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LUXEMBOURG: MACRO FISCAL ASSESSMENT
AN ANALYSIS OF THE OCTOBER 2008 UPDATE
OF THE STABILITY PROGRAMME

The Stability and Growth Pact requires each EU Member State to present an annual update of its medium-term budgetary programme, called “stability programme” for countries that have adopted the euro as their currency and “convergence programme” for those that have not.

The attached technical analysis of the programme, prepared by the staff of, and under the responsibility of, the Directorate-General for Economic and Financial Affairs (DG ECFIN) of the European Commission, was finalised on 25 February 2009. Comments should be sent to Jean-Luc Annaert (jean-luc.annaert@ec.europa.eu). The main aim of the analysis is to assess the realism of the budgetary strategy presented in the programme as well as its compliance with the requirements of the Stability and Growth Pact. However, the analysis also looks at the overall macro-economic performance of the country and highlights relevant policy challenges.

The analysis takes into account (i) the Commission services’ January 2009 interim forecast, (ii) the code of conduct (“Specifications on the implementation of the Stability and Growth Pact and guidelines on the format and content of stability and convergence programmes”, endorsed by the ECOFIN Council of 11 October 2005) and (iii) the commonly agreed methodology for the estimation of potential output and cyclically-adjusted balances. Technical issues are explained in an accompanying methodological paper prepared by DG ECFIN.

Based on this technical analysis, the European Commission adopted a recommendation for a Council opinion on the programme on 25 February 2009. The ECOFIN Council adopted its opinion on the programme on 10 March 2009.

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All these documents, as well as the provisions of the Stability and Growth Pact, can be found on the following website:

http://ec.europa.eu/economy_finance/about/activities/sgp/main_en.htm

1. INTRODUCTION

This document assesses the October 2008 update of the stability programme of Luxembourg. It takes into account all currently available information, notably the Commission services' January 2009 Interim Forecast and the short-term fiscal stimulus measures adopted by the Luxembourgish authorities in response to the economic downturn. The programme, which was submitted on 6 October 2008¹, covers the period 2008-2011 and builds on the 2009 budget proposal. It was prepared together with the 2009 draft budget, approved by the government on October 3 and transmitted to the Luxembourgish Parliament. An addendum to the programme, detailing the measures adopted by the Luxembourgish authorities in response to the economic downturn, was submitted to the Commission on 2 February 2009. The addendum contains an updated macroeconomic scenario and updated budgetary projections until 2010 reflecting the impact of the fiscal stimulus measures as well as a detailed presentation of these measures.

2. MAIN CHALLENGES IN THE ECONOMIC DOWNTURN AND THE POLICY RESPONSE

GDP growth had been strong in 2007, reaching 5.2% in real terms, not far from the 6.4% recorded in 2006, but it sharply slowed down in the course of 2008: according to the latest available data, real GDP already contracted in the third quarter² and most probably continued to shrink in the fourth. Growth is projected both in the programme and in the Commission services' January interim forecast to turn negative in 2009, falling to about -0.9% in yearly average, before coming back to positive territory (+1.4%) in 2010. As Figure I in Annex II shows, nearly all indicators confirm that the period 2008 to 2010 and especially the years 2009 and 2010 may be characterised as "bad times".

The Luxembourgish economy is exceptionally open: total exports and imports amounted to 180% and 148% of GDP, respectively, in 2007³, with services representing more than three quarters of exports and more than two thirds of imports. The financial sector accounted for 27.3% of total value added in 2007 (of which 18% for financial intermediation *stricto sensu*) and contributed for 46% to its total real growth since 2003. It also accounted for 11.5% of total employment in 2007, of which 8.2% for financial intermediation. This sector is highly internationalised: the huge majority of the financial institutions depend on foreign groups and the largest part of their activity takes place with foreign counterparts. It is therefore extremely sensitive to developments abroad. The contraction in global demand might thus be accompanied in the case of Luxembourg by a non negligible supply shock, if some Luxembourg-based financial institutions or the groups to which they belong were to be severely hit by the financial crisis⁴.

¹ The English language version of the Programme was submitted on 13 November 2008.

² By 1.4% (s.a.) quarter-on-quarter according to a first estimate. If confirmed, this would be by far the worst result in the whole EU for 2008Q3 (13 out of the 27 EU countries still posted positive quarterly growth rates in that quarter). However, large revisions in quarterly GDP figures are frequent in Luxembourg.

³ There is no other country in the whole EU, even Malta, where exports or imports represent at the moment more than 100% of GDP, the average of the EU-27 being about 40% for both exports and imports.

⁴ A typical example of this was given by the recent financial support operation to the subsidiaries of two foreign banks. The problems that these two banks were facing did not originate in their Luxembourgish subsidiary but the Luxembourgish authorities were, nevertheless, compelled to intervene for a non negligible amount.

Based on currently available information, the financial sector does not appear to be less stable or more fragile than those of other EU countries. In particular, Luxembourgish financial institutions seem to have shown a smaller appetite than many foreign ones for risky high-return assets. Another positive factor is that Luxembourg has in recent years not indulged in the kind of real estate bubble experienced by some other countries, which should spare him the brutal downward correction that these countries are facing now: real estate prices went up in Luxembourg but less than in many other countries and this increase was for a large part justified by the strong growth in resident population (more than 10% from 2001 to 2008, which amounts to 1.4% a year on average). However, it must be acknowledged that the sheer size of the financial sector in the economy as well as its extreme dependency on abroad are by themselves sources of concern.

The current economic downturn might have a considerable impact on public finance, especially in view of the importance of the financial sector in the revenues from corporate tax. Tax shortfalls could thus well be considerable but their impact might be more gradual than in most other Member States: in particular, the lag between developments in employment and in output seems particularly long in Luxembourg, which explains why receipts from social contributions have remained buoyant in 2008 and are still projected to grow significantly in 2009, despite the economic downturn. In the same way due to the institutional features of the Luxembourgish tax system, there is also a significant lag between changes in enterprises profits and in the revenues from corporate tax⁵. Considering the expenditure side, the downturn will result in a very strong deceleration, and even a stagnation in job creation but the ensuing surge in unemployment will for a large part affect non-residents (for sake of comparison, two thirds of the jobs created in Luxembourg since 2003, the trough of the previous downturn, were filled by non-residents). Since the non-residents who will lose their job (as well as those who would have found a job in Luxembourg in better circumstances but will not be able to do so in the current juncture) will be entitled to unemployment benefits from the social security system of their country of residence, the impact of the crisis on unemployment spending will be more limited than would seem at first sight in view of the expected sluggishness in employment.

Luxembourg's fiscal "room for manoeuvre" is comparatively large at the beginning of this crisis, thanks to the favourable starting position (a surplus of 2.0% of GDP in 2008), to the very low level of the public debt, despite its doubling in 2008 due to the support operations to the financial sector (14.4% of GDP in 2008, the third lowest in the EU-27 as well as the lowest one in the EU-15 and in the euro area. See below Section 5.1 for comments on debt developments), and to the existence of sizeable assets held by the government, the level of which is at least twice higher than that of the gross debt.. Contingent liabilities, though not negligible⁶, do not seem at the moment to contradict this assessment.

The Luxembourgish authorities took a series of stimulus measures in response to the current downturn. Some measures with a stimulus effect had already been decided in the 2009 budget, which was drafted before the aggravation in the crisis mid-September, but they were not explicitly designed to tackle the crisis, even if they certainly can contribute to this

⁵ As regards corporate tax, a tax receipt is recorded in the year when the amount due is assessed by the tax service, which has 5 years from the moment when the tax return is (or should have been) filed to determine this amount and to demand its payment. Consequently, a fall in enterprise profits in, say, 2009 may affect receipts from the corporate income tax from 2010 until 2015.

⁶ 3% of the 150 billion euro guarantee provided by the Belgian, French and Luxembourg States to Dexia, which amounts to 4.5 billion euro or about 12½% of GDP. See below Section 5.1.

purpose. They were supplemented by other measures, which are detailed in the addendum to the stability programme. The measures foreseen in the budget are essentially tax cuts, especially in personal income tax. Those decided afterwards are chiefly expenditure measures, predominantly in public investment. The measures foreseen in the budget and those decided since then amount together to about 1¾% of GDP. The Luxembourgish authorities also supported the financial system by providing assistance to some financial institutions. These stimulus measures and support operations are discussed in detail in Section 4.2 and 5.1 below.

3. MACROECONOMIC SCENARIO

The macroeconomic scenario of the initial October programme was based on a forecast from the STATEC⁷ dating back to the end of the summer of 2008, before the aggravation of the financial crisis. This scenario projected real GDP to slow down from 5.2% in 2007 to 2.5% in 2008 before re-accelerating to 3.0% in 2009, 4.2% in 2010 and 4.5% in 2011.

The February addendum chooses as macroeconomic reference framework the scenario of the Commission services' January 2009 interim forecast, which does not provide any projection for 2011. It projects private consumption to remain moderately dynamic over the period covered, slightly decelerating but still remaining in positive territory in 2009 before reaccelerating somewhat in 2010. Government consumption and investment should remain buoyant but private investment is projected to decline significantly both in 2008 and 2009 and, as a result, total gross fixed capital formation should post negative growth rates in both years. Similarly, the growth both in exports and in imports of goods and services is forecast to be negative in 2009. As a result, real GDP growth, after declining from 5.2% in 2007 to about 1% in 2008, is projected to turn negative in 2009, falling to -0.9%, before recovering somewhat and reaching 1.4% in 2010. Assessed against currently available info, the scenario appears to be based on plausible growth assumptions for these two years. By contrast, the 4.5% growth rate projected for 2011 by the initial October programme seems broadly compatible with the estimates of potential growth made by the Commission services for the period 2008-2010 but it is not consistent with the growth projections for 2009 and 2010 provided by the addendum. The addendum projects employment growth to remain positive in 2009 but only due to the very large carry-over resulting from the strong job creation recorded in 2008 (total employment still rose by an estimated 4.8% despite the slowdown in output) and to stagnate in 2010. Because of the considerable lag in the reaction of employment to the slowdown in output, productivity (as measured by total value added per person employed) is projected to decrease significantly in 2008 and 2009. As a result, unit labour costs will rise significantly over the period. HICP inflation is forecast to fall from more than 4% in 2008 to hardly more than ½% in 2009 as a result of the drop in oil prices before increasing to about 2½% in 2010. Wages are projected to slow down somewhat in 2009 from about 2¾% in 2008 to around 2¼% and to slightly accelerate to 2 ½% in 2010. These inflation and wages projections seem plausible.

These growth projections imply that the positive output gap (as recalculated by the Commission services based on the information in the programme and following the commonly agreed methodology), which reached 3.2% of GDP in 2007, will significantly contract in 2008 (+1.1%) before turning widely negative in 2009 (-2.5%) and even more in 2010 (-3.8%).

⁷ *Service central de la statistique et des études économiques*, the branch of the Ministry of Economic Affairs, which is in charge both of the production of statistics and of performing economic analysis and forecasting.

The addendum to the programme, like the Commission services January 2009 interim forecast, incorporates the effect of the stimulus measures decided both in the budget and since it was submitted to Parliament at the beginning of last October. In particular, the still rather optimistic projection for private consumption, which is forecast to grow by 1.5% in real terms in 2009 after 1.8% in 2008, is justified by the important cuts in income tax entered into force at the beginning of 2008 and 2009. Similarly, the investment forecast incorporates the rise in government investment foreseen in the 2009 budget as well as the additional increase decided since then.

Table I: Comparison of macroeconomic developments and forecasts

	2008		2009		2010	
	COM	SP	COM	SP	COM	SP
Real GDP (% change)	1.0	1.0	-0.9	-0.9	1.4	1.4
Private consumption (% change)	1.8	1.8	1.5	1.5	1.8	1.8
Gross fixed capital formation (% change)	-2.3	-2.3	-4.4	-4.4	1.9	1.9
Exports of goods and services (% change)	1.3	1.3	-1.6	-1.6	1.7	1.7
Imports of goods and services (% change)	1.4	1.4	-1.5	-1.5	2.0	2.0
<i>Contributions to real GDP growth:</i>						
- Final domestic demand	0.8	0.8	0.0	0.0	1.4	1.4
- Change in inventories	-0.1	-0.1	-0.4	-0.4	0.0	0.0
- Net exports	0.2	0.2	-0.5	-0.5	0.0	0.0
Output gap ¹	1.1	1.1	-2.3	-2.5	-3.5	-3.8
Employment (% change)	4.8	4.8	1.8	1.8	0.0	0.0
Unemployment rate (%)	4.1	4.1	4.9	5.0	5.8	5.7
Labour productivity (% change)	-3.7	n.a.	-2.6	n.a.	1.4	n.a.
HICP inflation (%)	4.1	4.1	0.6	0.6	2.5	2.5
GDP deflator (% change)	0.0	0.0	1.6	1.6	2.7	2.7
Comp. of employees (per head, % change)	2.7	2.7	2.3	2.3	2.5	2.5
Net lending/borrowing vis-à-vis the rest of the world (% of GDP)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Note:						
¹ In percent of potential GDP, with potential GDP growth according to the programme as recalculated by Commission services.						
<i>Source:</i>						
Commission services' January 2009 interim forecasts (COM); Stability programme (SP)						

4. BUDGETARY STRATEGY

4.1. Budgetary implementation in 2008

The previous update of the stability programme, dating back to October 2007, projected the general government surplus to remain around 1% of GDP in 2008-2009, slightly decreasing from 1.0% of GDP in 2007 (this was the estimate of the 2007 surplus at that moment) to 0.8% in 2008 before slightly increasing again to 1.0% in 2009. However, since October 2007, the general government surplus for 2007 was revised upwards from 1.0% to 3.2% of GDP⁸:

⁸ This revision is the latest one in a long series, which resulted in current data of general government balances being since 2004 more than 1 percentage point of GDP better than the first – and often than the following – estimates. For a detailed discussion of these revisions, see the assessment of the 2007 stability programme (http://ec.europa.eu/economy_finance/publications/publication11834_en.pdf). The 2006 surplus was also revised upwards since the submission of the 2007 programme but to a much lesser extent, from an estimated 0.7% of GDP to 1.3%.

according to the October 2008 update, expenditure in 2007 was very close to the level forecast in the 2007 update (37.8% of GDP to be compared with a projected 37.5%) but revenues reached 41.0% of GDP, 2.5 percentage points of GDP higher than planned. These much higher than expected revenues were not due to a stronger than projected GDP growth, which was in fact below forecast (5.2% instead of 6.0% in volume and 6.9% as against 10.6% in value) but to cautious revenues estimates in the 2007 programme.

The 2007 programme planned government revenues to decline by 0.7 percentage point of GDP in 2008 (from 38.5% of GDP in 2007 to 37.8%), chiefly as a result of the cut in income tax foreseen in the 2008 budget⁹ but also due to the projected slowdown in real GDP (which was forecast at that moment to decelerate from an estimated 6.0% in 2007 to 4.5% in 2008). Simultaneously, the expenditure ratio was planned to decrease by 0.6 percentage point of GDP (from 37.5% of GDP in 2007 to 36.9%). As a result, the 2007 programme planned the general government surplus to decline by 0.2 percentage point of GDP, from 1% of GDP in 2007 to 0.8% in 2008.

However, the picture of public finances developments presented by the February 2009 addendum is quite different from that given in the 2007 programme and the general government balance in 2008 is, like in 2007, is much better than planned: according to the addendum, the surplus reached 2% of GDP in 2008, 1.2 percentage point above the projection of the 2007 programme, even though it declined much more than forecast with respect to 2007 (by 1.2 percentage point of GDP instead of 0.2). The Commission services' January 2009 interim forecast, which was based on less recent information than the addendum, projected the general government surplus to have slightly declined from 3.2% of GDP in 2007 to 3% in 2008. The 1 percentage point of GDP difference with the addendum comes from 0.4 percentage point of GDP higher revenues and 0.6 point of GDP lower expenditure than in the addendum.

According to the data provided by the addendum, total revenues rose by 2.2 percentage points of GDP rather than decreasing by 0.7 and reached 43.2% of GDP in 2008 instead of 37.8% as planned. Simultaneously, total expenditure increased by 3.4 percentage points of GDP rather than declining by 0.6 and reached 41.2% of GDP compared to a planned 36.9%. However, these large differences between the projections of the 2007 programme and the current estimates of revenues and expenditure levels are for a large part due to a denominator effect caused by the big and unanticipated drop in real and nominal GDP growth in 2008 (from 5.2% in 2007 to 1.0% in volume and from 6.9% to 1.0% in value)¹⁰. The 2007 programme had foreseen a slowdown in 2008 but to a much lesser extent and only in real terms, since it projected GDP to rise by 4.5% in volume and 7.6% in value in 2008.

The 2008 outcome is thus, according to the latest data, 1.2 percentage point of GDP better than projected in 2007. This result is exclusively due to the positive base effect created by the much more favourable starting position: both revenues and expenditure rose faster than planned in the 2007 programme but the difference between the projection of the programme and the actual increase was much larger for expenditure, which surged by 10.1% instead of 5.9%, while revenues increased by 6.4% compared to a projected 5.6%.

⁹ A 6% increase in income tax brackets. See below section 4.2 for details.

¹⁰ With revenues and expenditure amounting to about 40% of GDP, the fact that nominal GDP rose in 2008 by an estimated 1.0% instead of 6.9% implies that the revenues and expenditure ratios are, *ceteris paribus*, about 2.5 percentage points of GDP higher than projected.

As far as revenues are concerned, receipts from indirect taxes rose nearly twice as fast as planned (by 5.8% as against an expected 3.0%), reflecting the acceleration in nominal consumption, while revenues from direct taxes increased by 7.0% instead of 5.1%. Social contributions rose almost exactly as forecast (by 6.5% instead of 6.6%) and other revenues fell strongly short of expectations, rising by 6.5% as against a projected 13.9%, but their comparatively low level limits the practical importance of this shortfall. As for expenditure, the strong overshooting was exclusively due to primary expenditure, which rose nearly twice faster than forecast (by 10.2% instead of 5.9%). With the exception of transfers in kind, nearly all categories of primary expenditure rose faster than planned, in particular wages and salaries¹¹ (by 9.3% against a planned 7.6%), intermediate consumption¹² (by 10.8% instead of 4.0%) and gross fixed capital formation (by 11.9% instead of 4.9%). Interest payments, on the contrary, increased significantly less than expected but, due to their very low level, this had only a negligible effect on the total rise in government expenditure. These overruns contrast with the years 2006 and 2007, when a moderate increase in expenditure had substantially contributed to the improvement in the general government balance with the rise in spending decreasing from about 10% a year over the period 2001-2004 to about 4½% on average in 2006 and 2007.

In total, the positive base effect resulting from the better-than-expected outcome in 2007 improved the 2008 surplus by about 2.7 percentage points of GDP, while the revenue and expenditure "surprises" reduced it by about 1.8 percentage point of GDP (see Table 1 of Annex 2). Developments in both revenue and expenditure did not include any one-off or other temporary measure worth mentioning.

Government expenditure was not significantly affected by the financial crisis in 2008, which did not yet result in an increase in unemployment. The same holds for revenues: indirect taxes benefited from the fact that private consumption remained relatively dynamic, increasing by an estimated 1.8% in volume and 5.3% in value after 2.0% and 4.1%, respectively, in 2007. Similarly, social contributions were buoyant thanks to the strong employment growth (4.8% after 4.5% in 2007). In fact, the only revenues that felt the effect of the slowdown already in 2008 were those most directly related to the financial markets, especially the "subscription tax" ("*taxe d'abonnement*") which is levied on the value of the investment funds' assets and suffered from the collapse in stock markets in the latest months of the year. The support operations to the financial sector implied the grant by the Luxembourgish authorities of large loans to the subsidiaries of two foreign banks. These loans did not influence directly the government balance, even though their financing resulted in a sizeable increase in the government gross debt and thus indirectly in interest payments. However, the rise in government revenues resulting from the interests paid by these two banks on the loans granted to them will be substantially larger than these additional interest payments (see below section 5.1 for details on debt developments).

¹¹ This increase in the government wage bill is for a part attributable to recruitments for the University of Luxembourg and other public research centres.

¹² Intermediate consumption rose by 0.3 percentage point of GDP in 2008 (from 3.1% of GDP to 3.4%); this increase is for 0.2 point of GDP due to the purchase of military equipment for peace-keeping operations.

4.2. Near-term budgetary strategy

The draft budget for 2009 was submitted to Parliament on 1st October 2008 and adopted on 16 December 2008. The October 2008 programme, which was based on it, projected the general government surplus to decline from an estimated 2.3% of GDP in 2008 to 1.1% in 2009 and 0.8% in 2010 before increasing slightly to 1.0% in 2011. This decline in the surplus projected for 2009 was supposed to be essentially due to non-negligible tax cuts but also to the lagged effect of the economic slowdown in 2008. The tax cuts essentially consisted in a 9% increase in personal income tax brackets, following a similar 6% increase decided in the 2008 budget and entered into force on 1st January 2008. The aim of these adaptations was not initially to limit the impact of the downturn (the decision had been made before the aggravation of the crisis) but to compensate for the non-indexation of income tax brackets since 2001¹³. This increase in tax brackets was supplemented by the replacement of the existing tax reduction for children by a system of tax bonus, which is more favourable for households whose income is too low to be subject to income tax. In total, the *ex ante* cost of these measures was estimated by the programme at about 1.15% of GDP (0.9% for the adaptation in the tax brackets and 0.25% for the introduction of the children bonus). The budget also foresaw a reduction from 22% to 21% of the rate of corporate tax, the effects of which on revenues will be felt from 2010 onwards (see details below in Table II).

However, the February 2009 addendum presents a considerably revised picture of public finance developments in the coming years: the general government surplus is now projected, after declining from 3.2% to 2.0% of GDP in 2008, to turn in 2009 into a 0.6% of GDP deficit, which will widen to 1.5% of GDP in 2010. As already said, the addendum does not provide revised macroeconomic or budgetary projections for 2011.

This 2.6 percentage points of GDP deterioration in the general government balance in 2009 is projected to result from a decline in government revenues amounting to 0.4 percentage point of GDP and from an increase in government expenditure of about 2.2 percentage points of GDP. As far as revenues are concerned, the addendum forecasts direct taxes to decline by about 1 percentage point of GDP as a result of the crisis and of the tax cuts, while social contributions and property income would increase by around ¼ percentage point of GDP each, the former due to the carry-over resulting from still buoyant employment growth until the end of 2008 and the latter thanks to the interests on the loans granted in support of the financial sector. As for expenditure, the 2.2 percentage points of GDP rise would chiefly result from significant increases in government consumption (0.7 percentage point of GDP) and investment (0.5 percentage point of GDP) as well as in social transfers (1.2 percentage point of GDP)¹⁴, the latter being for a part due to the replacement of the tax reduction for children by a system of tax bonus¹⁵ and for a part to the expected rise in unemployment.

¹³ Income tax brackets have thus been raised by about 15% in two years (6% in 2008 and 9% in 2009), which broadly corresponds to the increase in the real tax burden resulting from their non-indexation since 2001.

¹⁴ This increase in social transfers would amount to 1 percentage point of GDP for transfers in cash and 0.2 percentage point of GDP for transfers in kind. The latter being also a part of government consumption, the total increase in public expenditure (2.2 percentage point of GDP) is 0.2 percentage point of GDP lower than the sum of the changes in its components.

¹⁵ The suppression of the tax reduction for children implies an increase in the receipts from the income tax, while the introduction of the tax bonus is recorded as a transfer.

Table II. Main budgetary measures for 2009

Revenue measures ¹	Expenditure measures ²
Measures in response to the downturn	
<ul style="list-style-type: none"> ▪ Reimbursement (until end 2009) of the employers' share of unemployment benefits in case of partial unemployment: not quantified. 	<ul style="list-style-type: none"> ▪ Acceleration in government investments (on top of the increase foreseen in the budget : +0.4% of GDP) ▪ Subsidies for purchases of energy-efficient household appliances and cars and for investments in energy efficiency (+0.1% of GDP).
Other measures (having a stimulus effect but not specifically designed as a response to the downturn)	
<ul style="list-style-type: none"> ▪ Increase by 9% of income tax brackets with effect on 1st January 2009 (-0.9% of GDP) ▪ Abolition of the "<i>droit d'apport</i>" (the 0.5% tax due on the capital of a newly created company or on an increase in the capital of an existing one): probably less than -¼% of GDP¹⁶. It is replaced by a flat tax of euro 75. ▪ N.B.: the (not quantified) effect of the reduction in the corporate tax rate from 22% to 21% will be felt from 2010 onwards. 	<ul style="list-style-type: none"> ▪ Increase in government investments (foreseen in the budget : +0.1% of GDP) ▪ Replacement of the current system of tax reduction for children by a tax bonus (net effect of the reform : increase in transfers to households minus increase in income taxes paid : +0.25% of GDP)
<p><u>Note:</u></p> <p>¹ Estimated impact on general government revenue</p> <p>² Estimated impact on general government expenditure</p> <p><u>Source:</u> Commission services, 2009 budget, 2008 stability programme and its February 2009 addendum.</p>	

Since the 2009 budget was submitted to Parliament, Luxembourg took additional support measures on top of those foreseen in the budget, in line with the European Economic Recovery Plan adopted in December by the European Council¹⁷. These measures chiefly consist in an acceleration in government investment, which is now planned to increase by 0.5 percentage point of GDP in 2009 instead of 0.1 as initially foreseen in the budget. They also comprise subsidies for the purchase of energy-efficient household appliances, for the replacement of cars more than 10 years old by new ones with a lower energy consumption and for energy-saving investments. The addendum estimates the budgetary cost of these subsidies to 0.1% of GDP in 2009. Furthermore, the employers' share of the unemployment

¹⁶ Receipts from the "*droit d'apport*" amounted to 97 million euro in 2008 (about ¼% of GDP) but taking into account the effects of the crisis, they would most probably have decreased in 2009.

¹⁷ Commission Communication of 26 November 2008 on the European Economic Recovery Plan, COM (2008) 800, http://ec.europa.eu/commission_barroso/president/pdf/Comm_20081126.pdf.

benefit in case of partial unemployment will be reimbursed by the government until the end of 2009. In total, including the tax cuts foreseen in the budget, the stimulus measures will amount to about 1¾% of GDP, of which about ½% was specifically decided after the submission of the budget to Parliament in response to the European Economic Recovery Plan. These measures provide thus a mix of revenue and expenditure instruments, with the revenue measures accounting for a bit more than the half of the total. In line with the principles set out in the Commission Communication on the European Economic Recovery Plan, they are timely and generally targeted. However, they are for a large part not transitory :

- the reduction in income tax, the acceleration in government investment as well as the subsidies to the purchase of energy-efficient durable goods and to investments in energy efficiency are timely since they will – or are liable to - have an impact on growth already in 2009.
- The measures are generally targeted: they aim at supporting private consumption and investment as well as boosting public investment. As far as private consumption is concerned, the effect of the cuts in income tax may be reduced by an increase in the households' saving ratio caused by the decline in consumers' confidence. By contrast, the subsidies to the acquisition of energy-efficient durable goods and to investments in energy efficiency will by definition only be granted in case of an actual purchase or investment. Due to the possible increase in the saving ratio and to the very high imports contents of private consumption in Luxembourg, the effect on GDP growth of the boost to public investment, which has a lower import contents because it comprises a large part of construction, is likely to be higher than that of the measures supporting private consumption.
- The cut in income tax foreseen by the 2009 budget is in principle supposed to be permanent since it was primarily designed to compensate for the increase in the tax burden resulting from the non-indexation of income tax brackets since 2001. By contrast, the subsidies for the purchase of energy-efficient durables are only scheduled to last until the end of 2009 and those for investments in energy efficiency until the end of 2012¹⁸, while the acceleration in government investment projects can easily be reversed when the economy has recovered.

Despite the non negligible deterioration in the headline government balance planned for 2009 and 2010, the structural balance (recalculated by the Commission services) is projected to remain in surplus, declining from about 1½% of GDP in 2008 to slightly more than ½% in 2009. The overall fiscal stance as measured by changes in this structural balance appears thus to be expansionary in 2009 since the decline in the structural surplus amounts to about 1 percentage point of GDP.

The addendum to the programme projects the largest part of the deterioration in the general government balance in 2009 (2.2 percentage point of GDP out of a total of 2.6) to result from an increase in the central government deficit, which would rise from 0.8% of GDP in 2008 to 3.0% in 2009. The small surplus of the local authorities (0.2% of GDP in 2008) would turn into a small deficit (-0.1% of GDP) and the surplus of the social security system would remain broadly unchanged around 2½% of GDP.

¹⁸ Subsidies must be asked at the latest on 31 December 2010 and the invoice presented at the latest on 31 December 2012.

Table III: Composition of the budgetary adjustment

(% of GDP)	2007	2008		2009		2010		Change: 2008-2010	
	COM	COM	SP	COM	SP	COM ¹	SP	COM	SP
Revenue	41.0	43.6	43.2	44.0	42.8	42.9	42.8	-0.7	-0.4
<i>of which:</i>									
- Taxes on production and imports	12.7	13.4	13.3	13.6	13.3	13.6	13.5	0.3	0.2
- Current taxes on income, wealth, etc.	13.5	14.2	14.3	12.9	13.3	12.0	13.1	-2.2	-1.2
- Social contributions	11.1	12.0	11.7	12.5	12.0	12.4	11.9	0.4	0.2
- Other (residual)	3.8	4.0	3.9	4.9	4.2	4.9	4.3	0.9	0.4
Expenditure	37.8	40.6	41.2	43.5	43.4	44.3	44.3	3.7	3.1
<i>of which:</i>									
- Primary expenditure	37.5	40.3	40.9	43.0	43.0	43.8	43.8	3.5	2.9
<i>of which:</i>									
Compensation of employees	7.3	7.8	7.9	8.3	8.1	8.3	8.2	0.5	0.3
Intermediate consumption	3.1	3.4	3.4	3.5	3.6	3.5	3.5	0.1	0.1
Social payments	17.9	19.2	19.3	20.7	20.3	21.2	20.3	2.0	1.0
Subsidies	1.5	1.5	1.6	1.6	1.7	1.6	1.6	0.1	0.0
Gross fixed capital formation	3.7	4.1	4.1	4.5	4.6	4.8	5.0	0.6	0.9
Other (residual)	4.0	4.2	4.6	4.4	4.7	4.4	5.0	0.2	0.4
- Interest expenditure	0.3	0.3	0.3	0.5	0.4	0.5	0.5	0.3	0.2
General government balance (GGB)	3.2	3.0	2.0	0.4	-0.6	-1.4	-1.5	-4.4	-3.5
Primary balance	3.5	3.3	2.3	1.0	-0.3	-0.9	-1.2	-4.1	-3.5
One-off and other temporary measures	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GGB excl. one-offs	3.2	3.0	2.0	0.4	-0.6	-1.4	-1.5	-4.4	-3.5
Output gap ²	3.2	1.1	1.1	-2.3	-2.5	-3.5	-3.8	-4.6	-4.9
Cyclically-adjusted balance ²	1.6	2.4	1.5	1.6	0.6	0.3	0.4	-2.1	-1.1
Structural balance³	1.6	2.4	1.5	1.6	0.6	0.3	0.4	-2.1	-1.1
<i>Change in structural balance</i>		<i>0.8</i>	<i>-0.2</i>	<i>-0.8</i>	<i>-0.8</i>	<i>-1.3</i>	<i>-0.3</i>		
Structural primary balance ³	1.9	2.7	1.8	2.1	1.0	0.9	0.9	-1.9	-0.9
<i>Change in structural primary balance</i>		<i>0.8</i>	<i>-0.2</i>	<i>-1.7</i>	<i>-0.7</i>	<i>-0.4</i>	<i>0.6</i>		
Notes:									
¹ On a no-policy-change basis.									
² Output gap (in % of potential GDP) and cyclically-adjusted balance according to the programme as recalculated by Commission services on the basis of the information in the programme.									
³ Structural (primary) balance = cyclically-adjusted (primary) balance excluding one-off and other temporary measures.									
<i>Source:</i>									
<i>Stability programme (SP); Commission services' January 2009 interim forecasts (COM); Commission services' calculations</i>									

4.3. Medium-term budgetary strategy

The programme envisages over the period covered a significant deterioration in the general government balance, which would decline from a surplus of 2.0% of GDP in 2008 to a deficit of 1.5% of GDP in 2010. The public debt and the interest payments being very low¹⁹, the primary balance would follow a very similar path, decreasing from a surplus of 2.3% of GDP in 2008 to a deficit of 1.2% in 2010. This budgetary target for 2010 is a projection made under a no-policy change assumption and does not require additional measures in order to be achieved.

¹⁹ Even after the doubling of the government debt in 2008, interest payments are not projected to exceed 0.4% of GDP.

With respect to 2009, the addendum projects general government revenues to remain stable at 42.8% of GDP in 2010 : revenues from indirect taxes would increase by 0.2 percentage point of GDP, following the slight projected acceleration in private consumption, while direct taxes would decline by a similar amount, reflecting the delayed effects of the crisis on enterprises' profits. Social contributions would marginally decline (by 0.1 percentage point of GDP) due to the further deceleration in employment but other revenues would increase by the same amount. On the other hand, expenditure is projected to rise by an additional 0.9 percentage point of GDP in 2010, due in particular to another significant increase in government investment, which is now planned to increase by 0.4 percentage point of GDP in 2009 and by 0.9 over the two years 2009 and 2010 (from 4.1% of GDP in 2008 to 4.6% in 2009 and 5.0% in 2010), while the 2009 budget and the initial October 2008 programme projected it to rise by 0.4 percentage point of GDP over these two years. Simultaneously, the residual item "other current expenditure" would increase by 0.3 percentage point of GDP in 2009.

As already said, the addendum does not provide any actualised projection for 2011. The initial October programme projected a surplus of 1.0% of GDP in 2011 but starting from a surplus of 0.8% of GDP in 2010, while the addendum now projects a 1.5% of GDP deficit in that year. The surplus projected by the initial programme for 2011 is thus not consistent with the deficits projected by the addendum for 2009 and 2010 and cannot be taken into account for the assessment.

Due to the large and rising negative output gaps resulting from the sharp worsening in economic conditions, the decline in the headline government balance would not prevent the structural balance from remaining in surplus, though declining from about 1½% of GDP in 2008 to slightly more than ½% in 2009 and slightly less in 2010. The fiscal stance described by the addendum may thus be characterised (at unchanged policy) as mildly expansionary in 2010, with the structural surplus decreasing by about ¼% of GDP. Moreover, the medium-term objective (hereafter MTO) of Luxembourg, which is a structural deficit of ¾% of GDP (unchanged with respect to the previous programmes), is thus planned to be respected throughout the period covered.

4.4. Risks to the budgetary targets

The budgetary targets of the programme are subject to a series of risks, some of which stem from the macroeconomic scenario, in particular the risk that private consumption might prove less resilient than expected. The scenario foresees that consumption will remain rather dynamic, at least in comparison with most other EU countries, thanks to the important tax cuts operated in 2008 and 2009 and despite the deterioration in consumers' confidence, which remained, however, higher than in most other Member States.

For 2008, as already said, the addendum estimates the general government surplus 1 percentage point of GDP lower than the Commission services' interim forecast, due to a smaller rise in revenues (2.2 percentage points of GDP instead of 2.5) and a stronger increase in expenditure (3.4 percentage points of GDP as against 2.8). As already mentioned, in recent years, public finance outcomes have generally been better than the targets and than the first estimates. This might be the case again for 2008 and the starting position might thus be more favourable than the programme's estimate.

For 2009, the addendum to the programme and the Commission services' interim forecast, starting from these relatively different estimates for the general government balance in 2008, project a deterioration of exactly the same magnitude (2.6 percentage point of GDP). The addendum provides less optimistic projections for revenues (a decrease by 0.4 percentage

point of GDP instead of an increase by the same amount in the Commission services' interim forecast) and more optimistic ones for expenditure (an increase by 2.2 percentage points of GDP in the addendum and by 3.0 percentage points of GDP in the forecast). For 2010, the addendum projects the general government deficit to increase by 0.9 percentage point of GDP, while the Commission services' forecast the government balance to deteriorate by 1.8 percentage point of GDP (from a surplus of 0.4% of GDP to a deficit of 1.4% of GDP). In total, the Commission services' forecast thus projects a larger deterioration in the general government balance from 2008 to 2010 (4.4 percentage points of GDP as against 3.5) but starting from an estimated outcome for 2008 which is more favourable by 1 percentage point of GDP. This explains that the projections for 2010, the last year of the period covered, are very close (a deficit of 1.4% of GDP in the forecast and 1.5% according to the addendum).

The revenue projections presented in the addendum are less optimistic than those of the Commission services' forecast for 2009 and more optimistic for 2010. In total, the addendum projects government revenues to decline by 0.4 percentage point of GDP from 2008 to 2010 to be compared with a decline by 0.7 percentage point of GDP according to the Commission services forecast. However, since the starting point in 2008 is more favourable by 0.3 percentage point of GDP in the forecast, the two revenues projections at the end of the period are extremely close (42.9% and 42.8% of GDP, respectively).

As far as developments in expenditure are concerned, the increase is larger in the programme in 2008 (3.4 percentage points of GDP as against 2.8) and smaller in 2009 (2.2 percentage points of GDP instead of 3.0 in the forecast). For 2010, the two projections are very similar: an increase by 0.8 percentage point of GDP in the Commission services forecast and 0.9 according to the programme, leading to exactly the same level of expenditure, 44.3% of GDP.

The general impression is thus that, despite differences on some specific points, the global picture of public finance developments given by the two projections is relatively similar, with a larger deterioration in the Commission services' forecast but compensated by a more favourable starting point, so that the levels of revenues, expenditure and deficit projected for the end of the period are actually very close.

As already stated, the cuts in income tax and the replacement of the tax deduction for children by a tax bonus are in principle not planned to be temporary. However, this will not prevent the MTO from being respected all along the programme period, with the structural balance even always remaining in surplus. The permanent character of these measures does thus not seem to constitute a risk for the long-term sustainability of public finances, especially in view of the fact that their size remains relatively limited²⁰, that the starting budgetary position (a sizeable surplus in 2008) is very favourable and that the public debt is very low.

Luxembourg's track record in terms of respecting its budgetary targets has been very good in recent years as outcomes have always been significantly better than targets and than initial estimates. Clearly, this good performance was for a large part due to strong GDP and revenues growth but the sizeable improvement in the general government balance recorded between 2004 and 2007 (4.5 percentage points of GDP in three years) was also for a part due to a significant restraint in expenditure growth, which, as already said, decreased from about 10% a year over the period 2001-2004 to about 4½% on average in 2006 and 2007, while the growth in nominal GDP reached more than 9% a year on average in these two years.

²⁰ The largest part – by far – of the projected increase in the public debt during the programme period will result from below the line operations, namely the support measures to the financial sector, and not from the deficit.

However, as mentioned before, in 2008, expenditure rose nearly twice faster than initially planned.

Additional risks could stem from potential financial rescue operations. However, these risks are extremely difficult to quantify and assess. The only things that can be said at this stage is that, in view of the size of the financial sector, contingent liabilities may be substantial but that there is no indication that these risks will materialise in the future.

In total, the overall assessment of the balance of risks seems broadly neutral and the programme's budgetary projections appear plausible.

5. DEBT DEVELOPMENTS AND LONG-TERM SUSTAINABILITY

5.1. Debt developments

The general government gross debt doubled at the end of 2008, jumping from 7.0% of GDP at the end of 2007 to 14.4%, as a result of the financing of the support operation to the financial sector, which took the form of a loan to the local subsidiaries of Fortis and Dexia²¹. This loan was financed by the issuance of government bonds in the public. The rise in the debt resulting from this operation was thus totally matched by a correlative increase in government assets. Moreover, the return on the loans granted to these banks is significantly higher than the interest paid on the new government bonds. The Addendum foresees the gross debt to increase to 14.9% of GDP in 2009 and 17% in 2010 as a result of the financing of the deficits projected for these two years and also of some investment projects financed by public-private partnership and amounting to about 1.5% to 1.8% of GDP per year over the period 2008-2010.

²¹ The Luxembourgish government lent euro 2.4 billion to Fortis Luxembourg and 376 million to Dexia Luxembourg (6.6% and 1.0% of GDP, respectively). These loans are convertible in shares within 3 years. It also decided together with the Belgian and French governments to guarantee borrowings by Dexia. The guarantee covers Dexia's liabilities towards credit institutions and institutional counterparties, as well as bonds and other debt securities issued for the same counterparties, provided that these liabilities, bonds or securities fall due before 31 October 2011 and have been contracted, issued or renewed between 9 October 2008 and 31 October 2009. The total amount of the guarantee is 150 billion euro, of which 3% or 4.5 billion for the Luxembourgish government, which amounts to about 12½% of the country's GDP. This guarantee has not led to any disbursement up to now.

Table IV: Debt dynamics

(% of GDP)	average 2002-06	2007	2008		2009		2010	
			COM	SP	COM	SP	COM	SP
Gross debt ratio¹	6.3	7.0	14.4	14.4	15.0	14.9	15.1	17.0
Change in the ratio	0.0	0.4	7.4	7.4	0.6	0.5	0.1	2.1
<i>Contributions² :</i>								
1. Primary balance	-0.7	-3.5	-3.3	-2.3	-1.0	0.3	0.9	1.2
2. “Snow-ball” effect	-0.3	-0.2	0.2	0.2	0.4	0.2	-0.1	-0.3
<i>Of which:</i>								
Interest expenditure	0.2	0.3	0.3	0.3	0.5	0.3	0.5	0.3
Growth effect	-0.3	-0.3	-0.1	-0.1	0.1	0.1	-0.2	-0.2
Inflation effect	-0.2	-0.1	0.0	0.0	-0.2	-0.2	-0.4	-0.4
3. Stock-flow adjustment	1.0	4.1	10.5	9.5	1.2	0.0	-0.7	1.2
<i>Of which:</i>								
Cash/accruals diff.	0.3	-1.3		n.a.		n.a.		n.a.
Acc. financial assets	0.8	5.3		n.a.		n.a.		n.a.
<i>Privatisation</i>	0.0	0.0		n.a.		n.a.		n.a.
Val. effect & residual	0.0	0.0		n.a.		n.a.		n.a.

Notes:
¹End of period.
²The snow-ball effect captures the impact of interest expenditure on accumulated debt, as well as the impact of real GDP growth and inflation on the debt ratio (through the denominator). The stock-flow adjustment includes differences in cash and accrual accounting, accumulation of financial assets and valuation and other residual

Source:
Stability programme (SP); Commission services' January 2009 interim forecasts (COM); Commission services' calculations

5.2. Long-term debt projections and the sustainability of public finances

This section presents sustainability indicators based on the long-term age-related government spending as projected by the Member States and the EPC in 2006 according to an agreed methodology.²²

Table 4 in the Annex shows that the projected increase in age-related spending is rising by 8.4% of GDP between 2010 and 2050, above the EU average. Sustainability indicators for two scenarios are presented in Table 5 in the Annex. Including the increase of age-related expenditure and assuming that the structural primary balance remained at its 2008 level, the sustainability gap (S2)²³ would amount to 7.3% of GDP; about ¾ percentage point less than in

²² Economic Policy Committee and the European Commission (2006), 'The impact of aging on public expenditure: projections for the EU-25 Member States on pensions, health care, long-term care, education and unemployment transfers (2004-50)', *European Economy – Special Report No. 1/2006*. European Commission (2006), 'The long-term sustainability of public finances in the European Union', *European Economy No. 4/2006*. European Commission (2008), *Public finances in EMU – 2008*, *European Economy No. 4/2008*.

²³ The S2 indicator is defined as the change in the current level of the structural primary balance required to make sure that the discounted value of future structural primary balances (including the path of property income) covers the current level of debt.

last year's assessment, which is due to a higher estimated structural primary balance in the starting year. The starting budgetary position is more than sufficient to stabilize the debt ratio over the long-term but only partly offsets the budgetary impact of age-related expenditure.

The "programme scenario" is based on the structural primary balance at the end-of-programme, which is taken to be 2010, the last year for which the addendum submitted by the authorities updated the projections of the October 2008 programme. This scenario shows an even increased gap, indicating increased risks to long-term sustainability of public finances.

Based on the assumptions used for the calculation of the sustainability indicators, Figure 4 in the Annex displays the projected debt/GDP ratio over the long-term. For an overall assessment of the sustainability of public finances, other relevant factors are taken into account. They are summarized in Table 6 in the Annex.

The long-term budgetary impact of ageing is among the highest in the EU, influenced notably by a very considerable projected increase in pension expenditure. The budgetary position in 2008 as estimated in the programme, which is better than the starting position of the previous programme, the low debt ratio, the significant assets accumulated in social security, and a structural primary surplus contribute to offsetting the projected long-term budgetary impact of ageing populations. However, this is not sufficient to cover the sizeable increase in age-related expenditure. Moreover, the budgetary plans until 2010 imply that the structural primary surplus would no longer make a contribution to addressing the budgetary cost of ageing. Achieving high primary surpluses over the medium term and, as recognized by the authorities, implementing measures aimed at curbing the substantial increase in age-related expenditures would contribute to reducing the medium risk to the sustainability of public finances.

6. INSTITUTIONAL FEATURES OF PUBLIC FINANCES

The quality of Luxembourgish public finance appears above average: the country's current fiscal position can be considered as very good: the country recorded a substantial surplus at the onset of the current crisis and the government debt, despite its doubling in 2008, is the lowest in the euro area. However, as stressed before, this favourable short-term position should not hide the sustainability problem resulting from the rise in public age-related expenditure, which will be among the most acute in the EU.

General government expenditure is low compared to most other Member States, even if this is for a part due to the high level of GDP, which is amplified by the very large number of non-residents working in the country (about 40% of total labour force in 2007). Public expenditure seems comparatively efficient: government consumption is low while public investment is the highest among the 15 "old" Member States. By contrast, government spending on R&D is low but it is planned to increase substantially as a result of the development of the University of Luxembourg. Similarly, the efficiency of expenditure on education seems only average.

Like public expenditure, government revenues are low in percentage of GDP compared to most other Member States but with the same qualification: comparisons with other countries are distorted by the very high level of GDP. Taxes on labour income are comparatively low: they are significantly lower than the EU average and considerably lower than in neighbouring countries (around 15% of GDP as against an average of about 20% for the EU and between 20 and 25% for Belgium, France or Germany). By contrast, the interplay of tax and benefit systems provides rather little incentive to move from social assistance or unemployment to work, especially at the lower end of the wage scale but this is probably more due to the generosity of social benefits than to the taxation of labour income.

7. ASSESSMENT

This section assesses the budgetary strategy, taking into account risks, in the light of (i) the adequacy of the fiscal stimulus package in response to the Commission Communication of 26 November 2008 on the European Economic Recovery Plan (EERP) as endorsed by the European Council conclusions on the European Economic Recovery Plan (EERP) on 16 December 2008 and the overall fiscal stance (ii) the criteria for short-term action laid down in the above mentioned Commission Communication, and (iii) the objectives of the Stability and Growth Pact. .

The budgetary strategy described by the addendum to the 2008 stability programme for the years 2009 and 2010 is thus to make ample use of the large available fiscal space to supplement the normal play of the automatic stabilisers by discretionary stimulus measures consisting both of tax cuts and of additional public expenditure. As a result, the general government surplus will turn into a deficit, which is currently projected both by the addendum and by Commissions services' January 2009 forecast to reach about 1½% of GDP in 2010. This deficit would thus remain relatively far from the 3% of GDP limit set by the Treaty and, owing to the large and rising negative output gaps created by the downturn, it would not prevent the medium-term objective, which, as mentioned before, is a structural deficit of ¾% of GDP, to be respected and the structural balance to remain even in surplus all along the period covered.

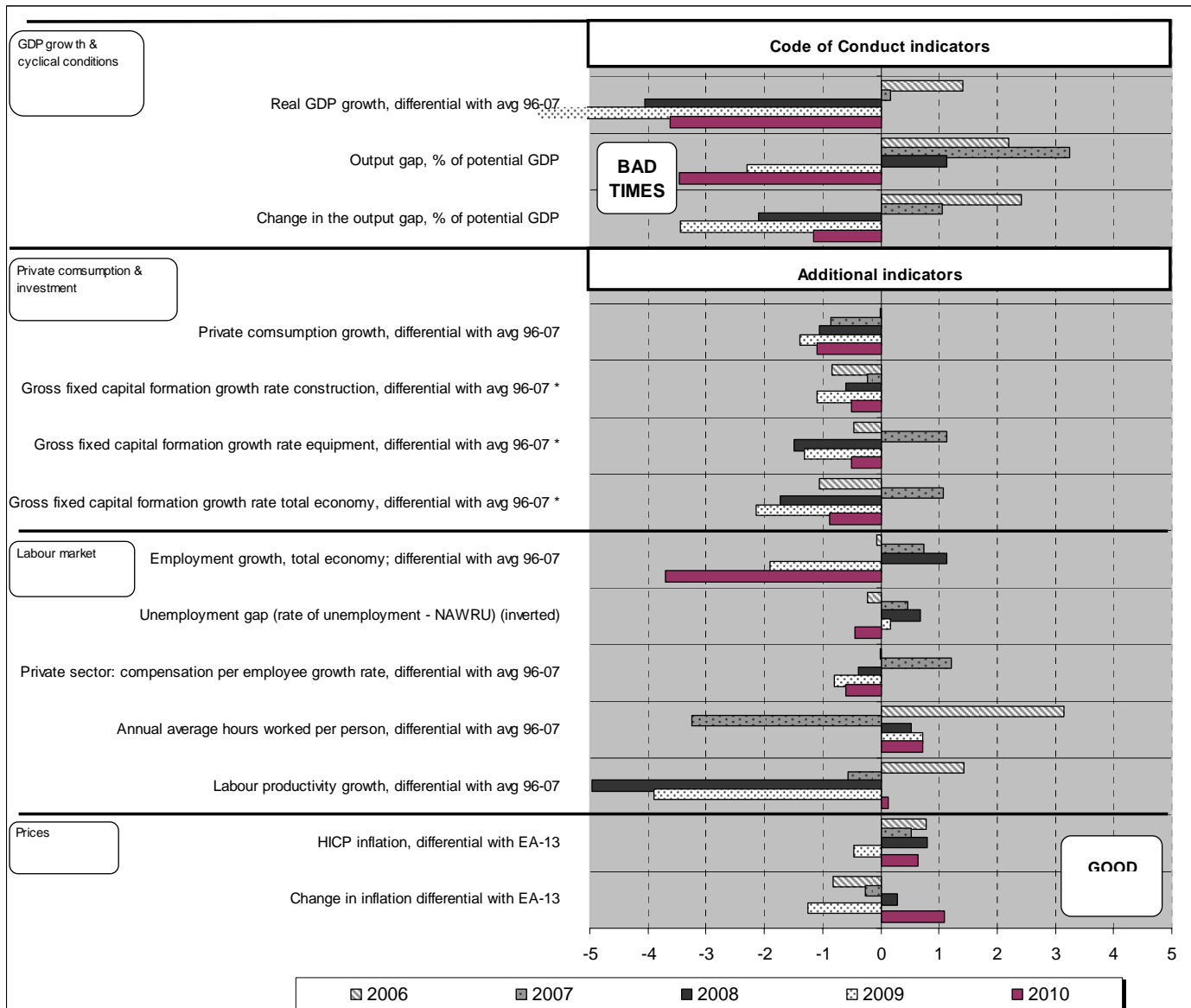
The fiscal stimulus package for 2009 seems adequate in view of its size (about 1¾% of GDP) and of the comparatively large fiscal space available to Luxembourg. The overall fiscal stance, which can be described as expansionary in 2009 and mildly expansionary in 2010, seems similarly adequate, in particular for 2009. Additional stimulus measures might have to be envisaged later for 2010, should developments in economic conditions require. The measures taken are likely to boost demand, with the double qualification that, due to the deterioration in economic conditions and consumers' confidence, the effect of the tax cuts on private consumption might be smaller than expected and that, due to the very high imports contents of global demand in Luxembourg, the impact of these measures on GDP will be significantly smaller than that on demand.

The stimulus measures are in line with the criteria mentioned in the Commission Communication of 26 November 2008 with the proviso that a large part of the package, especially the cuts in income tax, is not planned to be transitory. However, given the favourable starting budgetary position and the very low level of the public debt, it is very unlikely that the permanent character of these measures could jeopardise the long-term sustainability of public finances. Moreover, if necessary, these tax cuts as well as the increase in public investment decided at the same time could be reversed in the future.

And, finally, these measures as well as the budgetary strategy of which they constitute the main element are in line with the Stability and Growth Pact since the deterioration in the government headline balance does not prevent the medium term objective from being respected by a large margin, with the structural balance even projected to remain in surplus throughout the programme period.

ANNEX 1. ADDITIONAL TABLES AND FIGURES

Figure 1: Good and bad economic times



Source: Commission services' January 2009 forecast (COM) and successive stability programmes

Table 1: Budgetary implementation in 2008

	2007		2008	
	Planned	Outcome	Planned	Outcome
	SP Nov 2007	SP Oct 2008	SP Nov 2007	SP Oct 2008
Government balance (% of GDP)	1.0	3.2	0.8	2.0
Difference compared to target	2.2		1.2	
<i>Of which:</i> due to a different starting position end 2007			2.7	
due to different revenue / expenditure growth in 2008			1.8	
p.m. Denominator effect and residual ^{2,3}			0.1	
<i>p.m. Nominal GDP growth (planned and outcome)</i>			7.6	1.0
Revenue (% of GDP)	38.5	41.0	37.8	43.2
Revenue surprise compared to target¹	2.5		5.4	
<i>Of which:</i> due to a different starting position end 2007			2.5	
due to different revenue growth in 2008			0.3	
p.m. Denominator effect ²			2.5	
p.m. Residual ³			0.2	
<i>p.m. Revenue growth rate (planned and outcome)</i>			5.6	6.4
Expenditure (% of GDP)	37.5	37.8	36.9	41.2
Expenditure surprise compared to target¹	-0.3		-4.3	
<i>Of which:</i> due to different starting position end 2007			-0.3	
due to different expenditure growth rate in 2008			-1.5	
p.m. Denominator effect ²			-2.3	
p.m. Residual ³			-0.2	
<i>p.m. Expenditure growth rate (planned and outcome)</i>			5.9	10.1
Notes:				
¹ A positive number implies that the outcome was better (in terms of government balance) than planned.				
² The denominator effect captures the mechanical effect that, if GDP turns out higher than planned, the ratio of revenue or expenditure to GDP will fall because of a higher denominator. Although the denominator effect can be very significant for revenue and				
³ The decomposition leaves a small residual that cannot be assigned to the previous components. The residual is generally small, except in some cases where planned and actual growth rates of revenue, expenditure and GDP differ significantly.				
<i>Source: Commission services</i>				

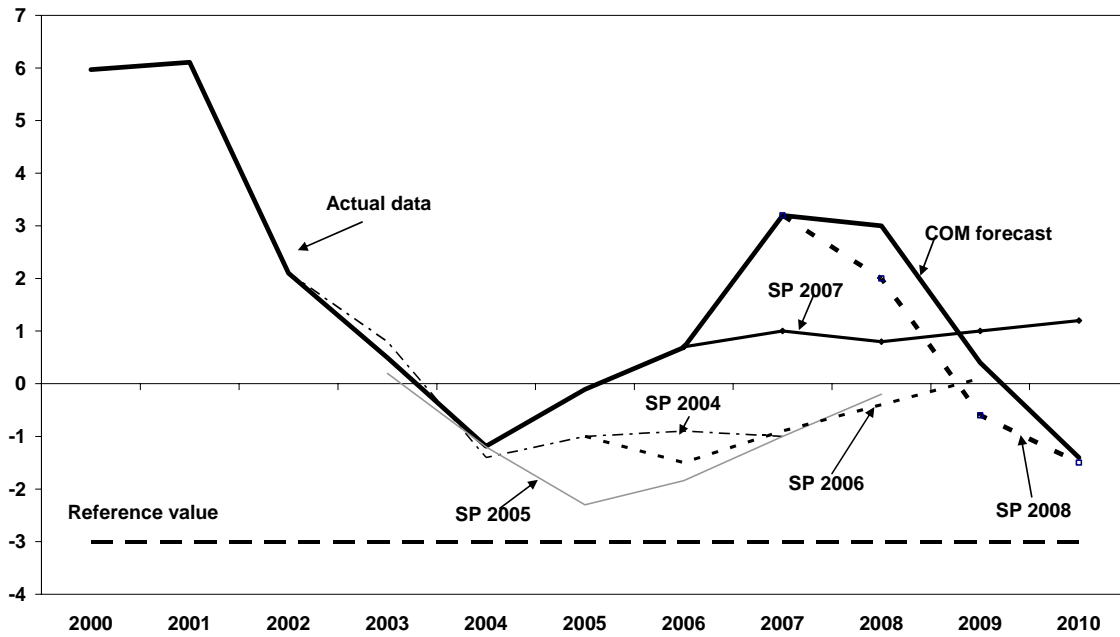
Table 2: Evolution of budgetary targets in successive programmes

		2007	2008	2009	2010
General government balance (% of GDP)	SP Oct 2008	3.2	2.0	-0.6	-1.5
	<i>SP Nov 2007</i>	<i>1.0</i>	<i>0.8</i>	<i>1.0</i>	<i>1.2</i>
	COM Jan 2009	3.2	3.0	0.4	-1.4
General government expenditure (% of GDP)	SP Oct 2008	37.8	41.2	43.4	44.3
	<i>SP Nov 2007</i>	<i>37.5</i>	<i>36.9</i>	<i>36.9</i>	<i>36.6</i>
	COM Jan 2009	37.8	40.6	43.5	44.3
General government revenue (% of GDP)	SP Oct 2008	41.0	43.2	42.8	42.8
	<i>SP Nov 2007</i>	<i>38.5</i>	<i>37.8</i>	<i>37.9</i>	<i>37.8</i>
	COM Jan 2009	41.0	43.6	44.0	42.9
Structural balance ¹ (% of GDP)	SP Oct 2008	1.6	1.5	0.6	0.4
	<i>SP Nov 2007</i>	<i>0.7</i>	<i>0.8</i>	<i>0.9</i>	<i>1.6</i>
	COM Jan 2009	1.6	2.4	1.6	0.3
Real GDP (% change)	SP Oct 2008	5.2	1.0	-0.9	1.4
	<i>SP Nov 2007</i>	<i>6.0</i>	<i>4.5</i>	<i>5.0</i>	<i>4.0</i>
	COM Jan 2009	5.2	1.0	-0.9	1.4
Note:					
¹ Cyclically-adjusted balance excluding one-off and other temporary measures. Cyclically-adjusted balances according to the programmes as recalculated by the Commission services on the basis of the information in the programmes. There are no one-off or other temporary measures according to the most recent programme and to the Commission services' January interim forecast.					
<i>Source:</i>					
<i>Stability programmes (SP); Commission services' January 2009 interim forecasts (COM)</i>					

Table 3: Assessment of tax projections

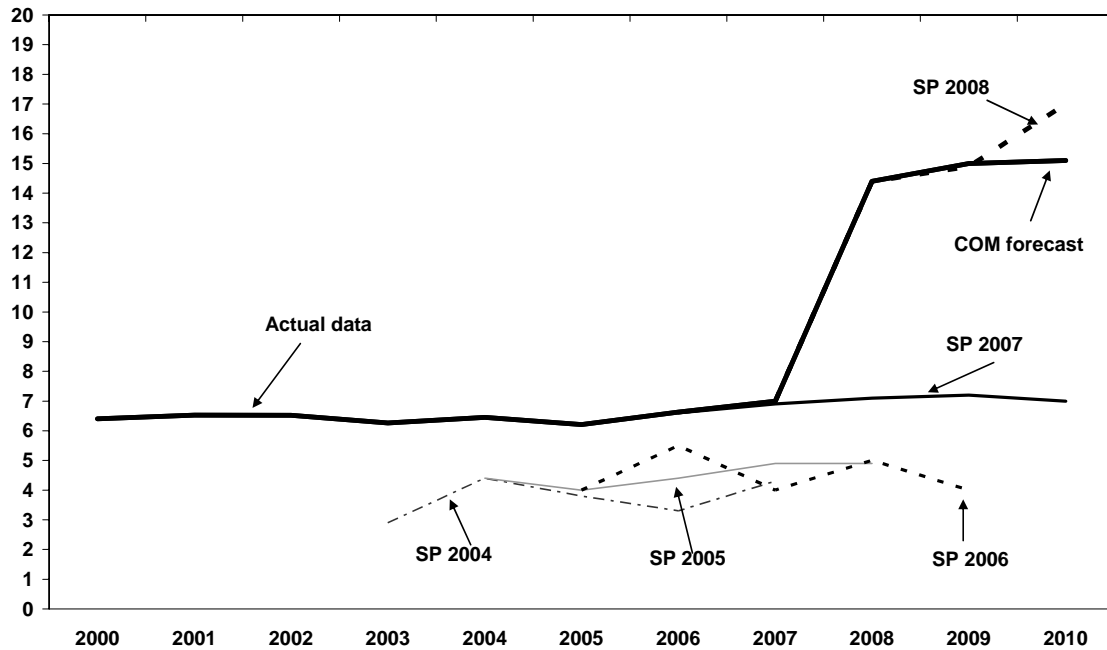
	2009			2010		
	SP	COM	OECD ³	SP	COM ¹	OECD ³
Change in tax-to-GDP ratio (total taxes)	-0.7	-0.5	0.0	-0.1	-1.1	0.2
Difference (SP – COM)	-0.2		/	-0.2		/
<i>of which²:</i>						
- discretionary and elasticity component	<i>n.a.</i>		/	<i>n.a.</i>		/
- composition component	<i>n.a.</i>		/	<i>n.a.</i>		/
Difference (COM - OECD)	/	-0.5		/	-1.3	
<i>of which²:</i>						
- discretionary and elasticity component	/	-0.1		/	-1.3	
- composition component	/	1.8		/	0.0	
p.m.: Elasticity to GDP	-1.2	-0.7	1.1	0.9	0.3	1.1
Notes:						
¹ On a no-policy change basis.						
² The composition component captures the effect of differences in the composition of aggregate demand (more tax rich or more tax poor components). The discretionary and elasticity component captures the effect of discretionary fiscal policy measures as well as variations of the yield of the tax system that may result from factors such as time lags and variations of taxable income that do not necessarily move in line with GDP, e.g. capital gains. The two components may not add up to the total difference because of a residual component, which is generally small.						
³ OECD ex-ante elasticity relative to GDP.						
<i>Source:</i>						
<i>Commission services' January 2009 interim forecasts (COM); Stability programme (SP); Commission services' calculations; OECD (N. Girouard and C. André (2005), "Measuring Cyclically-Adjusted Budget Balances for the OECD Countries", OECD Working Paper No. 434).</i>						

Figure 2: Government balance projections in successive programmes (% of GDP)



Sources: Commission services' January 2009 interim forecast (COM) and successive stability programmes

Figure 3: Debt projections in successive programmes (% of GDP)



Sources: Commission services' January 2009 interim forecast (COM) and successive stability programmes

Table 4: Long-term age-related expenditure: main projections

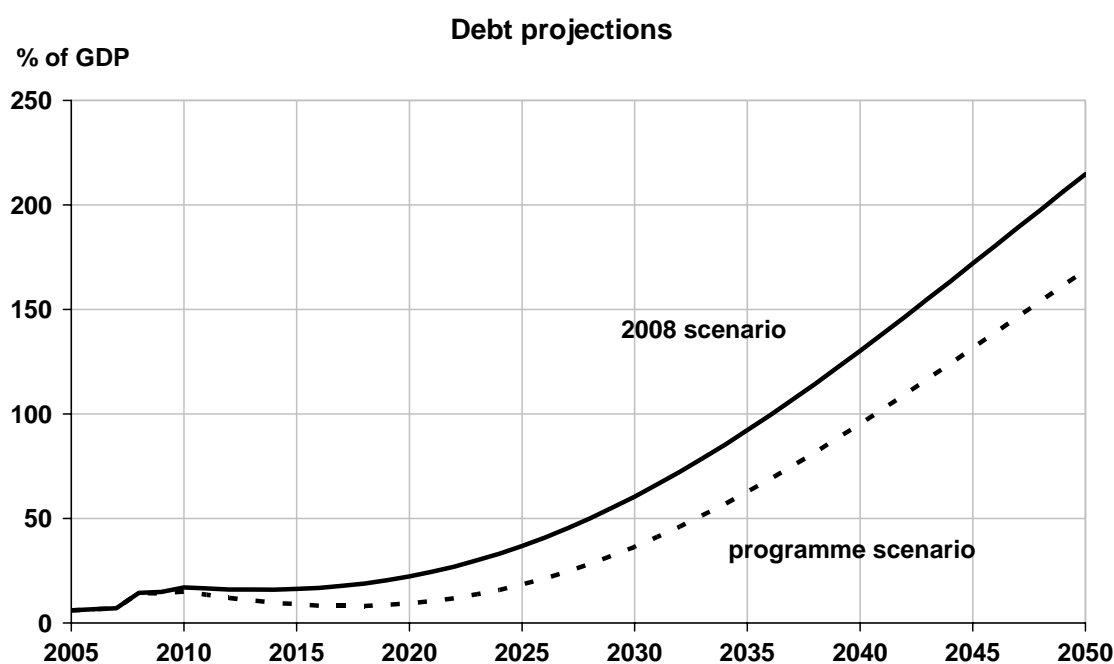
(% of GDP)	2004	2010	2020	2030	2040	2050	Change 2010- 50
Total age-related spending	19.5	19.4	21.6	25.0	27.4	27.8	8.4
- Pensions	10.0	9.8	11.9	15.0	17.0	17.4	7.6
- Healthcare	5.1	5.3	5.6	5.9	6.2	6.3	1.0
- Long-term care	0.9	1.0	1.0	1.1	1.3	1.5	0.5
- Education	3.3	3.1	2.8	2.7	2.6	2.4	-0.7
- Unemployment benefits	0.3	0.3	0.3	0.3	0.2	0.2	-0.1
Property income received	1.2	1.2	1.1	0.8	0.6	0.5	-0.7

Source: Economic Policy Committee and Commission services.

Table 5: Sustainability indicators and the required primary balance

Value	2008 scenario			Programme scenario		
	S1	S2	RPB	S1	S2	RPB
Value	2.4	7.3	8.5	3.5	8.4	8.5
<i>of which:</i>						
Initial budgetary position (IBP)	-1.4	-1.1	-	-0.3	0.0	-
Debt requirement in 2050 (DR)	-1.5	-	-	-1.4	-	-
Long-term change in the primary balance (LTC)	5.2	8.3	-	5.2	8.3	-

Source: Commission services.

Figure 4: Long-term projections for the government debt ratio

Note: Being a mechanical, partial-equilibrium analysis, the long-term debt projections are bound to show highly accentuated profiles. As a consequence, the projected evolution of debt levels should not be seen as a forecast similar to the Commission services' short-term forecasts, but as an indication of the risks faced by Member States.

Source: Commission services.

Table 6: Additional factors

	Impact on risk
Debt and pension assets	+
Decline in structural balance until 2010 in COM January 2009 interim forecast	-
Significant revenues from pension taxation	na
Alternative projection of cost of ageing	na
Strong decline in benefit ratio	na
High tax burden	na
Non-age related budgetary measures with intertemporal effect	na

Note: '-' : factor tends to increase the risk to sustainability, '+' : factor tends to decrease the risk to sustainability. 'na' : not applicable.

Alternative projections are often presented in the programmes, whose assumptions often diverge from the common method. Projections currently discussed in the Economic Policy Committee but not yet published, are for the time being also considered "unofficial".

An explanation on these factors can be found in chapter IV of: European Commission (2006), The long-term sustainability of public finances in the European Union, European Economy No. 4/2006.

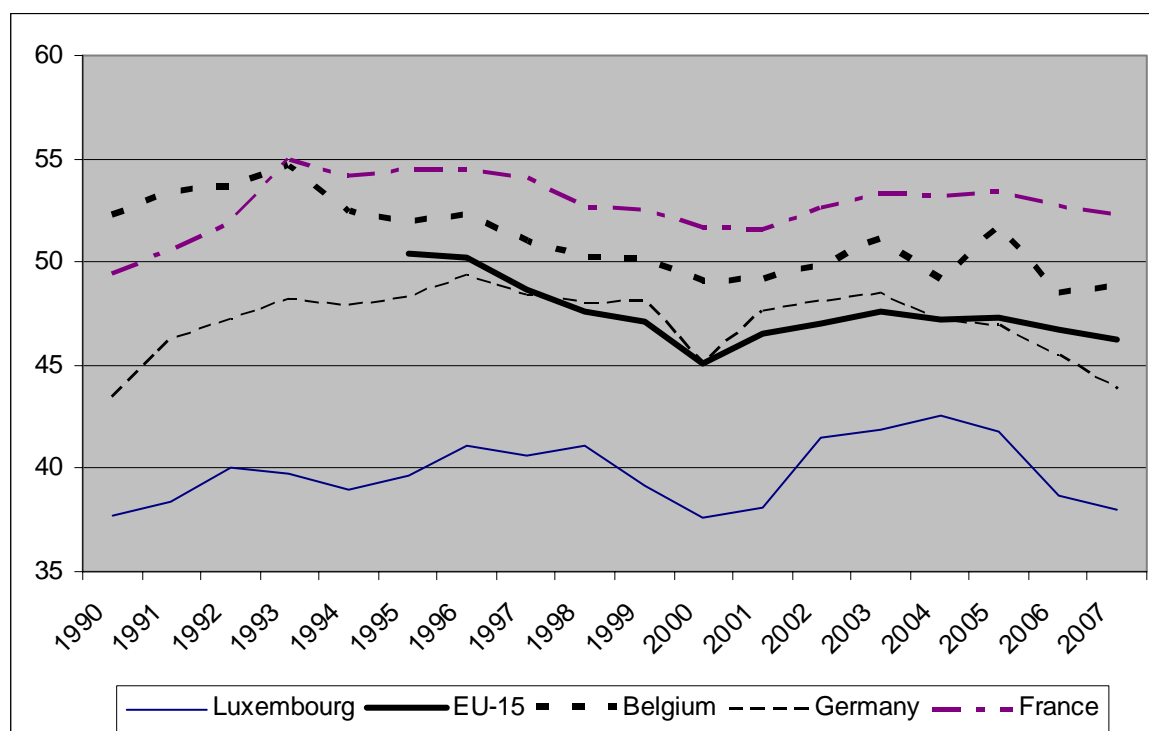
Source: Commission services.

ANNEX 2. SPECIAL TOPIC: MAIN TRENDS OF GOVERNMENT EXPENDITURE IN LUXEMBOURG (1990 – 2007)

The two main features of the government expenditure ratio in Luxembourg, when compared with neighbouring countries throughout the period 1990-2007²⁴, is that it has always been considerably lower on average than in most other Member States and that, by contrast with what happened in almost all of them (at least among the "old" Member States of the EU-15), it did not exhibit a downward trend over the last 15 years (See Table 1 and Figure 1).

Total expenditure by the general government amounted to 39.8% of GDP on average over the period 1990-2007 and to 38.0% in 2007 (one of the lowest levels in the whole period). This is substantially lower than in neighbouring countries (e.g., more than 5 percentage points of GDP lower than in Germany and almost 15 points than in France – see below). This low expenditure ratio is exclusively due to current expenditure, which is low both by EU standards and compared to neighbouring countries: it amounted to 32.8% of GDP in 2007 (versus 42.6% for the EU-15 average). By contrast, capital expenditure is very high: it reached 5.2% of GDP in 2007, much above the average of the EU-15 (3.6%) and the levels recorded in neighbouring countries (Belgium : 2.9% in 2007 ; Germany : 2.7% ; France : 4.1%).

Figure 1: General government expenditure as a percentage of GDP



Source : Commission services

This low level of government expenditure deserves, however, some qualification: the high level of GDP in Luxembourg goes together with a very large number of non-residents working in the country, whose number now is close to 40% of total labour force. Since the level of some categories of government expenditure (e.g. expenditure on education) is more related to the size of the resident population than to that of GDP or the total labour force, comparisons with other countries tend to be distorted. When related to resident population,

²⁴ There are no ESA 95 data on general government for Luxembourg before that year.

government expenditure is high in Luxembourg: it amounted to 28,630.7 euro per inhabitant in 2007, which is more than 80% above the Belgian and French levels and more than twice the German one.

In most EU-15 countries, the expenditure ratio showed a broadly declining trend over the period 1990-2007: it generally reached a maximum during the 1993 recession, then declined, often by a sizeable margin (e.g. 11.5 percentage points of GDP in the Netherlands, 6.2 points in Belgium and 5.5 in Germany). In most countries, the expenditure ratio reached its minimum of the period in recent years. Nothing similar happened in Luxembourg: the expenditure ratio exhibited relatively large fluctuations over the period 1990–2007 but it did not show any declining trend and it reached its maximum of the period in 2004 and not around the 1993 recession.²⁵ Actually, the average rate of increase in government expenditure over the period 1990-2007 was 7.6% a year, exactly the same as that in nominal GDP.

Box 1: The role of fluctuations in nominal GDP

Fluctuations in the expenditure and revenues ratios are, of course, not only due to changes in their own growth rate but also to variations in the nominal GDP growth rate. This "denominator effect" is especially strong in Luxembourg because fluctuations in real and nominal GDP growth have been substantially larger than in most other EU countries: from 1990 to 2007, the standard deviation of the real GDP growth rate reached 2.4 in Luxembourg compared to an average of 1.7 in the EU-15 and that of the nominal GDP growth rate 3.1 as against an average of 2.4.

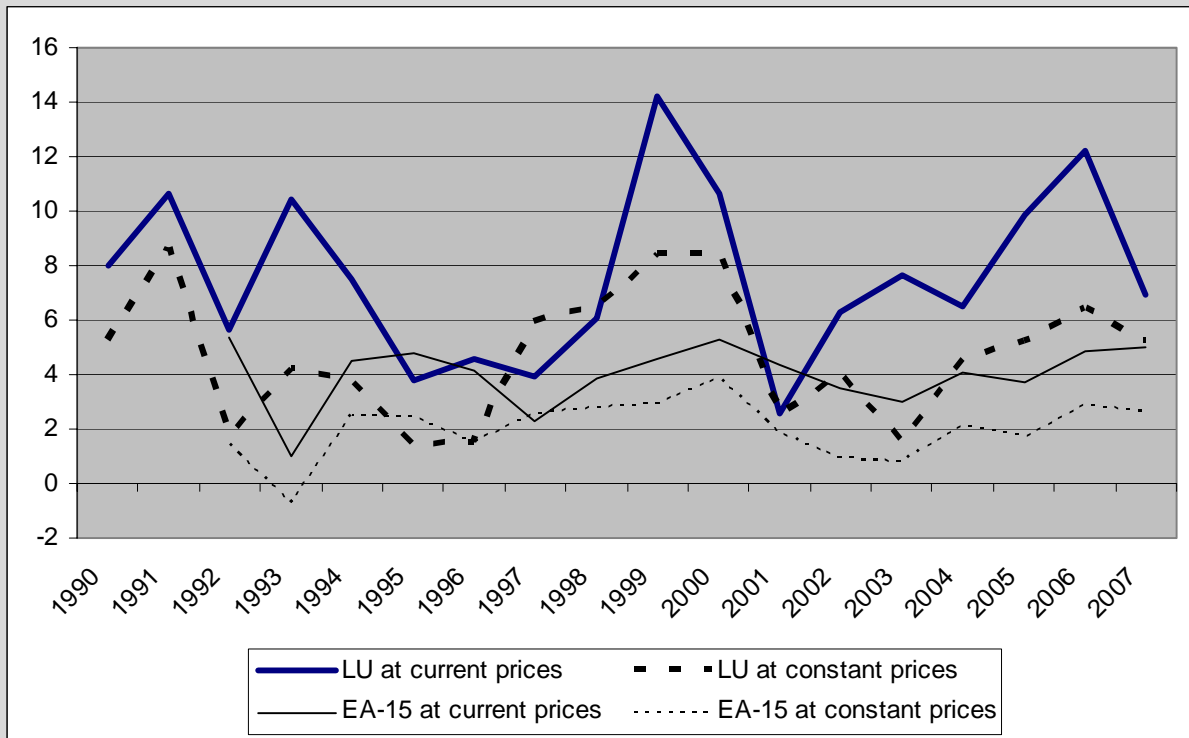
Figure 2 shows that fluctuations in nominal GDP in Luxembourg followed a broadly similar pattern to those in real GDP but that they were substantially wider, due to the larger volatility in the GDP deflator²⁶. Although Luxembourg was spared by the 1993 recession, real and nominal GDP growth progressively declined from the high rates recorded around 1990 to a first low in 1995 and 1996. It re-accelerated in the second half of the 1990s, and then slowed abruptly down in the early years of this decade, in response to the global downturn. After that, it recovered more quickly and strongly than on average in the EU, before decelerating somewhat in 2007 and more sharply in 2008.

Figure 3 depicts the decomposition of annual changes in the expenditure ratio in two parts, namely the effect of the increase in expenditure and that of the rise in nominal GDP. The average annual change in the expenditure ratio was about zero in Luxembourg from 1990 to 2007, reflecting its stability over the long term. However, in absolute value, the average annual change in expenditure was about 1%, close to the levels observed in neighbouring countries, indicating its non negligible short term fluctuations. On average, the increase in expenditure raised the ratio by about 3 percentage points of GDP per year and the growth in nominal GDP reduced it by about 2.8 points (with the combined effect of the rise in expenditure and in GDP amounting to about 0.2 percentage point of GDP). In neighbouring countries, the corresponding figures are about 2 percentage point of GDP, underlining the faster rise both in expenditure and in nominal GDP in Luxembourg.

²⁵ However, if the expenditure ratio did not decline over the period in Luxembourg, it was probably because it did not have to, since it was not perceived as too high.

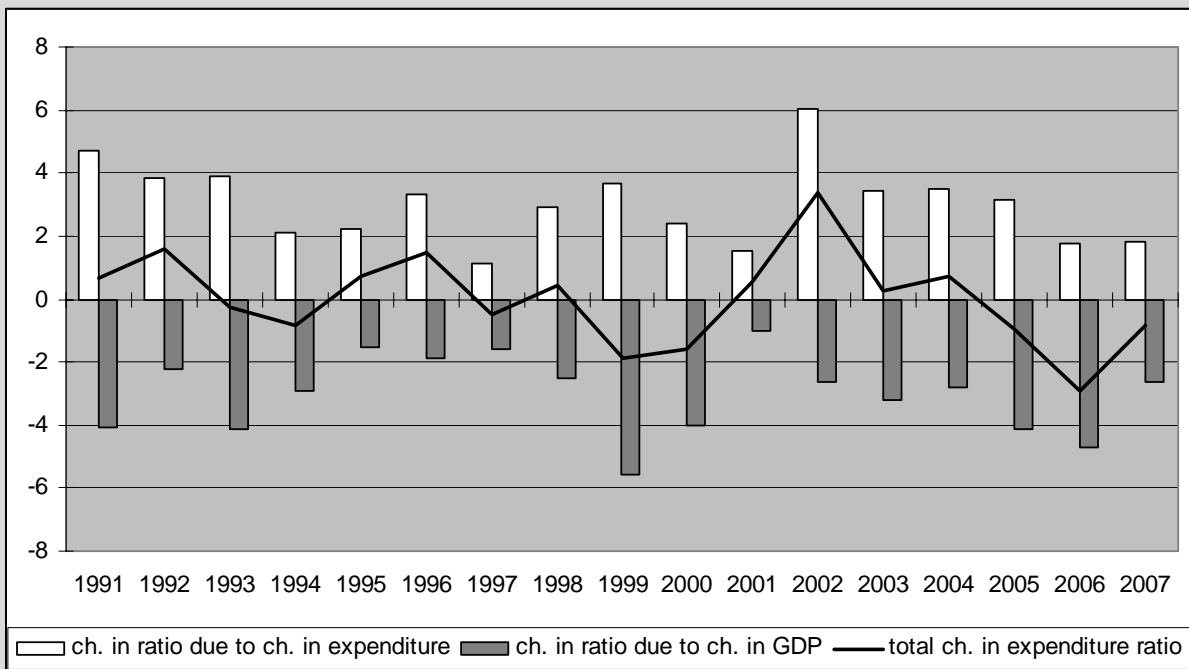
²⁶ The standard deviation of the GDP deflator amounted to 2.2 in Luxembourg over the period 1990-2007, compared to, e.g. 0.9 in Belgium, 1.4 in Germany and 0.7 in France.

Figure 2: Gross domestic product: annual % change



Source : Commission services

Figure 3: Decomposition of the change in the government expenditure ratio

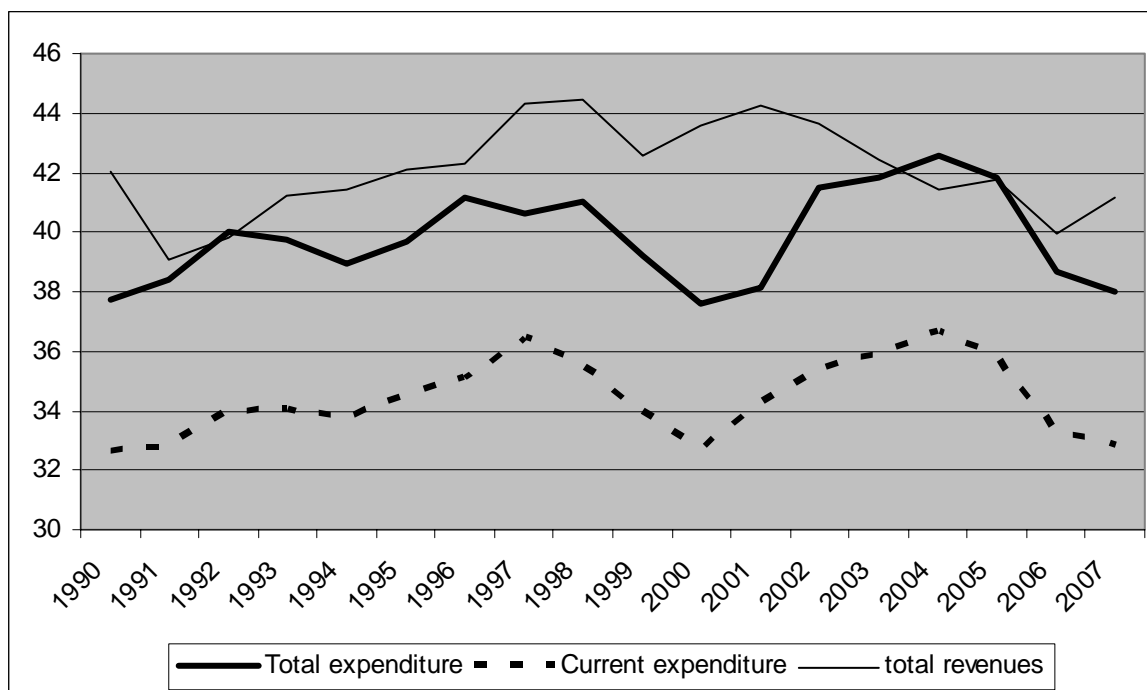


Source : Commission services

As Figure 4 shows, since 1990, the expenditure ratio in Luxembourg displayed a kind of M-shaped or "camel back" profile with one hump in the second half of the 1990s and another one

in the first part of the current decade. There were thus, broadly speaking, four successive episodes, each time an increase in the expenditure ratio being followed by a decrease, with the fluctuations, both downwards and upwards, being larger in the 2000 decade than during the previous one. Figure 4 also shows that fluctuations in the total expenditure ratio were chiefly due to similar developments in current expenditure.

Figure 4: General government expenditure and revenues as a percentage of GDP



Source : Commission services

Table 1 summarizes these four episodes, Table 2 indicates, for each sub-period, the change in the main items of government expenditure, expressed in percentage of GDP, and Table 3 gives, for the same sub-periods, the average annual rate of increase of these same components of government expenditure.

Table 1: General government total expenditure and GDP (1990-2007)

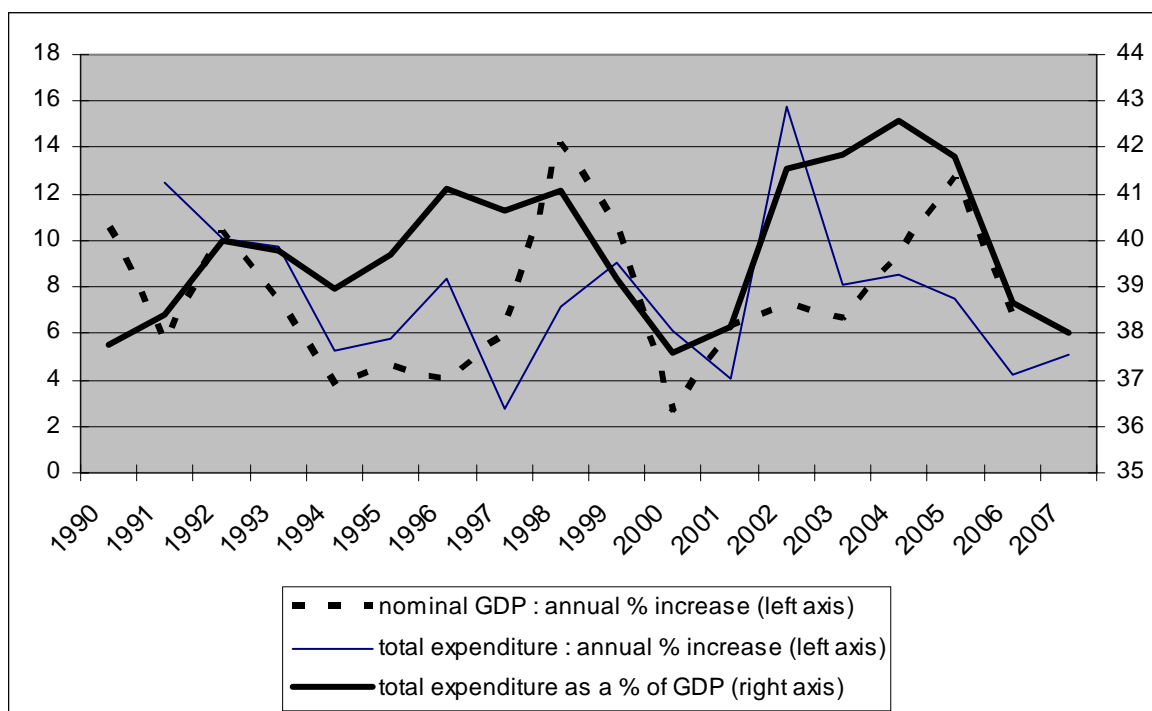
Period	Annual change in expenditure	Annual change in nominal GDP	Expenditure ratio
1990-1998	Decreases but remains on average slightly stronger than the rise in GDP	Decreases	Progressively increases
1999-2000	Slightly increases	Strongly increases	Strongly decreases
2001-2004	Strongly increases	Strongly decreases	Strongly increases
2005-2007	Strongly decreases	Increases from 2004 to 2006	Strongly decreases

These four episodes may be described in more details as follows:

- **A progressive increase from 1990 to 1998:** starting from 37.7% of GDP in 1990 (the second lowest level in the period 1990-2007), the expenditure ratio first increased by 3.3

percentage points of GDP during the sub-period 1990-1998 (with, however, a pause from 1992 to 1994 when it decreased by 1.1 percentage point of GDP), reaching 41.1% of GDP in 1998. The reason for this increase in the expenditure ratio is that the growth in both government expenditure and nominal GDP showed a declining trend over that period but the former remained on average slightly faster than the latter (7.7% and 6.6% a year on average, respectively). As Table 3 indicates, the bulk of this rise in the expenditure ratio between 1990 and 1998 (2.9 percentage points of GDP out of 3.3) happened in current expenditure and especially in social transfers (2.3 percentage points of GDP), although the residual category "other current expenditure" as well as gross fixed capital formation also recorded non negligible increases (1.0 and 0.6 percentage point of GDP, respectively).

Figure 5: Annual variation in general government expenditure and in nominal GDP



Source : Commission services

- A strong decline in 1999 and 2000:** the expenditure ratio declined by 3.5 percentage points of GDP in only two years, falling to 37.6% of GDP in 2000, the lowest level of the whole period 1990-2007. Like in the previous episode, current expenditure accounted for the largest part of the change in the expenditure ratio, dropping by 2.8 percentage points of GDP, while capital expenditure declined by 0.7 point of GDP. However, most components of government spending actually accelerated in 1999-2000 with respect to the previous sub-period. This was the case of current expenditure (+7.9% a year on average versus +7.7% from 1990 to 1998) and especially of collective government consumption (+10.3% a year versus 6.9%) as well as social transfers (+8.3% after 7.9% on average from 1990 to 1998). In fact, the decline in the expenditure ratio during these two years was exclusively due to the strong acceleration in real and nominal GDP, the latter rising by 12.4% a year, almost twice the 6.6% recorded on average from 1990 to 1998. This decline did thus not at all result from an effort of consolidation, which, moreover, was not required by the condition of public finance, since the general government recorded throughout the second half of the 1990s comfortable surpluses, which culminated at more than 6% of GDP in 2000 and 2001.

- **A strong increase from 2001 to 2004:** afterwards, government expenditure rose by 5.0 percentage points of GDP to a maximum of 42.6% in 2004. This surge corresponded to the economic downturn at the beginning of the current decade. It was due successively to a big drop in the rate of increase in nominal and real GDP and to a strong acceleration in expenditure: on average, nominal GDP growth fell from 12.4% a year in 1999-2000 to 5.7% in 2001-2004 while the annual rise in expenditure increased from 7.6% to 9.1% over the same period.

Current expenditure rose by nearly 4 percentage points of GDP and capital expenditure by about 1 over this sub-period. Government consumption decelerated somewhat, especially intermediate consumption, but social transfers accelerated slightly (from 8.3% a year in 1999-2000 to 9.1% in 2001-2004), partly due to a more than doubling in unemployment, which increased from 1.9% of labour force in 2001 to 5.0% in 2004. Part of the surge in expenditure was the result of discretionary measures, in particular in government investment, which accelerated from 3.8% a year in 1999-2000 to 9.1% over the period 2001-2004 and increased by 0.4 percentage point of GDP. The increase in the expenditure ratio from 2001 to 2004 was significantly stronger than that recorded from 1990 to 1998 and it was concentrated on a much shorter period (5.0 percentage points of GDP over 4 years to be compared with 3.3 percentage points of GDP over 8 years).

- **And another strong decline since 2004:** finally, the expenditure ratio decreased by 4.6 percentage points of GDP to 38.0% in 2007, close to the minima recorded in 1990 and in 2000. This decline was caused both by an acceleration in nominal and real GDP from 2004 to 2006 (real and nominal GDP decelerated somewhat in 2007, the latter more than the former) and by a strong deceleration in spending (from an annual increase of 16% in 2002 to hardly more than 4% in 2006). This deceleration was for a large part intentional: it was motivated by the desire to offset the deterioration in public finance registered since the record surpluses of the years 2000-2001 (the general government balance deteriorated from a surplus of 6.3% of GDP in 2001 to a deficit of 1.2% in 2004)²⁷. This determination to consolidate was certainly reinforced by the fact that the initial estimates of the general government balance in 2004-2005 suggested a much more pronounced deterioration in the government balance than was actually the case: the 2005 update to the stability programme projected the government deficit to have risen from 1.2% of GDP in 2004 to 2.3% in 2005, while it actually declined to 0.1% of GDP.

Nearly all categories of government spending contributed to this decrease with current expenditure accounting for 3.9 out of the total 4.6 percentage points of GDP drop, and notably social transfers and government collective consumption falling by 2.5 and 0.8 percentage points of GDP, respectively. Like the increase in 2001-2004, the decline in the expenditure ratio from 2004 to 2007 was more pronounced than that recorded in 1999-2000 (4.6 percentage points of GDP over 3 years to be compared with 3.5 percentage points of GDP but over only 2 years).

The first two of these four episodes, those of the 1990s, do not seem to reflect clear changes in fiscal strategy: as already stated, the increase in the expenditure ratio from 1990 to 1998 went together with a progressive slowdown in spending, which was more than compensated

²⁷ Based on provisional data, it was even believed at that moment that the deficit had increased to 2.3% of GDP in 2005, which motivated a supplementary effort to bring public finance back to balance, but, actually, the deficit declined to 0.1% of GDP in 2005 and government finance went back to a surplus of 1.3% of GDP in 2006.

by a stronger deceleration in nominal GDP. Even more clearly, the substantial decline in the expenditure ratio in the latest years of the 1990s was exclusively the result of the strong acceleration in nominal GDP, since government expenditure, too, accelerated in those years but much less than GDP.

By contrast, the latest two episodes seem to express conscious changes in budgetary strategy: as already stated, the strong increase in the expenditure ratio over the years 2001-2004 was due both to the marked slowdown in nominal (and real) GDP at the beginning of the current decade and to a substantial acceleration in public spending, for a large part explained by the wish to compensate for the slowdown in growth. The effect of these measures was not negligible: over the years 2001-2003, the contribution of government consumption and investment to real GDP growth reached 1.2% a year on average, which amounts to nearly half the average 2.7% growth recorded in these three years (not counting the multiplier effect resulting from the impact of the increase in government expenditure on other components of global demand)²⁸. Moreover, the acceleration in social transfers (from 8.3% a year on average in 1999 and 2000 to 9.1% over the period 2001-2003) may have contributed to support private consumption.

In a similar way, the decline in the expenditure ratio from 2004 to 2007 resulted both from a strong re-acceleration in nominal and real GDP and from a deliberate slowdown in spending in response to the deterioration in the general government balance during the previous episode. Thus, since the beginning of this decade, public expenditure, and chiefly government consumption as well as investment, clearly followed a countercyclical pattern. Moreover, as far as these two categories of public expenditure are concerned, this countercyclical character was essentially the result of discretionary measures since automatic stabilisers hardly play through public consumption and investment but rather via government revenues and social transfers.

Before 2000, buoyant revenues allowed recurrent surpluses without major problem and especially without having to significantly limit the rise in expenditure. Then, during the 2001-2003 downturn, public expenditure was consciously used to limit the slowdown in growth. However, the effect of the downturn might well not have been fully anticipated and, in a second step, its negative impact on the government balance was significantly overestimated²⁹, which led to a significant effort to rein in expenditure. This led to a change in perspective since the end of the previous downturn as the government balance became the objective and, based on revenue projections, expenditure had to be adapted in order to achieve that target.

Clearly, the scope for using discretionary fiscal policy in Luxembourg is limited by the specific features of the country: as mentioned above, the economy is exceptionally open, which implies that the import content of domestic demand is very high³⁰. Moreover, non-residents working in Luxembourg, spend a large part of their income in their country of

²⁸ On average over the period 1990-2007, the direct contribution of public consumption and investment to real GDP growth amounted to 0.9% a year. There was thus a substantial increase in that contribution during the slow growth years 2001-2003.

²⁹ In particular, in the 2005 Stability programme, which projected a deterioration in the general government deficit from -1.2% of GDP in 2004 to -2.3%, while it actually shrank to -0.1% of GDP in 2005. For more details, see footnote 8 of the Macro-fiscal assessment as well as the assessment of last year's stability programme.

³⁰ By contrast, another factor limiting the efficiency of fiscal policy, namely the size of the tax burden, certainly plays a less important role in Luxembourg than in neighbouring countries.

residence. However, available estimates indicate that public expenditure multipliers, though small, are not totally negligible and the same holds for other fiscal multipliers³¹.

Table 2: Changes in the main components of general government expenditure (1990-2007)

<i>(as a percentage of GDP)</i>	Sub-periods				Total period
	1990-1998	1998-2000	2000-2004	2004-2007	1990-2007
Final consumption	+0.7	-0.7	+1.8	-1.7	+0.1
- intermediate consumption	+0.7	0.0	+0.1	-0.3	+0.5
- compensation of employees	-0.3	-1.0	+0.6	-0.8	-1.4
- collective consumption	+0.1	-0.2	+0.5	-0.8	-0.4
- social transfers in kind	+0.6	-0.5	+1.3	-0.9	+0.5
- social benefits in cash	+1.7	-1.2	+1.7	-1.5	+0.6
Total social transfers	+2.3	-1.7	+3.0	-2.5	+1.1
Subsidies	-0.4	-0.2	+0.1	0.0	-0.6
Interest	-0.1	-0.1	-0.2	0.0	-0.3
Other current expenditure	+1.0	-0.5	+0.5	-0.6	+0.4
Total current expenditure	+2.9	-2.8	+3.9	-3.9	+0.2
Gross fixed capital formation	+0.6	-0.7	+0.4	-0.4	-0.1
Other capital expenditure	-0.2	0.0	+0.6	-0.3	+0.1
Total capital expenditure	+0.4	-0.7	+1.0	-0.7	+0.1
Total expenditure	+3.3	-3.5	+5.0	-4.6	+0.3
<i>Source : Commission services</i>					

This countercyclical pattern of public expenditure is set to continue with the current downturn: the expenditure ratio is projected by the stability programme to increase by about 6.5 percentage points of GDP between 2007 and 2010. This will be for a part the result of the big forecast drop in real and nominal GDP growth but also of the fact that the rise in government expenditure, which already surged from between 4% and 5% a year in 2006 and 2007 to around 9% in 2008, is projected by the stability programme to reach more than 6% a year in 2009 and 2010. As already stated in the assessment of the stability programme, the stimulus measures decided by the Luxembourgish authorities since the aggravation in the financial crisis comprise a substantial component of discretionary increases in expenditure, essentially in government investment.

Although the efficiency of fiscal policy in Luxembourg is significantly limited by the openness of the economy, the current recession is likely to be so severe that even the use of

³¹ According to F. Adam (Cahier de variante Modux, STATEC, Cahier économique n° 104, September 2007), the public investment multiplier is about 0.6, that of intermediate consumption is between 0.7 and 0.8, and a decrease by 1 percentage point of GDP in the taxation of households' income results in a 1.6% increase in private consumption and a 0.4% increase in GDP.

policy instruments with a limited impact can be advocated if the country considered has enough leeway to use them, which is certainly the case of fiscal policy in Luxembourg. Moreover, the fact that other EU countries also stimulate their economies as recommended in the European Economic Recovery Programme will equally benefit Luxembourg. As far as the medium-term outlook is concerned, some caution could be needed. The rather rapid increase in government expenditure since 1990 did not jeopardise the sustainability of public finance thanks to the buoyant revenues generated by an equally strong rise in nominal GDP. However, these favourable conditions might change if the economy were to experience a protracted period of substantially slower growth, a scenario which cannot be ruled out at the current juncture. The rise in expenditure will thus have to be monitored carefully once the economy recovers. Moreover, in a longer perspective, the crucial sustainability problem that the rise in age-related public expenditure will inevitably create in the coming decades will need to be appropriately addressed.

Table 3: Annual average change in the main components of general government expenditure (1990-2007)

<i>(% ch. w. r. t. previous year : average of the period)</i>	Sub-periods				Period
	1990-1998	1998-2000	2000-2004	2004-2007	1990-2007
Final consumption	7.2	9.9	8.7	5.8	7.6
Intermediate consumption	10.8	13.1	6.7	5.9	9.3
Compensation of employees	6.2	5.7	7.6	6.1	6.4
Collective consumption	6.9	10.3	7.8	5.2	7.2
Social transfers in kind	7.5	9.7	9.3	6.2	7.9
Social benefits in cash	8.3	7.4	9.0	5.7	7.9
Total social transfers	7.9	8.3	9.1	5.9	7.9
Subsidies	5.2	5.5	6.9	8.7	6.2
Interest	5.0	2.4	-10.4	18.9	3.5
Other current expenditure	12.2	3.1	11.4	2.4	9.2
Total current expenditure	7.7	7.9	8.7	5.6	7.6
Gross fixed capital formation	11.6	3.8	9.1	6.4	9.2
Other capital expenditure	5.5	12.5	18.7	4.9	8.1
Total capital expenditure	9.3	5.4	15.4	5.2	9.6
Total expenditure	7.7	7.6	9.1	5.6	7.6
<i>GDP at current prices</i>	6.6	12.4	5.7	9.6	7.6
<i>Source : Commission services</i>					

* * *

ANNEX 3. COMPLIANCE WITH THE CODE OF CONDUCT AND TABLES FROM THE PROGRAMME

This annex provides an assessment of whether the programme respects the requirements of Section II of the code of conduct (guidelines on the format and content), notably as far as (i) the model structure (Annex 1 of the code of conduct); (ii) the formal data provisions (Annex 2 of the code of conduct); and (iii) other information requirements is concerned.

(i) Model structure

The update adheres to the code of conduct as far as its table of contents is concerned. In particular, it follows the model structure in Annex 1 of the code of conduct. However, the February 2009 addendum to the initial programme does not cover the year 2011 and the projections of the initial programme for that year are not consistent with those of the addendum.

(ii) Data requirements

The update broadly adheres to the code of conduct as far as data requirements are concerned with, however, the exception of some gaps in the standard tables in Annex 2 of the code of conduct.

As far as compulsory data are concerned,

- In Table 1d. Sectoral balances, the net lending to the rest of the world is missing.
- In Table 8. Basic assumptions, the item “World import volumes, excluding EU” is missing for the whole period.

As far as optional data are concerned,

- In Table 1d. Sectoral balances, all data are missing with the exception of the balance of current transactions and the general government balance. There are no sectoral accounts yet in Luxembourg, except for the general government.
- In Table 3. General government expenditure by function, the years 2008, 2009 and 2010 are missing with the exception of total expenditure (line 11) for 2010.
- In Table 4. General government debt developments, lines 6 (liquid financial assets) and 7 (net financial debt) are given for 2007 but not for 2008, 2009 and 2010.
- In Table 7. Long-term sustainability of public finances, the item “Other age-related expenditures” is missing ; the items “Total revenue” and components “property income” and “from pensions contributions (or social contributions if appropriate)” are given for 2004 and 2010 but not for 2015 to 2050.

None of this gaps (including in the compulsory data) really complicates the assessment of the programme up to 2010. However, no assessment could be made for the year 2011.

The tables on the following pages show the data presented in the October 2008 update of stability programme, following the structure of the tables in Annex 2 of the code of conduct. Compulsory data are in bold, missing data are indicated with grey-shading.

Table 1a. Macroeconomic prospects

	ESA Code	2007	2007	2008	2009	2010
		Level	rate of change	rate of change	rate of change	rate of change
1. Real GDP	B1*g	29.4	5.2	1.0	-0.9	1.4
2. Nominal GDP	B1*g	36.3	6.9	1.0	0.8	4.2
Components of real GDP						
3. Private consumption expenditure	P.3	10.2	2.0	1.8	1.5	1.8
4. Government consumption expenditure	P.3	4.4	2.6	4.5	3.0	2.0
5. Gross fixed capital formation	P.51	6.6	11.8	-2.3	-4.4	1.9
6. Changes in inventories and net acquisition of valuables (% of GDP)	P.52 + P.53	0.5	0.5	0.0	0.0	0.0
7. Exports of goods and services	P.6	5.3	4.4	1.3	-1.6	1.7
8. Imports of goods and services	P.7	45.1	3.5	1.4	-1.5	2.0
Contributions to real GDP growth						
9. Final domestic demand		-	3.6	0.8	0.0	1.4
10. Changes in inventories and net acquisition of valuables	P.52 + P.53	-	-0.9	-0.1	-0.4	0.0
11. External balance of goods and services	B.11	-	2.5	0.2	-0.5	0.0

Table 1b. Price developments

	ESA Code	2007	2007	2008	2009	2010
		Level	rate of change	rate of change	rate of change	rate of change
1. GDP deflator		<i>n.a.</i>	1.7	0.0	1.6	2.7
2. Private consumption deflator		<i>n.a.</i>	2.1	3.4	1.1	2.4
3. HICP¹		<i>n.a.</i>	2.7	4.1	0.6	2.5
4. Public consumption deflator		<i>n.a.</i>	3.9	3.0	3.0	2.5
5. Investment deflator		<i>n.a.</i>	1.3	2.9	3.0	2.5
6. Export price deflator (goods and services)		<i>n.a.</i>	5.2	-0.9	-1.3	2.8
7. Import price deflator (goods and services)		<i>n.a.</i>	6.2	0.2	-1.3	2.7

¹ Optional for stability programmes.

Table 1c. Labour market developments

	ESA Code	2007	2007	2008	2009	2010
		Level	rate of change	rate of change	rate of change	rate of change
1. Employment, persons¹		333.2	4.5	4.8	1.8	0.0
2. Employment, hours worked ²		<i>n.a.</i>	5.0	<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>
3. Unemployment rate (%)³		<i>n.a.</i>	4.2	4.1	5.0	5.7
4. Labour productivity, persons⁴		<i>n.a.</i>	0.1	<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>
5. Labour productivity, hours worked ⁵		<i>n.a.</i>	-0.4	<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>
6. Compensation of employees	D.1	16.2	9.2	<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>
7. Compensation per employee		51.8	4.3	2.7	2.3	2.5

¹Occupied population, domestic concept national accounts definition.

²National accounts definition.

³Harmonised definition, Eurostat; levels.

⁴Real GDP per person employed.

⁵Real GDP per hour worked.

Table 1d. Sectoral balances

% of GDP	ESA Code	2007	2008	2009	2010
1. Net lending/borrowing vis-à-vis the rest of the world	B.9	<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>
<i>of which :</i>					
- Balance on goods and services		<i>n.a.</i>	30.4	29.3	29.2
- Balance of primary incomes and transfers		<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>
- Capital account		<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>
2. Net lending/borrowing of the private sector	B.9	<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>
3. Net lending/borrowing of general government	EDP B.9	3.2	2.0	-0.6	-1.5
4. Statistical discrepancy		<i>n.a.</i>	optional	optional	optional

Table 2. General government budgetary prospects

	ESA Code	2007	2007	2008	2009	2010
		Level	% of GDP	% of GDP	% of GDP	% of GDP
Net lending (EDP B.9) by sub-sector						
1. General government	S.13	1171.1	3.2	2.0	-0.6	-1.5
2. Central government	S.1311	287.8	0.8	-0.8	-3.0	-3.7
3. State government	S.1312	<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>
4. Local government	S.1313	7.3	0.0	0.2	-0.1	-0.2
5. Social security funds	S.1314	876	2.4	2.5	2.6	2.4
General government (S13)						
6. Total revenue	TR	14885.8	41.0	43.2	42.8	42.8
7. Total expenditure	TE ¹	13714.7	37.8	41.2	43.4	44.3
8. Net lending/borrowing	EDP B.9	1171.1	3.2	2.0	-0.6	-1.5
9. Interest expenditure	EDP D.41	93.6	0.3	0.3	0.4	0.5
10. Primary balance²		1264.7	3.5	2.3	-0.3	-1.2
11. One-off and other temporary measures³		0	0.0	0.0	0.0	0.0
Selected components of revenue						
12. Total taxes (12=12a+12b+12c)		9503.8	26.2	27.6	26.7	26.6
12a. Taxes on production and imports	D.2	4614.9	12.7	13.3	13.3	13.5
12b. Current taxes on income, wealth, etc	D.5	<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>	optional
12c. Capital taxes	D.91	<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>	optional
13. Social contributions	D.61	4010.5	11.1	11.7	12.0	11.9
14. Property income	D.4	596.9	1.6	1.7	1.9	2.0
15. Other⁴		774.6	2.1	2.2	2.3	2.3
16=6. Total revenue	TR	14885.8	41.0	43.2	42.8	42.8
p.m.: Tax burden (D.2+D.5+D.61+D.91-D.995)⁵			37.3	39.3	38.7	38.5
Selected components of expenditure						
17. Compensation of employees + intermediate consumption	D.1+P.2	3776.3	10.4	11.3	11.8	11.8
17a. Compensation of employees	D.1	2665.5	7.3	7.9	8.1	8.2
17b. Intermediate consumption	P.2	1110.8	3.1	3.4	3.6	3.5
18. Social payments (18=18a+18b)		6495.3	17.9	19.3	20.3	20.3
18a. Social transfers in kind supplied via market producers	D.6311, D.63121, D.63131	1730.2	4.8	5.1	5.3	5.4
18b. Social transfers other than in kind	D.62	4765.1	13.1	14.3	15.0	15.0
19=9. Interest expenditure	EDP D.41	93.6	0.3	0.3	0.4	0.5
20. Subsidies	D.3	540.8	1.5	1.6	1.7	1.6
21. Gross fixed capital formation	P.51	1346.8	3.7	4.1	4.6	5.0
22. Other⁶		1461.9	4.0	4.6	4.7	5.0
23=7. Total expenditure	TE ¹	13714.7	37.8	41.2	43.4	44.3
p.m.: Government consumption (nominal)	P.3	5491.7	15.1	16.3	17.0	16.8

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

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

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

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

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

⁶D.29+D4 (other than D.41)+ D.5+D.7+D.9+P.52+P.53+K.2+D.8.

Table 3. General government expenditure by function

% of GDP	COFOG Code	2006	2007	2010
1. General public services	1	n.a.	4.1	n.a.
2. Defence	2	n.a.	0.2	n.a.
3. Public order and safety	3	n.a.	0.9	n.a.
4. Economic affairs	4	n.a.	4.0	n.a.
5. Environmental protection	5	n.a.	1.0	n.a.
6. Housing and community amenities	6	n.a.	0.6	n.a.
7. Health	7	n.a.	4.5	n.a.
8. Recreation, culture and religion	8	n.a.	1.9	n.a.
9. Education	9	n.a.	4.6	n.a.
10. Social protection	10	n.a.	15.9	n.a.
11. Total expenditure (=item 7=23 in Table 2)	TE ¹	n.a.	37.8	44.3

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

Table 4. General government debt developments

% of GDP	ESA Code	2007	2008	2009	2010
1. Gross debt¹		7.0	14.4	14.9	17.0
2. Change in gross debt ratio		0.4	7.5	0.6	2.6
Contributions to changes in gross debt					
3. Primary balance²		3.5	2.3	-0.3	-1.2
4. Interest expenditure³	EDP D.41	0.3	0.3	0.4	0.5
5. Stock-flow adjustment		4.1	9.5	0.1	1.2
<i>of which:</i>					
- Differences between cash and accruals ⁴		n.a.	n.a.	n.a.	n.a.
- Net accumulation of financial assets ⁵		n.a.	n.a.	n.a.	n.a.
<i>of which:</i>					
- privatisation proceeds		n.a.	n.a.	n.a.	n.a.
- Valuation effects and other ⁶		n.a.	n.a.	n.a.	n.a.
p.m.: Implicit interest rate on debt⁷		4.2	5.0	2.5	3.2
Other relevant variables					
6. Liquid financial assets ⁸		24.2	n.a.	n.a.	n.a.
7. Net financial debt (7=1-6)		-17.2	n.a.	n.a.	n.a.

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

²Cf. item 10 in Table 2.

³Cf. item 9 in Table 2.

⁴The differences concerning interest expenditure, other expenditure and revenue could be distinguished when relevant.

⁵Liquid assets, assets on third countries, government controlled enterprises and the difference between quoted and non-quoted assets could be distinguished when relevant.

⁶Changes due to exchange rate movements, and operation in secondary market could be distinguished when relevant.

⁷Proxied by interest expenditure divided by the debt level of the previous year.

⁸AF1, AF2, AF3 (consolidated at market value), AF5 (if quoted in stock exchange; including mutual fund shares).

Table 5. Cyclical developments

% of GDP	ESA Code	2007	2008	2009	2010
1. Real GDP growth (%)		5.2	1.0	-0.9	1.4
2. Net lending of general government	EDP B.9	3.2	2.0	-0.6	-1.5
3. Interest expenditure	EDP D.41	0.3	0.3	0.4	0.5
4. One-off and other temporary measures¹		0.0	0.0	0.0	0.0
5. Potential GDP growth (%)		4.7	n.a.	n.a.	n.a.
contributions:					
- labour		n.a.	n.a.	n.a.	n.a.
- capital		n.a.	n.a.	n.a.	n.a.
- total factor productivity		n.a.	n.a.	n.a.	n.a.
6. Output gap		0.5	0.9	-2.4	-3.7
7. Cyclical budgetary component		0.3	n.a.	n.a.	n.a.
8. Cyclically-adjusted balance (2 - 7)		3.0	n.a.	n.a.	n.a.
9. Cyclically-adjusted primary balance (8 + 3)		3.2	n.a.	n.a.	n.a.
10. Structural balance (8 - 4)		3.0	n.a.	n.a.	n.a.

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

Table 6. Divergence from previous update

	ESA Code	2007	2008	2009	2010
Real GDP growth (%)					
Previous update		6.0	4.5	5.0	4.0
Current update		5.2	2.5	3.0	4.2
Difference		-0.8	-2.0	-2.0	0.2
General government net lending (% of GDP)	EDP B.9				
Previous update		1.0	0.8	1.0	1.2
Current update		3.2	2.3	1.1	0.8
Difference		2.2	1.5	0.1	-0.4
General government gross debt (% of GDP)					
Previous update		6.9	7.1	7.2	7.0
Current update		7.0	13.9	13.9	14.2
Difference		0.1	6.8	6.7	7.2

Table 7. Long-term sustainability of public finances

% of GDP	2000	2004	2010	2020	2030	2050
Total expenditure	n.a.	42.5	39.4	n.a.	n.a.	n.a.
Of which: age-related expenditures	n.a.	19.5	19.4	21.6	25.0	27.8
Pension expenditure	n.a.	10.0	9.8	11.9	15.0	17.4
Social security pension	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Old-age and early pensions	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Other pensions (disability, survivors)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Occupational pensions (if in general government)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Health care	n.a.	5.1	5.3	5.6	5.9	6.3
Long-term care (<i>this was earlier included in the health care</i>)	n.a.	0.9	1.0	1.0	1.1	1.5
Education expenditure	n.a.	3.3	3.1	2.8	2.7	2.4
Other age-related expenditures	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Interest expenditure	n.a.	0.1	0.4	n.a.	n.a.	n.a.
Total revenue	n.a.	41.7	40.3	n.a.	n.a.	n.a.
Of which: property income	n.a.	1.1	1.9	n.a.	n.a.	n.a.
<i>Of which</i> : from pensions contributions (or social contributions if appropriate)	n.a.	11.4	10.9	n.a.	n.a.	n.a.
Pension reserve fund assets	n.a.	23.6	31.7	39.2	17.9	0.0
<i>Of which</i> : consolidated public pension fund assets (assets other than government liabilities)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Assumptions						
Labour productivity growth	n.a.	1.1	2.3	2.0	1.7	1.7
Real GDP growth	n.a.	3.9	4.0	2.7	3.0	3.0
Participation rate males (aged 20-64)	n.a.	75.7	75.6	75.0	74.3	74.8
Participation rates females (aged 20-64)	n.a.	55.1	58.6	60.8	61.3	61.7
Total participation rates (aged 20-64)	n.a.	65.5	67.2	67.9	67.9	68.3
Unemployment rate	n.a.	3.8	4.2	4.2	4.2	4.2
Population aged 65+ over total population	n.a.	21.0	21.6	24.7	31.6	36.1

Table 8. Basic assumptions

	2007	2008	2009	2010
Short-term interest rate¹ (annual average)	4.3	4.2	3.8	4.1
Long-term interest rate (annual average)	4.2	4.0	4.0	4.5
USD/€ exchange rate (annual average) (euro area and ERM II countries)	1.37	1.51	1.45	1.45
Nominal effective exchange rate (for countries not in euro area or ERM II) exchange rate vis-à-vis the € (annual average)	n.a.	n.a.	n.a.	n.a.
World excluding EU, GDP growth	n.a.	n.a.	n.a.	n.a.
EU GDP growth	2.6	1.4	1.2	2.1
Growth of relevant foreign markets	3.3	2.5	2.2	5.5
World import volumes, excluding EU	n.a.	n.a.	n.a.	n.a.
Oil prices (Brent, USD/barrel)	72.7	107.5	95.5	95.5

¹If necessary, purely technical assumptions.

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