THE GOVERNMENT
OF THE GRAND-DUCHY OF LUXEMBOURG
Ministry of Finance

16th UPDATE OF THE STABILITY AND GROWTH PROGRAMME OF THE GRAND DUCHY OF LUXEMBOURG 2015-2019

Luxembourg, 29 May 2015

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I. OVERALL POLICY FRAMEWORK AND OBJECTIVES

The 16th update of the Stability and Growth Programme (SGP) for 2015-2019 occurs at a time in which the macro-economic situation in the eurozone is displaying steady short-term growth, i.e. real GDP growth of 1.4% in 2015 and 2.0% in 2016. Between 2017 and 2019 growth is set to stabilize around 1.4%. This trajectory assumes that the financial and sovereign debt crises within the eurozone have been brought under control. It is likely that the crisis will continue to have ramifications on the functioning of European economies and in particular on that of financial markets. Impacts on long term economic growth remain uncertain for the time being.

As a small and open economy, Luxembourg's growth profile is strongly influenced by that of the eurozone. In the short term, economic recovery is expected to be strong with real GDP growth of 3.8% in 2015 and 3.6% in 2016, while in the medium term growth is expected to lie around 3% on average between 2017 and 2019. This type of economic growth trajectory is well below historical averages of 4.5-5% as known before the crisis. The crisis has continued to sap the economy's potential for growth, which lies around 2.5%. In terms of the composition of economic growth, financial sector exports are likely to remain the driver for economic growth in Luxembourg. While the financial sector has displayed resilience towards the crisis, structural changes have taken place in recent years that will somewhat attenuate this sector's contribution to economic growth and employment. The present forecasts do not include additional adjustments over and above those observed up till now. The extension of automatic exchange of information beginning in 2017 is not considered as having any negative impact on activities in the sector. Still, reforms of the international financial architecture that are taking place on the global level will impact Luxembourg, which will have to continue to adapt to this new environment. The present update is based on the assumption of no impact of the BEPS discussions on Luxembourg's economic activity, particularly with regard to public finances.

Both the negative effects of the economy and the financing of a recovery policy in 2009 and 2010 weighed heavily on public finances. Since 2011, budgetary policy has consisted of redressing the situation of public finances. Successive consolidation plans in 2011, 2013 and 2014, coupled with improved macroeconomic conditions contributed to progressive improvement of the public finances situation, particularly over the period 2012-2014.

In 2014, the public administration's budget surplus was estimated at € 289 million or 0.6% of GDP. The structural balance is a positive at 1.8% of GDP. Thus, in 2014 Luxembourg is expected to achieve its medium-term budget objective of a structural balance of 0.5% of GDP.

This budgetary situation for 2014 leaves Luxembourg in a rather favourable position for the start of 2015 from which to confront the short term challenges arising in the upcoming year.

The 2015-2019 period features the onset of a new tax scheme for e-business whose negative impact on public revenue in 2015 is expected to be € 618 million, or 1.2% of GDP[1]. Consequently, if no policy change occurs and this loss of revenue is not offset, it is probable that Luxembourg will not comply with the rules of the preventive arm of the SGP beginning from 2015.

For this reason, the government has set two primary budgetary objectives in its December 2013 governmental programme for 2013-2018: i) return to the medium term structural balance objective of a surplus of 0.5% of GDP in 2018 at the latest, and ii) stabilisation of the gross public debt well under 30% of GDP. The government is seeking in particular to reduce the deficit of the central administration in rather ambitious proportions sufficient to achieve the second objective.

The government laid out a consolidation strategy in 2014 to achieve its budgetary objectives that seeks to ensure a healthy level for the public finance situation in short and medium term, especially in view of the uncertainty surrounding the prospects for growth and the very high implicit commitments bearing on public finances in the long term due to the ageing of the population.

The medium term strategy is based in particular on the following elements:

- A consolidation effort over the programming period of € 1'005 million in structural terms, or 1.7% of GDP over the period 2015-2019[2] to achieve the primary budgetary objectives set by the government.

- A consolidation effort balance around revenues and expenditure measures, with more focus on measures bearing on revenues at the beginning of the period and a focus on expenditures at the end of the period.

- Consultations with the social partners resulting in modifications to the initial package[3].

- A new method for identifying measures: from early 2014 onwards, the government set up a general review of public expenditure process for the first time in Luxembourg that is directed at the three sub-sectors of the general administration. This process identified 258 measures in the "Zukunftspak" ("Package for the Future") framework that, together with a package of

[1] This corresponds to the estimated loss in budgetary terms. The same loss of revenue amounts to € 750 million, representing 1.4% of GDP, in economic terms, taking into account an expected growth profile in 2015 under an unchanged policy assumption.
[2] The government sets its objectives on a priority basis over the programming period of its political tenure, i.e. from 2014-2018, and for this reason both budgetary objectives and discretionary budget measures are determined with relation to 2018. With regard to the post-2018 period, the trajectory of public finances is laid out using an assumption of unchanged policy, i.e. all measures decided prior to 2019 remain in effect, with their respective budgetary impacts.
[3] For more information on these consultations, see: http://www.ces.public.lu/fr/actualites/2015/03/semestre-europeen/note-cadrage-gouvernement-sur-psc.pdf

specific VAT measures constitutes all the discretionary measures that the government intends to implement as part of its medium term budget strategy.

- The public finances trajectory presented under this update is based on the assumption of a full implementation of these measures, in accordance with the initial schedule of implementation. Therefore, any change in the implementation represents a risk to achieving the public finances medium term strategy[4].

- Revision of the budget's structure and procedures:

    - With the law dated 12 July 2014 on the coordinating and governance of public finances[5], the government transposed into national law a certain number of obligations arising from the revision of economic governance on the European level. This involved the introduction of a multi-year budgetary framework with budget rules intended to strengthen supervision of the budget and the setting up of a national fiscal council. All these are new elements of the budget framework in Luxembourg that can contribute to a better management of the budget.

    - In the area of architecture and procedure in budgetary matters, the government, in accordance with its governmental programme, also intends to reform the budgetary procedure through the introduction of a programme-based budgetary system, implementing a framework for evaluation and audit and an improved system for managing major infrastructure projects. These items will be implemented in a stage subsequent to the law dated 12 July 2014.

Consequently, the current update features a trajectory that will ensure that:

- the worsening of the situation of public finances in 2015 in a no policy change scenario will be limited, through an adjustment in the amount of € 512 million, or 1% of GDP, which will move to € 1’005 million or 1.7% of GDP in 2019[6].

- Compliance with the rules of the preventive arm of the Growth and Stability Pact throughout the entire programming period, which will ensure that the government can achieve one of its objectives in the area of budgetary policy in the medium term[7].

[4] This point is developed further in the sensitivity analysis.
[5] http://www.legilux.public.lu/leg/a/archives/2014/0122/a122.pdf
[6] These are forecasted budgetary impacts without indirect effects (see below).
[7] For the purposes of this update, Statec's MODUX methodology is used to estimate potential growth necessary for calculating the structural balance.

In 2015, public debt amounted to € 11.7 billion, equivalent to 23.9% of GDP. It will increase to 24.2 % of GDP in 2017, or € 12.9 billion, and will then decrease in terms of GDP to 23.8%, or €13.7 billion, essentially through the discretionary policy implemented by the government. As the primary driver of gross public debt is the nominal deficit at the level of central administration, the public finances trajectory in the Stability and Growth Programme is based on a reduction of this deficit that is sufficiently ambitious to stabilise gross public debt in relation to GDP, which corresponds to the government's second objective in the area of medium term budgetary policy.

Furthermore, it is appropriate to emphasise that the government is implementing the decision taken by the former government in April 2013, which at the time announced its decision in principle to sell its investment in BGL BNP Paribas in the short or medium term, provided the terms of such a disposal were acceptable. In addition, it should be noted that Luxembourg has holdings in commercial and non-commercial companies whose value amounts to around 10% of GDP and that social security surpluses are transferred to a reserve fund that currently amounts to € 13.5 billion, or 28.5% of GDP and that may not be used to finance the deficit of the central government.

Regarding the long term sustainability of public finances, the reform of the pension system that entered into effect on 1 January 2013 contributes to the viability of public finances by significantly reducing public expenditure due to the ageing of the population and hence also reducing implicit liabilities with respect to an unchanged policy scenario. It should be noted that this update of the Stability and Growth Programme also updates long term projections of expenditure related to the ageing of the population. These projections are updated every three years in specialised committees of the Ecofin Conseil *filière*. The latest update of these projections took place in 2012 as part of the 13th SGP update. This update included for the first time the positive effects of the pension system reform that was to take effect on 1 January 2013 on long term sustainability of public finances, whereas the current update features no new measures and includes only a revision of the long term assumptions regarding changes for Luxembourg between now and 2060. The main update consists in a substantial increase by Eurostat of the domestic employment forecast over the period, which all other factors being equal, reduces expenditures for ageing by 5.2% per annum with relation to GDP between now and 2060.

With these new forecasts in mind, the government will continue to address pension scheme issues.

Lastly, two additional preliminary remarks should be made in the area of new rules concerning European economic governance:

i) The 16th update of the SGP includes no request by the government for using the clauses providing flexibility as described in the European Commission Communication published 13 January 2015 [8].

ii) The 16th update of the SGP represents the "Medium Term National Budget Plan" under regulation 473/2013.

[8] http://ec.europa.eu/transparency/regdoc/rep/1/2015/FR/1-2015-12-FR-F1-1.PDF

PUBLIC FINANCES	2014			2015			2016			2017			2018			2019		
	level in billions of euros	% of GDP	rate of change	level in billions of euros	% of GDP	rate of change	level in billions of euros	% of GDP	rate of change	level in billions of euros	% of GDP	rate of change	level in billions of euros	% of GDP	rate of change	level in billions of euros	% of GDP	rate of change
TOTAL REVENUES	**21,034**	**44,4**	**+4,6**	**21,706**	**44,4**	**+3,2**	**22,745**	**44,7**	**+4,8**	**23,662**	**44,5**	**+4,0**	**24,671**	**44,5**	**+4,3**	**25,580**	**44,4**	**+3,7**
of which:																		
Taxes on production and imports ("indirect" taxes)	6,402	13,5	+7,2	6,139	12,5	-4,1	6,283	12,3	+2,3	6,377	12,0	+1,5	6,531	11,8	+2,4	6,616	11,5	+1,3
of which : VAT e-commerce	1,077	2,3	+0,4	0,458	0,9	-57,4	0,335	0,7	-27,0	0,207	0,4	-38,2	0,180	0,3	-13,1	0,046	0,1	-74,6
Current taxes on income, wealth, etc ("direct" taxes)	6,831	14,4	+3,4	7,467	15,3	+9,3	7,904	15,5	+5,9	8,345	15,7	+5,6	8,786	15,9	+5,3	9,190	16,0	+4,6
Social contributions	5,823	12,3	+4,4	6,072	12,4	+4,3	6,364	12,5	+4,8	6,645	12,5	+4,4	6,939	12,5	+4,4	7,227	12,6	+4,2
TOTAL EXPENSES	**20,745**	**43,8**	**+5,2**	**21,682**	**44,3**	**+4,5**	**22,414**	**44,0**	**+3,4**	**23,315**	**43,9**	**+4,0**	**24,169**	**43,6**	**+3,7**	**25,131**	**43,7**	**+4,0**
of which:																		
Public investment	1,798	3,8	+12,4	2,003	4,1	+11,4	2,068	4,1	+3,2	2,308	4,3	+11,6	2,382	4,3	+3,2	2,548	4,4	+7,0
Social payments	10,014	21,2	+4,8	10,483	21,4	+4,7	10,898	21,4	+4,0	11,334	21,3	+4,0	11,829	21,3	+4,4	12,355	21,5	+4,5
Intermediate consumption	1,751	3,7	+3,6	1,918	3,9	+9,5	1,940	3,8	+1,2	1,981	3,7	+2,1	2,026	3,7	+2,3	2,076	3,6	+2,5
Compensation of employess	3,955	8,4	+5,9	4,176	8,5	+5,6	4,288	8,4	+2,7	4,431	8,3	+3,3	4,606	8,3	+3,9	4,774	8,3	+3,6
GENERAL GOVERNMENT BALANCE	**0,289**	**0,6**		**0,025**	**0,1**		**0,332**	**0,7**		**0,347**	**0,7**		**0,502**	**0,9**		**0,449**	**0,8**	
Central government balance	-0,502	-1,1		-0,710	-1,5		-0,563	-1,1		-0,511	-1,0		-0,342	-0,6		-0,364	-0,6	
Local government balance	0,097	0,2		-0,078	-0,2		-0,011	0,0		-0,025	0,0		-0,027	0,0		-0,011	0,0	
Social government balance	0,695	1,5		0,813	1,7		0,906	1,8		0,883	1,7		0,870	1,6		0,824	1,4	
STRUCTURAL BALANCE		**1,8**			**0,7**			**0,9**			**0,5**			**0,6**			**0,3**	
GROSS DEBT	**10,920**	**23,1**		**11,718**	**23,9**		**12,334**	**24,2**		**12,891**	**24,2**		**13,283**	**24,0**		**13,701**	**23,8**	

MAIN MACROECONOMIC INDICATORS	2014	2015	2016	2017	2018	2019
GROWTH						
Real GDP (in %)	3,0	3,8	3,6	3,3	3,0	2,8
Nominal GDP (in %)	4,5	3,4	4,0	4,5	4,2	3,9
Nominal GDP (level, in bln euros)	47,330	48,932	50,886	53,166	55,418	57,567
PRICE DEVELOPMENTS						
Inflation NICP (in %)	0,6	0,3	1,1	1,3	1,5	1,7
LABOUR MARKET DEVELOPMENTS						
Employment (growth, in %)	2,4	2,7	2,3	2,2	1,9	1,8
Unemployment rate (ADEM definition, in %)	7,1	7,0	7,3	7,4	7,6	7,7

* calculations by Modux (Statec)

II. ECONOMIC SITUATION AND MACROECONOMIC FORECASTS[9]

II.1. The European Macroeconomic Environment

Forecasts on the European level support a prudently optimistic stance. During 2015, economic activity should experience a moderate recovery within the European Union and in the eurozone and should accelerate significantly in 2016. Despite several positive signs, the prospects for growth in Europe are still constrained by an environment that is unpropitious to investment and by high unemployment in several Member States, characterised particularly by extremely high youth unemployment.

The drop in oil prices, the depreciation of the euro and the quantitative easing measures announced by the ECB are likely to exert a positive impact on growth rates and economic recovery in Europe. Simultaneously, uncertainty surrounding the situation in Greece and geopolitical risks from the situation in Ukraine could weigh on economic development in the eurozone and in the EU 28 in general. Additional structural reform and differentiated fiscal consolidation of public finances are yet to be made by Member States in order to improve potential growth.

II.2. Luxembourg's economic situation in the short and medium term

In the short term, levels of growth have recovered in Luxembourg in comparison to those experienced during the crisis years. Luxembourg's economy grew 3.0% in 2014 and a level of 3.8%[10] of growth in terms of real GDP is expected for 2015. However, in view of international assumptions, particularly in the eurozone where real growth profiles will drop over the medium term, with levels of 1.4% in 2015, 2.0% in 2016 and around 1.4% on average for the period 2017-2019, growth in Luxembourg is expected to progressively decline in the medium term. Growth in Luxembourg is expected to decline slightly in 2016 to 3.6%, then to 3.3% in 2017 (see Table 1a). In 2018 and 2019, a further drop in growth is expected, to 3.0% of GDP for 2018 and below 3% in 2019. The corresponding nominal rate of growth is to reach 4.0% in 2016, 4.5% in 2017, 4.2% in 2018 and 3.9% in 2019.

This softening in the medium term can be explained by a number of factors:

- An assumption of economic recovery that is weaker than in the eurozone.
- A progressive withdrawal from an accommodative monetary policy in the euro zone, driven by a gradual rise in interest rates beginning in 2017.

[9] Underlying macroeconomic forecasts for the update of the SGP are produced by STATEC.
[10] Nominal growth for 2015 is lower than real growth because of the negative impact of e-commerce on the price component of GDP, which is reflected by a negative GDP deflator (see table 1b in the appendix).

- Stock market indices featuring more moderate growth than the 3.8% figure, which is below the average growth rate of the STOXX 50 euro zone stock market index of 6.5% for the period of 2016-2019.

These mixed signs of recovery are accompanied by similar developments in the labour market:

- The domestic economy is expected to produce more jobs, as it did in 2014, with an increase of 2.4% over 2013. For 2015 and 2016, growth in domestic employment should attain the relatively high levels of 2.7% and 2.3% respectively. At the end of the period it is expected that this positive trend will recede to 1.8%. These positive trends in the labour market are due especially to the financial sector, which is set to expand. The introduction of automatic exchange of information beginning on 1 January 2015 has not engendered additional negative impacts at this stage.

- At the same time, forecasts indicate pressure on the unemployment rate[11] for the entire 2015-2019 period. While from 2014 to 2015 the unemployment rate should vary only slightly, from 7.1% compared to 7.0%, it may reach 7.7% in 2019 (7.4% in 2017) without new measures to promote employment.

Increases in unemployment in the face of relatively strong growth in domestic labour suggest that the job market features at least a partial degree of incompatibility between supply and demand for labour domestically[12].

These developments are occurring against a backdrop of low inflation brought about in large part by the drop in oil prices and the low interest rates set by the European Central Bank (ECB). Inflation as measured by the national Consumer Price Index (CPI) amounted to 0.6% in 2014 and should decrease to 0.3% in 2015 before slowly rising in the medium term to a level around 1.4% on the average between 2016-2019[13].

Potential growth in Luxembourg's economy is estimated at 2.5%, in contrast to forecasted levels of 3.5-4% that were still being touted in the early 2000s. This therefore implies that the Stability and Growth Programme uses a scenario featuring a convergence of real growth with potential growth in terms of growth rates and subsequently the output gap will largely close up over the period and even turn positive at its end.

[11] Definition of ADEM
[12] The unemployment trajectory does not take into account positive effects if the objectives announced by the Government and the UEL on 14 January 2015 in the fight against unemployment are achieved http://www.uel.lu/images/stories/Documents/AccordentreleGouvernementetUELdu14janvier2015.pdf
[13] Statec will update inflation forecasts in mid-May.

The Stability and Growth Programme's main scenario includes no negative impacts whose consequences are difficult to quantify, such as a Grexit or a Graccident. Similarly, the so-called Juncker investment plan represents an upward risk and has not been considered in these forecasts.

In the area of automatic wage indexing, the index groups schedule for the period is as follows: July, 2016, May 2018 and November 2019.

III. BUDGET SITUATION AND PUBLIC DEBT

III.1. General budget policy framework

The economic and financial crisis has led to a deterioration of Luxembourg's public finances situation. Despite this deterioration, Luxembourg managed to maintain its public finances situation within the preventive arm of the Stability and Growth Pact, conserving a budget safety margin with regard to the 3% reference value outlined in article 126 of the TFEU. In particular, over the period, the structural balance continued to respect the medium term budgetary objective of a surplus of 0.5% of GDP. Simultaneously, gross public debt increased both in absolute terms and as a percentage of GDP, yet it remains relatively weak and clearly below the maximum indebtedness threshold of 60% of GDP under the Growth and Stability Pact.

Nonetheless, the economic and financial crisis has weakened the situation of public finances in Luxembourg and the country now faces a series of structural challenges:

- The decrease in potential growth became more pronounced in the wake of the economic and financial crisis, implying a structural reduction of growth in public revenue;
- The financial sector, which is the main driver of economic growth, is exposed to certain number of adjustments that represent risks to economic growth of the country;
- BEPS discussions are bringing out new challenges to the stability of the tax environment in Luxembourg, the impact of which is not clear at this stage;
- Furthermore, the degree of openness of Luxembourg's economy and its specialisation in financial services implies that public revenue is subject to very high volatility;
- Public expenditure is downwardly rigid and a significant part of public expenditure features an "autonomous" growth phenomenon that is independent of changes in the economic cycle;
- Despite the implementation of a wide-reaching reform of the pension system, ageing of the population is exerting strong upward pressure on public expenditure and the implicit liabilities arising from this remain high in terms of absolute value and international comparisons.

Apart from these structural factors, Luxembourg's public finances will be negatively impacted from 2015 onward by a change in the VAT scheme applied to e-commerce and by loss of revenues due to the automatic exchange of information. Furthermore, there exists much uncertainty regarding revenues from e-commerce during the 2015-2019 transition phase, especially because of the very flexible rules governing the use of "guichet unique" available to operators and Member States.

To confront these challenges in the short and medium term, the government is pursuing a budget strategy that targets two primary budget objectives of the governmental programme: i) return of the structural balance to the medium term budgetary objective of 0.5% no later than 2018 and ii) stabilization of gross public debt well under 30% of GDP. The government also intends to take advantage of the crisis experience to better account for cyclical conditions in drafting budget policy, i.e. to use years characterised by sustained economic growth to improve the position of public finances by avoiding a pro-cyclical fiscal policy.

More particularly, the government has set up a counter-financing strategy to offset loss of revenues related to e-commerce that amounts to € 512 million, or 1% of GDP in 2015 and €1'005 million, or 1.7% of GDP in 2019.

This strategy is the government's response to a very significant risk of the worsening of public finances in an unchanged policy scenario. Thus if no package of measure were to be introduced, the public finances situation would evolve as follows:

Table A: Change in public finances with unchanged policy

NOMINAL BALANCE	2015		2016		2017		2018		2019	
	in mln euros	*in % of GDP*	*in mln euros*	*in % of GDP*	*in mln euros*	*in % of GDP*	*in mln euros*	*in % of GDP*	*in mln euros*	*in % of GDP*
1. General government	-465	-1,0%	-388	-0,8%	-510	-1,0%	-394	-0,7%	-479	-0,8%
2. Central government	-1.155	-2,4%	-1.224	-2,4%	-1.286	-2,4%	-1.142	-2,1%	-1.192	-2,1%
3. Local government	-78	-0,2%	-11	0,0%	-25	0,0%	-26	0,0%	-12	0,0%
4. Social government	768	1,6%	848	1,7%	801	1,5%	774	1,4%	724	1,3%
5. Structural balance		**-0,3%**		**-0,6%**		**-1,1%**		**-1,1%**		**-1,3%**
6. Gross debt	**12.075**	24,7%	**13.299**	26,1%	**14.585**	27,4%	**15.726**	28,4%	**16.918**	29,4%

Macroeconomic conditions alone are not enough to improve the situation of public finances.

As an unchanged policy is not an option, the strategy decided upon by the government seeks to achieve a number of objectives:

i) It should be a vehicle for the government to achieve the budget objectives it set in the medium term for the end of its current tenure

ii) It consists of maintaining a high level of public investment considered by the government as important for the development of potential growth in Luxembourg's economy. In this context, the government also decided to actively support the investment strategy outlined by the European Commission by earmarking € 80 million, or 0.2% of GDP via the national development bank *Société Nationale de Crédit et d'Investissement* over the period of 2015-2018[14].

iii) It contains specific measures that should also form a positive commitment to potential growth. In the area of family policy, some measures seek to increase the rate of employment amongst women; in the labour market, some measures also seek to combat inactivity traps.

iv) It also seeks to contain public expenditure through introducing increased social selectiveness as part of family policy, with the objective to better target the most disadvantaged families and households.

From a methodological perspective, the current update takes into account the possible negative second round effects of measures due to fiscal multipliers on major macroeconomic public finances aggregates. This task was carried out in close cooperation with STATEC. Based on assumptions relating to multipliers, on average, around 15% of all measures resulted in a reduction of fiscal income.

This update is based on an unchanged policy scenario with regard to the tax environment. Nonetheless, to address international developments primarily in the area of corporate taxation, the government launched preparatory work for a reform of Luxembourg's tax system with the objective of an implementation no later than early 2017. In accordance with the governmental programme, this reform will be based on the following principles:

- Maintain Luxembourg's competitiveness: the reform must promote economic growth
- Ensure predictability and stability of the tax system in light of international developments: the system must be transparent
- Increase the fairness of the system
- Guarantee budgetary neutrality

In its medium term budget guidelines, the government did not consider submitting a request to use the flexibility clauses that the Commission introduced in its 13 January 2015 communication[15]. The communication describes three types of flexibility, the first related to macroeconomic conditions, the second to investment and the third to structural reforms. In view of the estimates of the output gap for

[14] This has no impact on the public government's deficit.
[15] http://ec.europa.eu/economy_finance/economic_governance/sgp/pdf/2015-01-13_communication_sgp_flexibility_guidelines_en.pdf

2015 and 2016, Luxembourg, in accordance with the COM's[16] interpretation of rules, would likely not be able to use the first two flexibility clauses, i.e. those related to macroeconomic conditions and investment. Regarding the third clause related to structural reforms, the government does not consider that reforms included in the *Zukunftspak* fulfil the eligibility conditions applicable to the clause: i) a structural reform must be of a large scale, ii) a structural reform must have a significant impact on long term sustainability of public finances. Some measures in the *Zukunftspak* display a structural reform character with an impact on potential growth, such as the increase in the rate of female employment. However, such impacts are likely to be too moderate for implying the use of the flexibility clause. The government will consider how it can use these clauses effectively in the future.

Regarding sustainability of public finances, in addition to the positive impacts of the pension reform that took effect on 1 January 2013, it should be emphasised that the absolute level of gross public debt remains relatively low in international comparison and that the central administration and Social Security administration hold financial assets valued in excess of 35% of GDP.

III.2. Medium term budget objective

In accordance with the conclusions of the European Council of March 2005, the medium-term objective is differentiated according to Member States so as to take into account the differences in economic and budgetary positions and developments as well as the various degrees of budgetary risk in terms of the sustainability of public finances, while also considering foreseeable demographic changes.

The criteria and methods for taking into account foreseeable demographic changes were approved by the Ecofin Council in July 2009.

After the pension reform entered into effect on 1 January, 2013, public expenditures related to the ageing of the population will increase less strongly as from 2020 and the impact of the reform will significantly reduce implicit liabilities due to the ageing of the population. Nonetheless, the issue of long term financing of implicit liabilities is not resolved by the reform. Consequently including these implicit liabilities in determining medium term objectives continues to imply an ambitious budgetary balance in order to pre-finance these future budget commitments that persist despite the reform.

Thus, achieving a medium-term objective of +0.5% of GDP in structural terms and using the ensuing budget surpluses to build up reserves should ensure that the additional expenditure caused by demographic ageing will be covered by 2040.

[16] For more details see: http://www.ces.public.lu/fr/actualites/2015/03/semestre-europeen/note-cadrage-gouvernement-sur-psc.pdf

Following the entry into force at the end of 2011 of the rules of new economic governance, in particular the rules known collectively as the "six pack", the medium-term budgetary objectives will be revised every three years.

The last revision took place in 2013 on the occasion of the 14th update of the SGP, where Luxembourg decided to maintain its medium term budget objective of a +0.5% surplus of GDP.

- In this context, it is useful to evoke the reasons that the medium term budget objective is being held at the same figure: The EU Council, as noted in its opinion of June 2012 on the 13th SGP update, found the medium-term objective of a surplus of 0.5% of GDP as set prior to the reform insufficiently ambitious. The medium term budget objective set by Luxembourg was indeed below the required minimum set by the European Commission for Luxembourg, which called for a +0.75% surplus of GDP in structural terms.

- However, the impact exerted by the reform of the pension system led the European Commission to revise the required minimum of a +0.75% surplus of GDP downward to +0.5%.

For the purposes of the 16th update of the SGP for the period 2015-2019, the medium term budget objective of +0.5% will be maintained over the entire period, without prejudice to any revisions that should normally occur during the 17th update of the SGP in 2016.

III.3. The budgetary situation in 2014 and in 2015

On 1 April 2015, Luxembourg notified the European Commission of a general government surplus of € 289 million, or 0.6% of GDP in 2014.

A worsening of the situation in 2014 took place with relation to the situation in 2013: the general government balance fell from € 388 million or 0.9% of GDP to € 289 million or 0.6% of GDP in 2014. Changes in the various sub-sectors occurred as follows: an reduction of the central government deficit from € 529 million, or 1.2% of GDP, to € 502 million, or 1.1% of GDP, a reduction of the local government nominal balance from € 210 million, or 0.5% of GDP, to € 97 million, or 0.2% of GDP, in 2014 and a slight reduction of the Social Security balance from € 708 million, or 1.6% of GDP to € 695 million, or 1.5% of GDP in 2014. Thus, it can be observed that a large part of the changes occurred within local governments, whose principal factor is the profile of investments. Following a number of delays in the area of investments in 2013, a significant rebound in investments occurred in 2014 amounting to a 17% increase for the year from € 616 million to € 723 million.

Furthermore, in 2014, the government implemented a number of measures essentially pertaining to public expenditure at the level of central government. The improvement of the central government balance is mainly due to measures to generate savings that the government implemented under the

2014 budget. The government decided on a savings package equivalent to 0.4% of GDP, detailed in the table below.

Table B: Breakdown of consolidation measures

Category of expenditure	*Breakdown*
Capital expenditures	60%
Operating expenses	21%
Reduction of new commitments in government	4%
Revision of student loans	15%
Total expenditures	**100%**

Total government revenue in 2014 amounted to € 21’034 million, or 44.4% of GDP, an increase of 4.6% with relation to the previous year. Despite improved macroeconomic conditions in 2014, growth in public revenue was lower than in 2013 at 5.2%, primarily due to less favourable changes in current taxes[17]. Total public expenditure amounted to € 20’745 million, or 43.8% of GDP, an increase of 5.2% with relation to the previous year.

For 2015, public finances are essentially characterised by the following factors: i) loss of revenue from e-commerce estimated at € 618 million in 2015 (for details, see methodology insert No. 1 below), ii) implementation of a counter-financing strategy with an impact of € 511 million, or over 1% of GDP, in 2015, iii) improvement of short term economic conditions generating a positive impact on public revenue. The combination of these factors leads to an updating of public finances for 2015 that is based the updates presented in the 1 April 2015 notification, with several adjustments[18].

[17] Current taxes include tax revenues for years during the crisis that are likely to generate lower tax revenues.

[18] The adjustments are the result of the inclusion of basic impacts arising from the upward revision of fiscal data in 2014 as well as an upward revision of short-term economic conditions for 2015 and 2016. All of these adjustments combined amount to 0.4% of GDP, or € 200 million euros including the following main elements: downward revision of some expenditure categories (payroll, investments, social transfers in cash) due to base effects from 2014, upward revision of some categories of revenue (taxes on production, current taxes and revenue on capital expenditure).

Methodology insert No. 1: VAT applicable to e-commerce[19]

Article 58 of Directive 2006/112/EC as amended by Directive 2008/8/EC states that as from 1 January 2015, the place of supply of electronic services provided to a non-taxable person is the place where that person has a permanent address or usually resides. Electronic services is understood to mean the furnishing of digital products such as music, videos, games, etc. and services consisting in providing or supporting the presence of company on electronics networks such as an internet site or page. The fact that an order for goods is placed and/or processed electronically does not in itself constitute the supply of an electronic service. Article 5 of the 2008/8 "place of supply" directive contains the operating rules for the optional "MOSS" 'Single Window' service. Regarding payments to be transferred to Member States where consumption occurs under the special scheme set up by Directive 2006/112/CE, Member States of identification retain:
- from 1 January 2015 to 31 December 2016: 30%
- from 1 January 2017 and 31 December 2018: 15%
- after 1 January 2019: 0%

Consequently, if a company providing electronic services from Luxembourg chooses the Luxembourg 'Single Window' system, Luxembourg can retain 30% of VAT revenue generated by the sale between 2015 and 2016 under present conditions. This percentage is reduced to 15% for 2017-2018. The rate is reduced to 0% in 2019. Note that the last payment for transactions in the final quarter of 2018 will be made in the first quarter of 2019 under the 'Single Window' system.

Fiscal revenues therefore depend on the number and size of companies providing electronic services beginning in 2015 and who choose to register with the Luxembourg 'Single Window' system. In this context it is important to stress that registration in the single window system is not definitive, as companies may decide to voluntarily withdraw from the system, or be obliged to do so if they violate community regulations in the domain.

Bearing in mind the foregoing explanations, the current SGP is based on an assumed cumulative budgetary loss of € 5.4 billion, of which € 618 million are purported to relate to fiscal 2015.

Thus, the government balance is reduced from a surplus of € 289 million, or 0.6% of GDP in 2014, to a surplus of € 25 million, or 0.1% of GDP, in 2015. Expected changes occurring in the sub-sectors are as follow: an increase in the central government deficit from € 502 million, or 1.1% of GDP in 2014, to € 710 million, or 1.5% of GDP in 2015, the local government balance went from a surplus of € 97 million, or 0.5% of GDP in 2014, to a deficit of € 78 million, or 0.2% of GDP in 2015, and the Social Security surplus of € 695 million, or 1.5% of GDP improved to € 813 or 1.7% of GDP.

The main factors behind these changes are:

- Regarding central government: the lower income figures are due to the loss of revenue from e-business, which is offset by the measures taken following the *Zukunftspak* programme. Consequently, growth in revenue for the central government fell from 4.5% in 2014 to 3% in 2015, while public expenditure is expected to rise at a similar rate between 2014 and 2015, i.e. 4.3%.

[19] This is an overview of information contained in the 15th update.

- Regarding local government: the worsening of the budget balance is primarily due to the drop in revenue originating with the impact of the loss of income from electronic business, which benefits the municipality sector through its share of 10% of VAT revenues. Consequently, revenue will fall 1.4% in 2015, while expenditure continues to rise by 5.7%, including investments that will jump 11%.

In addition, costs for the wage agreement with government workers is included in 2015 budget forecasts, following postponement of this issue from 2014.

The measures implemented in 2015 are part of a multi-year strategy covering 2015-2019 that was prepared by the government in 2014. This strategy was implemented in early 2015 under the multi-year financial programming plan and the law implementing the *Zukunftspak*. The public finances trajectory is based on the assumption of a full and timely implementation of these measures.

A package containing over 258 measures was agreed upon. Details concerning these measures can be found under the following link[20]. For the purposes of this SGP update, the strategy can be described as follows:

- An initial table summarises the strategy according to the main categories of revenue and expenditure following the European system of accounting (ESA). It is important to note that this table contains only cumulative direct forecasted impacts[21], i.e. it does not take into account indirect impacts related to fiscal multipliers.

[20] http://www.budget.public.lu/

[21] The macroeconomic and public finance forecasts in this update take into account the indirect impacts of most of the measures comprising the medium term budget strategy. The average fiscal reduction, i.e. the difference between forecasted impacts of a measure taken individually and the impact on the nominal balance, is 15% on average.

Table C: Breakdown of measures according to ESA2010 (net impact[22])

Remark: Estimate of impact for 2019 is based on a proportionality assumption with relation to 2018

(in millions Euros)	2015	2016	2017	2018	2019
Expenditure (sum)	**-146**	**-276**	**-352**	**-411**	**-427**
Intermediate consumption	*-13*	*-33*	*-36*	*-39*	*-40*
Capital formation	*-19*	*-40*	*-47*	*-49*	*-50*
Compensation of employees	*-6*	*-10*	*-11*	*-11*	*-11*
Other taxes on production	*0*	*0*	*0*	*0*	*0*
Subsidies	*-15*	*-59*	*-66*	*-80*	*-83*
Property income	*0*	*0*	*0*	*0*	*0*
Current taxes on income, wealth, etc	*0*	*0*	*0*	*0*	*0*
Social transfers other than in kind	*-13*	*-40*	*-56*	*-66*	*-68*
Social transfers in kind supplied via market producers	*-78*	*-98*	*-138*	*-161*	*-167*
Other current transfers	*7*	*14*	*19*	*21*	*22*
Capital transfers	*-9*	*-11*	*-17*	*-28*	*-29*
Revenues (sum)	**365**	**488**	**568**	**559**	**578**
Market production	*5*	*9*	*9*	*9*	*9*
Taxes on production and imports	*267*	*369*	*443*	*429*	*444*
Property income	*1*	*1*	*1*	*1*	*1*
Current taxes on income, wealth, etc	*91*	*106*	*111*	*116*	*120*
Social contributions	*0*	*0*	*0*	*0*	*0*
Other current transfers	*1*	*3*	*4*	*3*	*4*
Capital transfers	*0*	*0*	*0*	*0*	*0*
Difference	**511**	**764**	**920**	**970**	**1005**

- A second table provides details on the main individual measures, i.e. as highlighted both in their wording used in the *Zukunftspak* strategy and in their affiliation to an ESA category. Impacts on the budget are also shown as forecasts[23].

[22] Net impact means that it includes expenditure measures that generate additional expenditure and are part of the Zukunftspak programme. These measures are not included in Table D.

[23] A package of VAT-related measures: an increase of 2% for the standard intermediate rates programmed for 1 January 2015, with a budget impact on revenue of € 250 million or 0.7% of GDP. The Government decided to stress indirect taxes as opposed to direct taxes in as much as such increases are deemed less harmful to economic growth. In order to mitigate the regressive nature of the package of measures, the Government decided to maintain super-reduced rates on basic goods and services and it introduced a "housing" arm in its package of measures. This arm both contributes to the progressiveness of the package and represents an initial step in the direction of the subsidies policy that the Government is implementing for housing in order to influence movements in real estate prices in Luxembourg.

Table D: Details of measures/ESA2010

Remark: Estimate of impact for 2019 is based on a proportionality assumption with relation to 2018

ESA CATEGORY	*TITLE of measure*	*Revenue/Expenditure*	2015	2016	2017	2018	2019
Taxes on production and imports	VAT	*Revenue*	250	342	411	430	446
	enhanced tax controls: indirect taxes	*Revenue*	5	10	15	15	16
Current taxes on income, wealth etc	enhanced tax controls: direct taxes	*Revenue*	2	5	5	5	5
	Temporary rebalancing tax	*Revenue*	80	100	105	110	114
Intermediate consumption	other: intermediate consumption	*Expenditure*	-10	-27	-27	-29	-30
Investment (private through public transfers)	Investment: private	*Expenditure*	-9	-11	-17	-28	-29
Public investment	Investment: public (direct and indirect)	*Expenditure*	-19	-37	-45	-47	-49
Social transfers others than in kind	Suppression of educational grant	*Expenditure*	-12	-40	-58	-66	-68
	labour market: revision of family allowances	*Expenditure*	-3	-9	-13	-17	-18
	labour market: suppression of maternity grant	*Expenditure*	-2	-4	-4	-4	-4
	labour market: partial unemployment -end of temporary measures	*Expenditure*	0	0	-12	-12	-12
	labour market: unemployment - end of temporary measures	*Expenditure*	0	-8	-8	-8	-9
	labour market: revision of support scheme to reemployment	*Expenditure*	-6	-12	-18	-30	-31
Social transfers in kind	measures with regard to long term care	*Expenditure*	-17	-22	-32	-39	-41
	measures with regard to health care-maternity leave	*Expenditure*	-36	-41	-59	-68	-70
Subsidies	support to private companies	*Expenditure*	-7	-8	-7	-7	-8
	labour market: revision of the professionnel qualification scheme	*Expenditure*	0	-26	-28	-29	-30
	labour market: support to the hiring of long term unemployed persons	*Expenditure*	0	-9	-9	-9	-9
	others: subsidies (not covered by other categories)	*Expenditure*	-7	-16	-23	-35	-37

The medium term strategy features the following elements:

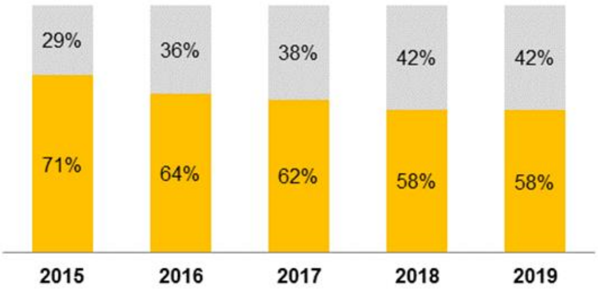
- On the breakdown of the adjustment over time: table D indicates that the profile reflects the government's desire to frontload efforts. Indeed, 76% of the cumulative impact by the end of the period has been shifted to the first two years of 2015-2016, adopting a contra-cyclical fiscal policy perspective so as to use improved macroeconomic conditions in the short term.

- On the distribution of adjustments between revenue and expenditure (see Figure 1): while the emphasis is on adjusting revenue at the beginning of the period, with 71% in 2015, the strategy balances out over the period with an increasing impact of measures addressing expenditure, with the share of revenue diminishing to 57%.

- On the revenue side, the choice of indirect taxes and household incomes consists of favouring taxes that are relatively less damaging to economic growth, even though these could engender negative impacts.

- By favouring social transfers and current transfers through a social selectivity policy that seeks to emphasise transfers more towards the lowest income households, the government seeks to preserve public investment expenditure, whose contribution to adjustments remains small, at less than 5% of total adjustments.

Figure 1: Distribution of adjustments between expenditure (in grey) and revenue (in yellow)



With regard to budgetary rules in the preventive arm of the Growth and Stability Pact and growth for 2014-2015, the following can be noted[24]:

- For 2014: the structural balance with its surplus of 1.8% of GDP is comfortably above the medium term budget objective of 0.5% of GDP. Regarding the rule on expenditure, the real growth in expenditure adjusted by 2.3% is higher than the reference rate of 1.1%. This divergence of € 238 million, or 0.5% of GDP, would be significant under the rules of the preventive arm of the SGP.

- For 2015: the structural balance will go to 0.7% of GDP, which is compatible with the medium term budget objective. Regarding the rule on expenditures, the real growth in expenditure adjusted by 2.5% is higher than the reference rate of 1.1%. This would again be a divergence in terms of GDP of € 289 million, or 0.6% per annum, which would be significant under the rules of the preventive arm of the SGP.

The fact that the situation of public finances complies with the preventive arm of the SGP due to the discretionary budgetary policy undertaken by the government bears witness to the government's determination that public finances remain in a comfortable position prior to the onset of the declining phase as from 2015 with the loss of a large part of revenue from e-commerce.

[24] However, as long as the rule on structural balances of the preventive arm of the Stability and Growth Pact is adhered to, non-compliance with this second rule on expenditure has no consequences in procedural terms.

III.4. Budgetary situation of general government in 2016-2019

Changes in the medium term to public finances beginning in 2016 shows a number of factors that could have a contrary impact:

- Changes in the macroeconomic environment: conditions over the period will deteriorate progressively, with a real growth rate declining from a level of 3.6% in 2016 to 2.8% in 2019 and domestic employment rates falling from 2.3% in 2016 to 1.8% in 2019. This will have an effect on public finances, primarily on revenues, with revenue growth rates for the government falling from 4.8% in 2016 to 3.7% in 2019. This would also apply to social contributions, which will lose momentum over the period in view of the domestic employment assumptions, with growth rates declining from 4.8% in 2016 to 4.2% in 2019.

- The impact of the discretionary policy with the implementation of the “Zukunftspak” strategy, whose cumulative impact expands over the period (see previous table)

- In addition to the discretionary policy, base assumptions used in forecasting the major categories of revenue and expenditure. In this context, it is useful to tale note of the following elements:

  - With regard to revenue:
    - Fiscal stability: No new discretionary measure as from 2016: however, all measures implemented in 2015 produce cumulative impacts over the period.

    - Revenue linked to e-commerce is subject to a transition phase, the rules for which are set out in box no. 1, with details of forecasts in Table A. The medium term scenario is based on the assumption that some single window (“guichet unique”) users will retract beginning on 1 January 2016.

  - With regard to expenditure:

    - Intermediate consumption expenditures are assumed to increase at a diminished rate: average nominal growth rates over the period will be 2% between 2016-2019.

    - Public investment expenditure profile reflects the high ambition of the government: indeed, capital expenditure represents a small portion of the *Zukunftspak*, amounting to around 5% of the total on average. The same is true for the share of public investment for the period, which will increase from 4.1% of GDP in 2016 to 4.4% of GDP in 2019.

All of these impacts combined indicate a trajectory in which the share of public revenue in GDP remains stable over the period at around 44.5% of GDP. This is in line with a situation of unitary elasticity of total revenue with relation to nominal GDP over the long run. With regard to public expenditure, its share in GDP is expected to progressively diminish from 44% in 2016 to 43.7% of GDP in 2019. This decrease results mainly from a combination of basic assumptions regarding major blocks of public expenditure and the government's discretionary policy. It will also likely involve a reversal of trends because the expenditure/GDP ratio could begin to decline after fifteen years of growth during which it rose from 36.4% in 2000 to 44.3% in 2015[25].

In terms of results, public balance of general government is expected to improve beginning in 2016, from a surplus of 0.1% of GDP or € 25 million in 2015 to a surplus of 0.7% or € 332 million in 2016. However, this improvement impacts the three sub-sectors differently. The reduction of the central government's deficit is the largest, representing +0.4% of GDP. Apart from economic activity, which remains robust, the impact of the Package for the Future (Zukunftspak) on public finances contributes significantly to this improvement. Its forecasted impact will be 50% greater than in 2015, primarily because of the cumulative effect of the VAT package measure and the measures implemented in the area of social services[26] (see Tables D and E for more details).

Regarding the 2017-2019 period, the evolution of public finances at the level of the general government will remain constant, with a positive balance of around 0.8% of GDP or € 430 million over the period. Nonetheless, the development of budget balance will change depending on the various sub-sectors. With local government remaining at equilibrium, the central government's deficit progressively improves from 1.0% or € 511 million in 2017, to 0.6%, or € 364 million, in 2019, while the Social Security Administration's balance declines slightly from 1.7% of GDP, or € 883 million in 2017 to 1.4% of GDP or € 824 million in 2019. These changes are due to several factors: i) a proportionally greater impact of the *Zukunftspak* on the central government compared with the other sub-sectors, ii) budget rules that supervise the local government sector, iii) a slight decline in the momentum of revenue in the Social Security Administration in reaction to changes in macroeconomic conditions at a time when expenditure is increasing steadily, i.e. 4.5% at the end of the period – this is especially due to social services, mainly pensions, which will increase 4.5% per annum.

[25] With the exception of the years 2010 and 2010.
[26] Including the "family allocations" part, which impacts the central government's balance, not that of Social Security.

With regard to the rules of the preventive arm of the SGP, the trajectory outlined above produces the following results:

- Over the period 2016-2019, the structural balance will stay largely within the major rule of the preventive arm, meaning that it will be on track for the medium term budgetary objective of 0.5% of GDP. Only in 2019 will it fall below the 0.5% level to 0.3%[27]; this is in line with one of the objectives set by the Government in its governmental programme for the medium term.

- Despite stabilisation of the nominal balance over the course of the period, the structural balance will fall, reflecting the impact of macroeconomic conditions on public finances measured by the change in the output gap. This output gap will narrow over the period, exerting a negative impact on the structural balance. At the end of the period it will even become positive (see the box below for details).

- With regard to expenditure for the period 2016-2019, the trajectory of public finances will diverge significantly every year because increases in real adjusted expenditures will be greater than the reference rate of 1.1%, thus generating a divergence greater than 0.5% of GDP per annum.

Methodology insert No. 2:
Structural balance and estimates of the output gap

Structural balance and estimate of the output gap

The basic equation for converting the nominal balance to the structural balance is shown below.

Structural balance = Nominal balance – 0.44x (output gap)

The output gap measures the difference between the actual state of the economy and a theoretical state in which an economy would be making the best possible use of its factors of production (without strains on prices and wages). The formula for determining the output gap is:

Output gap =
(actual GDP - potential GDP / (potential GDP)

In this formula for the output gap, the potential level represents a level of output of an economy when it is in a "normal" state, i.e. making the best use of the factors of production (labour and capital). One of the major difficulties with the methodology consists in the fact that potential growth, and therefore output gap, are two variables that cannot be observed and therefore have to be estimated using statistical and econometric methods.

In view of the volatility of economic growth in a small country such as Luxembourg and the *ex-post* revisions

[27] In view of the uncertainties of estimates the interpretation margins of 0.25% per annum, a structural balance of 0.3% can be considered overall as within the pale of the MTO rule.

of the national accounts, estimates of potential growth and the output gap are subject to great uncertainty. For that reason it may be advisable to use more than one method to estimate them. The very concept of potential growth raises formidable difficulties in any economy, and even more so in open economies which, at least in theory, can mobilise human, financial and technological resources well beyond their borders.

Thus for the purposes of this programming, we have carried out simulations based on several methods:

A simulation of potential growth based on Modux, STATEC's macro-econometric model, which in turn is based on a Cobb-Douglas production function ($Y = c \times L^{a} \times C^{(1-a)}$) and uses Hodrick-Prescott (HP) filters. The output gap is the result of the estimate of potential growth and the real growth forecast used in the national macroeconomic scenario (SGP).

A simulation of potential growth based on a simple Hodrick-Prescott filter (HP), which simulates the former methodology used by the European Commission.

A simulation of potential growth based on common methodology developed by the European Commission (output gap working group), with certain national particularities. The COM methodology, which is more technically sophisticated, uses a production function of the Cobb-Douglas type with a Kalman filter to calculate trends in the area of total productivity and the NAWRU (structural unemployment rate). The particularities used by STATEC in applying this method basically relate to taking cross-border commuters into account for the purposes of supply of labour (thus differing from the Commission's definition), the use of national data for the stock of capital, and parametrization adapted to the Luxembourg economy (e.g. wage share). The output gap is obtained by combining estimated potential growth in accordance with this methodology with the forecast real growth in the national macroeconomic scenario (COMM-LUX in the graphs).

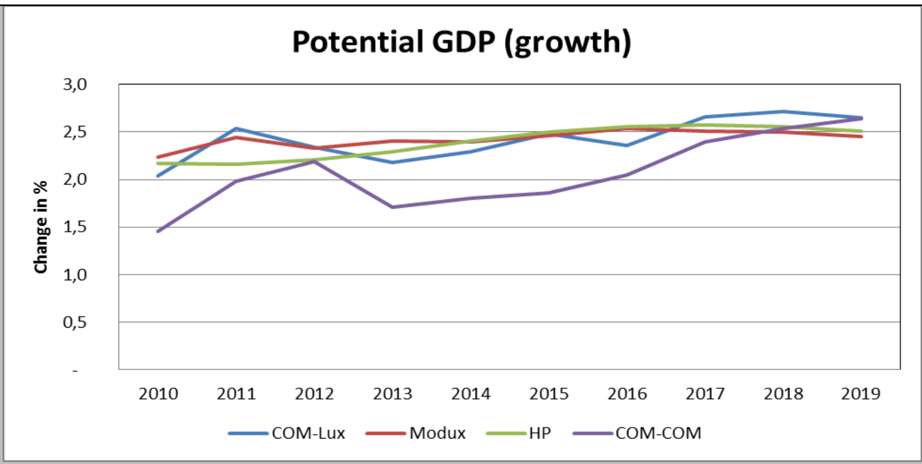
A simulation of potential growth based on common methodology developed by the European without the national particularities, especially in terms of national data and by assuming the closing of the output gap at the end of the period, as called for in the methodology (COM-COM in the graphs).

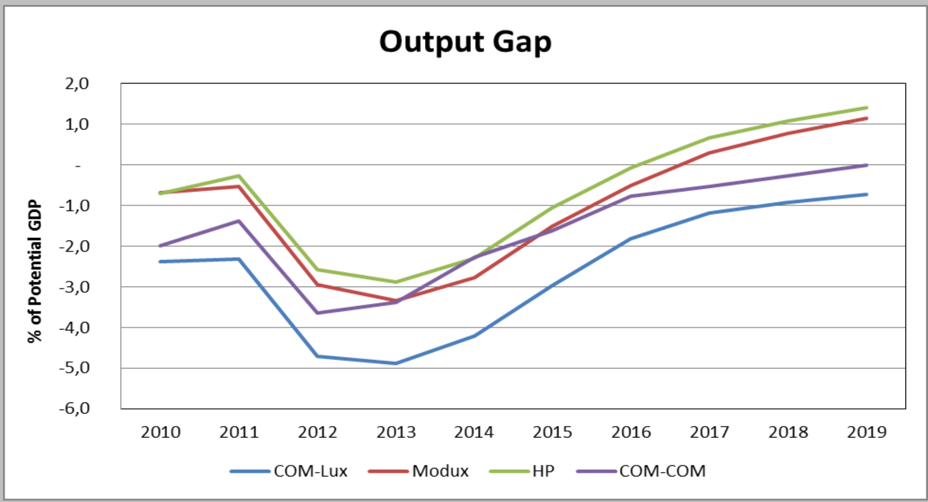
In terms of results, there is a strong divergence between the various methodologies: the first two methodologies, Modux and HP, close the output gap at the end of the programming period, ending the period with a positive output gap. This is not the case with the two common methodologies. In both cases, the output gap remains negative during the period and does not close until the end and only in the COM-COM case.

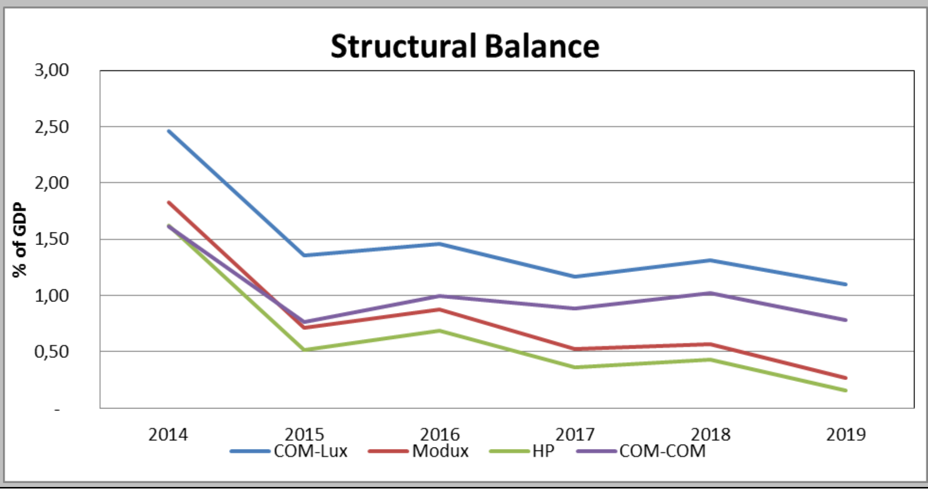
This distinction does not arise from increases in potential growth during the period, between 2.5% and 3%, but from different potential GDP levels. In the two simulations based on the common methodology, the potential GDP level is higher. This is a consequence of stronger growth during years with higher economic momentum in the early 2000s before the crisis.

Because of the numerous variables involved in calculating the various estimates and the difference in methodologies, it will be important to conduct regular reviews of the national estimates of potential growth and of the output gap, and to use an even greater number of methods for estimates.

The Modux methodology by Statec has been selected for the purposes of this update.


Potential GDP (growth)
Change in %
3,0
2,5
2,0
1,5
1,0
0,5
-
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
COM-Lux
Modux
HP
COM-COM


Output Gap
% of Potential GDP
2,0
1,0
-
-1,0
-2,0
-3,0
-4,0
-5,0
-6,0
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
COM-Lux
Modux
HP
COM-COM


Structural Balance
% of GDP
3,00
2,50
2,00
1,50
1,00
0,50
-
2014
2015
2016
2017
2018
2019
COM-Lux
Modux
HP
COM-COM

III.5. Public debt

At the end of 2014, gross public debt amounted to € 10.9 billion, or 23.1% of GDP. Luxembourg is one of the Member States with the lowest public debts in the euro zone, which continues to be well below the reference value of 60% of GDP.

Outstanding bonds and debentures are summarised in the table below:

Table E: Outstanding borrowings

Name of Security	Instrument	Issue date	Maturity	Amount (€ millions)
GRAND-DUCHY 3.375%	Bond	May 2010	May 2020	2,000
GRAND-DUCHY 2.25%	Bond	March 2012	March 2022	1’000
GRAND-DUCHY 2.25%	Bond	March 2013	March 2028	750
GRAND-DUCHY 2.125%	Bond	July 2013	July 2023	2’000
GRAND-DUCHY 2.75%	Private placement	August 2013	August 2043	300
LGB SUKUK 0.436%	Institutional loan	October 2014	October 2019	200

In general, recurring central government deficits are expected to be financed by new bond issues and/or bank borrowings to the tune of € 2’781 million over the period 2015-2019. The breakdown of financing requirements is as follows: € 798 million in 2015, € 616 million in 2016, € 557 million in 2017, € 392 million in 2018 and € 418 million in 2019[28]. In the scenario taken on by the Stability and Growth Programme, the central government will refinance all debt falling due during this period[29].

The dynamics of public debt are determined almost exclusively by the dynamics of central government borrowing requirements, and to a limited extent by the borrowing requirements of local governments, which are however heavily constrained by law.

On this basis, the general government consolidated debt will increase by € 10.9 billion in 2014 to € 13.7 billion in 2019. The ratio of indebtedness to GDP would thus peak at 24.2% in 2016 and 2017 before ending the period at 23.8% in 2019[30]. The cost of servicing public debt (i.e. the interest charge) remains stable at 0.4% of GDP thanks to its AAA sovereign credit rating, which allows Luxembourg to finance itself at relatively low rates of interest.

[28] Which includes central and local government deficits.
[29] The refinancing profile over the period is as follows: € 400 million in 2016, € 132 million in 2017, € 700 million in 2018 and € 200 million in 2019.
[30] This debt profile is based on the assumption of no financial transactions exerting an impact on the debt, such as the recapitalization of the Luxembourg Central Bank. This profile does not include the consolidation of the public company *Chemins de Fer Luxembourgeois* (CFL).

The strategy of consolidation that the government implemented from 2015 will reverse the upward trend in public debt during this legislative tenure. As from 2018 the ratio of indebtedness to GDP will begin to fall slightly, ending up with a debt-to-GDP ratio of 23.8% at the end of 2019.

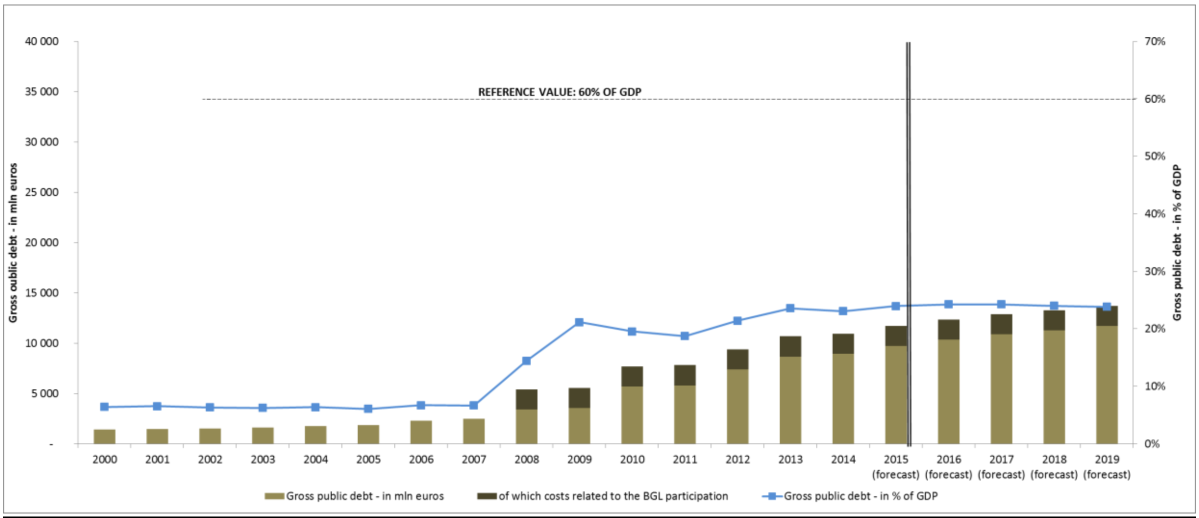
Public debt is principally composed of central government debt and local government debt. For the time being, Social Security shows a structural surplus and these surpluses are allocated to a reserve called the "compensation fund", which was established by the amended law of 6 May 2004 in order to cover the financing of future social benefits. As at 31 December 2014, this general reserve amounted to €13.5 billion, or 28.5% of GDP. The pension reserve alone has thus surpassed the general government debt ratio.

It should be noted that Luxembourg holds a series of stakes in commercial and non-commercial corporations of an estimated value of approximately 10% of GDP, which contribute to the nation's holdings amounting to around 38.5% of GDP, thus exceeding the liabilities of the government.

It should also be noted that consolidated public debt includes the debt of public institutions, as well as guarantees granted by the government in the context of PPP contracts, which, in accordance with a Eurostat decision, are recorded as loans in the general government accounts.

In addition, the public debt level also reflects Eurostat's decision to include loans granted by the European Financial Stability Facility (EFSF) in the computation of public debt of member states, thus increasing the level of gross public debt by 1% of GDP. This decision has no impact on the government's borrowing requirements or debt servicing costs.

Figure 2: Change in gross public debt (central government)



III.6. Sensitivity analysis

Simulation of an exogenous shock to growth in the euro zone

The sensitivity analysis is based on a negative shock of 0.5% on the level of euro zone GDP growth for the entire 2015-2019 period.

The real GDP growth rate in Luxembourg is influenced by that of the euro zone and the alternative scenario resulting from a negative shock implies that real growth in Luxembourg will decrease on average in similar proportions, i.e. 0.5%. In as much as the impact at the national level is identical, real GDP growth rates are as follows: 3.4% in 2015, +2.8% in 2016, 2.7% in 2017, 2.5% in 2018 and 2.4% in 2019. In nominal terms, this negative shock to real growth applies to the whole forecast period. A gradual impact in terms of nominal GDP growth results in a fall of 0.5% in 2015 extending to a negative 1.0% in 2019.

The fall in real growth rate also has a knock-on effect on the employment market, which reacts by falling 0.2% over the first two years and then 0.3% for the remainder of the projection period. As a result of this weak growth in employment, the unemployment reacts a year behind, increasing in 0.1% intervals compared to the central scenario, ending at 8.1%, in 2019, compared with the 7.7% of the central scenario.

This negative shock affecting GDP growth in the euro zone also affects public finances and gross public debt throughout the period. With regard to the general government balance, the impact is marginal during the first year, but takes on a snowball effect that accumulates from year to year. The general government balance continues to deteriorate through to 2019, when it becomes negative, resulting in a balance of € -139 million compared to a surplus of € 448 million with the central scenario. The impact of this lower growth will be felt in 2015 and 2016, but the main impact will take place in 2018 and 2019, more particularly in public revenue, which will fall by € 576 million in 2018 and by € 840 million in 2019. Luxembourg would then be at risk, in the event of an external negative shock to growth, of approaching a potential deficit situation in 2019, with a balance of -0.2% of GDP, which is still a far cry from an excessive deficit of -3% of GDP.

At central government level, this shock to real GDP growth implies that increases in the central government deficit are greater compared with the central scenario. By analogy, since the central government deficit is financed by public debt, the public debt will increase by an average of 1.3% a year over the entire period, eventually representing 25.5% of GDP in 2019, compared with 23.8% in the central scenario. Under this type of scenario, the budget objective of stabilising gross public debt with relation to GDP would not be achieved because the debt trajectory would continue on an upward slope.

Table F: Sensitivity analysis (shock affecting growth)

	2015		2016		2017		2018		2019	
	choc	central	choc	central	choc	central	choc	central	choc	central
Main endogenous variables										
GDP euro zone	+0,9	+1,4	+1,5	+2,0	+0,8	+1,3	+0,9	+1,4	+0,9	+1,4
Real GDP	+3,4	+3,8	+2,8	+3,2	+2,7	+3,2	+2,5	+3,0	+2,4	+2,8
Nominal GDP	+2,8	+3,3	+2,8	+3,4	+3,3	+4,1	+3,2	+4,1	+2,8	+3,8
Employment	+2,5	+2,6	+1,9	+2,1	+1,7	+1,9	+1,5	+1,8	+1,4	+1,7
Unemployment rate	+7,0	+7,0	+7,4	+7,3	+7,6	+7,4	+7,9	+7,6	+8,1	+7,7
Public finances										
General government										
Total expenses	+21 670	+21 681	+22 378	+22 413	+23 227	+23 315	+24 014	+24 169	+24 879	+25 131
Total revenues	+21 650	+21 711	+22 570	+22 745	+23 310	+23 662	+24 094	+24 671	+24 740	+25 580
General government balance (level)	-20	+29	+192	+332	+82	+347	+81	+502	-139	+448
General government balance (in % of GDP)	-0,0	+0,1	+0,4	+0,7	+0,2	+0,7	+0,2	+0,9	-0,2	+0,8
Central government										
Central government balance (level)	-760	-710	-702	-563	-775	-511	-762	-341	-951	-364
Central government balance (in % of GDP)	-1,6	-1,5	-1,4	-1,1	-1,5	-1,0	-1,4	-0,6	-1,7	-0,6
Gross public debt										
Gross public debt (level)	+12 478	+11 718	+13 036	+12 334	+13 666	+12 891	+14 045	+13 283	+14 652	+13 701
Gros public debt (in % of GDP)	+25,5	+23,9	+25,6	+24,2	+25,7	+24,2	+25,3	+24,0	+25,5	+23,8

Simulation of a shock based on the assumption of partial implementation of the *Zukunftspak* programme

The second sensitivity analysis is based on not carrying out certain measures under the *Zukunftspak* programme, rather than on a negative shock. The scenario is developed on a technical hypothesis that takes into account risks during the implementation of the *Zukunftspak* measures. Measures considered to be unachievable are measures that are either currently being negotiated or implemented where legislative or regulatory actions have yet to be undertaken. The following table summarizes all of the measures that are considered to be unachievable according to their respective domains. The table also provides data on the forecasted impact they will have over the programming period.

Table G: Measures that are considered to be unachievable in the Package for the Future (Zukunftspak)

	Fiscal impact (millions of euros)				
Relevant economic aggregate	***2015***	***2016***	***2017***	***2018***	***2019***
Social transfers in kind, health	**36**	**41**	**59**	**68**	**70**
Social transfers in kind, education	**12**	**40**	**58**	**66**	**68**
Social transfers in kind, long term care	**17**	**22**	**32**	**39**	**41**
Social transfers in kind, family	**3**	**9**	**13**	**17**	**18**
	6	**55**	**74**	**88**	**91**
Subsidies	*0*	*26*	*28*	*29*	*30*
Subsidies	*0*	*9*	*9*	*9*	*9*
Social transfers other than in kind, unemployment fund	*0*	*0*	*12*	*12*	*12*
Social transfers other than in kind, unemployment fund	*0*	*8*	*8*	*8*	*9*
Social transfers other than in kind, unemployment fund	*6*	*12*	*18*	*30*	*31*
Total impact	**73**	**166**	**235**	**278**	**288**

The principal exogenous variables will be impacted only marginally should these measures not be carried out. Real growth and nominal growth increase 0.1% over the first two years. Consequent to this, the labour market also improves slightly, by 0.1% in 2016 with a simultaneous improvement in the unemployment rate of 0.1%.

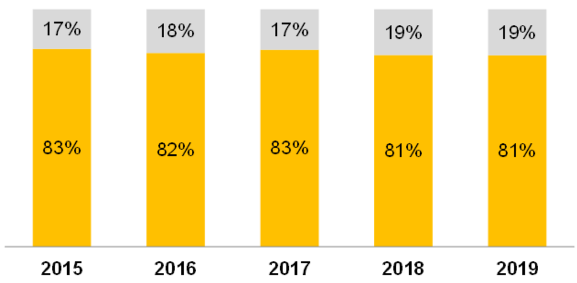
This shock, or rather the fact that certain measures of the *Zukunftspak* are not implemented, primarily affects public finances and gross public debt throughout the period. With regard to the general government balance, the negative impact appears during the first year, snowballing continuously throughout the period. The general government balance deteriorates gradually beginning in 2015, resulting in a balance of € 176 million in 2019, compared to € 448 million with the central scenario. By analogy, the central government balance falls also, with a consequent increase in public debt since the central government deficit is financed by public debt. Public debt will increase by 1.1% of GDP up until 2019, rising from 23.8% of GDP to 24.9% of GDP, which is equivalent to an additional € 635 million. Apart from the increase in gross public debt, public balance undergoes deterioration to such an extent that it risks no longer complying with the rules of the Stability and Growth Pact from 2018 onward. Finally, the composition of the adjustment in terms of revenues and expenditure over the whole period would also be altered substantially: 80% of the adjustment would come from revenue measures.

This sensitivity analysis shows that the assumption of a full implementation of the *Zukunftspak* is necessary to ensure that the budget objectives set by the government for the medium term are achieved with a certain safety margin.

Table H: Sensitivity analysis (assuming measures not implemented)

	choc 2	central	choc 2	central	choc 2	central	choc 2	central	choc 2	central
Main endogenous variables										
Real GDP	+3,9	+3,8	+3,3	+3,2	+3,2	+3,2	+3,0	+3,0	+2,8	+2,8
Nominal GDP	+3,4	+3,3	+3,5	+3,4	+4,2	+4,1	+4,2	+4,1	+3,8	+3,8
Employment	+2,6	+2,6	+2,2	+2,1	+1,9	+1,9	+1,8	+1,8	+1,7	+1,7
Unemployment rate	+7,0	+7,0	+7,2	+7,3	+7,4	+7,4	+7,6	+7,6	+7,7	+7,7
Public finances										
General government										
Total expenses	+21 744	+21 681	+22 565	+22 413	+23 528	+23 315	+24 435	+24 169	+25 369	+25 131
Total revenues	+21 646	+21 711	+22 682	+22 745	+23 610	+23 662	+24 628	+24 671	+25 546	+25 580
General government balance (level)	-99	+29	+117	+332	+82	+347	+193	+502	+176	+448
General government balance (in % of GDP)	-0,1	+0,1	+0,4	+0,7	+0,3	+0,7	+0,5	+0,9	+0,3	+0,8
Structural balance (Modux)	+0,5	+0,7	+0,6	+0,9	+0,1	+0,5	+0,2	+0,6	-0,2	+0,3
Central government										
Central government balance (level)	-826	-710	-738	-563	-718	-511	-584	-341	-636	-364
Central government balance (in % of GDP)	-1,7	-1,5	-1,4	-1,1	-1,4	-1,0	-1,1	-0,6	-1,1	-0,6
Gross public debt										
Gross public debt (level)	+12 544	+11 718	+13 071	+12 334	+13 609	+12 891	+13 868	+13 283	+14 337	+13 701
Gros public debt (in % of GDP)	+25,6	+23,9	+25,7	+24,2	+25,6	+24,2	+25,0	+24,0	+24,9	+23,8

Figure 3: Distribution of adjustments between expenditure (in grey) and revenue (in yellow) taking into account certain measures not being implemented



III.7. Comparison with previous stability programme

Changes between the 15th and 16th updates may be summarised by two primary assessments:

1) Macroeconomic and public finances conditions for the short term, up until 2016, have been revised upwards;

2) Macroeconomic and public finances conditions for the medium term, for the period 2017-2019, have been revised downward.

Regarding the short term:

- In 2014, the general government balance improved from 0.1% of GDP to 0.6% of GDP: this improvement can be explained only partially by macroeconomic conditions: Indeed, real and nominal economic growth was lower than expected, but employment growth was better, up 2.4% instead of the 1.9% as expected. Furthermore, VAT and registration duties on production displayed higher momentum. Increased VAT revenue may be explained by purchases made in 2014 in order avoid the announced increase in VAT as from 2015.

- For 2015 and 2016 the public balance is revised upward by 0.6% of GDP for 2015 and by 0.5% of GDP for 2016. On one hand, this improvement is due to an upward revision of macroeconomic conditions where real growth increases from 3.2% to 3.8% in 2015 and from 3.5% to 3.6% in 2016. Yet this improvement is somewhat dampened by a downward revision of inflation, reflected by lower nominal growth rates, which have an impact on tax bases and expenditure. On the other hand, the base effects of 2014 on 2015 and 2016 also come into play. The positive impact of public revenue exceeds that of expenditure. Lastly, some revisions in the area of public finances enter into play as well: i) an upward revision of e-commerce revenue (an upward revision of +0.2% of GDP for 2015 and 2016), ii) a falling off of the momentum of expenditures.

Regarding the medium term:

- The public balance deteriorates by 0.1% of GDP in 2014 and by 0.6% of GDP in 2018. Several factors would explain this trajectory:

    - The downward revision of macroeconomic conditions with their accompanying negative impact on revenue, in particular: while this public revenue was supposed to increase by over 5.5% on the average between 2017-2018, this rate is only 4.2% in the current update.

    - In the area of public expenditure, apart from the base effects at the beginning of the period, growth rates outlined for the medium term have hardly been substantially modified.

    - In the area of the ambition for a consolidation strategy, the impact profile has been revised slightly: the impact is higher in 2016 and 2017 but has been revised downward in 2018 to € 970 million instead of € 1’040 million.

Lastly under the effect of relatively deteriorating macroeconomic and public finance conditions in the medium term, the public debt stabilises at a slightly higher level at the end of the period, i.e. 24% of GDP in 2018 instead of 22.2%.

Table I: Differences with relation to the previous programme update

	ESA Code	Year 2014	Year 2015	Year 2016	Year 2017	Year 2018	Year 2019
Real GDP growth (%)							
Previous update		3,2	3,2	3,5	3,6	3,7	…
Current update		3,0	3,8	3,6	3,3	3,0	2,8
Difference		*-0,2*	*0,6*	*0,1*	*-0,3*	*-0,7*	…
Nominal GDP growth (%)							
Previous update		6,7	6,0	6,4	5,4	6,3	…
Current update		4,5	3,4	4,0	4,5	4,2	3,9
Difference		*-2,2*	*-2,6*	*-2,4*	*-0,9*	*-2,1*	…
General government net lending (% of GDP)	EDP B.9						
Previous update		0,1	-0,5	0,2	0,8	1,5	…
Current update		0,6	0,1	0,7	0,7	0,9	0,8
Difference		*0,5*	*0,6*	*0,5*	*-0,1*	*-0,6*	…
General government gross debt (% of GDP)							
Previous update		23,3	24,0	23,9	23,5	22,2	…
Current update		23,1	23,9	24,2	24,2	24,0	23,8
Difference		*-0,2*	*-0,1*	*0,3*	*0,7*	*1,8*	…

IV. QUALITY OF PUBLIC FINANCES

From 2015 onwards, as a result of the loss of revenues from e-commerce, the public finance situation will show significant structural deterioration. Nevertheless, to confront this impact, the government maintains its objective of restoring the general government budgetary balance to a path that ensures healthy and sustainable public finances in the medium and long term. This effort is particularly reflected in the strategy of adjustment that the government has set itself for the period 2015-2019.

In this context, the government also aims to ensure that the level of public debt remains as low as possible and well below the upper limit set by the Maastricht criteria (60% of GDP). Its strategy should even reverse the trend in debt over the planning period.

The strategy of adjustment is a testimony of the government's determination to preserve the quality of public finances:

- The breakdown of the adjustments between revenue and expenditure is more or less balanced at the end of the period.

- With regard to revenue: measures concerning consumption or households are the least harmful to growth in the medium and long term and are the ones that are implemented.

- With regard to expenditure: expenditure categories considered as contributing to growth in the medium and long term are preserved. This includes the low contribution of public investment, to the global adjustment effort which amounts to 5% and whose level in terms of GDP amounts to 4.1% in 2015 and to 4.4% in 2019. The most significant contribution to the adjustment effort will come from the social transfers' category, which has grown very considerably in recent years, particularly with the economic and financial crisis.

The quality of public expenditure can thus be analysed via the following elements:

- With regard to the level of public expenditure in relation to GDP, it can be noted that, despite the increase of the expenditure proportion of GDP, in particular since the outbreak of the financial and economic crisis in 2008, Luxembourg still remains below the European average. Thus, the public expenditure proportion in relation to GDP amounted to 43.8% in 2014, compared with 49 % on average in the euro zone[31]

- The same remark applies to revenues. In 2014, revenues lay at 46.6% of GDP on average in the euro zone versus 44.4% in Luxembourg.

[31] http://ec.europa.eu/eurostat/documents/2995521/6796761/2-21042015-AP-FR.pdf/7466add3-3a70-4abb-9009-bc986a5d2c0a

With regard to the medium term trajectory of public finances, the following should be noted:

- The proportion of public expenditure in GDP is supposed to stabilise, or diminish slightly, from 44.3% of GDP in 2015 to 43.7% of GDP in 2019.

- The share of expenditure related to intermediate consumption should fall by 3.9% of GDP in 2015 to 3.6% of GDP in 2019.

- The share of expenditure related to public investment should fall by 4.1% of GDP in 2015 to 4.4% of GDP in 2019.

- With regard to property income on the expenditure side, which relates to states' debt servicing costs on their gross debt, debt servicing costs will remain very low, in the order of 0.4% of GDP.

- Concering the composition of revenue, under the effect of loss of revenue for e-commerce beginning in 2015, the share of indirect taxes will decrease, falling from 12.5% of GDP in 2015 to 11.5% of GDP in 2019, while the share of current taxes should increase from 15.3% of GDP in 2015 to 16.0% of GDP in 2016. This change may be considered as a deterioration to the extent that the weighting of direct taxes, whose tax burden on corresponding macroeconomic bases is considered to be more harmful to economic growth in the medium and long term, is greater.

- Concerning the upcoming tax reform, the programme of the government seeks to ensure that the tax reform represents an advance in the area of public finances quality, i.e. the capacity of the tax system to support economic development in the country in the medium and long term.

Lastly, the quality of public expenditure is measured not only in quantitative terms but also in more qualitative terms. In this regard, Luxembourg envisages developing its budgetary framework so as to create more incentives for public expenditure managers to increase the quality of public expenditure.

V. LONG-TERM SUSTAINABILITY OF PUBLIC FINANCES

This update takes into account the new projections regarding expenditure linked to demographic ageing that were carried out by the Ageing Working Group (AWG) of the ECOFIN Council's Economic Policy Committee. It is noteworthy that short-term expenditure linked to demographic ageing was adjusted relatively upward by 1.5%, from 18% of GDP in the 2012 projections to 19.5% of GDP in the current 2015 projection, with health care costs up 1% and long-term care up 0.3%. For the long term, the last update of projections by the European Commission revised the macroeconomic scenario for Luxembourg upward, including a significant increase in the growth of employment and hence in potential growth.

Table J: Labour forecasts

	2013	2020	2030	2040	2050	2060
Emploi (Labour input growth - Projections 2012)	1,4	0,7	0,2	0,2	0,1	0,1
Emploi (Labour input growth - Projections 2015)	1,7	2,6	1,7	1,3	0,7	0,4
PIB (Real GDP growth - Projections 2012)	3,5	2,0	1,8	1,7	1,7	1,7
PIB (Real GDP growth - Projections 2015)	2,1	3,0	2,9	2,8	2,2	1,9

As a result of this, pension costs expressed as a percentage of GDP were revised downward through the denominator effect by some five points at the 2060 timeline, falling from 18.6% of the 2012 projects to 13.4% of those in 2015. The ricochet effect of this is that costs linked to ageing are forecasted to drop at a less prominent rate, attaining 25.9% of GDP in 2060 in contrast with the 29.7% projected in 2012. It should be noted that in the two series of projections in 2012 and 2015 the estimated impact of the 2012 pension system is already taken into account and the more favourable situation for public expenditure in 2060 is essentially a result of a change of the assumption at the base of these projections.

Table K: Expenditure linked to ageing and underlying hypotheses

		Projection 2015			Projection 2012	
% of GDP	**2013**	**2060**	**diff.**	**2013**	**2060**	**diff.**
Age-related expenditures	19,5	25,8	6,2	18	29,7	11,7
Pension expenditure	9,4	13,4	4,1	9,7	18,6	8,8
Health care expenditure	4,6	5,1	0,5	3,6	4,5	0,9
Long-term care expenditure	1,5	3,2	1,7	1,1	3,1	2,0
Education expenditure	3,3	3,5	0,2	3,1	3,1	0,0
Unemployment expenditure	0,7	0,5	-0,2	0,5	0,5	0,0
Assumptions						
Labour productivity growth	*-0,3*	*1,5*	*1,8*	*0,7*	*1,5*	*0,8*
Real GDP growth	*1,4*	*1,9*	*0,5*	*2,2*	*1,7*	*-0,5*
Total participation rate (aged 15-64)	*69,4*	*70,0*	*0,6*	*67,9*	*67,5*	*-0,4*
Unemployment rate (15-64)	*5,9*	*4,2*	*-1,7*	*4,4*	*4,2*	*-0,2*
interest rate (in % per year)	*3,5*	*3,5*	*-*	*3,5*	*3,5*	*-*

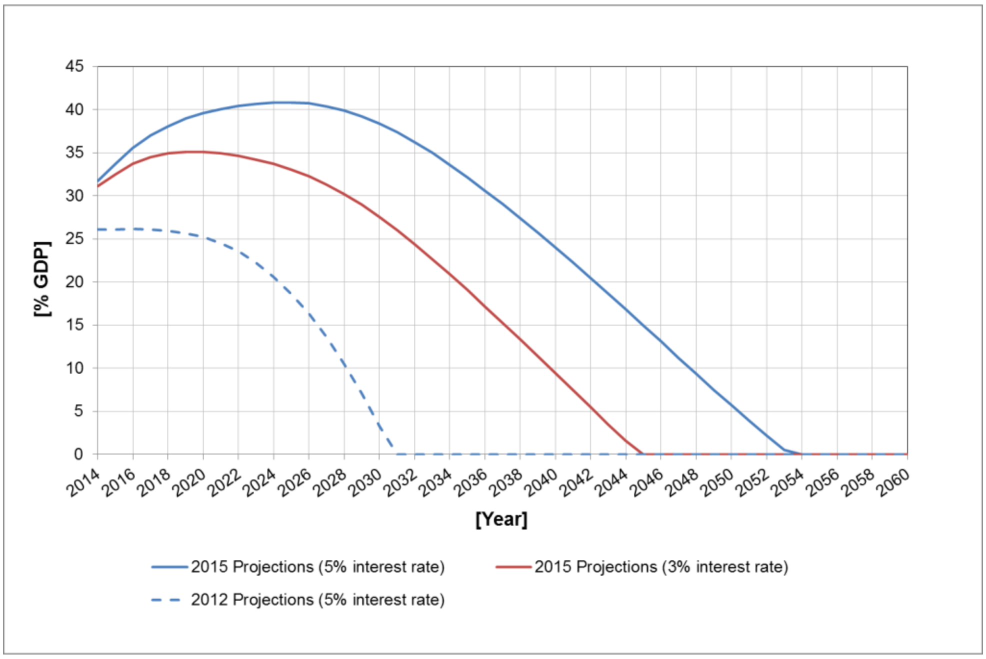
In view of the general uncertainty surrounding long term projections, as well as the inertia of costs linked to ageing and their significant impact on public expenditure, a call for a certain degree of prudence must be made when deciding upon long term public finance strategies based on such optimistic scenarios.

The government implemented a reform of the pension system in 2012 encompassing both the general and special retirement schemes. The reform, which came into force on 1 January 2013, is based on three pillars, namely aligning the retirement age with changing life expectancies, adapting pensions to the budgetary situation of the pension scheme and allocating additional financial resources to ensure long-term financial balance.

Developments in pensions will consequently be conditioned by the income for the scheme's contributions. If contributions fall short and the scheme's reserves must be tapped to make up the gap, adjustments of general and special pensions to changes in wages will be either partially or completely eliminated, and in the latter case the only adjustment will be to changes in the cost of living. In the same way, payment of end-of-year allotment will hereafter depend on the financial situation of the scheme.

The general pension fund had financial reserves in the area of 28.5% of GDP in 2014, representing four times the amount of annual pension benefits. If contribution rates remain unchanged, these reserves will be available should income from contributions be insufficient in covering the cost of benefits. Regardless of growth scenarios, the reform provides enough resources on the basis of funds accumulated in reserve beyond 2040, even without increases in contributions, based on the assumption of an average yield of 3% by the fund per annum. If yields rise to 5%, resources of the fund will extend beyond 2050 (see graph).

Figure 3: Pension reserves



Under the reform, the Inspectorate General for Social Security Administration (IGSS) verifies consistency between assumptions underlying the reform and the scheme's updated financial trajectory every five years on the basis of an actuarial study. Should there be any significant shifts from the equilibrium trajectory, several expenditures alignment measures are in place under the new provisions. The reform offsets an increase in life expectancy of three years for the period 2013-2053. Should life expectancy increases accelerate, the related parameters can be adapted accordingly.

The government decided to move up the supervision and assessment aspects of the law by one year. Therefore, IGSS will submit a new study on the financial position of the plan for the medium term in 2016 instead of 2017. The government is considering setting up a "Pensions Group" in 2016 consistent with the practices of other Member States. This group will comprise experts of the main participants whose mission will be to verify consistency between the provisions made for observed changes in life expectancy and recommend modifications to adapt to them every five years on the basis of IGSS an actuarial study. On the basis of these results, other measures can be discussed with the social partners for financial consolidation.

As part of this effort, the government also announced that it will provide additional incentives to extend the age of retirement and to activate a more progressive transition to retirement:

- <u>Elimination of early retirement under the solidarity scheme:</u> the government is planning a revision of its early retirement system, focusing on the elimination of early retirement under the solidarity scheme.

- Professional reclassification: with an ageing labour force, sustained increases in the number of persons in external reclassification programmes, which involves persons with reduced work capacity who cannot work at their last job and cannot be reclassified in a job consistent with their capacities within the same company, may be expected over the next decade. A draft law to reform the internal and external reclassification system was submitted in Parliament in March 2013. The modifications aim at accelerating procedures, a more thorough preservation of individual rights in external reclassification and the creation of conditions conducive to favouring internal reclassification. The concept is based on supporting companies in their efforts to improve working conditions, to emphasize internal reclassification, i.e. within a worker's same company, in external reclassification efforts, and above all, improving reinsertion of reclassified persons into a job. Thus the reform will contribute to increasing the employment rate of older persons, with 48% of persons reclassified externally older than 50. It will also reduce the rate of long-term unemployment as many long-term job-seekers were reclassified externally and it will make the reclassification system more effective and efficient, while providing adequate protection for the most vulnerable people. A vote on this issue is expected in Parliament in upcoming months.

- As part of the development of the national policy for promoting the employment of seniors, a draft law introducing a package of age policy measures was submitted to Parliament in April 2014 and is currently working its way through the legislative process. This draft law includes an obligation for employers with over 150 staff to draw up an age management plan that focuses on at least three of the following issues: recruiting older workers, anticipating career changes, improving working conditions, providing access to life-long education and passing on knowledge and skills to less experienced workers. Financial initiatives are being included for the companies in this group, as well as for those companies not required to draw up plans but who voluntarily apply an age management plan. Companies with more than 150 employees that are already covered by such a plan through a collective bargaining agreement or an inter-professional accord are not constrained by this obligation if they already fulfil a certain number of conditions.

- Supplementary pensions: the government announced plans to extend supplementary pensions via a change to the 8 June 1999 law regulating supplementary pension schemes, to self-employed professionals and independent workers, as well as to some categories of employees not affiliated with a company retirement scheme. The mechanism to be adopted must ensure that basic principles are the same for independent workers, self-employed professionals and the categories of employees concerned.

- In order to increase the activation of older job seekers, the government has developed various projects, including the "Fit4Job – Restart my career" project, to better suit the requirements of the target population and companies. This project is intended for job seekers over 45 and essentially persons who have been jobless a long time. Under the project, these persons are activated, guided into appropriate training programmes if required and given support in drafting CVs and cover letters, as well as preparing job interviews.

Nursing care insurance was introduced in 1999 as a new branch of the social security system and has been highly successful. Nonetheless, a report in 2013 on the functioning and financial viability of nursing care insurance indicates that under current conditions, the financial stability of nursing care insurance is fragile and that its long-term viability is in question. Following publication of this report, the government decided to reform nursing care insurance with the objective of providing help and care in adequate amounts to persons requiring assistance from a third person, while ensuring the financial viability of the programme.

According to the 2015 nursing care insurance budget drawn up in November 2014, cumulative reserves of the programme will represent 19% of annual expenditures at end 2015[32]. This is double the legal minimum. If policies remain unchanged, deficits in the nursing care programme should not appear prior to 2017.

The planned reform currently being prepared would potentially improve the cost-efficiency ratio of the nursing care insurance system. A consultative debate was held on the issue in Parliament in July 2014. Initial exchange discussions also took place at the end of 2014 with stakeholders.

A priority objective of a structural reform should be to halt the increase in costs while retaining a high level of quality care and adhering to the fundamental principles of nursing care insurance. It is therefore necessary to evaluate certain services with relation to their intent, effectiveness and volume and to recommend any necessary adaptations. It is necessary to identify potential savings while maintaining the same level and quality of care and adhering to the basic principles of nursing care insurance. Some of the major areas to be explored include revising assessments of degrees of dependence, evaluation of the scope of support activities, better coordination of the entities involved, including planning of structures and approval of activities and the revision of methodology and determination of monetary values. These areas are already a part of the 2013-2018 governmental programme.

In addition, the above-cited report also recommends standardising the evaluation procedure for requirements of persons seeking nursing care insurance, redefining the roles of informal caregivers and revising the concept of cash services with a stronger link between services given and those covered. Another item to review is the financing of services and determining monetary values by setting a more complete regulatory structure that will provide more appropriate rates and will strengthen coordination amongst long term care providers.

[32] CNS, Budget for Nursing Care Insurance (*Assurance Dépendance*) - 2015, November 2014

Furthermore, the law dated 19 December 2014 on the budget for income and expenditue of the State for the 2015 financial year call for a freeze of monetary values[33] at the 2014 level. In combination with the other health insurance measures[34], the expected gain from the various budget measures under the "Zukunftspak" programme represent 3.5% of expenditures for services in kind in 2018.

The government also intends to modernise the provisions regulating Social Security Medical Examinations (CMSS) in order to account for changes that have occurred on the legislative and practical levels since the establishment of this administration. Through the reform[35], medical examinations will better target check-up and consulting activities. These measures will provide better follow-up of long-term illnesses from the insurance viewpoint, in addition to making adjustments to the Employers' Mutual insurance fund and benefits in-kind mechanisms. By means of the reform, the Medical Inspection can guide persons more effectively toward the system that is best suited to an individual's situation. In this way, reviewing a professional reclassification, disability or certificate of fitness for work procedure more rapidly will avoid paying out long-term indemnities that occasionally extend to the end of benefits at 52 weeks because of excessively long case evaluation times.

[33] Measure no. 256 of the New Generation Budget (BNG)
[34] Measure no. 255 of the New Generation Budget (BNG)
[35] Measure no. 255 of the BNG

VI. INSTITUTIONAL FEATURES OF PUBLIC FINANCES

Since the previous SGP update, in 2014, the legal framework in relation to the institutional features of public finances has undergone a number of changes to improve governance of public finances. It is too early to evaluate their impact on public finances as the effectiveness of these improvements in governance processes have yet to be transformed into specific results.

The main innovation is incorporated in the law dated 12 July 2014 on the coordination and governance of public finances[36]. This law provides for the transposition into national law of a number of obligations that come out of the following sources: i) the provisions of the *Treaty on Stability, Coordination and Governance (TSCG)* ii) the provisions derived from the "six-pack", iii) the provisions derived from the "two-pack". The principle elements are the following:

- The rule requiring the budgetary situation of states that are signatories to the TSCG to be in balance or in surplus;
- The setting of a medium-term objective (MTO) and an adjustment trajectory to accompany it;
- A rule on public expenditure at the central government level;
- A credible and effective medium-term budgetary framework comprising budgetary programming of at least three years;
- A corrective mechanism automatically triggered in the event of deviations from the MTO or the adjustment trajectory;
- A budgetary procedure that goes into effect if the government budget is not approved by Parliament;
- A procedure obliging all government entities to provide information[37];
- The establishment of a "National Fiscal Council" charged with independently verifying compliance with budgetary rules and the application of the automatic correction mechanism.[38]

[36] http://www.legilux.public.lu/leg/a/archives/2014/0122/a122.pdf#page=2
[37] Especially with regard to tax expenditures, implicit commitments such as guarantees, etc. and investments in public and private companies.
[38] https://www.gouvernement.lu/4222479/27-conseil-finances-publiques. The National Fiscal Council is made up of the following members:
– two members appointed by Parliament from amongst leading figures in the private sector recognised for their expertise in financial and economic affairs
– one member appointed by the Court of Auditors
– one member appointed by the Chamber of Commerce, the Chamber of Trades and the Chamber of Agriculture

The European Semester cycle was also an illustration of the government's determination to involve Luxembourg stakeholders more in the ex-ante preparation of the European Semester. In particular, two meetings have been held involving the government and the social partners at the national level since the beginning of the year in the framework of the Economic and Social Council (ESC). The first was held on 26 January 2015 concentrating on the major guidelines of the new cycle of the European Semester and the second took place on 30 March 2015 with a more specific agenda of preparing strategies for the national reform programme and the SGP. Details of these meetings can be found on the ECS site: http://www.ces.public.lu/fr/semestre-europeen/index.html.

These ex-ante efforts to involve the social partners follow the changes in procedure and practices of the budgetary and public finances policy where involving Parliament further upstream in the annual budget procedure because of the European Semester has been emphasised in recent years. This has particularly involved setting up regular framework and information debates by the Ministry of Finance with the Finance and Budget Commission in Parliament. The ex-ante involvement of Parliament will continue to be improved over upcoming cycles.

The year 2014 was characterised by the first overall review of public expenditure (see Section III.4). The two objectives of the review are to achieve substantial gains in public expenditure covering the three sub-sectors of general government (central administration, local administration and social security) and to improve the quality and effectiveness of public programmes. In the broader context of budget reform undertaken by the government, the procedure of expenditure review could be considered as an integral element of the budgetary framework. This would introduce a degree of flexibility and adjustment capacity at the level of expenditure.

Other initiatives continue to be or will be taken to improve the institutional aspects of public finances:

- The institutionalisation and strengthening of the "*Comité de prévision*", under the authority of the Minister of the Economy and the Minister of Finance. The committee will be charged in particular with establishing, preparing and coordinating the work aimed at drawing up the National Reform Programme (NRP), the Stability and Growth Programme (SGP), the draft budgetary plan and the framework design of the draft state budget. The Committee will also suggest an annual work programme to the government as part of the European Semester.

- The search for a coherent and integrated approach between the two processes with regard to monitoring budgetary policies (SGP) and structural reform policies (NRP).

– one member appointed by the Chamber of Government Workers and the Chamber of Employees
– two members appointed by the Government

- A study of the methodology to be used to establish the structural balance as required by the "Fiscal Compact". It should be noted that the structural balance is not observable but must be estimated on the basis of the “nominal” budgetary balance (observed/measured) and the output gap, with the output gap also being a non-observable input. Thus, the transition from the “nominal” balance to the “structural” balance is dependent on the methodology used for calculating the output gap.

In general, and bearing in mind its governmental programme of 2013, the government intends to reform the process for establishing and executing the budget, drawing partly on the OECD's 2011 report[39]. In fact, merely as an indication, the government is considering the following[40]:

- Introduction of a budget by objectives: objectives will be set for each ministry, illuminating for citizens not only the proposed expenditure but also the purpose of the expenditure;

- Simplification of the budgetary architecture by reducing the number of budgetary articles;

- Reform of the accounting rules in order to strengthen the effectiveness of public expenditure;

- Taking more accurate account of future operating and administrative expense in investment decisions, by carrying out systematic sensitivity analyses measuring the impact on the budget of deviations from key assumptions;

- Introduction of a "zero base budgeting" approach incorporating the examination of each budget disbursement and item;

- Introduction of an annual discipline consisting in a reduction in expenditure (excluding capital expenditure and investments) by Ministry by a certain percentage which the government will establish each year, and the introduction of a rule to the effect that growth in expenditure must be less than that in revenues;

- Significant strengthening of financial information, internal audit and evaluation of expenditure;

- Analysis of government estates and properties with a view to identifying ways of making more efficient use of and deriving better value from them;

[39] Working Party of Senior Budget Officials: Budgeting in Luxembourg, Analysis and Recommendations, OECD, 2011.
[40] This list is not by priority and is not comprehensive

- More effective integration of the financing of municipalities and the regulated sector into the budgetary process, through an "internal stability pact" between the State, local authorities, public institutions and the regulated sector.

STATISTICAL APPENDIX

Table 1a. Macroeconomic prospects

	ESA Code	Year 2014	Year 2014	Year 2015	Year 2016	Year 2017	Year 2018	Year 2019
		Level	rate of change	rate of change	rate of change	rate of change	rate of change	rate of change
1. Real GDP	B1*g	35 786	3,0	3,8	3,6	3,3	3,0	2,8
2. Nominal GDP	B1*g	47 330	4,5	3,4	4,0	4,5	4,2	3,9
Components of real GDP								
3. Private consumption expenditure	P.3	12 735	3,1	3,7	2,7	2,6	2,4	2,3
4. Government consumption expenditure	P.3	6 320	3,3	1,9	1,0	2,3	2,7	2,8
5. Gross fixed capital formation	P.51	7 236	5,4	6,7	-4,7	12,3	3,2	-0,7
6. Changes in inventories and net acquisition of valuables (% of GDP)	P.52 + P.53		-3,5	-3,3	-3,2	-3,1	-3,0	-2,9
7. Exports of goods and services	P.6	70 980	2,5	5,4	6,9	5,4	5,6	5,8
8. Imports of goods and services	P.7	60 246	2,8	5,9	6,1	6,6	5,9	5,8
Contributions to real GDP growth								
9. Final domestic demand		-	2,7	3,0	0,1	3,7	2,0	1,1
10. Changes in inventories and net acquisition of valuables	P.52 + P.53	-	0,0	0,0	0,0	0,0	0,0	0,0
11. External balance of goods and services	B.11	-	0,3	0,8	3,4	-0,3	1,0	1,7

Table 1b. Price developments

	ESA Code	Year 2014	Year 2014	Year 2015	Year 2016	Year 2017	Year 2018	Year 2019
		Level	rate of change	rate of change	rate of change	rate of change	rate of change	rate of change
1. GDP deflator		1,32	1,5	-0,4	0,4	1,1	1,2	1,0
2. Private consumption deflator		1,13	-0,5	0,3	1,2	1,2	1,3	1,5
3a. HICP		1,2	0,7	-0,4	1,0	1,2	1,4	1,5
3b. NICP		1,2	0,6	0,3	1,1	1,3	1,5	1,7
4. Public consumption deflator		1,31	2,6	3,2	1,7	1,2	1,3	1,1
5. Investment deflator		1,12	-0,3	-0,9	1,1	0,4	0,8	1,1
6. Export price deflator (goods and services)		1,36	2,1	1,2	1,2	1,3	1,6	1,6
7. Import price deflator (goods and services)		1,32	2,0	1,6	1,9	1,6	1,7	1,9

Table 1c. Labour market developments

	ESA Code	Année 2014	Année 2014	Année 2015	Année 2016	Année 2017	Année 2018	Année 2019
		Level	rate of change	rate of change	rate of change	rate of change	rate of change	rate of change
1. Employment, persons[1]		396,0	2,4	2,7	2,3	2,2	1,9	1,8
2. Employment, hours worked[2]		-	2,8	2,3	2,0	1,9	1,6	1,4
3. Unemployment rate (%)[3]		-	6,1	6,0	6,2	6,2	6,4	6,6
4. Labour productivity, persons[4]		-	0,5	0,9	1,1	0,9	0,9	0,9
5. Labour productivity, hours worked[5]		-	0,1	1,2	1,4	1,3	1,2	1,2
6. Compensation of employees	D.1	23,7	4,3	3,8	4,2	4,2	4,4	3,8
7. Compensation per employee		63,7	1,9	1,0	1,8	1,9	2,3	2,0

Table 1d. Sectoral balances

% of GDP	ESA Code	Year 2014	Year 2015	Year 2016	Year 2017	Year 2018	Year 2019
1. Net lending/borrowing vis-à-vis the rest of the world	B.9	-	-	-	-	-	-
of which : - Balance on goods and services - Balance of primary incomes and transfers - Capital account							
2. Net lending/borrowing of the private sector	B.9						
3. Net lending/borrowing of general government	EDP B.9	0,6	0,1	0,7	0,7	0,9	0,8
4. Statistical discrepancy		-	-	-	-	-	-

Table 2a. General government budgetary prospects

	ESA Code	Year 2014	Year 2014	Year 2015	Year 2016	Year 2017	Year 2018	Year 2019
		Level	% of GDP	% of GDP	% of GDP	% of GDP	% of GDP	% of GDP
Net lending (EDP B.9) by sub-sector								
1. General government	S.13	289	0,6	0,1	0,7	0,7	0,9	0,8
2. Central government	S.1311	-502	-1,1	-1,5	-1,1	-1,0	-0,6	-0,6
3. State government	S.1312	…	…	…	…	…	…	…
4. Local government	S.1313	97	0,2	-0,2	0,0	0,0	0,0	0,0
5. Social security funds	S.1314	695	1,5	1,7	1,8	1,7	1,6	1,4
General government (S13)								
6. Total revenue	TR	21 034	44,4	44,4	44,7	44,5	44,5	44,4
7. Total expenditure	TE[1]	20 745	43,8	44,3	44,0	43,9	43,6	43,7
8. Net lending/borrowing	EDP B.9	289	0,6	0,1	0,7	0,7	0,9	0,8
9. Interest expenditure	EDP D.41	171	0,4	0,3	0,3	0,3	0,3	0,3
10. Primary balance[2]		460	1,0	0,4	1,0	1,0	1,2	1,1
11. One-off and other temporary measures[3]		…	…	…	…	…	…	…
Selected components of revenue								
12. Total taxes (12=12a+12b+12c)		13 293	28,1	27,9	28,0	27,8	27,7	27,6
12a. Taxes on production and imports	D.2	6 402	13,5	12,5	12,3	12,0	11,8	11,5
12b. Current taxes on income, wealth, etc	D.5	6 831	14,4	15,3	15,5	15,7	15,9	16,0
12c. Capital taxes	D.91	60	0,1	0,1	0,1	0,1	0,1	0,1
13. Social contributions	D.61	5 823	12,3	12,4	12,5	12,5	12,5	12,6
14. Property income	D.4	672	1,4	1,5	1,5	1,6	1,6	1,6
15. Other[4]		1 246	2,6	2,6	2,7	2,6	2,7	2,7
16=6. Total revenue	TR	21 034	44,4	44,4	44,7	44,5	44,5	44,4
p.m.: Tax burden (D.2+D.5+D.61+D.91-D.995)[5]		19 116	40,4	40,3	40,5	40,3	40,3	40,1
Selected components of expenditure								
17. Compensation of employees + intermediate consumption	D.1+P.2	5 706	12,1	12,5	12,2	12,1	12,0	11,9
17a. Compensation of employees	D.1	3 955	8,4	8,5	8,4	8,3	8,3	8,3
17b. Intermediate consumption	P.2	1 751	3,7	3,9	3,8	3,7	3,7	3,6
18. Social payments (18=18a+18b)		10 014	21,2	21,4	21,4	21,3	21,3	21,5
***of which* Unemployment benefits[6]**		480	1,0	1,0	1,0	0,9	0,9	0,0
18a. Social transfers in kind supplied via market producers	D.6311, D.63121, D.63131	2 448	5,2	5,0	5,0	4,9	4,9	4,9
18b. Social transfers other than in kind	D.62	7 566	16,0	16,4	16,5	16,4	16,4	16,5
19=9. Interest expenditure	EDP D.41	171	0,4	0,3	0,3	0,3	0,3	0,3
20. Subsidies	D.3	887	1,9	1,8	1,7	1,6	1,5	1,5
21. Gross fixed capital formation	P.51	1 798	3,8	4,1	4,1	4,3	4,3	4,4
22. Capital transfers	D.9	411	0,9	1,1	1,1	1,1	1,1	1,1
23. Other[7]		1 757	3,7	3,1	3,2	3,1	3,1	3,1
24=7. Total expenditure	TE[1]	20 745	43,8	44,3	44,0	43,9	43,6	43,7
p.m.: Government consumption (nominal)	P.3	8465	17,9	18,2	18,0	17,8	17,7	17,8

[1]Adjusted for the net flow of swap-related flows, so that TR-TE=EDP B.9.

[2]The primary balance is calculated as (EDP B.9, item 8) plus (EDP D.41, item 9).

[3]A plus sign means deficit-reducing one-off measures.

[4] P.11+P.12+P.131+D.39+D.7+D.9 (other than D.91).

[5]Including those collected by the EU and including an adjustment for uncollected taxes and social contributions (D.995), if appropriate.

[6] Includes cash benefits (D.621 and D.624) and in kind benefits (D.631) related to unemployment benefits.

[7] D.29+D4 (other than D.41) + D.5+D.7+P.52+P.53+K.2+D.8.

Table 2b. No-policy change projections

		Year 2014	Year 2014	Year 2015	Year 2016	Year 2017	Year 2018	Year 2019
		Level	% of GDP	% of GDP	% of GDP	% of GDP	% of GDP	% of GDP
1. Total revenue at unchanged policies		21 034	44,4	43,7	43,9	43,6	43,7	43,6
2. Total expenditure at unchanged policies		20 745	43,8	44,6	44,6	44,6	44,4	44,5
3. General government balance		289	0,6	-1,0	-0,8	-1,0	-0,7	-0,8
3.a. Central government balance		-503	-1,1	-2,4	-2,4	-2,4	-2,1	-2,1
3.b. Local government balance		97	0,2	-0,2	0,0	0,0	0,0	0,0
3.c. Social government balance		695	1,5	1,6	1,7	1,5	1,4	1,3

Table 2c. Amounts to be excluded from the expenditure benchmark

		Year 2014	Year 2014	Year 2015	Year 2016	Year 2017	Year 2018	Year 2019
		Level	% of GDP	% of GDP	% of GDP	% of GDP	% of GDP	% of GDP
1. Expenditure on EU programmes fully matched by EU funds revenue		84	0,2	0,2	0,2	0,2	0,2	0,2
2. Cyclical unemployment benefit expenditure[1]		476	1,0	1,0	1,0	0,9	0,9	0,8
3. Effect of discretionary revenue measures		0	0,0	0,7	0,1	0,0	0,0	0,0
4. Revenue increases mandated by law		…	…	…	…	…	…	…

1Absolute level of unemployment expenditure, based on COFOG 10.50

Table 3. General government expenditure by function

% of GDP	COFOG Code	Year 2013	Year 2019
1. General public services	1	2,8	
2. Defence	2	0,2	
3. Public order and safety	3	1,0	
4. Economic affairs	4	1,4	
5. Environmental protection	5	0,4	
6. Housing and community amenities	6	0,2	
7. Health	7	3,8	
8. Recreation, culture and religion	8	0,7	
9. Education	9	3,9	
10. Social protection	10	2,1	
11. Total expenditure	TE	16,5	

Table 4. General government debt developments

% of GDP	Code SEC	Année 2014	Année 2015	Année 2016	Année 2017	Année 2018	Année 2019
1. Gross debt[1]		23,1	23,9	24,2	24,2	24,0	23,8
2. Change in gross debt ratio		-0,5	0,9	0,3	0,0	-0,3	-0,2
Contributions to changes in gross debt							
3. Primary balance[2] (General government)		1,0	0,4	1,0	1,0	1,2	1,1
3.a. Primary balance (Central government)		-1,1	-1,5	-1,1	-1,0	-0,6	-0,6
3.b. Primary balance (Local government)		0,2	-0,2	0,0	0,0	0,0	0,0
3.c. Primary balance (Social government)		1,5	1,7	1,8	1,7	1,6	1,4
4. Interest expenditure[3]		0,4	0,3	0,3	0,3	0,3	0,3
5. Stock-flow adjustment		0,1	0,9	0,9	0,7	0,6	0,6
p.m.: Implicit interest rate on debt[4]		1,6	1,5	1,4	1,4	1,3	1,2

[1]As defined in Regulation 3605/93 (not an ESA concept).

[2]Cf. item 10 in Table 2.

[3]Cf. item 9 in Table 2.

[4]Proxied by interest expenditure divided by the debt level of the previous year.

Table 5. Cyclical developments

% of GDP	ESA Code	Year 2014	Year 2015	Year 2016	Year 2017	Year 2018	Year 2019
1. Real GDP growth (%)		3,0	3,8	3,6	3,3	3,0	2,8
2. Net lending of general government	EDP B.9	0,6	0,1	0,7	0,7	0,9	0,8
3. Interest expenditure	EDP D.41	0,4	0,3	0,3	0,3	0,3	0,3
4. One-off and other temporary measures[1]		….	…	…	…	…	…
5. Potential GDP growth (%))[2]		2,4	2,5	2,5	2,5	2,5	2,5
6. Output gap		-2,8	-1,5	-0,5	0,3	0,8	1,2
7. Cyclical budgetary component		-1,2	-0,7	-0,2	0,1	0,4	0,5
8. Cyclically-adjusted balance (2 - 7)		1,8	0,7	0,9	0,5	0,6	0,3
9. Cyclically-adjusted primary balance (8 + 3)		2,2	1,0	1,2	0,8	0,9	0,5
10. Structural balance (8 - 4)		1,8	0,7	0,9	0,5	0,6	0,3

[1]A plus sign means deficit-reducing one-off measures.

[2]calculation method Modux (Statec)

Table 6. Divergence from previous update

	ESA Code	Year 2014	Year 2015	Year 2016	Year 2017	Year 2018	Year 2019
Real GDP growth (%)							
Previous update		3,2	3,2	3,5	3,6	3,7	…
Current update		3,0	3,8	3,6	3,3	3,0	2,8
Difference		*-0,2*	*0,6*	*0,1*	*-0,3*	*-0,7*	…
Nominal GDP growth (%)							
Previous update		6,7	6,0	6,4	5,4	6,3	…
Current update		4,5	3,4	4,0	4,5	4,2	3,9
Difference		*-2,2*	*-2,6*	*-2,4*	*-0,9*	*-2,1*	…
General government net lending (% of GDP)	EDP B.9						
Previous update		0,1	-0,5	0,2	0,8	1,5	…
Current update		0,6	0,1	0,7	0,7	0,9	0,8
Difference		*0,5*	*0,6*	*0,5*	*-0,1*	*-0,6*	…
General government gross debt (% of GDP)							
Previous update		23,3	24,0	23,9	23,5	22,2	…
Current update		23,1	23,9	24,2	24,2	24,0	23,8
Difference		*-0,2*	*-0,1*	*0,3*	*0,7*	*1,8*	…

Table 7. Long-term sustainability of public finances

% of GDP	AR 2015 *)			AR 2012 **)		
	2013	2060	2060-2013	2013 ***)	2060	2060-2013
Age-related expenditures	**19,5**	**25,8**	**6,2**	**18,0**	**29,7**	11,7
Pension expenditure	9,4	13,4	4,1	9,7	18,6	8,8
Health care expenditure	4,6	5,1	0,5	3,6	4,5	0,9
Long-term care expenditure	1,5	3,2	1,7	1,1	3,1	2,0
Education expenditure	3,3	3,5	0,2	3,1	3,1	0,0
Unemployment expenditure	0,7	0,5	-0,2	0,5	0,5	0,0
Reserve pension fund ("fonds de compensation")	*13,8*	*0,0*		*13,0*	*0,0*	
Assumptions	AR 2015 *)			AR 2012 **)		
	2013	2060	2060-2013	2010 ***)	2060	2060-2013
Labour productivity growth	-0,3	1,5	1,8	0,7	1,5	0,8
Real GDP growth	1,4	1,9	0,5	2,2	1,7	-0,5
Participation rates (men, aged 15-64)	76,0	73,3	-2,7	75,6	71,6	-4
Participation rates (women, aged 15-64)	62,6	66,6	4	60	63,3	3,3
Total participation rate (aged 15-64)	69,4	70,0	0,6	67,9	67,5	-0,4
Population (in million)	0,5	1,1	0,6	0,5	0,7	0,2
Working-age population (15-64/total)	69,0	61,3	-7,7	68,4	58,5	-9,9
Ratio non-active/active (65+/15-64)	20	36	16	20	45	24,8
Ratio elderly active/active (55-64/15-64)	16,3	19,3	3	16,0	20,1	4,1
Unemployment rate (15-64)	5,9	4,2	-1,7	4,4	4,2	-0,2

Sources:

*) 2015 Ageing report (AR) baseline scenario, 2015 constant policy scenario

**) 2012 Ageing report baseline scenario, 2012 constant policy scenario

***) estimated data for 2013 expenditures, 2010 base year for assumptions

Table 7a. Contingent liabilities

% of GDP	Year 2014	Year 2015
Public guarantees	9,3	…
Of which: linked to the financial sector	4,6	…

Table 8. Basic assumptions

	Year 2014	Year 2015	Year 2016	Year 2017	Year 2018	Year 2019
Short-term interest rate (annual average)	0,2	0,2	0,2	0,2	0,4	1,2
Long-term interest rate (annual average)	2,0	1,3	1,5	1,6	1,7	2,4
€/USD exchange rate (annual average)	1,32	1,13	1,13	1,13	1,1	1,1
Euro area GDP growth	1,0	1,4	2,0	1,3	1,4	1,4
EU GDP growth	…	…	…	…	…	…
Growth of relevant foreign markets	2,6	4,8	5,9	3,9	4,0	3,8
Oil prices (Brent, USD/barrel)	99,0	48,1	48,1	48,1	48,1	48,1