7**	**2.6**	**1.9**	**1.0**	**1.0**	**0.3**	**-0.2**	**-0.6**	**-0.6**	**-0.6**	**-0.6**	**-0.4**	**0.1**
Structural primary balance (kept constant at 2014 lvl)	*3.3*	*1.8*	*0.8*	*-0.5*	*-0.5*	*-0.5*	*-0.5*	*-0.5*	*-0.5*	*-0.5*	*-0.5*	*-0.5*	*-0.5*
Cyclical component	*1.3*	*0.7*	*1.2*	*1.5*	*1.4*	*0.8*	*0.4*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Ageing cost (incl. revenues pensions tax)	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*-0.1*	*-0.1*	*-0.1*	*0.1*	*0.6*
Property incomes	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*-0.1*	*-0.1*	*-0.1*	*-0.1*	*-0.1*	*0.0*	*0.0*
(2) Snowball effect (interest rate/growth differential)	**0.6**	**0.0**	**1.2**	**1.1**	**0.0**	**-0.8**	**-0.9**	**-0.8**	**0.1**	**0.0**	**-0.1**	**0.3**	**0.7**
Interest expenditure	*2.7*	*2.5*	*2.8*	*2.7*	*2.6*	*2.6*	*2.7*	*2.8*	*3.0*	*3.0*	*3.1*	*3.6*	*3.9*
Growth effect (real)	*-1.3*	*-1.4*	*-0.2*	*-0.3*	*-1.1*	*-1.8*	*-1.8*	*-1.7*	*-1.1*	*-1.3*	*-1.6*	*-1.6*	*-1.6*
Inflation effect	*-0.8*	*-1.1*	*-1.4*	*-1.3*	*-1.5*	*-1.6*	*-1.7*	*-1.8*	*-1.8*	*-1.8*	*-1.8*	*-1.7*	*-1.7*
(3) Stock flow adjustment	**-2.1**	**1.0**	**0.9**	**0.7**	**0.1**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
PM : Structural balance (+ = deficit)	**5.7**	**4.5**	**3.4**	**2.0**	**2.1**	**2.0**	**2.0**	**2.1**	**2.3**	**2.4**	**2.5**	**3.1**	**3.9**
Financing needs (billions EUR)			454.6	495.6	470.6	467.0	454.8	423.3	365.9	402.5	411.5	553.0	869.8

Key macroeconomic assumptions													
Actual GDP growth (real)	1.7	1.7	0.2	0.4	1.2	1.9	1.9	1.9	1.2	1.4	1.6	1.8	1.6
Potential GDP growth (real)			0.9	0.9	0.9	1.0	1.1	1.0	1.2	1.4	1.6	1.8	1.6
Inflation (GDP deflator)	1.1	1.3	1.7	1.5	1.7	1.8	1.9	2.0	2.0	2.0	2.0	2.0	2.0
Implicit interest rate (nominal)	3.1	3.3	3.1	2.9	2.8	2.9	3.1	3.4	3.4	3.6	3.7	4.3	4.6
of which long-term implicit interest rate (nominal)			*3.7*	*3.5*	*3.3*	*3.2*	*3.1*	*3.2*	*3.4*	*3.4*	*3.5*	*4.3*	*4.5*
short-term interest rate (nominal)			*0.7*	*0.8*	*1.0*	*1.7*	*2.5*	*3.4*	*3.7*	*3.9*	*4.2*	*4.2*	*4.2*
long-term interest rate (nominal)			*1.9*	*1.8*	*2.0*	*3.0*	*4.1*	*5.1*	*5.1*	*5.1*	*5.1*	*5.1*	*5.1*

Debt projections - Sensitivity tests

Gross debt ratio	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030
-1p.p. in the short-term/long-term interest rate from 2014	82.3	86.0	90.0	92.7	93.8	93.3	92.2	90.6	89.8	88.9	87.9	83.3	82.5
+1p.p. in the short-term/long-term interest rate from 2014	82.3	86.0	90.0	92.7	93.8	93.3	92.5	91.3	91.0	90.6	90.3	90.4	96.3
-0.5p.p. GDP growth from 2014	82.3	86.0	90.0	92.7	93.8	93.2	92.3	91.3	92.2	92.0	91.8	91.8	96.6
+0.5p.p. GDP growth from 2014	82.3	86.0	90.0	92.7	93.8	92.9	91.4	89.6	88.6	87.6	86.5	82.0	82.1
Constant average 98-07 interest/growth rates differential	82.3	86.0	90.0	92.7	93.8	93.3	92.5	91.2	90.8	90.1	89.4	86.3	87.4
Constant average 98-12 structural primary balance	82.3	86.0	90.0	94.5	97.4	98.6	99.2	99.5	100.7	101.8	102.9	109.6	122.0
Consolidation scenario (0.5% per year on SB) to achieve MTO	82.3	86.0	90.0	92.7	93.8	93.1	91.3	88.6	86.3	83.5	80.6	66.4	55.4
Consolidation scenario (1.0% per year on SB) to achieve MTO	82.3	86.0	90.0	92.7	93.8	92.8	90.2	86.8	84.1	81.3	78.4	64.7	54.0
Consolidation path (SPB) until 2020 to meet 60% debt target in 2030	82.3	86.0	90.0	92.7	93.8	93.5	92.2	90.2	88.5	86.4	83.8	70.0	60.0
Consolidation path (SPB) until 2020 to meet pre-crisis debt target in 2030	82.3	86.0	90.0	92.7	93.8	93.5	92.3	90.4	88.9	87.0	84.8	72.6	64.2
Consolidation path (SPB) until 2020 to meet post-crisis debt target in 2030	82.3	86.0	90.0	92.7	93.8	93.7	93.0	92.1	91.8	91.6	91.4	90.2	93.8

Cumulated budgetary effort	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030
Consolidation scenario (0.5% per year on SB) to achieve MTO	:	:	:	:	:	0.5	1.0	1.5	2.0	2.2	2.2	2.3	2.5
Consolidation scenario (1.0% per year on SB) to achieve MTO	:	:	:	:	:	1.0	2.0	2.1	2.2	2.2	2.1	2.2	2.4
Consolidation path (SPB) until 2020 to meet 60% debt target in 2030	:	:	:	:	:	0.3	0.6	0.9	1.3	1.6	1.9	1.9	1.9
Consolidation path (SPB) until 2020 to meet pre-crisis debt target in 2030	:	:	:	:	:	0.3	0.5	0.8	1.1	1.3	1.6	1.6	1.6
Consolidation path (SPB) until 2020 to meet post-crisis debt target in 2030	:	:	:	:	:	-0.1	-0.2	-0.3	-0.3	-0.4	-0.5	-0.5	-0.5

Gross debt as % of GDP - FRANCE - Medium term debt projections

Stochastic debt projections 2013-17, FRANCE

FRANCE - Medium term debt projections - Debt maturity structure (as % of GDP)

FRANCE - Medium term debt projections - Consolidation scenario (0.5% per year on SB) in order to achieve MTO

FRANCE - Medium term debt projections - Consolidation paths (SPB) until 2020 that would ensure meeting the 60% debt target in 2030

FRANCE - Medium term debt projections - Consolidation scenario (1% per year on SB) in order to achieve MTO

9.9. ITALY

Italy - Summary table

Long-term projections

	2010	2015	2020	2025	2030	2035	2040	2045	2050	2055	2060
Budgetary projections											
AWG reference scenario	28.6	27.6	27.3	27.2	27.5	28.3	29.2	29.8	29.8	29.3	28.6
AWG risk scenario	28.6	27.7	27.4	27.4	27.7	28.6	29.5	30.2	30.2	29.7	29.0
Revenues from pensions taxation	2.5	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Property incomes	0.6	0.6	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.4

Sustainability indicators

S0 indicator	2009	2010	2011	2012	Critical threshold
Overall index	0.42	0.23	0.26	0.28	0.44
Fiscal sub-index	0.89	0.45	0.31	0.31	0.34
Financial competitiveness sub-index	0.23	0.15	0.24	0.27	0.46

S1 indicator	Baseline scenario	AWG risk scenario	2011 scenario	AVG 98-12 scenario			
Overall index	0.6	0.7	6.5	5.3			
of which Initial Budgetary position	-2.8	-2.8	1.4	0.7			
Cost of delaying adjustment	0.1	0.1	1.1	0.9			
Debt requirement	3.7	3.7	4.2	4.0			
Ageing costs	-0.3	-0.2	-0.3	-0.3			

S2 indicator	Baseline scenario	AWG risk scenario	2011 scenario	AVG 98-12 scenario	2009 Sustainability Report		
Overall index	-2.3	-2.0	1.6	1.0	1.4		
of which Initial Budgetary position	-3.0	-3.0	0.9	0.3	-0.1		
Long term component	0.7	1.0	0.7	0.7	1.5		
of which Pensions	-0.3	-0.3	-0.3	-0.3	:		
Health & Long-term care	1.2	1.5	1.2	1.2	:		
Others	-0.2	-0.2	-0.2	-0.2	:		

Debt projections - Baseline

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030
Gross debt ratio	119.2	120.7	126.5	127.6	126.5	124.4	121.5	118.0	115.1	111.8	108.2	87.2	66.0
changes in the debt ratio (1+2+3)	2.8	1.5	5.8	1.1	-1.1	-2.2	-2.8	-3.6	-2.9	-3.2	-3.6	-4.4	-4.0
of which Oustanding (non maturing) debt			92.6	95.9	96.7	96.3	99.7	98.0	100.2	97.4	97.6	81.8	52.8
Rolled-over short-term debt			19.1	20.0	19.4	18.1	16.0	13.6	11.3	9.3	6.9	1.4	0.0
Rolled-over long-term debt			9.0	10.6	10.3	10.0	5.8	6.4	3.6	5.1	3.8	4.0	13.2
New short-term debt			0.9	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
New long-term debt			4.9	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
of which (1) Overall primary balance (+ = deficit)	-0.1	-1.0	-2.6	-3.5	-3.7	-4.3	-4.7	-5.2	-5.2	-5.3	-5.4	-5.4	-5.2
Structural primary balance (kept constant at 2014 lvl)	-0.9	-1.2	-4.1	-5.1	-5.0	-5.0	-5.0	-5.0	-5.0	-5.0	-5.0	-5.0	-5.0
Cyclical component	0.8	0.2	1.4	1.7	1.3	0.9	0.4	0.0	0.0	0.0	0.0	0.0	0.0
Ageing cost (incl. revenues pensions tax)	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.2	-0.3	-0.3	-0.4	-0.5	-0.2
Property incomes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
(2) Snow ball effect (interest rate/grow th differential)	2.3	2.7	6.2	4.4	2.4	2.1	1.8	1.6	2.3	2.1	1.8	1.0	1.1
Interest expenditure	4.8	4.8	5.2	5.7	5.5	5.8	5.8	5.8	5.7	5.6	5.5	4.5	3.5
Growth effect (real)	-2.1	-0.5	2.8	0.7	-1.1	-1.5	-1.7	-1.8	-1.0	-1.3	-1.5	-1.7	-1.0
Inflation effect	-0.4	-1.5	-1.8	-2.0	-2.0	-2.2	-2.3	-2.4	-2.3	-2.3	-2.2	-1.8	-1.4
(3) Stock flow adjustment	0.6	-0.2	2.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PM : Structural balance (+ = deficit)	3.7	3.7	1.4	0.4	0.5	0.7	0.7	0.6	0.4	0.3	0.1	-1.0	-1.7
Financing needs (billions EUR)			530.7	502.1	482.6	468.6	375.6	356.0	273.6	272.7	209.3	125.8	372.1
Key macroeconomic assumptions													
Actual GDP grow th (real)	1.8	0.4	-2.3	-0.5	0.8	1.2	1.4	1.5	0.9	1.1	1.4	1.9	1.4
Potential GDP grow th (real)			-0.9	-0.3	0.0	0.3	0.5	0.6	0.9	1.1	1.4	1.9	1.4
Inflation (GDP deflator)	0.4	1.3	1.4	1.6	1.6	1.7	1.9	2.0	2.0	2.0	2.0	2.0	2.0
Implicit interest rate (nominal)	4.0	4.2	4.5	4.4	4.7	4.8	4.9	4.9	5.0	5.0	5.1	5.1	5.1
of which long-term implicit interest rate (nominal)			4.8	5.0	4.9	5.0	5.1	5.1	5.1	5.1	5.1	5.1	5.1
short-term interest rate (nominal)			2.0	1.7	2.7	3.0	3.1	3.3	3.6	3.9	4.2	4.2	4.1
long-term interest rate (nominal)			6.3	4.3	6.1	5.8	5.5	5.1	5.1	5.1	5.1	5.0	5.0

Debt projections - Sensitivity tests

Gross debt ratio	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030
-1p.p. in the short-term/long-term interest rate from 2014	119.2	120.7	126.5	127.6	126.5	124.4	121.3	117.5	114.3	110.8	106.9	83.5	59.8
+1p.p. in the short-term/long-term interest rate from 2014	119.2	120.7	126.5	127.6	126.5	124.4	121.7	118.4	115.8	112.9	109.6	91.1	72.9
-0.5p.p. GDP grow th from 2014	119.2	120.7	126.5	127.6	126.5	125.0	122.8	119.8	117.6	115.0	112.0	93.7	75.2
+0.5p.p. GDP grow th from 2014	119.2	120.7	126.5	127.6	126.5	123.7	120.3	116.1	112.6	108.8	104.6	81.0	57.6
Constant average 98-07 interest/grow th rates differential	119.2	120.7	126.5	127.6	126.5	124.4	122.0	118.8	116.1	112.9	109.3	88.5	67.7
Constant average 98-12 structural primary balance	119.2	120.7	126.5	131.0	133.1	134.2	134.7	134.4	134.9	135.1	135.0	131.4	129.4
Consolidation scenario (0.5% per year on SB) to achieve MTO	119.2	120.7	126.5	127.6	126.5	124.2	120.8	116.6	113.2	109.7	106.0	87.3	72.9
Consolidation scenario (1.0% per year on SB) to achieve MTO	119.2	120.7	126.5	127.6	126.5	124.1	120.6	116.4	113.1	109.5	105.8	87.2	72.8
Consolidation path (SPB) until 2020 to meet 60% debt target in 2030	119.2	120.7	126.5	127.6	126.5	124.8	122.2	118.7	115.7	112.2	108.2	84.3	60.0
Consolidation path (SPB) until 2020 to meet pre-crisis debt target in 2030	119.2	120.7	126.5	127.6	126.5	125.0	123.1	120.9	119.6	118.5	117.3	109.7	103.1
Consolidation path (SPB) until 2020 to meet post-crisis debt target in 2030	119.2	120.7	126.5	127.6	126.5	125.1	123.6	122.0	121.8	121.8	122.2	123.5	126.5

Cumulated budgetary effort	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030
Consolidation scenario (0.5% per year on SB) to achieve MTO	:	:	:	:	:	0.5	0.7	0.5	0.4	0.2	0.0	-1.0	-1.4
Consolidation scenario (1.0% per year on SB) to achieve MTO	:	:	:	:	:	0.7	0.7	0.5	0.3	0.2	0.0	-1.0	-1.5
Consolidation path (SPB) until 2020 to meet 60% debt target in 2030	:	:	:	:	:	0.1	0.2	0.3	0.4	0.5	0.6	0.6	0.6
Consolidation path (SPB) until 2020 to meet pre-crisis debt target in 2030	:	:	:	:	:	-0.4	-0.8	-1.2	-1.7	-2.1	-2.5	-2.5	-2.5
Consolidation path (SPB) until 2020 to meet post-crisis debt target in 2030	:	:	:	:	:	-0.7	-1.4	-2.1	-2.8	-3.5	-4.1	-4.1	-4.1

Gross debt as % of GDP - ITALY - Medium term debt projections

Legend:
- No-policy change scenario
- Shock -1p.p. in the short-term/long-term interest rate on maturing and new debt from 2015
- Shock +1p.p. in the short-term/long-term interest rate on maturing and new debt from 2015
- Consolidation scenario (0.5% per year on SB) in order to achieve MTO
- Consolidation scenario (1% per year on SB) in order to achieve MTO
- Constant average 1998-2007 interest (on new & maturing debt)/growth rates differential

Stochastic debt projections 2013-17, ITALY

Legend:
- p10_p20
- p20_p40
- p40_p60
- p60_p80
- p80_p90
- p50
- gdebt_gdp_DSM

ITALY - Medium term debt projections - Debt maturity structure (as % of GDP)

Legend:
- Oustanding (non maturing) debt
- Rolled-over short-term debt
- Rolled-over long-term debt
- New short-term debt
- New long-term debt

ITALY - Medium term debt projections - Consolidation scenario (0.5% per year on SB) in order to achieve MTO

Legend:
- Cumulated budgetary effort
- Structural Deficit
- Gross debt

ITALY - Medium term debt projections - Consolidation paths (SPB) until 2020 that would ensure meeting the 60% debt target in 2030

Legend:
- Cumulated budgetary effort
- Cumulated budgetary effort without cost of ageing (PM)
- Structural Deficit
- Gross debt

ITALY - Medium term debt projections - Consolidation scenario (1% per year on SB) in order to achieve MTO

Legend:
- Cumulated budgetary effort
- Structural Deficit
- Gross debt

9.10. CYPRUS

Cyprus - Summary table

Long-term projections

	2010	2015	2020	2025	2030	2035	2040	2045	2050	2055	2060
Budgetary projections											
AWG reference scenario	17.5	18.1	18.7	19.8	20.5	20.9	21.3	22.1	23.5	24.8	25.9
AWG risk scenario	17.5	18.1	18.7	19.8	20.6	21.0	21.4	22.3	23.6	25.0	26.1
Revenues from pensions taxation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Property incomes	1.0	1.0	0.9	0.8	0.7	0.7	0.6	0.6	0.6	0.6	0.6

Sustainability indicators

S0 indicator	2009	2010	2011	2012	Critical threshold		
Overall index	**0.66**	**0.47**	**0.49**	**0.57**	**0.44**		
Fiscal sub-index	0.64	0.27	0.34	0.36	0.34		
Financial competitiveness sub-index	0.66	0.55	0.55	0.65	0.46		

S1 indicator	Baseline scenario	AWG risk scenario	2011 scenario	AVG 98-12 scenario			
Overall index	**8.2**	**8.2**	**12.0**	**7.6**			
of which *Initial Budgetary position*	*3.0*	*3.0*	*5.8*	*2.6*			
Cost of delaying adjustment	*1.4*	*1.4*	*2.1*	*1.3*			
Debt requirement	*2.4*	*2.4*	*2.9*	*2.4*			
Ageing costs	*1.3*	*1.3*	*1.2*	*1.3*			

S2 indicator	Baseline scenario	AWG risk scenario	2011 scenario	AVG 98-12 scenario	2009 Sustainability Report		
Overall index	**8.2**	**8.3**	**10.7**	**7.8**	**8.8**		
of which *Initial Budgetary position*	*2.8*	*2.8*	*5.3*	*2.4*	*0.5*		
Long term component	*5.4*	*5.5*	*5.4*	*5.4*	*8.3*		
of which Pensions	*5.5*	*5.5*	*5.4*	*5.5*	*:*		
Health & Long-term care	*0.3*	*0.4*	*0.3*	*0.3*	*:*		
Others	*-0.4*	*-0.4*	*-0.4*	*-0.4*	*:*		

Debt projections - Baseline

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030
Gross debt ratio	**61.3**	**71.1**	**89.7**	**96.7**	**102.7**	**107.2**	**111.2**	**114.9**	**119.2**	**123.3**	**127.4**	**147.9**	**171.8**
changes in the debt ratio (1+2+3)	**2.8**	**9.7**	**18.6**	**7.0**	**6.0**	**4.5**	**4.0**	**3.7**	**4.3**	**4.2**	**4.1**	**4.5**	**4.8**
of which *Oustanding (non maturing) debt*			*63.1*	*59.2*	*77.2*	*77.2*	*73.3*	*69.3*	*87.9*	*87.7*	*73.2*	*90.5*	*122.9*
Rolled-over short-term debt			*8.0*	*10.1*	*10.9*	*11.6*	*12.1*	*12.5*	*12.9*	*13.3*	*13.8*	*16.0*	*18.5*
Rolled-over long-term debt			*0.0*	*20.4*	*8.6*	*14.0*	*21.9*	*29.4*	*14.1*	*18.1*	*36.4*	*36.9*	*25.5*
New short-term debt			*2.1*	*0.8*	*0.7*	*0.5*	*0.4*	*0.4*	*0.5*	*0.5*	*0.4*	*0.5*	*0.5*
New long-term debt			*16.5*	*6.2*	*5.4*	*4.0*	*3.5*	*3.3*	*3.8*	*3.7*	*3.6*	*4.0*	*4.3*
of which **(1) Overall primary balance (+ = deficit)**	**3.0**	**3.9**	**1.7**	**1.8**	**1.8**	**1.7**	**1.6**	**1.5**	**1.6**	**1.8**	**2.0**	**3.1**	**3.9**
Structural primary balance (kept constant at 2014 lvl)	*3.0*	*3.5*	*1.1*	*0.9*	*1.1*	*1.1*	*1.1*	*1.1*	*1.1*	*1.1*	*1.1*	*1.1*	*1.1*
Cyclical component	*0.0*	*0.4*	*0.6*	*0.9*	*0.7*	*0.4*	*0.2*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Ageing cost (incl. revenues pensions tax)	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.2*	*0.2*	*0.3*	*0.4*	*0.6*	*0.7*	*1.8*	*2.6*
Property incomes	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.2*	*0.2*
(2) Snow ball effect (interest rate/grow th differential)	**1.1**	**0.4**	**3.4**	**4.6**	**3.7**	**2.8**	**2.3**	**2.2**	**2.7**	**2.4**	**2.1**	**1.4**	**0.9**
Interest expenditure	*3.0*	*2.4*	*2.9*	*4.4*	*4.2*	*4.4*	*4.6*	*4.9*	*5.2*	*5.5*	*5.8*	*6.9*	*8.0*
Growth effect (real)	*-0.8*	*-0.3*	*1.7*	*1.5*	*0.7*	*-0.1*	*-0.4*	*-0.5*	*-0.3*	*-0.7*	*-1.2*	*-2.7*	*-3.9*
Inflation effect	*-1.1*	*-1.7*	*-1.2*	*-1.4*	*-1.2*	*-1.5*	*-1.9*	*-2.2*	*-2.3*	*-2.4*	*-2.4*	*-2.8*	*-3.3*
(3) Stock flow adjustment	***-1.3***	***5.4***	***13.5***	***0.6***	***0.5***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
PM : Structural balance (+ = deficit)	**5.3**	**5.9**	**4.6**	**4.8**	**5.3**	**5.6**	**6.0**	**6.3**	**6.8**	**7.2**	**7.7**	**9.9**	**11.9**
Financing needs (billions EUR)			**4.7**	**6.7**	**4.6**	**5.5**	**7.0**	**8.7**	**6.1**	**7.1**	**11.2**	**14.2**	**14.9**
Key macroeconomic assumptions													
Actual GDP grow th (real)	1.3	0.5	-2.3	-1.7	-0.7	0.1	0.4	0.4	0.2	0.6	1.0	1.9	2.4
Potential GDP grow th (real)			-0.7	-1.5	-1.2	-0.5	-0.2	-0.1	0.2	0.6	1.0	1.9	2.4
Inflation (GDP deflator)	1.9	2.7	1.6	1.5	1.2	1.5	1.7	2.0	2.0	2.0	2.0	2.0	2.0
Implicit interest rate (nominal)	4.0	4.0	4.9	4.3	4.3	4.3	4.4	4.6	4.7	4.8	4.9	5.0	5.0
of which long-term implicit interest rate (nominal)			*4.3*	*5.2*	*4.7*	*4.6*	*4.6*	*4.7*	*4.8*	*4.8*	*4.9*	*5.1*	*5.1*
short-term interest rate (nominal)			*2.7*	*1.4*	*1.8*	*2.2*	*2.7*	*3.2*	*3.5*	*3.9*	*4.2*	*4.2*	*4.2*
long-term interest rate (nominal)			*8.7*	*3.7*	*4.2*	*4.5*	*4.8*	*5.1*	*5.1*	*5.1*	*5.1*	*5.1*	*5.1*

Debt projections - Sensitivity tests

Gross debt ratio	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030
-1p.p. in the short-term/long-term interest rate from 2014	61.3	71.1	89.7	96.7	102.7	107.2	110.9	114.2	117.8	121.2	124.3	138.9	155.5
+1p.p. in the short-term/long-term interest rate from 2014	61.3	71.1	89.7	96.7	102.7	107.2	111.4	115.6	120.6	125.6	130.6	157.5	189.9
-0.5p.p. GDP grow th from 2014	61.3	71.1	89.7	96.7	102.7	107.8	112.3	116.6	121.5	126.3	131.1	155.3	183.5
+0.5p.p. GDP grow th from 2014	61.3	71.1	89.7	96.7	102.7	106.7	110.1	113.2	116.9	120.5	123.9	141.0	161.0
Constant average 98-07 interest/grow th rates differential	61.3	71.1	89.7	96.7	102.7	107.2	111.0	113.7	115.6	116.9	117.6	119.6	125.8
Constant average 98-12 structural primary balance	61.3	71.1	89.7	96.5	102.1	106.1	109.6	112.8	116.7	120.4	123.9	142.1	163.5
Consolidation scenario (0.5% per year on SB) to achieve MTO	61.3	71.1	89.7	96.7	102.7	107.0	110.2	112.6	115.1	116.9	118.1	116.1	104.0
Consolidation scenario (1.0% per year on SB) to achieve MTO	61.3	71.1	89.7	96.7	102.7	106.7	109.2	110.3	111.0	110.5	108.7	91.1	74.0
Consolidation path (SPB) until 2020 to meet 60% debt target in 2030	61.3	71.1	89.7	96.7	102.7	106.9	109.1	109.7	109.2	107.1	103.4	80.4	60.0
Consolidation path (SPB) until 2020 to meet pre-crisis debt target in 2030	61.3	71.1	89.7	96.7	102.7	106.9	109.1	109.6	109.1	106.9	103.2	79.7	58.8
Consolidation path (SPB) until 2020 to meet post-crisis debt target in 2030	61.3	71.1	89.7	96.7	102.7	107.1	110.1	111.9	113.3	113.6	112.9	106.3	102.7
Cumulated budgetary effort	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2025**	**2030**
Consolidation scenario (0.5% per year on SB) to achieve MTO	:	:	:	:	:	0.5	1.0	1.5	2.1	2.6	3.1	5.7	8.2
Consolidation scenario (1.0% per year on SB) to achieve MTO	:	:	:	:	:	1.0	2.1	3.1	4.1	5.1	6.1	7.6	7.7
Consolidation path (SPB) until 2020 to meet 60% debt target in 2030	:	:	:	:	:	1.4	2.7	4.1	5.4	6.8	8.2	8.2	8.2
Consolidation path (SPB) until 2020 to meet pre-crisis debt target in 2030	:	:	:	:	:	1.4	2.8	4.1	5.5	6.9	8.3	8.3	8.3
Consolidation path (SPB) until 2020 to meet post-crisis debt target in 2030	:	:	:	:	:	0.8	1.7	2.5	3.4	4.2	5.1	5.1	5.1

Gross debt as % of GDP - CYPRUS - Medium term debt projections

Stochastic debt projections 2012-16, CYPRUS

CYPRUS - Medium term debt projections - Debt maturity structure (as % of GDP)

CYPRUS - Medium term debt projections - Consolidation scenario (0.5% per year on SB) in order to achieve MTO

CYPRUS - Medium term debt projections - Consolidation paths (SPB) until 2020 that would ensure meeting the 60% debt target in 2030

CYPRUS - Medium term debt projections - Consolidation scenario (1% per year on SB) in order to achieve MTO

9.11.   LATVIA

Latvia - Summary table

Long-term projections

	2010	2015	2020	2025	2030	2035	2040	2045	2050	2055	2060
Budgetary projections											
AWG reference scenario	19.2	16.9	16.6	16.1	15.4	15.2	15.0	15.0	15.5	15.7	15.4
AWG risk scenario	19.2	17.0	16.8	16.4	15.8	15.6	15.4	15.5	16.0	16.2	15.9
Revenues from pensions taxation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Property incomes	1.5	1.5	1.3	1.3	1.2	1.2	1.2	1.1	1.1	1.1	1.1

Sustainability indicators

S0 indicator	2009	2010	2011	2012	Critical threshold		
Overall index	0.80	0.49	0.27	0.26	0.44		
Fiscal sub-index	0.58	0.33	0.16	0.15	0.34		
Financial competitiveness sub-index	0.89	0.55	0.31	0.31	0.46		

S1 indicator	Baseline scenario	AWG risk scenario	2011 scenario	AVG 98-12 scenario			
Overall index	**-2.0**	**-1.8**	**-1.2**	**0.9**			
of which *Initial Budgetary position*	0.0	0.0	0.6	2.1			
Cost of delaying adjustment	-0.3	-0.3	-0.2	0.1			
Debt requirement	-0.9	-0.9	-0.8	-0.7			
Ageing costs	-0.8	-0.6	-0.8	-0.8			

S2 indicator	Baseline scenario	AWG risk scenario	2011 scenario	AVG 98-12 scenario	2009 Sustainability Report		
Overall index	**-0.7**	**-0.4**	**-0.2**	**1.4**	**9.9**		
of which *Initial Budgetary position*	0.7	0.7	1.3	2.9	8.9		
Long term component	-1.5	-1.1	-1.5	-1.5	1.0		
of which Pensions	-1.4	-1.4	-1.4	-1.4	:		
Health & Long-term care	0.5	0.9	0.5	0.5	:		
Others	-0.6	-0.6	-0.6	-0.6	:		

Debt projections - Baseline

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030
Gross debt ratio	**44.5**	**42.2**	**41.9**	**44.3**	**44.9**	**44.2**	**43.5**	**42.8**	**42.1**	**41.5**	**41.0**	**38.1**	**31.7**
changes in the debt ratio (1+2+3)	**7.8**	**-2.3**	**-0.3**	**2.4**	**0.6**	**-0.7**	**-0.7**	**-0.7**	**-0.7**	**-0.6**	**-0.5**	**-0.9**	**-1.4**
of which *Oustanding (non maturing) debt*			38.7	35.7	34.6	38.5	39.6	29.4	29.1	32.9	36.7	35.1	30.6
Rolled-over short-term debt			3.2	3.2	3.4	3.0	2.6	2.4	2.3	2.2	1.9	1.2	0.3
Rolled-over long-term debt			0.0	3.0	6.3	2.6	1.3	11.0	10.7	6.4	2.3	1.8	0.8
New short-term debt			0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
New long-term debt			0.0	2.2	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
of which (1) Overall primary balance (+ = deficit)	**6.7**	**2.0**	**0.2**	**-0.2**	**-0.7**	**-0.6**	**-0.6**	**-0.5**	**-0.5**	**-0.6**	**-0.6**	**-1.1**	**-1.7**
Structural primary balance (kept constant at 2014 lvl)	1.8	0.2	-0.4	-0.3	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4
Cyclical component	5.0	1.8	0.6	0.1	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ageing cost (incl. revenues pensions tax)	0.0	0.0	0.0	0.0	0.0	-0.1	-0.2	-0.3	-0.3	-0.4	-0.4	-0.9	-1.6
Property incomes	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.2	0.3
(2) Snowball effect (interest rate/growth differential)	**3.3**	**-3.3**	**-1.7**	**-0.7**	**-0.7**	**-0.1**	**-0.1**	**-0.1**	**-0.1**	**0.0**	**0.1**	**0.2**	**0.3**
Interest expenditure	2.4	1.6	1.6	1.6	1.8	2.1	2.1	2.1	2.0	2.0	2.0	1.9	1.6
Growth effect (real)	0.3	-2.3	-1.8	-1.5	-1.7	-1.3	-1.4	-1.4	-1.4	-1.2	-1.1	-1.0	-0.6
Inflation effect	0.6	-2.6	-1.5	-0.9	-0.9	-0.9	-0.9	-0.8	-0.8	-0.8	-0.8	-0.8	-0.6
(3) Stock flow adjustment	**-2.3**	**-0.9**	**1.3**	**3.3**	**2.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
PM : Structural balance (+ = deficit)	**3.2**	**1.7**	**1.2**	**1.5**	**1.5**	**1.6**	**1.6**	**1.5**	**1.5**	**1.4**	**1.4**	**0.8**	**-0.1**
Financing needs (billions EUR)			0.7	2.0	2.5	1.5	1.0	3.8	3.9	2.7	1.4	1.2	0.6
Key macroeconomic assumptions													
Actual GDP grow th (real)	-0.9	5.5	4.3	3.6	3.9	2.9	3.3	3.3	3.3	3.0	2.7	2.5	1.9
Potential GDP grow th (real)			0.9	2.0	2.8	3.2	3.6	3.6	3.3	3.0	2.7	2.5	1.9
Inflation (GDP deflator)	-1.7	6.2	3.8	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Implicit interest rate (nominal)	3.8	3.7	4.0	4.4	4.9	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
of which long-term implicit interest rate (nominal)			4.0	4.0	4.5	5.0	5.1	5.1	5.1	5.1	5.1	5.1	5.0
short-term interest rate (nominal)			4.2	3.0	3.4	3.4	3.4	3.2	3.5	3.9	4.2	4.2	4.1
long-term interest rate (nominal)			13.2	7.9	7.5	6.7	5.9	5.1	5.1	5.1	5.0	5.0	5.0

Debt projections - Sensitivity tests

Gross debt ratio	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030
-1p.p. in the short-term/long-term interest rate from 2014	44.5	42.2	41.9	44.3	44.9	44.2	43.4	42.7	41.9	41.1	40.3	36.0	28.0
+1p.p. in the short-term/long-term interest rate from 2014	44.5	42.2	41.9	44.3	44.9	44.2	43.5	42.9	42.3	42.0	41.7	40.4	35.8
-0.5p.p. GDP grow th from 2014	44.5	42.2	41.9	44.3	44.9	44.4	43.9	43.4	42.9	42.5	42.2	40.4	34.9
+0.5p.p. GDP grow th from 2014	44.5	42.2	41.9	44.3	44.9	43.9	43.0	42.2	41.3	40.5	39.8	36.0	28.8
Constant average 98-07 interest/grow th rates differential	44.5	42.2	41.9	44.3	44.9	44.2	43.4	42.6	41.0	39.1	37.1	25.6	12.2
Constant average 98-12 structural primary balance	44.5	42.2	41.9	46.2	48.9	50.4	51.8	53.3	54.7	56.2	57.8	66.1	71.0
Consolidation scenario (0.5% per year on SB) to achieve MTO	44.5	42.2	41.9	44.3	44.9	43.8	42.2	40.5	38.9	37.5	36.3	31.6	27.7
Consolidation scenario (1.0% per year on SB) to achieve MTO	44.5	42.2	41.9	44.3	44.9	43.4	41.6	40.0	38.4	37.1	35.9	31.2	27.4
Consolidation path (SPB) until 2020 to meet 60% debt target in 2030	44.5	42.2	41.9	44.3	44.9	44.5	44.5	44.8	45.4	46.4	47.9	55.5	60.0
Consolidation path (SPB) until 2020 to meet pre-crisis debt target in 2030	44.5	42.2	41.9	44.3	44.9	44.0	42.9	41.4	39.7	37.8	35.7	24.3	9.0
Consolidation path (SPB) until 2020 to meet post-crisis debt target in 2030	44.5	42.2	41.9	44.3	44.9	44.4	44.0	43.8	43.7	43.9	44.3	46.3	44.9

Cumulated budgetary effort	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030
Consolidation scenario (0.5% per year on SB) to achieve MTO	:	:	:	:	:	0.5	1.0	1.0	0.9	0.8	0.7	0.0	-0.8
Consolidation scenario (1.0% per year on SB) to achieve MTO	:	:	:	:	:	1.0	1.1	1.0	0.9	0.8	0.7	0.0	-0.9
Consolidation path (SPB) until 2020 to meet 60% debt target in 2030	:	:	:	:	:	-0.3	-0.7	-1.0	-1.3	-1.7	-2.0	-2.0	-2.0
Consolidation path (SPB) until 2020 to meet pre-crisis debt target in 2030	:	:	:	:	:	0.3	0.6	0.8	1.1	1.4	1.7	1.7	1.7
Consolidation path (SPB) until 2020 to meet post-crisis debt target in 2030	:	:	:	:	:	-0.2	-0.3	-0.5	-0.6	-0.8	-0.9	-0.9	-0.9

Gross debt as % of GDP - LATVIA - Medium term debt projections

Legend:
- No-policy change scenario
- Shock -1p.p. in the short-term/long-term interest rate on maturing and new debt from 2015
- Shock +1p.p. in the short-term/long-term interest rate on maturing and new debt from 2015
- Consolidation scenario (0.5% per year on SB) in order to achieve MTO
- Consolidation scenario (1% per year on SB) in order to achieve MTO
- Constant average 1998-2007 interest (on new & maturing debt)/growth rates differential

Stochastic debt projections 2013-17, LATVIA

Legend:
- p10_p20
- p20_p40
- p40_p60
- p60_p80
- p80_p90
- p50
- gdebt_gdp_DSM

LATVIA - Medium term debt projections - Debt maturity structure (as % of GDP)

Legend:
- Oustanding (non maturing) debt
- Rolled-over short-term debt
- Rolled-over long-term debt
- New short-term debt
- New long-term debt

LATVIA - Medium term debt projections - Consolidation scenario (0.5% per year on SB) in order to achieve MTO

Legend:
- Cumulated budgetary effort
- Structural Deficit
- Gross debt

LATVIA - Medium term debt projections - Consolidation paths (SPB) until 2020 that would ensure meeting the 60% debt target in 2030

Legend:
- Cumulated budgetary effort
- Cumulated budgetary effort without cost of ageing (PM)
- Structural Deficit
- Gross debt

LATVIA - Medium term debt projections - Consolidation scenario (1% per year on SB) in order to achieve MTO

Legend:
- Cumulated budgetary effort
- Structural Deficit
- Gross debt

9.12.   LITHUANIA

Lithuania - Summary table

Long-term projections

	2010	2015	2020	2025	2030	2035	2040	2045	2050	2055	2060
Budgetary projections											
AWG reference scenario	19.6	18.1	18.3	18.7	19.4	20.1	20.6	21.1	22.2	23.4	24.1
AWG risk scenario	19.6	18.4	18.7	19.3	20.2	21.1	21.8	22.7	24.1	25.7	26.8
Revenues from pensions taxation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Property incomes	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4

Sustainability indicators

S0 indicator	2009	2010	2011	2012	Critical threshold	
Overall index	0.61	0.41	0.34	0.22	0.44	
Fiscal sub-index	0.71	0.40	0.33	0.15	0.34	
Financial competitiveness sub-index	0.57	0.41	0.34	0.24	0.46	

S1 indicator	Baseline scenario	AWG risk scenario	2011 scenario	AVG 98-12 scenario	
Overall index	0.3	0.7	4.8	2.6	
of which Initial Budgetary position	0.7	0.7	3.9	2.4	
Cost of delaying adjustment	0.1	0.1	0.8	0.4	
Debt requirement	-1.1	-1.1	-0.6	-0.9	
Ageing costs	0.7	1.0	0.7	0.7	

S2 indicator	Baseline scenario	AWG risk scenario	2011 scenario	AVG 98-12 scenario	2009 Sustainability Report
Overall index	4.7	6.3	7.9	6.4	7.0
of which Initial Budgetary position	0.9	0.9	4.1	2.6	3.9
Long term component	3.8	5.3	3.8	3.8	3.2
of which Pensions	3.0	3.0	3.0	3.0	:
Health & Long-term care	1.1	2.6	1.1	1.1	:
Others	-0.3	-0.3	-0.3	-0.3	:

Debt projections - Baseline

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030
Gross debt ratio	37.9	38.5	41.6	40.8	40.5	41.2	42.0	43.0	44.1	45.3	46.5	53.7	63.9
changes in the debt ratio (1+2+3)	8.6	0.6	3.1	-0.8	-0.3	0.6	0.8	1.0	1.1	1.2	1.2	1.5	2.5
of which Oustanding (non maturing) debt			32.4	34.9	36.8	33.8	35.4	31.0	33.7	40.1	32.7	38.2	45.4
Rolled-over short-term debt			2.3	2.2	2.1	2.1	2.1	2.1	2.2	2.2	2.3	2.6	3.1
Rolled-over long-term debt			3.8	3.7	1.7	4.7	3.7	8.9	7.1	1.7	10.2	11.4	12.9
New short-term debt			0.2	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1
New long-term debt			2.9	0.0	0.0	0.6	0.8	0.9	1.1	1.1	1.2	1.4	2.4
of which (1) Overall primary balance (+ = deficit)	5.4	3.7	1.1	0.7	0.2	0.4	0.4	0.4	0.5	0.5	0.6	1.0	1.7
Structural primary balance (kept constant at 2014 lvl)	3.1	3.1	0.6	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Cyclical component	2.3	0.6	0.5	0.6	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ageing cost (incl. revenues pensions tax)	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.3	0.3	0.4	0.4	0.8	1.5
Property incomes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
(2) Snow ball effect (interest rate/grow th differential)	1.0	-1.8	0.0	-0.1	-0.5	0.2	0.4	0.6	0.6	0.6	0.7	0.5	0.8
Interest expenditure	2.0	2.2	1.9	2.2	2.1	2.1	2.1	2.1	2.2	2.2	2.3	2.6	3.0
Growth effect (real)	-0.4	-2.1	-1.1	-1.2	-1.4	-0.8	-0.8	-0.7	-0.7	-0.7	-0.7	-1.0	-1.0
Inflation effect	-0.6	-1.9	-0.9	-1.1	-1.2	-1.0	-0.9	-0.8	-0.8	-0.9	-0.9	-1.0	-1.2
(3) Stock flow adjustment	2.1	-1.3	1.9	-1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PM : Structural balance (+ = deficit)	4.9	4.9	2.7	2.1	2.1	2.4	2.4	2.5	2.6	2.7	2.8	3.5	4.7
Financing needs (billions EUR)			3.0	2.0	1.4	2.9	2.6	5.0	4.5	2.3	6.4	8.6	12.4
Key macroeconomic assumptions													
Actual GDP grow th (real)	1.5	5.9	2.9	3.1	3.6	2.1	1.9	1.8	1.6	1.6	1.6	2.0	1.7
Potential GDP grow th (real)			2.9	2.6	2.5	1.9	1.7	1.6	1.6	1.6	1.6	2.0	1.7
Inflation (GDP deflator)	2.0	5.4	2.3	2.7	3.0	2.6	2.3	2.0	2.0	2.0	2.0	2.0	2.0
Implicit interest rate (nominal)	6.3	5.2	5.5	5.3	5.3	5.2	5.2	5.2	5.1	5.1	5.1	5.0	5.0
of which long-term implicit interest rate (nominal)			5.4	5.7	5.5	5.5	5.4	5.3	5.2	5.2	5.2	5.1	5.1
short-term interest rate (nominal)			3.1	1.7	2.4	2.7	3.0	3.4	3.7	3.9	4.2	4.2	4.2
long-term interest rate (nominal)			7.3	3.6	4.5	4.7	4.9	5.1	5.0	5.0	5.0	5.0	5.0

Debt projections - Sensitivity tests

Gross debt ratio	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030
-1p.p. in the short-term/long-term interest rate from 2014	37.9	38.5	41.6	40.8	40.5	41.2	41.9	42.8	43.7	44.7	45.7	51.0	58.5
+1p.p. in the short-term/long-term interest rate from 2014	37.9	38.5	41.6	40.8	40.5	41.2	42.0	43.1	44.4	45.9	47.4	56.7	69.9
-0.5p.p. GDP grow th from 2014	37.9	38.5	41.6	40.8	40.5	41.4	42.4	43.6	44.9	46.3	47.8	56.4	68.2
+0.5p.p. GDP grow th from 2014	37.9	38.5	41.6	40.8	40.5	41.0	41.6	42.4	43.3	44.2	45.2	51.2	59.9
Constant average 98-07 interest/grow th rates differential	37.9	38.5	41.6	40.8	40.5	41.2	41.9	42.5	42.6	42.5	42.4	38.9	36.9
Constant average 98-12 structural primary balance	37.9	38.5	41.6	42.5	43.8	46.0	48.4	51.1	53.9	56.8	59.8	76.2	95.9
Consolidation scenario (0.5% per year on SB) to achieve MTO	37.9	38.5	41.6	40.8	40.5	40.8	40.7	40.2	39.4	38.1	36.4	27.9	20.8
Consolidation scenario (1.0% per year on SB) to achieve MTO	37.9	38.5	41.6	40.8	40.5	40.4	39.4	37.6	35.8	34.0	32.3	24.6	18.0
Consolidation path (SPB) until 2020 to meet 60% debt target in 2030	37.9	38.5	41.6	40.8	40.5	41.2	41.9	42.8	43.7	44.7	45.7	51.4	60.0
Consolidation path (SPB) until 2020 to meet pre-crisis debt target in 2030	37.9	38.5	41.6	40.8	40.5	40.8	40.6	40.1	39.1	37.6	35.5	25.2	16.8
Consolidation path (SPB) until 2020 to meet post-crisis debt target in 2030	37.9	38.5	41.6	40.8	40.5	41.0	41.3	41.5	41.6	41.5	41.1	39.6	40.5

Cumulated budgetary effort	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030
Consolidation scenario (0.5% per year on SB) to achieve MTO	:	:	:	:	:	0.5	1.0	1.5	2.0	2.5	3.0	2.9	3.3
Consolidation scenario (1.0% per year on SB) to achieve MTO	:	:	:	:	:	1.0	2.0	2.9	2.9	2.8	2.8	2.8	3.2
Consolidation path (SPB) until 2020 to meet 60% debt target in 2030	:	:	:	:	:	0.1	0.1	0.2	0.2	0.3	0.3	0.3	0.3
Consolidation path (SPB) until 2020 to meet pre-crisis debt target in 2030	:	:	:	:	:	0.6	1.1	1.7	2.2	2.8	3.3	3.3	3.3
Consolidation path (SPB) until 2020 to meet post-crisis debt target in 2030	:	:	:	:	:	0.3	0.6	0.8	1.1	1.4	1.7	1.7	1.7

Gross debt as % of GDP - LITHUANIA - Medium term debt projections

Stochastic debt projections 2013-17, LITHUANIA

LITHUANIA - Medium term debt projections - Debt maturity structure (as % of GDP)

LITHUANIA - Medium term debt projections - Consolidation scenario (0.5% per year on SB) in order to achieve MTO

LITHUANIA - Medium term debt projections - Consolidation paths (SPB) until 2020 that would ensure meeting the 60% debt target in 2030

LITHUANIA - Medium term debt projections - Consolidation scenario (1% per year on SB) in order to achieve MTO

9.13.   LUXEMBOURG

Luxembourg - Summary table

Long-term projections

	2010	2015	2020	2025	2030	2035	2040	2045	2050	2055	2060
Budgetary projections											
AWG reference scenario	17.7	18.1	19.1	20.9	22.8	24.6	26.1	27.6	28.6	29.5	29.7
AWG risk scenario	17.7	18.2	19.2	21.1	23.0	24.8	26.3	27.8	28.8	29.8	30.0
Revenues from pensions taxation	0.9	0.9	1.0	1.2	1.3	1.5	1.6	1.7	1.8	1.8	1.8
Property incomes	1.3	1.3	1.8	1.5	1.3	1.1	1.0	0.9	0.8	0.7	0.6

Sustainability indicators

S0 indicator	2009	2010	2011	2012	Critical threshold		
Overall index	**0.23**	**0.29**	**0.17**	**0.20**	**0.44**		
Fiscal sub-index	0.43	0.11	0.00	0.33	0.34		
Financial competitiveness sub-index	0.16	0.35	0.24	0.14	0.46		

S1 indicator	Baseline scenario	AWG risk scenario	2011 scenario	AVG 98-12 scenario			
Overall index	**0.3**	**0.3**	**-1.2**	**-2.3**			
of which *Initial Budgetary position*	*0.2*	*0.2*	*-0.8*	*-1.7*			
Cost of delaying adjustment	*0.0*	*0.1*	*-0.2*	*-0.4*			
Debt requirement	*-2.0*	*-2.0*	*-2.2*	*-2.2*			
Ageing costs	*2.0*	*2.0*	*2.0*	*2.0*			

S2 indicator	Baseline scenario	AWG risk scenario	2011 scenario	AVG 98-12 scenario	2009 Sustainability Report		
Overall index	**9.7**	**9.9**	**8.7**	**7.8**	**12.5**		
of which Initial Budgetary position	1.2	1.2	0.1	-0.8	-0.4		
Long term component	8.5	8.7	8.6	8.6	12.9		
of which Pensions	*6.4*	*6.4*	*6.5*	*6.5*	*:*		
Health & Long-term care	*2.1*	*2.3*	*2.1*	*2.1*	*:*		
Others	*0.0*	*0.0*	*0.0*	*0.0*	*:*		

Debt projections - Baseline

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030
Gross debt ratio	**19.2**	**18.3**	**21.3**	**23.6**	**26.9**	**27.8**	**28.0**	**28.2**	**28.7**	**29.6**	**30.8**	**42.6**	**65.5**
changes in the debt ratio (1+2+3)	**3.9**	**-0.9**	**3.0**	**2.3**	**3.2**	**1.0**	**0.1**	**0.2**	**0.5**	**0.9**	**1.2**	**3.3**	**5.5**
of which *Oustanding (non maturing) debt*			*16.3*	*12.2*	*21.0*	*24.2*	*25.3*	*22.3*	*16.3*	*22.5*	*20.8*	*28.6*	*44.7*
Rolled-over short-term debt			*1.6*	*1.9*	*2.1*	*2.3*	*2.4*	*2.4*	*2.5*	*2.5*	*2.6*	*3.4*	*5.1*
Rolled-over long-term debt			*0.4*	*7.2*	*0.6*	*0.3*	*0.1*	*3.2*	*9.4*	*3.7*	*6.2*	*7.3*	*10.3*
New short-term debt			*0.3*	*0.2*	*0.3*	*0.1*	*0.0*	*0.0*	*0.0*	*0.1*	*0.1*	*0.3*	*0.4*
New long-term debt			*2.8*	*2.1*	*2.9*	*0.9*	*0.1*	*0.2*	*0.5*	*0.9*	*1.1*	*3.0*	*5.1*
of which (1) Overall primary balance (+ = deficit)	**0.5**	**-0.1**	**1.4**	**1.1**	**1.0**	**1.1**	**0.2**	**0.2**	**0.4**	**0.7**	**1.0**	**2.9**	**4.8**
Structural primary balance (kept constant at 2014 lvl)	*-0.3*	*-0.6*	*0.6*	*0.2*	*0.4*	*0.4*	*0.4*	*0.4*	*0.4*	*0.4*	*0.4*	*0.4*	*0.4*
Cyclical component	*0.8*	*0.5*	*0.8*	*0.8*	*0.6*	*0.5*	*0.2*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Ageing cost (incl. revenues pensions tax)	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.1*	*0.2*	*0.4*	*0.6*	*0.8*	*1.0*	*2.7*	*4.4*
Property incomes	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*-0.6*	*-0.6*	*-0.6*	*-0.5*	*-0.5*	*-0.2*	*0.0*
(2) Snow ball effect (interest rate/grow th differential)	**-1.2**	**-0.7**	**0.1**	**-0.2**	**-0.2**	**-0.1**	**-0.1**	**0.0**	**0.1**	**0.2**	**0.2**	**0.3**	**0.7**
Interest expenditure	*0.3*	*0.6*	*0.5*	*0.6*	*0.7*	*0.9*	*0.9*	*0.9*	*1.0*	*1.2*	*1.2*	*1.8*	*2.9*
Growth effect (real)	*-0.4*	*-0.3*	*-0.1*	*-0.2*	*-0.4*	*-0.3*	*-0.4*	*-0.4*	*-0.3*	*-0.4*	*-0.5*	*-0.7*	*-1.0*
Inflation effect	*-1.1*	*-1.0*	*-0.3*	*-0.7*	*-0.5*	*-0.6*	*-0.6*	*-0.6*	*-0.6*	*-0.6*	*-0.6*	*-0.8*	*-1.2*
(3) Stock flow adjustment	**4.6**	**-0.1**	**1.6**	**1.4**	**2.4**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
PM : Structural balance (+ = deficit)	**0.0**	**-0.2**	**1.1**	**0.9**	**1.1**	**1.4**	**0.8**	**1.1**	**1.4**	**1.9**	**2.2**	**4.7**	**7.7**
Financing needs (billions EUR)			**2.2**	**5.2**	**2.8**	**1.8**	**1.3**	**3.1**	**6.7**	**4.0**	**5.8**	**9.7**	**17.6**
Key macroeconomic assumptions													
Actual GDP grow th (real)	2.9	1.7	0.4	0.7	1.5	1.3	1.4	1.5	1.2	1.4	1.5	1.8	1.8
Potential GDP grow th (real)			0.9	0.8	1.1	0.8	0.9	1.0	1.2	1.4	1.5	1.8	1.8
Inflation (GDP deflator)	7.6	5.1	1.9	3.3	2.2	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.0
Implicit interest rate (nominal)	2.7	2.6	3.0	3.0	3.2	3.3	3.4	3.6	4.1	4.3	4.5	4.9	5.0
of which long-term implicit interest rate (nominal)			*2.7*	*3.0*	*3.1*	*3.3*	*3.3*	*3.3*	*3.6*	*4.1*	*4.3*	*4.9*	*5.0*
short-term interest rate (nominal)			*2.6*	*1.9*	*2.8*	*3.1*	*3.4*	*3.7*	*3.9*	*4.0*	*4.2*	*4.2*	*4.2*
long-term interest rate (nominal)			*4.6*	*3.2*	*4.4*	*4.6*	*4.9*	*5.1*	*5.1*	*5.1*	*5.1*	*5.1*	*5.1*

Debt projections - Sensitivity tests

Gross debt ratio	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030
-1p.p. in the short-term/long-term interest rate from 2014	19.2	18.3	21.3	23.6	26.9	27.8	27.9	28.1	28.5	29.3	30.3	40.8	61.4
+1p.p. in the short-term/long-term interest rate from 2014	19.2	18.3	21.3	23.6	26.9	27.8	28.0	28.2	28.8	29.9	31.2	44.4	70.0
-0.5p.p. GDP grow th from 2014	19.2	18.3	21.3	23.6	26.9	28.0	28.2	28.5	29.2	30.2	31.5	44.0	68.0
+0.5p.p. GDP grow th from 2014	19.2	18.3	21.3	23.6	26.9	27.7	27.7	27.8	28.2	29.0	30.1	41.2	63.2
Constant average 98-07 interest/grow th rates differential	19.2	18.3	21.3	23.6	26.9	27.8	27.9	28.0	28.3	28.4	28.7	34.1	47.2
Constant average 98-12 structural primary balance	19.2	18.3	21.3	21.9	23.2	22.3	20.5	18.8	17.4	16.3	16.9	28.8
Consolidation scenario (0.5% per year on SB) to achieve MTO	19.2	18.3	21.3	23.6	26.9	27.4	26.6	25.3	24.0	22.8	21.5	15.6	10.7
Consolidation scenario (1.0% per year on SB) to achieve MTO	19.2	18.3	21.3	23.6	26.9	27.0	25.8	24.5	23.2	22.0	20.8	15.0	10.2
Consolidation path (SPB) until 2020 to meet 60% debt target in 2030	19.2	18.3	21.3	23.6	26.9	27.8	27.9	28.0	28.2	28.8	29.6	39.2	60.0
Consolidation path (SPB) until 2020 to meet pre-crisis debt target in 2030	19.2	18.3	21.3	23.6	26.9	27.3	26.2	24.4	22.2	19.6	16.6	6.7	6.7
Consolidation path (SPB) until 2020 to meet post-crisis debt target in 2030	19.2	18.3	21.3	23.6	26.9	27.5	26.8	25.8	24.5	23.2	21.6	19.1	26.9

Cumulated budgetary effort	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030
Consolidation scenario (0.5% per year on SB) to achieve MTO	:	:	:	:	:	0.5	1.0	1.5	1.8	2.2	2.4	4.2	5.9
Consolidation scenario (1.0% per year on SB) to achieve MTO	:	:	:	:	:	1.0	1.3	1.6	1.7	2.2	2.4	4.1	5.9
Consolidation path (SPB) until 2020 to meet 60% debt target in 2030	:	:	:	:	:	0.0	0.1	0.1	0.2	0.2	0.3	0.3	0.3
Consolidation path (SPB) until 2020 to meet pre-crisis debt target in 2030	:	:	:	:	:	0.7	1.3	2.0	2.7	3.4	4.0	4.0	4.0
Consolidation path (SPB) until 2020 to meet post-crisis debt target in 2030	:	:	:	:	:	0.4	0.9	1.3	1.7	2.2	2.6	2.6	2.6

Gross debt as % of GDP - LUXEMBOURG - Medium term debt projections

Stochastic debt projections 2013-17, LUXEMBOURG

LUXEMBOURG - Medium term debt projections - Debt maturity structure (as % of GDP)

LUXEMBOURG - Medium term debt projections - Consolidation scenario (0.5% per year on SB) in order to achieve MTO

LUXEMBOURG - Medium term debt projections - Consolidation paths (SPB) until 2020 that would ensure meeting the 60% debt target in 2030

LUXEMBOURG - Medium term debt projections - Consolidation scenario (1% per year on SB) in order to achieve MTO

9.14. HUNGARY

Hungary - Summary table

Long-term projections

	2010	2015	2020	2025	2030	2035	2040	2045	2050	2055	2060
Budgetary projections											
AWG reference scenario	22.4	21.8	20.8	20.1	19.6	19.7	20.4	21.4	22.3	23.2	24.0
AWG risk scenario	22.4	21.9	21.0	20.3	20.0	20.2	21.0	22.1	23.0	24.0	24.8
Revenues from pensions taxation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Property incomes	1.2	1.2	1.0	1.0	0.9	0.9	0.9	0.9	0.9	0.8	0.8

Sustainability indicators

S0 indicator	2009	2010	2011	2012	Critical threshold		
Overall index	**0.59**	**0.39**	**0.25**	**0.28**	**0.44**		
Fiscal sub-index	0.26	0.25	0.16	0.21	0.34		
Financial competitiveness sub-index	0.73	0.45	0.28	0.31	0.46		

S1 indicator	Baseline scenario	AWG risk scenario	2011 scenario	AVG 98-12 scenario			
Overall index	**-0.4**	**-0.2**	**2.6**	**3.7**			
of w hich *Initial Budgetary position*	*0.0*	*0.0*	*2.1*	*3.0*			
Cost of delaying adjustment	*-0.1*	*0.0*	*0.5*	*0.7*			
Debt requirement	*0.9*	*0.9*	*1.3*	*1.3*			
Ageing costs	*-1.3*	*-1.1*	*-1.3*	*-1.3*			

S2 indicator	Baseline scenario	AWG risk scenario	2011 scenario	AVG 98-12 scenario	2009 Sustainability Report		
Overall index	**0.5**	**1.0**	**2.4**	**3.3**	**-0.1**		
of w hich *Initial Budgetary position*	*0.1*	*0.1*	*2.1*	*3.0*	*-1.7*		
Long term component	*0.3*	*0.8*	*0.3*	*0.3*	*1.5*		
of which Pensions	*-0.2*	*-0.2*	*-0.2*	*-0.2*	*:*		
Health & Long-term care	*1.0*	*1.5*	*1.0*	*1.0*	*:*		
Others	*-0.5*	*-0.5*	*-0.5*	*-0.5*	*:*		

Debt projections - Baseline

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030
Gross debt ratio	**81.8**	**81.4**	**78.4**	**77.1**	**76.8**	**76.9**	**77.3**	**77.6**	**77.9**	**77.6**	**76.8**	**67.2**	**53.1**
changes in the debt ratio (1+2+3)	**2.0**	**-0.5**	**-3.0**	**-1.2**	**-0.3**	**0.1**	**0.4**	**0.3**	**0.3**	**-0.3**	**-0.8**	**-2.4**	**-3.0**
of w hich *Oustanding (non maturing) debt*			*69.3*	*64.3*	*59.8*	*63.5*	*61.6*	*53.7*	*58.4*	*60.0*	*55.5*	*45.0*	*41.3*
Rolled-over short-term debt			*5.3*	*4.9*	*4.8*	*4.8*	*4.8*	*4.8*	*4.8*	*4.8*	*4.6*	*2.9*	*1.2*
Rolled-over long-term debt			*3.7*	*8.0*	*12.2*	*8.5*	*10.6*	*18.7*	*14.4*	*12.8*	*16.7*	*19.3*	*10.6*
New short-term debt			*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
New long-term debt			*0.0*	*0.0*	*0.0*	*0.1*	*0.3*	*0.3*	*0.3*	*0.0*	*0.0*	*0.0*	*0.0*
of w hich **(1) Overall primary balance (+ = deficit)**	**0.3**	**-8.5**	**-1.6**	**-1.2**	**-0.7**	**-1.0**	**-1.3**	**-1.8**	**-2.0**	**-2.2**	**-2.4**	**-3.2**	**-3.6**
Structural primary balance (kept constant at 2014 lvl)	*-0.6*	*0.2*	*-2.1*	*-2.5*	*-1.6*	*-1.6*	*-1.6*	*-1.6*	*-1.6*	*-1.6*	*-1.6*	*-1.6*	*-1.6*
Cyclical component	*0.8*	*-8.7*	*0.5*	*1.3*	*0.9*	*0.6*	*0.3*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Ageing cost (incl. revenues pensions tax)	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*-0.1*	*-0.2*	*-0.3*	*-0.5*	*-0.8*	*-1.0*	*-1.8*	*-2.2*
Property incomes	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.3*	*0.3*
(2) Snow ball effect (interest rate/grow th differential)	**1.3**	**1.6**	**4.4**	**-1.6**	**0.2**	**1.2**	**1.7**	**2.1**	**2.3**	**2.0**	**1.7**	**0.8**	**0.6**
Interest expenditure	*5.7*	*4.3*	*4.3*	*4.0*	*4.2*	*4.3*	*4.3*	*4.3*	*4.2*	*4.1*	*4.0*	*3.4*	*2.7*
Growth effect (real)	*-1.0*	*-1.3*	*0.9*	*-0.3*	*-1.0*	*-0.7*	*-0.7*	*-0.7*	*-0.4*	*-0.6*	*-0.8*	*-1.3*	*-1.1*
Inflation effect	*-3.4*	*-1.3*	*-0.9*	*-5.4*	*-3.0*	*-2.5*	*-2.0*	*-1.5*	*-1.5*	*-1.5*	*-1.5*	*-1.4*	*-1.1*
(3) Stock flow adjustment	**0.5**	**6.4**	**-5.8**	**1.6**	**0.2**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
PM : Structural balance (+ = deficit)	**3.5**	**4.3**	**2.0**	**1.5**	**2.5**	**2.5**	**2.7**	**2.5**	**2.2**	**1.9**	**1.6**	**0.3**	**-0.9**
Financing needs (billions EUR)			**9.0**	**13.8**	**19.1**	**15.7**	**19.1**	**29.8**	**25.0**	**23.2**	**29.0**	**36.3**	**23.4**
Key macroeconomic assumptions													
Actual GDP grow th (real)	1.3	1.6	-1.2	0.3	1.3	0.9	0.9	0.9	0.5	0.8	1.1	1.9	1.9
Potential GDP grow th (real)			0.0	0.2	0.3	0.2	0.2	0.2	0.5	0.8	1.1	1.9	1.9
Inflation (GDP deflator)	4.3	1.7	1.0	6.9	3.9	3.3	2.6	2.0	2.0	2.0	2.0	2.0	2.0
Implicit interest rate (nominal)	5.3	5.3	5.2	5.4	5.7	5.8	5.7	5.5	5.4	5.3	5.1	5.0	5.0
of which long-term implicit interest rate (nominal)			*5.3*	*5.3*	*5.4*	*5.7*	*5.8*	*5.8*	*5.6*	*5.5*	*5.4*	*5.1*	*5.1*
short-term interest rate (nominal)			*4.0*	*5.3*	*5.9*	*5.4*	*4.8*	*4.2*	*4.2*	*4.2*	*4.2*	*4.2*	*4.1*
long-term interest rate (nominal)			*4.8*	*6.3*	*7.1*	*6.4*	*5.7*	*5.1*	*5.1*	*5.1*	*5.1*	*5.0*	*5.0*

Debt projections - Sensitivity tests

Gross debt ratio	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030
-1p.p. in the short-term/long-term interest rate from 2014	81.8	81.4	78.4	77.1	76.8	76.9	77.2	77.3	77.2	76.5	75.2	62.5	45.6
+1p.p. in the short-term/long-term interest rate from 2014	81.8	81.4	78.4	77.1	76.8	76.9	77.4	78.0	78.6	78.8	78.6	72.1	61.5
-0.5p.p. GDP grow th from 2014	81.8	81.4	78.4	77.1	76.8	77.3	78.1	78.8	79.5	79.7	79.4	71.8	59.6
+0.5p.p. GDP grow th from 2014	81.8	81.4	78.4	77.1	76.8	76.5	76.5	76.4	76.3	75.6	74.4	62.8	47.2
Constant average 98-07 interest/grow th rates differential	81.8	81.4	78.4	77.1	76.8	76.9	77.2	77.4	77.1	76.0	74.3	60.2	43.2
Constant average 98-12 structural primary balance	81.8	81.4	78.4	80.7	83.1	86.1	89.4	92.8	96.3	99.2	101.5	107.3	108.9
Consolidation scenario (0.5% per year on SB) to achieve MTO	81.8	81.4	78.4	77.1	76.8	76.6	76.1	75.5	75.0	74.3	73.4	67.6	62.3
Consolidation scenario (1.0% per year on SB) to achieve MTO	81.8	81.4	78.4	77.1	76.8	76.3	75.6	74.8	74.3	73.7	72.8	67.2	61.9
Consolidation path (SPB) until 2020 to meet 60% debt target in 2030	81.8	81.4	78.4	77.1	76.8	77.0	77.5	77.9	78.6	78.7	78.4	71.4	60.0
Consolidation path (SPB) until 2020 to meet pre-crisis debt target in 2030	81.8	81.4	78.4	77.1	76.8	77.1	77.7	78.4	79.3	79.9	80.0	75.7	67.1
Consolidation path (SPB) until 2020 to meet post-crisis debt target in 2030	81.8	81.4	78.4	77.1	76.8	77.1	77.9	78.9	80.3	81.4	82.3	81.6	76.8
Cumulated budgetary effort	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2025**	**2030**
Consolidation scenario (0.5% per year on SB) to achieve MTO	:	:	:	:	:	0.5	1.0	1.0	0.6	0.2	-0.1	-1.3	-2.0
Consolidation scenario (1.0% per year on SB) to achieve MTO	:	:	:	:	:	1.0	1.1	0.9	0.6	0.2	-0.1	-1.3	-2.0
Consolidation path (SPB) until 2020 to meet 60% debt target in 2030	:	:	:	:	:	-0.1	-0.1	-0.2	-0.3	-0.3	-0.4	-0.4	-0.4
Consolidation path (SPB) until 2020 to meet pre-crisis debt target in 2030	:	:	:	:	:	-0.1	-0.3	-0.4	-0.6	-0.7	-0.9	-0.9	-0.9
Consolidation path (SPB) until 2020 to meet post-crisis debt target in 2030	:	:	:	:	:	-0.3	-0.5	-0.8	-1.1	-1.3	-1.6	-1.6	-1.6

Gross debt as % of GDP - HUNGARY - Medium term debt projections

Stochastic debt projections 2013-17, HUNGARY

HUNGARY - Medium term debt projections - Debt maturity structure (as % of GDP)

HUNGARY - Medium term debt projections - Consolidation scenario (0.5% per year on SB) in order to achieve MTO

HUNGARY - Medium term debt projections - Consolidation paths (SPB) until 2020 that would ensure meeting the 60% debt target in 2030

HUNGARY - Medium term debt projections - Consolidation scenario (1% per year on SB) in order to achieve MTO

9.15. MALTA

Malta - Summary table

Long-term projections

	2010	2015	2020	2025	2030	2035	2040	2045	2050	2055	2060
Budgetary projections											
AWG reference scenario	21.9	21.8	22.1	22.3	22.9	23.5	24.3	25.4	26.5	28.4	30.1
AWG risk scenario	21.9	21.9	22.5	22.9	23.8	24.6	25.8	27.1	28.5	30.9	33.2
Revenues from pensions taxation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Property incomes	2.2	2.2	2.2	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0

Sustainability indicators

S0 indicator	2009	2010	2011	2012	Critical threshold		
Overall index	**0.51**	**0.48**	**0.30**	**0.29**	**0.44**		
Fiscal sub-index	0.19	0.35	0.06	0.05	0.34		
Financial competitiveness sub-index	0.62	0.53	0.39	0.39	0.46		

S1 indicator	Baseline scenario	AWG risk scenario	2011 scenario	AVG 98-12 scenario			
Overall index	**2.0**	**2.4**	**3.1**	**5.3**			
of which *Initial Budgetary position*	*0.3*	*0.4*	*1.2*	*2.9*			
Cost of delaying adjustment	*0.3*	*0.4*	*0.5*	*0.9*			
Debt requirement	*0.7*	*0.7*	*0.8*	*1.0*			
Ageing costs	*0.5*	*0.9*	*0.5*	*0.5*			

S2 indicator	Baseline scenario	AWG risk scenario	2011 scenario	AVG 98-12 scenario	2009 Sustainability Report		
Overall index	**5.8**	**7.7**	**6.7**	**8.4**	**7.0**		
of which Initial Budgetary position	1.0	1.0	1.8	3.5	1.4		
Long term component	4.9	6.7	4.9	4.9	5.7		
of which Pensions	*3.0*	*3.0*	*3.0*	*3.0*	*:*		
Health & Long-term care	*2.4*	*4.2*	*2.4*	*2.4*	*:*		
Others	*-0.5*	*-0.5*	*-0.5*	*-0.5*	*:*		

Debt projections - Baseline

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030
Gross debt ratio	**68.3**	**70.9**	**72.3**	**73.0**	**72.7**	**72.9**	**73.2**	**73.7**	**74.0**	**74.5**	**75.2**	**79.3**	**86.5**
changes in the debt ratio (1+2+3)	**0.6**	**2.6**	**1.4**	**0.7**	**-0.4**	**0.2**	**0.3**	**0.5**	**0.3**	**0.5**	**0.7**	**1.0**	**1.8**
of which *Oustanding (non maturing) debt*			*61.0*	*59.5*	*59.0*	*63.3*	*60.5*	*66.7*	*65.3*	*66.5*	*59.6*	*70.9*	*57.6*
Rolled-over short-term debt			*5.5*	*5.6*	*5.5*	*5.5*	*5.5*	*5.5*	*5.6*	*5.6*	*5.6*	*5.9*	*6.4*
Rolled-over long-term debt			*4.4*	*7.2*	*8.2*	*3.8*	*6.9*	*1.0*	*2.8*	*1.9*	*9.2*	*1.4*	*20.7*
New short-term debt			*0.1*	*0.1*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.1*	*0.1*	*0.1*
New long-term debt			*1.3*	*0.7*	*0.0*	*0.2*	*0.3*	*0.4*	*0.3*	*0.4*	*0.6*	*0.9*	*1.7*
of which (1) Overall primary balance (+ = deficit)	**0.6**	**-0.4**	**-0.6**	**-0.3**	**-0.6**	**-0.3**	**-0.1**	**0.0**	**-0.2**	**0.0**	**0.1**	**0.3**	**1.0**
Structural primary balance (kept constant at 2014 lvl)	*1.6*	*0.4*	*0.4*	*0.0*	*-0.4*	*-0.4*	*-0.4*	*-0.4*	*-0.4*	*-0.4*	*-0.4*	*-0.4*	*-0.4*
Cyclical component	*-1.0*	*-0.8*	*-1.0*	*-0.3*	*-0.3*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Ageing cost (incl. revenues pensions tax)	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.1*	*0.3*	*0.4*	*0.2*	*0.3*	*0.5*	*0.6*	*1.3*
Property incomes	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.1*	*0.1*
(2) Snowball effect (interest rate/growth differential)	**-0.9**	**0.3**	**0.6**	**0.3**	**0.1**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.6**	**0.7**	**0.8**
Interest expenditure	*3.3*	*3.1*	*3.3*	*3.3*	*3.3*	*3.2*	*3.2*	*3.3*	*3.3*	*3.4*	*3.4*	*3.7*	*4.1*
Growth effect (real)	*-2.2*	*-1.3*	*-0.7*	*-1.1*	*-1.5*	*-1.2*	*-1.3*	*-1.4*	*-1.4*	*-1.4*	*-1.4*	*-1.5*	*-1.6*
Inflation effect	*-1.9*	*-1.5*	*-2.0*	*-1.8*	*-1.7*	*-1.6*	*-1.5*	*-1.4*	*-1.4*	*-1.5*	*-1.5*	*-1.5*	*-1.7*
(3) Stock flow adjustment	**0.9**	**2.7**	**1.4**	**0.7**	**0.1**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
PM : Structural balance (+ = deficit)	**4.6**	**3.5**	**3.5**	**3.2**	**2.9**	**3.0**	**3.1**	**3.3**	**3.1**	**3.3**	**3.5**	**4.0**	**5.0**
Financing needs (billions EUR)			**0.8**	**1.0**	**1.0**	**0.7**	**1.0**	**0.6**	**0.7**	**0.7**	**1.4**	**0.9**	**4.0**
Key macroeconomic assumptions													
Actual GDP growth (real)	3.4	1.9	1.0	1.6	2.1	1.6	1.8	1.9	1.9	1.9	1.9	2.0	1.9
Potential GDP growth (real)			1.4	1.6	1.9	1.7	1.8	2.0	1.9	1.9	1.9	2.0	1.9
Inflation (GDP deflator)	2.9	2.3	2.8	2.5	2.4	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.0
Implicit interest rate (nominal)	4.7	4.7	4.7	4.7	4.6	4.6	4.6	4.7	4.7	4.7	4.8	4.9	5.0
of which long-term implicit interest rate (nominal)			*5.1*	*5.0*	*4.9*	*4.8*	*4.8*	*4.8*	*4.8*	*4.8*	*4.8*	*5.0*	*5.0*
short-term interest rate (nominal)			*1.1*	*1.8*	*1.8*	*2.2*	*2.7*	*3.2*	*3.5*	*3.9*	*4.2*	*4.2*	*4.2*
long-term interest rate (nominal)			*3.3*	*4.6*	*4.0*	*4.3*	*4.7*	*5.1*	*5.1*	*5.1*	*5.1*	*5.1*	*5.1*

Debt projections - Sensitivity tests

Gross debt ratio	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030
-1p.p. in the short-term/long-term interest rate from 2014	68.3	70.9	72.3	73.0	72.7	72.9	73.1	73.5	73.6	73.9	74.4	76.4	80.7
+1p.p. in the short-term/long-term interest rate from 2014	68.3	70.9	72.3	73.0	72.7	72.9	73.3	73.9	74.3	75.0	75.9	82.3	92.9
-0.5p.p. GDP growth from 2014	68.3	70.9	72.3	73.0	72.7	73.2	73.9	74.8	75.5	76.3	77.4	83.6	93.2
+0.5p.p. GDP growth from 2014	68.3	70.9	72.3	73.0	72.7	72.5	72.5	72.6	72.6	72.7	73.0	75.2	80.4
Constant average 98-07 interest/growth rates differential	68.3	70.9	72.3	73.0	72.7	72.9	73.3	73.9	74.2	74.7	75.4	78.8	85.1
Constant average 98-12 structural primary balance	68.3	70.9	72.3	75.2	77.3	79.9	82.7	85.7	88.5	91.6	94.8	112.3	133.7
Consolidation scenario (0.5% per year on SB) to achieve MTO	68.3	70.9	72.3	73.0	72.7	72.6	72.1	71.2	69.7	67.8	65.5	54.0	44.5
Consolidation scenario (1.0% per year on SB) to achieve MTO	68.3	70.9	72.3	73.0	72.7	72.2	70.9	68.7	66.0	63.5	61.2	50.3	41.5
Consolidation path (SPB) until 2020 to meet 60% debt target in 2030	68.3	70.9	72.3	73.0	72.7	72.8	72.7	72.5	71.7	70.7	69.6	63.5	60.0
Consolidation path (SPB) until 2020 to meet pre-crisis debt target in 2030	68.3	70.9	72.3	73.0	72.7	72.8	72.8	72.6	71.9	71.0	70.0	64.7	61.9
Consolidation path (SPB) until 2020 to meet post-crisis debt target in 2030	68.3	70.9	72.3	73.0	72.7	72.9	73.1	73.2	73.0	72.7	72.5	71.2	72.7
Cumulated budgetary effort	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2025**	**2030**
Consolidation scenario (0.5% per year on SB) to achieve MTO	:	:	:	:	:	0.5	1.0	1.5	2.0	2.5	3.0	3.0	3.2
Consolidation scenario (1.0% per year on SB) to achieve MTO	:	:	:	:	:	1.0	2.0	3.0	2.9	3.0	3.0	2.8	3.1
Consolidation path (SPB) until 2020 to meet 60% debt target in 2030	:	:	:	:	:	0.3	0.6	1.0	1.3	1.6	2.0	2.0	2.0
Consolidation path (SPB) until 2020 to meet pre-crisis debt target in 2030	:	:	:	:	:	0.3	0.6	0.9	1.2	1.5	1.8	1.8	1.8
Consolidation path (SPB) until 2020 to meet post-crisis debt target in 2030	:	:	:	:	:	0.2	0.3	0.5	0.7	0.9	1.0	1.0	1.0

Gross debt as % of GDP - MALTA - Medium term debt projections

Legend:
- No-policy change scenario
- Shock -1p.p. in the short-term/long-term interest rate on maturing and new debt from 2015
- Shock +1p.p. in the short-term/long-term interest rate on maturing and new debt from 2015
- Consolidation scenario (0.5% per year on SB) in order to achieve MTO
- Consolidation scenario (1% per year on SB) in order to achieve MTO
- Constant average 1998-2007 interest (on new & maturing debt)/growth rates differential

Stochastic debt projections 2013-17, MALTA

Legend:
- p10_p20
- p20_p40
- p40_p60
- p60_p80
- p80_p90
- p50
- gdebt_gdp_DSM

MALTA - Medium term debt projections - Debt maturity structure (as % of GDP)

Legend:
- Oustanding (non maturing) debt
- Rolled-over short-term debt
- Rolled-over long-term debt
- New short-term debt
- New long-term debt

MALTA - Medium term debt projections - Consolidation scenario (0.5% per year on SB) in order to achieve MTO

Legend:
- Cumulated budgetary effort
- Structural Deficit
- Gross debt

MALTA - Medium term debt projections - Consolidation paths (SPB) until 2020 that would ensure meeting the 60% debt target in 2030

Legend:
- Cumulated budgetary effort
- Cumulated budgetary effort without cost of ageing (PM)
- Structural Deficit
- Gross debt

MALTA - Medium term debt projections - Consolidation scenario (1% per year on SB) in order to achieve MTO

Legend:
- Cumulated budgetary effort
- Structural Deficit
- Gross debt

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9.16. NETHERLANDS

Netherlands - Summary table

Long-term projections

	2010	2015	2020	2025	2030	2035	2040	2045	2050	2055	2060
Budgetary projections											
AWG reference scenario	24.6	24.7	25.2	26.0	27.2	28.8	29.9	30.4	30.6	30.5	30.3
AWG risk scenario	24.6	24.8	25.4	26.2	27.6	29.2	30.4	31.0	31.2	31.1	30.8
Revenues from pensions taxation	1.9	1.9	2.0	2.0	2.3	2.6	2.7	2.8	2.8	2.8	2.7
Property incomes	3.0	3.0	3.0	2.7	2.4	2.2	1.9	1.7	1.5	1.4	1.3

Sustainability indicators

S0 indicator	2009	2010	2011	2012	Critical threshold		
Overall index	**0.30**	**0.20**	**0.20**	**0.13**	**0.44**		
Fiscal sub-index	0.67	0.39	0.39	0.15	0.34		
Financial competitiveness sub-index	0.15	0.13	0.13	0.13	0.46		

S1 indicator	Baseline scenario	AWG risk scenario	2011 scenario	AVG 98-12 scenario			
Overall index	**2.2**	**2.4**	**4.4**	**0.8**			
of which *Initial Budgetary position*	*0.3*	*0.3*	*1.8*	*-0.8*			
Cost of delaying adjustment	*0.3*	*0.4*	*0.7*	*0.1*			
Debt requirement	*0.6*	*0.6*	*0.9*	*0.5*			
Ageing costs	*1.0*	*1.1*	*1.0*	*1.0*			

S2 indicator	Baseline scenario	AWG risk scenario	2011 scenario	AVG 98-12 scenario	2009 Sustainability Report		
Overall index	**5.9**	**6.3**	**7.5**	**4.8**	**7.0**		
of which *Initial Budgetary position*	*2.0*	*2.0*	*3.6*	*0.9*	*1.9*		
Long term component	*4.0*	*4.4*	*4.0*	*4.0*	*5.0*		
of which Pensions	*1.0*	*1.0*	*1.0*	*1.0*	*:*		
Health & Long-term care	*3.5*	*3.9*	*3.5*	*3.5*	*:*		
Others	*-0.5*	*-0.5*	*-0.5*	*-0.5*	*:*		

Debt projections - Baseline

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030
Gross debt ratio	**63.1**	**65.5**	**68.8**	**69.3**	**70.3**	**70.8**	**70.4**	**69.6**	**69.7**	**70.1**	**70.6**	**77.6**	**93.0**
changes in the debt ratio (1+2+3)	**2.4**	**2.3**	**3.4**	**0.5**	**1.0**	**0.5**	**-0.4**	**-0.8**	**0.1**	**0.3**	**0.5**	**2.1**	**3.8**
of which *Oustanding (non maturing) debt*			*52.1*	*52.0*	*52.4*	*51.1*	*56.9*	*53.3*	*55.1*	*56.5*	*56.6*	*61.6*	*66.5*
Rolled-over short-term debt			*10.6*	*11.1*	*11.2*	*11.4*	*11.1*	*10.6*	*10.6*	*10.7*	*10.7*	*11.5*	*13.5*
Rolled-over long-term debt			*2.8*	*5.7*	*5.7*	*7.8*	*2.3*	*5.6*	*3.8*	*2.5*	*2.7*	*2.3*	*9.1*
New short-term debt			*0.5*	*0.1*	*0.2*	*0.1*	*0.0*	*0.0*	*0.0*	*0.1*	*0.1*	*0.3*	*0.6*
New long-term debt			*2.8*	*0.4*	*0.8*	*0.4*	*0.0*	*0.0*	*0.1*	*0.3*	*0.4*	*1.8*	*3.3*
of which (1) Overall primary balance (+ = deficit)	**3.1**	**2.4**	**1.7**	**0.8**	**1.2**	**0.8**	**0.2**	**-0.1**	**0.1**	**0.2**	**0.3**	**1.4**	**2.7**
Structural primary balance (kept constant at 2014 lvl)	*1.8*	*1.4*	*0.2*	*-0.9*	*-0.2*	*-0.2*	*-0.2*	*-0.2*	*-0.2*	*-0.2*	*-0.2*	*-0.2*	*-0.2*
Cyclical component	*1.3*	*1.1*	*1.5*	*1.7*	*1.4*	*0.9*	*0.5*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Ageing cost (incl. revenues pensions tax)	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.1*	*0.3*	*0.4*	*0.4*	*0.5*	*1.3*	*2.3*
Property incomes	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.1*	*-0.2*	*-0.2*	*-0.1*	*0.0*	*0.0*	*0.3*	*0.6*
(2) Snow ball effect (interest rate/grow th differential)	**0.5**	**0.7**	**1.4**	**1.0**	**0.2**	**-0.4**	**-0.6**	**-0.7**	**0.1**	**0.2**	**0.2**	**0.7**	**1.2**
Interest expenditure	*2.2*	*2.1*	*2.2*	*2.1*	*2.0*	*2.0*	*2.1*	*2.2*	*2.4*	*2.5*	*2.5*	*3.2*	*4.0*
Growth effect (real)	*-1.0*	*-0.6*	*0.2*	*-0.2*	*-1.0*	*-1.4*	*-1.5*	*-1.5*	*-0.9*	*-0.9*	*-1.0*	*-1.1*	*-1.1*
Inflation effect	*-0.6*	*-0.8*	*-1.0*	*-1.0*	*-0.9*	*-1.0*	*-1.2*	*-1.4*	*-1.4*	*-1.4*	*-1.4*	*-1.5*	*-1.8*
(3) Stock flow adjustment	***-1.2***	***-0.9***	***0.3***	***-1.3***	***-0.5***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
PM : Structural balance (+ = deficit)	**3.9**	**3.4**	**2.2**	**1.1**	**1.8**	**1.9**	**1.8**	**2.1**	**2.4**	**2.6**	**2.9**	**4.6**	**6.6**
Financing needs (billions EUR)			**101.8**	**107.6**	**113.7**	**129.4**	**92.1**	**115.8**	**107.4**	**103.0**	**109.9**	**149.2**	**291.2**
Key macroeconomic assumptions													
Actual GDP grow th (real)	1.6	1.0	-0.3	0.3	1.4	2.0	2.1	2.1	1.3	1.4	1.4	1.4	1.2
Potential GDP grow th (real)			0.6	0.7	0.8	1.1	1.2	1.3	1.3	1.4	1.4	1.4	1.2
Inflation (GDP deflator)	1.1	1.2	1.5	1.4	1.3	1.5	1.8	2.0	2.0	2.0	2.0	2.0	2.0
Implicit interest rate (nominal)	3.5	3.3	3.1	3.0	2.9	3.0	3.2	3.5	3.6	3.7	3.8	4.4	4.7
of which long-term implicit interest rate (nominal)			*3.8*	*3.6*	*3.4*	*3.3*	*3.3*	*3.3*	*3.5*	*3.6*	*3.7*	*4.4*	*4.7*
short-term interest rate (nominal)			*0.6*	*0.8*	*1.2*	*1.8*	*2.5*	*3.4*	*3.7*	*4.0*	*4.2*	*4.2*	*4.2*
long-term interest rate (nominal)			*1.7*	*1.9*	*2.4*	*3.3*	*4.2*	*5.1*	*5.1*	*5.1*	*5.1*	*5.1*	*5.1*

Debt projections - Sensitivity tests

Gross debt ratio	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030
-1p.p. in the short-term/long-term interest rate from 2014	63.1	65.5	68.8	69.3	70.3	70.8	70.2	69.3	69.2	69.3	69.6	74.4	86.5
+1p.p. in the short-term/long-term interest rate from 2014	63.1	65.5	68.8	69.3	70.3	70.8	70.5	69.9	70.3	70.9	71.7	81.0	100.0
-0.5p.p. GDP grow th from 2014	63.1	65.5	68.8	69.3	70.3	71.1	71.0	70.6	71.1	71.8	72.7	81.6	99.3
+0.5p.p. GDP grow th from 2014	63.1	65.5	68.8	69.3	70.3	70.4	69.7	68.6	68.4	68.4	68.6	73.9	87.1
Constant average 98-07 interest/grow th rates differential	63.1	65.5	68.8	69.3	70.3	70.8	70.5	69.8	70.1	70.3	70.7	75.8	87.6
Constant average 98-12 structural primary balance	63.1	65.5	68.8	69.0	68.8	68.2	66.8	65.0	64.1	63.3	62.7	63.9	72.7
Consolidation scenario (0.5% per year on SB) to achieve MTO	63.1	65.5	68.8	69.3	70.3	70.4	69.2	67.1	65.5	63.9	62.3	55.1	49.5
Consolidation scenario (1.0% per year on SB) to achieve MTO	63.1	65.5	68.8	69.3	70.3	70.1	68.5	66.4	64.8	63.2	61.7	54.6	49.0
Consolidation path (SPB) until 2020 to meet 60% debt target in 2030	63.1	65.5	68.8	69.3	70.3	70.7	69.9	68.4	67.2	65.7	64.1	58.5	60.0
Consolidation path (SPB) until 2020 to meet pre-crisis debt target in 2030	63.1	65.5	68.8	69.3	70.3	70.6	69.5	67.5	65.7	63.4	60.8	49.7	45.3
Consolidation path (SPB) until 2020 to meet post-crisis debt target in 2030	63.1	65.5	68.8	69.3	70.3	70.2	68.9	67.3	66.4	64.6	70.3		
Cumulated budgetary effort	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2025**	**2030**
Consolidation scenario (0.5% per year on SB) to achieve MTO	:	:	:	:	:	0.5	1.0	1.5	1.8	2.0	2.1	3.2	4.4
Consolidation scenario (1.0% per year on SB) to achieve MTO	:	:	:	:	:	1.0	1.3	1.5	1.8	1.9	2.1	3.2	4.3
Consolidation path (SPB) until 2020 to meet 60% debt target in 2030	:	:	:	:	:	0.4	0.7	1.1	1.5	1.8	2.2	2.2	2.2
Consolidation path (SPB) until 2020 to meet pre-crisis debt target in 2030	:	:	:	:	:	0.5	1.1	1.6	2.1	2.7	3.2	3.2	3.2
Consolidation path (SPB) until 2020 to meet post-crisis debt target in 2030	:	:	:	:	:	0.2	0.5	0.7	1.0	1.2	1.5	1.5	1.5

Gross debt as % of GDP - NETHERLANDS - Medium term debt projections

Legend:
- No-policy change scenario
- Shock -1p.p. in the short-term/long-term interest rate on maturing and new debt from 2015
- Shock +1p.p. in the short-term/long-term interest rate on maturing and new debt from 2015
- Consolidation scenario (0.5% per year on SB) in order to achieve MTO
- Consolidation scenario (1% per year on SB) in order to achieve MTO
- Constant average 1998-2007 interest (on new & maturing debt)/growth rates differential

Stochastic debt projections 2013-17, NETHERLANDS

Legend: p10_p20, p20_p40, p40_p60, p60_p80, p80_p90, p50, gdebt_gdp_DSM

NETHERLANDS - Medium term debt projections - Debt maturity structure (as % of GDP)

Legend:
- Oustanding (non maturing) debt
- Rolled-over short-term debt
- Rolled-over long-term debt
- New short-term debt
- New long-term debt

NETHERLANDS - Medium term debt projections - Consolidation scenario (0.5% per year on SB) in order to achieve MTO

Legend: Cumulated budgetary effort, Structural Deficit, Gross debt

NETHERLANDS - Medium term debt projections - Consolidation paths (SPB) until 2020 that would ensure meeting the 60% debt target in 2030

Legend:
- Cumulated budgetary effort
- Cumulated budgetary effort without cost of ageing (PM)
- Structural Deficit
- Gross debt

NETHERLANDS - Medium term debt projections - Consolidation scenario (1% per year on SB) in order to achieve MTO

Legend: Cumulated budgetary effort, Structural Deficit, Gross debt

9.17. AUSTRIA

Austria - Summary table

Long-term projections

	2010	2015	2020	2025	2030	2035	2040	2045	2050	2055	2060
Budgetary projections											
AWG reference scenario	28.8	29.0	29.9	31.2	32.2	32.6	32.8	33.1	33.4	33.4	33.2
AWG risk scenario	28.8	29.2	30.2	31.6	32.8	33.4	33.7	34.2	34.7	34.9	34.8
Revenues from pensions taxation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Property incomes	1.2	1.2	1.4	1.2	1.2	1.1	1.0	0.9	0.9	0.9	0.8

Sustainability indicators

S0 indicator	2009	2010	2011	2012	Critical threshold		
Overall index	**0.19**	**0.16**	**0.07**	**0.09**	**0.44**		
Fiscal sub-index	0.43	0.37	0.05	0.15	0.34		
Financial competitiveness sub-index	0.10	0.07	0.07	0.07	0.46		

S1 indicator	Baseline scenario	AWG risk scenario	2011 scenario	AVG 98-12 scenario			
Overall index	**2.6**	**2.9**	**3.2**	**2.3**			
of w hich *Initial Budgetary position*	*-0.3*	*-0.3*	*0.2*	*-0.5*			
Cost of delaying adjustment	*0.4*	*0.5*	*0.5*	*0.4*			
Debt requirement	*0.9*	*0.9*	*0.9*	*0.8*			
Ageing costs	*1.6*	*1.8*	*1.6*	*1.6*			

S2 indicator	Baseline scenario	AWG risk scenario	2011 scenario	AVG 98-12 scenario	2009 Sustainability Report		
Overall index	**4.1**	**5.1**	**4.6**	**3.8**	**4.7**		
of w hich Initial Budgetary position	0.5	0.5	1.0	0.3	1.7		
Long term component	3.6	4.6	3.6	3.6	3.1		
of which Pensions	*1.7*	*1.7*	*1.7*	*1.7*	*:*		
Health & Long-term care	*1.9*	*3.0*	*1.9*	*1.9*	*:*		
Others	*-0.1*	*-0.1*	*-0.1*	*-0.1*	*:*		

Debt projections - Baseline

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030
Gross debt ratio	**72.0**	**72.4**	**74.6**	**75.9**	**75.1**	**74.6**	**73.9**	**73.5**	**73.3**	**73.4**	**73.8**	**81.5**	**97.9**
changes in the debt ratio (1+2+3)	**2.8**	**0.5**	**2.1**	**1.3**	**-0.8**	**-0.5**	**-0.7**	**-0.5**	**-0.2**	**0.1**	**0.4**	**2.3**	**3.8**
of w hich *Oustanding (non maturing) debt*			65.7	66.1	65.1	67.6	67.5	65.9	67.8	66.3	60.5	70.9	78.3
Rolled-over short-term debt			2.4	2.5	2.3	2.2	2.0	1.9	1.8	1.8	1.8	1.9	2.3
Rolled-over long-term debt			4.4	6.0	7.7	4.8	4.4	5.7	3.7	5.2	11.0	6.3	13.5
New short-term debt			0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
New long-term debt			2.1	1.3	0.0	0.0	0.0	0.0	0.0	0.1	0.4	2.3	3.7
of w hich (1) Overall primary balance (+ = deficit)	**1.8**	**-0.1**	**0.5**	**0.0**	**-0.8**	**-0.7**	**-0.9**	**-0.7**	**-0.5**	**-0.3**	**0.0**	**1.4**	**2.5**
Structural primary balance (kept constant at 2014 lvl)	*0.7*	*-0.3*	*0.0*	*-0.6*	*-0.8*	*-0.8*	*-0.8*	*-0.8*	*-0.8*	*-0.8*	*-0.8*	*-0.8*	*-0.8*
Cyclical component	*1.1*	*0.3*	*0.5*	*0.6*	*0.1*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Ageing cost (incl. revenues pensions tax)	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.1*	*0.2*	*0.3*	*0.5*	*0.7*	*0.9*	*2.2*	*3.3*
Property incomes	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*-0.2*	*-0.2*	*-0.2*	*-0.2*	*-0.1*	*0.0*	*0.1*
(2) Snow ball effect (interest rate/grow th differential)	**0.4**	**-0.7**	**0.7**	**0.9**	**-0.4**	**0.2**	**0.2**	**0.2**	**0.3**	**0.4**	**0.4**	**0.9**	**1.3**
Interest expenditure	*2.8*	*2.8*	*2.7*	*2.7*	*2.7*	*2.7*	*2.7*	*2.7*	*2.8*	*2.8*	*2.9*	*3.5*	*4.4*
Growth effect (real)	*-1.4*	*-1.9*	*-0.6*	*-0.6*	*-1.5*	*-0.9*	*-1.0*	*-1.0*	*-1.0*	*-1.0*	*-1.0*	*-1.0*	*-1.2*
Inflation effect	*-1.1*	*-1.6*	*-1.5*	*-1.2*	*-1.6*	*-1.6*	*-1.5*	*-1.5*	*-1.4*	*-1.4*	*-1.4*	*-1.6*	*-1.9*
(3) Stock flow adjustment	**0.6**	**1.2**	**0.9**	**0.4**	**0.4**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
PM : Structural balance (+ = deficit)	**3.4**	**2.3**	**2.6**	**2.1**	**1.8**	**1.9**	**1.8**	**2.0**	**2.2**	**2.5**	**2.8**	**4.9**	**6.9**
Financing needs (billions EUR)			**27.5**	**31.1**	**33.0**	**23.8**	**22.7**	**27.7**	**20.8**	**27.7**	**53.5**	**50.4**	**110.3**
Key macroeconomic assumptions													
Actual GDP grow th (real)	2.1	2.7	0.8	0.9	2.1	1.2	1.3	1.4	1.4	1.4	1.4	1.3	1.3
Potential GDP grow th (real)			1.2	1.2	1.3	1.2	1.3	1.4	1.4	1.4	1.4	1.3	1.3
Inflation (GDP deflator)	1.6	2.2	2.0	1.6	2.2	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0
Implicit interest rate (nominal)	4.0	3.8	3.7	3.7	3.7	3.7	3.8	3.9	3.9	4.0	4.2	4.6	4.8
of which long-term implicit interest rate (nominal)			*3.9*	*3.8*	*3.8*	*3.7*	*3.7*	*3.8*	*3.9*	*4.0*	*4.0*	*4.6*	*4.8*
short-term interest rate (nominal)			*1.1*	*1.3*	*1.7*	*2.1*	*2.7*	*3.3*	*3.6*	*3.9*	*4.1*	*4.1*	*4.1*
long-term interest rate (nominal)			*2.9*	*3.1*	*3.5*	*4.0*	*4.5*	*5.0*	*5.0*	*5.0*	*5.0*	*5.0*	*5.0*

Debt projections - Sensitivity tests

Gross debt ratio	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030
-1p.p. in the short-term/long-term interest rate from 2014	72.0	72.4	74.6	75.9	75.1	74.6	73.9	73.3	73.0	72.9	73.1	78.6	91.7
+1p.p. in the short-term/long-term interest rate from 2014	72.0	72.4	74.6	75.9	75.1	74.6	74.0	73.6	73.6	73.9	74.5	84.5	104.7
-0.5p.p. GDP grow th from 2014	72.0	72.4	74.6	75.9	75.1	75.0	74.7	74.6	74.8	75.2	76.0	85.8	104.7
+0.5p.p. GDP grow th from 2014	72.0	72.4	74.6	75.9	75.1	74.2	73.2	72.4	71.9	71.6	71.6	77.5	91.7
Constant average 98-07 interest/grow th rates differential	72.0	72.4	74.6	75.9	75.1	74.6	74.0	73.5	73.3	73.3	73.6	79.8	93.7
Constant average 98-12 structural primary balance	72.0	72.4	74.6	75.4	74.4	73.7	72.8	72.2	71.8	71.6	71.8	78.3	93.4
Consolidation scenario (0.5% per year on SB) to achieve MTO	72.0	72.4	74.6	75.9	75.1	74.3	72.8	71.0	69.2	67.4	65.7	58.1	51.7
Consolidation scenario (1.0% per year on SB) to achieve MTO	72.0	72.4	74.6	75.9	75.1	74.0	72.1	70.2	68.4	66.7	65.0	57.5	51.2
Consolidation path (SPB) until 2020 to meet 60% debt target in 2030	72.0	72.4	74.6	75.9	75.1	74.4	73.1	71.6	69.8	67.9	65.8	59.1	60.0
Consolidation path (SPB) until 2020 to meet pre-crisis debt target in 2030	72.0	72.4	74.6	75.9	75.1	74.4	73.1	71.6	69.8	67.9	65.9	59.3	60.2
Consolidation path (SPB) until 2020 to meet post-crisis debt target in 2030	72.0	72.4	74.6	75.9	75.1	74.5	73.5	72.4	71.3	70.3	69.2	68.1	75.1
Cumulated budgetary effort	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030
Consolidation scenario (0.5% per year on SB) to achieve MTO	:	:	:	:	:	0.5	1.0	1.5	1.7	1.9	2.1	3.5	4.5
Consolidation scenario (1.0% per year on SB) to achieve MTO	:	:	:	:	:	1.0	1.3	1.5	1.7	1.9	2.1	3.5	4.5
Consolidation path (SPB) until 2020 to meet 60% debt target in 2030	:	:	:	:	:	0.4	0.9	1.3	1.7	2.1	2.6	2.6	2.6
Consolidation path (SPB) until 2020 to meet pre-crisis debt target in 2030	:	:	:	:	:	0.4	0.9	1.3	1.7	2.1	2.6	2.6	2.6
Consolidation path (SPB) until 2020 to meet post-crisis debt target in 2030	:	:	:	:	:	0.3	0.5	0.8	1.0	1.3	1.5	1.5	1.5

Gross debt as % of GDP - AUSTRIA - Medium term debt projections

Legend:
- No-policy change scenario
- Shock -1p.p. in the short-term/long-term interest rate on maturing and new debt from 2015
- Shock +1p.p. in the short-term/long-term interest rate on maturing and new debt from 2015
- Consolidation scenario (0.5% per year on SB) in order to achieve MTO
- Consolidation scenario (1% per year on SB) in order to achieve MTO
- Constant average 1998-2007 interest (on new & maturing debt)/growth rates differential

Stochastic debt projections 2013-17, AUSTRIA

Legend: p10_p20, p20_p40, p40_p60, p60_p80, p80_p90, p50, gdebt_gdp_DSM

AUSTRIA - Medium term debt projections - Debt maturity structure (as % of GDP)

Legend: Oustanding (non maturing) debt, Rolled-over short-term debt, Rolled-over long-term debt, New short-term debt, New long-term debt

AUSTRIA - Medium term debt projections - Consolidation scenario (0.5% per year on SB) in order to achieve MTO

Legend: Cumulated budgetary effort, Structural Deficit, Gross debt

AUSTRIA - Medium term debt projections - Consolidation paths (SPB) until 2020 that would ensure meeting the 60% debt target in 2030

Legend: Cumulated budgetary effort, Cumulated budgetary effort without cost of ageing (PM), Structural Deficit, Gross debt

AUSTRIA - Medium term debt projections - Consolidation scenario (1% per year on SB) in order to achieve MTO

Legend: Cumulated budgetary effort, Structural Deficit, Gross debt

9.18. POLAND

Poland - Summary table

Long-term projections

	2010	2015	2020	2025	2030	2035	2040	2045	2050	2055	2060
Budgetary projections											
AWG reference scenario	21.6	20.2	20.6	21.1	21.3	21.1	21.0	21.1	21.4	21.7	21.7
AWG risk scenario	21.6	20.4	21.0	21.6	21.9	21.9	21.9	22.2	22.6	23.1	23.4
Revenues from pensions taxation	1.8	1.6	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
Property incomes	1.3	1.3	1.1	1.0	1.0	0.9	0.9	0.9	0.9	0.9	0.8

Sustainability indicators

S0 indicator	2009	2010	2011	2012	Critical threshold		
Overall index	0.56	0.44	0.36	0.32	0.44		
Fiscal sub-index	0.30	0.39	0.30	0.15	0.34		
Financial competitiveness sub-index	0.66	0.46	0.39	0.39	0.46		

S1 indicator	Baseline scenario	AWG risk scenario	2011 scenario	AVG 98-12 scenario			
Overall index	0.1	0.4	4.9	4.1			
of which Initial Budgetary position	-0.2	-0.2	3.3	2.8			
Cost of delaying adjustment	0.0	0.1	0.8	0.7			
Debt requirement	-0.2	-0.2	0.2	0.1			
Ageing costs	0.6	0.8	0.6	0.6			

S2 indicator	Baseline scenario	AWG risk scenario	2011 scenario	AVG 98-12 scenario	2009 Sustainability Report		
Overall index	1.5	2.4	5.0	4.5	3.2		
of which Initial Budgetary position	0.4	0.4	3.9	3.4	4.4		
Long term component	1.1	2.0	1.1	1.1	-1.2		
of which Pensions	-0.6	-0.6	-0.6	-0.6	:		
Health & Long-term care	1.7	2.7	1.7	1.7	:		
Others	-0.1	-0.1	-0.1	-0.1	:		

Debt projections - Baseline

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030
Gross debt ratio	**54.8**	**56.4**	**55.5**	**55.8**	**56.1**	**55.8**	**55.1**	**53.9**	**53.5**	**53.4**	**53.4**	**56.3**	**62.0**
changes in the debt ratio (1+2+3)	**4.0**	**1.6**	**-0.9**	**0.3**	**0.3**	**-0.3**	**-0.7**	**-1.2**	**-0.4**	**-0.2**	**0.0**	**0.9**	**1.2**
of which Oustanding (non maturing) debt			50.4	48.2	49.3	48.8	49.9	50.1	45.5	43.1	43.6	44.2	51.7
Rolled-over short-term debt			0.5	0.5	0.5	0.5	0.4	0.3	0.3	0.3	0.3	0.3	0.4
Rolled-over long-term debt			4.6	6.8	5.9	6.5	4.7	3.5	7.7	10.0	9.5	10.9	8.6
New short-term debt			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
New long-term debt			0.0	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.9	1.2
of which (1) Overall primary balance (+ = deficit)	**5.2**	**2.3**	**0.7**	**0.4**	**0.2**	**-0.1**	**-0.4**	**-0.7**	**-0.6**	**-0.5**	**-0.4**	**0.2**	**0.4**
Structural primary balance (kept constant at 2014 lvl)	5.3	2.4	0.3	-0.5	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Cyclical component	-0.2	0.0	0.4	0.9	1.2	0.8	0.4	0.0	0.0	0.0	0.0	0.0	0.0
Ageing cost (incl. revenues pensions tax)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.3	0.4	0.9	1.0
Property incomes	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.2	0.3	0.3
(2) Snow ball effect (interest rate/growth differential)	**-1.8**	**0.9**	**1.1**	**-0.7**	**0.6**	**-0.2**	**-0.3**	**-0.5**	**0.2**	**0.3**	**0.4**	**0.7**	**0.9**
Interest expenditure	4.9	3.1	2.9	2.7	2.7	2.7	2.7	2.7	2.6	2.6	2.6	2.7	3.0
Growth effect (real)	-1.9	-2.3	-1.3	-1.0	-1.4	-2.1	-2.1	-2.0	-1.4	-1.3	-1.2	-0.9	-0.9
Inflation effect	-4.8	0.0	-0.5	-2.4	-0.7	-0.8	-0.9	-1.1	-1.1	-1.0	-1.0	-1.1	-1.2
(3) Stock flow adjustment	**0.6**	**-1.7**	**-2.7**	**0.6**	**-0.5**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
PM : Structural balance (+ = deficit)	**8.0**	**5.0**	**2.9**	**2.2**	**1.7**	**1.7**	**1.9**	**1.9**	**2.0**	**2.1**	**2.2**	**2.8**	**3.3**
Financing needs (billions EUR)			19.5	30.8	28.5	31.1	24.2	18.9	41.6	55.9	55.6	82.6	83.3

Key macroeconomic assumptions													
Actual GDP grow th (real)	3.9	4.3	2.4	1.8	2.6	3.9	3.8	3.9	2.6	2.4	2.2	1.6	1.5
Potential GDP grow th (real)			3.8	3.3	3.0	2.7	2.7	2.8	2.6	2.4	2.2	1.6	1.5
Inflation (GDP deflator)	9.9	-0.1	0.8	4.4	1.3	1.5	1.8	2.0	2.0	2.0	2.0	2.0	2.0
Implicit interest rate (nominal)	5.6	5.3	5.0	5.1	5.1	5.1	5.1	5.1	5.0	5.0	5.0	5.0	5.0
of which long-term implicit interest rate (nominal)			5.3	5.0	5.1	5.1	5.1	5.1	5.1	5.1	5.0	5.0	5.0
short-term interest rate (nominal)			1.1	3.9	3.7	3.8	3.9	3.9	4.0	4.1	4.1	4.1	4.1
long-term interest rate (nominal)			1.6	5.4	5.1	5.1	5.0	5.0	5.0	5.0	5.0	5.0	5.0

Debt projections - Sensitivity tests

Gross debt ratio	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030
-1p.p. in the short-term/long-term interest rate from 2014	54.8	56.4	55.5	55.8	56.1	55.8	55.0	53.7	53.2	52.9	52.7	53.7	56.8
+1p.p. in the short-term/long-term interest rate from 2014	54.8	56.4	55.5	55.8	56.1	55.8	55.1	54.1	53.8	53.8	54.1	59.0	67.6
-0.5p.p. GDP grow th from 2014	54.8	56.4	55.5	55.8	56.1	56.0	55.6	54.7	54.6	54.7	55.0	59.4	66.8
+0.5p.p. GDP grow th from 2014	54.8	56.4	55.5	55.8	56.1	55.5	54.5	53.1	52.5	52.1	51.8	53.4	57.6
Constant average 98-07 interest/grow th rates differential	54.8	56.4	55.5	55.8	56.1	55.8	55.1	54.0	53.6	53.4	53.4	54.5	56.5
Constant average 98-12 structural primary balance	54.8	56.4	55.5	58.2	61.4	64.0	66.1	67.7	70.3	73.1	76.2	95.2	118.4
Consolidation scenario (0.5% per year on SB) to achieve MTO	54.8	56.4	55.5	55.8	56.1	55.4	53.9	51.9	50.6	49.5	48.5	44.9	42.4
Consolidation scenario (1.0% per year on SB) to achieve MTO	54.8	56.4	55.5	55.8	56.1	55.2	53.7	51.7	50.4	49.3	48.3	44.8	42.3
Consolidation path (SPB) until 2020 to meet 60% debt target in 2030	54.8	56.4	55.5	55.8	56.1	55.8	55.0	53.8	53.3	53.0	52.9	55.1	60.0
Consolidation path (SPB) until 2020 to meet pre-crisis debt target in 2030	54.8	56.4	55.5	55.8	56.1	55.6	54.6	52.9	51.8	50.7	49.5	46.2	45.0
Consolidation path (SPB) until 2020 to meet post-crisis debt target in 2030	54.8	56.4	55.5	55.8	56.1	55.7	54.9	53.6	52.9	52.4	52.0	52.8	56.1

Cumulated budgetary effort	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030
Consolidation scenario (0.5% per year on SB) to achieve MTO	:	:	:	:	:	0.5	0.9	0.9	0.9	1.0	1.0	1.4	1.5
Consolidation scenario (1.0% per year on SB) to achieve MTO	:	:	:	:	:	0.7	0.9	0.9	0.9	1.0	1.0	1.4	1.4
Consolidation path (SPB) until 2020 to meet 60% debt target in 2030	:	:	:	:	:	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1
Consolidation path (SPB) until 2020 to meet pre-crisis debt target in 2030	:	:	:	:	:	0.2	0.4	0.6	0.8	1.0	1.2	1.2	1.2
Consolidation path (SPB) until 2020 to meet post-crisis debt target in 2030	:	:	:	:	:	0.1	0.1	0.2	0.3	0.3	0.4	0.4	0.4

Gross debt as % of GDP - POLAND - Medium term debt projections

Stochastic debt projections 2013-17, POLAND

POLAND - Medium term debt projections - Debt maturity structure (as % of GDP)

POLAND - Medium term debt projections - Consolidation scenario (0.5% per year on SB) in order to achieve MTO

POLAND - Medium term debt projections - Consolidation paths (SPB) until 2020 that would ensure meeting the 60% debt target in 2030

POLAND - Medium term debt projections - Consolidation scenario (1% per year on SB) in order to achieve MTO

9.19. ROMANIA

Romania - Summary table

Long-term projections

	2010	2015	2020	2025	2030	2035	2040	2045	2050	2055	2060
Budgetary projections											
AWG reference scenario	18.1	17.0	17.0	17.6	18.4	19.3	20.2	21.1	22.0	23.0	23.5
AWG risk scenario	18.1	17.2	17.2	17.9	18.7	19.7	20.7	21.7	22.7	23.8	24.3
Revenues from pensions taxation	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.7	0.7
Property incomes	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7

Sustainability indicators

S0 indicator	2009	2010	2011	2012	Critical threshold		
Overall index	0.77	0.50	0.40	0.34	0.44		
Fiscal sub-index	0.44	0.30	0.30	0.10	0.34		
Financial competitiveness sub-index	0.88	0.57	0.43	0.43	0.46		

S1 indicator	Baseline scenario	AWG risk scenario	2011 scenario	AVG 98-12 scenario			
Overall index	-1.4	-1.2	2.9	1.5			
of which *Initial Budgetary position*	-0.2	-0.2	3.0	2.0			
Cost of delaying adjustment	-0.2	-0.2	0.5	0.2			
Debt requirement	-1.4	-1.4	-0.9	-1.2			
Ageing costs	0.4	0.5	0.4	0.4			

S2 indicator	Baseline scenario	AWG risk scenario	2011 scenario	AVG 98-12 scenario	2009 Sustainability Report		
Overall index	3.7	4.2	6.8	5.9	9.1		
of which Initial Budgetary position	0.1	0.1	3.2	2.2	4.2		
Long term component	3.6	4.1	3.6	3.6	4.9		
of which Pensions	2.4	2.4	2.4	2.4	:		
Health & Long-term care	1.3	1.8	1.3	1.3	:		
Others	-0.1	-0.1	-0.1	-0.1	:		

Debt projections - Baseline

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030
Gross debt ratio	**30.5**	**33.4**	**34.6**	**34.8**	**34.8**	**34.3**	**33.6**	**32.6**	**32.1**	**31.7**	**31.5**	**32.7**	**37.5**
changes in the debt ratio (1+2+3)	**6.9**	**2.9**	**1.2**	**0.2**	**0.0**	**-0.5**	**-0.7**	**-1.0**	**-0.5**	**-0.4**	**-0.2**	**0.5**	**1.3**
of which *Oustanding (non maturing) debt*			22.7	21.3	21.9	23.7	22.9	21.2	19.6	20.8	22.5	23.1	26.0
Rolled-over short-term debt			7.6	7.9	7.9	7.6	7.1	6.6	6.3	6.1	5.9	6.0	6.8
Rolled-over long-term debt			3.1	5.4	5.0	3.0	3.6	4.9	6.3	4.8	3.0	3.0	3.4
New short-term debt			0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2
New long-term debt			0.9	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	1.1
of which (1) Overall primary balance (+ = deficit)	5.3	4.0	1.0	0.6	0.3	0.0	-0.3	-0.7	-0.7	-0.7	-0.6	-0.1	0.7
Structural primary balance (kept constant at 2014 lvl)	4.6	2.3	0.0	-0.4	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7
Cyclical component	0.7	1.7	0.9	1.0	1.0	0.6	0.3	0.0	0.0	0.0	0.0	0.0	0.0
Ageing cost (incl. revenues pensions tax)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.6	1.3
Property incomes	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1
(2) Snow ball effect (interest rate/grow th differential)	2.0	-0.9	2.0	0.6	-0.2	-0.5	-0.4	-0.3	0.2	0.3	0.4	0.6	0.6
Interest expenditure	3.2	2.0	1.9	2.0	1.9	1.8	1.7	1.7	1.6	1.6	1.6	1.6	1.8
Growth effect (real)	0.4	-0.7	-0.3	-0.7	-0.9	-1.2	-1.3	-1.3	-0.8	-0.7	-0.6	-0.4	-0.5
Inflation effect	-1.6	-2.2	0.3	-0.7	-1.2	-1.0	-0.8	-0.6	-0.6	-0.6	-0.6	-0.6	-0.7
(3) Stock flow adjustment	*-0.4*	*-0.2*	*-1.8*	*-0.9*	*-0.1*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
PM : Structural balance (+ = deficit)	*6.1*	*3.9*	*1.9*	*1.4*	*1.2*	*1.1*	*1.1*	*1.0*	*0.9*	*0.9*	*1.0*	*1.5*	*2.5*
Financing needs (billions EUR)			*16.2*	*19.2*	*19.5*	*17.0*	*18.3*	*20.8*	*23.9*	*21.6*	*18.5*	*23.3*	*33.0*

Key macroeconomic assumptions													
Actual GDP grow th (real)	-1.6	2.5	0.8	2.2	2.7	3.7	3.8	4.0	2.6	2.2	1.9	1.3	1.3
Potential GDP grow th (real)			2.1	2.3	2.6	2.5	2.7	2.9	2.6	2.2	1.9	1.3	1.3
Inflation (GDP deflator)	6.7	7.4	-1.0	2.1	3.5	3.0	2.5	2.0	2.0	2.0	2.0	2.0	2.0
Implicit interest rate (nominal)	6.8	5.7	5.9	5.6	5.3	5.3	5.2	5.2	5.2	5.2	5.1	5.0	5.0
of which long-term implicit interest rate (nominal)			5.9	6.0	5.9	5.7	5.6	5.5	5.4	5.4	5.3	5.2	5.2
short-term interest rate (nominal)			5.8	4.8	4.1	4.2	4.3	4.4	4.4	4.3	4.3	4.3	4.3
long-term interest rate (nominal)			6.6	5.5	4.7	4.9	5.0	5.2	5.2	5.2	5.2	5.2	5.2

Debt projections - Sensitivity tests

Gross debt ratio	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030
-1p.p. in the short-term/long-term interest rate from 2014	30.5	33.4	34.6	34.8	34.8	34.3	33.5	32.4	31.8	31.2	30.7	30.7	33.8
+1p.p. in the short-term/long-term interest rate from 2014	30.5	33.4	34.6	34.8	34.8	34.3	33.7	32.8	32.5	32.3	32.3	34.9	41.6
-0.5p.p. GDP grow th from 2014	30.5	33.4	34.6	34.8	34.8	34.5	33.9	33.1	32.8	32.6	32.5	34.6	40.5
+0.5p.p. GDP grow th from 2014	30.5	33.4	34.6	34.8	34.8	34.1	33.3	32.2	31.5	31.0	30.6	30.9	34.7
Constant average 98-07 interest/grow th rates differential	30.5	33.4	34.6	34.8	34.8	34.3	33.8	33.3	33.6	34.2	34.9	41.7	53.6
Constant average 98-12 structural primary balance	30.5	33.4	34.6	36.7	38.7	40.2	41.5	42.6	44.2	46.0	48.0	61.3	79.3
Consolidation scenario (0.5% per year on SB) to achieve MTO	30.5	33.4	34.6	34.8	34.8	34.0	33.0	31.8	31.1	30.5	30.0	28.8	27.8
Consolidation scenario (1.0% per year on SB) to achieve MTO	30.5	33.4	34.6	34.8	34.8	34.0	33.0	31.8	31.1	30.5	30.0	28.8	27.8
Consolidation path (SPB) until 2020 to meet 60% debt target in 2030	30.5	33.4	34.6	34.8	34.8	34.6	34.4	34.2	34.7	35.5	36.8	46.3	60.0
Consolidation path (SPB) until 2020 to meet pre-crisis debt target in 2030	30.5	33.4	34.6	34.8	34.8	34.1	33.0	31.3	29.7	28.0	26.1	18.1	12.8
Consolidation path (SPB) until 2020 to meet post-crisis debt target in 2030	30.5	33.4	34.6	34.8	34.8	34.3	33.6	32.6	32.0	31.5	31.1	31.2	34.8

Cumulated budgetary effort	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030
Consolidation scenario (0.5% per year on SB) to achieve MTO	:	:	:	:	:	0.4	0.3	0.2	0.2	0.2	0.2	0.7	1.4
Consolidation scenario (1.0% per year on SB) to achieve MTO	:	:	:	:	:	0.4	0.3	0.2	0.2	0.2	0.2	0.7	1.4
Consolidation path (SPB) until 2020 to meet 60% debt target in 2030	:	:	:	:	:	-0.2	-0.5	-0.7	-0.9	-1.2	-1.4	-1.4	-1.4
Consolidation path (SPB) until 2020 to meet pre-crisis debt target in 2030	:	:	:	:	:	0.3	0.6	0.9	1.2	1.5	1.8	1.8	1.8
Consolidation path (SPB) until 2020 to meet post-crisis debt target in 2030	:	:	:	:	:	0.1	0.1	0.2	0.2	0.3	0.3	0.3	0.3

Gross debt as % of GDP - ROMANIA - Medium term debt projections

Stochastic debt projections 2013-17, ROMANIA

ROMANIA - Medium term debt projections - Debt maturity structure (as % of GDP)

ROMANIA - Medium term debt projections - Consolidation scenario (0.5% per year on SB) in order to achieve MTO

ROMANIA - Medium term debt projections - Consolidation paths (SPB) until 2020 that would ensure meeting the 60% debt target in 2030

ROMANIA - Medium term debt projections - Consolidation scenario (1% per year on SB) in order to achieve MTO

9.20. SLOVENIA

Slovenia - Summary table

Long-term projections

	2010	2015	2020	2025	2030	2035	2040	2045	2050	2055	2060
Budgetary projections											
AWG reference scenario	23.8	24.8	25.6	26.0	27.1	28.5	30.1	31.8	33.2	34.0	34.1
AWG risk scenario	23.8	24.9	25.8	26.3	27.4	28.9	30.6	32.3	33.7	34.5	34.6
Revenues from pensions taxation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Property incomes	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4

Sustainability indicators

S0 indicator	2009	2010	2011	2012	Critical threshold			
Overall index	0.58	0.42	0.39	0.23	0.44			
Fiscal sub-index	0.75	0.35	0.43	0.23	0.34			
Financial competitiveness sub-index	0.52	0.44	0.37	0.23	0.46			

S1 indicator	Baseline scenario	AWG risk scenario	2011 scenario	AVG 98-12 scenario			
Overall index	3.2	3.3	7.5	5.5			
of which Initial Budgetary position	1.1	1.1	4.1	2.8			
Cost of delaying adjustment	0.5	0.6	1.3	1.0			
Debt requirement	0.1	0.1	0.6	0.3			
Ageing costs	1.4	1.6	1.4	1.4			

S2 indicator	Baseline scenario	AWG risk scenario	2011 scenario	AVG 98-12 scenario	2009 Sustainability Report		
Overall index	7.6	8.0	10.6	9.3	12.3		
of which Initial Budgetary position	1.1	1.1	4.1	2.7	4.0		
Long term component	6.6	6.9	6.6	6.6	8.3		
of which Pensions	4.6	4.6	4.6	4.6	:		
Health & Long-term care	1.7	2.1	1.7	1.7	:		
Others	0.2	0.2	0.2	0.2	:		

Debt projections - Baseline

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030
Gross debt ratio	38.6	46.9	54.0	59.0	62.3	65.0	67.0	68.5	70.8	73.1	75.5	87.9	105.5
changes in the debt ratio (1+2+3)	3.6	8.3	7.1	5.0	3.3	2.7	2.0	1.5	2.3	2.3	2.3	2.7	4.2
of which Oustanding (non maturing) debt			46.2	49.9	52.4	58.2	60.5	64.7	64.1	59.4	58.8	78.3	92.0
Rolled-over short-term debt			0.5	0.6	0.6	0.7	0.7	0.7	0.7	0.8	0.8	0.9	1.1
Rolled-over long-term debt			0.2	3.5	6.0	3.5	3.8	1.6	3.7	10.7	13.6	6.0	8.3
New short-term debt			0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
New long-term debt			7.1	5.0	3.3	2.6	2.0	1.5	2.3	2.3	2.3	2.7	4.2
of which (1) Overall primary balance (+ = deficit)	4.1	4.5	2.0	1.3	1.4	1.3	1.1	0.8	1.0	1.1	1.2	1.6	2.7
Structural primary balance (kept constant at 2014 lvl)	2.9	2.8	0.4	-0.6	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
Cyclical component	1.2	1.7	1.6	1.9	1.4	1.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0
Ageing cost (incl. revenues pensions tax)	0.0	0.0	0.0	0.0	0.0	0.4	0.6	0.9	1.1	1.2	1.2	1.6	2.7
Property incomes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
(2) Snowball effect (interest rate/growth differential)	1.9	1.2	3.0	3.0	1.7	1.3	1.0	0.7	1.3	1.2	1.1	1.1	1.5
Interest expenditure	2.0	1.8	2.4	2.7	2.8	2.9	3.1	3.2	3.3	3.4	3.5	4.1	4.9
Growth effect (real)	-0.4	-0.2	1.1	0.9	-0.5	-0.8	-1.0	-1.2	-0.6	-0.7	-0.9	-1.3	-1.4
Inflation effect	0.4	-0.4	-0.5	-0.6	-0.5	-0.8	-1.1	-1.3	-1.4	-1.4	-1.4	-1.7	-2.0
(3) Stock flow adjustment	-2.5	2.6	2.1	0.7	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PM : Structural balance (+ = deficit)	4.6	4.7	2.8	2.0	2.7	3.3	3.6	3.9	4.3	4.4	4.6	5.7	7.6
Financing needs (billions EUR)			2.8	3.2	3.6	2.5	2.5	1.5	2.8	5.8	7.3	5.0	8.3
Key macroeconomic assumptions													
Actual GDP grow th (real)	1.2	0.6	-2.3	-1.6	0.9	1.3	1.6	1.8	0.9	1.0	1.2	1.6	1.4
Potential GDP grow th (real)			-0.6	-0.5	-0.2	0.3	0.5	0.7	0.9	1.0	1.2	1.6	1.4
Inflation (GDP deflator)	-1.1	1.0	1.1	1.0	0.9	1.3	1.6	2.0	2.0	2.0	2.0	2.0	2.0
Implicit interest rate (nominal)	4.7	5.0	5.0	4.8	4.8	4.8	4.9	4.9	4.9	4.9	4.9	5.0	5.0
of which long-term implicit interest rate (nominal)			5.2	5.0	4.8	4.9	4.9	4.9	4.9	4.9	4.9	5.0	5.0
short-term interest rate (nominal)			1.4	1.5	2.2	2.6	2.9	3.2	3.5	3.8	4.1	4.1	4.1
long-term interest rate (nominal)			4.1	3.8	4.9	4.9	5.0	5.0	5.0	5.0	5.0	5.0	5.0

Debt projections - Sensitivity tests

Gross debt ratio	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030
-1p.p. in the short-term/long-term interest rate from 2014	38.6	46.9	54.0	59.0	62.3	65.0	66.9	68.3	70.5	72.6	74.7	84.4	98.1
+1p.p. in the short-term/long-term interest rate from 2014	38.6	46.9	54.0	59.0	62.3	65.0	67.1	68.7	71.1	73.7	76.3	91.5	113.7
-0.5p.p. GDP grow th from 2014	38.6	46.9	54.0	59.0	62.3	65.3	67.6	69.5	72.2	74.9	77.6	92.3	112.8
+0.5p.p. GDP grow th from 2014	38.6	46.9	54.0	59.0	62.3	64.7	66.4	67.5	69.5	71.4	73.4	83.7	98.8
Constant average 98-07 interest/grow th rates differential	38.6	46.9	54.0	59.0	62.3	65.0	67.0	68.5	70.9	73.3	75.6	87.8	105.8
Constant average 98-12 structural primary balance	38.6	46.9	54.0	61.1	66.1	70.4	74.1	77.2	81.3	85.5	89.6	111.2	138.9
Consolidation scenario (0.5% per year on SB) to achieve MTO	38.6	46.9	54.0	59.0	62.3	64.6	65.8	65.9	66.4	66.3	65.6	56.5	47.7
Consolidation scenario (1.0% per year on SB) to achieve MTO	38.6	46.9	54.0	59.0	62.3	64.3	64.6	63.3	61.8	60.0	58.1	48.9	41.3
Consolidation path (SPB) until 2020 to meet 60% debt target in 2030	38.6	46.9	54.0	59.0	62.3	64.6	65.8	65.9	66.2	66.0	65.3	60.7	60.0
Consolidation path (SPB) until 2020 to meet pre-crisis debt target in 2030	38.6	46.9	54.0	59.0	62.3	64.3	64.8	63.7	62.4	60.2	56.9	38.6	23.1
Consolidation path (SPB) until 2020 to meet post-crisis debt target in 2030	38.6	46.9	54.0	59.0	62.3	64.7	65.9	66.0	66.5	66.4	65.8	62.0	62.3
Cumulated budgetary effort	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030
Consolidation scenario (0.5% per year on SB) to achieve MTO	:	:	:	:	:	0.5	1.0	1.5	2.0	2.5	3.0	4.4	5.1
Consolidation scenario (1.0% per year on SB) to achieve MTO	:	:	:	:	:	1.0	2.0	3.1	4.0	4.0	4.0	4.0	4.7
Consolidation path (SPB) until 2020 to meet 60% debt target in 2030	:	:	:	:	:	0.5	1.1	1.6	2.1	2.6	3.2	3.2	3.2
Consolidation path (SPB) until 2020 to meet pre-crisis debt target in 2030	:	:	:	:	:	1.0	1.9	2.9	3.8	4.8	5.7	5.7	5.7
Consolidation path (SPB) until 2020 to meet post-crisis debt target in 2030	:	:	:	:	:	0.5	1.0	1.5	2.0	2.5	3.0	3.0	3.0

Gross debt as % of GDP - SLOVENIA - Medium term debt projections

Stochastic debt projections 2013-17, SLOVENIA

SLOVENIA - Medium term debt projections - Debt maturity structure (as % of GDP)

SLOVENIA - Medium term debt projections - Consolidation scenario (0.5% per year on SB) in order to achieve MTO

SLOVENIA - Medium term debt projections - Consolidation paths (SPB) until 2020 that would ensure meeting the 60% debt target in 2030

SLOVENIA - Medium term debt projections - Consolidation scenario (1% per year on SB) in order to achieve MTO

9.21. SLOVAK REPUBLIC

Slovak Republic - Summary table

Long-term projections

	2010	2015	2020	2025	2030	2035	2040	2045	2050	2055	2060
Budgetary projections											
AWG reference scenario	17.8	18.0	18.7	19.5	20.1	20.8	21.7	22.6	23.8	25.1	25.2
AWG risk scenario	17.8	18.2	19.1	20.1	20.9	21.8	22.9	24.0	25.5	27.1	27.6
Revenues from pensions taxation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Property incomes	1.3	1.3	1.3	1.2	1.1	1.1	1.1	1.1	1.0	1.0	1.0

Sustainability indicators

S0 indicator	2009	2010	2011	2012	Critical threshold	
Overall index	0.61	0.35	0.31	0.26	0.44	
Fiscal sub-index	0.57	0.27	0.27	0.34	0.34	
Financial competitiveness sub-index	0.62	0.38	0.32	0.22	0.46	

S1 indicator	Baseline scenario	AWG risk scenario	2011 scenario	AVG 98-12 scenario		
Overall index	**2.2**	**2.6**	**6.3**	**5.2**		
of which *Initial Budgetary position*	0.8	0.8	3.9	3.1		
Cost of delaying adjustment	0.3	0.4	1.0	0.8		
Debt requirement	-0.2	-0.2	0.1	0.0		
Ageing costs	1.3	1.6	1.3	1.3		

S2 indicator	Baseline scenario	AWG risk scenario	2011 scenario	AVG 98-12 scenario	2009 Sustainability Report	
Overall index	**6.9**	**8.3**	**10.1**	**9.2**	**7.4**	
of which Initial Budgetary position	1.8	1.8	5.0	4.1	4.5	
Long term component	5.1	6.5	5.1	5.1	2.9	
of which Pensions	3.5	3.5	3.5	3.5	:	
Health & Long-term care	1.7	3.1	1.7	1.7	:	
Others	-0.1	-0.1	-0.1	-0.1	:	

Debt projections - Baseline

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030
Gross debt ratio	**41.0**	**43.3**	**51.7**	**54.3**	**55.9**	**56.4**	**57.0**	**57.7**	**58.9**	**60.3**	**61.9**	**73.5**	**91.6**
changes in the debt ratio (1+2+3)	**5.4**	**2.3**	**8.4**	**2.6**	**1.6**	**0.5**	**0.5**	**0.7**	**1.2**	**1.4**	**1.6**	**2.8**	**4.3**
of which *Oustanding (non maturing) debt*			40.0	44.6	46.8	48.4	49.5	49.6	45.5	47.2	47.0	53.8	70.3
Rolled-over short-term debt			1.8	2.2	2.3	2.3	2.4	2.4	2.4	2.5	2.5	2.9	3.6
Rolled-over long-term debt			1.4	4.9	5.3	5.2	4.5	5.0	9.9	9.2	10.8	13.9	13.4
New short-term debt			0.4	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2
New long-term debt			8.1	2.5	1.5	0.5	0.5	0.7	1.1	1.4	1.6	2.7	4.1
of which (1) Overall primary balance (+ = deficit)	**6.3**	**3.4**	**3.1**	**1.3**	**1.1**	**1.2**	**1.1**	**1.2**	**1.3**	**1.5**	**1.7**	**2.6**	**3.3**
Structural primary balance (kept constant at 2014 lvl)	6.0	3.8	3.3	1.2	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Cyclical component	0.3	-0.4	-0.2	0.0	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Ageing cost (incl. revenues pensions tax)	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.4	0.6	0.7	0.9	1.7	2.3
Property incomes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2
(2) Snow ball effect (interest rate/growth differential)	**0.0**	**-0.4**	**-0.6**	**0.3**	**-0.6**	**-0.7**	**-0.5**	**-0.4**	**-0.2**	**-0.1**	**-0.1**	**0.2**	**1.0**
Interest expenditure	1.6	1.6	1.7	2.1	2.1	2.1	2.2	2.2	2.3	2.5	2.6	3.3	4.2
Growth effect (real)	-1.5	-1.3	-1.1	-1.0	-1.6	-1.7	-1.6	-1.5	-1.4	-1.5	-1.5	-1.7	-1.5
Inflation effect	-0.2	-0.7	-1.2	-0.9	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.2	-1.4	-1.7
(3) Stock flow adjustment	*-0.9*	*-0.7*	*5.9*	*1.1*	*1.2*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
PM : Structural balance (+ = deficit)	**7.4**	**5.4**	**5.1**	**3.2**	**2.8**	**3.1**	**3.1**	**3.4**	**3.7**	**4.0**	**4.3**	**5.8**	**7.4**
Financing needs (billions EUR)			**8.5**	**7.4**	**7.3**	**6.8**	**6.6**	**7.5**	**12.9**	**13.2**	**15.8**	**26.0**	**34.4**
Key macroeconomic assumptions													
Actual GDP grow th (real)	4.4	3.2	2.6	2.0	3.0	3.2	2.9	2.8	2.5	2.5	2.6	2.5	1.7
Potential GDP grow th (real)			2.7	2.9	3.1	2.8	2.6	2.4	2.5	2.5	2.6	2.5	1.7
Inflation (GDP deflator)	0.5	1.6	2.8	1.8	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Implicit interest rate (nominal)	4.0	4.0	4.3	4.0	4.0	4.0	4.1	4.2	4.4	4.5	4.6	4.8	4.9
of which long-term implicit interest rate (nominal)			4.2	4.4	4.1	4.1	4.1	4.2	4.2	4.4	4.5	4.8	5.0
short-term interest rate (nominal)			1.8	1.0	1.7	2.2	2.7	3.2	3.5	3.8	4.2	4.2	4.2
long-term interest rate (nominal)			5.3	2.5	3.8	4.2	4.6	5.0	5.0	5.0	5.0	5.0	5.0

Debt projections - Sensitivity tests

Gross debt ratio	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030
-1p.p. in the short-term/long-term interest rate from 2014	41.0	43.3	51.7	54.3	55.9	56.4	56.9	57.5	58.5	59.7	61.0	70.3	85.0
+1p.p. in the short-term/long-term interest rate from 2014	41.0	43.3	51.7	54.3	55.9	56.4	57.0	57.9	59.2	60.9	62.8	76.8	98.7
-0.5p.p. GDP grow th from 2014	41.0	43.3	51.7	54.3	55.9	56.7	57.5	58.5	60.0	61.7	63.6	76.8	97.1
+0.5p.p. GDP grow th from 2014	41.0	43.3	51.7	54.3	55.9	56.2	56.4	56.9	57.8	59.0	60.3	70.3	86.5
Constant average 98-07 interest/grow th rates differential	41.0	43.3	51.7	54.3	55.9	56.4	56.9	57.5	58.2	58.9	59.4	63.2	69.4
Constant average 98-12 structural primary balance	41.0	43.3	51.7	56.1	59.8	62.5	65.1	68.0	71.4	75.0	78.8	101.5	132.0
Consolidation scenario (0.5% per year on SB) to achieve MTO	41.0	43.3	51.7	54.3	55.9	56.0	55.7	55.1	54.3	53.3	52.0	44.1	38.5
Consolidation scenario (1.0% per year on SB) to achieve MTO	41.0	43.3	51.7	54.3	55.9	55.7	54.5	52.7	50.9	49.2	47.6	40.3	35.4
Consolidation path (SPB) until 2020 to meet 60% debt target in 2030	41.0	43.3	51.7	54.3	55.9	56.2	56.2	56.0	55.8	55.4	54.8	54.5	60.0
Consolidation path (SPB) until 2020 to meet pre-crisis debt target in 2030	41.0	43.3	51.7	54.3	55.9	55.9	55.3	54.1	52.5	50.3	47.6	36.2	29.6
Consolidation path (SPB) until 2020 to meet post-crisis debt target in 2030	41.0	43.3	51.7	54.3	55.9	56.2	56.1	55.7	55.3	54.7	53.8	52.1	55.9

Cumulated budgetary effort	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030
Consolidation scenario (0.5% per year on SB) to achieve MTO	:	:	:	:	:	0.5	1.0	1.5	2.0	2.6	3.1	4.2	4.6
Consolidation scenario (1.0% per year on SB) to achieve MTO	:	:	:	:	:	1.0	2.0	2.8	3.0	3.2	3.3	4.0	4.5
Consolidation path (SPB) until 2020 to meet 60% debt target in 2030	:	:	:	:	:	0.4	0.7	1.1	1.5	1.9	2.2	2.2	2.2
Consolidation path (SPB) until 2020 to meet pre-crisis debt target in 2030	:	:	:	:	:	0.7	1.5	2.2	3.0	3.7	4.4	4.4	4.4
Consolidation path (SPB) until 2020 to meet post-crisis debt target in 2030	:	:	:	:	:	0.4	0.8	1.3	1.7	2.1	2.5	2.5	2.5

Gross debt as % of GDP - SLOVAKIA - Medium term debt projections

Legend:
- No-policy change scenario
- Shock -1p.p. in the short-term/long-term interest rate on maturing and new debt from 2015
- Shock +1p.p. in the short-term/long-term interest rate on maturing and new debt from 2015
- Consolidation scenario (0.5% per year on SB) in order to achieve MTO
- Consolidation scenario (1% per year on SB) in order to achieve MTO
- Constant average 1998-2007 interest (on new & maturing debt)/growth rates differential

Stochastic debt projections 2013-17, SLOVAKIA

Legend: p10_p20, p20_p40, p40_p60, p60_p80, p80_p90, p50, gdebt_gdp_DSM

SLOVAKIA - Medium term debt projections - Debt maturity structure (as % of GDP)

Legend:
- Oustanding (non maturing) debt
- Rolled-over short-term debt
- Rolled-over long-term debt
- New short-term debt
- New long-term debt

SLOVAKIA - Medium term debt projections - Consolidation scenario (0.5% per year on SB) in order to achieve MTO

Legend:
- Cumulated budgetary effort
- Structural Deficit
- Gross debt

SLOVAKIA - Medium term debt projections - Consolidation paths (SPB) until 2020 that would ensure meeting the 60% debt target in 2030

Legend:
- Cumulated budgetary effort
- Cumulated budgetary effort without cost of ageing (PM)
- Structural Deficit
- Gross debt

SLOVAKIA - Medium term debt projections - Consolidation scenario (1% per year on SB) in order to achieve MTO

Legend:
- Cumulated budgetary effort
- Structural Deficit
- Gross debt

9.22. FINLAND

Finland - Summary table

Long-term projections

	2010	2015	2020	2025	2030	2035	2040	2045	2050	2055	2060
Budgetary projections											
AWG reference scenario	28.1	29.0	30.7	32.3	33.7	34.3	34.3	34.2	34.2	34.5	34.8
AWG risk scenario	28.1	29.2	30.9	32.7	34.2	34.8	34.9	34.9	35.0	35.3	35.6
Revenues from pensions taxation	2.2	2.3	2.5	2.7	2.8	2.8	2.7	2.7	2.7	2.7	2.7
Property incomes	3.9	3.9	3.9	3.6	3.4	3.2	3.0	2.8	2.7	2.6	2.5

Sustainability indicators

S0 indicator	2009	2010	2011	2012	Critical threshold			
Overall index	**0.36**	**0.10**	**0.07**	**0.13**	**0.44**			
Fiscal sub-index	0.49	0.15	0.05	0.21	0.34			
Financial competitiveness sub-index	0.31	0.08	0.08	0.09	0.46			

S1 indicator	Baseline scenario	AWG risk scenario	2011 scenario	AVG 98-12 scenario			
Overall index	**2.0**	**2.2**	**1.2**	**-2.2**			
of w hich *Initial Budgetary position*	*-0.5*	*-0.5*	*-1.1*	*-3.7*			
Cost of delaying adjustment	*0.3*	*0.3*	*0.2*	*-0.3*			
Debt requirement	*-0.3*	*-0.3*	*-0.4*	*-0.7*			
Ageing costs	*2.5*	*2.7*	*2.5*	*2.5*			

S2 indicator	Baseline scenario	AWG risk scenario	2011 scenario	AVG 98-12 scenario	2009 Sustainability Report		
Overall index	**5.8**	**6.4**	**5.2**	**2.6**	**4.1**		
of w hich *Initial Budgetary position*	*0.9*	*0.9*	*0.3*	*-2.3*	*-0.4*		
Long term component	*4.9*	*5.5*	*4.9*	*4.9*	*4.5*		
of which Pensions	*2.0*	*2.0*	*2.0*	*2.1*	*:*		
Health & Long-term care	*2.6*	*3.1*	*2.6*	*2.6*	*:*		
Others	*0.3*	*0.3*	*0.3*	*0.3*	*:*		

Debt projections - Baseline

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030
Gross debt ratio	**48.6**	**49.0**	**53.1**	**54.7**	**55.0**	**54.5**	**53.9**	**53.6**	**54.0**	**54.7**	**55.9**	**68.3**	**91.5**
changes in the debt ratio (1+2+3)	**5.1**	**0.4**	**4.1**	**1.5**	**0.4**	**-0.5**	**-0.6**	**-0.3**	**0.4**	**0.8**	**1.2**	**3.4**	**5.3**
of which *Oustanding (non maturing) debt*			*39.0*	*42.6*	*43.9*	*43.9*	*42.8*	*40.6*	*40.1*	*40.2*	*40.5*	*46.1*	*66.0*
Rolled-over short-term debt			*6.5*	*7.0*	*7.2*	*7.0*	*6.6*	*6.4*	*6.4*	*6.5*	*6.6*	*7.8*	*10.2*
Rolled-over long-term debt			*3.5*	*3.5*	*3.5*	*3.7*	*4.5*	*6.6*	*7.1*	*7.3*	*7.6*	*11.0*	*10.0*
New short-term debt			*0.5*	*0.2*	*0.1*	*0.0*	*0.0*	*0.0*	*0.0*	*0.1*	*0.1*	*0.4*	*0.6*
New long-term debt			*3.6*	*1.3*	*0.3*	*0.0*	*0.0*	*0.0*	*0.3*	*0.7*	*1.0*	*3.0*	*4.7*
of which (1) Overall primary balance (+ = deficit)	**1.4**	**-0.5**	**0.7**	**0.1**	**-0.2**	**-0.1**	**-0.2**	**-0.1**	**0.3**	**0.6**	**1.0**	**2.7**	**4.2**
Structural primary balance (kept constant at 2014 lvl)	*-0.6*	*-1.4*	*-0.5*	*-0.9*	*-0.9*	*-0.9*	*-0.9*	*-0.9*	*-0.9*	*-0.9*	*-0.9*	*-0.9*	*-0.9*
Cyclical component	*2.1*	*1.0*	*1.2*	*1.0*	*0.7*	*0.4*	*0.2*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Ageing cost (incl. revenues pensions tax)	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.3*	*0.6*	*0.9*	*1.2*	*1.5*	*1.8*	*3.3*	*4.5*
Property incomes	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*-0.2*	*-0.1*	*-0.1*	*0.0*	*0.0*	*0.3*	*0.5*
(2) Snow ball effect (interest rate/grow th differential)	**-0.3**	**-1.6**	**-0.2**	**-0.2**	**-0.6**	**-0.5**	**-0.4**	**-0.2**	**0.1**	**0.2**	**0.2**	**0.7**	**1.1**
Interest expenditure	*1.3*	*1.2*	*1.2*	*1.2*	*1.1*	*1.2*	*1.2*	*1.3*	*1.6*	*1.7*	*1.9*	*2.8*	*4.0*
Growth effect (real)	*-1.4*	*-1.3*	*0.0*	*-0.4*	*-0.7*	*-0.6*	*-0.6*	*-0.5*	*-0.4*	*-0.5*	*-0.6*	*-0.8*	*-1.2*
Inflation effect	*-0.2*	*-1.5*	*-1.3*	*-1.0*	*-1.0*	*-1.0*	*-1.1*	*-1.1*	*-1.1*	*-1.1*	*-1.1*	*-1.3*	*-1.7*
(3) Stock flow adjustment	***4.0***	***2.4***	***3.6***	***1.6***	***1.1***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
PM : Structural balance (+ = deficit)	**0.4**	**-0.3**	**0.6**	**0.1**	**0.2**	**0.7**	**0.8**	**1.2**	**1.8**	**2.3**	**2.9**	**5.5**	**8.2**
Financing needs (billions EUR)			*27.4*	*24.1*	*23.0*	*22.6*	*24.3*	*29.3*	*32.1*	*34.8*	*37.9*	*64.5*	*87.6*

Key macroeconomic assumptions													
Actual GDP grow th (real)	3.3	2.7	0.1	0.8	1.3	1.1	1.1	1.0	0.7	0.9	1.1	1.3	1.4
Potential GDP grow th (real)			0.6	0.6	0.7	0.6	0.6	0.6	0.7	0.9	1.1	1.3	1.4
Inflation (GDP deflator)	0.4	3.1	2.7	1.9	1.8	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0
Implicit interest rate (nominal)	2.6	2.4	2.3	2.1	2.1	2.3	2.5	2.9	3.3	3.6	3.9	4.6	4.8
of which long-term implicit interest rate (nominal)			*2.7*	*2.5*	*2.3*	*2.3*	*2.4*	*2.5*	*2.9*	*3.2*	*3.5*	*4.5*	*4.9*
short-term interest rate (nominal)			*0.6*	*0.2*	*1.0*	*1.7*	*2.5*	*3.4*	*3.6*	*3.9*	*4.2*	*4.2*	*4.2*
long-term interest rate (nominal)			*1.7*	*0.5*	*2.0*	*3.0*	*4.1*	*5.1*	*5.1*	*5.1*	*5.1*	*5.1*	*5.1*

Debt projections - Sensitivity tests

Gross debt ratio	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030
-1p.p. in the short-term/long-term interest rate from 2014	48.6	49.0	53.1	54.7	55.0	54.5	53.8	53.4	53.6	54.1	55.0	65.2	85.0
+1p.p. in the short-term/long-term interest rate from 2014	48.6	49.0	53.1	54.7	55.0	54.5	54.0	53.8	54.3	55.3	56.8	71.5	98.6
-0.5p.p. GDP grow th from 2014	48.6	49.0	53.1	54.7	55.0	54.8	54.5	54.4	55.0	56.0	57.4	71.1	96.2
+0.5p.p. GDP grow th from 2014	48.6	49.0	53.1	54.7	55.0	54.3	53.4	52.8	53.0	53.5	54.5	65.6	87.2
Constant average 98-07 interest/grow th rates differential	48.6	49.0	53.1	54.7	55.0	54.5	53.9	53.5	53.7	54.0	54.6	63.2	80.7
Constant average 98-12 structural primary balance	48.6	49.0	53.1	51.6	49.0	45.4	41.8	38.5	35.6	33.2	31.1	26.1	30.4
Consolidation scenario (0.5% per year on SB) to achieve MTO	48.6	49.0	53.1	54.7	55.0	54.1	52.7	51.0	49.4	47.7	45.9	36.8	29.0
Consolidation scenario (1.0% per year on SB) to achieve MTO	48.6	49.0	53.1	54.7	55.0	53.8	52.0	50.1	48.4	46.6	44.7	35.8	28.2
Consolidation path (SPB) until 2020 to meet 60% debt target in 2030	48.6	49.0	53.1	54.7	55.0	54.4	53.3	52.2	51.3	50.2	49.2	49.6	60.0
Consolidation path (SPB) until 2020 to meet pre-crisis debt target in 2030	48.6	49.0	53.1	54.7	55.0	54.2	52.6	50.7	48.7	46.3	43.5	34.8	35.2
Consolidation path (SPB) until 2020 to meet post-crisis debt target in 2030	48.6	49.0	53.1	54.7	55.0	54.4	53.2	51.9	50.7	49.4	48.0	46.6	55.0

Cumulated budgetary effort	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030
Consolidation scenario (0.5% per year on SB) to achieve MTO	:	:	:	:	:	0.5	1.0	1.5	2.0	2.5	3.0	4.8	6.1
Consolidation scenario (1.0% per year on SB) to achieve MTO	:	:	:	:	:	1.0	1.3	1.7	2.2	2.6	3.0	4.8	6.1
Consolidation path (SPB) until 2020 to meet 60% debt target in 2030	:	:	:	:	:	0.3	0.7	1.0	1.3	1.7	2.0	2.0	2.0
Consolidation path (SPB) until 2020 to meet pre-crisis debt target in 2030	:	:	:	:	:	0.6	1.2	1.8	2.4	3.1	3.7	3.7	3.7
Consolidation path (SPB) until 2020 to meet post-crisis debt target in 2030	:	:	:	:	:	0.4	0.8	1.2	1.5	1.9	2.3	2.3	2.3

Gross debt as % of GDP - FINLAND - Medium term debt projections

Stochastic debt projections 2013-17, FINLAND

FINLAND - Medium term debt projections - Debt maturity structure (as % of GDP)

FINLAND - Medium term debt projections - Consolidation scenario (0.5% per year on SB) in order to achieve MTO

FINLAND - Medium term debt projections - Consolidation paths (SPB) until 2020 that would ensure meeting the 60% debt target in 2030

FINLAND - Medium term debt projections - Consolidation scenario (1% per year on SB) in order to achieve MTO

9.23. SWEDEN

Sweden - Summary table

Long-term projections

	2010	2015	2020	2025	2030	2035	2040	2045	2050	2055	2060
Budgetary projections											
AWG reference scenario	27.9	27.8	28.0	28.7	29.7	30.3	30.4	30.2	30.5	31.1	31.6
AWG risk scenario	27.9	27.9	28.1	29.0	30.0	30.7	30.9	30.8	31.0	31.7	32.2
Revenues from pensions taxation	3.7	3.9	3.9	4.1	4.2	4.3	4.3	4.1	4.2	4.3	4.4
Property incomes	2.2	2.1	2.7	2.4	2.2	2.1	1.9	1.8	1.7	1.6	1.6

Sustainability indicators

S0 indicator	2009	2010	2011	2012	Critical threshold
Overall index	**0.24**	**0.06**	**0.15**	**0.15**	**0.44**
Fiscal sub-index	0.31	0.05	0.05	0.05	0.34
Financial competitiveness sub-index	0.21	0.06	0.19	0.19	0.46

S1 indicator	Baseline scenario	AWG risk scenario	2011 scenario	AVG 98-12 scenario	
Overall index	**-3.6**	**-3.4**	**-3.1**	**-5.4**	
of w hich *Initial Budgetary position*	-2.0	-2.0	-1.6	-3.4	
Cost of delaying adjustment	-0.6	-0.5	-0.5	-0.8	
Debt requirement	-1.6	-1.6	-1.5	-1.7	
Ageing costs	0.6	0.7	0.6	0.6	

S2 indicator	Baseline scenario	AWG risk scenario	2011 scenario	AVG 98-12 scenario	2009 Sustainability Report
Overall index	**1.7**	**2.1**	**2.1**	**0.3**	**1.9**
of w hich Initial Budgetary position	-1.0	-1.0	-0.6	-2.4	0.2
Long term component	2.7	3.1	2.7	2.7	1.6
of which Pensions	0.0	0.0	0.0	0.0	:
Health & Long-term care	2.5	2.9	2.5	2.5	:
Others	0.2	0.2	0.2	0.2	:

Debt projections - Baseline

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030
Gross debt ratio	**39.5**	**38.4**	**37.4**	**36.2**	**34.1**	**32.4**	**29.9**	**27.4**	**25.1**	**22.9**	**20.8**	**13.1**	**10.3**
changes in the debt ratio (1+2+3)	-3.1	-1.0	-1.1	-1.1	-2.1	-1.7	-2.5	-2.5	-2.3	-2.2	-2.1	-1.1	-0.1
of w hich *Oustanding (non maturing) debt*			25.1	27.0	24.0	22.7	25.1	23.8	25.1	19.8	19.0	13.1	10.3
Rolled-over short-term debt			9.0	8.0	6.6	5.6	3.7	2.2	0.0	0.0	0.0	0.0	0.0
Rolled-over long-term debt			3.2	1.2	3.4	4.0	1.1	1.4	0.0	3.0	1.8	0.0	0.0
New short-term debt			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
New long-term debt			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
of w hich (1) Overall primary balance (+ = deficit)	-1.1	-1.4	-1.0	-0.6	-1.4	-1.4	-2.3	-2.3	-2.2	-2.2	-2.1	-1.2	-0.2
Structural primary balance (kept constant at 2014 lvl)	-2.2	-1.4	-1.6	-1.3	-1.7	-1.7	-1.7	-1.7	-1.7	-1.7	-1.7	-1.7	-1.7
Cyclical component	1.1	0.0	0.6	0.7	0.4	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Ageing cost (incl. revenues pensions tax)	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.8	1.6
Property incomes	0.0	0.0	0.0	0.0	0.0	0.0	-0.7	-0.7	-0.6	-0.6	-0.5	-0.3	-0.1
(2) Snow ball effect (interest rate/grow th differential)	-6.2	-2.8	-1.1	-0.6	-0.6	-0.3	-0.2	-0.2	0.0	-0.1	0.0	0.1	0.1
Interest expenditure	1.3	1.2	1.1	1.0	1.0	1.0	1.0	1.0	0.9	0.9	0.8	0.6	0.5
Growth effect (real)	-2.6	-1.5	-0.4	-0.7	-0.9	-0.7	-0.6	-0.5	-0.4	-0.4	-0.4	-0.3	-0.2
Inflation effect	-4.9	-2.5	-1.8	-0.9	-0.7	-0.7	-0.6	-0.6	-0.5	-0.5	-0.4	-0.3	-0.2
(3) Stock flow adjustment	**4.2**	**3.1**	**1.1**	**0.1**	**-0.1**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
PM : Structural balance (+ = deficit)	**-1.4**	**-0.3**	**-0.6**	**-0.3**	**-0.8**	**-0.7**	**-1.4**	**-1.4**	**-1.3**	**-1.3**	**-1.2**	**-0.6**	**0.2**
Financing needs (billions EUR)			**50.3**	**39.7**	**45.2**	**44.9**	**23.1**	**18.1**	**0.0**	**16.4**	**10.3**	**0.0**	**0.0**

Key macroeconomic assumptions													
Actual GDP grow th (real)	6.6	3.9	1.1	1.9	2.5	2.0	1.9	1.8	1.6	1.7	1.7	1.8	1.7
Potential GDP grow th (real)			2.2	2.0	2.1	1.7	1.6	1.6	1.6	1.7	1.7	1.8	1.7
Inflation (GDP deflator)	12.3	6.7	4.8	2.3	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Implicit interest rate (nominal)	2.1	2.7	2.6	2.7	2.9	3.2	3.3	3.5	3.5	3.7	3.8	4.2	4.7
of which long-term implicit interest rate (nominal)			3.2	3.1	3.1	3.2	3.3	3.4	3.5	3.5	3.7	4.2	4.7
short-term interest rate (nominal)			1.1	1.3	1.9	2.4	2.9	3.5	3.7	3.9	4.1	4.1	4.1
long-term interest rate (nominal)			2.5	2.8	3.6	4.1	4.7	5.2	5.1	5.1	5.0	5.0	5.0

Debt projections - Sensitivity tests

Gross debt ratio	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030
-1p.p. in the short-term/long-term interest rate from 2014	39.5	38.4	37.4	36.2	34.1	32.4	29.8	27.3	24.9	22.6	20.5	12.3	9.1
+1p.p. in the short-term/long-term interest rate from 2014	39.5	38.4	37.4	36.2	34.1	32.4	30.0	27.5	25.3	23.1	21.1	13.9	11.6
-0.5p.p. GDP grow th from 2014	39.5	38.4	37.4	36.2	34.1	32.6	30.2	27.8	25.7	23.5	21.6	14.1	11.3
+0.5p.p. GDP grow th from 2014	39.5	38.4	37.4	36.2	34.1	32.2	29.6	27.0	24.5	22.2	20.1	12.2	9.4
Constant average 98-07 interest/grow th rates differential	39.5	38.4	37.4	36.2	34.1	32.4	30.0	27.5	25.2	22.9	20.8	12.9	9.8
Constant average 98-12 structural primary balance	39.5	38.4	37.4	34.4	31.0	28.0	24.2	20.4	16.7	13.1	9.7	-5.1	-15.6
Consolidation scenario (0.5% per year on SB) to achieve MTO	39.5	38.4	37.4	36.2	34.1	33.8	33.5	33.3	33.2	33.0	32.8	32.0	31.4
Consolidation scenario (1.0% per year on SB) to achieve MTO	39.5	38.4	37.4	36.2	34.1	33.8	33.5	33.3	33.2	33.0	32.8	32.0	31.4
Consolidation path (SPB) until 2020 to meet 60% debt target in 2030	39.5	38.4	37.4	36.2	34.1	33.0	31.6	30.8	30.8	31.5	32.9	43.4	60.0
Consolidation path (SPB) until 2020 to meet pre-crisis debt target in 2030	39.5	38.4	37.4	36.2	34.1	32.8	31.0	29.6	28.6	28.1	28.2	31.4	40.2
Consolidation path (SPB) until 2020 to meet post-crisis debt target in 2030	39.5	38.4	37.4	36.2	34.1	32.8	30.8	29.2	27.9	27.1	26.7	27.7	34.1
Cumulated budgetary effort	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2025**	**2030**
Consolidation scenario (0.5% per year on SB) to achieve MTO	:	:	:	:	:	-1.7	-2.4	-2.3	-2.1	-2.0	-1.8	-0.8	0.2
Consolidation scenario (1.0% per year on SB) to achieve MTO	:	:	:	:	:	-1.7	-2.4	-2.3	-2.1	-2.0	-1.8	-0.8	0.2
Consolidation path (SPB) until 2020 to meet 60% debt target in 2030	:	:	:	:	:	-0.6	-1.2	-1.8	-2.4	-3.0	-3.6	-3.6	-3.6
Consolidation path (SPB) until 2020 to meet pre-crisis debt target in 2030	:	:	:	:	:	-0.4	-0.7	-1.1	-1.5	-1.8	-2.2	-2.2	-2.2
Consolidation path (SPB) until 2020 to meet post-crisis debt target in 2030	:	:	:	:	:	-0.3	-0.6	-0.9	-1.2	-1.5	-1.8	-1.8	-1.8

Gross debt as % of GDP - SWEDEN - Medium term debt projections

Stochastic debt projections 2013-17, SWEDEN

SWEDEN - Medium term debt projections - Debt maturity structure (as % of GDP)

SWEDEN - Medium term debt projections - Consolidation scenario (0.5% per year on SB) in order to achieve MTO

SWEDEN - Medium term debt projections - Consolidation paths (SPB) until 2020 that would ensure meeting the 60% debt target in 2030

SWEDEN - Medium term debt projections - Consolidation scenario (1% per year on SB) in order to achieve MTO
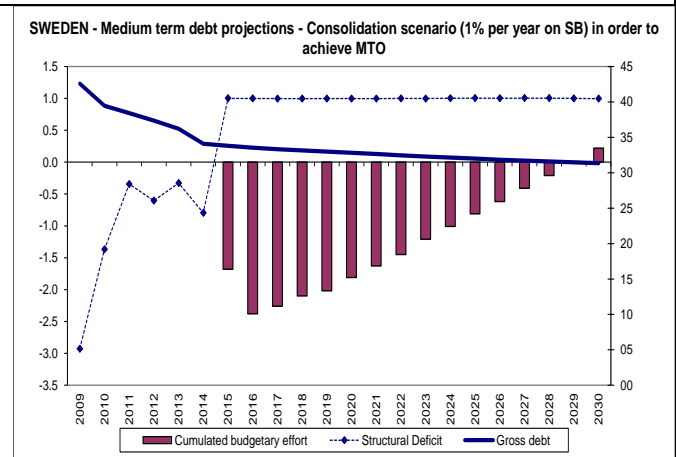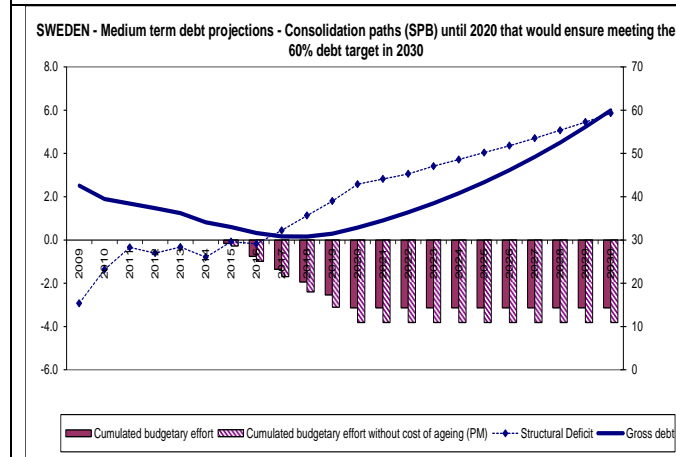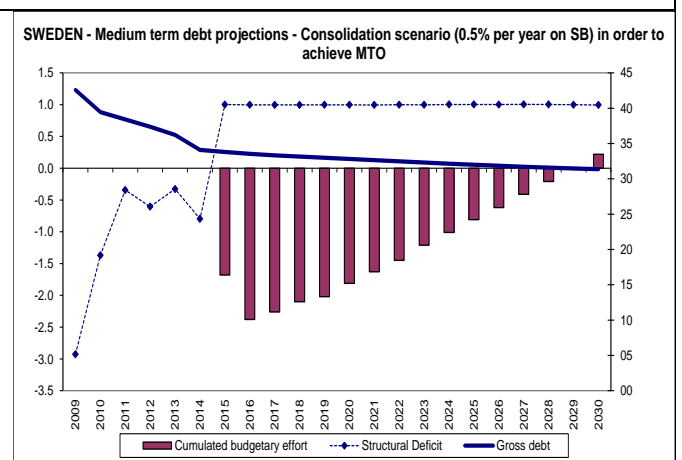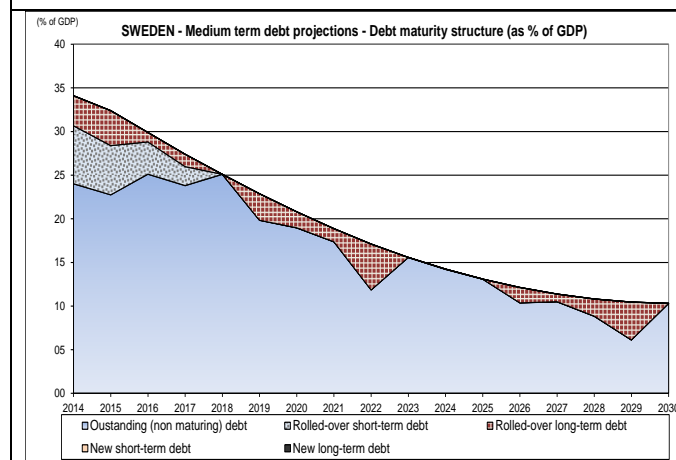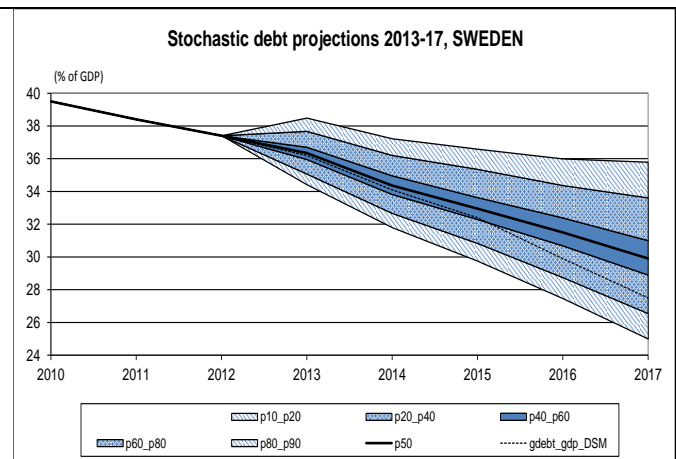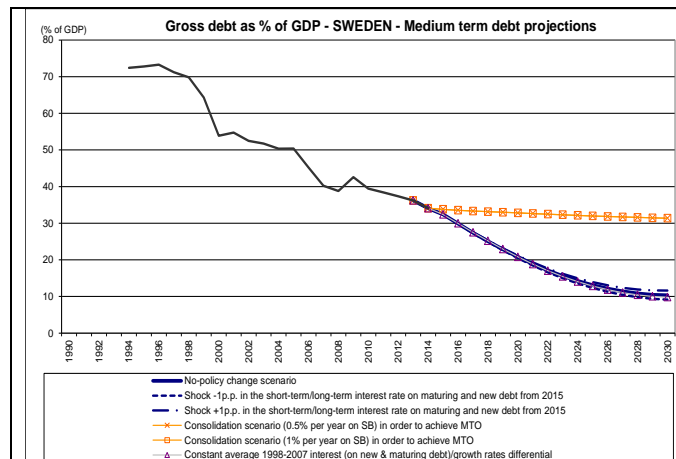
9.24.   UNITED-KINGDOM

United-Kingdom - Summary table

Long-term projections

	2010	2015	2020	2025	2030	2035	2040	2045	2050	2055	2060
Budgetary projections											
AWG reference scenario	22.1	22.1	21.9	22.5	23.2	23.7	24.1	24.0	24.3	24.9	25.5
AWG risk scenario	22.1	22.2	22.2	22.8	23.6	24.2	24.6	24.5	24.9	25.6	26.1
Revenues from pensions taxation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Property incomes	0.6	0.5	0.7	0.6	0.5	0.5	0.4	0.4	0.4	0.3	0.3

Sustainability indicators

S0 indicator	2009	2010	2011	2012	Critical threshold
Overall index	0.57	0.28	0.24	0.29	0.44
Fiscal sub-index	0.76	0.52	0.37	0.37	0.34
Financial competitiveness sub-index	0.49	0.19	0.19	0.26	0.46

S1 indicator	Baseline scenario	AWG risk scenario	2011 scenario	AVG 98-12 scenario
Overall index	5.0	5.2	7.6	4.7
of w hich Initial Budgetary position	1.8	1.8	3.8	1.6
Cost of delaying adjustment	0.8	0.8	1.2	0.7
Debt requirement	2.1	2.1	2.3	2.1
Ageing costs	0.2	0.4	0.2	0.2

S2 indicator	Baseline scenario	AWG risk scenario	2011 scenario	AVG 98-12 scenario	2009 Sustainability Report
Overall index	5.2	5.7	7.2	5.0	12.4
of w hich Initial Budgetary position	2.6	2.6	4.6	2.4	8.9
Long term component	2.6	3.1	2.6	2.6	3.6
of which Pensions	1.2	1.2	1.2	1.2	:
Health & Long-term care	1.3	1.8	1.3	1.3	:
Others	0.1	0.1	0.1	0.1	:

Debt projections - Baseline

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030
Gross debt ratio	79.4	85.0	88.7	93.2	95.1	96.7	97.5	98.0	99.4	100.8	102.3	112.2	127.2
changes in the debt ratio (1+2+3)	11.6	5.6	3.7	4.5	2.0	1.6	0.8	0.5	1.4	1.4	1.5	2.4	3.4
of which Oustanding (non maturing) debt			69.0	70.4	72.6	74.3	75.6	76.7	79.1	78.8	79.7	89.1	96.0
Rolled-over short-term debt			14.6	15.2	16.0	16.3	16.6	16.7	16.8	17.0	17.3	18.8	21.1
Rolled-over long-term debt			1.5	3.1	4.6	4.5	4.5	4.1	2.1	3.6	3.8	1.9	6.6
New short-term debt			0.6	0.8	0.3	0.3	0.1	0.1	0.2	0.2	0.3	0.4	0.6
New long-term debt			3.0	3.7	1.6	1.3	0.7	0.4	1.2	1.2	1.2	2.0	2.9
of which (1) Overall primary balance (+ = deficit)	7.2	4.6	3.0	3.9	2.7	2.2	1.6	1.2	1.2	1.2	1.2	1.9	2.7
Structural primary balance (kept constant at 2014 lvl)	5.9	3.5	3.2	2.4	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Cyclical component	1.3	1.1	-0.2	1.5	1.1	0.7	0.4	0.0	0.0	0.0	0.0	0.0	0.0
Ageing cost (incl. revenues pensions tax)	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.2	-0.2	-0.2	-0.2	0.4	1.1
Property incomes	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	-0.2	-0.2	-0.2	-0.1	-0.1	0.0
(2) Snow ball effect (interest rate/grow th differential)	-2.3	1.8	-4.6	0.7	-0.6	-0.7	-0.8	-0.7	0.2	0.3	0.3	0.5	0.8
Interest expenditure	3.4	3.7	3.6	3.9	3.4	3.3	3.4	3.6	3.8	4.0	4.1	4.7	5.5
Growth effect (real)	-1.2	-0.7	0.3	-0.8	-1.9	-1.9	-2.2	-2.4	-1.7	-1.8	-2.0	-2.0	-2.3
Inflation effect	-4.5	-1.2	-8.5	-2.3	-2.1	-2.1	-2.0	-1.9	-1.9	-2.0	-2.0	-2.2	-2.4
(3) Stock flow adjustment	6.7	-0.8	5.3	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PM : Structural balance (+ = deficit)	8.9	6.7	6.4	5.6	4.9	4.8	4.6	4.7	5.0	5.1	5.3	6.5	8.1
Financing needs (billions EUR)			378.4	453.5	469.0	485.7	495.5	503.7	498.4	562.2	598.0	744.3	1215.3

Key macroeconomic assumptions													
Actual GDP grow th (real)	1.8	0.9	-0.3	0.9	2.0	2.1	2.3	2.5	1.7	1.8	1.9	1.9	1.9
Potential GDP grow th (real)			0.7	0.9	1.1	1.2	1.5	1.7	1.7	1.8	1.9	1.9	1.9
Inflation (GDP deflator)	6.7	1.5	9.9	2.7	2.3	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.0
Implicit interest rate (nominal)	4.6	4.2	3.8	3.8	3.6	3.7	3.8	4.0	4.1	4.2	4.3	4.4	4.6
of which long-term implicit interest rate (nominal)			4.9	4.6	4.4	4.2	4.1	4.1	4.2	4.2	4.3	4.4	4.6
short-term interest rate (nominal)			0.1	0.8	0.9	1.5	2.4	3.3	3.6	3.9	4.3	4.3	4.3
long-term interest rate (nominal)			0.3	2.0	1.9	3.0	4.1	5.2	5.2	5.2	5.2	5.2	5.1

Debt projections - Sensitivity tests

Gross debt ratio	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030
-1p.p. in the short-term/long-term interest rate from 2014	79.4	85.0	88.7	93.2	95.1	96.7	97.4	97.6	98.8	99.9	101.1	108.7	120.5
+1p.p. in the short-term/long-term interest rate from 2014	79.4	85.0	88.7	93.2	95.1	96.7	97.6	98.3	100.0	101.7	103.5	116.0	134.5
-0.5p.p. GDP grow th from 2014	79.4	85.0	88.7	93.2	95.1	97.2	98.4	99.3	101.2	103.2	105.2	117.9	136.1
+0.5p.p. GDP grow th from 2014	79.4	85.0	88.7	93.2	95.1	96.2	96.6	96.6	97.5	98.5	99.5	106.9	118.9
Constant average 98-07 interest/grow th rates differential	79.4	85.0	88.7	93.2	95.1	96.7	97.7	98.4	100.1	101.6	103.0	112.2	125.7
Constant average 98-12 structural primary balance	79.4	85.0	88.7	92.1	93.9	95.3	95.9	96.2	97.4	98.7	100.0	108.9	122.8
Consolidation scenario (0.5% per year on SB) to achieve MTO	79.4	85.0	88.7	93.2	95.1	96.4	96.4	95.6	95.2	94.4	93.0	82.3	72.8
Consolidation scenario (1.0% per year on SB) to achieve MTO	79.4	85.0	88.7	93.2	95.1	96.2	95.4	93.3	91.3	88.9	86.6	76.0	67.5
Consolidation path (SPB) until 2020 to meet 60% debt target in 2030	79.4	85.0	88.7	93.2	95.1	96.7	96.6	95.3	93.9	91.6	88.5	72.4	60.0
Consolidation path (SPB) until 2020 to meet pre-crisis debt target in 2030	79.4	85.0	88.7	93.2	95.1	96.6	96.2	94.4	92.3	89.1	84.8	62.7	44.2
Consolidation path (SPB) until 2020 to meet post-crisis debt target in 2030	79.4	85.0	88.7	93.2	95.1	96.9	97.5	97.3	97.4	97.1	96.4	93.6	95.1

Cumulated budgetary effort	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030
Consolidation scenario (0.5% per year on SB) to achieve MTO	:	:	:	:	:	0.5	1.0	1.5	2.0	2.5	3.1	4.4	4.9
Consolidation scenario (1.0% per year on SB) to achieve MTO	:	:	:	:	:	1.0	2.0	3.0	3.8	3.8	3.8	4.1	4.6
Consolidation path (SPB) until 2020 to meet 60% debt target in 2030	:	:	:	:	:	0.8	1.7	2.5	3.3	4.2	5.0	5.0	5.0
Consolidation path (SPB) until 2020 to meet pre-crisis debt target in 2030	:	:	:	:	:	1.0	2.1	3.1	4.1	5.1	6.2	6.2	6.2
Consolidation path (SPB) until 2020 to meet post-crisis debt target in 2030	:	:	:	:	:	0.4	0.8	1.2	1.6	2.0	2.4	2.4	2.4

Gross debt as % of GDP - UNITED-KINGDOM - Medium term debt projections

Stochastic debt projections 2013-17, UNITED-KINGDOM

UNITED-KINGDOM - Medium term debt projections - Debt maturity structure (as % of GDP)

UNITED-KINGDOM - Medium term debt projections - Consolidation scenario (0.5% per year on SB) in order to achieve MTO

UNITED-KINGDOM - Medium term debt projections - Consolidation paths (SPB) until 2020 that would ensure meeting the 60% debt target in 2030

UNITED-KINGDOM - Medium term debt projections - Consolidation scenario (1% per year on SB) in order to achieve MTO

9.25. EUROPEAN UNION

European Union - Summary table

Long-term projections

	2010	2015	2020	2025	2030	2035	2040	2045	2050	2055	2060
Budgetary projections											
AWG reference scenario	26.0	25.8	25.9	26.3	26.9	27.5	28.1	28.4	28.7	28.9	28.9
AWG risk scenario	26.0	26.0	26.3	26.8	27.5	28.3	29.0	29.5	30.0	30.3	30.4
Revenues from pensions taxation	1.1	1.1	1.1	1.2	1.2	1.2	1.2	1.3	1.3	1.3	1.3
Property incomes	1.0	1.0	1.1	1.0	0.9	0.9	0.8	0.8	0.7	0.7	0.7

Sustainability indicators

S0 indicator	2009	2010	2011	2012	Critical threshold			
Overall index	:	:	:	:	0.44			
Fiscal sub-index	:	:	:	:	0.34			
Financial competitiveness sub-index	:	:	:	:	0.46			

S1 indicator	Baseline scenario	AWG risk scenario	2011 scenario	AVG 98-12 scenario				
Overall index	1.8	2.2	4.8	3.2				
of which Initial Budgetary position	-0.5	-0.5	1.6	0.5				
Cost of delaying adjustment	0.3	0.3	0.8	0.5				
Debt requirement	1.7	1.7	2.0	1.8				
Ageing costs	0.4	0.6	0.4	0.4				

S2 indicator	Baseline scenario	AWG risk scenario	2011 scenario	AVG 98-12 scenario	2009 Sustainability Report			
Overall index	2.6	3.6	4.8	3.5	6.5			
of which Initial Budgetary position	0.5	0.5	2.6	1.3	3.3			
Long term component	2.2	3.1	2.2	2.2	3.2			
of which Pensions	1.1	1.1	1.1	1.1	:			
Health & Long-term care	1.5	2.4	1.5	1.5	:			
Others	-0.4	-0.4	-0.4	-0.4	:			

Debt projections - Baseline

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030
Gross debt ratio	80.0	82.8	86.8	88.7	88.8	88.4	87.6	86.4	85.9	85.3	84.8	83.9	87.2
changes in the debt ratio (1+2+3)	6.1	2.8	4.0	1.9	0.1	-0.3	-0.9	-1.2	-0.6	-0.6	-0.5	0.1	1.1
of which Oustanding (non maturing) debt			65.3	67.0	68.6	69.8	70.6	71.1	72.6	71.1	67.1	69.9	67.1
Rolled-over short-term debt			12.0	12.5	12.3	11.9	11.2	10.3	9.6	9.1	8.7	8.1	8.7
Rolled-over long-term debt			5.2	6.9	6.8	6.1	5.3	4.7	3.1	4.5	8.4	5.0	9.8
New short-term debt			0.7	0.3	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.2
New long-term debt			3.7	2.0	0.8	0.6	0.4	0.3	0.5	0.5	0.5	0.8	1.4
of which (1) Overall primary balance (+ = deficit)	3.9	1.5	0.6	0.2	-0.2	-0.5	-0.9	-1.2	-1.1	-1.1	-1.0	-0.5	0.2
Structural primary balance (kept constant at 2014 lvl)	2.2	0.9	-0.3	-1.1	-1.2	-1.2	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1
Cyclical component	1.6	0.7	0.9	1.3	1.0	0.6	0.3	0.0	0.0	0.0	0.0	0.0	0.0
Ageing cost (incl. revenues pensions tax)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.5	1.0
Property incomes	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.1	-0.1	-0.1	0.0	0.1
(2) Snow ball effect (interest rate/grow th differential)	-0.1	0.7	1.1	1.3	0.2	0.1	-0.1	-0.1	0.5	0.5	0.5	0.6	1.0
Interest expenditure	3.2	3.1	3.1	3.2	3.1	3.1	3.1	3.2	3.3	3.4	3.4	3.7	3.9
Growth effect (real)	-1.5	-1.2	0.2	-0.4	-1.4	-1.4	-1.5	-1.6	-1.1	-1.2	-1.4	-1.4	-1.2
Inflation effect	-1.8	-1.2	-2.2	-1.6	-1.5	-1.6	-1.6	-1.7	-1.7	-1.7	-1.7	-1.6	-1.7
(3) Stock flow adjustment	2.4	0.6	2.2	0.5	0.1	0.1	0.1	0.1	0.1	0.1	0.0	-0.1	-0.1
PM : Structural balance (+ = deficit)	4.9	3.8	2.7	2.0	1.9	1.9	1.8	2.0	2.1	2.2	2.4	3.2	4.1
Financing needs (billions EUR)			2784.3	2867.5	2758.3	2642.6	2488.6	2339.0	2086.2	2304.4	2983.8	2835.7	4836.2

Key macroeconomic assumptions													
Actual GDP grow th (real)	2.1	1.6	-0.2	0.4	1.6	1.7	1.8	1.8	1.3	1.4	1.5	1.7	1.5
Potential GDP grow th (real)			0.6	0.7	0.9	1.0	1.1	1.2	1.3	1.4	1.5	1.7	1.5
Inflation (GDP deflator)	2.5	1.5	2.6	1.8	1.7	1.8	1.9	2.0	2.0	2.0	2.0	2.0	2.0
Implicit interest rate (nominal)	3.8	3.8	3.6	3.6	3.6	3.6	3.8	3.9	4.0	4.1	4.2	4.5	4.7
of which long-term implicit interest rate (nominal)			4.2	4.1	4.0	3.9	3.9	3.9	4.0	4.1	4.1	4.5	4.7
short-term interest rate (nominal)			0.6	1.2	1.5	2.1	2.7	3.4	3.7	3.9	4.2	4.2	4.2
long-term interest rate (nominal)			1.6	2.8	3.1	3.8	4.4	5.1	5.1	5.1	5.1	5.1	5.1

Debt projections - Sensitivity tests

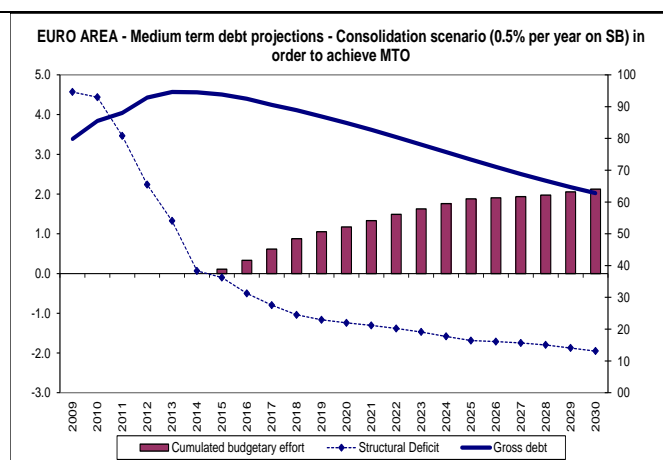| Gross debt ratio	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030
-1p.p. in the short-term/long-term interest rate from 2014	80.0	82.8	86.8	88.7	88.8	88.4	87.4	86.1	85.3	84.5	83.7	80.6	80.9
+1p.p. in the short-term/long-term interest rate from 2014	80.0	82.8	86.8	88.7	88.8	88.4	87.7	86.7	86.4	86.1	85.9	87.5	94.1
-0.5p.p. GDP grow th from 2014	80.0	82.8	86.8	88.7	88.8	88.9	88.4	87.7	87.6	87.5	87.4	88.8	94.5
+0.5p.p. GDP grow th from 2014	80.0	82.8	86.8	88.7	88.8	88.0	86.7	85.1	84.2	83.2	82.3	79.3	80.4
Constant average 98-07 interest/grow th rates differential	80.0	82.8	86.8	88.7	88.8	88.4	87.7	86.7	86.1	85.5	84.8	82.0	82.6
Constant average 98-12 structural primary balance	80.0	82.8	86.8	89.6	90.6	91.2	91.3	91.1	91.5	91.9	92.4	96.6	105.3
Consolidation scenario (0.5% per year on SB) to achieve MTO	80.0	82.8	86.8	88.7	88.8	88.4	87.3	85.6	84.1	82.5	80.7	70.4	61.0
Consolidation scenario (1.0% per year on SB) to achieve MTO	80.0	82.8	86.8	88.7	88.8	88.2	86.7	84.5	82.6	80.4	78.1	67.0	58.0
Consolidation path (SPB) until 2020 to meet 60% debt target in 2030	80.0	82.8	86.8	88.7	88.8	88.6	87.5	85.8	84.2	82.2	80.0	68.5	60.0
Consolidation path (SPB) until 2020 to meet pre-crisis debt target in 2030	80.0	82.8	86.8	88.7	88.8	88.6	87.4	85.6	84.0	81.9	79.5	67.5	58.3
Consolidation path (SPB) until 2020 to meet post-crisis debt target in 2030	80.0	82.8	86.8	88.7	88.8	88.7	88.2	87.2	86.9	86.5	86.1	85.6	88.9

Cumulated budgetary effort	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030
Consolidation scenario (0.5% per year on SB) to achieve MTO	:	:	:	:	:	0.1	0.4	0.6	0.9	1.1	1.3	2.1	2.4
Consolidation scenario (1.0% per year on SB) to achieve MTO	:	:	:	:	:	0.4	0.8	1.2	1.5	1.6	1.7	2.0	2.2
Consolidation path (SPB) until 2020 to meet 60% debt target in 2030	:	:	:	:	:	0.3	0.6	0.9	1.2	1.5	1.8	1.8	1.9
Consolidation path (SPB) until 2020 to meet pre-crisis debt target in 2030	:	:	:	:	:	0.3	0.6	1.0	1.3	1.6	1.9	2.0	2.0
Consolidation path (SPB) until 2020 to meet post-crisis debt target in 2030	:	:	:	:	:	0.0	-0.1	-0.1	-0.1	-0.2	-0.2	-0.2	-0.2

Gross debt as % of GDP - EUROPEAN UNION - Medium term debt projections

- No-policy change scenario
- Shock -1p.p. in the short-term/long-term interest rate on maturing and new debt from 2015
- Shock +1p.p. in the short-term/long-term interest rate on maturing and new debt from 2015
- Consolidation scenario (0.5% per year on SB) in order to achieve MTO
- Consolidation scenario (1% per year on SB) in order to achieve MTO
- Constant average 1998-2007 interest (on new & maturing debt)/growth rates differential

EUROPEAN UNION - Medium term debt projections - Debt maturity structure (as % of GDP)

- Oustanding (non maturing) debt
- Rolled-over short-term debt
- Rolled-over long-term debt
- New short-term debt
- New long-term debt

EUROPEAN UNION - Medium term debt projections - Consolidation scenario (0.5% per year on SB) in order to achieve MTO

- Cumulated budgetary effort
- Structural Deficit
- Gross debt

EUROPEAN UNION - Medium term debt projections - Consolidation paths (SPB) until 2020 that would ensure meeting the 60% debt target in 2030

- Cumulated budgetary effort
- Cumulated budgetary effort without cost of ageing (PM)
- Structural Deficit
- Gross debt

EUROPEAN UNION - Medium term debt projections - Consolidation scenario (1% per year on SB) in order to achieve MTO

- Cumulated budgetary effort
- Structural Deficit
- Gross debt

EUROPEAN UNION - Medium term debt projections - Consolidation paths (SPB) until 2020 that would ensure meeting the pre-crisis (2007) debt target in 2030

- Cumulated budgetary effort
- Cumulated budgetary effort without cost of ageing (PM)
- Structural Deficit
- Gross debt

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9.26. EURO AREA

Euro Area - Summary table

Long-term projections

	2010	2015	2020	2025	2030	2035	2040	2045	2050	2055	2060
Budgetary projections											
AWG reference scenario	27.0	26.9	27.1	27.5	28.0	28.7	29.4	29.9	30.2	30.3	30.1
AWG risk scenario	27.0	27.1	27.5	28.0	28.7	29.6	30.5	31.2	31.7	31.8	31.7
Revenues from pensions taxation	1.1	1.2	1.2	1.2	1.3	1.3	1.3	1.4	1.4	1.4	1.3
Property incomes	1.0	1.0	1.1	1.0	0.9	0.9	0.8	0.8	0.7	0.7	0.7

Sustainability indicators

S0 indicator	2009	2010	2011	2012	Critical threshold		
Overall index	:	:	:	:	0.44		
Fiscal sub-index	:	:	:	:	0.34		
Financial competitiveness sub-index	:	:	:	:	0.46		

S1 indicator	Baseline scenario	AWG risk scenario	2011 scenario	AVG 98-12 scenario			
Overall index	1.7	2.1	4.9	3.5			
of which *Initial Budgetary position*	-1.0	-1.0	1.3	0.3			
Cost of delaying adjustment	0.3	0.3	0.8	0.6			
Debt requirement	2.0	2.0	2.4	2.2			
Ageing costs	0.4	0.7	0.4	0.4			

S2 indicator	Baseline scenario	AWG risk scenario	2011 scenario	AVG 98-12 scenario	2009 Sustainability Report		
Overall index	2.1	3.2	4.5	3.3	5.8		
of which *Initial Budgetary position*	0.0	0.0	2.4	1.2	2.3		
Long term component	2.1	3.2	2.1	2.1	3.5		
of which Pensions	1.2	1.2	1.2	1.2	:		
Health & Long-term care	1.4	2.6	1.4	1.4	:		
Others	-0.5	-0.5	-0.5	-0.5	:		

Debt projections - Baseline

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030
Gross debt ratio	85.5	88.1	92.8	94.6	94.5	93.9	92.8	91.3	90.4	89.5	88.6	85.5	86.3
changes in the debt ratio (1+2+3)	5.7	2.5	4.8	1.8	-0.1	-0.6	-1.1	-1.4	-0.9	-0.9	-0.9	-0.4	0.6
of which *Oustanding (non maturing) debt*			68.9	71.0	73.0	74.2	75.0	75.6	77.5	75.9	70.2	72.3	66.5
Rolled-over short-term debt			12.7	13.3	13.0	12.4	11.5	10.4	9.5	8.7	8.2	7.0	7.3
Rolled-over long-term debt			6.2	8.1	7.6	6.8	5.8	5.0	3.1	4.5	9.8	5.6	11.3
New short-term debt			0.7	0.3	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1
New long-term debt			4.3	1.9	0.8	0.5	0.4	0.3	0.4	0.4	0.4	0.6	1.2
of which **(1) Overall primary balance (+ = deficit)**	3.4	1.1	0.2	-0.6	-0.8	-1.1	-1.4	-1.7	-1.6	-1.6	-1.5	-1.0	-0.3
Structural primary balance (kept constant at 2014 lvl)	1.6	0.4	-0.9	-1.9	-1.7	-1.7	-1.7	-1.7	-1.7	-1.7	-1.7	-1.7	-1.7
Cyclical component	1.8	0.7	1.1	1.3	1.0	0.6	0.3	0.0	0.0	0.0	0.0	0.0	0.0
Ageing cost (incl. revenues pensions tax)	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.6	1.1
Property incomes	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.1	-0.1	0.0	0.0	0.1
(2) Snow ball effect (interest rate/growth differential)	0.8	0.8	2.4	1.8	0.4	0.3	0.2	0.1	0.7	0.6	0.6	0.7	1.1
Interest expenditure	3.0	3.0	3.1	3.3	3.2	3.2	3.3	3.3	3.5	3.5	3.5	3.8	4.0
Growth effect (real)	-1.6	-1.2	0.4	-0.1	-1.3	-1.3	-1.4	-1.4	-1.0	-1.1	-1.2	-1.4	-1.1
Inflation effect	-0.7	-1.0	-1.2	-1.4	-1.5	-1.6	-1.7	-1.8	-1.8	-1.8	-1.8	-1.7	-1.7
(3) Stock flow adjustment	1.4	0.6	2.3	0.6	0.2	0.2	0.1	0.1	0.1	0.1	0.1	-0.1	-0.2
PM : Structural balance (+ = deficit)	4.4	3.5	2.2	1.3	1.4	1.4	1.5	1.6	1.8	1.9	2.0	2.7	3.6
Financing needs (billions EUR)			2276.4	2276.7	2141.2	2018.9	1880.6	1724.8	1470.3	1592.3	2229.8	1907.9	3398.2
Key macroeconomic assumptions													
Actual GDP grow th (real)	2.0	1.5	-0.4	0.1	1.4	1.4	1.5	1.6	1.1	1.2	1.3	1.6	1.4
Potential GDP grow th (real)			0.4	0.5	0.6	0.8	0.9	0.9	1.1	1.2	1.3	1.6	1.4
Inflation (GDP deflator)	0.8	1.2	1.3	1.5	1.6	1.7	1.8	2.0	2.0	2.0	2.0	2.0	2.0
Implicit interest rate (nominal)	3.6	3.6	3.5	3.5	3.5	3.5	3.7	3.9	3.9	4.0	4.2	4.6	4.8
of which long-term implicit interest rate (nominal)			4.0	3.9	3.8	3.8	3.8	3.8	3.9	4.0	4.0	4.6	4.8
short-term interest rate (nominal)			0.7	1.4	1.6	2.2	2.8	3.4	3.7	3.9	4.2	4.2	4.2
long-term interest rate (nominal)			1.7	3.1	3.2	3.9	4.5	5.1	5.1	5.1	5.1	5.1	5.1

Debt projections - Sensitivity tests

Gross debt ratio	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030
-1p.p. in the short-term/long-term interest rate from 2014	85.5	88.1	92.8	94.6	94.5	93.9	92.6	91.0	89.9	88.7	87.5	82.0	79.7
+1p.p. in the short-term/long-term interest rate from 2014	85.5	88.1	92.8	94.6	94.5	93.9	92.9	91.7	91.0	90.4	89.8	89.2	93.6
-0.5p.p. GDP grow th from 2014	85.5	88.1	92.8	94.6	94.5	94.3	93.7	92.7	92.3	91.9	91.5	90.7	94.1
+0.5p.p. GDP grow th from 2014	85.5	88.1	92.8	94.6	94.5	93.4	91.8	90.0	88.6	87.3	85.9	80.6	79.2
Constant average 98-07 interest/grow th rates differential	85.5	88.1	92.8	94.6	94.5	93.9	92.9	91.6	90.7	89.6	88.5	83.2	81.1
Constant average 98-12 structural primary balance	85.5	88.1	92.8	96.0	97.1	97.7	97.8	97.6	97.9	98.3	98.7	102.1	110.0
Consolidation scenario (0.5% per year on SB) to achieve MTO	85.5	88.1	92.8	94.6	94.5	93.8	92.5	90.5	88.9	86.9	84.9	73.4	62.8
Consolidation scenario (1.0% per year on SB) to achieve MTO	85.5	88.1	92.8	94.6	94.5	93.7	92.0	89.6	87.5	85.2	82.7	70.0	59.7
Consolidation path (SPB) until 2020 to meet 60% debt target in 2030	85.5	88.1	92.8	94.6	94.5	94.0	92.7	90.7	88.9	86.7	84.1	70.7	60.0
Consolidation path (SPB) until 2020 to meet pre-crisis debt target in 2030	85.5	88.1	92.8	94.6	94.5	94.0	92.8	91.0	89.4	87.4	85.2	73.8	65.3
Consolidation path (SPB) until 2020 to meet post-crisis debt target in 2030	85.5	88.1	92.8	94.6	94.5	94.2	93.5	92.5	92.1	91.8	91.6	91.3	95.1

Cumulated budgetary effort	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030
Consolidation scenario (0.5% per year on SB) to achieve MTO	:	:	:	:	:	0.1	0.3	0.6	0.9	1.1	1.2	1.9	2.1
Consolidation scenario (1.0% per year on SB) to achieve MTO	:	:	:	:	:	0.4	0.8	1.0	1.3	1.5	1.6	1.8	2.0
Consolidation path (SPB) until 2020 to meet 60% debt target in 2030	:	:	:	:	:	0.3	0.6	0.9	1.1	1.4	1.7	1.7	1.8
Consolidation path (SPB) until 2020 to meet pre-crisis debt target in 2030	:	:	:	:	:	0.2	0.4	0.7	0.9	1.1	1.3	1.4	1.4
Consolidation path (SPB) until 2020 to meet post-crisis debt target in 2030	:	:	:	:	:	-0.1	-0.2	-0.4	-0.5	-0.6	-0.7	-0.7	-0.7

Gross debt as % of GDP - EURO AREA - Medium term debt projections

Stochastic debt projections 2013-17, EURO AREA

EURO AREA - Medium term debt projections - Debt maturity structure (as % of GDP)

EURO AREA - Medium term debt projections - Consolidation scenario (0.5% per year on SB) in order to achieve MTO

EURO AREA - Medium term debt projections - Consolidation paths (SPB) until 2020 that would ensure meeting the 60% debt target in 2030

EURO AREA - Medium term debt projections - Consolidation scenario (1% per year on SB) in order to achieve MTO

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