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2002 UPDATE

OF THE CONVERGENCE PROGRAMME OF LUXEMBOURG

(2001-2005)

AN ASSESSMENT

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SUMMARY AND CONCLUSIONS

The first stability programme of Luxembourg covering the period 1998-2002 was submitted on 16 February 1999 and assessed by the Council on 15 March 1999[1]. The first and second updates of the stability programme of Luxembourg were assessed by the Council on 13 March 2000 and 12 March 2001 respectively. The 2001 update covered the period 2000-2004 and was examined by the Council on 15 January 2002[2]. The 2002 update of the stability programme of the Luxembourg, which covers the period 2001-2005, was submitted on 17 January 2003. The Commission services have carried out a technical evaluation of this updated programme, namely taking into account the Communication from the Commission to the Council of 27 November on strengthening the co-ordination of budgetary policies[3]. This evaluation warrants the following assessment.

The 2002 update of the stability programme of Luxembourg incorporates the 2003 budget law that was approved by Parliament on 17 December 2002. The update does not fully comply with the Code of Conduct in a number of respects, in particular as regards the lack of a detailed breakdown of revenue and expenditure of general government and the absence of a sensitivity analysis. The update confirms that a sound management of public finance has the highest priority; the budgetary strategy is based on three major principles: the general government balance should be in a net lending position, the central government budget should remain in balance, while the growth of current expenditure should not exceed the growth of total expenditure. Adherence to these principles should ensure that the growth of government spending in the medium term would be compatible with the rate of economic growth.

Real GDP growth was particularly strong in 2000, reaching 8.9%, driven by dynamic domestic demand and by buoyant exports. In 2001, real GDP growth slowed down considerably to 1%, primarily due to weak export growth. The negative impact of external trade was cushioned by still buoyant domestic demand. Real GDP growth is expected to slow down further to no more than 0.5% in 2002 reflecting continued weakness of exposed sectors as well as a slowdown in domestic demand. According to the cautious macro-economic scenario underlying the stability programme update, which assumes a somewhat more muted recovery of real GDP growth than in the Commission Autumn 2002 forecast. Economic growth is expected to pick up only gradually to around 3% in 2005, reflecting among other things a muted projected upturn in the financial services sector, which accounts for around a quarter of total value added. In 2003 and 2004, real GDP growth in the stability programme projections is somewhat weaker than in the Commission forecast, reflecting the use of cautious assumptions on the strength of the expected economic recovery. Employment growth is expected to slow down significantly as well, following movements in activity with a lag, while CPI is expected to moderate in response to weak activity, averaging slightly below 2% in 2003-2005.

The stability programme envisages the nominal general government budget balance to have deteriorated dramatically in 2002, by no less than 6.4 percentage point of GDP to a deficit of 0.3% of GDP. This sharp deterioration is the result of a slight reduction in the

[1] OJ L 209, 5.5.1999
[2] OJ.2002/C/33 22.1.2002
[3] COM (2002) 668 final, 27.11.2002.

revenue ratio, largely due to the effects of the tax reform coinciding with a sharp economic slowdown, coupled with a substantial increase in the expenditure ratio. It is estimated that in 2002 the tax reform resulted in a combined reduction of taxes on households and businesses of approximately € 510 million (around 2½% of GDP) compared to the previous year. According to the stability programme the ratio of total expenditure to GDP will increase from 40.9% to 47.0% in 2002. Around 2 percentage points of the total increase in the expenditure ratio by around 6 percentage points in 2002 is a base effect reflecting the one-off impact of a net purchase of non-produced non-financial assets in 2001. However, the remainder of the substantial increase in the expenditure ratio in 2002 is due to a high growth rate of total general government expenditure, estimated at around 11%, reflecting both strong public investment, substantial increases in family allowances and pensions, and an estimated increase in nominal government consumption by around 9%.

The general government deficit is expected to remain at 0.3% of GDP in 2003, before deteriorating slightly in 2004 to a deficit of 0.7% of GDP and then to improve somewhat in 2005 to a position close to balance. In the period 2003 to 2005 the income and expenditure ratios are expected to first stabilise and then decline slightly. Over the same period, the growth rate of total general government nominal expenditure would moderate substantially, to around 4% in 2003 and 2½% in 2005. However, the stability programme is not very explicit on how the deceleration of current expenditure would be achieved. In principle, the availability of substantial reserves could help mitigate increases in the expenditure ratio, but the programme does not provide details on possible relevant operations of special funds over the forecast horizon.

The deterioration of the general government balance is for the largest part accounted for by central government. Central government is expected to register a deficit of around 2% of GDP in 2002 and 2003, a very marked deterioration vis-à-vis the surplus of 2.6% of GDP attained in 2000. This is to a large extent due to the substantial reduction of tax revenue in the wake of the tax reform, as well as lower tax revenues due to the lagged impact of the marked slowdown in activity. The central government deficit is even expected to widen further to 2.8% of GDP in 2004 and 2005. The budget balance of local government is projected to have a slight deficit in 2002-2005, while surpluses in social security would compensate for the largest part of the deficit in the other two sectors of general government. However, the expected relatively favourable development in the surplus of social security funds seems somewhat at odds with the projected continued weakening of employment growth. The cyclically adjusted general government balance is also expected to deteriorate markedly in 2002, but to remain in surplus over the remainder of the projection horizon.

In view of the severity of the economic slowdown and given the fact that the nominal general government balance is expected to reach a position close to balance in 2005, while the underlying budget balance is expected to remain positive over the horizon covered by the stability programme, Luxembourg complies with the provisions of the stability and growth Pact.

However, risks to the outlook for economic growth and public finances appear skewed to the downside. This underlines the desirability of a cautious approach. The January 2002

Council opinion[4] as well as the Broad Economic Policy Guidelines highlighted the necessity for Luxembourg to monitor closely fast growing current expenditure, in particular of central government, in the event that economic activity should moderate. The stability programme update expects current expenditure to decelerate over the horizon covered by the programme. However, since total nominal general government expenditure growth in 2002 is estimated to have grown very rapidly (at slightly more than 11%), while the ratio of total general government expenditure to GDP rose markedly in that year and is forecast to decline only moderately in the period 2003-2005, the projections in the stability programme seems to encompass only partially the recommendation of expenditure restraint in the Broad Economic Policy Guidelines. Should economic growth slow down to a rate below what is currently envisaged, additional measures might be needed to adjust spending levels and thus ensure that a budgetary position close to balance or in surplus would be achieved and maintained in the medium term.

The stability programme gives information concerning the government debt, which is expected to gradually decline from the already very low level of 5.1% of GDP in 2002 to 2.9% of GPD in 2005. Some further clarification would be welcome concerning accumulated reserves generated by the surpluses achieved in previous years, the dotations to special funds and the way these relate to changes in the level of the debt.

Luxembourg is in a good position to meet the budgetary consequences of the ageing population. However, the sustainability of public finances is very sensitive to developments as regards the number of cross-border workers and rates of real GDP growth. The programme recognises the need for corrective measures in the event of a less favourable scenario, and also draws attention to efforts to reform the tax system with a view to enhancing the attractiveness of third pillar pension schemes.

[4] OJ.2002/C/33 22.1.2002

1. INTRODUCTION

The 2002 update of the Luxembourg stability programme was presented on 17 January 2003, with some delay compared to requested date of 1 December 2002. It covers the period from 2001 to 2005, which is an extension of the 2000 to 2004 period covered in the 2001 update[5]. The present stability programme update was finalised after the approval by Parliament of the 2003 budget law. The stability programme has as its basis a multi-annual budgetary strategy aimed at fiscal discipline, designed to achieve that government spending in the medium term does not exceed a level compatible with the rate of economic growth.

While rich in information, the 2002 updated stability programme deviates from the guidelines set in the Council opinion on the Code of Conduct on 10 July 2001 in some respects. In particular, a detailed breakdown of revenue and expenditure of general government is not included, and no sensitivity analysis has been provided. Furthermore, external macroeconomic assumptions differ somewhat from the common assumptions in the Commission Autumn forecast, notably as regards economic growth in the EU (which is assumed to be weaker in 2004 in the stability programme) and the price of crude oil (which is assumed to be higher in the stability programme). The need to comply fully with the Code of Conduct is reinforced by the implementation of the new production function method to compute potential output using the figures provided by the Member States.

2. IMPLEMENTATION OF THE 2001 UPDATED STABILITY PROGRAMME

Forecasts of real GDP growth have been revised downwards substantially since the 2001 updated stability programme, in response to the severity of the exogenous shock that hit the exposed sectors – the financial sector in particular. Partly in response to the sharp economic slowdown, the stability programme envisages the nominal budget balance to have deteriorated dramatically in 2002, by no less than 6.4 percentage point of GDP to a deficit of 0.3% of GDP. Consequently, the estimates for the general government balance were lowered substantially in the current update compared to the 2001 update, whereas revisions to the expected debt ratio were only marginal (see table 1).

As far as the general government balance is concerned, part of the difference between the 2001 update of the stability programme and the 2002 update is accounted for by revenue shortfalls due to lower real GDP growth. However, the sharp deterioration of the general government balance not only reflects the cyclical slowdown. The effects of the tax reform on revenue, as well as increases in expenditure (some of them discretionary and some of them expenditure related to the results of the *Rentendësch)* also explain part of the deterioration[6], while some problems with estimating the impact of the tax reform on revenue may also have played a role. For the period 2001 to 2004 the shortfall in

[5] The initial stability programme covered the period 1998-2002 and was approved by the Council on 15 March 1999. The 1999 update extended the period covered to 2003 and was approved by the Council on 13 March 2000. The 2000 update, covered the same period up to 2003 and was approved by the Council on 12 March 2001. The 2001 update covered the period 2000-2004 and was examined by the Council on 15 January 2002 (OJ.2002/C/33 22.1.2002).

[6] In 2002 the ratio of total expenditure to GDP is expected to increase from 40.9% to 47.0%, and to fall slightly in subsequent years. Around 2 percentage points of the total increase in the expenditure ratio by around 6 percentage points in 2002 is due to the one-off effect of a net purchase of non-produced non-financial assets in 2001 (in casu the sale of a satellite concession).

economic growth is a cumulated 15.4%. This is expected to lead to a deterioration of the general government balance by a cumulated 8.6% of GDP (note that in 2001 the general government surplus was actually higher than previously forecast due to the delayed response to very high economic growth in 2000). Unfortunately, the absence of a detailed breakdown of expenditure and revenue prevents a more detailed analysis.

Table 1 – Divergence from the 2001 update

	2001	2002	2003	2004
Real GDP growth (% change)				
2001 update	3.9	5.3	5.7	5.6
2002 update	1.0	0.5	1.2	2.4
Difference with 2001 update	- 2.9	- 4.8	- 4.5	- 3.2
General government balance (% of GDP)				
2001 update	4.1	2.8	3.1	3.4
2002 update	6.1	- 0.3	- 0.3	- 0.7
Difference with 2001 update	2.0	- 0.1	- 3.4	- 4.1
General government debt (% of GDP)				
2001 update	5.1	4.6	4.2	3.9
2002 update	5.3	5.1	4.1	3.8
Difference with 2001 update	0.3	0.5	- 0.1	- 0.1

3. Macroeconomic assessment

3.1 External economic assumptions

The external economic assumptions included in the stability programme differ somewhat from those adopted in the Commission Autumn forecast. The stability programme assumes higher prices for crude oil and for world import prices for 2003 and 2004. The other main difference is that the stability programme assumes lower real GDP growth in the EU-15 in 2004 (2.0% instead of 2.6%). The latter assumption is in line with the adoption of a cautious ‘low’ growth scenario in the stability programme. The absence of a sensitivity analysis does not allow for an assessment of the sensitivity of the projections to changes in some key external assumptions, notably the assumptions on oil prices, world trade and the effective exchange rate.

3.2 Macroeconomic developments

The macroeconomic projections of the stability programme

For 2002 and 2003 the stability programme uses the ‘low growth’ scenario derived from the most recent macroeconomic forecasts by STATEC, published in November 2002. The use of the ‘low growth’ variant reflects a prudent approach to fiscal policy adopted in the stability programme. It takes into account the substantial risks to the international economic outlook, in particular the downside risks posed by uncertainty in financial markets to which Luxembourg’s economy is heavily exposed. The STATEC projections incorporate the substantial downward revision of real GDP growth in 2001, to 1% from the earlier estimate of 3.5%[7]. The main differences between the low growth scenario and the baseline scenario of the STATEC forecasts published in November 2002 concern real value added in financial services and the development of relevant trade. The low growth scenario used in the stability programme assumes a further contraction of real value added in the financial services sector in 2003, and a stagnation in the two subsequent years (the baseline scenario had assumed a gradual recovery from 2003 onwards). In addition, in the low growth variant the recovery of the world economy and hence of exports is assumed to be weaker than in the central scenario and also weaker than in the Commission Autumn 2002 forecast.

Table 2 summarises key figures from the sequence of recent projections. Note that the macro-economic and fiscal projections in the fall of 2002 show a major downward revision compared to the forecasts made in spring of last year.

Table 2 – Real GDP growth and general government balance
Sequence of recent projections

	Real GDP growth (annual % change)			Government balance (% of GDP)		
	2002	2003	2004	2002	2003	2004
Commission Spring forecast (2002)	2.9	5.2	-	2.0	2.5	-
STATEC Spring 2002 forecast (3 May 2002)	2.7	6.6	-	-	-	-
Commission Autumn forecast (13 Nov. 2002)	0.1	2.0	3.4	0.5	-1.8	-1.9
STATEC Autumn 2002 forecast (25 Nov. 2002)(1)	0.5	2.0	3.2	-	-	-
2002 Update to the Stability Programme (January 2003)	0.5	1.2	2.4	-0.3	-0.3	-0.7

(1) *baseline scenario*

Source : STATEC, Commission services, 2002 update of the Stability Programme

Assessment of the low growth scenario

The cautious macro-economic scenario underlying the stability programme's projections appears plausible. The use of a cautious 'low growth' scenario is judged to be a sound basis for prudent fiscal projections, in particular as they take into account the uncertainty on the medium-term growth prospects for the Luxembourg economy. Thus, the macro-economic projections for 2002 to 2005 used in the stability programme are fully credible on account of available economic indicators and are also relatively close to the Commission's Autumn 2002 forecast.

Table 3 compares the projections in the stability programme and the Commission Autumn 2002 forecast for key variables. In the stability programme real GDP growth in 2002 is projected to be 0.5%, compared to a Commission forecast of 0.1%. Risks to expected economic growth in 2002 in the stability programme appear slightly skewed to the downside, judging from recent indicators on economic activity and the continued

[7] The revision was largely due to the combined impact of an upward revisions to real GDP growth in 2000 and the drop in real value added of financial services, which account for around 25% of total GDP.

weakness of financial markets into early 2003. Weak economic growth reflects the drag of the financial services and telecommunications sectors on economic activity and the lagged negative impact on the labour market and on other sectors of the economy which are to a large extent dependent on these highly exposed sectors. In 2003 and 2004, real GDP growth in the stability programme projections is somewhat weaker than in the Commission forecast, reflecting cautious assumptions on the strength of the expected economic recovery. By and large, the differences with the Commission forecast can be consistently accounted for by the use of a somewhat different underlying growth scenario.

Table 3 – Comparison of stability programme and Commission macro-economic forecasts

	2002	2003	2004	2005
Stability programme 2002 update				
Real GDP growth (%)	0.5	1.2	2.4	3.1
GDP deflator (%)	0.9	2.0	2.2	1.8
Employment growth(1)(%)	1.8	1.1	1.2	1.3
Commission Autumn forecast				
Real GDP growth (%)	0.1	2.0	3.4	-
GPD deflator (%)	0.8	2.0	2.0	-
Employment growth (%)	2.8	1.2	1.6	-

(*1) National employment*

The analysis of potential growth provides an additional argument to consider a low growth scenario as an appropriate and prudent reference to assess medium term fiscal prospects. Table 4 shows the results of estimates of potential growth and of the output gap according to the common production function method agreed by the Ecofin Council on 12 July 2002. Because of uncertainties concerning the extrapolation of past productivity trends in key sectors of the Luxembourg economy, such as financial services, the estimate of potential real GDP growth in table 4 may be on the high end of plausible outcomes, which would justify the use of a more cautious macro-economic scenario[8].

8 It turns that in the case of Luxembourg the difference between the production function method and the HP filter method is quite substantial. The HP filter yields a lower estimate of potential growth and a less negative output gap. Both methods have drawbacks. The production function estimates are sensitive to the extrapolation of productivity trends and to the impact of large cross-border employment flows on the estimated equilibrium unemployment rate (NAIRU) and may overestimate potential growth. Conversely, the main drawback of the HP filter is that estimated potential (or rather: trend) real GDP growth follows actual real activity with a lag, and the resulting estimate of potential growth is likely to be rather low.

Table 4 – Real GDP growth, potential real GDP growth and output gap according to the production function method						
	2001	**2002**	**2003**	**2004**	**2005**	**2006**
Real GDP growth (%)	1.0	0.5	1.2	2.4	3.1	
Potential real GDP growth (%)	4.1	3.7	3.7	3.9	4.2	
Output gap (%)	2.8	-0.7	-3.6	-5.7	-7.3	

Source: Commission services calculations based on 2002 stability programme

4. BUDGETARY TARGETS AND MEDIUM-TERM PATH OF PUBLIC FINANCES

4.1 Programme overview

The 2002 stability programme update expects the deficit to remain at 0.3% of GDP in 2003 (the same as in 2002), before deteriorating slightly in 2004 to a deficit of 0.7% of GDP and then to improve somewhat in 2005 to a position close to balance.

The cyclically adjusted balance is also expected to deteriorate markedly in 2002. However, the estimates of size of the cyclically adjusted balance vary substantially depending on the measure of the output gap used. Using the production function method, the cyclically adjusted general government balance would still pose a slight surplus in 2002, whereas using the HP filter it would actually show a deficit of around 1% of GDP. The underlying budget balance is forecast to improve in 2003 to 2005, reflecting a widening output gap and, in 2005, an improvement of the nominal balance. Tables 5 and 6 present an overview of the projections for the general government balance both in nominal and in cyclically adjusted terms.

As regards the sub-sectors of general government, changes in the central government balance account for by far the largest part of changes in the overall balance. The central government balance is forecast to deteriorate very substantially, to a deficit of 2.8% of GDP in 2004 and 2005. Local governments are also expected to face a deficit in 2002-2006. By contrast, social security funds are expected to maintain comfortable surpluses over the horizon covered by the programme. Unfortunately, the stability programme gives no details on the breakdown of revenue and expenditure by main category as required in the Code of Conduct.

Table 5 – Development of nominal general government balance					
In % of GDP	**2001**	**2002**	**2003**	**2004**	**2005**
Stability programme: general government	6.1	-0.3	-0.3	-0.7	-0.1
Central government	*2.6*	*-2.2*	*-2.1*	*-2.8*	*-2.8*
Local government	*0.4*	*-0.4*	*-0.6*	*-0.6*	*-0.1*
Social security	*3.1*	*2.2*	*2.4*	*2.7*	*2.9*
Commission Autumn 2002 forecast gen. gov.	6.1	0.5	-1.8	-1.9	-
Source: 2002 Stability programme update and Commission autumn 2002 forecast					

Table 6 – Development of cyclically adjusted general government balance					
In % of GDP	**2001**	**2002**	**2003**	**2004**	**2005**
Stability programme: prod. function method	4.4	0.1	1.8	2.7	4.3
Source: Commission services calculations based on 2002 stability programme					

4.2 Public finances in 2003

The projections for public finance in 2003 incorporate the amended 2003 budget, adopted by Parliament on 17 December 2002. The general government balance is expected to stabilise at a slight deficit of 0.3% of GDP. This reflects the net impact of a slight increase of the total revenue to GDP ratio from 46.6% of GDP in 2002 to 47.0% of GDP in 2003 and a similar rise in the total expenditure ratio from 47.0 to 47.3%. Using the presentation of the 2003 budget, the central government budget remains in balance – in keeping with the framework of fiscal policy adopted by the Luxembourg government. However, if one takes into account expenditure of special funds and examines the central government balance according to ESA95 definitions, central government is expected to register a sizeable deficit of 2.1% of GDP. The deficit reflects tax revenues falling short of earlier expectations, due to a lagged response to the economic slowdown and the tax reform. The deficit of local government should increase slightly, by 0.2 percentage point to 0.6% of GDP, reflecting shortfalls in municipal business taxes in response to the economic slowdown. By contrast, the surplus of social security funds is expected to slightly improve to 2.4% of GDP, compared to 2.2% of GDP in 2002.

The 2003 budget foresees a marked decrease in general government nominal expenditure growth, from around 11% in 2001 to 3.9% in 2003[9]. However, public consumption public investment should remain buoyant and increase by around 9%. In addition public sector real wages are expected to rise by 1.6% in 2003 and 2004. Moreover, the agreements concluded in July 2001 between social partners and the government (the so-called *Rentendësch*) resulted in substantial increases in family allowances and pensions to take effect from March 2002 onwards. The projected increase in central government

[9] Estimated growth of total general government nominal expenditure according to ESA95 definitions, on the basis of data provided in the stability programme. According to the 2003 budget law, where expenditure data are not fully compatible with ESA95 guidelines, the growth rate of total expenditure is 5.63% in 2003, taking into account budgeted current and capital expenditure and additional net funding of public investment from special investment funds.

investment, by 31% in 2003, is particularly striking and is partly financed out of special investment funds. All this seems to imply that other categories of expenditure would have to decelerate substantially, in order to achieve the forecast slowdown in total general government expenditure in 2003. Lack of detail on revenue and expenditure provided in the stability programme prevents, however, a more detailed analysis.

Overall, the government's strategy seems to be to maintain a high level of public expenditure, as economic activity would remain relatively weak. Even though the economic slowdown weighs on general government revenues, the size of accumulated assets in special funds would in principle allow a continuation of rapid public expenditure increases (in particular public investment) for some time. However, as far as public investment is concerned, it is uncertain whether the intended expenditure increase by more than 30% in a single year would be feasible from a logistic point of view. Furthermore, in the medium term spending levels in the medium term need to remain compatible with the rate of economic growth.

In the Commission Autumn 2002 forecast, the general government balance is forecast to deteriorate substantially more than in the stability programme projections, to a deficit of 1.8% of GDP. The Commission forecast was based on a broadly comparable scenario for economic growth, public consumption and central government investment. The absence of a detailed revenue and expenditure breakdown in the stability programme prevents a detailed comparison with the Commission Autumn 2002 forecast; it is likely, however, that the discrepancy largely reflects a different forecast development of the balance of the local government and social security sub-sectors of general government. In the opinion of the Commission, the forecast deficit in the Autumn 2002 forecast is still credible on the basis of the information currently available.

In view of the factors mentioned above, risks to the projected general government balance in 2003 in the stability programme appear skewed to the downside. These risks relate primarily to tax revenues in 2003 and to the development of the balance of local government and social security. As regards tax receipts, particular uncertainties exist concerning corporate taxes, which respond to economic activity with a lag. The current evidence on weak economic activity into early-2003 does not bode well in this respect. More specifically, the continued slump in financial markets may adversely influence the receipts from taxes on securities (*taxe d'abonnement*). In Luxembourg this is an important source of revenue, given the size of the financial sector. Some risks are also attached to the projected surplus of social security during the 2003 fiscal year. Since the stability programme gives no detailed data on revenue and expenditure of social security funds, the risk attached to projected surplus is difficult to assess quantitatively. However, it is reasonable to assume that social security contributions are highly correlated with employment growth, which in turn reacts with a lag to economic activity. Against this background, the projected slight increase in the surplus of social security seems difficult to square with the projected continued weakening of employment growth in 2003. In fact, in the central scenario national employment (including the large flow of cross-border workers who also pay social security contributions) is forecast to increase by only 1.1% in 2003 compared to 1.8% in the previous year.

4.3 Public finances in 2004 and 2005

The projections on trends in public finance from 2004 to 2006 are based on the cautious multi-annual projections derived from the STATEC forecast published in November 2002. In 2004, the general government deficit is expected to increase slightly to 0.7% of GDP, to a large extent as a result of the lagged response of corporate tax receipts to weak economic activity in 2004. In 2005, the general government balance would improve to reach a slight deficit of 0.1% of GDP, as the balance of local government and social security would improve. Central government, however, would register a sizeable deficit of 2.8% of GDP in both 2004 and 2005. This reflects a lower tax base as a result of the 2001-2002 tax reform, coupled with rates of economic growth well below the average of the 1990s, while expenditure would continue to grow in excess of revenue.

For 2004, the Commission Autumn 2002 forecast expects the general government deficit to be 1.9% of GDP, which is substantially larger than according to the stability programme. The reasons for this discrepancy are very similar to the ones outlined for 2003 in the section above and probably relate mainly to differences in the expected balance of local government and social security.

The cyclically adjusted balance would be in surplus in 2004 and 2005. This reflects the extent of the economic slowdown, leading to a negative output gap. As shown in table 6, the estimates of the size of the cyclically adjusted budget balances are very sensitive to the method used. According to the production function method, the cyclically adjusted balance would be in comfortable surplus in both years. However, as argued in section 3, in the case of Luxembourg the production function method may yield an estimate of potential growth that is on the high end of plausible outcomes.

All in all, public finances in 2004 and 2005 meet the requirements of the stability and growth pact as regards a position close to balance in the medium term. However, risks appear skewed to the downside. Following broadly the same line of reasoning as in section 4.2, downside risks mainly attach to the forecasts for tax revenues and their response to economic activity, and to the projected surpluses of social security funds, the latter in view of the assumption of relatively weak employment growth. In addition, it can be remarked that the growth rate of total general government expenditure is projected to slow down to slightly above 3% in 2004 and around 2½% in 2005. This assumption of a slowdown in revenues is important in order to achieve a stabilisation of the total expenditure to GDP ratio. However, the programme gives no details on how this slowdown in expenditure would be achieved, as presumably this would to reflect some change in the structure of expenditure. The programme, however, gives no details on this. Thus, the projections in the programme appear somewhat at odds with the forecast development of public sector wages, public consumption, social security outlays, and public investment and it is difficult to see how the projected slowdown of expenditure is to be brought about.

Thus, some expenditure restraint seems warranted, given the presence of a substantial deficit of central government (approaching 3% of GDP over the horizon of the programme) and uncertainties on the strength and timing of the expected economic recovery. Admittedly, the sizeable accumulated assets in special funds would allow relatively high increases in public expenditure, even in the presence of a budget deficit and even if economic activity were to remain relatively weak for a number of years. However, in the medium term expenditure ratios would have to adjust to the sustainable path of potential output, in line with Luxembourg’s budgetary framework. In the case of Luxembourg, potential output growth in the medium term is difficult to assess at this juncture, given the possibility of structural changes in certain key sectors of the economy (notably financial services) that could impact on long-term productivity trends. In view of these uncertainties, prudent fiscal projections should be based on cautious macro-economic assumptions, while expenditure ceilings derived from these cautious assumptions could be a valuable tool to maintain stability of public finances in the medium term.

4.4 Sensitivity analysis

A sensitivity analysis as required in the code of conduct has not been included in the stability programme. To the extent that the use of a cautious baseline scenario limits the extent of downside risks this may not be too serious an omission. However, a sensitivity analysis would have been very valuable given the sensitivity to external shocks and the large degree of uncertainty concerning the medium-term growth potential of the Luxembourg economy.

4.5 Debt ratio

The general government debt in Luxembourg has for many years been the lowest in the whole EU. It declined from a little less than 20% of GDP in the early 1970s to 5.3% of GDP in 2001. The debt ratio is expected to gradually decline further over the programme horizon, from 5.1% of GDP in 2002 to the low level of 2.9% of GDP in 2005. Table 7 gives a decomposition of changes in the government debt ratio. Nominal GDP growth makes a relatively small contribution to the decline in the debt ratio. The changes are largely accounted for by interest payments and by relatively sizeable stock flow adjustments which, inter alia, reflect operations of special funds.

Not specified are the assets accumulated in special funds, which were funded from past surpluses. The programme also does not give details on the operations of these special funds. At the end of fiscal year 2001, assets in the budget reserve in and in special funds totalled € 3.1 billion (14% of GDP). Investment funds, for instance, can be used to finance part of public investment and the assets of these funds would be lowered accordingly. Significant additional reserves were accumulated by social security funds, which registered substantial surpluses in recent years. Accumulated pension reserves accounted for around 22% of GDP at the end of 2001, according to estimates by the IGSS. Some further clarification would be welcome concerning accumulated reserves and the way dotations to special funds and expenditure financed by such funds relate to changes in the level of the debt.

Table 7 – Decomposition of changes in the government debt ratio					
In % of GDP	**2001**	**2002**	**2003**	**2004**	**2005**
Change in government debt ratio	**-0.1**	**-0.2**	**-1.0**	**-0.3**	**-0.9**
Primary balance	6.4	0.2	0.0	-0.5	0.1
Interest payments	0.3	0.5	0.4	0.2	0.3
Nominal GDP growth	0.2	0.1	0.2	0.2	0.2
Stock flow adjustment	4.7	-0.4	-1.2	-0.8	-0.9
Level of government debt	**5.4**	**5.1**	**4.1**	**3.8**	**2.9**

Note: figures may not add up due to rounding

Source: Commission services estimates on the basis of 2002 stability programme

5. THE SUSTAINABILITY OF PUBLIC FINANCES

The 2002 updated stability programme contains a section on the sustainability of public finances. It refers to projections carried out by the ILO, and which were submitted to the EPC. They show that expenditures on pensions are projected to increase by some 2 percentage points of GDP between 2005 and 2050.

It is first necessary to consider whether current budget polices can ensure that the SGP will continue to be respected in the future in light of the budgetary implications of ageing populations. The Commission considers that on the basis of current policies, public finances in Luxembourg appear to be in a good position to meet the budgetary consequences of ageing populations.

A second issue is whether the budgetary strategy outlined in the programme is compatible with improving the sustainability of public finances. Sustaining a position of budget balance throughout the time period of the programme appears to be appropriate in light of the projected budgetary impact of ageing populations. The programme recognises the need for corrective measures in the event of a less favourable scenario, and also draws attention to efforts to reform the tax system with a view to enhancing the attractiveness of third pillar pension schemes.

Finally, it is necessary to consider the type and scale of the budgetary challenges that will emerge in coming years to ensure sustainable public finances. The key challenge appears to be ensuring that the public pension is capable of capable coping with labour market developments, which are inherently uncertain.

6. STRUCTURAL MEASURES AND OTHER REFORMS WITH LIKELY BUDGETARY IMPACT

The most important structural measures with budgetary impact concern the 2001-2002 tax reform. The tax reform resulted in a lowering of the tax burden for households and corporations, and a consequent narrowing of the revenue base. According to the latest estimates available, in 2002 the total cost of tax reductions to the benefit of households and corporations amounted to € 511 million (around 2½% of GDP). To the extent that the tax reform helps to promote investment and labour force participation, for instance by lowering the wedge, the expected positive supply side effects should boost tax revenues in the longer run and thus should be judged to have a positive impact on public finances. However, a concern in the near term would be to keep in check expenditure to offset any revenue shortfalls.

7. OVERALL ASSESSMENT OF COMPLICANCE WITH THE SGP

All in all, the current update of the stability programme confirms that Luxembourg continues to comply with the main requirements of the stability and growth pact, in particular with that of reaching a close to balance budgetary position in the medium term in the most plausible cautious scenario.

ANNEX 1

SUMMARY TABLES FROM THE 2002 UPDATED STABILITY PROGRAMME

Table 1 - Growth and related factors

Annual percentage changes unless otherwise mentioned	**2001**	**National forecast**		**trend-based scenario**	
		2002	**2003**	**2004**	**2005**
Gross Domestic Product	1.0	0.5	1.2	2.4	3.1
GDP, level in billion €	21.5	21.8	22.5	23.6	24.8
GDP deflator	2.3	0.9	2.0	2.2	1.8
Consumer price index	2.8	2.1	1.8	1.7	1.9
Employment (domestic)	3.3	3.0	1.4	1.3	2.5
Employment (national)	2.6	1.8	1.1	1.2	1.3
Labour productivity growth, market sector	n.a.	n.a.	n.a.	n.a.	n.a.
Sources of growth : percentage changes at constant prices					
1 Private consumption	3.6	1.6	2.7	2.8	3.3
2 Government consumption	7.5	6.0	7.5	4.5	4.0
3 GCF (incl. ch. in inventories)	5.9	- 5.3	2.3	3.8	4.9
4 Exports of goods and services	1.2	- 2.0	1.0	2.8	3.0
5 Imports of goods and services	4.5	- 2.3	2.7	3.5	3.5
Contributions to GDP growth					
Domestic demand	2.7	1.7	2.6	2.2	2.3
Net exports	- 4.1	0.0	-1.9	-0.5	-0.3

Table 2 - General government budgetary developments 2001-2005					
(% of GDP)	**2001**	**2002**	**2003**	**2004**	**2005**
Net lending by sub-sectors					
1. General government	6.1	- 0.3	- 0.3	- 0.7	- 0.1
2. Central government	2.6	- 2.2	- 2.1	- 2.8	- 2.8
3. Social security funds	3.1	2.2	2.4	2.7	2.9
4. Local authorities	0.4	- 0.4	- 0.6	- 0.6	- 0.1
General government					
5. Total receipts	47	46.6	47	46	45.6
6. Total expenditure	40.9	47	47.3	46.7	45.6
7. Budget balance	6.1	- 0.3	- 0.3	- 0.7	- 0.1
8. Interest expenditure	0.3	0.5	0.3	0.2	0.2
9. Primary balance	6.4	0.2	0.0	- 0.5	0.1
Components of revenues					
Tax revenues					
Social security					
Interest income					
Other					
Total revenues	47	46.6	47	46	45.6
Components of expenditure					
Consumption					
Social security payments					
Interest	0.3	0.5	0.3	0.2	0.2
Subsidies					
Investment					
Capital Transfers					
Other					
Total Expenditure	40.9	47	47.3	46.7	45.6

Table 3 - General government debt developments 2001-2005 (% of GDP)					
	2001	**2002**	**2003**	**2004**	**2005**
Gross debt level	**5.3**	**5.1**	**4.1**	**3.8**	**2.9**
Changes in the debt ratio	- 0.1	- 0.2	- 1.0	- 0.3	- 0.9
Contributions to changes in the debt ratio					
Primary balance	6.4	0.2	0.0	- 0.5	0.1
Interest payments	0.3	0.5	0.3	0.2	0.2
Effect of nominal GDP growth	0.2	0.1	0.2	0.2	0.2
Stock flow adustments	4.7	-0.4	-1.2	-0.8	-0.9

Table 4 – Cyclical developments					
% of GDP unless otherwise mentioned	**2001**	**2002**	**2003**	**2004**	**2005**
GDP growth (annual % change)	1.0	0.5	1.2	2.4	3.1
Trend GDP growth (annual % change)	4.1	3.7	3.7	3.9	4.2
Output gap	2.8	-0.7	-3.6	-5.7	-7.3
Cyclical component of gen. Governm. Balance	1.7	-0.4	-2.1	-3.4	-4.4
Actual general government balance	6.1	-0.3	-0.3	-0.7	-0.1
Cyclically adjusted general government balance	4.2	0.1	1.8	2.7	4.3
Interest payments	0.3	0.5	0.3	0.2	0.2
Cyclically-adjusted primary balance	4.5	0.6	2.1	2.9	4.5
Source : stability programme update; Commission calculations using the agreed production function method					

Table 5 – Divergence from previous update				
	2001	**2002**	**2003**	**2004**
GDP growth				
2001 update	3.9	5.3	5.7	5.6
2002 update	1.0	0.5	1.2	2.4
Difference with 2001 update	- 2.9	- 4.8	- 4.5	- 3.2
EMU budget balance				
2001 update	+ 4.1	+ 2.8	+ 3.1	+ 3.4
2002 update	+ 6.1	- 0.3	- 0.3	- 0.7
Difference with 2001 update	+ 2.0	- 3.1	- 3.4	- 4.1
EMU debt				
2001 update	5.0%	4.6%	4.2%	3.9%
2002 update	5.3%	5.1%	4.1%	3.8%
Difference with 2001 update	+ 0.3%	+ 0.5%	- 0.1%	- 0.1%

QUANTITATIVE ASSESSMENT OF THE SUSTAINABILITY OF PUBLIC FINANCES

This is the second assessment of the sustainability of public finances in Luxembourg as part of the Stability and Growth Pact. The quantitative indicators are the similar to those used last year, but have been adjusted in line with the recommendations of the Ageing Working Group to the EPC[10].

The stability programme of Luxembourg contains a section assessing the sustainability of public finances and refers to the projections prepared by the ILO, which were submitted to the EPC as part of the 2001 common projection exercise. The projections only cover public pensions, but not health care or long-term care which in most EU countries are projected to increase by some 2 percentage points of GDP between 2000 and 2050.

It should, furthermore, be noted that the assessment of the sustainability of public finances is to a large extent driven by assumptions on future trends as regards the numbers of cross-border workers, as in a small country such as Luxembourg these effects can dominate the impact of population ageing on the labour force. It should also be borne in mind that ageing populations is likely to have a budgetary impact of public expenditure items other than pensions, such as health care and long-term care, and ideally these should be included in an overall quantitative assessment.

The table below presents the debt and budget balance development according to two different scenarios, a “programme scenario” and a “2002 situation scenario”. The ”programme scenario” is calculated on the following basis:

the projections for age-related expenditures come from the EPC report;

government revenues are held constant at the ratio projected for 2005;

the starting point for gross debt and the primary surplus are the 2005 levels reported in the programme.

The “2002 situation scenario” is based on the budgetary data for 2002 in the programme. It is that no budgetary adjustment occurs during the time frame of the stability programme: in other words the primary balance remains unchanged at its 2002 level until 2006. This allows one to gauge the impact on the sustainability of public finances of the proposed change in the underlying budget position during the programme.

10 ‘How the sustainability of public finances was assessed using the 2001 updates of stability and convergence programmes: recommendations for improvements in future years’, Note from the AWG to the EPC, EPC/ECFIN/396-02 of 23 July 2002.

Main assumptions - baseline scenario (as % GDP)	2005	2010	2020	2030	2040	2050	changes
Total age-related spending	7,4	7,5	8,2	9,2	9,5	9,3	1,9
Pensions	7,4	7,5	8,2	9,2	9,5	9,3	1,9
Health care	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Other age related expenditures	0,0	0,0	0,0	0,0	0,0	0,0	0,0
*Total non age-related spending**	38,0						
*Total revenues**	45,6						

* constant

Results (as % GDP)	2005	2010	2020	2030	2040	2050	changes
Programme scenario							
Debt	2,9	2,2	5,0	16,2	33,4	50,7	47,8
Net borrowing	-0,1	0,0	-0,8	-2,4	-3,6	-4,4	-4,3
2002 situation scenario							
Debt	4,8	4,1	6,9	18,1	35,2	52,4	47,6
Net borrowing	-0,1	-0,1	-0,9	-2,5	-3,7	-4,5	-4,4

Tax gaps	T1*	T2**	T3***
Programme scenario	1,2	0,2	2,5
2002 situation scenario	1,0	0,3	2,6

* it expresses the constant difference between projected revenues and the revenues required to reach in 2050 the same debt to GDP ratio as the close to balance position holds for the whole projection period. P.m. debt to GDP at the end of the period: 0.2%

** it expresses the constant difference between projected revenues and the revenues required to reach in 2050 a debt to GDP ratio equals to 40%.

*** It indicates the change in tax revenues as a share of GDP that guarantees the respect of the interteporal budget constraint of the government, i.e., that equates the actualized flow of revenues and expenses over an infinite horizon.