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Assessment of the 2013 national reform programme and stability programme for LUXEMBOURG

Accompanying the document

Recommendation for a COUNCIL RECOMMENDATION

on Luxembourg's 2013 national reform programme and delivering a Council Opinion on Luxembourg's 2013 stability programme for 2012-2016

{COM(2013) 366 final}

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In 2012 economic growth was sluggish and is projected to remain so in 2013. According to the Commission's spring 2013, forecast GDP growth is expected to rise from 0.3% in 2012 to 0.8% in 2013 and 1.6% in 2014. The main contribution will come from domestic demand, backed by improving confidence. Unemployment started to rise in 2012, reaching 5.1%, and is predicted to rise further to 5.5% in 2013 and 5.8% in 2014. Inflation, which averaged 2.9% in 2012, is expected to slow down to 1.9% in 2013 and 1.7% in 2014.

Public finances deteriorated in 2012, with the general government deficit estimated to have increased to 0.8% of GDP from 0.2% of GDP in 2011. The structural surplus (minus one-off and short-term effects) also deteriorated in 2012 to 0.1% of GDP, though the Commission estimates this will improve to 0.7% in 2013 before falling back to 0.3% in 2014. In 2012, the general government debt increased to 20.8% of GDP, and is expected to rise to 23.4% in 2013 and 25.2% in 2014.

Key Issues

Luxembourg's remarkable period of economic growth in the past 30 years was mostly based on the strong expansion of financial services. The country is heavily dependent on its financial sector, which accounts for about 30% of total value added and 25% of collected fiscal revenues.

Luxembourg has made some progress in addressing the 2012 CSRs, particularly on fiscal consolidation. The general government deficit is expected to decrease to 0.2% of GDP in 2013, mostly due to the consolidation measures adopted with the Budget for 2013. In December 2012 the Luxembourgish Parliament adopted the reform of the pension system. However, the reform is rather limited in scope and does not guarantee the long-term sustainability of public finances.

Luxembourg faces major challenges as regards the long-term sustainability of its public finances, the competitiveness and the diversification of its economy, the labour market and greenhouse gas emissions.

- **Public finances**: While public finances are expected to improve in 2013 on the back of a sizeable consolidation package, the improvement is not yet sustainable as the public deficit, according to the programme, is projected to worsen from 2015 onwards. The adoption of a medium-term budgetary framework would strengthen fiscal governance. The reform of the pension system adopted in December 2012 can only be considered a first step in the right direction as it does not include a link between statutory retirement age and life expectancy. Additional measures are needed to tackle the expected increase in age-related expenditure, which is the highest in the EU, including addressing increasing long-term care expenditure. Revenues raised from consumption taxes are low, amounting to less than a third of fiscal revenues.

- **Labour market**: Youth unemployment is relatively high, standing at 18% of the total active population in 2012, almost four times higher than the overall unemployment rate. Despite progress in combating youth unemployment, there is still the need for a more coherent strategy. The situation for migrants and young people with low skills remains difficult; despite several initiatives, more needs to be done. In order to remain competitive Luxembourg needs to ensure that wages evolve in line with productivity developments (nominal unit labour costs increased by almost 16% between 2008 and 2012, which is almost than two times faster than in neighbouring countries).

- **Competitiveness**: Competitiveness losses recorded over the last decade, particularly the large increase in unit labour costs, need to be addressed in a fundamental way. Efforts to diversify the economy deserve to be pursued. The low level of cooperation between public research institutions and firms and the sharp drop in business R&D intensity (which fell from 1.53% in 2000 to 0.98% of GDP in 2011) reveal the current weakness of Luxembourg’s research and innovation system. A debt bias in the corporation taxation is likely to have contributed to the high level of indebtedness of corporations.

- **Greenhouse gas emissions**: Luxembourg has committed itself to reducing the level of greenhouse gas emissions in sectors not covered by the EU's Emissions Trading System by 20% by 2020. According to the latest projections, however, Luxembourg is not on track to achieve that target. The fuel-pump tourism induced by the low petrol and diesel taxes contributes largely to this shortcoming.

1. INTRODUCTION

In May 2012, the Commission proposed a set of country-specific recommendations (CSRs) for economic and structural reform policies for Luxembourg. On the basis of these recommendations, the Council of the European Union adopted five CSRs in the form of a Council Recommendation in July 2012. These CSRs concerned public finances, the pension system, wage setting, the labour market and a reduction in greenhouse gas emissions.

This Staff Working Document (SWD) assesses the state of implementation of these recommendations in Luxembourg. It assesses policy measures in light of the findings of the Commission's Annual Growth Survey 2013 (AGS)[1] and the second annual Alert Mechanism Report (AMR),[2] which were published in November 2012. The AGS sets out the Commission's proposals for building the necessary common understanding about priorities for action at national and EU level in 2013. It identifies five priorities to guide Member States to renewed growth: pursuing differentiated, growth-friendly fiscal consolidation; restoring normal lending to the economy; promoting growth and competitiveness for today and tomorrow; tackling unemployment and the social consequences of the crisis; and modernising public administration. The Alert Mechanism Report serves as an initial screening device to determine whether macroeconomic imbalances exist or might emerge in Member States. The AMR found positive signs that macroeconomic imbalances in Europe are being corrected. To ensure that a complete and sustainable rebalancing is achieved, 14 Member States were selected for a review of developments in the accumulation and unwinding of imbalances.[3]

Against the background of the 2012 Council Recommendation, the AGS and the AMR, Luxembourg presented updates of its national reform programme (NRP) and of its stability programme on 26 April 2013. These programmes provide detailed information on progress made since July 2012 and on government plans. The information in these programmes provides the basis for the assessment made in this document.

The programmes submitted went through an inclusive consultation process involving the Luxembourg Parliament. Preparation of the NRP involved in-depth consultations with the social partners, local actors and civil society to increase ownership of the Europa 2020 strategy and the Luxembourg strategy at national level.

Overall assessment

The analysis in this SWD leads to the conclusion that Luxembourg has made some progress on measures taken to address the CSRs of the Council Recommendation. However, the main challenges identified in July 2012 remain however broadly valid as there is still a need for further progress. Luxembourg's performance in terms of priorities set out in the 2013 Annual Growth Survey also needs to improve.

The general government deficit in 2012 rose compared to 2011, when it was fairly small. Public finances are expected to improve in 2013 on the back of a sizeable consolidation package. However the improvement is not yet sustainable, as the public deficit, according to

[1] COM(2012) 750 final

[2] COM(2012) 751 final.

[3] 13 in-depth reviews were published on 10 April 2013. While selected for an in-depth review in the AMR, Cyprus was ultimately not reviewed under the Macroeconomic Imbalance Procedure in view of the advanced preparations for a financial assistance programme.

the programme, is projected to worsen from 2015 onward and Luxembourg is expected to diverge from its medium-term objective (MTO).

The recently enacted pension reform is rather limited in scope and therefore does not guarantee the long-term sustainability of the public finances.

Luxembourg has a very good economic track record, but in order to remain competitive it needs to ensure that wages evolve in line with productivity. The limit to the application of the automatic wage indexation decided by the government is only temporary and does not guarantee an evolution in line with productivity.

Despite progress in combating youth unemployment, there is still needs for a more coherent strategy, involving stronger collaboration with municipalities, more efficient use of employment services and more investment in training and education, as well as better activation policies. Unemployment seems to have an increasingly structural character requiring more effective active labour market policies.

Regarding Europe 2020 objectives on energy and climate, Luxembourg is not on track to reach its targets for greenhouse gas emission reductions and for renewable energy. Low fuel taxes induce so-called 'fuel tourism'[4] and negative externalities in terms of pollution and congestion.

The policy plans included in the 2013 NRP submitted by Luxembourg respond to last year's recommendations. The national reform programme adequately reflects the challenges identified in last year's Staff Working Document. It outlines the policy initiatives which have been taken to address the various aspects of the CSR. In addition, when relevant, it provides an indication of the government's policy plans, even if in some areas they lack the ambition needed to address the challenges in a comprehensive and structural way. The stability programme confirms the medium term objective of a surplus of 0.5% of GDP in structural terms, but misses to outline the strategy to reach this objective.

2. ECONOMIC DEVELOPMENTS AND CHALLENGES

1.1. Recent economic developments and outlook

Recent economic developments

In 2012 and early 2013, growth and employment in Luxembourg were strongly affected by the general weakening of global activity. In 2012, GDP grew by a mere 0.3% according to the Commission 2013 spring forecast. Since the onset of the crisis the contribution of net exports to growth has become negative, mainly on the back of lower exports of (financial) services. In spite of a slight reduction in its contribution to the national gross added value, the financial sector as a whole has withstood the crisis better than initially anticipated. However, the industrial sector, and the steel industry in particular, is on the contrary going through a painful restructuring as shown by the contraction in the level of industrial production (-19.7% over the period 2007-2012) since its peak in 2007. The fall recorded in 2012 was similar to that seen in the countries hit worst by the crisis (Italy, Spain).

[4] Fuel prices in Luxembourg are lower than in the neighbouring countries due to comparatively lower excise duties and value-added taxes charged on petrol and diesel. The difference in fuel prices induces people to cross the border, even making a detour, to purchase fuel for their vehicles. Sales to non-residents (including cross-border commuters) account for 75% of fuel sales in Luxembourg.

Despite the sluggish pace of economic activity, job creation remained robust in 2012 when employment grew by 2.3% year-on-year. These figures mask a fall in the number of hours worked, almost uninterrupted since the first quarter of 2011. This reflects a rise in the number of part-time workers and a fall in overtime working. The increase in employment also has to be assessed also against the fact that, since 2010, the growth rate for workers resident in Luxembourg has been faster than that for non-residents, reversing a well-established trend. One reason for this could be that non-residents are often employed in sectors exposed to competition, while residents tend to be employed in sectors that are less open to competition such as services. In spite of solid job creation, unemployment in December 2012 stood at 5.1 % of the active labour population as compared with 4.8 % one year earlier, owing to a rise in the labour force.

Economic outlook

GDP growth prospects for 2013, projected at 0.8%, are modest when compared to pre-crisis rates (over the period 2000-2007 economic output increased to an average rate of 4.7%). ,The economy continues to struggle with a low level of industrial activity, and increasing unemployment. Growth-supporting government activities are anticipated to decrease following the announced retrenchment in public consumption and investment. The projected impact of consolidation measures on households' disposable income coupled with the low consumer confidence level is likely to further affect consumption and investment, despite the relief provided by smaller price changes. The low level of capacity utilisation associated with weak demand casts some uncertainty over firms' investment plans. Financial services are expected to continue to contribute positively to growth as the development of the fund and insurance industries will compensate for the slack in traditional intermediation activities where, despite the criteria for lending being assessed as not particularly tight, demand for credit remains low. In 2014, GDP is projected to grow by 1.6%. The main contribution will come from domestic demand backed by improving confidence. The contribution from exports is expected to remain positive but lessened by more dynamic import growth, once domestic demand gains momentum.

The macro-economic scenario underlying the national budgetary projections in the 2013 update of the Stability Programme is broadly in line with the Commission services' spring forecast for 2013 and 2014. For the outer years of the programme the growth scenario is slightly optimistic as the projected growth of 1.7% and 3.4% in 2015 and 2016 respectively is well above the estimated rate for potential growth of around 1.0%. The main downside risk for this growth scenario concerns the financial services industry's export performance.

1.2. Challenges

Luxembourg faces major challenges as regards the long-term sustainability of its public finances, the competitiveness and the diversification of its economy, the labour market especially the employment rate of the young and old age cohorts and its taxation system with regard to the environment.

These challenges were first identified in the 2012 SWD. In July 2012, relevant policy responses were reflected and integrated in the CSRs of the Council Recommendation issued for Luxembourg. As suggested by the AGS and the AMR, all of these challenges remain fully or partly relevant. In addition, new challenges have arisen as a result of recent economic developments.

Public finances deteriorated in 2012 with the general government deficit estimated to have increased to 0.8 % of GDP in 2012 from 0.2 % in 2011, albeit almost in line with the target of 0.7 % of GDP set in the initial budgetary target. Total government expenditure rose 7.2 % in nominal terms compared to the previous year. The structural surplus also deteriorated in 2012 to 0.1 % of GDP from 0.3 % in 2011. However, the government reacted quickly and in December it adopted, together with the budget for 2013, a consolidation package of around 2 % of GDP that is expected to improve the nominal deficit to 0.2 % of GDP in 2013. Although Luxembourg has been able to maintain sound public finances over the last decade, there are several factor indicating increasing risks: rather volatile revenues over the cycle, linked to the small size of the economy and its large degree of openness, as well as the increasing proportion of non-reducible expenditure. In addition, the relatively small overall deficit hides a negative position of around 2% of GDP at the level of the central government, mitigated by a yearly surplus in the social security subsector of around 1.5% of GDP. Moreover, from 2015 the VAT revenues from e-commerce[5] will fade away as result of the introduction of the new VAT rules regarding electronic services, which will bring Luxembourg in compliance with the EU rules. Finally there are risks that other sources will also evaporate in the near futures such as the excise duties on cross-border sales of fuel ('fuel tourism') and the corporate income taxes paid by financial institutions. The introduction of a medium-term budgetary framework, in line with Directive 2011/85/EU, would provide guidelines to smooth revenue and expenditure developments over the cycle and ensure sound budgetary outcomes in the short and medium term.

The medium-term fiscal sustainability gap in Luxembourg is relatively low, thanks mainly to the current low level of government debt and to a balanced budget. In contrast, the risks for long-term fiscal sustainability as measured by the commonly agreed indicator (S2)[6] are high (the highest in the EU), owing to the expected increase in pension expenditure. Currently, the short-term financing of the pension system is supported by a low old-age dependency ratio and depends in part on the contributions paid by the relatively young population of cross-border workers. In future, both factors will reverse and pension costs, as well as long-term care costs, are expected to increase substantially.

Luxembourg's remarkable period of economic growth in the past 30 years was essentially based on the strong expansion of financial services. The country is heavily dependent on its financial sector, which accounts for about 30% of total value added and 25% of collected fiscal revenues. As the future of financial activities worldwide seems less bright than before, the heavy dependence of the economy and of the public finances on this industry is a structural risk.

In addition to its 'sovereignty niches' on which financial sector expansion is based, the country crucially needs to develop alternative 'competence niches' as a springboard for

[5] Currently around EUR 500 m of annual revenue (1.2% of GDP). In December 2007 the European Council of Finance Ministers (Ecofin) reached a landmark political agreement on two draft directives and a draft regulation aimed at changing the rules on value-added taxation intended to ensure that VAT on services accrues to the country where consumption occurs, and to prevent distortions of competition between member states operating different VAT rates. The agreement ended a five-year deadlock on the sweeping changes to the community's VAT laws. To appease Luxembourg, which used its veto to block the proposed reforms, the enter info force of the new rules about the reverse charging of VAT on the purchases of goods and services electronically has been delayed until 2015, with a revenue sharing agreement phased in over the subsequent three years.

[6] The S2 indicator, which shows the difference, the sustainability gap, between the constant revenue ratio as a share of GDP that guarantees the respect of the inter-temporal budget constraint of the government, i.e. that equates the actualized flow of revenues and expenses over an infinite horizon, and the current revenue ratio.

innovation-driven growth. Bearing in mind, Luxembourg has in the last two decades rapidly built up its public research capacities, from a situation where, 25 years ago, the public research system was non-existent. However, the contribution of these efforts to the Luxembourg economy so far remains very limited. The low level of cooperation between public research institutions and firms as well as the sharp drop in business R&D intensity (from 1.53% in 2000 to 0.98% of GDP in 2011) reveal the current weakness of Luxembourg's research and innovation system.

A long-standing challenge for the Luxembourg economy stems from the loss of cost competitiveness as a result of high wage increases and very low productivity growth (the productivity level is, however, very high). Nominal unit labour costs continue to increase faster in Luxembourg than in neighbouring countries, particularly in the manufacturing industry.

Despite the very strong employment growth recorded over the past three decades, the employment rate of the resident population is lower than the EU average, especially at both ends of the age spectrum. Youth unemployment is persistently high, standing at 18% of the active population in 2012, compared to 5% overall unemployment. The unemployment rate depends heavily on educational level. Young residents face intense competition for jobs from non-residents, who are often more skilled. This raises the question of the performance of the education system, which both PISA tests[7] indicate is around or below the EU average. Luxembourg's education system faces a number of specific challenges including the multilingualism demands that are especially challenging given the high proportion of people with migrant background in the population (43.1%) with an additional family language, and the specific skills required by a strongly specialised labour market with a big financial sector. However, there is also a need to act to remove all factors that hinder the supply of labour: low educational attainment is not the only problem. There is a clear need to reinforce follow-up of activation and labour market policies. The employment rate for older workers (54-64) is rising but remains far below the European average (41% in 2012 against 48.9% for the EU as a whole).

Luxembourg has committed itself to reducing the level of emissions in non-ETS (Emissions Trading System) sectors by 20 % by 2020. According to the latest projections based on the existing measures, however, Luxembourg is not on track to achieve that target. The fuel-pump tourism induced by the low level of taxation on petrol and diesel contributes largely to this shortcoming.

3. Assessment of policy agenda

1.3. Fiscal policy and taxation

Budgetary developments and debt dynamics

According to the medium-term budgetary strategy outlined in the 2013 update of the Stability programme the general government balance will record a deficit of 0.7% of GDP in 2013, only marginally down from the 2012 deficit of 0.8% of GDP. In 2014 the

[7] PISA is an international study that was launched by the OECD in 1997. It aims to evaluate education systems worldwide every three years by assessing 15-year-olds' competencies in the key subjects: reading, mathematics and science. To date over 70 countries and economies have participated in PISA. The most recent results are available at: http://www.oecd.org/pisa/pisaproducts/pisa2009keyfindings.htm.

government balance is expected to improve to 0.6% of GDP. In structural terms the forecast for the government balance in 2013 is +0.3% of GDP[8], in line with the national target for the medium-term budgetary objective (MTO) of a surplus of 0.5% of GDP. This MTO is considered to reflect the objectives of the Pact. In the outer years, however, the programme projects the structural balance to fall short of the chosen MTO. In 2014, while the nominal headline balance is still expected to show a slight improvement, the structural balance is projected to deteriorate to a balanced budget as the improvement of the cyclical conditions more than offset the progress in the headline deficit.

In 2012, the headline deficit stood at 0.8% of GDP, compared to a deficit of 0.2% of GDP in 2011. It represents, however, an improvement compared to the target as presented in last year's stability programme, in which a deficit of 1.2% of GDP was expected. The outcome is almost in line with the target set in the initial budget for 2012, where a deficit of 0.7% of GDP was planned, even if this deficit represented an improvement on 2011, for which at the time of the adoption of the budget, a deficit of 1.2% was expected. This better-than-expected outcome is mostly due to more buoyant revenues, in particular the VAT from e-commerce activities and from expenditure slippages being less important than initially projected.

For 2013 the programme forecasts the general government deficit of 0.7% of GDP, a marginal improvement compared to the previous year. The Commission's 2013 services spring forecast expects the deficit to come out lower, at 0.2% of GDP based on the view that the Luxembourg authorities have adopted a prudent approach in their estimation of future revenue and expenditure flows. The measures adopted with the budget, estimated by the national authorities at around 2.1% of GDP (see Box 1), combined with extremely buoyant developments of the VAT revenues from e-commerce activities would be enough to reduce the headline deficit for the current year by ½% of GDP compared to 2012.

According to the programme the general government deficit in 2014 would record another small improvement to 0.6% of GDP, compared to 0.7% of GDP in 2013. Economic activity is projected to gain pace and expand by 2.2% after 1.0% in 2013. The projected acceleration of the economy is expected to boost revenues while expenditure would remain under control. The Commission's spring forecast expects economic activity in 2014 to expand at a lower rate (1.6% compared to 2.2% in the programme); less buoyant revenues and more dynamic expenditure would lead to a deficit of 0.4% of GDP after 0.2% in 2013.

[8] Cyclically adjusted balance net of one-off and temporary measures, recalculated by the Commission services on the basis of the information provided in the programme, using the commonly agreed methodology.

Box 1. Main measures

Main budgetary measures

Revenue	Expenditure
2013	
• Measures affecting taxes paid by corporations (+0.2% of GDP)	• Reduction in operating costs of the administration (-0.1% of GDP)
• Measures affecting taxes paid by households (+0.2% of GDP)	• Reduction of expenditure on investments (-0.6% of GDP)
• Increase in solidarity tax on households and corporations (0.3% of GDP)	• Measures to limit growth of public administration wage (-0.1% of GDP)
• Reduction of the maximum refundable amount of property purchase (+0.0% of GDP)	• Reduction in subsidies (-0.0% of GDP)
• Increase in excise duties on tobacco and diesel (0.1% of GDP)	• Reduction in social benefits in kind (-0.2% of GDP)
• Increase of car taxation (+0.0% of GDP)	• Reduction of transfer to the Employment Fund (-0.0% of GDP)

Note: The budgetary impact in the table is the impact reported in the programme, i.e. by the national authorities. A plus sign indicates that revenue/expenditure increases as a consequence of the measure. The degree of detail reflects the information made available in the stability programme and, where available, in a multiannual budget.

The figures for 2015 and 2016 in the programme can be considered as targets, given that they are not underpinned by sufficiently specified measures. While the underlying macroeconomic environment is expected to remain favourable, the general government balance is projected to deteriorate substantially to a deficit of 1.3% of GDP both in 2015 and 2016. This deficit is however entirely explained by a change in the European legislation on VAT on e-commerce, which from 2015 onward will be levied in the country of residence of the consumer rather than in the country of residence of the service provider. The impact of the change in legislation would lead to a drop in VAT revenues estimated at around 1.4% of GDP. The government has already announced that to compensate, at least partially, for the loss in revenue, the standard VAT rate will be increased from 2015. The deterioration of the public deficit envisaged in the programme will lead the structural balance to diverge from the MTO in the outer years of the programme. However the programme states clearly that, should if Luxembourg has not have achieved its MTO in 2016, which is indeed the case under the programme scenario, additional measures will be introduced to make sure the target is met.

The macro-economic scenario underpinning the national budgetary projections in 2013 and 2014 is plausible and broadly in line with the Commission's spring forecast. The GDP growth of 1.0% in 2013 is only slightly above the 0.8% projected in the spring forecast. In 2014, the authorities' projection for growth of 2.2% is higher than the Commission's. The difference is explained by a higher contribution of inventories. For the outer years of the programme, the growth scenario is slightly optimistic, as the projected growth of 1.7% and 3.4% in 2015 and 2016 respectively is above the estimated rate for potential growth of around 1.0%. The main downside risk for this growth scenario is to the export performance of the financial services industry.

In 2012, the surplus of the structural balance declined to 0.1% of GDP from 0.3% of GDP in 2011 and has failed to remain at MTO defined as a surplus of 0.5% of GDP of the general government balance in structural terms. The revenues in 2012, net of discretionary measures, grew to a higher rate than that implied by the standard elasticities. The structural expenditure ratio moved up by almost 1% of GDP in 2012, only partly related to the increasing trend in some expenditure items and the impact of the population ageing. The deterioration is reflected in the growth rate of the government expenditure, net of discretionary revenue measures. In 2012, this exceeded the reference medium term of potential GDP growth (1.76%).[9] The deviation of the growth rate of government expenditure in 2012 compared to the reference rate is estimated at 1.3% of GDP on an annual basis and 0.9% of GDP on average when assessed over two consecutive years, 2011-2012, therefore above the threshold of 0.5% of GDP, and 0.25% of GDP respectively to consider the deviation as significant. However, other factors should be taken into account to qualify this deviation: (i) the deficit deteriorated in structural terms by 0.2% of GDP, relatively small compared to the excess in the expenditure benchmark and below the threshold to qualify a deviation as significant; (ii) the economy of Luxembourg, given the small size of the country and its degree of openness is very volatile, including the price deflators; the latter had implied inflation surprises on the upside in 2012 as compared to the values used in the assessment of the expenditure benchmark, which can be a mitigating factor to explain a higher government expenditure growth; and (iii) according to the Commission's spring 2013 forecast, Luxembourg should attain its MTO in 2013 thanks to an appropriate structural adjustment, including meeting the expenditure benchmark. All these elements point to a non-structural nature of the deviation and rather highlight the risks associated with both revenue and expenditure projections.

Following the above overall assessment of Luxembourg budgetary developments, with the structural balance as a reference, including the analysis of expenditure, net of discretionally revenue measures, a deviation from the adjustment path toward the MTO is observed in 2012, which, following the overall assessment presented above, has not been judged as significant.

In 2013, however, the re-calculated structural balance is expected to improve to 0.3% of GDP from 0.1% in 2012 and to be broadly in line with the MTO. In 2013, thanks to the consolidation measures adopted by the government (see Box 1) government expenditure is expected to evolve at a rate lower than the reference rate that ensures an annual structural adjustment towards the MTO of 0.5% of GDP. However, this restraint of net expenditure growth below the benchmark in 2013 is not enough to compensate for the 2012 deviation from the expenditure benchmark, nor to avoid the risk of a significant deviation on average over 2012-2013 next year according to the Commission's spring forecast. According to that forecast the improvement in the structural balance in 2013 will be higher and should attain 0.7% of GDP, mostly explained by more buoyant revenues than the authorities projected.

In the outer years of the programme the structural balance is expected to deteriorate deviating from the MTO, mostly because of a drop in revenues, as consequence of the entry into force of change in the European legislation on VAT on e-commerce, which from 2015 onward will be levied in the country of residence of the consumer rather than in the country of residence of the service provider. However, according to the programme over the same period, the growth rate of net expenditure is projected to exceed the reference rate. The

[9] Luxembourg reached its MTO in 2011 and as a consequence the standard reference rate is used for 2012. However, in 2012 Luxembourg will deviate from its MTO. Hence, a lower reference rate which ensures an annual structural adjustment towards the MTO is used for 2013.

government has announced its commitment to taking additional measures to ensure the return of its public finances to the MTO by 2016 or at the latest by 2017, though concrete measures have not been fully specified, besides the announced increase in VAT rates from 2015 onwards.

In 2012, the general government debt increased to 20.8% of GDP from 18.3% of GDP in 2011. According to the programme, the debt is projected to increase steadily in the coming years and would stand at 27.9% of GDP in 2016. The recurrent central government deficits will need to be financed through additional debt, as the structural surplus of the social security subsector cannot be used to finance it, as it is transferred to the pension reserve fund. At the end of 2012, the reserve fund has accumulated assets equivalent to 27.5% of GDP, a higher amount than the gross public debt. Since the debt-to GDP ratio is below the reference rate, the debt reduction benchmark is not applicable. Medium-term debt projections (see Graph below Table V in annex) indicate that full implementation of the programme would put debt on a slightly increasing path by 2020, although remaining below the 60% of GDP reference value.

Long-term sustainability

Luxembourg does not appear to face a risk of fiscal stress in the short term. The country is at low sustainability risk in the medium term and at high risk in the long-term perspective, mainly due to the budgetary impact of ageing costs. Indeed, government debt (20.8% of GDP in 2012 and expected to rise to 25.2% in 2014) is well below the 60% of GDP threshold. Risks would be even lower in the event that the structural balance reverted to the higher values observed in the past, such as the average for the period 1998-2012. The focus should, therefore, be on curbing age-related expenditure in general and pension expenditure in particular.

On 5 December 2012, the Luxembourg Parliament finally adopted a pension reform proposal that had been submitted by the government in January 2012. The reform entered into force on 1 January 2013; however, the new calculation method will be implemented only gradually over the next 40 years. According to data from the 2012 Ageing Report, which had already anticipated most aspects of the forthcoming reform, Luxembourg stills need to implement long-term sustainability-enhancing policies equivalent to a permanent improvement of 8.6 percentage points 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 (3.0 percentage points). Assuming no further policy changes are made, debt would slightly decrease to 20.0% of GDP by 2020 from 20.8 % of GDP in 2012. Thanks to its lower initial debt, Luxembourg has time to adjust policies to account for the impact of age-related expenditure. Moreover, the country has accumulated public reserves of around 27 % of GDP, but this only reduces risks for sustainability in the short to medium term.

Given the very high projected increase in age-related expenditure, emphasis should be put on containing long-term public spending trends, especially as regards pension and long-term care components. Ensuring sufficient primary surpluses over the medium term and further reforming the social security system, notably the pension system, so as to soften the projected impact of the age-related expenditure, would improve the sustainability of public finances.

The recently legislated pension reform does not include a reference to a link between the statutory retirement age and life expectancy. Moreover, given the projected high increase in expenditure by 2060, it is likely that additional reform steps will be necessary to further boost sustainability in the future, considering that the impact of the 2012 pension reform is likely to not be sufficient to bridge the funding gap as projected in the 2012 Ageing Report.[10] According to an analysis carried out by the Central Bank of Luxembourg[11] even after the reform the indebtedness of the social security system would set to rise to above 200% of GDP in 2060.

Box 2: Pension reform in Luxembourg

The reform has maintained the basic principles of the old system, such as the retirement age of 65 and a possibility of early retirement at 57 or 60. Job holders are encouraged to work longer on a voluntary basis, with additional pension rights for years worked after the age of 60 of a career of more than 40 years, instead of 55 and 38 years respectively today. The new calculation method will be implemented only gradually over the next 40 years. Job holders would have to work only three years longer to receive the same benefit, while the replacement rate remains very high, making it not very attractive to work longer than the minimum required.

According to the new rules, the automatic adaptation of the pension benefits to trend in real wage will depend on the financial situation of the scheme. In the event that pension expenditure exceeds revenues (expected to occur as from 2020), the adaptation will no longer consider trends in wages, but it will be linked to changes in the cost of living (price indexation).

Finally, a monitoring/evaluation procedure has been put in place. The law provides for mandatory revision every five years. Thus, in 2017, the General Inspectorate of Social Security (IGSS), designated as supervisory authority, will present a new study on the plan's financial position in the medium term. Based on these findings, other measures for financial consolidation (increase in contribution rate or additional adaptation of benefits) could be discussed with the social partners.

Currently the contribution rate amounts to 24% of the wage mass (up to a certain ceiling), with employers, employees and the state each contributing one third. The government recognises that, under the assumptions used for the reform,[12] this contribution rate will not be sufficient and has alluded to the need for a gradual increase to 31% in the long run in order to guarantee a balanced regime.

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[10] European Commission, 2012, 'The 2012 Ageing Report: Economic and budgetary projections for the 27 EU Member States (2010-2060)' available at: http://ec.europa.eu/economy_finance/publications/european_economy/2012/2012-ageing-report_en.htm

[11] See "Avis de la Banque centrale du Luxembourg" on the 2013 Project of budget available at: http://www.bcl.lu/fr/publications/avis/Avis_de_la_BCL_sur_le_projet_de_Budget_2013__web1.pdf (page 33).

[12] The assumptions of average GDP growth of 3% and employment growth of 1.5% underlying the government's projections may prove to be overly optimistic. In the past, the Luxembourg economy recorded very high growth rates (GDP expanded yearly by 3.7% between 1992 and 2010, while employment increased by 3.2% annually), driven by the expansion of the financial sector. However, as mentioned above, it is unlikely that the financial sector will be able to play the same driving role in the future and thus new sources of growth will have to be found to achieve a 3% average growth rate. Moreover, the authorities assume that a further increase in the proportion of non-residents in the active population will support part of the burden of the ageing population. Although this is plausible in the near future, it looks optimistic over a longer-term horizon.

Even after the reform, to guarantee the financial viability of the pension system, a substantial increase in the contribution rate after 2020 will be necessary, in addition to the built-in moderation of the adaptation of pensions to the standard of living.[13] This would entail a significant increase in the burden on labour supported by the future active population and consequently a loss of cost competitiveness. Given the currently high level of the replacement rate (87% compared to between 42% and 49% in neighbouring countries), even for high wage earners, which has only been possible thanks to the boom in employment over the last 30 years, different measures could have been taken so as to ensure that future generations do not have to bear excessive burdens and a substantial reduction in benefits.

Besides, the impact of long-term care expenditure on fiscal sustainability is not to be neglected as it is projected to contribute by 2.1 percentage points to the aforementioned sustainability gap. The 2012 Ageing Report shows a high expected increase in both the number of elderly people and the number of self-assessed dependents in Luxembourg. Therefore, a continued focus on cost-saving prevention and rehabilitation measures, and on improved conditions for independent living, combined with increased efficiency and effectiveness of long-term care services would prove useful as a means of containing the future expected need for (and therefore, cost of) long-term care services. Given the relatively stronger emphasis on in-kind benefits, especially institutional care, and the related average cost per user[14], other cost-savings measures should be explored, such as introducing more transparent and comparable pricing system for care institutions. Generally, the eligibility criteria could also be strengthened. Indeed, Luxembourg does not appear to apply a means-tested eligibility criterion for either in-kind or cash long-term care benefits. In addition, the objectivity of existing eligibility criterion on the basis of dependency could be strengthened, as it is assessed by individual medical doctors, nurses or care workers.[15]

Fiscal framework

Fiscal governance in Luxembourg is essentially not rules-based. According to the 2009 coalition agreement, public debt should remain at a low level — but no formal quantification of the target is provided — and central government expenditure should grow at a rate compatible with the medium-term economic growth prospects. Neither the debt nor the expenditure agreements are established in law; there is no identified monitoring body and no predefined action in case of non-compliance.

Government revenues in Luxembourg are particularly volatile, notably because of the country's openness and because of the economy's strong specialisation in the financial sector. Luxembourg does not have a medium-term budgetary framework underpinning multi-annual fiscal planning by providing guidelines for smooth revenue and expenditure evolution, thereby contributing to budgetary discipline in the medium and long term. A multi-annual programme exists for investment expenditure but has only an indicative character.

Luxembourg ratified the Treaty on Stability, Coordination and Governance in March this year. The entry into force of the 'six-pack' (2011 package of EU legislation to strengthen

[13] This limitation of the adaptation of pensions to the standard of living will not affect the calculation of the initial pension level at the time of retirement, but only the subsequent adaptation to wage evolution during the pension period.

[14] In 2010, 37% of the dependents aged 15 or more do receive long-term care services, at home or in institutions. Luxembourg appears to spend 91% of public spending on LTC for in-kind benefits (services), 63% of it being for services in institutions. The average cost per user in institutions is about 69 % of GDP per capita, i.e. slightly above the EU average (based on the Ageing Report 2012).

[15] See MISSOC, 2012.

economic governance) confirms Luxembourg is committed to reform its fiscal framework and in particular, to pursue and enshrine in law the objective of a balanced budget with the introduction of a structural budget balance rule that includes a correction mechanism in case of non-compliance and an independent body in charge of monitoring and assessment.

Tax system

With tax revenue amounting to 37.9% of GDP in 2012, Luxembourg stands out with a tax level both below the EU-27 average (39.9%) and below that of its three neighbouring countries − Belgium, France and Germany. The structure of the Luxembourg tax system, in terms of the proportion of revenues collected by the different taxes, has remained relatively stable since 2000. Less than one third of tax revenue is raised from consumption taxes, which places Luxembourg among Member States with the lowest share in the EU-27 (24th in 2011)[16]; partially owing to moderate VAT nominal rates (15%) and reduced rates (6% and 12%). Luxembourg ranks first in terms of the number of categories of goods and services covered by reduced VAT rates. The presence of a large financial sector, exempted from VAT under the Directive, also explains the low VAT to GDP ratio. Overall Luxembourg has scope to raise revenue by extending the application of the standard VAT rate. Labour taxation is among the lowest in the EU, with the tax wedge on labour for an average single earner without children amounting to 36.0% in 2011, substantially lower than the EU-27 average (41.1%). Revenues from capital taxes as a percentage of total taxes (28.1%) are among the highest in the EU (20.5%). The revenues from corporate income tax are among the highest in the EU, which is partly due to the importance of the financial sector in the economy. Taxes are collected in a relatively efficient way, with Luxembourg's administrative costs for tax collection standing at the EU-27 average.

In terms of environmental taxation, apart from a slight increase in excise duties on diesel oil, from EUR 330 per 1000 litres to EUR 335, not much has been done to contribute to achieving environmental objectives. Tax rates on transport fuels are still low compared to EU averages and considerably lower than in neighbouring countries. The level of tax on diesel is also relatively low compared to petrol. Moreover, indexation of environmental taxes would prevent a gradual reduction in revenues over time (in % of GDP). Finally, more targeted and less costly support for industries and consumers than reduced VAT rates on energy use could be considered instead of the current 12% rate on fossil fuel for heating and commercial purposes, and a 6% rate for natural gas or electricity consumption. In addition, revenues could possibly be raised from taxes on pollution/resources.

Revenues from recurrent property taxes were the second lowest in the EU in 2011. The taxation base is the unit value of a property, which is based on a scale that dates back to 1941 and is definitely not aligned with current rental value. Coupled with mortgage interest deductibility, favourable taxation of capital gains on principal residences and interest-rate subsidies, the current taxation system is conducive to owner occupation. In these circumstances, given limited supply, this largely drives up house prices. As a result, reducing implicit tax subsidies in relation to home ownership (or tax expenditure in this area) should be considered as a priority.

The main measures voted in the 2013 Budget law are in the direction of the tax recommendations in the AGS 2013, supporting inclusive growth and financial stability while considering the consolidation efforts. In terms of greening the taxation system, the

[16] See Taxation trends in the European Union – 2013 Edition, available at: http://ec.europa.eu/taxation_customs/taxation/gen_info/economic_analysis/tax_structures/index_en.htm

Budget law introduced an increase of excise duties on diesel oil along with particular provisions to revise taxation on vehicles. The tax deduction granted to vehicles equipped with a diesel engine whose CO2 emissions do not exceed 10mg/lm is abolished while bonuses granted for electric vehicles are maintained. Nevertheless, the measures announced fall short of achieving the environmental objective. The recent increase in excise duties on diesel oil – from EUR 330 per 1000 litres to EUR 335 – falls short of properly integrating all negative environmental impacts associated with diesel combustion. No reliable assessment has been made available yet on the potential impact of an increase in energy excise duties on Luxembourg's fiscal revenues.

As regards corporation taxation the investment deduction for CIT purpose will be reduced as of 2013. Tax credit rate for global investment is kept at 7% for investments up to EUR 150,000 however, for the tranche exceeding EUR 150,000 the credit rate decrease from 3% to 2%. In addition, the tax credit applied for additional investments is decreased from 13% to 12%.

The corporation sector is characterized by a high level of indebtedness to which the debt bias in corporate taxation (via the deductibility of interests) is likely to have contributed. Besides general anti-avoidance rules, Luxembourg has no specific provisions to address the bias such as thin capitalization rules, allowance for corporate equity, etc... Reducing the level of indebtedness is particularly important given the size of the financial sector in Luxembourg.

Luxembourg is frequently used by multinational companies to channel tax driven financial flows to other jurisdictions. A recent OECD study[17] suggests that some international corporations may shift profits to low-tax jurisdictions via Luxembourg. Indeed, the absence of withholding tax on outbound royalties and intercompany interest payments and the fact that the Luxembourgish tax administration gives advance clearance (tax rulings) on the tax consequences for such activities have contributed to companies known as Special Purpose Vehicles being registered in Luxembourg without having a substantial physical presence there. This generates gross financial flows made through special purpose entities through Luxembourg that in 2011 amounted to USD 1,987 billion for inward stock investment and to USD 1,945 billion for outward stock investment. The current international pressure to reform tax rules to prevent the use of such vehicles in this way may have adverse economic effects for Luxembourg and other Member States.

1.4. Financial sector

The size of the financial sector in Luxembourg remains very large compared to the size of the economy. Total bank assets at the end of February 2013 stood at EUR 741.5 billion, down around EUR 29 billion from a year earlier. As a percentage of GDP, total assets in 2012 amounted to 1673%, down from their recent peak in September 2008, when they stood at 2658% of GDP. The Luxembourg banking sector consists mainly of subsidiaries and branches of foreign banks and a few Luxembourg-based banks. In December 2012, only five banks out of 142 were domestically owned. Luxembourg banks are heavily involved in private banking and wealth management and generally act as net liquidity providers to their foreign parents. In addition, they very often act as sponsoring banks to the local investment fund industry.

Luxembourg banks' profitability and solvency, as measured respectively by the return on equity ratio (9.8% as of June 2012) and by the capital adequacy indicators (Tier 1

[17] Addressing Base Erosion and Profit Shifting (OECD, 2013).

ratio at 17.5%) show the financial sector is healthy. In spite of the broadly positive numbers, the improvement in 2012 over the previous year is more the result of the absence of negative factors, such as equity losses, than the fruit of the traditional activity, which actually continued to worsen. The profit and loss accounts for the banking sector deteriorated in the first part of 2013, reaching levels comparable to 2008 reflecting a squeeze on interest margins as well as an increase in staff costs. The latter increase is mainly related to redundancy payment costs.

Conditions for lending to corporations have remained tight since the onset of the financial crisis, even if less so than in the euro area on average. The additional conditions that banks are demanding in order to grant a loan have been noticeably tightened. Small enterprises are most affected, while medium-sized and large corporations can finance their needs directly on the bond market. Small enterprises in Luxembourg, especially innovative small and medium-sized enterprises (SMEs), would benefit from tapping into alternative sources of finance.

As regards lending to households for housing, conditions have tightened recently. The tightening is the result both of an increase in the financing costs faced by banks and an increase in the risk perception associated with this kind of operation. Such tightening is often reflected in a reduction in the amount of money granted versus the value of the guarantee (loan to value ratio). On the demand side, in contrast with recent developments in the euro area generally, an increase has been recorded.

1.5. Labour market, education and social policies

Labour market

A particularity of the labour market is the increasing share of non-resident workers, currently around 42% of total employment. Productivity levels are the highest in the EU. On the other hand, adjustment of employment in times of economic downturn is slow, resulting in a fall of apparent productivity. This is due both to strict employment protection legislation as well as labour hoarding by firms that are reluctant to lay off highly-skilled workers because of their scarcity on the labour market.

The total employment rate is relatively high. In 2012 it stood at 71.4% of population in the age bracket 20-64, meaning that there was slow progress towards the national employment target (73%). The employment rate of young people (in the age bracket 15-24) is rather low, at 21.7% in 2012, compared to 32.9% for the euro area. The employment rate of older workers (age 55-64), at 41% in 2012, is one of the lowest in the EU.

The Luxembourg government has demonstrated a strong commitment to combating youth unemployment, responding to last year's CSR. The youth unemployment rate, at 18% in 2012, though still below the EU average, is persistently high when compared to the country's overall unemployment rate. On the other hand, the youth employment ratio is very low, pointing to a low percentage of active population in this age cohort. Several measures have been set up to help young people get back to the employment market (such as setting up a career guidance centre (Maison de l'Orientation), an Employment Observatory, and so-called fit4jobs incentives). The government, in collaboration with the national employment agency (Agence pour le développement de l'emploi (ADEM)), is assessing the measures taken to analyse how they could be improved. An ambitious action plan for youth employment has been announced, which envisages a 'Youth Guarantee' (Garantie Jeune): in line with the Council recommendation.[18] Nevertheless, most of these initiatives are very recent and some have only been partially implemented. It is still too early to assess their effectiveness, while it is clear that in order to maximise returns of sustainable youth employment dynamics, these measures should be part of a comprehensive reform strategy, including enhanced activation policies to combat benefit dependency. The design of the Luxembourg social benefit system, including its generosity, leads in fact to a lot of inactivity and low-wage traps for resident workers, notably, amongst others, young people, women and older workers.

The employment rate of older workers, at 41% in 2012, is still weak. The low participation rate of older workers is closely linked to the generosity of the pension system and the availability of favourable early retirement schemes. While the statutory retirement age is in principle set at 65 years, the Luxembourg pension system often allows people to retire earlier with virtually no reduction in the pension level, which is, moreover, comparatively high. As a result, the average effective age of withdrawal from the labour market is 59.4, which weighs on the costs of the pension system. Even after the implementation of the 2012 pension reform, job holders would have to work three years longer to receive the same benefit with the possibility for early retirement being left broadly unchanged. In addition, replacement rates remain very high. Against this background, the financial incentives to prolong working careers envisaged in the pension reform are particularly welcome. However, the employability of older workers, including their skills, needs to be improved simultaneously.

The employment rate of women is still rather low but catching up with the European average. The NRP 2013 confirms the measures taken by the government to increase women's participation in employment that were mentioned in the NRP 2012. These measures (i.e. dealing with child-care, parental leave for women and men, transposition of EU directive 2010/18/EU, reduction of wage gap, equal treatment, promoting women entrepreneurs,…) are currently being implemented and are to be monitored by the government in order to assess their real impact. In addition, taxation could be used as another instrument to improve female participation. Currently, the joint taxation for couple may create disincentives for the second earners to go back to work. Given a sufficiently well paid primary income earner, the incentives for the other spouse to work are weakened by the fact that she would be taxed at a higher bracket, even for low earnings. LU not only faces a low employment rate for women, but also a low employment rate for women in a couple.

The structural component of unemployment has been steadily increasing over the last decade, including in times of significant economic growth with booming employment, which suggests that part of the workforce does not match the needs of the economy. Hence, it can be said that CSR 2012 in the field of labour market is only partially implemented. Employment performed particularly well during the recession and never decreased during the crisis. A quantitative and qualitative follow-up of labour measures and an evaluation of the situation of the young people on the labour market would be welcome and would enable a more precise national plan to be drawn up, including more concrete and more sectorial measures to help young people get back on the market.

Education

[18] The Council Recommendation of 22 April 2013 on establishing a Youth Guarantee (2013/C 120/01) calls for Youth Guarantee schemes that ensure that all young people under the age of 25 years receive a good-quality offer of employment, continued education, an apprenticeship or a traineeship within four months of becoming unemployed or leaving formal education.

Luxembourg's education system faces specific challenges due to the multilingualism demands of the system, the high proportion of people with migrant backgrounds in the population (43.1%), and the specific skills required by a strongly specialised labour market with a large financial sector. A reform of the secondary school system is currently being prepared and new guidance procedures are being implemented as from 2013, concerning the last year of primary education and lower secondary school classes.

Luxembourg has one of the lowest early school leaving rates in Europe, standing at 8.1%[19] in 2012, compared to the 13.5% EU average. However, early school leaving remains a major issue for Luxembourg, as many drop-outs do not attain proficiency in all three official languages, especially among the population with a migrant background, and therefore a number of career paths are in practice closed to them. The early school leaving strategy outlined in the 2013 NRP promotes educational success, strengthening vocational guidance and explaining the capacity of reintegration programmes such as the second chance school. A focus on support to young people at risk from migrant background is important. Vocational education and training (VET) should be given particular attention in this context. The reform of VET provides more possibilities to bridge the gap between vocational training and higher education. For example, the aforementioned "Maison de l'Orientation", which provides guidance services and direction, opened in 2012. A law approved on 6 March 2012 aims to motivate small companies to take greater advantage of continuing education programmes, and to get companies in general to extend continuing education programmes to workers with low levels of initial training. A key challenge will be to increase the quality and attractiveness of VET studies and to raise them to the 'excellence' level in order to provide a qualified workforce to the labour market and to offer professional perspectives to the learners. The percentage of young people who were neither in employment nor in education or training (NEET) decreased further in 2011 to 4.7%, and now stands at 5.9%, less than half the EU average.

The tertiary education attainment rate according to the Eurostat methodology is, at 49.6% in 2012, well above the EU average of 35.8% and above the EU target of 40%. However, the figure of 49.6% is misleading because Eurostat measures tertiary attainment based on the working population in Luxembourg, but a high percentage of this population is either not resident in, or not originally from, the country. In its 2012 NRP, Luxembourg proposed to set the national target at 66% instead of 40%. Efforts to reach a higher education attainment rate among residents are important in view of the Europe 2020 benchmark for higher education.

Adult participation in lifelong learning (LLL) has increased over the last few years and reached 13.9% in 2011, against a 9% EU average. Despite this rather good performance, greater adult participation in LLL is needed to tackle the country's structural unemployment since residents are facing competition from a large pool of potential workers from neighbouring countries, often highly skilled and with overall lower reservation wages, as a result of lower minimum wages and out-of-work benefits. A particular focus on those aged 55-64 with a low education level is needed. A White Paper on LLL strategies was published in November 2012. From 2012 on, LLL in the private sector will be co-financed by the state at a rate of 20% instead of 14.5% (35% for young unskilled workers and older workers). This strategy should help get older workers back to work, along with tackling youth unemployment.

[19] Provisional Eurostat 2012 data.

PISA performance[20] on basic skills of young people is relatively weak and there has been a negative tendency in reading, mathematics and science since 2006. Luxembourg's performance in international comparisons of student outcomes suggests that much can be done to improve the effectiveness of teaching and learning. Despite substantial spending on teachers, there is significant shortage of qualified teachers. To monitor and assess the quality of teaching at primary and secondary level, Luxembourg has also put in place an agency for school quality development (Agence pour le développement de la qualité scolaire-ADQS). However further improvement and targeting of education resources to schools with disadvantaged students and an increase in resources available for language support and remedial classes are needed. For example, there needs to be more enrolment in early childhood education and care and targeted support to children from low-income and/or foreign-language families.

Social policies

Luxembourg finally set a national poverty target in line with the Europe 2020 goals, which aims to reduce the number of people threatened by poverty or social exclusion by 6000 in 2020. Poverty and social exclusion rates in Luxembourg are among the lowest in the EU. Data tend to show the growing importance of social transfers for households: indeed, more people rely on the help of the RMG (guaranteed minimum income), and the AROPE (at-risk–of-poverty-or-social-exclusion) rate only slows down after social transfers.

The number of people living in households with very low work intensity decreased, which seems to be the mirror of the increase in participation rates, notably of women and older people. In line with growth in employment, the share of those living in jobless households declined. The strong financial sector contributes to very high median and average wages. The minimum wage, though the highest in the EU (EUR 1758), is just enough to cover the poverty threshold. Particularly worrying is the in-work poverty rate for single parents, the second highest in the EU-27. Similarly, the in-work poverty rate for temporary workers (20 %) was the third highest in the EU and has been increasing since 2007.

The situation of children, young people and with migrant background is challenging. Child poverty has been increasing over the last 2 years. However, the risk of severe material deprivation for children is much lower in Luxembourg than in the EU on average (1.2% in 2011 against 10%)[21], and only 2.9% of children live in low-work-intensity households[22].

The poverty situation of people with a migrant background is considerably worse than that of nationals, although it has improved in recent years. The AROPE rate has steadily declined since 2006, reaching 16.8% in 2011 for EU nationals. The AROPE rate in the case of non-EU nationals, having declined steadily for some years, showed a recent sharp increase, reaching 47.7% in 2011 (the highest rate since 2004).

The publication 'A look at single parent families' of the National Institute for Statistics and Economic Studies (STATEC) in 2011, illustrates that single parent families are especially exposed to the risk of poverty. The LU government proposed seven measures to

[20] OECD Reviews of Evaluation and Assessment in Education – Luxembourg – 2012

[21] As a reference, the risk of severe material deprivation for the total LU population is of 1.2% (as opposed to 10% in EU27).

[22] As a reference, in LU, people living in low-work intensity households of 5.8% (as opposed to 8.8% in EU27).

achieve the poverty target, four of which focused mainly on women and single parent families.

Also by taking into account the challenge of multilingualism, a multidimensional approach to poverty reduction would be ensured through better coordination of social inclusion policies across government services, and through the involvement of civil society and social partners in the context of the open method of coordination. Although no poverty-related CSR was addressed to Luxembourg, the government decided to take some measures along Europe 2020 lines.[23] While several measures have been implemented or are planned, Luxembourg has no fully integrated ways of assessing inclusion measures, so it is not easy to have a clear idea of the outcome. Therefore, a social impact assessment system would be advisable.

3.4. Structural measures promoting growth and competitiveness

Luxembourg's overall macroeconomic performance has been remarkable over the last decade with GDP growth reaching an annual average of 3.1% over the period 2000-11. However, in the years following the 2008-09 crisis Luxembourg's growth performance was nearly flat and on average, just in line with the euro area. With the recent slowdown of the economy's main growth engine, the financial sector, the country's vulnerability has become more visible. Luxembourg's loss of price competitiveness over the last decade is mostly due to high wage increases coupled with low productivity growth.

Cost competitiveness

Irrespective of the geographical and/or product specialisation, the steady increase in unit labour costs is clearly hurting the country's competitiveness. The adoption at the beginning of 2012 of the law on the temporary modulation of the automatic indexation mechanism up to 2014 is intended to improve the cost competitiveness of the Luxembourg economy by preventing an upward spiral of cost and price increases. The automatic indexation of March 2012 was postponed to October 2012. The automatic indexation steps in each time that the cost of living increases by 2.5%. However, until end-2014 at least 12 months should elapse between each indexation step of 2.5. This means that between October 2012 and end of 2014 there will be a maximum of three indexation steps. Moreover, the composition of the reference basket for calculation of the annual cost of living index was modified, taking out from it the more volatile components (alcohol, tobacco and fuel). From 2015 onwards, the automatic indexation system will be applied in the standard way again. Finally, as the counter for the next automatic indexation will be set at zero before returning to the normal system, some of the gains in cost competitiveness could become permanent. Due to this provision, inflation occurring between 2012 and 2014, which has not been compensated by the maximum of three indexation steps, will in fact not count for the next automatic wage indexation after 2014. Nevertheless, these being temporary measures not aimed at addressing cost competitiveness in a structural way, further action will be necessary under CSR 3 in order to better link wage and productivity developments so as to help ensure long-term price competitiveness. While the government has no intention of reconsidering the principle of wage indexation, the possibility of differentiating the wage increases according to

[23] Measures relate to: Continuing the policy of providing welcoming socio-educational structures to children; — Making parents who benefit from the guaranteed minimum income (RMG) mechanism aware of the usage of welcome centre checks; — Increasing activation rates as part of the RMG mechanism; — Promoting measures favouring the transition of young people from academic to professional life and those motivating them to return to school; — Making full use of the instruments put in place under the social aid law; — National strategy against homelessness and exclusion caused by housing; — The minimum pension mechanism.

sectorial productivity to account for differences in the level of productivity across sectors could be explored. The nominal unit labour costs increased by almost 16 % between 2008 and 2012, which is almost two times faster than in the neighbouring countries. This is particularly the case for the industrial sector, where the drop in productivity has been particularly sizeable and larger than in the financial sector. In the financial sector on the other hand, the level of productivity is much higher (more than double) than in the remaining part of the economy, and this provides some space to absorb the drop in productivity.

Research and innovation

Luxembourg is not on track to reach its R&D intensity target for 2020 of 2.3-2.6% of GDP, as its R&D intensity is on a declining trend. This declining trend is explained by the sharp decrease in business R&D intensity (from 1.53% of GDP in 2000 to 0.98% in 2011). Public sector R&D intensity steadily increased from 0.12 % in 2000 to 0.45% of GDP in 2011,[24] reflecting Luxembourg the authorities' resolve to build up public research capacities.

While these efforts and the policy of attracting outstanding foreign researchers to work in Luxembourg have already allowed a good level of scientific performance to be reached, the country's research and innovation system remains very weak, with its public parts not yet able to play any decisive role in fostering innovation-driven economic development. The performance of Luxembourg as regards the indicators on cooperation between public research institutions and firms is well below the EU average, reflecting the current disconnect between private sector R&D and the public research system. The many actions taken to foster public-private cooperation and more generally business R&D and innovation[25] have so far had limited impact. For instance, objectives in terms of spin-off creation specified in the performance contracts of public research organisations are not being met.

As 2013 is the end year of a programming period (for the main research programmes and funding schemes[26] as well as for performance contracts with the public research centres and the University of Luxembourg), the opportunity should be taken to carry out a comprehensive assessment of efforts made so far and a thorough review of the country's research and innovation policy. The development of a genuine Smart Specialisation strategy could play a crucial role in maximising the economic impacts of public research funding, in particular through ensuring a leverage effect on private investments which appear to be absent so far. In this context, support to clusters has the potential to play a much more important role in Luxembourg's research and innovation policy. Such targeted approach could usefully be complemented by a comprehensive horizontal policy focused on the development and growth of innovative firms, including for instance through fostering the development of an entrepreneurial culture.

[24] This however remains well below the EU average of 0.74 %.

[25] e.g. the law of 5 June 2009 organising state aid for the private sector, the law of 21 December 2007on IP tax incentives, the law of 18 February 2010 providing public aid to the private sector in the field of eco-innovation, the setting up of business incubators, the creation of a partnership with a business accelerator located in Silicon Valley (Plug and Play Tech Centre), the setting up of a cluster programme, the creation of a Master's degree in Entrepreneurship and Innovation, the setting up of the Luxembourg Future Fund, the specification of IP/spin-off requirements in public research centre performance contracts, etc.

[26] e.g. the CORE programme 2008-2013 which funds R&D projects in thematic priorities selected through a foresight exercise in 2006/2007, the aid programme for research training (AFR 2008-2013), the programmes ATTRACT and PEARL 2008-2013 aiming at attracting young and top researchers to work in the country.

Towards green and sustainable growth

Under the Europe 2020 strategy, Luxembourg has committed itself to reducing its greenhouse gas emissions in the non-ETS sectors by 20% in 2020 compared to 2005. Luxembourg is expected to fail to meet its target by a wide margin. According to the latest national projections, when existing measures are taken into account, Luxembourg is expected to increase by 3% its non-ETS GHG emissions compared to 2005, missing its target by 23 percentage points. Emissions in 2011 are already 3% higher than Luxembourg's target for 2013 under the Effort Sharing Decision. Measures currently in place (e.g. promotion of energy efficiency and use of renewable energy, Kyoto cents, vehicle tax reform) would only yield approximately a third of the greenhouse gas emission reduction necessary to meet the target. The second national action plan for CO2 emissions reductions, initially to be adopted in the first half of 2012, is now expected for the second trimester of 2013. A Climate and Energy Fund is in place to finance the use of flexible mechanisms as well as the development of energy efficiency and renewable energy projects. Income sources for this fund come in large part from the so-called "Kyoto-cent", levied on all petrol and diesel sold since 1 January 2007 (EUR 0.02/litre for petrol, EUR 0.0225/litre for diesel).

Luxembourg has the highest motorisation rate of any EU country which, together with the pressure of a large number of commuters from neighbouring countries who use their car to get to work, leads to heavy road traffic congestion, in particular during peak hours. The transport sector was responsible for 64% of non-ETS emissions in 2010 and represents a key challenge for Luxembourg. In August 2012, the excise duty on diesel increased by 1.5%, but it stands far below the level set in neighbouring countries. The recent increase of excise duties on diesel oil falls short of properly integrating all negative environmental impacts associated with diesel combustion. No reliable assessment has been made available yet on the potential impact of an increase in energy excise duties on Luxembourg's fiscal revenues. Luxembourg’s relatively low fuel taxes weaken incentives to use public transport, and create strong incentives for both private car owners in the region and drivers of heavy vehicles in transit to make a detour to fill up their tanks in Luxembourg. The tax exemption for company cars is another costly measure that is not conducive to achieving sustainable transport solutions. Targeted increases in the "Kyoto-cent" could increase funding sources for renewable energy and energy efficiency projects while decreasing incentives for fuel-tourism. This would also mitigate the risks of rising costs for meeting the targets via alternative measures.

The efficiency of newly registered vehicles has improved, at 138.4 g CO2/km driven in 2012. Luxembourg applies an annual vehicle tax that slightly increases with the CO_2 emissions per km of the registered car. On 1 January 2013, a one-off bonus system for low-emitting vehicles was revised, and now applies to a smaller class of vehicles. In March 2012, the government announced a plan to increase the proportion of electric vehicles in the stock of passenger cars from virtually zero to 10% by 2020. This could help increase the share of renewable energy used in transport. This share is currently, at 2%, still far away from the 2020 target of 10%. Luxembourg aims at a 25-75 public-private modal split in transportation, up from the 17/83 split in 2010 (Sustainable Mobility Strategy — ‘MoDu’[27]). Besides the construction of a tramway line in the city of Luxembourg (planned for 2014) and a number of park & ride facilities in the city outskirts, few specific policies are currently being implemented to meet this goal. Luxembourg should continue with the implementation of the

[27] In May 2012 the Ministère du Développement durable et des Infrastructures launched an initiative called: ‘MoDu — A global strategy for sustainable mobility — for residents living in Luxembourg and the Greater Region’.

MoDu strategy by giving priority to projects which promote the use of public transport. The introduction of congestion charging on roads may also encourage a shift towards public transport. Moreover, promoting better public transport connections with neighbouring regions may encourage some cross-border commuters to leave their car at home. Finally, speeding up the installation and application of intelligent transport systems would help prevent congestion and would thus improve the use of the existing road infrastructure.

Luxembourg still has a long way to go to reach the legally binding target of 11% of renewable energy sources in final energy consumption. Its share of renewable energy in gross final energy consumption was only 2.83% in 2010. Given the limited national capabilities, Luxembourg does not appear to be able to meet its renewable energy target through domestic measures. Therefore, the timely implementation of cooperation mechanisms with other Member States will most likely be necessary.

Luxembourg is dependent on imports for all its energy needs. Electricity demand is relatively high per capita and Luxembourg does not itself have sufficient generation capacity to meet this demand. Further interconnections with neighbouring countries could therefore improve security of supply. With regard to electricity, the current interconnection capacity with Germany is sufficient but the situation has to be reassessed as a result of the German nuclear phase-out. Moreover, higher imports from renewable sources would justify further connecting infrastructures. With regard to gas, the country is suffering from limited availability of firm entry capacity and a better congestion management mechanism could help alleviate this situation.

The feed-in tariff system, recently restricted for photovoltaic, is now only available for installations fulfilling specific criteria. By contrast, feed-in tariff rates have not been changed. Luxembourg has aligned national cogeneration rules with those of the EU, which entails remuneration for electricity producers that operate cogeneration facilities.

Luxembourg's efforts to promote energy efficiency focus mainly on buildings, in particular the residential sector. On 1 January 2013, Luxembourg extended and updated its financial support for low-energy residential building refurbishment, including support to small-scale renewable energy technologies. On the other hand, energy use continues to benefit in many instances from a reduced VAT rate. A voluntary agreement exists with private companies to implement an energy management system and establish an action programme to preserve energy. In addition, further potential actions that could save energy in the tertiary and industrial sector, such as energy audits, could be developed into concrete measures. Several energy efficiency programmes target cooperation and sharing of best practices, both within Luxembourg — in the context of the Climate Pact with communes — and with its neighbours. Nevertheless, there remains untapped potential for cost-effective energy savings in Luxembourg, especially in the buildings sector, which, in turn, boosts the job creation potential of energy efficiency investments in the construction sector. The complete and timely transposition and effective implementation of the Energy Efficiency Directive (due to be transposed by June 2014) would provide additional means, including audits, to promote energy efficiency.

Internal market and competition

For directives relating to the internal market, Luxembourg posted a decrease in its current transposition backlog[28]: 0.6% in November 2012 as opposed to 1.4% in November 2011. It more than halved the total number of its outstanding directives (from 20 to 8). Regarding competition in network industries, Luxembourg belonged to the group of Member States that was granted two more years to liberalise its postal market. In December 2012 a law has been voted that open up the country's postal market to full competition. The law provides for the universal service system to be supported via a central fund, managed by the Luxembourg Institute of Regulation (ILR), into which competitors operating in the postal market will pay money to support the nationwide delivery network. In 2011 a price observatory was created to guarantee more transparency on consumer prices. In October 2011, the two existing competition bodies were merged into one, named 'the Council', with increased powers. The Council has to be consulted on any draft law or regulation which may affect competition. The Luxembourg National Competition Authority is particularly small and competition enforcement would be strengthened if it had more staff.

Professional services used to be highly regulated in Luxembourg but recent legislation implementing the Services Directive adopted in September 2011 has considerably reduced the regulatory burden. One of the most important changes is the new law regulating access to the professions of craftsmen, traders, retailers, industrialists and other liberal professions. By removing obstacles consisting of numerous formalities, Luxembourg has opened up the market and made access easier for service providers from other Member States. However, there seem to be some restrictions in the services sector. Some measures have been identified regarding requirements where the Directive leaves a margin of appreciation to Member States to streamline the regulatory environment for the establishment of providers (e.g. quantitative restriction on places selling alcoholic beverages, ban on having more than one establishment, and shareholding requirements for lawyers). In addition, it is not always clear whether authorisations applying to incoming service providers can be justified for one of the four reasons recognised by the Directive (public policy, public security, public health or protection of the environment) and whether they are proportionate. The Luxembourg government has kept social contributions stable, neutralised the effect of an increase in minimum wages on labour costs and kept public investment at a high level.

1.6. Modernisation of public administration

Luxembourg is undergoing a reform of the public administration. In July 2012 a draft law was presented to Parliament. As part of it, the government wants to review the system of promotions, the career structures and the organisation of the training period. An appraisal system is envisaged to assess officials' work, attendance, personal conduct and interactions.

The government is in favour of revising the pay structure in the public service, which would go through an analysis of the level of remuneration of early-career newcomers in all jobs.

The reform of the public administration provides for structuring a new career; prolonging the training period and reducing the training allowance; the introduction of management by objectives in all departments and administrations; the introduction of a system of assessment of personal and professional skills; the creation of an ombudsman within the public administration.

[28] See Internal Market Scoreboard – February 2013 available at: http://ec.europa.eu/internal_market/score/docs/score26_en.pdf

Luxembourg generally ranks well in surveys[29] on the administrative burdens of the tax system. Despite below-average availability (70% for citizens and 75% for businesses), the use of e-government services by citizens and enterprises is one of the highest in Europe (67% and 90% respectively). Public procurement directives have been implemented in national legislation. Contracts below the thresholds are subject to specific procedures with lighter requirements. Information available on the actual application of the public procurement rules or of the national system of remedies is scarce and does not allow definite conclusions to be drawn. A national procurement portal where publication of tenders is mandatory provides for wide dissemination of procurement opportunities to potential tenderers and also for the electronic download of tender documents. It does not provide any e-submission functionality.

Luxembourg's poor performance of as regards the time required to start a business (19 days in 2012 compared to 12 on average for OECD countries)[30] is balanced by a high enterprise survival rate after two years, which places Luxembourg in second position among the EU Member States[31]. The government is committed to reinforcing structural competitiveness by improving the business environment through administrative simplification and better infrastructure.

New legislation adopted on 13 September 2011 simplified administrative procedures for the development and operating conditions of classified establishments, mainly by introducing tacit authorisation and obliging administrations to meet specific deadlines.

The legislation transposing the Services Directive also simplifies the processes and documents required from service providers. A Single Contact Point is operational in French, German and English. Its functionality is growing, while the availability of more online procedures could still be improved.

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[29] According to Paying taxes – Doing Business 2013, Luxembourg ranks 14th out of 185 countries; detailed information available at: http://www.doingbusiness.org/reports/thematic-reports/paying-taxes/.

[30] Figures from Doing Business 2013 – Luxembourg.

[31] The most recent figures refer to 2010.

4. OVERVIEW TABLE

2012 commitments	Summary assessment
Country-specific recommendations (CSRs)	
CSR 1: Preserve a sound fiscal position by correcting any departure from a MTO that ensures the long-term sustainability of public finances, in particular taking into account implicit liabilities related to ageing. To this end, reinforce and rigorously implement the budgetary strategy, supported by sufficiently specified measures, for the year 2013 and beyond, including meeting the expenditure benchmark.	**Some progress** The general government deficit in 2012 is estimated to have deteriorated at 0.8% of GDP, after a deficit of 0.2% of GDP in 2011. The structural balance is estimated at 0.1% of GDP, just below the MTO, chosen by the country, of a surplus of 0.5% of GDP. The growth rate of government expenditure, net of discretionary revenue measures, is estimated to have exceeded the expenditure benchmark in 2012, however, the deviation is considered not significant in view of the following factors: i) the deterioration of the structural balance in 2012 is small, only 0.2% of GDP; ii) high volatility of the country's economy impacted on the GDP deflator and could be considered as a mitigating factor explaining government high expenditure.. In addition, given the consolidation package included in the budget for 2013, estimated at around 2% of GDP, the headline deficit in 2013 is expected to improve substantially and return in compliance with the MTO target. However, the correction is not sustainable yet. On a no-policy-change assumption, the deficit is projected to deteriorate in 2014 and the years after.
CSR 2: Strengthen the proposed pension reform by taking additional measures to increase the participation rate of older workers, in particular by preventing early retirement, and by taking further steps to increase the effective retirement age, including through linking the statutory retirement age to life expectancy, in order to ensure the long-term sustainability of the pension system.	**Limited progress** The pension reform adopted in December 2012 is considered a light reform (does not meet the commitment of the authorities in the NRP) and should be followed by stronger reforms over the next few years. Despite the fact that age-related expenditure, and in particular pension outlays, is projected to increase, with unchanged policies, from 17.8% of GDP in 2010 to 29.8% of GDP in 2060, the highest increase in the EU, there is a clear lack of ambition and the situation would need to be re-evaluated against the long-term challenges. Changes introduced with the reform will be only gradually implemented over the next 40 years. People would need to work three years more to get the same pension as before the reform. The measures taken on lifelong learning should help increase labour market participation of older workers and should be continued (in view of the fact that people currently tend to retire at the age of 59.4 on average, thanks to the generous pension system in place).
CSR 3: Take further steps to reform, in consultation with the social partners and in accordance with national	**Limited progress**

practice, the wage bargaining and wage indexation system, with a view to preserve the competitiveness of the Luxembourg economy in the longer term, as a first step by maintaining the current one-year indexation interval beyond 2014 and by reducing the impact of energy and other volatile items on the reference index.	The measures taken by Luxembourg so far are only temporary: the indexation system is being modulated between 2012 and 2014. Luxembourg should take further measures to reform the system in itself to avoid future loss of competitiveness. A better link between wages and productivity could be achieved by introducing in a permanent way a link between wage and productivity and sectoral differentiation in the wage bargaining system.
CSR 4: Continue efforts to reduce youth unemployment by reinforcing stakeholders' involvement, and by strengthening training and education measures, in particular for those with low education levels, with the aim of better matching young people's skills and qualifications to labour demand.	**Limited progress** Luxembourg has taken a number of relevant measures to tackle youth unemployment which seem to point in the right direction but so far these have been only partially implemented. The youth unemployment rate is relatively high in Luxembourg compared to the low overall rate of unemployment. The high and increasing unemployment rate and the increasing number of vacant jobs points to the existence of a mismatch between the workforce and the needs of the labour market. The structural component of unemployment has increased steadily over the last decade even in times of significant economic growth with high employment. This suggests a mismatch between the workforce and the needs of the labour market. Luxembourg's education system faces specific challenges due to the demands of multilingualism, the high proportion of people with migrant background in the population, and the high demand for skilled workers in the labour market. Additional investment in education and training as well as a coherent strategy would be welcomed. There is still the need of a coherent strategy. A stronger collaboration between administration levels (state, municipalities) and a more efficient use of employment services would produce better results. In order to address the skill mismatch, there is a need to provide guidance to pupils to an earlier age, already in the low secondary school. Overall, more will need to be done to improve significantly the integration of people with migrant background and low-skilled young job seekers, and the LU authorities should be encouraged to take forward further action.
CSR 5: Ensure that the targets for reducing greenhouse gas emissions from non-ETS (Emissions Trading System) activities will be met, in particular by increasing taxation on energy products.	**Limited progress** Excise duties on diesel were increased in August 2012 from EUR 330 per 1000 litres to EUR 335. The 2013 budget law includes an increase of the excise duties on diesel oil. However it has not been implemented yet. Although slowly closing, significant gaps remain with neighbouring countries, which contributes to unnecessary and environmentally harmful 'fuel tourism.' Incentives for the purchase of emission-efficient cars have been restricted and now apply to a smaller group of

	vehicles than they previously did. The CO2-related vehicle tax only provides moderate incentives for the purchase of clean vehicles.
Europe 2020 (national targets and progress)	
Employment rate target: 73%	The overall employment rate of the resident population grew slightly from 70.1 % in 2011 to 71.4 in 2012 %, which was still above the EU average in 2011 (EU27: 68.5 %). The target set by the Luxembourg government is 73 % (EMPL)
R&D target: 2.3%-2.6% of GDP (of which 1.5% to 1.9% for the private sector and 0.7% to 0.8% for public spending)	Luxembourg is not at all on track to reach its R&D intensity target for 2020, as its R&D intensity is on a declining trend. This declining trend is explained by the sharp decrease in business R&D intensity (from 1.53% of GDP in 2000 to 0.98% in 2011). Public sector R&D intensity on the contrary steadily increased from 0.12% in 2000 to 0.45% in 2011. This fourfold increase reflects the willingness of the country to build up its public research capacities from a situation where, 25 years ago, the public research system was in fact non-existent.
Greenhouse gas (GHG) emissions target: -20% compared to 2005 emission (from sources not covered by the Emission Trading System	Change in non-ETS greenhouse gas emissions between 2005 and 2011: -4%. According to the latest national projections submitted to the Commission and when existing measures are taken into account, the target is expected to be missed: +3 % in 2020 compared to 2005 (representing a projected gap of 23 percentage points compared to the target).
Renewable energy target: 11% Share of renewable energy in the transport sector: 10%:	Share of total renewable energy in gross final energy consumption was 2.9 % in 2011 and 2.0 % in the transport sector. (Source: Eurostat. April 2013. For 2011, only formally reported biofuels compliant with Art. 17 and 18 of Directive 2009/28/EC are included).
National indicative energy efficiency target for 2020: No target notified for 2020. Target only reported for 2016 (i.e. 14.06% of energy savings to be reached in 2016).	Luxembourg has failed to notify its energy efficiency target as required by Articles 3 and 24 of the Energy Efficiency Directive.
Early school leaving target: <10%	The number of early leavers from education and training, after going down to 7.1% in 2010 and 6.2% in 2011, rose again in 2012 and stands at 8.1% and it remains a major issue for Luxembourg. The target set by Luxembourg is 15% but this number could be reviewed in 2015 if the situation remains the same. However, the migrant population in particular is still hit heavily by early school leaving. For children from immigrant families where none or only one of the official languages is spoken at home, gaining proficiency in all three official languages is difficult. For students without fluency in the three languages, a number of career paths will be closed. The percentage of young people who were neither in

	employment nor in education or training (NEET) decreased further in 2010 to 5% and in 2011 to 4.7%, but rose again in 2012 and stands now at 5.9%. Nevertheless, it is still less than half the EU average (13.2%).
Tertiary education target: >40%	The tertiary attainment rate according to the Eurostat methodology is, at 48.2% in 2011, above the EU target of 40%. However, the tertiary attainment of the resident population is lower, currently about 30 %, despite the strong demand for workers with tertiary qualifications. In its 2012 NRP, Luxembourg adopts the European methodology — thus including non-resident workers — but proposes to put the target at 66 % instead of 40 %. Luxembourg has taken several measures to increase the number of students embarking on higher education studies: allowing validation of prior learning and experience giving access to university studies; offering more varied higher education studies; establishing a link between higher education programmes and companies' needs in order to promote employability; offering financial support to all students whether they are studying in Luxembourg or outside the country; tutoring of students at the University of Luxembourg. The reform of the vocational education and training system will provide more opportunities to bridge the gap between vocational education and training and higher education.
Risk of poverty or social exclusion target: reduction of the number of people threatened by poverty or social exclusion by 6000 in 2020	People at risk of poverty or social exclusion in terms of thousand persons numbered 11 in 2010 and 12 in 2011. According to the NRP 2012, Luxembourg set finally a national poverty target in line with the EU2020 goals, which aims at reducing the number of people threatened by poverty or social exclusion by 6000 in 2020. The overall employment and poverty situation in Luxembourg seems to have improved or at least not worsened over the last year. But the position of cross-border workers, and that of non-Luxembourg nationals, more particularly Portuguese (extent of the working poor - more than 21% among Portuguese workers) and non-EU-27 citizens, remains a big challenge for Luxembourg.

5. ANNEX

Table I. Macroeconomic indicators

	1995-1999	2000-2004	2005-2009	2010	2011	2012	2013	2014
Core indicators								
GDP growth rate	4.8	4.2	2.4	2.9	1.7	0.3	0.8	1.6
Output gap [1]	-1.2	1.9	0.6	-1.7	-1.2	-2.0	-2.0	-1.5
HICP (annual % change)	1.1	2.8	2.7	2.8	3.7	2.9	1.9	1.7
Domestic demand (annual % change) [2]	5.1	3.1	1.1	9.2	6.1	2.8	0.4	1.8
Unemployment rate (% of labour force) [3]	2.7	3.1	4.7	4.6	4.8	5.1	5.5	5.8
Gross fixed capital formation (% of GDP)	21.4	21.9	20.2	18.4	19.0	20.2	19.9	20.0
Gross national saving (% of GDP)	32.1	33.1	29.2	27.6	28.2	27.1	27.8	28.1
General Government (% of GDP)								
Net lending (+) or net borrowing (-)	**2.8**	**2.7**	**1.5**	**-0.9**	**-0.2**	**-0.8**	**-0.2**	**-0.4**
Gross debt	**7.2**	**6.3**	**9.8**	**19.2**	**18.3**	**20.8**	**23.4**	**25.2**
Net financial assets	**43.0**	**54.7**	**53.1**	**52.1**	**44.9**	**n.a**	**n.a**	**n.a**
Total revenue	43.2	43.0	41.5	42.0	41.5	42.1	42.9	42.9
Total expenditure	40.3	40.3	40.0	42.9	41.8	43.0	43.1	43.4
of which: Interest	0.4	0.3	0.3	0.4	0.5	0.4	0.5	0.5
Corporations (% of GDP)								
Net lending (+) or net borrowing (-)	**n.a**	**n.a**	**-1.3**	**-4.7**	**-1.6**	**n.a**	**n.a**	**n.a**
Net financial assets; non-financial corporations	**n.a**	**n.a**	**-59.0**	**-132.8**	**-91.2**	**n.a**	**n.a**	**n.a**
Net financial assets; financial corporations	**n.a**	**n.a**	**-444.1**	**-279.0**	**-430.4**	**n.a**	**n.a**	**n.a**
Gross capital formation	n.a	n.a	11.2	10.8	12.8	n.a	n.a	n.a
Gross operating surplus	27.8	27.4	31.4	31.0	32.1	n.a	n.a	n.a
Households and NPISH (% of GDP)								
Net lending (+) or net borrowing (-)	**3.2**	**n.a**	**1.1**	**3.4**	**2.4**	**n.a**	**n.a**	**n.a**
Net financial assets	**n.a**	**n.a**	**83.0**	**84.6**	**73.6**	**n.a**	**n.a**	**n.a**
Gross wages and salaries	32.4	29.9	26.4	26.2	25.5	n.a	n.a	n.a
Net property income	n.a	n.a	1.3	1.0	0.8	n.a	n.a	n.a
Current transfers received	n.a	n.a	13.9	15.3	14.9	n.a	n.a	n.a
Gross saving	n.a	n.a	5.7	7.8	6.6	n.a	n.a	n.a
:								
Net lending (+) or net borrowing (-)	**n.a**	**9.1**	**9.0**	**7.6**	**6.8**	**5.0**	**n.a**	**n.a**
Net financial assets	**n.a**	**n.a**	**366.2**	**276.3**	**404.7**	**n.a**	**n.a**	**n.a**
Net exports of goods and services	18.9	21.3	30.2	32.1	31.2	30.4	30.7	31.0
Net primary income from the rest of the world	-7.2	-15.2	-22.5	-31.6	-27.8	-27.6	-27.8	-27.8
Net capital transactions	n.a	-1.0	0.1	-0.6	-0.3	-0.5	n.a	n.a
Tradable sector	35.5	32.8	28.9	28.5	30.6	29.0	n.a	n.a
Non tradable sector	54.6	56.7	61.0	62.1	59.9	61.0	n.a	n.a
of which: Building and construction sector	6.1	6.2	5.7	5.4	5.2	5.3	n.a	n.a
Real effective exchange rate (index, 2000=100)	97.1	95.9	104.4	112.9	115.3	114.8	117.6	119.2
Terms of trade goods and services (index, 2000=100)	99.0	97.9	101.8	105.1	106.9	107.5	107.7	108.2
Market performance of exports (index, 2000=100)	85.0	95.8	106.7	108.6	109.5	106.0	106.0	105.5

Notes:

[1] The output gap constitutes the gap between the actual and potential gross domestic product at 2005 market prices.

[2] The indicator on domestic demand includes stocks.

[3] Unemployed persons are all persons who were not employed, had actively sought work and were ready to begin working immediately or within two weeks. The labour force is the total number of people employed and unemployed. The unemployment rate covers the age group 15-74.

Source :

Commission services' 2013 spring forecasts (COM); Stability programme (SP).

Table II. Comparison of macroeconomic developments and forecasts

	2012		2013		2014		2015	2016
	COM	SP	COM	SP	COM	SP	SP	SP
Real GDP (% change)	0.3	0.3	0.8	1.0	1.6	2.2	1.7	3.4
Private consumption (% change)	1.7	1.5	0.1	-0.8	1.5	1.9	4.4	2.3
Gross fixed capital formation (% change)	7.0	7.0	-0.2	-0.2	2.7	-3.3	1.0	-0.3
Exports of goods and services (% change)	-3.1	-3.2	1.0	0.1	4.1	4.8	5.8	6.3
Imports of goods and services (% change)	-2.7	-2.6	0.9	-0.3	4.7	4.2	6.7	5.7
Contributions to real GDP growth:								
- Final domestic demand	2.7	0.8	0.3	0.4	1.2	0.5	1.3	1.0
- Change in inventories	-0.7	-1.6	0.0	0.6	0.0	1.7	0.3	2.3
- Net exports	-1.7	1.1	0.5	0.0	0.4	0.1	0.2	0.1
Output gap[1]	-2.0	-2.1	-2.0	-2.2	-1.5	-1.3	-1.1	0.6
Employment (% change)	2.3	2.1	1.6	1.7	1.3	1.3	2.3	1.9
Unemployment rate (%)	5.1	5.4	5.5	5.9	5.8	6.1	5.9	5.8
Labour productivity (% change)	-1.9	-2.2	-0.8	-0.8	0.3	0.7	1.0	1.6
HICP inflation (%)	2.9	2.9	1.9	2.1	1.7	1.8	2.8	1.8
GDP deflator (% change)	3.9	3.9	2.5	2.1	2.7	2.1	1.7	0.9
Comp. of employees (per head, % change)	1.2	1.2	2.2	1.5	3.0	2.7	2.1	2.5
Net lending/borrowing vis-à-vis the rest of the world (% of GDP)	5.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

Note:

[1]In percent of potential GDP, with potential GDP growth recalculated by Commission services on the basis of the programme scenario using the commonly agreed methodology.

Source :

Commission services' 2013 spring forecasts (COM); Stability programme (SP).

Table III. Composition of the budgetary adjustment

(% of GDP)	2012	2013		2014		2015	2016	Change: 2012-2016
	COM	COM	SP	COM[1]	SP	SP	SP	SP
Revenue	**42.1**	**42.9**	**42.6**	**42.9**	**42.7**	**42.5**	**42.8**	**0.7**
of which:								
- Taxes on production and imports	12.4	12.6	12.6	12.8	12.6	12.0	11.9	-0.5
- Current taxes on income, wealth, etc.	14.1	14.6	14.5	14.4	14.6	14.8	14.9	0.8
- Social contributions	12.0	12.1	12.0	12.1	12.1	12.2	12.3	0.3
- Other (residual)	3.6	3.7	3.5	3.7	3.4	3.5	3.7	0.1
Expenditure	**43.0**	**43.1**	**43.3**	**43.4**	**43.3**	**43.8**	**44.1**	**1.1**
of which:								
- Primary expenditure	42.6	42.7	42.8	42.8	42.9	43.4	43.7	1.1
of which:								
Compensation of employees	8.1	8.2	8.2	8.3	8.3	8.5	8.4	0.3
Intermediate consumption	3.9	3.9	3.9	3.7	3.8	3.8	3.9	0.0
Social payments	20.3	20.5	20.7	20.5	20.8	21.0	21.2	0.9
Subsidies	1.7	1.8	1.8	1.8	1.8	1.9	1.9	0.2
Gross fixed capital formation	3.9	3.6	3.4	3.7	3.3	3.4	3.3	-0.6
Other (residual)	4.7	4.8	4.8	4.8	4.8	4.9	4.9	0.2
- Interest expenditure	0.4	0.5	0.5	0.5	0.4	0.4	0.4	0.0
General government balance (GGB)	**-0.8**	**-0.2**	**-0.7**	**-0.4**	**-0.6**	**-1.3**	**-1.3**	**-0.5**
Primary balance	**-0.4**	**0.2**	**-0.3**	**0.1**	**-0.1**	**-0.9**	**-0.9**	**-0.5**
One-off and other temporary measures	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GGB excl. one-offs	**-0.8**	**-0.2**	**-0.7**	**-0.4**	**-0.6**	**-1.3**	**-1.3**	**-0.5**
Output gap[2]	-2.0	-2.0	-2.2	-1.5	-1.3	-1.1	0.6	2.5
Cyclically-adjusted balance[2]	0.1	0.7	0.3	0.3	0.0	-0.8	-1.6	-1.7
Structural balance (SB)[3]	**0.1**	**0.7**	**0.3**	**0.3**	**0.0**	**-0.8**	**-1.6**	**-1.7**
Change in SB	*-0.2*	*0.6*	*0.2*	*-0.5*	*-0.3*	*-0.8*	*-0.8*	-
Two year average change in SB	*0.1*	*0.2*	*0.0*	*0.1*	*-0.1*	*-0.6*	*-0.8*	-
Structural primary balance[3]	0.5	1.2	0.8	0.8	0.4	-0.4	-1.2	-1.7
Change in structural primary balance		*0.6*	*0.3*	*-0.4*	*-0.4*	*-0.8*	*-0.8*	-
Expenditure benchmark								
Applicable reference rate[4]	1.76	0.63	0.63	1.08	1.08	-0.07	-0.07	-
Deviation[5] (% GDP)	1.3	-0.4	-0.6	0.2	0.5	0.4	1.7	-
Two-year average deviation (% GDP)	0.9	0.4	0.1	-0.1	0.0	0.4	1.0	-

Notes:

[1]On a no-policy-change basis.

[2]Output gap (in % of potential GDP) and cyclically-adjusted balance according to the programme as recalculated by Commission services on the basis of the programme scenario using the commonly agreed methodology.

[3]Structural (primary) balance = cyclically-adjusted (primary) balance excluding one-off and other temporary measures.

[4] Reference medium-term rate of potential GDP growth. The (standard) reference rate applies from year t+1, if the country has reached its MTO in year t. A lower rate applies as long as the country is adjusting towards its MTO, including in year t.The reference rates applicable to 2014 onwards have been updated in 2013.

[5] Deviation of the growth rate of public expenditure net of discretionary revenue measures and revenue increases mandated by law from the applicable reference rate. The expenditure aggregate used for the expenditure benchmark is obtained following the commonly agreed methodology. A positive sign implies that expenditure growth exceeds the applicable reference rate.

Source :
Stability programme (SP); Commission services' 2013 spring forecasts (COM); Commission services' calculations.

Table IV. Debt dynamics

(% of GDP)	Average 2007-2011	2012	2013 COM	2013 SP	2014 COM	2014 SP	2015 SP	2016 SP
Gross debt ratio[1]	**14.8**	**20.8**	**23.4**	**23.8**	**25.2**	**25.9**	**27.1**	**27.9**
Change in the ratio	2.3	2.5	2.6	3.0	1.8	2.1	1.2	0.8
Contributions[2] *:*								
1. Primary balance	**-1.3**	**0.4**	**-0.2**	**0.3**	**-0.1**	**0.1**	**0.9**	**0.9**
2. "Snow-ball" effect	**-0.2**	**-0.3**	**-0.2**	**-0.2**	**-0.4**	**-0.5**	**-0.5**	**-0.7**
Of which:								
Interest expenditure	0.4	0.4	0.5	0.4	0.5	0.5	0.4	0.4
Growth effect	-0.1	-0.1	-0.2	-0.2	-0.4	-0.5	-0.4	-0.9
Inflation effect	-0.5	-0.7	-0.5	-0.4	-0.6	-0.5	-0.4	-0.3
3. Stock-flow adjustment	**3.9**	**2.4**	**3.1**	**3.0**	**2.3**	**2.5**	**0.8**	**0.6**
Of which:								
Cash/accruals diff.								
Acc. financial assets								
Privatisation								
Val. effect & residual								

	2012	2013 COM / SP[3]	2013 SP[4]	2014 COM / SP[3]	2014 SP[4]	2015 SP	2016 SP
Gap to the debt benchmark[5,6]	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.
Structural adjustment[7]	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.
To be compared to:							
Required adjustment[8]	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.

Notes:

[1]End of period.

[2]The snow-ball effect captures the impact of interest expenditure on accumulated debt, as well as the impact of real GDP growth and inflation on the debt ratio (through the denominator). The stock-flow adjustment includes differences in cash and accrual accounting, accumulation of financial assets and valuation and other residual effects.

[3] Assessment of the consolidation path set in SP assuming growth follows the COM forecasts.

[4]Assessment of the consolidation path set in the SP assuming growth follows the SP projections.

[5]Not relevant for Member Sates that were subject to an EDP procedure in November 2011 and for a period of three years following the correction of the excessive deficit.

[6]Shows the difference between the debt-to-GDP ratio and the debt benchmark. If positive, projected gross debt-to-GDP ratio does not comply with the debt reduction benchmark.

[7]Applicable only during the transition period of three years from the correction of the excessive deficit for EDP that were ongoing in November 2011.

[8]Defines the remaining annual structural adjustment over the transition period which ensures that - if followed – Member State will comply with the debt reduction benchmark at the end of the transition period, assuming that COM (SP) budgetary projections for the previous years are achieved.

Source :

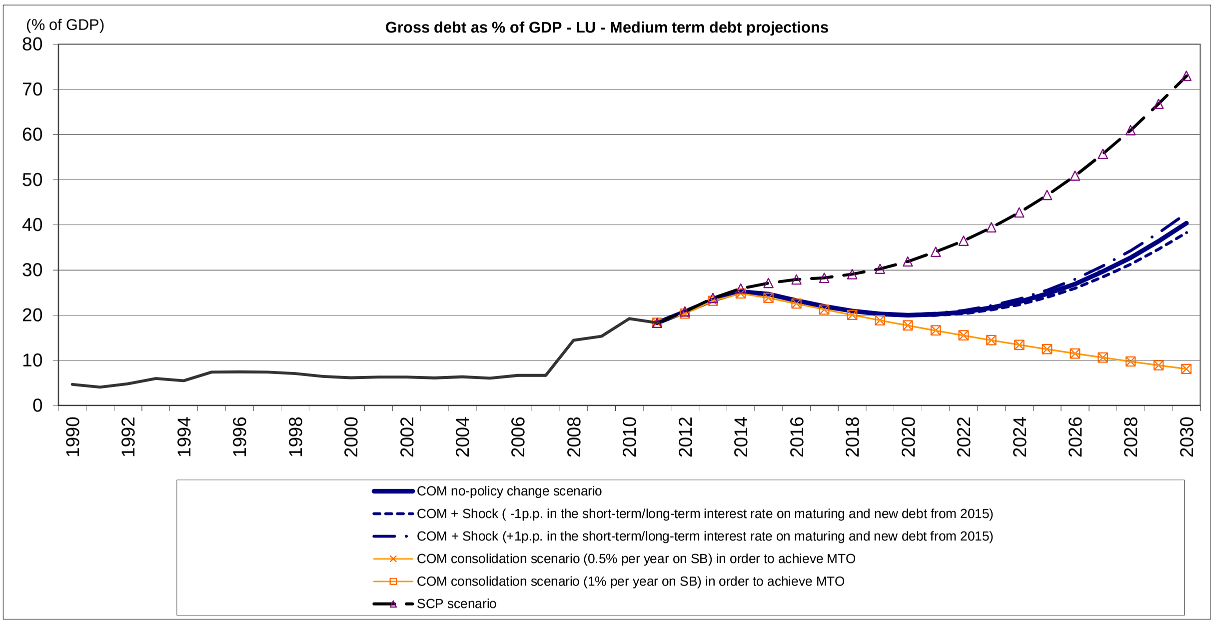
Stability programme (SP); Commission services' spring 2013 forecasts (COM); Commission services' calculations.

Table V. Sustainability indicators

	LU		EU27	
	No-policy change scenario	**Programme (SCP) scenario**	**No-policy change scenario**	**Programme (SCP) scenario**
S2	8.6	10.9	3.0	1.3
of which:				
Initial budgetary position (IBP)	-0.1	2.1	0.8	-0.9
Long-term cost of ageing (CoA)	8.7	8.8	2.2	2.2
of which:				
Pensions	6.5	6.5	1.0	1.1
Health care	0.7	0.7	0.9	0.8
Long-term care	1.5	1.5	0.6	0.6
Others	0.0	0.1	-0.4	-0.3
S1 (required adjustment)*	-1.5	0.8	2.2	0.5
of which:				
Initial budgetary position (IBP)	-1.4	0.8	0.0	-1.8
Debt requirement (DR)	-2.2	-2.3	1.9	1.9
Long-term cost of ageing (CoA)	2.0	2.3	0.3	0.4
S0 (risk for fiscal stress)**	0.12		:	
Debt, % of GDP (2012)	20.8		87.0	
Age-related expenditure, % of GDP (2012)	17.8		25.8	

Note:
The 'No-policy change' scenario depicts the sustainability gap under the assumption that the budgetary position evolves according to the Commissions' spring 2013 forecast until 2014. The 'Programme (SCP)' scenario depicts the sustainability gap under the assumption that the budgetary plans in the programme are fully implemented.
* The required adjustment of the primary balance until 2020 to reach a public debt of 60% of GDP by 2030.
** The critical threshold for the S0 indicator is 0.44.

Source :
Commission services; 2013 stability programme.



(% of GDP)
Gross debt as % of GDP - LU - Medium term debt projections
80
70
60
50
40
30
20
10
0
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008
2010
2012
2014
2016
2018
2020
2022
2024
2026
2028
2030
COM no-policy change scenario
COM + Shock (-1p.p. in the short-term/long-term interest rate on maturing and new debt from 2015)
COM + Shock (+1p.p. in the short-term/long-term interest rate on maturing and new debt from 2015)
COM consolidation scenario (0.5% per year on SB) in order to achieve MTO
COM consolidation scenario (1% per year on SB) in order to achieve MTO
SCP scenario

Table VI. Taxation indicators

	2002	2006	2008	2009	2010	2011
Total tax revenues (incl. actual compulsory social contributions, % of GDP)	39.3	35.9	37.5	39.2	37.5	37.2
Breakdown by economic function (% of GDP)[1]						
Consumption	10.7	10.1	10.5	10.9	10.1	10.2
of which:						
- VAT	5.8	5.8	6.3	6.7	6.3	6.3
- excise duties on tobacco and alcohol	2.0	1.5	1.4	1.4	1.3	1.3
- energy	2.6	2.5	2.5	2.4	2.2	2.2
- other (residual)	0.3	0.3	0.3	0.4	0.3	0.3
Labour employed	14.0	13.3	14.6	15.6	14.9	15.2
Labour non-employed	1.1	1.2	1.3	1.4	1.3	1.4
Capital and business income	10.2	7.8	8.1	8.5	8.4	7.7
Stocks of capital/wealth	3.3	3.4	2.9	2.7	2.8	2.7
p.m. Environmental taxes[2]	2.8	2.6	2.6	2.6	2.4	2.4
VAT efficiency[3]						
Actual VAT revenues as % of theoretical revenues at standard rate	73.0	89.3	99.5	95.2	94.4	101.7

Note:

1 Tax revenues are broken down by economic function, i.e. according to whether taxes are raised on consumption, labour or capital. See European Commission (2013) Taxation trends in the European Union, for a more detailed explanation.

2 This category comprises taxes on energy, transport and pollution and resources included in taxes on consumption and capital.

3 The VAT efficiency is measured via the VAT revenue ratio. The VAT revenue ratio is defined as the ratio between the actual VAT revenue collected and the revenue that would theoretically be raised if VAT was applied at the standard rate to all final consumption. A low ratio can indicate a reduction of the tax base due to large exemptions or the application of reduced rates to a wide range of goods and services ('policy gap') or a failure to collect all tax due to e.g. fraud ('collection gap'). See European Commission (2012), Tax reforms in EU Member States, European Economy 6/2012 and Taxation Papers 34/2012 for a more detailed explanation.

Source: Commission

Table VII. Financial market indicators

	2008	2009	2010	2011	2012
Total assets of the banking sector (% of GDP)	3403.3	3099.6	2640.4	2579.3	2174.4
Share of assets of the five largest banks (% of total assets)	29.7	29.3	31.1	31.2	…
Foreign ownership of banking system (% of total assets)	95.5	90.6	…	…	…
Financial soundness indicators:					
- non-performing loans (% of total loans)[1)]	0.6	0.7	0.3	0.4	0.3
- capital adequacy ratio (%) [2)]	15.4	19.2	17.4	16.4	17.5
- return on equity (%) [2),3)]	5.5	11.5	13.0	4.5	9.8
Bank loans to the private sector (year-on-year % change)	10.8	-5.3	1.5	1.5	-6.9
Lending for house purchase (year-on-year % change)	8.6	7.1	8.8	8.9	7.2
Loan to deposit ratio	68.6	66.1	67.2	65.8	60.5
CB liquidity as % of liabilities	4.2	1.5	0.3	0.8	0.6
Banks' exposure to countries receiving official financial assistance (% of GDP)	…	…	…	…	…
Private debt (% of GDP)	397.9	409.8	388.7	372.0	343.3
Gross external debt (% of GDP)[4)]					
- Public	2.6	2.9	6.3	6.0	7.8
- Private	2730.5	2926.1	2386.1	2588.9	3138.6
Long term interest rates spread versus Bund (basis points)*	0.6	1.0	0.4	0.3	0.3
Credit default swap spreads for sovereign securities (5-year)*	…	…	…	…	…

Notes:

[1)] Latest data (September 2012).

[2)] Latest data (June 2012).

[3)] Tier 1 capital.

[4)] Latest data 2012Q3.

* Measured in basis points.

Source :

Bank for International Settlements and Eurostat (exposure to macro-financially vulnerable countries), IMF (financial soundness indicators), Commission (long-term interest rates), World Bank (gross external debt) and ECB (all other indicators).

Table VIII. Labour market and social indicators

Labour market indicators	2007	2008	2009	2010	2011	2012
Employment rate (% of population aged 20-64)	69.6	68.8	70.4	70.7	70.1	71.4
Employment growth (% change from previous year)	0.0	0.0	0.0	0.0	0.0	0.0
Employment rate of women (% of female population aged 20-64)	61.0	60.1	61.5	62.0	61.9	64.2
Employment rate of men (% of male population aged 20-64)	78.3	77.2	79.0	79.2	78.1	78.5
Employment rate of older workers (% of population aged 55-64)	32.0	34.1	38.2	39.6	39.3	41.0
Part-time employment (% of total employment, 15 years and more)	17.8	18.0	18.2	17.9	18.4	19.0
Part-time employment of women (% of women employment, 15 years and more)	37.2	38.3	35.1	36.0	36.1	36.3
Part-time employment of men (% of men employment, 15 years and more)	2.6	2.7	5.6	4.0	4.8	5.4
Fixed term employment (% of employees with a fixed term contract, 15 years and more)	6.8	6.2	7.2	7.1	7.1	7.7
Transitions from temporary to permanent employment	1.5	1.6	1.5	0.8	1.4	:
Unemployment rate1 (% of labour force, age group 15-74)	4.2	4.9	5.1	4.6	4.8	5.1
Long-term unemployment rate2 (% of labour force)	1.2	1.6	1.2	1.3	1.4	1.6
Youth unemployment rate (% of youth labour force aged 15-24)	15.6	17.3	16.5	15.8	16.4	18.3
Youth NEET rate (% of population aged 15-24)	5.7	6.2	5.8	5.1	4.7	5.9
Early leavers from education and training (% of pop. 18-24 with at most lower sec. educ. and not in further education or training)	12.5	13.4	7.7	7.1	6.2	8.1
Tertiary educational attainment (% of population 30-34 having successfully completed tertiary education)	35.3	39.8	46.6	46.1	48.2	49.6
Formal childcare (from 1 to 29 hours; % over the population less than 3 years)	11.0	13.0	22.0	17.0	16.0	:
Formal childcare (30 hours or over; % over the population less than 3 year)	14.0	13.0	12.0	19.0	28.0	:
Labour productivity per person employed (annual % change)	2.0	-5.5	-5.1	1.1	-1.2	-2.0
Hours worked per person employed (annual % change)	0.5	0.9	-3.8	0.1	-0.2	-0.6
Labour productivity per hour worked (annual % change; constant prices)	1.5	-6.3	-1.3	1.0	-1.0	-1.4
Compensation per employee (annual % change; constant prices)	0.0	3.0	1.3	-4.6	-2.9	-1.3
Nominal unit labour cost growth (annual % change)	1.6	9.4	7.3	1.6	3.3	4.3
Real unit labour cost growth (annual % change)	-2.0	8.9	6.8	-5.6	-1.7	0.7

Notes:

[1] Unemployed persons are all persons who were not employed, had actively sought work and were ready to begin working immediately or within two weeks. The labour force is the total number of people employed and unemployed.

[2] Long-term unemployed are unemployed persons for at least 12 months.

Sources:
Commission (EU Labour Force Survey and European National Accounts)

Expenditure on social protection benefits (% of GDP)	2006	2007	2008	2009	2010
Sickness/Health care	5.07	4.94	5.28	5.99	5.68
Invalidity	2.64	2.34	2.42	2.68	2.54
Old age and survivors	7.34	7.06	7.56	8.54	8.06
Family/Children	3.39	3.15	4.15	4.20	3.97
Unemployment	0.98	0.93	0.96	1.32	1.25
Housing and Social exclusion n.e.c.	0.17	0.15	0.19	0.35	0.30
Total	20.01	18.96	20.98	23.57	22.30
of which: means tested benefits	0.60	0.57	0.63	0.87	0.82
Social inclusion indicators	**2007**	**2008**	**2009**	**2010**	**2011**
At-risk-of-poverty or social exclusion[1] (% of total population)	15.9	15.5	17.8	17.1	16.8
At-risk-of-poverty or social exclusion of children (% of people aged 0-17)	21.2	20.9	23.7	22.3	21.7
At-risk-of-poverty or social exclusion of elderly (% of people aged 65+)	7.2	5.4	6.2	6.1	4.7
At-Risk-of-Poverty rate[2] (% of total population)	13.5	13.4	14.9	14.5	13.6
Severe Material Deprivation[3] (% of total population)	0.8	0.7	1.1	0.5	1.2
Share of people living in low work intensity households[4] (% of people aged 0-59)	5.0	4.7	6.3	5.5	5.8
In-work at-risk-of poverty rate (% of persons employed)	9.3	9.4	10.0	10.6	9.9
Impact of social transfers (excluding pensions) on reducing poverty	42.3	43.2	44.8	50.2	50.0
Poverty thresholds, expressed in national currency at constant prices[5]	17935	18071	17838	18155	17773
Gross disposable income (households)	:	14639	15266	15743	16059
Relative median poverty risk gap (60% of median equivalised income, age: total)	18.8	16.6	17.6	18.6	15.7

Notes:

[1] People at-risk-of poverty or social exclusion (AROPE): individuals who are at-risk-of poverty (AROP) and/or suffering from severe material deprivation (SMD) and/or living in household with zero or very low work intensity (LWI).

[2] At-risk-of poverty rate (AROP): share of people with an equivalised disposable income below 60% of the national equivalised median income.

[3] Share of people who experience at least 4 out of 9 deprivations: people cannot afford to i) pay their rent or utility bills, ii) keep their home adequately warm, iii) face unexpected expenses, iv) eat meat, fish, or a protein equivalent every second day, v) enjoy a week of holiday away from home once a year, vi) have a car, vii) have a washing machine, viii) have a colour tv, or ix) have a telephone.

[4] People living in households with very low work intensity: share of people aged 0-59 living in households where the adults (excluding dependent children) work less than 20% of their total work-time potential during the previous 12 months.

[5] For EE, CY, MT, SI, SK, thresholds in nominal values in Euros; HICP - index 100 in 2006 (2007 survey refers to 2006 incomes)

Sources:
For expenditure for social protection benefits ESSPROS; for social inclusion EU-SILC.

Table IX. Product market performance and policy indicators

Performance indicators	2003-2007	2008	2009	2010	2011	2012
Labour productivity[1] total economy (annual growth in %)	1.9	-5.5	-5.1	1.1	-1.2	-2.0
Labour productivity[1] in manufacturing (annual growth in %)	2.7	-18.5	-21.1	9.8	1.3	n.a.
Labour productivity[1] in electricity, gas, steam and air conditioning supply (annual growth in %)	2.2	-47.4	3.7	-13.7	1.6	n.a.
Labour productivity[1] in the construction sector (annual growth in %)	1.5	-11.5	-3.3	3.9	-4.8	n.a.
Total number of patent[2] applications per million of labour force	477.2	432.5	389.3	358.2	n.a.	n.a.
Policy indicators	**2003-2007**	**2008**	**2009**	**2010**	**2011**	**2012**
Enforcing contracts[3] (days)	321	321	321	321	321	321
Time to start a business[3] (days)	26	26	24	19	19	19
R&D expenditure (% of GDP)	1.6	1.7	1.7	1.5	1.4	n.a.
Tertiary educational attainment (% of 30-34 years old population)	31.4	39.8	46.6	46.1	48.2	n.a.
Total public expenditure on education (% of GDP)	3.60	n.a.	n.a.	n.a.	n.a.	n.a.
	2007	**2008**	**2009**	**2010**	**2011**	**2012**
Product market regulation[4], Overall (Index; 0=not regulated; 6=most regulated)	n.a.	1.6	n.a.	n.a.	n.a.	n.a.
Product market regulation[4], Retail (Index; 0=not regulated; 6=most regulated)	n.a.	4.3	n.a.	n.a.	n.a.	n.a.
Product market regulation[4], Network Industries[5] (Index; 0=not regulated; 6=most regulated)	2.4	n.a.	n.a.	n.a.	n.a.	n.a.

Notes:

[1] Labour productivity is defined as gross value added (in constant prices) divided by the number of persons employed.

[2] Total number of patent applications to the European Patent Office (EPO) per million of labour force

[3] The methodologies, including the assumptions, for this indicator are presented in detail on the website http://www.doingbusiness.org/methodology.

[4] The methodologies of the product market regulation indicators are presented in detail on the website http://www.oecd.org/document/1/0,3746,en_2649_34323_2367297_1_1_1_1,00.html. The latest available product market regulation indicators refer to 2003 and 2008, except for Network Industries.

[5] Aggregate Energy, Transport and Communications Regulation (ETCR).

*figure for 2007.

Source:
Commission, World Bank - *Doing Business* (for enforcing contracts and time to start a business) and OECD (for the product market regulation indicators).

Table X. Green Growth

		2002-2006	2007	2008	2009	2010	2011
Green Growth performance							
Macroeconomic							
Energy intensity	kgoe / €	0.18	0.16	0.16	0.16	0.16	0.16
Carbon intensity	kg / €	0.48	0.42	0.41	0.41	0.42	n.a.
Resource intensity (reciprocal of resource productivity)	kg / €	0.45	0.40	0.36	0.34	n.a.	n.a.
Waste intensity	kg / €	n.a.	n.a.	0.33	n.a.	0.36	n.a.
Energy balance of trade	% GDP	-3.3%	-3.7%	-4.6%	-2.5%	-3.5%	-3.9%
Energy weight in HICP	%	n.a.	11	12	11	11	12
Difference between change energy price and inflation	%	n.a.	-0.8	11.7	-11.9	3.5	6.8
Environmental taxes over labour taxes	ratio	19.0%	17.0%	16.6%	15.2%	14.9%	n.a.
Environmental taxes over total taxes	ratio	7.5%	7.0%	7.0%	6.6%	6.5%	n.a.
Sectoral							
Industry energy intensity	kgoe / €	0.27	0.25	0.29	0.32	0.35	302.15
Share of energy-intensive industries in the economy	% GDP	6.5	6.8	5.9	4.9	n.a.	n.a.
Electricity prices for medium-sized industrial users**	€ / kWh	n.a.	0.10	0.10	0.12	0.10	0.10
Gas prices for medium-sized industrial users***	€ / kWh	n.a.	0.03	0.04	0.04	0.04	0.05
Public R&D for energy	% GDP	n.a.	0.02%	0.01%	0.01%	0.01%	0.01%
Public R&D for the environment	% GDP	n.a.	0.03%	0.02%	0.02%	0.02%	0.01%
Recycling rate of municipal waste	ratio	62.2%	82.0%	82.4%	82.0%	82.3%	n.a.
Share of GHG emissions covered by ETS*	%	n.a.	20.8%	17.2%	18.7%	18.4%	17.0%
Transport energy intensity	kgoe / €	n.a.	0.98	0.98	0.87	0.89	n.a.
Transport carbon intensity	kg / €	n.a.	2.33	2.35	2.06	2.15	n.a.
Security of energy supply							
Energy import dependency	%	n.a.	96.7%	97.5%	97.5%	97.1%	97.4%
Diversification of oil import sources	HHI	n.a.	0.55	0.56	0.61	0.56	n.a.
Diversification of energy mix	HHI	n.a.	0.46	0.46	0.46	0.45	0.47
Share renewable energy in energy mix	%	n.a.	2.7%	2.8%	2.8%	2.8%	2.6%

Country-specific notes:
The year 2012 is not included in the table due to lack of data.
General explanation of the table items:
Source: Eurostat unless indicated otherwise; ECFIN elaborations indicated below
All macro intensity indicators are expressed as a ratio of a physical quantity to GDP (in 2000 prices)
Energy intensity: gross inland energy consumption (in kgoe) divided by GDP (in EUR)
Carbon intensity: Greenhouse gas emissions (in kg CO2 equivalents) divided by GDP (in EUR)
Resource intensity: Domestic Material Consumption (in kg) divided by GDP (in EUR)
Waste intensity: waste (in kg) divided by GDP (in EUR)
Energy balance of trade: the balance of energy exports and imports, expressed as % of GDP
Energy weight in HICP: the share of the "energy" items in the consumption basket used in the construction of the HICP
Difference between energy price change and inflation: energy component of HICP, and total HICP inflation (annual %-change)
Environmental taxes over labour or total taxes: from DG TAXUD's database "Taxation trends in the European Union"
Industry energy intensity: final energy consumption of industry (in kgoe) divided by gross value added of industry (in 2005 EUR)
Share of energy-intensive industries in the economy: share of gross value added of the energy-intensive industries in GDP
Electricity and gas prices medium industrial users: consumption band 500 - 2000MWh and 10000 - 100000 GJ; figures excl. VAT.
Recycling rate of municipal waste: ratio of municipal waste recycled over total municipal waste
Public R&D for energy or for the environment: government spending on R&D (GBAORD) for these categories as % of GDP
Share of GHG emissions covered by ETS: based on greenhouse gas emissions as reported by Member States to EEA (excl LULUCF)
Transport energy intensity: final energy consumption of transport activity (kgoe) divided by transp industry gross value added (2005 EUR)
Transport carbon intensity: greenhouse gas emissions in transport activity divided by gross value added of the transport sector
Energy import dependency: net energy imports divided by gross inland energy consumption incl. energy consumption international bunkers
Diversification of oil import sources: Herfindahl index (HHI), calculated as the sum of the squared market shares of countries of origin
Diversification of the energy mix: Herfindahl Index over natural gas, total petrol products, nuclear heat, renewable energies and solid fuels
Share renewable energy in energy mix: %-share in gross inland energy consumption, expressed in tonne oil equivalents
*Provisional data (15 April 213). Commission Services and EEA.
** For 2007 average of S1 & S2 for DE, LU, NL, FI, SE & UK. Other countries only have S2.
*** For 2007 average of S1 & S2 for IT, NL, FI, SE & UK. Other countries only have S2.