



LE GOUVERNEMENT  
DU GRAND-DUCHÉ DE LUXEMBOURG  
Ministère des Finances

**17<sup>th</sup> UPDATE OF THE  
STABILITY AND GROWTH PROGRAMME  
OF THE GRAND DUCHY OF LUXEMBOURG  
FOR THE 2016-2020 PERIOD**

29 April 2016

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## I. OVERALL POLICY FRAMEWORK AND OBJECTIVES

The 17<sup>th</sup> update of the stability programme (SGP) is covering the 2016-2020 period. This update is based on a macroeconomic context in the Eurozone characterised by slightly reduced growth pace in the short term, i.e. real GDP growth of 1.4% in 2016 after 1.6% in 2015, and by a stronger recovery in 2017 with real GDP growth of 1.7% that progressively drops to 1.3% in 2020. This trajectory assumes that the financial and sovereign debt crises within the Eurozone have been brought under control. It is likely that the crises will continue to impact the European economies in general and their financial markets in particular. Impacts on long-term economic growth remain uncertain. This update of the SGP does not take into account potential adverse effects from risks such as "Brexit", the disassembly of the Schengen area in the context of the refugee crisis, or other geopolitical developments.

As a small open economy, Luxembourg's economic growth profile is strongly influenced by that of the Eurozone. In the short term, the real growth of GDP drops to 2.9% in 2016 (after 4.8% in 2015) and is forecasted to increase to 4.9% in 2018 before dipping back down to 2.3% at the end of the period. Such an economic growth trajectory, with an average of 3.6% over the 2016-2020 period, is well below historical averages of growth rates of 4.5-5% before the recession. Potential growth of the economy, which is currently at 3.2%, has still not reached the historical average of over 4%, as known before the recession. In terms of the composition of economic growth, financial sector exports are likely to remain the main driver for growth in Luxembourg. Even if the financial sector has displayed resilience during the crisis, structural changes have taken place that attenuate this sector's contribution to economic growth. The extension of the automatic exchange of information beginning in 2017 is not considered as having any negative impact on activities in the sector. However, reforms in the international financial architecture that have been put in place in the wake of the crisis could prove more challenging for Luxembourg's financial sector, which will have to continuously adapt to this new environment. This SGP update is based on the assumption that the BEPS ("Base Erosion and Profit Shifting") discussions will have no impact on economic activity in Luxembourg, particularly with regard to public finances.

Sluggish economic developments on the international scale and financial operations linked to the crisis in 2009 and 2010, weighed heavily on public finances. Following consistent efforts to reduce the annual deficit in 2011, 2013 and 2014, the government has introduced a sustainable consolidation strategy, implementing a balancing plan called the "Zukunftspak" (package for the future). This four-year programme aims to reduce the growth rate of expenditures and increase revenues to counter-finance ongoing deficits, particularly impacted by the 2015 loss of VAT revenues on e-commerce, following changes to community laws. The introduction of this counter-financing strategy, equivalent to 1.3% of GDP, has contributed to the substantial improvement of the fiscal situation.

Thus, in 2015, the general government balance is estimated to be at a surplus of €672 million, equal to 1.3% of GDP<sup>1</sup>, which shows an improvement of 1.2% of GDP or €647 million compared to the 16<sup>th</sup> update of the SGP in April 2015. The structural balance<sup>2</sup> totals a surplus of 2.3% of GDP, which is a considerable increase compared to the previous estimates of the 16<sup>th</sup> update of the SGP with an estimated surplus of 0.7% of GDP. Therefore, in 2015, Luxembourg is expected to achieve its medium-term budgetary objective of a structural balance of 0.5% of GDP.

Despite limited growth in 2016, following 2015 which was marked by a very favourable real growth of 4.8% of GDP, the budgetary situation in 2016 is likely to remain favourable for Luxembourg with a surplus of €409 million, or 0.8% of GDP, (+0.1% compared to the 16<sup>th</sup> update of the SGP) for the general government and a structural balance of 1.9% of GDP that is still compliant with its medium-term budgetary objective of a surplus of 0.5% of GDP.

The medium-term budgetary policy for 2017-2020 foreseen by the government will be based on the following main elements:

- In terms of fiscal targets over the period, the government has set itself two key budgetary objectives in its governmental program in December 2013 for the 2013-2018 period: i) the return of the structural balance to the medium-term budgetary objective (MTO) of a surplus of 0.5% of GDP by 2018 at the latest compared to a scenario of an unchanged policy, and ii) a stabilisation of gross public debt well below 30% of GDP. Thanks to the "Zukunftspak", the government has managed to stay close to its trajectory as implicitly envisaged in the governmental programme. The structural balance in terms of the medium-term budgetary objective will be respected for the duration of the period. It should be noted in this context, that the government has opted for a medium-term budgetary objective of a deficit of 0.5% of GDP for the 2017-2019 period, in line with regulation 1466/97<sup>3</sup> and the new calculations for the minimum MTO set forth by the European Commission. In fact, the European Commission has updated the costs related to the ageing population in accordance with the 2015 "Ageing Report"<sup>4</sup> and lowered the minimum for the medium-term budgetary objective from a surplus of 0.5% of GDP to a deficit of 0.5% of GDP. At the same time, the government has repeated its commitment to keep total debt below 30% of GDP throughout the period, which is a distinctly more ambitious

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<sup>1</sup> The public finances estimates for 2015 and 2016 are markedly different from those put forward in the excessive deficit procedure notification of the 1 April 2016; see below for more information.

<sup>2</sup> In order to estimate the potential growth, output gap and structural balance, the methodology as described in methodology insert Nr1 is applied.

<sup>3</sup> In particular, article 2 bis: <http://eur-lex.europa.eu/legal-content/FR/TXT/PDF/?uri=CELEX:01997R1466-20111213&from=EN>

<sup>4</sup> [http://europa.eu/epc/pdf/ageing\\_report\\_2015\\_en.pdf](http://europa.eu/epc/pdf/ageing_report_2015_en.pdf) . A reference to this version can also be found in the country report published by the European Commission: [http://ec.europa.eu/europe2020/pdf/csr2016/cr2016\\_luxembourg\\_en.pdf](http://ec.europa.eu/europe2020/pdf/csr2016/cr2016_luxembourg_en.pdf)

objective than the general objective of 60% of GDP for all countries as set by the Commission;

- In terms of discretionary fiscal policy, government actions are focused around two primary axes: i) the ongoing consolidation policy that was introduced in 2015, including measures from the "Zukunftspak" and specific measures related to VAT. The estimated total structural impact for 2020 is €874 million, or 1.7% of GDP<sup>5</sup>; ii) the implementation of a tax reform from 2017 onwards with an average total impact<sup>6</sup> estimated at €481 million per year over the 2017-2020 period;
- With regard to the tax reform, it should first and foremost be noted that the tax reform is a priority for the government, asset for itself in 2013 in its governmental programme: *"The government will carry out a tax reform that meets the predictability and stability criteria in terms of taxes, Luxembourg's competitiveness with regards to taxes, both for companies and individuals, of the sustainability of employment and social equity ensuring a fair and equal contribution to the financing of public expenditure for the different categories of taxpayer and revenues."*<sup>7</sup> The package of measures decided by government and announced on 29 February 2016 and 21 April 2016 aims to move the tax system in a fairer, more efficient, simpler and competitive direction. The measures apply to both individuals and companies, with the benefits of the tax relief primarily going to individuals. This tax reform, that will have a major impact on the country's public finances, is being implemented in the context of a very favourable evolution of public finances over recent years, in 2014, 2015 and 2016, notably thanks to actions taken by the government. The tax reform will not pose a threat to the budgetary objectives that the government has set for itself, namely respecting the MTO and the stabilisation of debt below 30% of GDP in the medium-term and long-term.

As a result, this update shows a trajectory that ensures the respect of the rules of the Stability and Growth Pact's preventive components throughout the programme period.

In 2016, public debt is expected to amount to €12.2 billion, equivalent to 22.4% of GDP. It is estimated to increase to €16.1 billion or 23.5% in 2020.

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<sup>5</sup> In terms of 2015 GDP. The public finances trajectory presented in this update is based on the assumption of a full implementation of these measures, in accordance with the initial schedule of implementation. It should, however, be noted that the tax reform (see below) contains a specific measure which, from 2017 onwards, cancels out the specific measure of the temporary budgetary balancing tax, of which the effects are still included in the calculation of €874 million in 2020, but which are no longer included in the public finances figures in the table on page 8.

<sup>6</sup> "Prima facie" impact without taking into account dynamic and indirect effects: see below for more details.

<sup>7</sup> <https://www.gouvernement.lu/3322796/Programme-gouvernemental.pdf>

It should also be noted that, the government is implementing the decision taken by the former government in April 2013, which at the time announced its decision to, in principle, sell its investment in BGL BNP Paribas in the short or medium-term, provided the terms of such a disposal were acceptable. In addition, Luxembourg has holdings in commercial and non-commercial companies whose value amounts to around 10% of GDP and social security surpluses are transferred to a reserve fund that currently amounts to €16 billion, or 29.4% of GDP at the end of 2015, and that cannot be used to finance the central government deficit. Finally, in 2015, the government decided to create an intergenerational sovereign fund that will receive a minimum contribution of €50 million annually. These assets, which will be built up over time, shall be invested carefully and efficiently in the interest of future generations. When the reserve has reached a minimum threshold of €1 billion, half of the annually generated revenues may be used as part of the annual budgets.

Regarding the long-term sustainability of public finances, the reform of the pension system that entered into force on 1 January 2013 contributes to the viability of public finances by significantly reducing public expenditure linked to the ageing of the population and hence also reducing implicit liabilities with respect to an unchanged policy scenario. This update of the SGP also includes new 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 Council branch. These projections have been endorsed by the Ecofin Council on 12 May 2015<sup>8</sup>. The previous update of the same projections had taken place in 2012 as part of the 13th SGP update. While the 2012 update included, for the first time, the positive effects of the pension system reform of 2013, the 2015 update does not include any additional measures decided by the government on the issue of pensions. All changes linked to the ageing costs presented in this update are based on updated long-term hypotheses for the evolution of Luxembourg between now and 2060, in particular demographic developments. The main update consists of a substantial upward revision by Eurostat of the internal employment projections over the period in question, which, all things being equal, lightens the burden of expenditure related to ageing compared to GDP between now and 2060 by 5.2% per year. This downward revision allows for the review of the medium-term budgetary objective of a structural surplus of 0.5% of GDP to a deficit of 0.5% of GDP. With these new forecasts in mind, the government will continue to address pension scheme issues.

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

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<sup>8</sup> <http://www.consilium.europa.eu/fr/press/press-releases/2015/05/12-ecofin-ageing-populations/>

- i) The 17<sup>th</sup> 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<sup>9</sup>;
- ii) In terms of expenditure linked to the refugee crisis, this update does not contain any specific information. Hence, it does not include any request for special treatment of the related expenditure in the context of European budgetary surveillance by the European Commission;

The 17<sup>th</sup> update of the SGP represents the "Medium-Term National Budgetary Plan" under regulation 473/2013.

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<sup>9</sup> <http://ec.europa.eu/transparency/regdoc/rep/1/2015/FR/1-2015-12-FR-F1-1.PDF>

PUBLIC FINANCES	2015			2016			2017			2018			2019			2020		
	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
<b>TOTAL REVENUES</b>	<b>22,288</b>	<b>42,8</b>	<b>+3,3</b>	<b>23,020</b>	<b>42,3</b>	<b>+3,3</b>	<b>23,594</b>	<b>40,6</b>	<b>+2,5</b>	<b>24,550</b>	<b>39,6</b>	<b>+4,1</b>	<b>25,606</b>	<b>39,0</b>	<b>+4,3</b>	<b>26,911</b>	<b>39,2</b>	<b>+5,1</b>
of which:																		
<i>Taxes on production and imports ("indirect" taxes)</i>	6,210	11,9	-4,6	6,313	11,6	+1,7	6,307	10,9	-0,1	6,463	10,4	+2,5	6,480	9,9	+0,3	6,644	9,7	+2,5
<i>Current taxes on income, wealth, etc ("direct" taxes)</i>	7,464	14,3	+9,6	7,933	14,6	+6,3	8,013	13,8	+1,0	8,386	13,5	+4,7	8,927	13,6	+6,5	9,586	14,0	+7,4
<i>Social contributions</i>	6,242	12,0	+3,6	6,409	11,8	+2,7	6,807	11,7	+6,2	7,129	11,5	+4,7	7,518	11,4	+5,5	7,891	11,5	+5,0
<b>TOTAL EXPENSES</b>	<b>21,616</b>	<b>41,5</b>	<b>+4,2</b>	<b>22,611</b>	<b>41,6</b>	<b>+4,6</b>	<b>23,573</b>	<b>40,6</b>	<b>+4,3</b>	<b>24,464</b>	<b>39,4</b>	<b>+3,8</b>	<b>25,494</b>	<b>38,8</b>	<b>+4,2</b>	<b>26,621</b>	<b>38,8</b>	<b>+4,4</b>
of which:																		
<i>Public investment</i>	2,001	3,8	+16,6	2,261	4,2	+13,0	2,245	3,9	-0,7	2,324	3,7	+3,5	2,376	3,6	+2,2	2,344	3,4	-1,3
<i>Social payments</i>	10,316	19,8	+1,9	10,624	19,5	+3,0	11,131	19,2	+4,8	11,582	18,7	+4,1	12,126	18,5	+4,7	12,743	18,6	+5,1
<i>Intermediate consumption</i>	1,864	3,6	+7,5	1,996	3,7	+7,1	2,116	3,6	+6,0	2,195	3,5	+3,7	2,260	3,4	+3,0	2,374	3,5	+5,0
<i>Compensation of employess</i>	4,559	8,8	+4,8	4,686	8,6	+2,8	4,891	8,4	+4,4	5,076	8,2	+3,8	5,293	8,1	+4,3	5,546	8,1	+4,8
<b>GENERAL GOVERNMENT BALANCE</b>	<b>0,672</b>	<b>1,3</b>		<b>0,409</b>	<b>0,8</b>		<b>0,021</b>	<b>0,0</b>		<b>0,086</b>	<b>0,1</b>		<b>0,112</b>	<b>0,2</b>		<b>0,290</b>	<b>0,4</b>	
<i>Central government balance</i>	-0,207	-0,4		-0,469	-0,8		-0,993	-1,7		-0,924	-1,5		-0,896	-1,4		-0,747	-1,1	
<i>Local government balance</i>	0,124	0,2		0,100	0,2		0,158	0,3		0,132	0,2		0,117	0,2		0,169	0,2	
<i>Social government balance</i>	0,755	1,5		0,778	1,4		0,856	1,5		0,878	1,4		0,891	1,4		0,868	1,3	
<b>STRUCTURAL BALANCE</b>	<b>2,3</b>			<b>1,9</b>			<b>0,6</b>			<b>0,0</b>			<b>0,0</b>			<b>0,6</b>		
<b>GROSS DEBT</b>	<b>11,174</b>	<b>21,5</b>		<b>12,201</b>	<b>22,4</b>		<b>13,314</b>	<b>22,9</b>		<b>14,311</b>	<b>23,1</b>		<b>15,269</b>	<b>23,2</b>		<b>16,104</b>	<b>23,5</b>	
<b>MAIN MACROECONOMIC INDICATORS</b>	<b>2015</b>			<b>2016</b>			<b>2017</b>			<b>2018</b>			<b>2019</b>			<b>2020</b>		
<b>GROWTH</b>																		
Real GDP (in %)	4,8			2,9			4,5			4,9			3,5			2,3		
Nominal GDP (in %)	6,5			4,5			6,8			6,8			5,9			4,6		
Nominal GDP (level, in bln euros)	52,057			54,389			58,080			62,038			65,680			68,672		
<b>PRICE DEVELOPMENTS</b>																		
Inflation NICP (in %)	0,5			0,2			1,6			1,7			1,9			2,0		
<b>LABOUR MARKET DEVELOPMENTS</b>																		
Employment (growth, in %)	2,5			2,9			2,4			3,3			3,2			2,2		
Unemployment rate (ADEM definition, in %)	6,8			6,4			6,6			6,0			6,0			6,7		



## II. ECONOMIC SITUATION AND MACROECONOMIC FORECASTS<sup>10</sup>

### II.1. The European Macroeconomic Environment

Forecasts for the European Economy and the Eurozone have given reason for a cautious optimism. During 2016, economic activity should see a certain slowdown in the European Union and the Eurozone, before distinctly picking up speed in 2017.

The drop in oil prices, the depreciation of the euro, and the continued application of an accommodating monetary policy by the ECB are all factors which positively influence the European outlook. At the same time, a less favourable outlook for investments and a high rate of unemployment in some Member States, and, more particularly, a very high rate of youth unemployment, continue to weigh heavily on economic development in the Eurozone and in the 28 countries of the EU. Additional structural reform and differentiated fiscal consolidation of public finances are yet to be made by Member States in order to improve their potential growth.

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

Growth levels in Luxembourg are highly influenced by the international growth profile, and particularly that of the Eurozone. Following real GDP growth of 4.8% in 2015, Luxembourg's economy is likely to see a slight slowdown to 2.9% in 2016, only to recover again to 4.5% in 2017. In the medium term, the profile outlook does show a slight downward trend: 4.9% in 2018, 3.5% in 2019 and 2.3% in 2020. In nominal terms, average growth over the 2017-2020 period is expected to settle at 6% of GDP.

This medium-term profile can be explained by a number of factors:

- The expected growth profile for the Eurozone;
- A progressive withdrawal from an accommodative monetary policy in the Eurozone, driven by a gradual rise in interest rates beginning in 2018.
- Stock market indexes featuring more moderate growth with 1.7 % for the 2017-2020 period, which is below the average growth rate of the STOXX 50 Eurozone stock market index of 6.8%<sup>11</sup>.

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<sup>10</sup> Underlying macroeconomic forecasts for the update of the SGP are produced by STATEC, based on the deadline of 6 April 2016.

<sup>11</sup> A negative evolution of the stock market index of -10% in 2016 also explains the slight decrease in growth in 2016.

This growth profile is accompanied by positive development on the job market:

- Following growth of 2.5% of national total employment in 2015, employment continues to see an accelerated dynamic with a growth rate of 2.9% in 2016. In the medium-term, employment is expected to grow by an average of 2.8% per year, which is below the historical average (3.2% between 1990-2014), but which shows improvement compared to more recent years (2.3% over the 2010-2014 period). The financial sector will remain a driving force for employment growth, with average growth of 3.1% over the 2017-2020 period.
- As a result, the unemployment rate<sup>12</sup> for the whole 2016-2020 period should continue to drop, from 6.8% in 2015, 6.4% in 2016 to 6.0% in 2019, before increasing slightly at the end of the period.

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, measured by the National Consumer Price Index (IPCN), is at 0.5% in 2015 and should drop to 0.2% in 2016 before picking up progressively in the medium term, i.e. 1.8% average for the 2017-2020 period.

Potential growth in Luxembourg's economy is estimated at 3.2% on average over the 2016-2020 period, in contrast to levels of 3.5-4% that were still being touted in the early 2000s. The SGP is based on a scenario where real growth is fluctuating around potential growth in terms of the level, therefore, the output gap may change sign during the period<sup>13</sup>.

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

In terms of automatic salary indexing, the estimated schedule of the indexing bracket for the period is as follows: first quarter of 2017, third quarter of 2018 and fourth quarter of 2019.

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<sup>12</sup> Definition of ADEM

<sup>13</sup> The output gap is therefore estimated negatively in 2016, 2017 and 2020, and positively in 2018 and 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 budgetary 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 revenues;
- The financial sector, which is the main driver of economic growth, is exposed to a certain number of adjustments that represent risks to the 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 still not clear at this stage;
- Furthermore, the degree of openness of Luxembourg's economy and its specialisation in financial services implies that public revenues are subject to high volatility;
- Public expenditure is 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 and the recent downward revision of costs related to the ageing of the population, the ageing 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 have been negatively affected from 2015 onward by a change in the VAT scheme applied to e-commerce.

Despite all these structural risks and the shock that occurred in 2015, the public finances outlook, for the short-term over the years 2014-2016, has developed more positively than was expected

previously. Thus, according to the latest projections, the public administration balance profile is estimated as follows in comparison to the 16<sup>th</sup> update of the SGP in April 2015: in 2014, a surplus of 1.7% of GDP instead of 0.6% of GDP; in 2015, a surplus of 1.3% of GDP instead of 0.1% of GDP; and in 2016, a surplus of 0.8% of GDP instead of 0.7% of GDP. This is therefore a cumulative improvement of some €1.3 billion or 2.4% of GDP<sup>14</sup> in three years.

Faced with these short and medium-term challenges, and faced with the substantial improvement of the public finances situation over recent years, 2014-2016, the government follows a budgetary strategy that has two main budgetary objectives, i.e. i) respecting the medium-term budgetary objective over the projection period based on a downward revision of the medium-term budgetary objective from a surplus of 0.5% of GDP to a deficit of 0.5% of GDP from 2017 onwards<sup>15</sup>, ii) a stabilisation of gross public debt well below 30% of GDP.

The government's budgetary policy over the coming years will be marked by the following key elements:

- Continued respect of the main medium-term budgetary objectives, i.e. respect of the medium-term budgetary objective of a deficit of 0.5% of GDP and stabilisation of gross public debt below 30% of GDP.
- Continued implementation of the consolidation strategy introduced in 2015 to counter-finance revenue losses from e-commerce. The budgetary impact reassessed from this strategy is profiled as follows: €383 million or 0.7% of GDP in 2015, €585 million or 1.1% of GDP in 2016, €723 million or 1.2% of GDP in 2017, €809 million or 1.3% of GDP in 2018, €842 million or 1.3% of GDP in 2019 and €874 million or 1.3% of GDP in 2020<sup>16</sup>.
- Entry into effect of a tax reform from January 2017, applying to both individuals and companies. The estimated net aggregate budgetary impact of all the measures is expected to have the following pattern: -€373 million or 0.6% of GDP in 2017, -€503 million or 0.8% of GDP in 2018, -€524 million or 0.8% of GDP in 2019 and -€524 million or 0.8% of GDP in 2020. This profile is based on several factors:
  - It shows a "prima facie" quantification of the impact of the measures, i.e. the dynamic effects related to the possible indirect effects on the primary macroeconomic

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<sup>14</sup> In terms of 2016 GDP.

<sup>15</sup> The Government thereby continues to respect its primary budgetary objective of the government programme of a return to the medium-term budgetary objective, without the latter, under the effect of the latest forecast costs related to the ageing population, being revised down from a surplus of 0.5% (which is explicitly mentioned in the government programme) to -0.5% from 2017 onwards.

<sup>16</sup> More details can be found at the following link:

[http://www.chd.lu/wps/PA\\_ArchiveSolR/FTSShowAttachment?mime=application%2fpdf&id=1346424&fn=1346424.pdf](http://www.chd.lu/wps/PA_ArchiveSolR/FTSShowAttachment?mime=application%2fpdf&id=1346424&fn=1346424.pdf)

variables and on public finances, as well as the dynamic effects related to the growth of underlying tax bases are not taken into account in the quantification;

- It represents the net impact, which means that it includes both measures that reflect lowered taxes and measures that are likely to generate more revenues.
- Maintaining a high level of public investment considered by the government as important for the development of potential growth in Luxembourg's economy. This investment policy is also justified by the regular increase of population as well as by the annual job creation.

Finally, in its medium-term budgetary stance, the government is not submitting a request to use the different flexibility clauses, such as presented by the Commission in its communication of 13 January 2015<sup>17</sup> and for which the Council and the Commission have agreed upon a common interpretation of their application in December 2015<sup>18</sup>. Additionally, this update does not contain any specific data on the costs associated with receiving refugees. Keeping in mind that the financial consequences are relatively low, the government, in the context of this update, is not requesting that the European Commission assesses whether its existing clauses in terms of flexibility of the rules of the Stability and Growth Pact could be invoked.

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 terms and that the central government and social security administration hold financial assets valued in excess of 35% of GDP.

### III.2. Medium-term budgetary objective

The Stability and Growth Pact (SGP) is composed of a collection of rules, the aim of which is to support the budgetary policies of the countries that are part of the Economic and Monetary Union.

Moreover, the Treaty on Stability, Coordination and Governance, also called the Budget Treaty, which was signed on 2 March 2012 by the Member States of the European Union, excluding the United Kingdom and the Czech Republic, aims to preserve the stability of the Eurozone.

The management of the fiscal policies of the Member States is a decisive instrument in view of the implementation of one of the essential objectives of the Budget Treaty that consists of ensuring the

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<sup>17</sup> [http://ec.europa.eu/economy\\_finance/economic\\_governance/sgp/pdf/2015-01-13\\_communication\\_sgp\\_flexibility\\_guidelines\\_en.pdf](http://ec.europa.eu/economy_finance/economic_governance/sgp/pdf/2015-01-13_communication_sgp_flexibility_guidelines_en.pdf)

<sup>18</sup> <http://www.consilium.europa.eu/fr/meetings/ecofin/2015/12/08/>

fiscal discipline of the Member States to avoid the emergence of excessive deficits and to thereby contribute to monetary stability.

The medium-term budgetary objectives (MTO) are differentiated taking into account diversity of the economic and budgetary situations of the Member States.

Furthermore, the budgetary objectives are expressed in structural terms in order to be able to take into account the direct effects of the economic cycle, as well as any exceptional events (see methodology insert Nr 1 for more information).

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.

Every three years, each Member State sets the value of its MTO in the update of its stability programme. As the latest version was drawn up in 2013, the next update of the MTO, applicable to the 2017-2019 period, is performed as part of this stability programme update.

In accordance with the approved methodology, the Commission has calculated minimum reference values which are to be respected by the Member States when setting their medium-term budgetary objective for the 2017 to 2019 period<sup>19</sup>. For Luxembourg, this minimum MTO reference value is a deficit of 1% of GDP according to the rules of the Stability and Growth Pact and a deficit of 0.5% of GDP according to the requirements of the Budget Treaty<sup>20</sup>.

In virtue of these obligations arising from the Budget Treaty, the government has decided to set the MTO at a deficit of 0.5% of GDP for the 2017-2019 period.

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<sup>19</sup> The Commission calculates the minimum values, which does not mean that a Member State cannot set a more ambitious MTO than the calculated minimum.

<sup>20</sup> Please see, in particular, articles 3.1.b and d:

[http://ec.europa.eu/economy\\_finance/economic\\_governance/sgp/legal\\_texts/index\\_en.htm](http://ec.europa.eu/economy_finance/economic_governance/sgp/legal_texts/index_en.htm)

### III.3. The budgetary situation in 2015 and in 2016

For 2015 and 2016, this update of the SGP is based on the most recent estimates available<sup>21</sup>.

There has been a slight deterioration of the situation in 2015 compared to the situation in 2014: thus, the public administration balance has gone from a surplus of €834 million, or 1.7% of GDP, in 2014 to a surplus of €672 million, or 1.3% of GDP, in 2015. The evolution at the level of several sub-sectors is reflected in the following manner: for central government, a deterioration of the central government deficit from €78 million, or 0.2% of GDP, to €207 million, or 0.4% of GDP<sup>22</sup>, a reduction of the local government nominal balance from €158 million, or 0.3% of GDP in 2014, to €124 million, or 0.2% of GDP, in 2015 and a stabilisation of the social security balance of €755 million, or 1.6% of GDP in 2014 and 1.5% of GDP in 2015. Thus, it can be observed that a large proportion of the changes occurred within central government.

The 2015 budget year has been particularly affected by three factors:

- The change in VAT applicable to e-commerce<sup>23</sup> from 1 January 2015. This change has had a significant impact, and losses from 2015 are currently estimated at €522 million, or 1.0% of GDP<sup>24</sup>;
- The discretionary policy introduced by the government with the VAT package and the "Zukunftspak" from 1 January 2015 to cover partly for the losses expected due to changes of the VAT regime applicable to e-commerce. Currently, the impact of these measures is estimated at €383 million for 2015<sup>25</sup>.
- Favourable macroeconomic conditions: a nominal GDP growth rate of 6.5%, fuelled by positive developments in the financial markets, i.e. the Eurostoxx 50 stock market index has seen growth of 9.5% over the year, or lower than expected inflation have had a positive impact on public finances;

Public finances have developed in a more positive manner than expected over recent years, 2014-2016. Thus, according to the latest projections, the public administration balance profile is estimated as follows in comparison to the 16<sup>th</sup> update of the SGP in April 2015: in 2014, a surplus of 1.7% of GDP instead of 0.6% of GDP; in 2015, a surplus of 1.3% of GDP instead of 0.1% of GDP; and in

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<sup>21</sup> This means that there may be differences between the figures provided to Eurostat on 1 April 2016 as part of the procedure on excessive deficits, and the figures used in this update. These differences are primarily explained by taking into account of information in the SGP that was not available when the notification was finalised at the end of March.

<sup>22</sup> The difference between the SGP and the notification comes from the central government, in particular from the taking into account of the transactional fund for current taxes for 2015 for the SGP, which was not the case for the notification.

<sup>23</sup> For more information, see the previous SGP update:

[http://www.mf.public.lu/publications/programme/16e\\_prog\\_r stabilite\\_croissance.pdf](http://www.mf.public.lu/publications/programme/16e_prog_r stabilite_croissance.pdf) .

<sup>24</sup> This amount corresponds to the budget tax reduction.

<sup>25</sup> The details of the impact will be provided in the context of the draft law on the general account as requested by Parliament. .

2016, a surplus of 0.8% of GDP instead of 0.7% of GDP. This is therefore a cumulative improvement of some €1.3 billion or 2.4% of GDP<sup>26</sup> in three years.

For 2016, the public finance situation is essentially characterised by the same factors that played a key role in 2015: i) macroeconomic conditions, ii) the loss of revenues from e-commerce, iii) the implementation of the counter-financing strategy with no new measures planned compared to the initial plans, and of which the cumulative impact is estimated at €585 million in 2016. The combination of these factors leads to an updating of public finances for 2015 that is based on the updates presented in the 1 April 2016 notification with several adjustments<sup>27</sup>.

Thus, the government balance is reduced from a surplus of €672 million or 1.3% of GDP in 2015, to a surplus of €409 million, or 0.8% of GDP, in 2016. The evolution at sub-sector level is shown as follows: an increase in the central government deficit from €207 million, or 0.4% of GDP in 2015, to €469 million, or 0.8% of GDP in 2016; the local government balance went from a surplus of €124 million, or 0.2% of GDP in 2015, to a surplus of €100 million, or 0.2% of GDP in 2016; finally, the social security surplus of €755 million, or 1.5% of GDP in 2015 improved to €778 million or 1.4% of GDP<sup>28</sup>.

For central government, the deterioration is due to a more rapid growth of expenditures than revenues. The growth rate of expenditures went from 4.0% to 5.6% from 2015 to 2016, whereas that of revenues went from 3.2% to 4.0% during this same period. With regard to expenditures, categories related to investment and intermediate consumption contributed to the acceleration of expenditures: +17% for capital formation, +19% for capital transfers, +8.2% for intermediate consumption

With regard to budgetary rules in the preventive arm of the Growth and Stability Pact and growth for 2015-2016, the following can be stated<sup>29</sup>:

- For 2015: the structural balance, with a surplus of 2.3% of GDP, largely exceeds the medium-term budgetary objective of 0.5% of GDP. Regarding the rule on expenditure, the real growth rate in expenditure adjusted by 0.4% is lower than the reference rate of 2.9%<sup>30</sup>;
- For 2016: the structural balance is expected to decrease to 1.9% of GDP, which is compatible with the medium-term budgetary objective. Regarding the rule on expenditure, the real growth in expenditure adjusted by 2.1% is lower than the reference rate of 3.1%.

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<sup>26</sup> In terms of 2016 GDP.

<sup>27</sup> The adjustments lead to an improvement of the balance of €200 million or 0.4% of GDP at central government level. The largest part of these adjustments is due to the consideration of the effects of the transactional fund in terms of revenue (over 85%); the remainder of the adjustments result from expenditure (readjustments of the State's pension investments and expenditure).

<sup>28</sup> Due to rounding up, the percentage sum of the sub-sectors is not exact.

<sup>29</sup> 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.

<sup>30</sup> Based on the winter 2016 forecast of the European Union.



### III.4. Budgetary situation of general government in 2017-2020

Changes in the medium term to public finances beginning in 2017 shows a number of factors:

- development of the macroeconomic context: over the period, macroeconomic conditions are expected to follow a strong dynamic in the beginning, i.e. the real growth rate would go from 4.5% in 2017 to 4.9% in 2018, before dropping to 3.5% in 2019 and 2.3% in 2020, and the internal employment growth rate would go from 2.4% in 2017 to 3.3% in 2018, before dropping to 3.2% in 2019 and 2.2% in 2020. Such a scenario is likely to impact public finances, notably with regard to revenues;
- The impact of the discretionary policy with the implementation of the consolidation strategy, whose cumulative impact expands over the period<sup>31</sup>;
- reform of financial rules in the local sector;
- progressive impact of tax reform.

With regard to the tax reform, the net aggregate impact on the government balance follows the following profile:

	2017	2018	2019	2020
Tax on the revenues of individuals(IRPP)	- €10,000,000	- €98,000,000	- €98,000,000	- €98,000,000
Tax received from wages(RTS)	- €273,000,000	- €275,000,000	- €275,000,000	- €275,000,000
Corporate income tax (IRC)	- €36,000,000	- €95,000,000	- €125,000,000	- €125,000,000
Wealth tax (IF)	€35,000,000	€50,000,000	€50,000,000	€50,000,000
Flat-rate tax (RELIBI)	€20,000,000	€20,000,000	€20,000,000	€20,000,000
Temporary budget balancing tax (IEBT)	- €110,000,000	- €110,000,000	- €110,000,000	- €110,000,000
Solidarity tax	- €24,169,216	- €34,903,828	- €36,386,031	- €36,386,031
Fight against tax fraud (individuals, corporations- direct and indirect taxation)	- €25,000,000	- €40,000,000	- €50,000,000	- €50,000,000
<b>Total budgetary implications of the tax reform</b>	<b>- €373,169,216</b>	<b>- €502,903,828</b>	<b>- €524,386,031</b>	<b>- €524,386,031</b>

These estimates are based on a "prima facie" approach.

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<sup>31</sup> See above.

As for specific measures, more details can be found under the following link: <http://www.reforme-fiscale.public.lu/fr/index.html> .

Finally, it should be noted that in terms of the taxation of companies, tax reforms, in particular the estimates of revenues from 2017 onwards, are based on the hypotheses of an absence of negative impacts of the modifications to be expected in terms of BEPS.

As for the public finances reform in the local sector, from a budgetary point of view, it will not produce any immediate impact on the government balance, even though it entails transfers from central government to the local government sector. Thus, the central government balance will see a deterioration of €96 million on average over the 2017-2020 period while, consequently, that of local government will improve by €96 million.

In 2017, the budget situation is primarily affected by the effects of the tax reform. This is why the general government balance is going from a surplus of 0.8% in 2016, or €409 million, to 0.0% of GDP or €21 million in 2017. This reduction is due to changes at central government level, where the deficit is going from €469 million or 0.8% in 2016 to €993 million or 1.7% in 2017. At the same time, other government sub-sectors are seeing a slight improvement: the local government balance is going from a surplus of €100 million, or 0.2% of GDP, in 2016 to €158 million, or 0.3% of GDP, in 2017. The social security balance will go from €778 million, or 1.4% of GDP, in 2016 to €856 million, or 1.5% of GDP, in 2017.

From 2018 onwards, the public finances situation remains stable, i.e. surplus of 0.1% of GDP and 0.2% of GDP in 2018-2019 respectively, and will slightly improve slight improvement at the end of the period with a surplus of €290 million or 0.4% of GDP. However, this general administration profile is composed of diverging variations at the level of government sub-sectors. A progressive improvement of the central government balance, of which the deficit goes from €993 million, or 1.7% in 2017, to €747 million or 1.1% in 2020 is accompanied by a stabilisation of the social security surplus at its current level and slight drop in terms of percentage of GDP, i.e. the surplus goes from €856 million, or 1.5% in 2017, to €868 million, or 1.3%, in 2020.

The progressive improvement of the central administration balance is mainly due to the hypotheses related to i) capital formation, which is expected to grow annually on average by 1.5% over the 2018-2020 period, i.e. a stabilisation at a high level of 3.6% of GDP on average over the period, ii) the re-establishment of a normal dynamic trajectory of revenues, with an average growth rate of 4.2% over the 2018-2020 period, where, the current income revenues category would return to a normal trajectory at the end of the period with an average growth rate of 6.2% between 2018-2020.

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

- during the 2017-2020 period, the structural balance respects the main rule of the Stability and Growth Pact's preventive arm, namely that the structural balance must be higher than a deficit of 0.5% of GDP over the period: 0.0% in 2018-2019 and 0.6% in 2020;
- In 2017, the reduction of the structural balance is due to the reduction of the nominal balance due to losses of revenues related to the tax reform in 2017 and the closing of the output gap which goes from -2.5% of GDP in 2016 to -1.3% in 2017. Despite the progressive improvement of the nominal balance over the 2018-2020 period, which goes from 0.1% in 2018 to 0.2% and 0.4% in 2019 and 2020, the evolution of the structural balance is also influenced by the negative impact of the output gap, which improves, going from a surplus of 0.2% of GDP to 0.4% of GDP respectively in 2018 and 2019, before opening again in 2020 with -0.5% of GDP. As a result, the structural balance remains stable in 2018 and 2019, before improving again in 2020 to 0.6% of GDP;
- As to the rule on expenditure, over the 2017-2020 period, the public finances trajectory should comply with the reference rates for the whole period, except in 2017, where there will be a significant deviation of €263 million, or 0.5% of GDP, which is primarily the result of the impact of the tax reform<sup>32</sup>.

#### **Methodology insert No. 1:**

##### **Structural balance and estimates of the output gap**

The Stability and Growth Pact (SGP) is a collection of rules aiming at ensuring that the member states of the European Union maintain a healthy public finances position and coordinate their fiscal policies.

Some of the rules of the Stability and Growth Pact aim to prevent budgetary policies from going in a direction that may be likely to be problematic, while others must be used to correct excessive budget deficits or reduce exceedingly high public debt.

The rules of the SGP's preventive arm bind the governments of the EU to their commitments with regard to healthy budgetary policies and coordination, imposing on each of them an adherence to a budgetary objective known as the "medium-term budgetary objective (MTO)".

These deficit (or excess) budgetary objectives are defined in structural terms, which means that they take into account fluctuations in the economic cycle, but not the effects of exceptional measures or other temporary measures.

<sup>32</sup> For 2017, the adjusted growth rate is 4.4% against a reference rate of 3.2%; for 2018, the adjusted growth rate is 2.7% against a reference rate of 3.3%; for 2019, the adjusted growth rate is 2.0% against a reference rate of 3.4% and for 2020, the adjusted growth rate is 2.3% against a reference rate of 3.5%.

In view of determining the structural balance, it is important to assess the impact of the business cycles on public balances. The output gap is the tool that is used to evaluate the difference between actual GDP and potential GDP.

Over the years and reforms, the structural balance has become a major stake for public finances. However, there are ongoing discussions and question marks over its calculation method.

Therefore, described more detailed description is available in the Vade-Mecum on SGP, published in March 2016 by the European Commission<sup>33</sup>, the basic equation linking the nominal balance to the structural balance writes as follows:

$$\text{Structural balance} = \text{Nominal balance} - 0.445 \times (\text{output gap})$$

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:

$$\text{Output gap} = \frac{(\text{actual GDP} - \text{potential GDP})}{(\text{potential GDP})}$$

In this formula, 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 production factors (labour and capital). One of the major difficulties with the methodology consists of 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.

Primarily taking into account the volatility of economic growth in a small country such as Luxembourg, the estimates of potential growth and the output gap are characterised by a very high degree of uncertainty. For these reasons, it may be useful not to focus on a single method to use as a calculation.

The methods used to determine the potential level of GDP actually consist of breaking down GDP into its trend and speculative components. Potential GDP is then assimilated to a trend or speculative component:

- A first method applies the HP filter, or Hodrick-Prescott filter, to the series of GDP growth and thereby provides an estimate of the potential GDP and, as a result, the output gap. The Hodrick-Prescott filter is a statistical smoothing method that isolates the speculative component of the activity.
- A second method uses 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.
- The COM methodology uses a Cobb-Douglas type production feature, using a Kalman filter as a smoothing technique to calculate the trend in terms of the total output of the factors.

<sup>33</sup> [http://ec.europa.eu/economy\\_finance/publications/occasional\\_paper/2013/pdf/ocp151\\_en.pdf](http://ec.europa.eu/economy_finance/publications/occasional_paper/2013/pdf/ocp151_en.pdf)

The Commission leaves the choice of the structural balance calculation method to the Member States, but checks to ensure that European rules have been adhered to by using the community methodology (COM methodology) developed by the European Commission (Output Gap Working Group).

Thus, in April 2015, for the 16<sup>th</sup> Update of the stability and growth programme, STATEC's Modux methodology was used.

Bearing in mind that the Commission checks that European rules are adhered to by using the COM methodology, the calculation of the structural balance used in October 2015 as part of the preparation of the multi-year financial programme bill for the 2015-2019 period was based on the Commission's methodology, as follows:

- In its spring forecasts, the Commission had provided a production gap for 2015-2016, as well an estimate of potential GDP growth for the 2017-2019 period. Due to the lack of nominal GDP forecasts for the 2017-2019 period, the latest estimates from Statec were used in order to be able to calculate an output gap for 2017-2019.
- The resulting output gaps were used in October 2015 to calculate the structural balance.

Following the assessment, in November 2015, of the budget plan projects for 2016 submitted by the Member States of the Eurozone, the Commission observed that Luxembourg was one of five countries in the Eurozone whose budget plan was compliant with the requirements of the stability and growth pact.

In March 2016, as part of the aforementioned Vade-Mecum, the Commission gave precise references on the implementation of the methodology used by the Commission to ensure the respect of European regulations.

Thus, with the help of STATEC, this methodology was applied to STATEC's recent macroeconomic forecasts, in order to obtain a result as close as possible to the calculations of the Commission, as in October.

The following results were obtained and used to calculate the structural balance:

(in percentages in relation to potential GDP)

	2015	2016	2017	2018	2019	2020
Output gap	-2.2%	-2.5%	-1.3%	+0.2%	+0.4%	-0.5%

### III.5. Public debt

At the end of 2015, gross public debt stood at €11.2 billion, equal to 21.5% of GDP, which is significantly less than the €11.7 billion expected in the 16<sup>th</sup> update. Luxembourg is one of the Member States with the lowest public debts in the Eurozone, which continues to be well below the reference value of 60% of GDP.

Outstanding bonds are summarised in the table below:

Table A: Outstanding borrowings

<b>Name of Security</b>	<b>Instrument</b>	<b>Issue date</b>	<b>Maturity</b>	<b>Amount (€ millions)</b>
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 for an expected amount of €4.032 billion over the 2016-2020 period. The breakdown of financing requirements is as follows: €469 million in 2016, €993 million in 2017, €924 million in 2018, €896 million in 2019 and €747 million in 2020. In the scenario, the central government will refinance all debt falling due during this period<sup>34</sup>.

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<sup>35</sup>.

As a result, the government's consolidated debt increases from €12.2 billion, or 22.4% of GDP, in 2016 to €16.1 billion, or 23.5% of GDP, in 2020<sup>36</sup>. This level is still largely below the objective of 30% of GDP that the government sets for itself as a medium-term objective. The cost of servicing public

<sup>34</sup> The refinancing profile over the period is as follows: €400 million in 2016, €132 million in 2017, €700 million in 2018, €200 million in 2019 and €2 billion in 2020.

<sup>35</sup> For 2016, the debt trajectory does not just take into account the estimated deficit at central government level, but is also based on a hypothesis of the issuance of a loan of €1.5 billion that will be used to finance the deficit and other financial transactions that do not have any impact on the deficit, but on the debt, either on its level (increase of quotas in favour of the IMF of €280 million) or its structure (repayment of credit to the Caisse de Consignation of €230 million).

<sup>36</sup> 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.

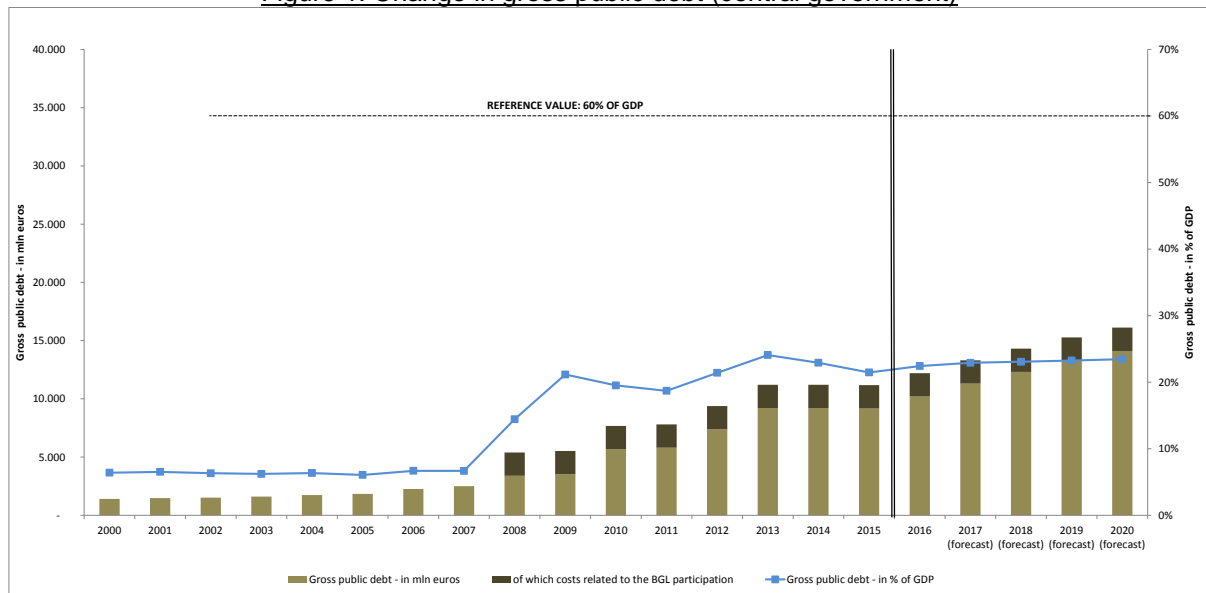
debt (i.e. the interest charge) remains stable at 0.3% of GDP thanks to its AAA sovereign credit rating, which allows Luxembourg to finance itself at relatively low rates of interest.

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 fund, the public body called the "compensation fund for general pension regime", 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 2015, this general reserve amounted to €16 billion, or 29.4% of GDP. The general government gross debt is lower than the assets of the social security reserves.

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 (private public partnerships) contracts, which, in accordance with a Eurostat decision, are recorded as loans in the general government accounts.

Figure 1: Change in gross public debt (central government)



### III.6. Sensitivity analysis

The sensitivity analysis is based on two symmetrical shocks, a negative shock and a positive shock, with an impact of 0.5% of the growth rate level in the Eurozone from 2017.

#### Negative shock on the Eurozone growth rate

The alternative scenario resulting from this negative external shock involves real growth in Luxembourg in the magnitude of 3.2% on average over the 2017-2020 period, compared to 3.8% on average over the same period in the central scenario. The shock in question therefore has a significant impact on Luxembourg's growth during the forecast period.

The reduction in the growth rate of the Eurozone is essentially echoed by 3 growth aggregates: a less favourable evolution of the stock market index, a decrease in the investment rate and a reduction of foreign trade.

Compared to the central scenario, and under the effect of growth that is weaker than employment, the unemployment rate is at a higher level after 2017 with a progressive increase 0.4% until 2020. Under the effect of the negative shock, the unemployment rate will be 6.7% (+0.1%) for 2017, 6.2% (+0.2%) for 2018, 6.3% (+0.3%) for 2019 and 7.1% (0.4%) for 2020.

This negative shock also has an effect on public finances and, more particularly, on the level of public revenues compared with the central scenario until 2020. The government deficit in this alternative scenario for 2017 is at -0.1% of GDP compared to the deficit of +0.0% of GDP in the central scenario. The snowball effect of this negative shock results in the deficit dropping to -0.3% of GDP in 2020, against +0.4% of GDP in the central scenario.

Public debt is increasing at a more accelerated rate under the impact of the negative shock, but remains at an acceptable level of +24.9% of GDP in 2020, compared to +23.5% of GDP in the central scenario.

#### Positive shock on the Eurozone growth rate

A positive impact on the same scale as that of the negative shock on the Eurozone growth rate would create more growth in Luxembourg by leading to a macroeconomic context that is, generally, more favourable for the budget consolidation. This positive effect results in a growth rate of 4.4% on average over the 2017-2020 period, compared to 3.8% in the central scenario. The higher growth has an impact on employment, of which the growth rate is at an average of 3% compared to 2.8% in the central scenario.



Public expenditures, and especially public revenues, are both affected by this positive growth shock in the Eurozone, which is reflected in the same aggregates as those mentioned for the negative impact. With a positive effect on the government's budget balance, the deficit rises from +0.0% of GDP in the central scenario to +0.2% of GDP in 2017. The government's balance improves as a result, going from +0.1% of GDP to +0.5% of GDP in 2018, from +0.2% of GDP to +0.7% of GDP in 2019 and from +0.04% of GDP to 1.1% of GDP in 2020.

This positive shock results in the reduction of public debt, dropping below the threshold of +23% of GDP from 2018.

**Table B: Sensitivity analysis (shock affecting growth)**

	2017			2018			2019			2020		
	choc -	central	choc +	choc -	central	choc +	choc -	central	choc +	choc -	central	choc +
<b>Main endogenous variables</b>												
<i>Real GDP</i>	+1,2	+1,7	+2,2	+1,1	+1,6	+2,1	+1,0	+1,5	+2,0	+0,8	+1,3	+1,8
<i>Nominal GDP</i>	+3,9	+4,5	+5,0	+4,3	+4,9	+5,6	+2,9	+3,5	+4,1	+1,7	+2,3	+2,8
<i>Employment</i>	+2,3	+2,4	+2,5	+2,9	+3,3	+3,6	+2,8	+3,2	+3,5	+1,8	+2,2	+2,5
<i>Unemployment rate</i>	+6,7	+6,6	+6,5	+6,2	+6,0	+5,8	+6,3	+6,0	+5,7	+7,1	+6,7	+6,3
<b>Public finances</b>												
<b>General government</b>												
<i>Total expenses</i>	+23.548	+23.573	+23.598	+24.387	+24.464	+24.542	+25.328	+25.494	+25.663	+26.343	+26.621	+26.904
<i>Total revenues</i>	+23.488	+23.594	+23.701	+24.261	+24.550	+24.843	+25.102	+25.606	+26.121	+26.172	+26.911	+27.673
<i>General government balance (level)</i>	-60	+21	+103	-125	+86	+300	-226	+112	+458	-171	+290	+768
<i>General government balance (in % of GDP)</i>	-0,1	+0,0	+0,2	-0,2	+0,1	+0,5	-0,4	+0,2	+0,7	-0,3	+0,4	+1,1
<b>Central government</b>												
<i>Central government balance (level)</i>	-1.074	-993	-911	-1.135	-924	-710	-1.234	-896	-550	-1.208	-747	-269
<i>Central government balance (in % of GDP)</i>	-1,9	-1,7	-1,6	-1,9	-1,5	-1,1	-1,9	-1,4	-0,8	-1,8	-1,1	-0,4
<b>Gross public debt</b>												
<i>Gross public debt (level)</i>	+13.396	+13.314	+13.233	+14.522	+14.311	+14.096	+15.607	+15.269	+14.923	+16.565	+16.104	+15.626
<i>Gross public debt (in % of GDP)</i>	+23,2	+22,9	+22,6	+23,8	+23,1	+22,4	+24,3	+23,2	+22,2	+24,9	+23,5	+22,0

### III.7. Comparison with the previous stability programme

Changes between the 16<sup>th</sup> and 17<sup>th</sup> updates may be summarised by two 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 2017-2019 period, have been revised downward.

Regarding the short term:

- For 2015, the general government balance improves by 0.1% of GDP to 1.3% of GDP. This improvement is notably explained by the improvement of macroeconomic conditions, thereby upwardly revising the nominal GDP growth rate from 3.4% to 6.5%. The largest part of the

improvement of public finances is, therefore, a result of the upward revision of revenue. The government's total revenue goes up from €21.706 billion to €22.288 billion, while expenditure is revised down a little, dropping from €21.682 billion to €21.616 billion;

- As for 2016, the government's balance is revised slightly upwards from €332 million, or 0.7% of GDP, to €409 million, or 0.8% of GDP.
- At the end of 2015, gross public debt stood at €11.2 billion, equal to 21.5% of GDP, which is significantly less than the €11.7 billion expected in the 16<sup>th</sup> update.

As for the medium term 2017-2019:

- The public balance fluctuates only slightly, at 0.7% of GDP in 2017, 0.8% of GDP in 2018 and 0.6% of GDP in 2019.
- The upward revision of macroeconomic conditions with their positive impact on public finances is counter-balanced by the entry into effect of the tax reform from 2017, which results in the reduction of the government balance.

Table C: Differences with relation to the previous programme update

	ESA Code	Year 2015	Year 2016	Year 2017	Year 2018	Year 2019	Year 2020
<b>Real GDP growth (%)</b>							
Previous update		3,8	3,6	3,3	3,6	3,7	...
Current update		4,8	2,9	4,5	4,9	3,5	2,3
Difference		1,0	-0,7	1,2	1,3	-0,2	...
<b>Nominal GDP growth (%)</b>							
Previous update		3,4	4,0	4,5	4,2	3,9	...
Current update		6,5	4,5	6,8	6,8	5,9	4,6
Difference		3,1	0,5	2,3	2,6	2,0	...
<b>General government net lending (% of GDP)</b>	EDP B.9						
Previous update		0,1	0,7	0,7	0,9	0,8	...
Current update		1,3	0,8	0,0	0,1	0,2	0,4
Difference		1,2	0,1	-0,7	-0,8	-0,6	...
<b>Structural balance (% of GDP)</b>							
Previous update		0,7	0,9	0,5	0,6	0,3	
Current update		2,3	1,9	0,6	0,0	0,0	0,6
Difference		1,6	1,0	0,1	-0,6	-0,3	...
<b>General government gross debt (% of GDP)</b>							
Previous update		23,9	24,2	24,2	24,0	23,8	...
Current update		21,5	22,4	22,9	23,1	23,2	23,5
Difference		-2,4	-1,8	-1,3	-0,9	-0,6	...

## IV. QUALITY OF PUBLIC FINANCES

The government aims at maintaining a sound public finances situation, notably through its two primary budgetary objectives, i.e. meeting the MTO and the stabilisation of gross public debt below 30% of GDP, a level that remains well below the cap set by the Maastricht criteria (60% of GDP).

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

- in terms of expenditures, emphasis is placed on the priorities that contribute positively to potential growth: a high level of public investment, transfers accrued for the formation of human capital (reform of allocations to students);
- in terms of revenues, the tax reform includes specific measures to promote the development of economic activities. Specific measures such as the reduction of the IRC for companies, which is being lowered from 21% to 18%, or the increase of the investment tax credit.

Additionally, the quality of public expenditure can be analysed via the following elements:

- With regard to the level of public expenditures in relation to GDP, it can be noted that, despite the increase of the expenditure in proportion to GDP, in particular since the outbreak of the financial and economic crisis in 2008, Luxembourg still remains below the European average. Thus, the part of public expenditure compared to GDP is at 43.8% in 2014 against an average of 49% in the Eurozone<sup>37</sup>.
- the same remark applies to public revenues: in 2014, it was at 44.4% of GDP against 46.6% of GDP on average in the Eurozone. This percentage is expected to fall to 39.1% in 2020.

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

- The proportion of public expenditures in GDP is supposed to stabilise, or diminish slightly, from 41.5% of GDP in 2015 to 38.8% of GDP in 2020;
- the proportion of expenditures related to intermediate consumption is supposed to stabilise at 3.5% of GDP over the period;

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<sup>37</sup> <http://ec.europa.eu/eurostat/documents/2995521/6796761/2-21042015-AP-FR.pdf/7466add3-3a70-4abb-9009-bc986a5d2c0a>

- The share of expenditures related to public investment should fall slightly from 4.2% of GDP in 2016 to 3.4% of GDP in 2020, while remaining at a high level<sup>38</sup>;
- 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 0.3% of GDP.
- in terms of revenues, under the effect of tax reform, the proportion of taxes goes from 42.8% of GDP in 2015 to 39.2% of GDP in 2020. In terms of composition, the proportion of direct taxes goes from 14.3% in 2015 to 13.5% in 2018, before going back up to 14% in 2020;
- 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 latest projections regarding expenditures linked to demographic ageing that were carried out by the Ageing Working Group (AWG) of the Economic Policy Committee, and notably used to draw up the "2015 Ageing Report"<sup>39</sup>, published in May 2015 (hereinafter "the 2015 projections").

The 2015 projections shed light on the fact that expenditures related to ageing for the base year (2013) was at 19.5% of GDP, which was an increase of 1.5 points compared to 18.0% of GDP projected for 2013 in the 2012 projections<sup>40</sup> (+1% health care, +0.3% long-term care).

In the long term, the 2015 projections used by the European Commission rely on a more optimistic macroeconomic scenario for Luxembourg, including a significant increase in the growth of employment and hence in potential growth. As a result of this, pension costs were revised downward (denominator effect) by some five percentage points of GDP at the 2060 timeline (from 18.6% for the 2012 projections to 13.4% for the 2015 projections). The consequential effect of this is that costs linked to ageing are expected to drop at a less prominent rate, to attain 25.8% of GDP in 2060 (29.7%

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<sup>38</sup> The reduction in the level of public investment at the end of the period at a t+4 timeline is often linked to the fact that projects that are currently under way will be completed during the period so they will not, at the current time, be replaced in the multi-year programme due to lack of knowledge regarding the priorities in four years.

<sup>39</sup> The 2015 Ageing Report - Economic and budgetary projections for the 28 EU Member States (2013 – 2060)

<sup>40</sup> Projections carried out as part of "The 2012 Ageing Report - Economic and budgetary projections for the 27 EU Member States (2010 – 2060)"

in 2060 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 reform is already taken into account and, as a result, the more favourable situation for public expenditures in 2060 is essentially a result of a change of the assumption at the base of these projections.

Table D: Expenditure linked to ageing and underlying hypotheses

	<u>2015 projection</u>			<u>2012 projection</u>		
	<b>2013</b>	<b>2060</b>	<b>diff.</b>	<b>2013</b>	<b>2060</b>	<b>diff.</b>
<b>Expenditure related to ageing (in % of GDP)</b>	<b>19.5</b>	<b>25.8</b>	<b>6.2</b>	<b>18.0</b>	<b>29.7</b>	<b>11.7</b>
<i>of which pension expenditure</i>	9.4	13.4	4.1	9.7	18.6	8.8
<i>of which health care costs</i>	4.6	5.1	0.5	3.6	4.5	0.9
<i>of which long-term care costs</i>	1.5	3.2	1.7	1.1	3.1	2.0
<i>of which education costs</i>	3.3	3.5	0.2	3.1	3.1	0.0
<i>of which unemployment costs</i>	0.7	0.5	-0.2	0.5	0.5	0.0
<u>Hypotheses</u>						
<i>Work productivity (-)</i>	-0.3	1.5	1.8	0.7	1.5	0.8
<i>Economic growth</i>	1.4	1.9	0.5	2.2	1.7	-0.5
<i>Total participation rate (15-64 years) (in %)</i>	69.4	70.0	0.6	67.9	67.5	-0.4
<i>Unemployment rate (15-64 years) (in %)</i>	5.9	4.2	-1.7	4.4	4.2	-0.2
<i>Interest rate (in % per year)</i>	3.5	3.5	-	3.5	3.5	-

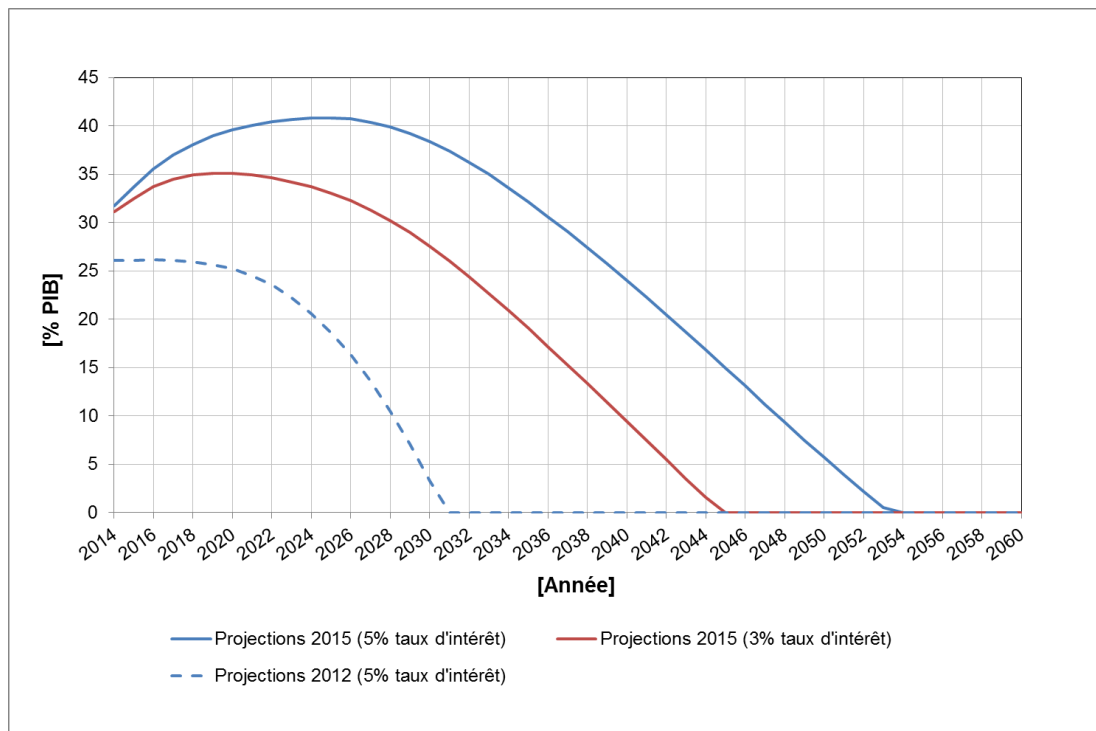
Thus, the differences concerning demographics projections, which are particularly explained by the new hypotheses on migratory flows within the EU, constitute the primary driving force of the differences concerning the projections of costs related to ageing. Given the uncertainty that is characteristic of a long-term projection, and in view of the inertia of the expenditures related to ageing and their significant impact on public expenditures, the development of the long-term public finances strategy must be carried out with a certain distance with regard to the improvement of the situation that the new projections are putting forward.

The government implemented a reform of the pension system in 2012, encompassing both the general and special retirement schemes. The reform, which came into effect on 1 January 2013, is based around 3 pillars: (i) an alignment of the retirement change that is more in line with life expectancy; (ii) an adaptation of pensions in the pension regime budget situation; (iii) an allocation of additional financial resources to make the financial balance more sustainable.

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 in order to fill 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 the end-of-year allotment will hereafter depend on the financial situation of the scheme.

The general pension fund has financial reserves in the area of 29.4% of GDP in 2015. If contribution rates remain unchanged, these reserves will be available should income from contributions be insufficient to cover the cost of benefits. Regardless of the scenario tested in the 2015 "Ageing Report", the reform provides enough resources on the basis of funds accumulated in reserves 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 2: Pension reserves



The pension insurance reform of 2012 brought the coverage period to 10 years and provides that the surveillance institution (IGSS) draws up, in the middle and at the end of this period (i.e. every 5 years), a technical report and actuarial forecasts in order to check the consistency between the hypotheses on which the reform is based and the regime's actual financial trajectory. Should there be any significant shifts from the equilibrium trajectory, several expenditures alignment measures are in place under the new provisions. Currently, the reform compensates for an increased life expectancy of three years over the 2013-2053 period. In the event of an accelerated increase of longevity, the associated parameters may consequently be adapted.

The government decided to move forward the supervision and assessment aspects of the law by one year. Therefore, IGSS is submitting a new study on the financial position of the plan for the medium term in 2016 instead of 2017. At the same time, a "Pensions Group", composed of the main stakeholders, i.e. government representatives, from the IGSS of pension regime managers (general and special) and the professional chambers, was introduced in 2016. The role of this group will notably be to verify consistency between the provisions made for observed changes in life expectancy and recommend modifications to adapt to them on the basis of an actuarial study carried out by IGSS.

As part of this effort, the government has also shown willingness to provide additional incentives to extend the age of retirement and to activate a more progressive transition to retirement:

- Early retirement regime reforms<sup>41</sup>: in August 2015, the government submitted a bill on the modification of early retirement regimes<sup>42</sup> (solidarity, progressive and early retirement of posted employees and night shift workers, without adjustments). This reform aims at better targeting employees who work in challenging roles, and at better taking into account the working conditions of the employees, while striving to maintain an active life for elderly persons. More specifically, the bill provides for the abolition of the "early retirement solidarity" regime and the adaptation of the other early retirement regimes, except the adjustment regime, of which the purpose is to prevent an aged employee from being made redundant and finding himself unemployed with few prospects for professional reintegration.
- Professional reclassification<sup>43</sup>: The internal and external reclassification scheme reform<sup>44</sup> came into effect on 1 January 2016. The central objective of this reform is to keep reclassified persons in employment, notably those who are older<sup>45</sup>, while offering adequate protection to the most vulnerable people. The legislative amendments 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. The reform will therefore contribute to increasing the employment rate of older persons, reduce the rate of long-term unemployment, as many long-term job-seekers were reclassified externally (42.5%), and it will make the reclassification system more effective and efficient, while providing adequate protection for the most vulnerable people.

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<sup>41</sup> See National Plan for Intelligent, Durable and Inclusive Growth (NRP), 2016 – Section 3.2

<sup>42</sup> Parliamentary file no. 6844.

<sup>43</sup> See National Plan for Intelligent, Durable and Inclusive Growth (NRP), 2016 – Section 3.2

<sup>44</sup> Law of 23 July 2015

<sup>45</sup> 50.1% of persons reclassified externally are over 50 years old.

- As the management of the age pyramid within a company<sup>46</sup> is also a key factor in maintaining the working life of older people, the government has taken the initiative to draw up a legal provision on the matter, while maintaining a large margin of manoeuvre for social partners in order to be able to take into account the specificities for each sector, and even allow approaches that take into account the specific problems of an individual company. The bill on the introduction of a package of measures in terms of the policy on ageing<sup>47</sup>, which is currently in the legislative process, provides for an obligation for employers with more than 150 employees to draw up an age management plan that must include at least 3 of the following points: the recruitment of older employees, the anticipation of changes to professional careers, the improvement of working conditions, access to continuous training or the passing on of knowledge and skills. 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.
- Supplementary pensions: The submission of a bill allowing, as announced, supplementary pensions to be extended 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, is expected in 2016. 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.
- The professionalisation internship<sup>48</sup> and the workforce re-entry contract<sup>49</sup> are two new measures, applicable from 1 January 2016, aimed at job seekers over the age of 45, or those reclassified externally, or who are qualified as handicapped employees. The first measure is an internship with a maximum duration of 6 weeks that gives the job seeker the opportunity to prove their professional abilities within a company. The second measure offers the job seeker the chance to improve their professional knowledge and capabilities within a company for a maximum duration of 12 months. These measures target companies that can offer a real opportunity to then hire the employee on a permanent work contract. The measures therefore actively contribute to the return to work of older persons. Other projects, co-financed by the European Social Fund, can be added to these projects that target the professional activation and integration of older job seekers, notably including the "Relaunch my career" project launched on 1 January 2016<sup>50</sup>.
- 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

<sup>46</sup> See National Plan for Intelligent, Durable and Inclusive Growth (NRP), 2016 – Section 4.1.2

<sup>47</sup> Parliamentary file no. 6678.

<sup>48</sup> For more information: <http://www.adem.public.lu/fr/demandeurs-demploi/beneficier-mesures-aides/mesures-emploi/stage-professionnalisation/index.html>

<sup>49</sup> For more information: <http://www.adem.public.lu/fr/demandeurs-demploi/beneficier-mesures-aides/mesures-emploi/Contrat-reinsertion-emploi/index.html>

<sup>50</sup> For more information: <http://www.fonds-europeens.public.lu/fr/projets-cofinances/fse/2014-2020/1017/index.html>



nursing care insurance has indicated that the financial stability of nursing care insurance was fragile and that its long-term viability is in question, and should therefore be subject to particular attention.

Following this observation and before the reform, of which the submission of the bill is expected during the second quarter of 2016, the measures of the "Zukunftspak" (freezing of the monetary value for the 2015 financial year and a more restrictive application by the Cell of the evaluation and orientation of criteria awarding the services from 2015 onwards) have allowed for a short-term slowdown of a rapid deterioration of the regime's financial situation.

According to the 2016 nursing care insurance budget drawn up in November 2015, cumulative reserves of the programme will represent 24.1% of annual expenditures at end 2015<sup>51</sup> (provisional accounts) and to 24.6% at the end of 2016. This is more than double the legal minimum.

The reform itself, expected to be implemented in 2017, would potentially improve the cost-efficiency ratio of the nursing care insurance system, in view of assuring a positive cumulated global balance until 2040, while maintaining the quality of care and respecting the fundamental principles of the nursing care insurance.

- The government has also modernised the provisions regulating Social Security Medical Examinations (CMSS) by means of the law of 7 August 2015 in order to account for changes that have occurred on the legislative and practical levels since the establishment of this administration. Through the reform, 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. This administration has obtained the adequate missions and human resources to proceed, in the years to come, with more momentum with checks, authorisations and evaluations of insured parties who are unable to work.

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<sup>51</sup> CNS, Budget for Nursing Care Insurance (Assurance Dépendance) - financial year 2016, November 2015

## 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<sup>52</sup>. This law ensures the transposition into national law of a certain number of obligations arising from the following sources: i) the provisions of the *Stability, Coordination and Governance Treaty* (SCGT), ii) the provisions arising from the "Six pack", iii) the provisions arising 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 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.<sup>53</sup>
- The establishment of a "National Fiscal Council" charged with independently verifying compliance with budgetary rules and the application of the automatic correction mechanism.<sup>54</sup>

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<sup>52</sup> <http://www.legilux.public.lu/leg/a/archives/2014/0122/a122.pdf#page=2>

<sup>53</sup> Especially with regard to tax expenditures, implicit commitments such as guarantees, etc. and investments in public and private companies.

<sup>54</sup> <https://www.gouvernement.lu/4222479/27-conseil-finances-publiques>. The National Fiscal Council is made up of the following members:

Since 2014, in the context of the European Semester, the government has tried to involve Luxembourg stakeholders more in the ex-ante preparation of the European Semester. In particular, two meetings between the government and the social partners have been organised at national level since the start of the year by the Economic and Social Council (ESC): a first meeting took place on 25 January 2016 to discuss the main direction of the new European semester cycle, and a second meeting was held on 23 March 2016, focusing more specifically on the development of strategies for the national reform programme and the stability and convergence programme. Details of these meetings can be found on the ECS website: <http://www.ces.public.lu/fr/semestre-europeen-2016/index.html>.

These ex-ante involvement efforts of the social partners comes in conjunction with a change in the procedure and the practice of a budgetary policy and of public finances where the involvement of the Parliament earlier in the annual budget procedure due to the European semester was also reinforced over recent years. Hence regular orientation debates and information updates provided by the Ministry of Finance are regularly organized in the Budget and Finance Committee of Parliament. In this vein, for the 2016 cycle of the European semester, the ex-ante involvement of the Chamber of Deputies has yet again been reinforced by the organisation of debates about the NRP and SGP in the plenary session of the Parliament during the speech on the State of the Nation during the week of 25 April 2016.

2014 was characterised by the first overall review of public expenditure. The objective of this review is to achieve substantial gains by 2020 in all categories of public expenditures – at central administration, local administration and social security administration levels– 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

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

particular, with establishing, preparing and coordinating the work aimed at drawing up the National Reform Programme (NRP), the Stability and Growth Programme the draft budgetary plan and the orientation framework 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 and structural reform policies;
- A study of the methodology to be used to establish the "structural balance" as required by the "Fiscal Pact". It should be noted that the structural balance is not observable but is estimated on the basis of the "nominal" budgetary balance (observed/measured) and the output gap, which is 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 terms of data transparency, since October 2015 the Government has been publishing monthly data on changes to public finances situation for the two sub-sectors of public administration, i.e. central government, social security administration<sup>55</sup>:  
<http://www.budget.public.lu/lu/budget2016/evaluation-mensuelle/index.html> .

In general, and bearing in mind the 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<sup>56</sup>. In fact, merely as an indication, the government is considering the following<sup>57</sup>:

- the introduction of an objective-based budget: objectives will be set for each ministry, allowing citizens to be informed not only about the proposed expenditure but also the purpose of the expenditure;
- a reform of the accounting rules in order to strengthen the effectiveness of public expenditure;
- taking a more accurate account of future operating and administrative expenses in investment decisions, by carrying out systematic sensitivity analyses measuring the impact on the budget of deviations from key assumptions;
- the reinforcement of a "zero base budgeting" approach incorporating the examination of each budget disbursement and item;

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<sup>55</sup> The data for local government is currently being prepared.

<sup>56</sup> Working Party of Senior Budget Officials: Budgeting in Luxembourg, Analysis and Recommendations, OECD, 2011.

<sup>57</sup> This list is not by priority and is non exhaustive

- Introduction of an annual discipline consisting of a reduction in expenditure (excluding capital expenditure and investments) for each 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 assets with a view to identifying ways of making more efficient use of and deriving better value from them;
- 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 2015	Year 2015	Year 2016	Year 2017	Year 2018	Year 2019	Year 2020
		Level	rate of change	rate of change	rate of change	rate of change	rate of change	rate of change
<b>1. Real GDP</b>	B1*g	45.743	4,8	2,9	4,5	4,9	3,5	2,3
<b>2. Nominal GDP</b>	B1*g	52.057	6,5	4,5	6,8	6,8	5,9	4,6
<b>Components of real GDP</b>								
<b>3. Private consumption expenditure</b>	P.3	14.374	0,1	3,5	3,2	4,0	2,7	0,6
<b>4. Government consumption expenditure</b>	P.3	7.667	3,0	-1,4	2,5	1,1	1,7	1,6
<b>5. Gross fixed capital formation</b>	P.51	8.316	-2,8	13,9	3,9	6,5	2,7	2,1
<b>6. Changes in inventories and net acquisition of valuables (% of GDP)</b>	P.52 + P.53		1,5	1,5	1,4	1,4	1,3	1,3
<b>7. Exports of goods and services</b>	P.6	91.829	7,1	4,9	6,9	6,4	6,1	5,2
<b>8. Imports of goods and services</b>	P.7	77.150	6,0	6,2	6,8	6,3	6,1	5,3
<b>Contributions to real GDP growth</b>								
<b>9. Final domestic demand</b>		-	0,0	3,4	2,2	2,7	1,6	0,8
<b>10. Changes in inventories and net acquisition of valuables</b>	P.52 + P.53	-	1,0	0,0	0,0	0,0	0,0	0,0
<b>11. External balance of goods and services</b>	B.11	-	3,8	-0,5	2,3	2,2	1,9	1,4

Table 1b. Price developments

	ESA Code	Year 2015	Year 2015	Year 2016	Year 2017	Year 2018	Year 2019	Year 2020
		Level	rate of change	rate of change	rate of change	rate of change	rate of change	rate of change
<b>1. GDP deflator</b>		1,14	1,6	1,6	2,2	1,8	2,3	2,2
<b>2. Private consumption deflator</b>		1,07	0,3	0,2	0,9	1,3	1,7	1,5
<b>3a. HICP</b>		123,7	0,1	-0,2	1,3	1,6	1,8	1,8
<b>3b. NICP</b>		121,8	0,5	0,2	1,6	1,7	1,9	2,0
<b>4. Public consumption deflator</b>		1,16	3,3	1,8	1,9	2,8	2,9	2,9
<b>5. Investment deflator</b>		1,08	1,3	0,3	0,5	0,7	1,0	1,4
<b>6. Export price deflator (goods and services)</b>		1,21	4,6	2,2	4,7	4,6	4,0	3,6
<b>7. Import price deflator (goods and services)</b>		1,20	4,4	1,8	5,1	5,4	4,6	3,7

Table 1c. Labour market developments

	ESA Code	Year 2015	Year 2015	Year 2016	Year 2017	Year 2018	Year 2019	Year 2020
		Level	rate of change	rate of change	rate of change	rate of change	rate of change	rate of change
<b>1. Employment, persons<sup>1</sup></b>		405,6	2,5	2,9	2,4	3,3	3,2	2,2
<b>2. Employment, hours worked<sup>2</sup></b>		402,2	2,7	2,4	2,0	2,9	2,8	1,8
<b>3. Unemployment rate (%)<sup>3</sup></b>		-	5,7	5,3	5,5	5,0	5,0	5,7
<b>4. Labour productivity, persons<sup>4</sup></b>		-	2,5	-0,1	2,0	1,6	0,3	-0,1
<b>5. Labour productivity, hours worked<sup>5</sup></b>		-	2,3	0,4	2,4	2,0	0,7	0,3
<b>6. Compensation of employees</b>	D.1	24,9	3,5	3,5	5,6	5,0	5,8	4,9
<b>7. Compensation per employee</b>		65,3	0,9	0,5	2,9	1,5	2,3	2,6

<sup>1</sup>Occupied population, domestic concept national accounts definition.

<sup>2</sup>National accounts definition.

<sup>3</sup>Harmonised definition, Eurostat; levels.

<sup>4</sup>Real GDP per person employed.

<sup>5</sup>Real GDP per hour worked.

Table 1d. Sectoral balances

% of GDP	ESA Code	Year 2015	Year 2016	Year 2017	Year 2018	Year 2019	Year 2020
<b>1. Net lending/borrowing vis-à-vis the rest of the world</b>	B.9	-	-	-	-	-	
<i>of which :</i>							
- Balance on goods and services							
- Balance of primary incomes and transfers							
- Capital account							
<b>2. Net lending/borrowing of the private sector</b>	B.9						
<b>3. Net lending/borrowing of general government</b>	EDP B.9	1,3	0,8	0,0	0,1	0,2	0,4
<b>4. Statistical discrepancy</b>		-	-	-	-	-	

Table 2a. General government budgetary prospects

	ESA Code	Year 2015	Year 2015	Year 2016	Year 2017	Year 2018	Year 2019	Year 2020
		Level	% of GDP	% of GDP	% of GDP	% of GDP	% of GDP	% of GDP
<b>Net lending (EDP B.9) by sub-sector</b>								
1. General government	S.13	672	1,3	0,8	0,0	0,1	0,2	0,4
2. Central government	S.1311	-207	-0,4	-0,8	-1,7	-1,5	-1,4	-1,1
3. State government	S.1312	...	...	...	...	...	...	...
4. Local government	S.1313	124	0,2	0,2	0,3	0,2	0,2	0,2
5. Social security funds	S.1314	755	1,5	1,4	1,5	1,4	1,4	1,3
<b>General government (S13)</b>								
6. Total revenue	TR	22.288	42,8	42,3	40,6	39,6	39,0	39,2
7. Total expenditure	TE <sup>1</sup>	21.616	41,5	41,6	40,6	39,4	38,8	38,8
8. Net lending/borrowing	EDP B.9	672	1,3	0,8	0,0	0,1	0,2	0,4
9. Interest expenditure	EDP D.41	182	0,3	0,4	0,3	0,3	0,3	0,3
10. Primary balance <sup>2</sup>		854	1,6	1,1	0,3	0,4	0,4	0,7
11. One-off and other temporary measures <sup>3</sup>		...	...	...	...	...	...	...
<b>Selected components of revenue</b>								
12. Total taxes (12=12a+12b+12c)		13.734	26,4	26,3	24,8	24,0	23,5	23,7
12a. Taxes on production and imports	D.2	6.210	11,9	11,6	10,9	10,4	9,9	9,7
12b. Current taxes on income, wealth, etc	D.5	7.464	14,3	14,6	13,8	13,5	13,6	14,0
12c. Capital taxes	D.91	60	0,1	0,1	0,1	0,1	0,1	0,1
13. Social contributions	D.61	6.242	12,0	11,8	11,7	11,5	11,4	11,5
14. Property income	D.4	702	1,3	1,4	1,4	1,4	1,3	1,3
15. Other <sup>4</sup>		1.610	3,1	2,9	2,8	2,7	2,7	2,7
16=6. Total revenue	TR	22.288	42,8	42,3	40,6	39,6	39,0	39,2
p.m.: Tax burden (D.2+D.5+D.61+D.91-D.995) <sup>5</sup>		19.976	38,4	38,1	36,5	35,5	35,0	35,2
<b>Selected components of expenditure</b>								
17. Compensation of employees + intermediate consumption	D.1+P.2	6.423	17,5	17,2	16,8	16,4	16,1	16,2
17a. Compensation of employees	D.1	4.559	8,8	8,6	8,4	8,2	8,1	8,1
17b. Intermediate consumption	P.2	1.864	3,6	3,7	3,6	3,5	3,4	3,5
18. Social payments (18=18a+18b)		10.316	19,8	19,5	19,2	18,7	18,5	18,6
of which Unemployment benefits <sup>6</sup>		464	0,9	0,8	0,8	0,7	0,6	0,0
18a. Social transfers in kind supplied via market producers	D.6311, D.63121, D.63131	2.443	4,7	4,6	4,5	4,4	4,3	4,3
18b. Social transfers other than in kind	D.62	7.873	15,1	14,9	14,7	14,3	14,2	14,3
19=9. Interest expenditure	EDP D.41	182	0,3	0,4	0,3	0,3	0,3	0,3
20. Subsidies	D.3	728	1,4	1,3	1,2	1,1	1,1	1,0
21. Gross fixed capital formation	P.51	2.001	3,8	4,2	3,9	3,7	3,6	3,4
22. Capital transfers	D.9	417	0,8	0,8	0,8	0,9	0,9	0,9
23. Other <sup>7</sup>		1.549	3,0	3,0	3,1	3,0	3,0	3,0
24=7. Total expenditure	TE <sup>1</sup>	21.616	41,5	41,6	40,6	39,4	38,8	38,8
p.m.: Government consumption (nominal)	P.3	8.908	17,1	16,4	16,1	15,6	15,4	15,4

<sup>1</sup> Adjusted for the net flow of swap-related flows, so that TR-TE=EDP B.9.

<sup>2</sup> The primary balance is calculated as (EDP B.9, item 8) plus (EDP D.41, item 9).

<sup>3</sup> A plus sign means deficit-reducing one-off measures.

<sup>4</sup> P.11+P.12+P.131+D.39+D.7+D.9 (other than D.91).

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

<sup>6</sup> Includes cash benefits (D.621 and D.624) and in kind benefits (D.631) related to unemployment benefits.

<sup>7</sup> 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 2015	Year 2015	Year 2016	Year 2017	Year 2018	Year 2019	Year 2020
		Level	% of GDP	% of GDP	% of GDP	% of GDP	% of GDP	% of GDP
1. Total revenue at unchanged policies		22.288	42,8	42,3	41,3	40,4	39,8	40,0
2. Total expenditure at unchanged policies		21.616	41,5	41,6	40,6	39,4	38,8	38,8
3. General government balance		672	1,3	0,8	0,7	0,9	1,0	1,2
3.a. Central government balance		-208	-0,4	-0,9	-1,0	-0,6	-0,5	-0,3
3.b. Local government balance		124	0,2	0,2	0,2	0,2	0,1	0,2
3.c. Social government balance		755	1,5	1,4	1,5	1,4	1,4	1,3

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

	Year 2015	Year 2015	Year 2016	Year 2017	Year 2018	Year 2019	Year 2020
	Level	% of GDP	% of GDP	% of GDP	% of GDP	% of GDP	% of GDP
<b>1. Expenditure on EU programmes fully matched by EU funds revenue</b>	83	0,2	0,2	0,2	0,2	0,2	0,2
<b>2. Cyclical unemployment benefit expenditure<sup>1</sup></b>	476	0,9	0,8	0,8	0,7	0,6	0,6
<b>3. Effect of discretionary revenue measures</b>	222	0,4	0,0	-0,6	-0,8	-0,8	-0,8
<b>4. Revenue increases mandated by law</b>	...	...	...	...	...	...	...

<sup>1</sup>Absolute level of unemployment expenditure, based on COFOG 10.50

Table 3. General government expenditure by function

% of GDP	COFOG Code	Year 2015	Year 2019
1. General public services	1	4,3	
2. Defence	2	0,3	
3. Public order and safety	3	0,9	
4. Economic affairs	4	4,2	
5. Environmental protection	5	1,0	
6. Housing and community amenities	6	0,5	
7. Health	7	4,7	
8. Recreation, culture and religion	8	1,2	
9. Education	9	5,1	
10. Social protection	10	17,6	
11. Total expenditure	TE	39,8	

Table 4. General government debt developments

% of GDP	ESA Code	Year 2015	Year 2016	Year 2017	Year 2018	Year 2019	Year 2020
<b>1. Gross debt<sup>1</sup></b>		21,5	22,4	22,9	23,1	23,2	23,5
<b>2. Change in gross debt ratio</b>		-1,5	1,0	0,5	0,1	0,2	0,2
<b>Contributions to changes in gross debt</b>							
<b>3. Primary balance<sup>2</sup> (General government)</b>		1,6	1,1	0,3	0,4	0,4	0,7
3.a. Primary balance (Central government)		-0,4	-0,8	-1,7	-1,5	-1,4	-1,1
3.b. Primary balance (Local government)		0,2	0,2	0,3	0,2	0,2	0,2
3.c. Primary balance (Social government)		1,5	1,4	1,5	1,4	1,4	1,3
<b>4. Interest expenditure<sup>3</sup></b>		0,3	0,4	0,3	0,3	0,3	0,3
<b>5. Stock-flow adjustment</b>		-0,2	1,7	0,5	0,3	0,4	0,6
<b>p.m.: Implicit interest rate on debt<sup>4</sup></b>		1,6	1,8	1,4	1,3	1,2	1,2

<sup>1</sup>As defined in Regulation 3605/93 (not an ESA concept).

<sup>2</sup>Cf. item 10 in Table 2.

<sup>3</sup>Cf. item 9 in Table 2.

<sup>4</sup>Proxied by interest expenditure divided by the debt level of the previous year.

Table 5. Cyclical developments

% of GDP	ESA Code	Year 2015	Year 2016	Year 2017	Year 2018	Year 2019	Year 2020
<b>1. Real GDP growth (%)</b>		4,8	2,9	4,5	4,9	3,5	2,3
<b>2. Net lending of general government</b>	EDP B.9	1,3	0,8	0,0	0,1	0,2	0,4
<b>3. Interest expenditure</b>	EDP D.41	0,3	0,4	0,3	0,3	0,3	0,3
<b>4. One-off and other temporary measures<sup>1</sup></b>		...	...	...	...	...	...
5. Potential GDP growth (%)		3,1	3,2	3,2	3,2	3,1	3,0
6. Output gap		-2,2	-2,5	-1,3	0,2	0,4	-0,5
7. Cyclical budgetary component		-1,0	-1,1	-0,6	0,1	0,2	-0,2
8. Cyclically-adjusted balance (2 - 7)		2,3	1,9	0,6	0,1	0,0	0,6
9. Cyclically-adjusted primary balance (8 + 3)		2,6	2,2	0,9	0,3	0,3	0,9
<b>10. Structural balance (8 - 4)</b>		2,3	1,9	0,6	0,0	0,0	0,6

<sup>1</sup>A plus sign means deficit-reducing one-off measures.



**Table 6. Divergence from previous update**

	ESA Code	Year 2015	Year 2016	Year 2017	Year 2018	Year 2019	Year 2020
<b>Real GDP growth (%)</b>							
Previous update		3,8	3,6	3,3	3,6	3,7	...
Current update		4,8	2,9	4,5	4,9	3,5	2,3
Difference		1,0	-0,7	1,2	1,3	-0,2	...
<b>Nominal GDP growth (%)</b>							
Previous update		3,4	4,0	4,5	4,2	3,9	...
Current update		6,5	4,5	6,8	6,8	5,9	4,6
Difference		3,1	0,5	2,3	2,6	2,0	...
<b>General government net lending (% of GDP)</b>	EDP B.9						
Previous update		0,1	0,7	0,7	0,9	0,8	...
Current update		1,3	0,8	0,0	0,1	0,2	0,4
Difference		1,2	0,1	-0,7	-0,8	-0,6	...
<b>Structural balance (% of GDP)</b>							
Previous update		0,7	0,9	0,5	0,6	0,3	
Current update		2,3	1,9	0,6	0,0	0,0	0,6
Difference		1,6	1,0	0,1	-0,6	-0,3	...
<b>General government gross debt (% of GDP)</b>							
Previous update		23,9	24,2	24,2	24,0	23,8	...
Current update		21,5	22,4	22,9	23,1	23,2	23,5
Difference		-2,4	-1,8	-1,3	-0,9	-0,6	...

**Table 7. Long-term sustainability of public finances**

% of GDP	AR 2015 *)			AR 2012 **)		
	2013	2060	2060-2013	2013 ***)	2060	2060-2013
<b>Age-related expenditures</b>	<b>19,5</b>	<b>25,8</b>	<b>6,2</b>	<b>18,0</b>	<b>29,7</b>	<b>11,7</b>
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	
<b>Assumptions</b>	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 2015	Year 2016
<b>Public guarantees</b>	8,8	...
<i>Of which: linked to the financial sector</i>	4,0	...

**Table 8. Basic assumptions**

	Year	Year	Year	Year	Year	Year
	2015	2016	2017	2018	2019	2020
Short-term interest rate (annual average)	0,2	0,2	0,2	0,7	1,5	2,0
Long-term interest rate (annual average)	1,3	1,5	1,6	1,9	2,8	3,5
USD/€ exchange rate (annual average)	1,1	1,1	1,1	1,1	1,1	1,1
Euro area GDP growth	1,6	1,4	1,7	1,6	1,5	1,3
EU GDP growth	...	...	...	...	...	...
Growth of relevant foreign markets	5,6	5,0	5,6	4,0	3,4	2,6
Oil prices (Brent, USD/barrel)	52,4	36,2	36,2	36,2	36,2	36,2