



1. ECONOMIC AND FINANCIAL SITUATION

1.1 Economic situation at the international level

1.1.1 Short term interest rates

The Governing Council of the ECB decided to cut interest rates twice in 2003: a 25 basis points cut on 6 March and a 50 basis points cut on 5 June. As a result, the interest rate on the main refinancing operation fell to 2%, while the rates on the marginal lending facility and on the deposit facility declined to 3% and 1%, respectively.

TABLE 1: KEY INTEREST RATES OF THE EUROSISTEM

With effect from ¹	Deposit facility		Main refinancing operations		Marginal lending facility	
	Level	Change	Level	Change	Level	Change
11/05/2001	3.50%	-0.25	4.50%	-0.25	5.50%	-0.25
31/08/2001	3.25%	-0.25	4.25%	-0.25	5.25%	-0.25
18/09/2001	2.75%	-0.50	3.75%	-0.50	4.75%	-0.50
09/11/2001	2.25%	-0.50	3.25%	-0.50	4.25%	-0.50
06/12/2002	1.75%	-0.50	2.75%	-0.50	3.75%	-0.50
07/03/2003	1.50%	-0.25	2.50%	-0.25	3.50%	-0.25
06/06/2003	1.00%	-0.50	2.00%	-0.50	3.00%	-0.50

Source: ECB

These rate cuts were undertaken in a context of more favourable perspectives regarding medium term price stability. The first semester of 2003, during which the rate cuts took place, was characterised by considerable geopolitical uncertainties in the Middle East, the SARS epidemic in Asia, overall sluggish economic growth, structural deficits in the US and an appreciation of the euro.

Uncertainties in the financial markets and low interest rates triggered a preference for short-term liquid investments. Therefore, the annual growth rate of broad money (M3) remained at high levels above the reference rate.

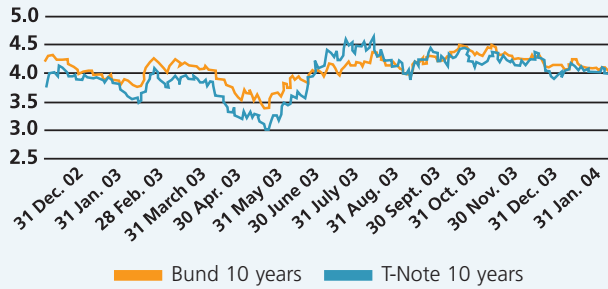
In the second semester of 2003, economic data were more favourable regarding global economic perspectives. Furthermore, the Governing Council expects prices to remain stable around 2% in the medium term and to fall below 2% in the long term. A recovery in financial markets should also favour portfolio arbitrages out of short-term liquid instruments, which will contribute to a slowdown in M3 annual growth rates.

¹ The date refers to the deposit and marginal lending facilities. For main refinancing operations, changes in the rate are effective from the first operation following the date indicated.

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1.1.2 Long term government bond interest rates

GRAPH 1: BUND 10 YEARS AND T-NOTE 10 YEARS



Source: Bloomberg

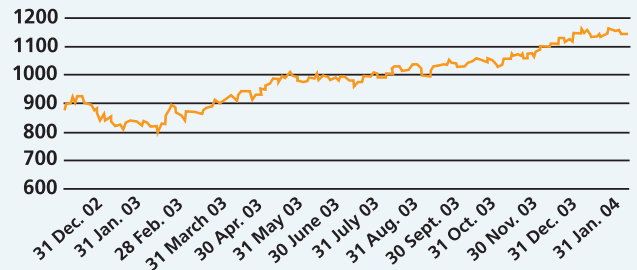
During the first semester of 2003, long-term interest rates declined in Europe and in the US. The decline in long-term interest rates was mainly due to geopolitical tensions and the publication of disappointing economic data. Between mid-June and September, long-term interest rates rose due to a more optimistic outlook regarding economic perspectives in the US and to a lesser extent in the euro area. In September, disappointing figures regarding US employment and consumer confidence triggered a decline in long-term interest rates. In October, investors were somewhat more optimistic. Finally, at the end of 2003 and at the beginning of 2004, market optimism waned and long-term interest rates declined slightly.

1.1.3 Stock markets

2003 was characterised by a recovery in international stock markets. The American S&P500 rose by 26% and the European DJ Eurostoxx rose by 18%.

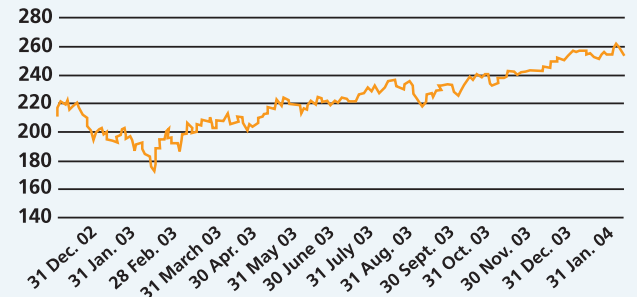
This recovery started in mid-March with the beginning of military operations in Iraq. Since then, the uncertainties prevailing in international stock markets gradually dissipated and markets benefited from a series of better-than-anticipated economic data. Stock prices stabilised during the summer and regained momentum in autumn. At the end of the year, stock markets were mainly boosted by higher-than-expected corporate profits and a positive outlook for future corporate results. Weaker long-term bond rates also contributed to a greater appetite for stocks.

GRAPH 2: S&P500



Source: Bloomberg

GRAPH 3: EUROSTOXX BROAD



Source: Bloomberg

1.1.4 Exchange rates

In nominal effective terms, the euro rose by 11% in 2003. As regards the euro-dollar exchange rate, the euro appreciated by 19% between end-2002 and end-2003.

GRAPH 4: USD/EUR



Source: Bloomberg

driven by the rise in geopolitical tensions and a deterioration of the American fiscal situation. In the summer, the dollar regained some strength following better-than-expected data on consumer and business confidence. In September, the outcome of the G7 summit in Dubai, pleading for more flexible foreign exchange markets, triggered a general appreciation of the yen and a decline of the dollar. End-2003 and beginning of 2004, the dollar suffered from a rise in geopolitical tensions and a sluggish outlook for job creation in the US. In February 2004, European authorities voiced their worries regarding a possible negative impact of the weak dollar on European exports and the euro came down from a 1.29 USD peak, to levels around 1.21 - 1.24 USD.

1.1.5 Consumer prices

HICP inflation in the euro area averaged 2.1% in 2003, only 0.1 percentage point less than in 2002 despite subdued economic activity and the appreciation of the euro. The inflation persistence reflected unfavourable developments in the prices of unprocessed food related to the summer heat wave, oil prices that remained high and indirect tax increases in several countries of the euro zone.

TABLE 2: DEVELOPMENTS IN THE HICP AND ITS COMPONENTS IN THE EURO AREA (ANNUAL PERCENTAGE CHANGES)

	2001	2002	2003	2003 Jan.	2003 Feb.	2003 March	2003 April	2003 May	2003 June	2003 July	2003 Aug.	2003 Sept.	2003 Oct.	2003 Nov.	2003 Dec.	2004 Jan.
Overall HICP	2.4	2.2	2.1	2.1	2.4	2.4	2.1	1.8	1.9	1.9	2.1	2.2	2.0	2.2	2.0	1.9
of which:																
Goods	2.5	1.7	1.8	1.6	2.1	2.2	1.5	1.4	1.6	1.6	1.7	1.8	1.7	2.0	1.8	1.3
<i>Food</i>	4.5	3.1	2.8	1.4	2.0	2.2	2.3	2.4	2.9	3.0	3.1	3.6	3.6	3.9	3.6	3.1
- Unprocessed food	7.0	3.1	2.2	-0.7	0.3	0.7	0.9	1.1	2.5	2.7	3.3	4.2	3.8	3.8	3.2	2.9
- Processed food	2.8	3.1	3.3	2.8	3.2	3.3	3.3	3.3	3.2	3.1	3.0	3.2	3.5	4.0	3.8	3.3
<i>Industrial goods</i>	1.2	1.0	1.2	1.7	2.2	2.2	1.1	0.9	1.0	1.0	1.0	1.0	0.8	1.1	0.9	0.4
- Non-energy industrial goods	0.9	1.5	0.7	0.6	0.7	0.8	0.8	0.9	0.8	0.7	0.6	0.8	0.8	0.7	0.7	0.6
- Energy	2.5	-0.5	3.1	6.0	7.7	7.5	2.2	0.6	1.6	2.0	2.7	1.6	0.7	2.2	1.8	-0.4
Services	2.7	3.1	2.5	2.8	2.7	2.6	2.9	2.5	2.5	2.3	2.5	2.5	2.5	2.4	2.3	2.5
HICP excluding unprocessed food and energy	2.0	2.5	2.0	2.0	2.0	2.0	2.2	2.0	2.0	1.8	1.9	2.0	2.0	2.0	1.9	1.9

Source: Eurostat

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The rather erratic pattern of overall inflation over 2003 reflected developments in the more volatile components, unprocessed food and energy.

Turning to consumer price developments in early 2004, headline inflation should - according to Eurostat's flash estimate - ease to 1.6% in February from 1.9% in January as a result of base effects in energy prices. Subsequently, the annual rate of change of overall HIPC could rise again, while inflation would remain in line with price stability over 2004 as a whole.

1.1.6 Output, demand and labour market developments

Economic growth

Recent data suggest the recovery of the world economy is clearly progressing. However, for the euro area, real GDP growth remained subdued in the last two quarters of 2003. According to the first estimate, in the fourth quarter of 2003, real GDP grew by 0.3% quarter on quarter, following growth of 0.4% in the third quarter. These data confirm that a gradual recovery in economic activity took place in the second half of the year. This is in line with the Eurosystem's projected scenario of a continued recovery in the course of 2004 and 2005.

Employment and unemployment developments

Labour market conditions in the euro area remain sluggish in 2003. The level of employment was unchanged in the third quarter of 2003, extending the period of the broadly stable employment to one and a half years. Standardised unemployment in the euro area remains broadly stable in 2003 at around 8.8% reflecting the usual lags in cyclical developments in the labour market relative to economic activity.

1.1.7 External trade

The external trade surplus reached 72 billion euros in 2003 compared with a surplus of 99 billion euros in the same period of 2002. This decrease results from a 2.5% decline of exports and a small decrease of imports. This mostly reflects the 11% appreciation of the euro against other currencies. Indeed, volume exports remained stable and volume imports increased 2.5%, whereas export and import prices diminished by 2.5% and by 3% respectively.

The fall in net trade in machines and transport vehicles explains most of the surplus reduction. Trade with China and Eastern countries rose while that with most other countries fell.

1.1.8 Balance of payments

1.1.8.1 Current account

In 2003, the current account surplus was 28 billion euros, against 67 billion euros in 2002. This decline mainly reflects a decrease of the surplus in goods trade and an increase in the deficits on net income and net current transfers, which were not offset by the improvement of net trade services. It also shows the appreciation of the euro exchange rate and the weakness of internal demand.

1.1.8.2 Financial account

The financial account components were affected by the geopolitical and economic tensions during the first months of 2003. However, investments in shares have recovered since the second quarter, from both the asset and liability sides, breaking a two-years bearish trend. Furthermore, investments of euro area residents in foreign security debt increased. Euro area and non-euro area investors both showed a preference for bonds rather than for money market instruments, reflecting better confidence in the future.

The decline of direct investment flows continued during 2003. Nevertheless, the decrease was slower than in the previous year and flows became stable at the end of the year.

1.2 Economic situation in Luxembourg

1.2.1 Prices and costs

1.2.1.1 Consumer prices

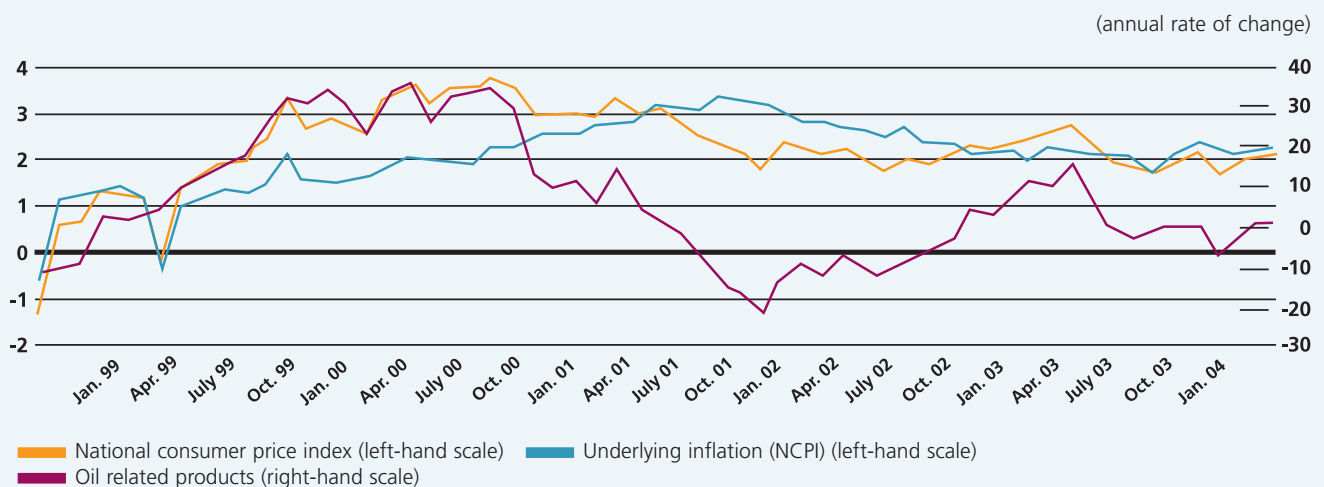
Luxembourg's National Index of Consumer Prices (NICP) increased on average by 2.0% in 2003, 0.1 percentage point (p.p.) less than in 2002. This development was paralleled by a 0.4 p.p. decrease in underlying inflation to 2.1% on average. This alternative measure tracks economic processes more closely by excluding more volatile prices.

The pattern of overall NICP developments was rather erratic throughout 2003. Indeed, an increase in the annual NICP rate in the first quarter, from 2.3% in January to 2.7% in March, was followed by a drop in the annual inflation rate to 1.6% in June, before inflation rose again to 2.1% in December.

By contrast, the pattern followed by underlying inflation in 2003 was somewhat more stable, with the annual rate hovering between 2.0 and 2.2% except for the month of July, when the annual rate fell to 1.7%. Numerous factors explain the stickiness of underlying inflation observed in 2004, notably, the increases in the prices of public utilities and tobacco, the increase in the minimum wage in the beginning of the year, the impact of the past two wage indexation tranches, the generalisation of parking fees in Luxembourg City, the rises in the prices of medical and dental services, as well as the impact of the summer heat wave on the prices of unprocessed food.

The inflation differentials between Luxembourg and the euro area and between Luxembourg and its neighbouring countries worsened in 2003.

GRAPH 5: INFLATION AND OIL RELATED PRODUCTS



Source: STATEC

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Assumptions

The underlying assumptions for the HICP energy projection follow the traditional scheme, i.e. a euro/dollar exchange rate kept constant over the forecast horizon and a pattern of oil prices as observed on the futures markets. In mid-February, the quote for one euro against the dollar stood at 1.26, which corresponds to an appreciation with respect to both 2003 and the previous exercise. The price of oil fluctuated around the 30\$/bl level and the markets were anticipating a gradual fall to a level close to 28\$/bl in December 2004, an upward revision overall compared to the previous exercise. All in all, the euro's appreciation could not totally compensate for the increase in oil prices, implying a worsening of the outlook for the HICP energy component. Detailed assumptions are given in the following table.

TABLE 3: ASSUMPTIONS UNDERLYING THE INFLATION PROJECTIONS

	2003	2004	03-Q4	04-Q1	04-Q2	04-Q3	04-Q4
Price of oil in \$	28.8	29.5	29.3	30.6	29.9	29.2	28.5
Exchange rate \$/€	1.13	1.26	1.26	1.26	1.26	1.26	1.26
Price of oil in euros (in annual percentage changes)	-2.0	-7.3	-7.8	-16.9	3.8	-8.0	-8.0

Source: BCL

The government has increased the level of excise duties on fuel by 7 cent/litre from 1st January onwards. While this measure is neutralised in the automatic wage indexation system the additional impact on the HICP energy component is estimated at about 6.5 p.p. The impact on the HICP and the NICP is anticipated to be respectively 0.7 p.p. and 0.15 p.p.

The HICP excluding energy is usually driven by imported inflation and wage developments. Beyond this, specific measures such as indirect tax adjustments, public charges and administered prices may also influence inflation developments. Despite the expected gradual improvement in economic activity in the euro area, imported inflation should remain muted reflecting a significantly negative output gap. In addition, the euro's recent appreciation against the dollar should also have a downward impact on consumer prices in the long run. Nevertheless, domestic inflation may decelerate only very slowly.

An automatic wage indexation was triggered in August 2003 leading to a relatively sharp increase in services' prices in September 2003.

An increase in tobacco prices has also been announced in the 2004 general government budget. Although the timing and the magnitude of price changes are difficult to forecast, gradual cigarette price rises have been incorporated into our projections.

The impact of increases in administered price in 2004 is expected to be somewhat less than in previous years. Indeed, the monthly change in inflation in January, a month when administered prices are usually adjusted, was only 0.38%. This compares rather favourably with recent years and, considering the persistence of these price increases, the impact on headline inflation should also be less than in the previous years. In fact this is a key element in the projected deceleration of the HICP excluding energy.

Results

On the basis of the sole euro oil price assumptions, the energy component would evolve rather favourably over the forecast horizon. However, the indirect taxation measure implies a positive contribution in 2004 from energy prices to overall HICP. The deceleration process in the HICP excluding energy should continue over the coming months albeit at a slow pace and the annual rates of change are unlikely to fall below 2%.

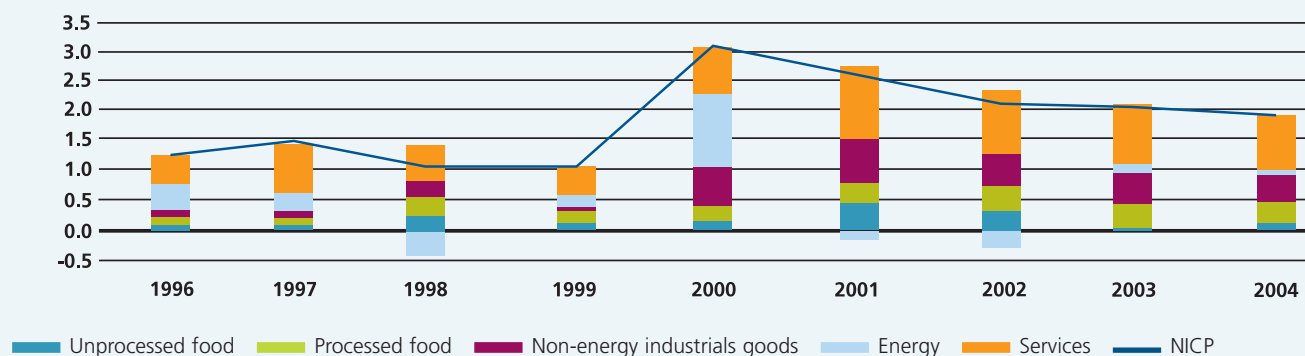
TABLE 4: INFLATION PROJECTIONS (IN ANNUAL PERCENTAGE CHANGES)

	2002	2003	2004	2003 2 nd half	2004 1 st half	2004 2 nd half
NICP	2.1	2.0	1.8	1.9	2.0	1.6
HICP	2.1	2.5	2.3	2.2	2.3	2.3
HICP energy	-3.7	1.2	3.1	-1.6	2.6	3.6
HICP ex energy	2.9	2.7	2.4	2.6	2.5	2.2

Source: BCL

Compared to the previous exercise, the projections for the NICP have hardly changed, whereas the upward revision to the HICP was somewhat more significant. Indeed, due to different weighting schemes for the energy component, the revisions to the euro oil price assumptions and the indirect taxation measure imply a more significant impact on the HICP.

GRAPH 6: CONTRIBUTIONS TO ANNUAL PERCENTAGE CHANGES IN THE NICP



Source: STATEC, BCL

Competitiveness: Update and two new effective exchange rate indicators

Real effective exchange rate indicators can help assess the competitiveness of Luxembourg's economy by providing a common currency comparison of prices or costs in Luxembourg and in its main trading partners. A study published in BCL bulletin 2003/3 presented real effective exchange rate indicators based on consumer prices, producer prices and unit labour costs in manufacturing. This box updates these three series and adds two new indicators based on unit labour costs for the whole of the economy and on the GDP deflator in the different countries. By widening the analysis beyond manufacturing to include the rest of Luxembourg's economy (especially the financial services industry), the results based on unit labour costs give a clearly more pessimistic view of competitiveness. Finally, the different real effective exchange rate indicators are forecast through to 2005 on the basis of the latest Eurosystem projection exercise. On these assumptions, Luxembourg's competitiveness should deteriorate further.

The real effective exchange rates presented here are calculated for what the ECB calls the "narrow" group of trading partners, representing 23 countries weighted by their share in Luxembourg's international trade. In the following figures, an increase in the real effective exchange rate suggests a decline in Luxembourg's national competitiveness. The indicators are normalised at 100 in 1999Q1, so meaningful comparisons should focus on relative movements rather than absolute levels.

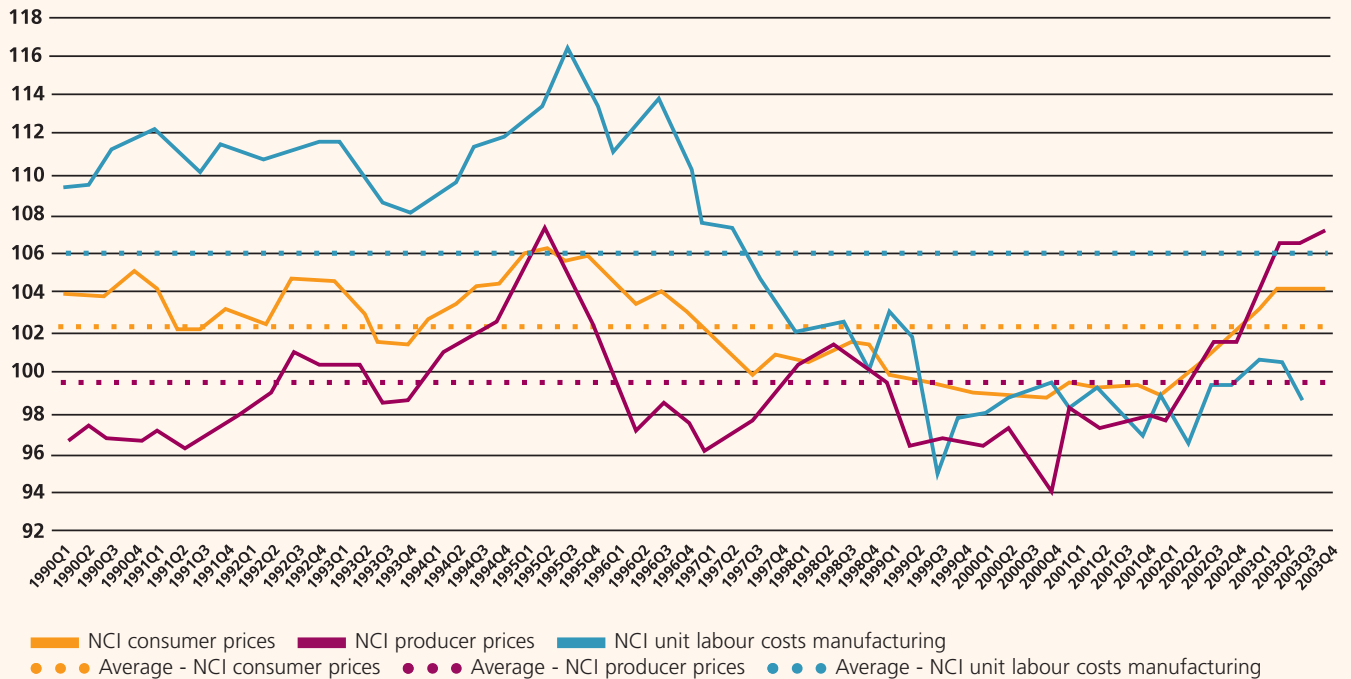
The first figure updates figure 8 of the study published in BCL bulletin 2003/3 using data published or revised since 2003Q3. All three indicators now suggest a further deterioration of competitiveness. Of course, this is linked to the euro appreciation since 2003Q2. However, these indicators are mostly determined by the relative evolution of prices or costs in other euro area countries, since these are Luxembourg's main trading partners.

The second figure presents two new national competitiveness indicators (NCIs) based on relative movements in unit labour costs for the whole economy and the GDP deflator. The indicator based on consumer prices also appears for comparison purposes. The two new indicators are only available at quarterly frequency, but have the advantage that they can be extended into the future using the results of the Eurosystem projection exercise. It should be noted that for most of the projection exercise horizon bilateral exchange rates are assumed unchanged, so the forecast evolution of the real effective exchange rate mostly reflects anticipated movements in relative prices or costs.

The unit labour cost indicator for the whole economy is the most volatile (much as its counterpart for manufacturing) but gives a more pessimistic view of Luxembourg's competitiveness. Since 2002Q2, unit labour costs in the overall economy have increased more rapidly than in Luxembourg's trading partners. Thus, the relatively mild increase in unit labour costs in manufacturing is not representative of the economy as a whole.

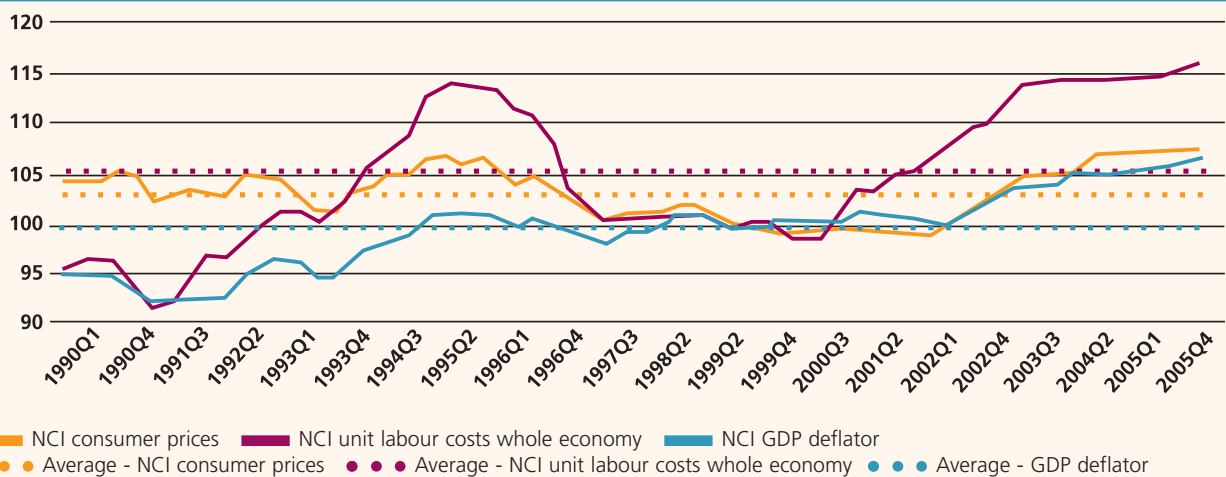
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GRAPH 7: NATIONAL COMPETITIVENESS INDICATORS BASED ON CONSUMER PRICES, PRODUCER PRICES, AND UNIT LABOUR COSTS IN MANUFACTURING



Source: ECB, IMF, EUROSTAT and BCL calculations

GRAPH 8: NATIONAL COMPETITIVENESS INDICATORS BASED ON CONSUMER PRICES, GDP DEFLATOR AND UNIT LABOUR COSTS IN THE WHOLE ECONOMY



Source: ECB, IMF, OECD, EUROSTAT and BCL calculations

The national competitiveness indicators based on consumer prices, producer prices and the GDP deflator all rose above their historical averages between 2002Q2 and 2003Q4, appreciating by 4.4%, 7.5% and 3.6% respectively over the period under consideration. Projections of the NCI based on consumer prices and GDP deflators anticipate a further appreciation until 2005Q4. However, this deterioration in Luxembourg's price competitiveness should be less than that experienced between 2002Q2 and 2003Q4.

Between 2002Q2 and 2003Q4, the national competitiveness indicator based on unit labour costs in the whole economy appreciated twice as much as that for manufacturing alone (respectively 6.3% and 2.7%). Looking forward, the projected national competitiveness indicator using unit labour costs for the whole economy stabilises in 2004 (only +0.4%) reflecting both the slowdown in salary growth and the absence of automatic indexation given lower inflation.

Summarising, all national competitiveness indicators anticipate deterioration throughout the projection horizon as they all appreciate above their historical averages. It bears repeating that the projection assumes fixed exchange rates following 2003, implying that the competitiveness deterioration is mainly due to faster growth of consumer prices, the GDP deflator and unit labour costs in Luxembourg than in its main trading partners.

1.2.1.2 Producer prices in industry

The cyclical upturn of industrial producer prices that started in the second quarter of 2002 was continued into 2003 and was only briefly interrupted in the third quarter. On average, prices increased by 1.3% compared to a fall of 1.1% in the previous year. The cycle of producer prices is usually dominated by that in intermediate goods prices while prices for capital and consumer goods tend to exhibit a more stable pattern. Overall, it seems that over the last two years, the volatility in prices has decreased compared to a few years ago.

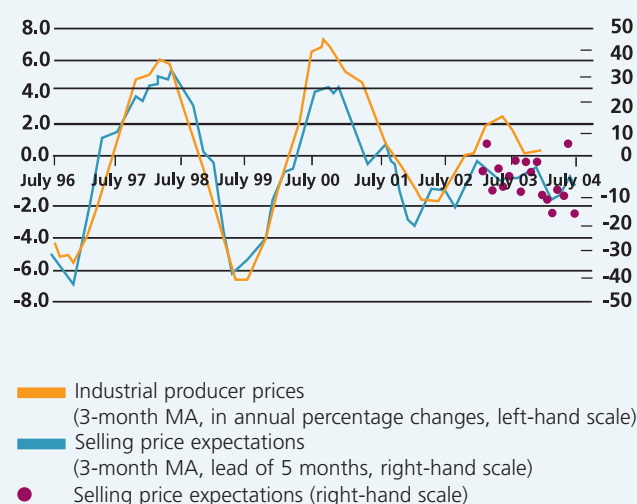
TABLE 5: INDUSTRIAL PRODUCER PRICES (CHANGES WITH RESPECT TO THE PREVIOUS PERIOD)

	2001	2002	2003	03-Q1	03-Q2	03-Q3	03-Q4
Total	1.1	-1.1	1.3	0.6	0.3	-0.5	0.1
Intermediate goods	0.4	-2.1	1.0	0.5	0.2	-0.8	0.3
Capital goods	1.8	1.1	1.6	0.9	0.3	0.1	0.3
Consumer goods	3.6	1.4	2.1	0.7	0.3	0.5	-0.6

Source: STATEC, BCL

The muted pick-up in prices in 2003 results probably from several factors. Economic activity in the euro area gained pace only gradually. The oil price in dollars might have increased on average by 15%, but the impact was offset by an appreciation of the euro against the dollar of a similar magnitude. Despite exhibiting a volatile pattern, the euro oil price remained on average virtually unchanged in 2003 compared to 2002.

GRAPH 9: INDUSTRIAL PRODUCER PRICES, PAST AND EXPECTED DEVELOPMENTS



Source: Eurostat, BCL

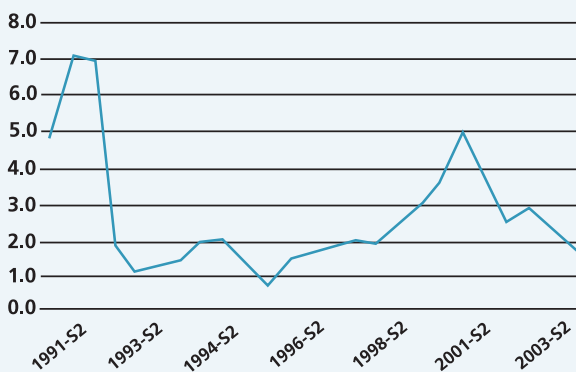
The outlook for industrial producer prices remains slightly unfavourable at the beginning of 2004. Unless demand accelerates, prices are likely to stabilise, or even fall further (in annual percentage changes) according to the results of the harmonised business surveys (see graph).

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1.2.1.3 Construction prices

Prices of construction services increased by 2.0% in 2003, in line with the NICP. On the one hand, in light of the high labour content of several construction services, the moderate developments are probably due to lower real wages in the sector. Weak economic activity in the building sector probably also entailed more moderate price increases.

GRAPH 10: CONSTRUCTION PRICES (IN ANNUAL PERCENTAGE CHANGES)



Source: STATEC, BCL

1.2.1.4 Sector-based activity

Industry

In 2003, the industrial sector faced stagnant international demand. In fact, euro area economic activity showed hardly any sign of acceleration and the 0.5% expansion of industrial production compensated only for the fall in 2002.

The Luxembourg business cycle usually coincides with the euro area cycle although it is slightly more volatile. Growth of industrial production around 3% seems to indicate that the Luxembourg sector benefited more quickly from the pick-up in economic activity in the second half of 2003 than its peers in the euro area. In several regards, 2003 was an improvement on 2002 although it can probably only be considered as a transitional year to a period of more sustained production. A higher level of production, combined with a rise in prices implied an increase in turnover in 2003 with respect to 2002. However, the adjustment process on the cost side continues, as companies lay off more staff and further cut hours worked.

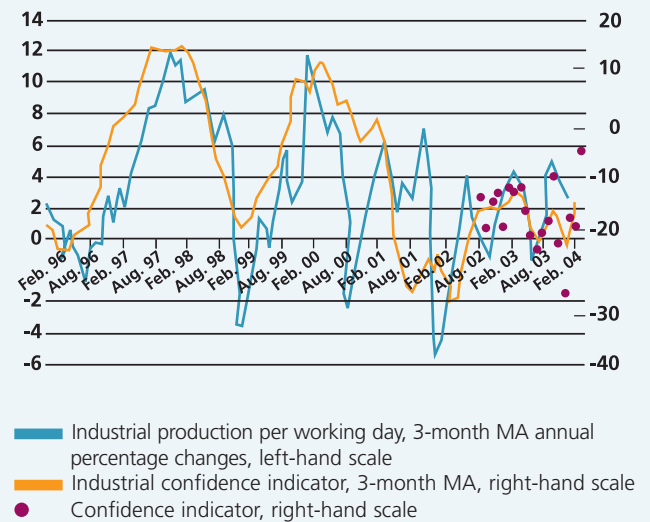
TABLE 6: INDICATORS FOR THE INDUSTRIAL SECTOR (IN ANNUAL PERCENTAGE CHANGES)

	2001	2002	2003	Q1-03	Q2-03	Q3-03	Q4-03
Production per working day	3.1	0.4	2.6	4.5	-1.3	4.7	2.9
Turnover	3.4	-1.0	3.9	7.9	4.5	0.3	2.8
Employees	0.6	-1.6	-1.4	-1.7	-1.6	-1.3	-1.2
Hours worked	-1.0	-3.1	-0.7	-1.5	-1.7	0.9	-0.1
Wage cost	4.5	0.5	0.9	0.5	-0.3	1.9	1.4
New orders	-2.2	1.6	5.3	13.9	3.9	-2.6	6.1

Source: STATEC, BCL

Although industrial production showed some positive developments in the second half of 2003, there was no marked improvement in business confidence until February 2004.

GRAPH 11: CONFIDENCE INDICATORS AND INDUSTRIAL PRODUCTION



Source: STATEC, BCL

Construction

Due to the nature of its activities, the construction sector might to some extent be shielded from the business cycle, but in 2003 it also suffered from the weak demand persisting since 2001. Turnover might have increased by 14.6%, but production per working day, which better reflects the current level of economic activity, fell by 1.2%.

TABLE 7: INDICATORS FOR THE CONSTRUCTION SECTOR (IN ANNUAL PERCENTAGE CHANGES)

	2001	2002	2003	Q1-03	Q2-03	Q3-03	Q4-03
Employees	3.2	2.6	0.8	1.7	1.2	0.6	0.9
Wages and salaries	8.5	8.2	2.7	13.3	3.5	0.6	5.1
Turnover	-1.6	5.5	13.1	0.9	3.3	17.7	14.5
Hours worked	4.8	2.9	0.5	-2.9	-4.5	-6.0	4.4
Production per working day - Total	4.4	3.6	-0.2	-1.9	-6.3	-5.9	3.3
Production per working day - Building	13.0	3.0	-4.1	-4.2	-12.7	-11.1	-2.2
Production per working day - Civil engineering	-4.0	4.2	3.9	0.7	-0.7	0.2	9.9
Building permits ¹	-10	-2.7		24.6	-31.7	117.7	
Loans for house purchases ²	13.7	21.1		14.1	11.5	27.7	23.0
Mortgage rates ³	5.4	4.4		4.1	3.9	3.8	3.5

¹ Number of dwellings.

² Total of mortgage loans to residents.

³ Break in series since the beginning of 2003.

Source: STATEC, BCL

Demand for civil engineering is slowing as some large projects near completion and are not to be replaced by new work on a similar order of magnitude. The deceleration in employment might have weighed on construction. However, short-term indicators in the beginning of 2004 are slightly more positive than in the second half of 2003. Building permits are up sharply and financing conditions are also very favourable. Both are probably reflected in the continuous growth of loans for house purchases.

Commerce and other sectors

Weakness of demand might have influenced economic activity in the commercial sector in 2001 and 2002, but 2003 saw a turnaround. The improvement in turnover was especially significant for the wholesale branch, whereas the retail trade sector and the trade and repair of motor vehicles branch could maintain their performance of the previous year. It seems that the Luxembourg consumer has so far hardly been affected by the rise in unemployment.

TABLE 8: TURNOVER AND CAR REGISTRATIONS (IN ANNUAL PERCENTAGE CHANGES)

	2001	2002	2003 ¹	Q4-02	Q1-03	Q2-03	Q3-03	Q4-03
Total trade	2.9	2.2	9.3	6.6	11.2	8.2	11.0	
Retail trade	5.0	8.1	6.5	9.2	8.3	6.3	5.3	
Trade and repair of motor vehicles	5.2	8.1	10.9	9.7	14.1	8.4	11.3	
Wholesale trade	2.0	-0.5	11.7	5.3	11.9	10.1	13.4	
Hotels and restaurants	2.5	3.5	-5.2	2.0	-5.3	-4.8	-5.4	
Car registrations	2.0	1.2	1.6	-3.8	2.1	-3.5	3.2	7.3

¹ The figures refer to months from January to November except car registrations (January to December) and total trade and trade and repair of motor vehicles (January to September).

Source: STATEC, BCL

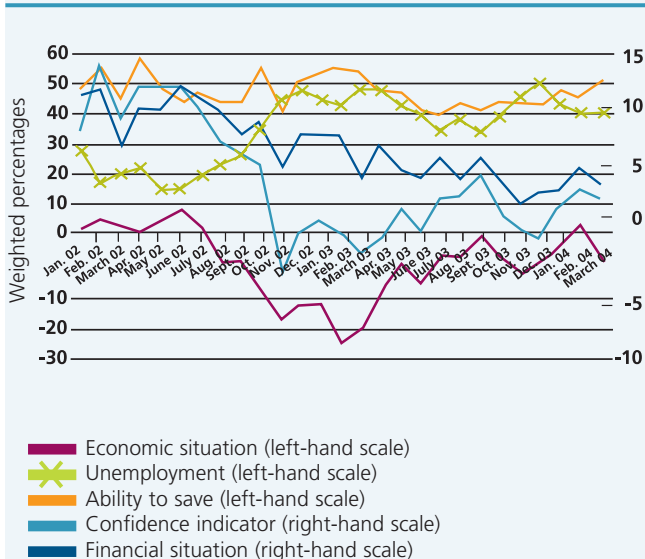
However, the hotel and restaurant branch seems to suffer from a slowdown in tourism. Unfavourable weather conditions, the repercussions of the general climate of uncertainty, the impact of the economic slowdown on business trips and on household disposable income probably explain to a large extent the fall in turnover in 2003.

1. ECONOMIC AND FINANCIAL SITUATION

1.2.2 Consumer survey on conjunctural conditions

The consumer confidence indicator stabilised at a low level over the first half of 2003 after a strong and continuous decrease in the second half of the previous year. Consumer confidence improved somewhat in the third quarter of 2003 without achieving the high level observed in the first half of 2003. This increase in consumer confidence was driven by more optimism with respect to the economic situation and unemployment. However, these two factors also explained most of the subsequent decline in consumer confidence observed in the fourth quarter of 2003. Consumer confidence increased again in January and in February 2004.

GRAPH 12: THE CONSUMER CONFIDENCE INDICATOR AND ITS COMPONENTS

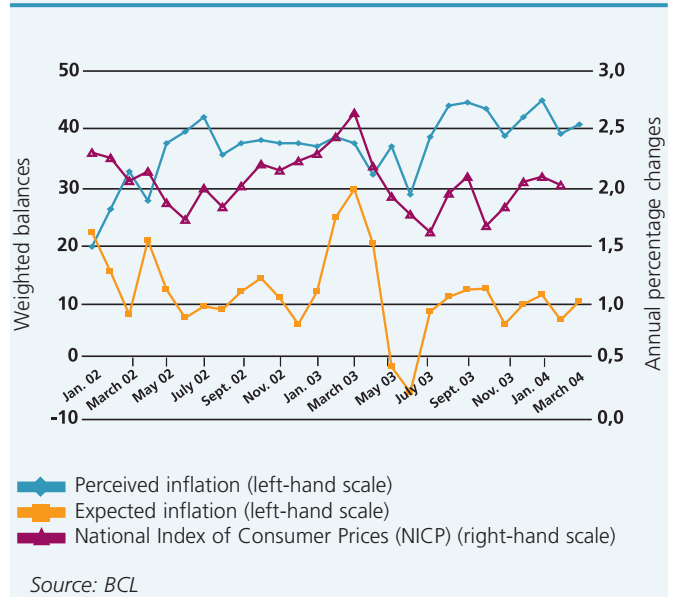


Source: BCL

In 2003, changes in public perception of past inflation seem to have been on average more in line with developments in actual inflation than the previous year.

Consumers' inflation expectations for the next 12 months were somewhat erratic in 2003. Inflation expectations increased sharply in February and March 2003 probably due to the geopolitical tensions related to the run-up to the conflict in Iraq. Expected inflation decreased again once the geopolitical uncertainty dissipated from April onwards.

GRAPH 13: PERCEIVED, EXPECTED AND ACTUAL INFLATION



Source: BCL

1.2.3 Economic activity

The overall assessment of economic developments in 2003 is hampered by the non-availability of the 2003 national accounts. However, according to our December 2003 projections, it would seem unconceivable that 2003 was a significant improvement on 2002. Luxembourg probably experienced a third consecutive year of low growth and 2003 can probably be considered a transition year to a period of more sustained growth.

However, several indicators hint at an acceleration of economic activity since the third quarter of 2003. On the external environment, the pick-up in international trade and the gathering pace of the euro area economy are encouraging signs. On the domestic side, the improvement in the industrial production figures in the final quarter of 2003 was confirmed by a strengthening of business confidence in the beginning of 2004. Regarding the financial sector, banks benefited from the decrease in uncertainty and the associated pick-up of equity markets in the second half of 2003. Overall, the short-term indicators seemed to be in line with our previous projection of a gradual improvement in 2004.

The appreciation of the euro against the dollar had been identified as a major source of risk to our forecast capable of derailing the anticipated recovery in the euro area and Luxembourg. Meanwhile, the exchange rate has gone from 1.17\$/€ in November 2003 to 1.24\$/€ by the end of February 2004. However, the most recent movements, partially a correction for a sustained under-valuation of the euro, have so far failed to dent business confidence. It seems that the positive impact from the acceleration of foreign demand, the cornerstone of our previous projections, more than outweighs the possibly negative currency effects. While exchange rate developments are likely to weigh on export prices and profit margins they are likely to be limited since Luxembourg companies are trading mainly with the euro area.

Furthermore, trade is to a large extent concentrated in services, which, unlike goods, might suffer less from a deterioration in cost or price competitiveness. One might also recall that a currency appreciation does not necessarily imply an economic downturn. From 1985 to 1988, most European currencies appreciated against the dollar, but the European economies experienced a sustained expansion on the back of buoyant domestic demand. Of course, oil price developments were also very favourable, but the gains in the terms of trade provided major support for the disposable income of economic agents. Eventually, the scenario of more dynamic growth in both 2004 and 2005 remains credible although it seems unlikely that the Luxembourg economy will return to the growth rates seen in the late 90s.

Potential output and the business cycle

Has the economic recovery reached Luxembourg? In the US, the beginning of a recovery is associated with the trough of the business cycle, as dated by an official committee of the NBER (National Bureau of Economic Research). The date of a trough often coincides with a GDP contraction over two successive quarters, but the NBER committee stresses that its dating is based on a much wider set of economic indicators. In any case, the US underwent a two-quarter GDP contraction in 2001 (when the NBER dating committee identified a trough) and Germany experienced the same phenomenon in 2003. Since Luxembourg does not publish quarterly GDP, the question here must be addressed using other economic data.

First of all, one must clarify that business cycle analysis uses the term "recession" not only to refer to actual contraction in economic activity around the trough of the cycle (as is common usage), but also to refer to the whole phase of the cycle from a peak to the following trough. The present slowdown represents such a period of weak growth. Likewise, the term "expansion" refers to the whole phase of the cycle from a trough to the following peak, representing periods of strong growth such as Luxembourg experienced until 2000. As a result, the business cycle is also known as "growth cycle" because it is a succession of periods of strong growth (expansion phases) and periods of weak or negative growth (recession phases).

Fluctuations in growth are clearly visible in published economic statistics, but the business cycle itself is not directly observable. To distinguish between phases of expansion and recession, one needs to refer to an equilibrium or sustainable growth rate. One may simply use the average growth rate observed over a sufficiently long period, but more often the equilibrium growth rate is associated with the concept of "potential output".

Potential output is the level of GDP obtained by the full utilisation of available resources that is compatible with price stability. Potential output increases with capital accumulation, growth of the workforce and technical progress. However, observed GDP does not grow at the same rate. When observed growth exceeds potential growth, the level of GDP increases until it is above potential, thus generating a positive "output gap". This gap increases as long as observed growth exceeds potential growth. The output gap reaches its maximum positive value (and the expansion reaches its peak) when observed growth slows, returning to the potential growth rate. This is the beginning of the recession phase of the business cycle, with observed growth below potential growth. During this phase, GDP grows less rapidly than potential growth and the output gap shrinks. When GDP drops below potential output, the output gap becomes negative. The recession reaches its trough when observed growth climbs back up to the potential growth rate, stabilising the output gap at its greatest negative value. In the expansion that follows, observed growth exceeds potential growth once again and the negative output gap diminishes and then turns positive.

Therefore, estimates of potential output and the output gap provide a picture of the business cycle. Peaks correspond to maximum positive values of the output gap and troughs to maximum negative values, thus allowing a separation into periods of expansion and recession. However, potential output and the output gap are not directly observable and must be estimated.

This box updates the output gap estimates published in the BCL annual report 2002. Since there is no generally accepted method for estimating potential output, several alternative methods are applied². The degree of divergence between results allows an evaluation of the uncertainty surrounding the estimates and makes it possible to partially compensate the weak points of individual methods, which may be complementary at different points in the business cycle. The output gap estimates are based on a sample that extends to 2005 using macroeconomic forecasts published by the OECD in November 2003³. This approach seeks to minimise the end-sample bias that affects several methods and increases uncertainty around estimates of the most recent periods. These observations are the most important for the formulation and evaluation of economic policy.

² See BCL Working Paper n°4 for a description of the different methods.

³ For each year between 2003 and 2005, OECD growth forecast for Luxembourg fall close to the centre of the intervals published in BCL bulletin 2003/3. Use of the OECD forecasts is preferred to aid comparison with results published in BCL annual report 2002.

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The output gap estimates presented here differ from those published a year ago for several reasons. First, GDP for 2002 is now observed and no longer forecast. Second, the new output gap estimates are based on a sample that includes an additional observation, the year 2005, for which a forecast is now available. Third, the OECD has revised its forecasts for the years 2003-2004. Finally, GDP data for the years 1985-2001 have been slightly revised by the national accounts department of STATEC.

The upper panel of the following table presents different output gap estimates (in % of GDP) and the lower panel presents the revisions from the output gap estimates published in 2003. The first column shows real GDP growth in the upper panel and revisions to published data or updates to forecast GDP growth in the lower panel. One may note that the OECD followed several other institutions in lowering its growth forecasts for Luxembourg from 2.5% to 1.2% for 2003 and from 4.5% to 2.0% for 2004. For some methods, this had a strong influence on the estimated output gap. For example, assuming potential growth follows a linear trend, this has a lower value following the above-mentioned downward revisions. In fact, for 2000 and 2001 the output gap estimate from the first method has increased by more than 2% and that for 2002 by nearly 3%. These revisions suggest that at the peak of the cycle in 2000 the output gap was much more positive than was estimated with the data available a year ago.

For the year 2000, the upward revision of the output gap is common to all methods (except the Harvey-Jaeger unobserved components model, which finds a marginal downward revision). A greater output gap in 2000 implies that the 9.1% growth rate observed that year contained an even greater cyclical (or non-sustainable) component than implied in last year's estimates.

TABLE 9: OUTPUT GAP ESTIMATES AND REVISIONS FROM ESTIMATES PUBLISHED IN 2003

	GDP growth	Linear Trend	Hodrick-Prescott	Harvey-Jaeger	Kuttner	Apel-Jansson	Function / Production
	Output gap estimates						
2000	8.8%	7.8%	7.1%	4.0%	3.2%	5.0%	6.4%
2001	1.2%	4.0%	4.0%	3.3%	3.0%	3.8%	2.8%
2002	1.3%	0.3%	1.3%	2.0%	1.9%	1.9%	0.2%
2003	1.2%	-3.5%	-1.3%	0.5%	0.2%	-1.0%	-1.7%
2004	2.0%	-6.5%	-2.8%	-0.5%	-1.4%	-3.8%	-2.3%
2005	2.8%	-8.7%	-3.6%	-1.3%	-2.4%	-5.3%	-1.8%
	Revisions from estimates published in 2003						
2000	-0.1%	2.0%	0.8%	-0.2%	0.6%	1.8%	2.6%
2001	0.2%	2.3%	1.1%	0.0%	0.6%	1.5%	2.0%
2002	0.5%	2.8%	2.0%	0.7%	0.4%	-0.6%	1.5%
2003	-1.3%	1.6%	1.2%	1.1%	0.1%	-2.0%	1.9%
2004	-2.5%	-0.8%	0.5%	1.4%	-0.3%	-4.0%	1.0%

Source: STATEC, OCDE, BCL calculations

Revisions are weakest for the Kuttner method, which is based on an unobserved components model much as the Harvey-Jaeger method but also takes account of inflation. On the other hand, the Apel-Jansson method, which extends this approach to unemployment, features important downward revisions in 2003 and 2004. The contrast between these two approaches (which are methodologically quite similar) could mean that the Kuttner method is more robust (and thus more reliable) when data are revised. However, the Apel-Jansson method could prove more informative in the present context because it can take account of the sharp and unexpected increase in unemployment observed over the last months, a source of information neglected by the Kuttner method.

According to the latest estimates, the output gap remained positive in 2001 and 2002 despite the brutal slowdown in growth. In 2003, after a third year of weak growth, most methods find GDP is below its potential, generating a negative output gap. The two methods that still find a positive gap situate it very near zero. On the basis of OECD forecasts, all methods expect a negative output gap for 2004.

It should be stressed that the output gap fell each year between 2001 and 2004. This result is common to all estimation methods used. It implies that for each of these years observed (or forecast) growth was below the corresponding potential growth rate. However, the trough of the recession, and hence the beginning of the recovery, will be reached only once the output gap stabilises and changes direction, that is to say once observed growth exceeds potential growth once again. Only one method (production function) suggests this will be the case in 2005, as it anticipates a reduction in the output gap consistent with GDP rising once more towards its potential level. According to this approach, the 2.8% growth expected for 2005 may already mark the beginning of the next expansion phase. According to the other methods, potential growth in 2005 will be higher than this figure.

One must stress the high level of uncertainty surrounding all estimates of the output gap or potential growth. In Luxembourg this uncertainty is increased by the lack of quarterly data, which makes it necessary to base estimates on annual data, limiting the degrees of freedom and inducing a possible time aggregation bias. Furthermore, the table reveals the large size of revisions with respect to the previous year's estimates. This implies that the turning point anticipated by each method could easily be moved one year earlier (or later) following the publication of new data, whether forecast updates or even the official GDP figures for 2003.

In conclusion, on the basis of available data and OECD forecasts, Luxembourg's output fell below potential in 2003 and 2004. Conditional on these forecasts, most of the methods considered cannot yet identify the trough of the recession. Only one method suggests that the recovery could materialise in Luxembourg in 2005; the others suggest the expansion will begin still later.

Concentration and sectoral changes of the Luxembourg economy from 1985 to 2002

Open economies, according to the classical theory of trade, will specialise in those sectors in which they have a "comparative advantage". As a consequence, international economic integration will lead to increasing sectoral specialisation and to diverging economic structures of the countries involved; also, trade will be inter-industrial. According to more recent theories, increasing integration will have the opposite effect, namely a progressive harmonization of production structures among the countries involved, along with trade flows that are intra-industrial rather than inter-industrial.

In both scenarios, however, the larger a given sector in a country, the more the economy as a whole will be affected in case of a shock to this specific sector. Also, the smaller an economy, the more likely it is to find one or several sectors that have an important relative weight in the economy as a whole. Hence the diversification policy led by Luxembourg Governments is meant to favour growth in a larger number of sectors, in order to prevent the appearance of a monolithic economic structure.

This box seeks to analyse the evolution of Luxembourg's sectoral shares and to investigate whether the economy has become more diversified since 1985 and the speed at which structural change has taken place. Following the steel sector in the seventies, today it is the importance of the financial sector for the economy that raises questions.

Degree of openness

The degree of openness of the Luxembourg economy was already high in 1985, but increased strongly since 1995 and reached a record level in 2001. Exports of services are more important than exports of goods since 1992, while goods lost in relative importance (measured by their weight in GDP) already from the beginning of the period under review. Their share has virtually stagnated since then. Similarly, imports of services which could be linked to (re)exports of (financial services), have exceeded those of goods, -but only since 1999.

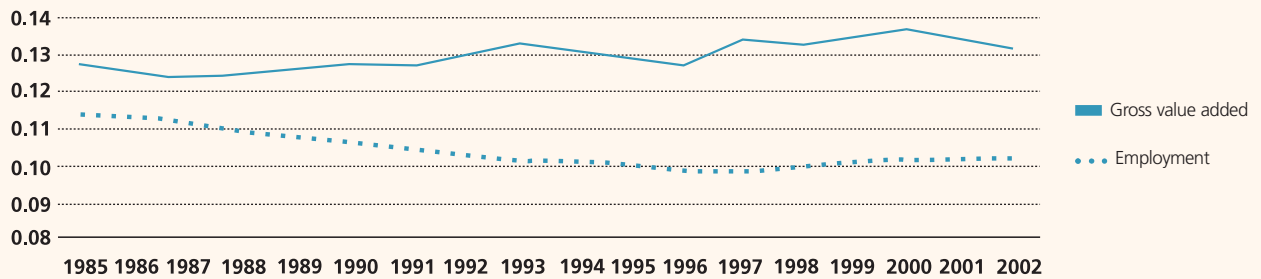
Degree of sectoral concentration

The Herfindahl index constitutes a measure of concentration based on all the sub-sectors of the economy. It is obtained by summing the squares of the relative share of the different sectors. In the case of a highly concentrated economy, its value tends to one; if sectors all have a similar share, it takes the value of the inverse of the number of sectors.

The index calculated over 15 sectors provides diverging results for value-added and employment. While concentration in production has followed an increasing trend from 1989 to 2000, sectoral concentration in employment has decreased from 1985 to 1996, before stabilising. Concentration appears to be rather moderate in terms of both employment and production.

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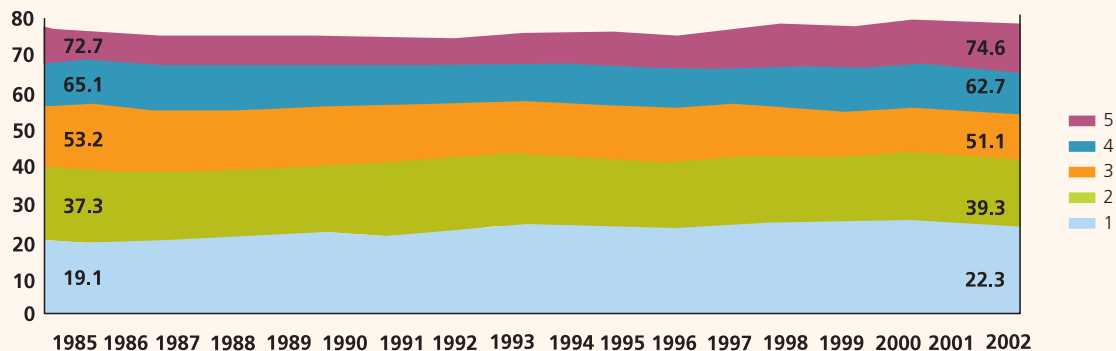
GRAPH 14: HERFINDAHL INDEX OF SECTORAL CONCENTRATION



Source: STATEC, BCL calculations

Concentration can also be measured using a simple ratio of the relative weight of two among the largest sectors of the economy. The two largest sectors taken together (financial intermediation and real estate, renting services) have seen their weight increase somewhat since 1985; for the three or four largest sectors, concentration has however decreased. It is the "transport and telecommunication" sector that has shown the fastest growth rates over the period observed. The financial services sector comes only third in terms of growth of real value added. The sectors with above-average growth belong to the service sector, which goes along with a clear increase in the relative weight of services as a whole.

GRAPH 15: CONCENTRATION RATIO (FOR M FROM 1 TO 5)



Source: STATEC, BCL calculations

Speed of sectoral changes

On average, sectoral changes have been faster for output than for employment from 1985 to 2002. Change was faster for employment only during the period since 1995.

Impact of sectoral changes on aggregate productivity

Changes in the employment share of individual sectors can influence the evolution of aggregate productivity. Productivity growth can be split into two components: On the one hand, there is a contribution within individual sectors ("intra" effect), typically reflecting improvements of workers' qualifications or increases in capital stock, technical progress etc. On the other hand, the re-allocation of workers to sectors with a different productivity level ("shift" effect) also affects the aggregate productivity level.

TABLE 10: A SHIFT-SHARE ANALYSIS OF PRODUCTIVITY GROWTH

	Productivity	"Intra"-effect	"Shift"-effect
Total economy	2.2	1.0	1.2
Manufacturing	4.3	4.3	0.0
Collective services and market services	1.4	0.2	1.2

Source: STATEC, BCL calculations

From 1985 to 2002, around half (1.2 p.p.) of the economy's average productivity growth (2.2%) is the result of sectoral changes, while progress within the various sectors accounts for the other half (1.0 p.p.).

A comparison between manufacturing and services shows strongly diverging evolutions.

In manufacturing and its sub-sectors, the 4.3% average productivity growth is almost exclusively due to "internal" productivity increase, i.e. productivity increases within the various sub-sectors. Sectoral reallocation did not contribute to an improvement of productivity.

In the various services sectors, the rather modest improvement in productivity (1.4% on average each year) is above all due to an increasing employment share of sectors with higher productivity levels. Only 0.2 p. p. of productivity growth appear to be the result of within-sector developments i.e. of "internal" increases in productivity.

Conclusion

Apart from an increased dependence on international trade, output has not become much more specialised since 1985. Employment has even become more diversified since then. Sectoral changes have been responsible for a large part of the increases in aggregate labour productivity. In services, productivity adjusted for sectoral changes virtually stagnated between 1985 and 2002.

1.2.4 Bank Lending Survey

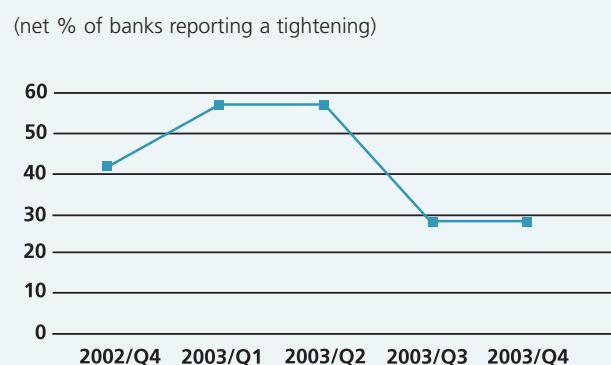
This quarterly survey consists in a qualitative questionnaire sent to the seven major banks in Luxembourg's domestic market. The questionnaire deals with the supply as well as the demand side of credit extended to enterprises and to households.

Credit extended to enterprises

Results show a tightening of the credit standards applied for the approval of loans in 2003. However, in the second semester the net percentage of banks reporting a tightening of credit standards was less important than in the first semester (57% in the first semester compared to 29% in the second semester). As regards anticipations for the first quarter of 2004, a net 43% of the participating banks expect a further tightening of their standards applied to the approval of loans to enterprises.

The tightening observed in 2003 was due to a higher perception of risk (regarding general economic activity as well as industry-specific outlook) and costs related to bank's capital position. The tightening mainly affected interest rate margins, the size and maturity of loans, collateral requirements and loan covenants.

GRAPH 16: LUXEMBOURG - LOANS TO ENTERPRISES: EVOLUTION OF CREDIT STANDARDS APPLIED TO THE APPROVAL OF LOANS



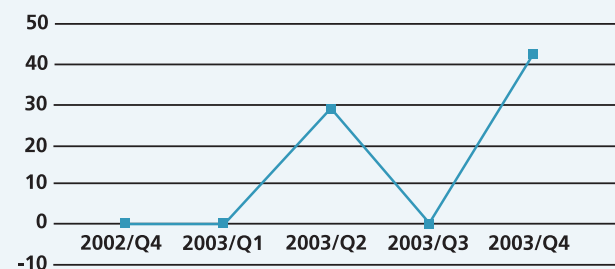
Source: BCL

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As regards firms' demand for loans, the survey recorded a stationary demand in the first and third quarter and a rise in the second quarter and last quarter. The higher demand recorded at the end of the year reflected financing needs for fixed investments, inventories and working capital as well as debt restructuring. Fourteen % of the participating banks anticipate a rise in firms' demand for loans for the first quarter of 2004.

GRAPH 17: LUXEMBOURG - LOANS TO ENTERPRISES: EVOLUTION OF DEMAND

(net % of banks reporting a tightening)



Source: BCL

Credit extended to households

As regards mortgage credit, survey results suggest that, credit standards were unchanged on average in the first quarter of 2003. In the second quarter a net 29% of the participating banks reported a tightening, but standards returned to a neutral position in the last quarter of the year. As regards anticipations for the first quarter of 2004, a net 14% of the participating banks expect a further tightening of their standards applied to the approval of loans for residential purchases.

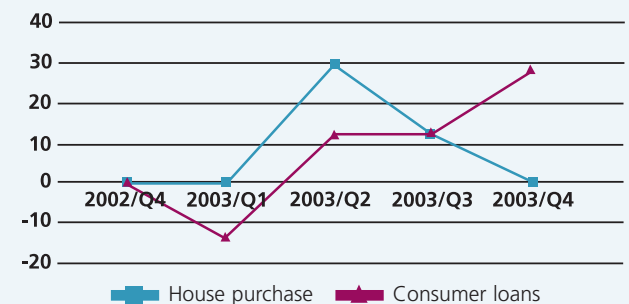
The tightening mortgage standards observed in the second and in the third quarter were linked to higher risk perceptions regarding general economic activity as well as the housing market. This resulted in larger interest rate margins on risky loans, and other stricter conditions regarding maturity, collateral requirements, loan-to-value ratios and non-interest-rate charges.

Regarding consumer loans, the survey shows easing credit standards during the first quarter and tightening standards during the rest of 2003. As regards anticipations for the first quarter of 2004, a net 14% of participating banks expect a further tightening of their standards applied to the approval of consumer loans.

This tightening observed since the second quarter, reflected doubts regarding general economic activity, the creditworthiness of consumers, and risks on collateral. This resulted in higher collateral requirements for consumer loans.

GRAPH 18: LUXEMBOURG - LOANS OF HOUSEHOLDS: EVOLUTION OF CREDIT STANDARDS APPLIED TO THE APPROVAL OF LOANS

(net % of banks reporting a tightening)



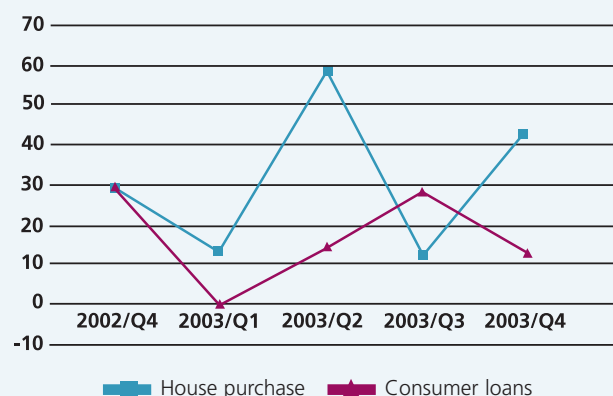
Source: BCL

On the demand side, banks reported a rise in the demand for house purchase throughout 2003. Demand for consumer loans rose during the second semester. The demand for loans was affected by consumer confidence, housing market prospects as well as higher demand for durable consumer goods (cars, furniture).

For the first quarter of 2004, participating banks anticipate a stable household demand for credit for house purchase as well as for consumer loans.

GRAPH 19: LUXEMBOURG - LOANS TO HOUSEHOLDS: EVOLUTION OF DEMAND

(net % of banks reporting a tightening)



Source: BCL

1.2.5 Labour market

Despite the deceleration in GDP growth observed in 2002, annual employment growth remained broadly stable at around 2.0% in 2003. Employment thus proved more resilient than might have been expected. This has in part reflected the usual lags in cyclical developments in employment. It may also suggest that companies retain workers despite weak activity, possibly because they expect the recovery to gather pace in the near future. However, against the background of a delayed recovery, companies may increasingly decide to reduce their staff. To some extent, this resilience may also have been caused by a measurement error in employment figures in some specific sectors.

The inflow of non-resident labour has continued to account for the largest part of employment growth. Cross-border commuters represent nearly 67.3% of newly created jobs. This share is greater than the previous year's figure. In 2003, the share of cross-border commuters in total domestic employment reached more than one third (36.7% annual average). This represents an increase of 3.8% in terms of individuals. Among the cross-border commuters, 52.7% come from France, 27.4% from Belgium and 19.9% from Germany.

Wages and social benefits increased automatically by 2.5% in August 2003 due to their indexation to consumer prices. This caused an acceleration of labour costs in the third quarter 2003.

1.2.6 External trade

Exports and imports of goods continued to decline in 2003 compared with 2002. However, the trade deficit fell 4.7% in 2003 reflecting a stronger drop in imports of goods (-1.8%) than in exports (-0.8%). In 2003, imports from the euro area represented 87% of the total value of Luxembourg's imports while 76% of exports were delivered to euro area partners. Intra-euro trade did not undergo significant changes in 2003 compared to its level in 2002. However trade with the US reduced significantly while that with Emerging Markets increased strongly.

1.2.7 Balance of payments

For 2003 as a whole, the current account surplus fell to 2.2 billion euros (a decline of about 16% compared to its level in 2002). The decline in the current account surplus originated from an increase in deficits on the goods, income and current accounts. This was only partly offset by a 1.4% rise in the services surplus.

The financial account experienced net outflows of 1.2 billion euros in 2003, compared with net outflows of 1.8 billion euros in 2002. This resulted from lower net inflows in portfolio investments and in financial derivatives, which were largely offset by net outflows in combined direct investments and other investments.

1.2.8 Luxembourg's International Investment Position

During 2003, the BCL began to compile Luxembourg's international investment position (IIP). At any given date, the IIP statistics show the stock of an economy's external financial assets and liabilities. The IIP and the balance of payments statistics, which together form the economy's external accounts, are useful for monetary and economic policy and for financial stability analysis.

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At the end of December 2002, Luxembourg's financial assets were estimated at 1 894 billion euros while financial liabilities amounted to 1 872 billion euros. Consequently, Luxembourg's net IIP, e.g. the difference between the stock of financial assets and liabilities, was estimated at 21.5 billion euros. Among various components of the IIP, the stock of direct investment abroad was estimated at 525.7 billion euros while the stock of foreign direct investment in Luxembourg amounted to 511 billion euros. More than 77% of this direct investment represented equity capital and reinvested earnings. Investments in and from holding companies and other financial vehicles represented more than 90% of both inward and outward direct investment.

With regard to stocks of portfolio investments, Luxembourg's net investment position was negative at the end of December 2002, with liabilities (933.6 billion euros) exceeding assets (880.5 billion euros).

"Other investments", one of the largest components of the IIP, covers stocks of trade credits, loans, currency and deposits. Here Luxembourg's net position was positive (52.5 billion euros) at the end of December 2002, as financial assets (480.3 billion euros) were more important than financial liabilities (427.8 billion euros).

TABLE 11: LUXEMBOURG'S INTERNATIONAL INVESTMENT POSITION AT THE END OF DECEMBER 2002

In Millions of EUR	Assets	Liabilities	Net Position
Total	1 894 085	1 872 598	21 487
1. Direct Investments	525 678	511 071	14 607
2. Portfolio Investments	880 518	933 593	-53 075
3. Financial Derivatives	7 407	126	7 281
4. Other Investments	480 311	427 808	52 503
5. Reserve Assets	171		171

Source: BCL

1.2.9 Public finance

1.2.9.1 Central government budgetary policy

The Luxembourg Parliament adopted the 2004 central government budget in December 2003. Total revenue should grow by only 0.7% compared to the 2003 budget due to decreasing current revenue. Expenditure growth should also decelerate, reaching 2% in 2004. The central government deficit would therefore not exceed EUR 84 million or 0.35% of forecast GDP.

TABLE 12: OVERVIEW OF THE 2004 CENTRAL GOVERNMENT BUDGET (EUR MILLION, UNLESS STATED OTHERWISE)

	2003 budget	2004 budget	Increase in nominal terms
Revenue	6 349.7	6 392.6	+0.7%
Current revenue	6 305.3	6 242.7	-1.0%
Capital revenue	44.4	149.8	+237.4%
Expenditure	6 349.3	6 476.7	+2.0%
Current expenditure	5 521.5	5 809.7	+5.2%
Capital expenditure	827.9	667.0	-19.4%
Balance	0.4	-84.2	--
Of which current balance	783.8	433.0	--
Increase in nominal terms	-783.4	-517.2	--

Source: 2004 budget

These figures correspond to a limited notion of central government, which excludes important transactions of the so-called "special funds". In addition, the above-mentioned balance would be affected by a one-off operation that should not be considered in the ESA95 system of accounts, namely the sale of some participating interests to the SNCI (Société Nationale de Crédit et d'Investissement). Once the central government budget is adjusted to take into account the operations of the funds and to neutralise the impact of the sale, the deficit increases from 0.35% of GDP to 2.8% of GDP⁴. The discrepancy between the two figures reflects a substantial mismatch between the government transfers to the funds on the one hand - these transfers are considered on the expenditure side of the restricted central government budget - and the expenditure programme of the funds on the other hand.

⁴ Assuming that only 90% of the special funds' expenditure programme will be implemented in 2004.

This deficit equal to 2.8% of GDP is only related to central government, disregarding social security and local government. For this reason, it should not be compared to the 3% reference value of the Treaty Establishing the European Community, as this criterion refers to the notion of general government. Revenue, expenditure and balances of the consolidated Luxembourg general government, including local governments and social security, are addressed in the rest of this section.

1.2.9.2 General government revenue

The revenue-to-GDP ratio surged significantly in 2002. In spite of decelerating total revenue, the ratio increased further to 47.5% of GDP in 2003. This favourable evolution is to a large extent the reflection of stronger indirect taxes, in a context where private consumption increased at a more sustained pace than GDP and where the provision of electronic services became more prominent.

Social contributions also increased at a sustained pace in 2003 owing to the resilience of total employment and wages to the economic deceleration observed since 2001. Direct taxes reached 16% of GDP, in line with levels observed over previous years, in spite of the implementation of a generous fiscal reform in 2001 and 2002. This somewhat counterintuitive pattern is attributable to the strong collection of back taxes observed in 2002 and 2003. However, this factor is bound to disappear in the foreseeable future. Already in 2004, the collection of back taxes will probably decelerate significantly, as expected in the 5th update of the stability programme presented at the end of November 2003.

TABLE 13: GENERAL GOVERNMENT TOTAL REVENUE (% OF GDP, UNLESS STATED OTHERWISE)

	STATEC data March 2004						Stability programme			
	1998	1999	2000	2001	2002	2003	2003	2004	2005	2006
Current revenue	45.6	45.3	45.2	45.6	47.1	47.3	46.9	45.5	44.7	44.7
Of which direct taxes	16.4	15.7	15.5	15.6	16.3	16.0	30,0	28,7	27,9	28,0
Of which indirect taxes	13.5	14.2	14.7	14.1	14.2	14.4				
Of which social contributions	11.2	11.4	11.2	12.0	12.4	13.0	12.8	12.7	12.8	12.6
Capital revenue	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Total revenue	45.7	45.5	45.3	45.8	47.3	47.5	47.1¹	45.7	44.9	44.9
Nominal increase in total revenue (%)	6.2	9.7	13.0	4.5	5.1	3.5	3.8	1.6	4.0	5.8

Source: STATEC, 5th update of the Luxembourg stability programme 2002-2006, BCL calculations

Notes: the data on total revenue related to the 2003-2006 period, which are displayed in the last four columns of the table, are from the 5th update of the Luxembourg stability programme. The breakdown between current and capital revenue has been estimated by the BCL.

The level of expenditure in 2003 is different from one source to the other. This is due not only to different data vintages but also to the fact that the ESA 95 data displayed on the left side of the table include some transactions with European Union institutions.

As the stability programme does not distinguish direct business taxes and direct taxes on households, only the total amount of direct taxes is displayed in the last four columns of the table.

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1.2.9.3 General government expenditure

The revenue-to-GDP ratio increased from 2001 to 2003. However, the corresponding expenditure ratio displayed an even more pronounced surge due to high nominal expenditure growth in 2002 and especially in 2003 (+10.1%). This illustrates the difficulty of keeping expenditure growth in line with GDP growth during an economic slowdown. In order to ensure that expenditure and GDP increase at the same pace over the entire economic cycle, it is therefore essential that total expenditure grows less than GDP during the ascending phase of the cycle. Otherwise, the expenditure ratio will tend to drift upwards, resulting in higher taxes or in fiscal imbalances.

TABLE 14: GENERAL GOVERNMENT EXPENDITURE (% OF GDP, UNLESS STATED OTHERWISE)

	STATEC data March 2004						Stability programme			
	1998	1999	2000	2001	2002	2003	2003	2004	2005	2006
Social transfers	19.9	20.1	18.8	20.2	21.9	23.4	22.1	22.2	22.2	21.8
Government investment	4.6	4.4	3.8	4.2	4.8	4.9	4.9	4.5	4.5	4.5
Consumption expenditure (1)	12.0	11.4	10.8	11.4	12.2	13.2	13.0	13.0	12.8	12.4
Subsidies (2)	1.9	1.6	1.7	1.7	1.9	1.9	1.9	1.8	1.7	1.7
Other expenditure	4.1	4.3	4.0	2.0	3.7	4.3	5.8	6.0	6.0	6.0
Total expenditure	42.5	41.8	39.1	39.5	44.5	47.7	47.7	47.5	47.2	46.4
Nominal increase in total expenditure (%)	6.1	8.2	6.0	9.8	9.4	10.1	11.0	4.3	5.2	4.0

Source: STATEC, 5th update of the Luxembourg stability programme 2002-2006, BCL calculations

Notes:

(1) Compensation of employees and intermediate consumption.

(2) Disregarding capital transfers.

The data on total revenue related to 2003-2006, which are displayed in the last four columns of the table, are from the 5th update of the Luxembourg stability programme.

The level of expenditure in 2003 is different from one source to the other. This is due not only to different data vintages but also to the fact that the ESA95 data displayed on the left side of the table include some transactions with European Union institutions. Finally, the notion of "social transfers" considered in the stability programme is more restrictive, which also affects "other expenditure".

High expenditure growth recorded since 2001 is mostly due to social transfers, which accounted for about half the increase in the expenditure ratio observed in 2003. This follows the sustained growth of social transfers in 2001 and 2002. The higher transfers are mainly attributable to more generous pensions and family allowances in the aftermath of the so-called pensions roundtable. The indexation of pensions on real wages in 2003 as well as significant expenditure drifts in healthcare and long-term care also played a prominent role.

Government consumption expenditure went up from 12.2% of GDP in 2002 to 13.2% in 2003. This results from the combination of a surge in the number of general government employees and higher average earnings in the public sector. The latter increased by about 6% in 2003 due to the latest wage agreement, the price indexation mechanism and the continuation of a pronounced wage drift in the public sector.

According to the 5th update of the stability programme, the expenditure-to-GDP ratio should decline significantly over the coming years, from 47.7% in 2003⁵ to 46.4% in 2006. Such a development would be welcome after the expenditure drift observed in the recent past. However, the containment of the high rates of "spontaneous" expenditure growth, in particular in the social sector, would require the implementation of drastic measures. Such measures are not spelled out in the stability programme.

1.2.9.4 General government net lending or borrowing

The combination of high expenditure growth and a revenue slowdown, has led to a deterioration of the budgetary situation of the Luxembourg general government from a surplus of about 6% of GDP in 2000 and 2001 to a small deficit in 2003. The deficit should increase further in 2004 and 2005 according to both the 5th update of the stability programme and the BCL projections carried out in autumn 2003. In fact, the latter indicate that the general government borrowing requirement would amount to 2.8% of GDP in 2005. The stability programme foresees a significant decrease in the deficit in 2006, but this reflects optimist assumptions regarding the expenditure-to-GDP ratio.

According to BCL calculations, in cyclically adjusted terms the general government would be in deficit from 2003 onwards. This deficit would amount to 1.7 and 2.4% of GDP in 2004 and 2005, respectively, compared to cyclically adjusted surpluses of about 5% in 2000 and 2001. These results are strikingly different from those published by either the Commission or the stability programme (see the enclosed box for an explanation). They underline the structural nature of the fiscal deterioration observed in the last few years, following the generous social measures adopted on the occasion of the roundtable on pensions, the ambitious fiscal reform implemented in 2001 and 2002 and significant expenditure overruns, especially in the healthcare sector. The sustained increase in government consumption and investment observed from 2000 to 2003 was also a major contributing factor.

TABLE 15: GENERAL GOVERNMENT NET LENDING (+) OR NET BORROWING (-) (% OF GDP)

	1998	1999	2000	2001	2002	2003	2004	2005	2006
Effective balance (net lending (+) or net borrowing (-))									
STATEC data March 2004	3.2	3.7	6.3	6.3	2.7	-0.1	--	--	--
Stability programme	3.2	3.5	6.4	6.2	2.4	-0.6	-1.8	-2.3	-1.5
Autumn 2003 projections BCL	3.2	3.5	6.4	6.2	2.4	-0.5	-2.0	-2.8	--
Cyclically adjusted balances									
European commission	--	--	1.4 ⁽¹⁾	3.3 ⁽¹⁾	2.6	1.1	0.9	1.0	2.2
Stability programme	--	--	--	--	5.4	2.4	1.0	0.6	1.2
Autumn 2003 projections BCL	3.5	3.4	5.1	5.0	1.8	-0.5	-1.7	-2.4	--

Source: STATEC, 5th update of the Luxembourg stability programme 2002-2006, BCL calculations

Notes :

(1) These cyclically adjusted balances, related to 2000 and 2001, have not been published by the European commission. They have been calculated by the BCL in line with the Commission method, adopting the 0.6 GDP semi-elasticity of the fiscal balance used by the Commission and the Commission estimate of potential GDP growth for 2000 and 2001.

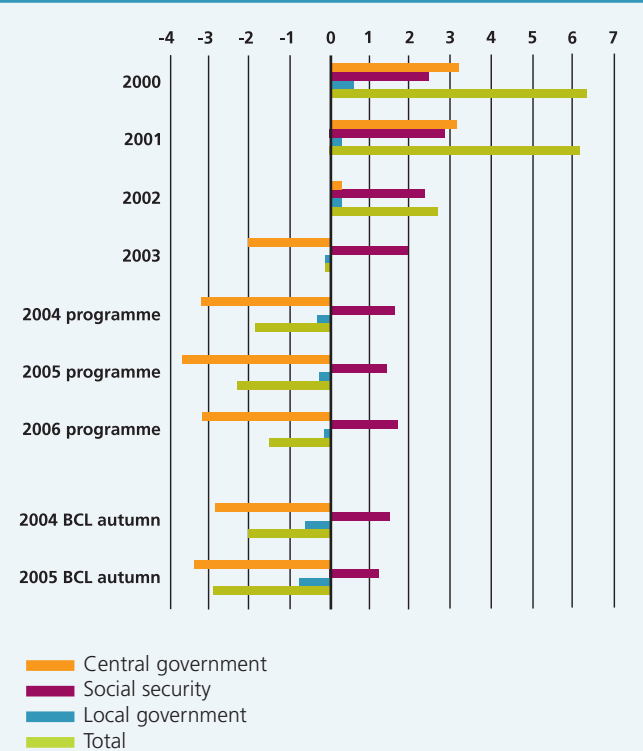
The cyclically adjusted balance (CAB) is equal to the effective balance less the cyclical component of the balance. In order to calculate the CAB, the BCL uses the so-called disaggregated method developed by the European System of Central Banks, which is based on the Hodrick-Prescott filter, and the effective balances in the BCL autumn 2003 projections (i.e. -2.0% and -2.8% of GDP in 2004 and 2005, respectively). By contrast, both the Commission and the 5th update of the programme implement the production function method and use the effective balances projected in the programme, namely -1.8% of GDP in 2004, -2.3% in 2005 and -1.5% in 2006.

⁵ Excluding transactions with European Union institutions.

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From 2003 onwards, as illustrated in the chart below which refers to effective balances, the fiscal deterioration is mostly attributable to the substantial central government deficits.

GRAPH 20: NET LENDING (+) OR NET BORROWING (-) BY GENERAL GOVERNMENT SUBSECTORS (% OF GDP)



Source: STATEC, 5th update of the Luxembourg stability programme 2002-2006, BCL autumn 2003 projections

The deterioration in the fiscal balances has occurred against the background of an extremely favourable public debt situation. On the one hand, the Luxembourg public debt ratio is by far the smallest in the EU-15. Furthermore, total central government financial assets amounted to about 26% of GDP at the end of 2002 (including some illiquid participating interests)⁶. Net financial assets, which are equal to assets less the central government gross debt, reached 22.3% of GDP at the end of 2002⁷.

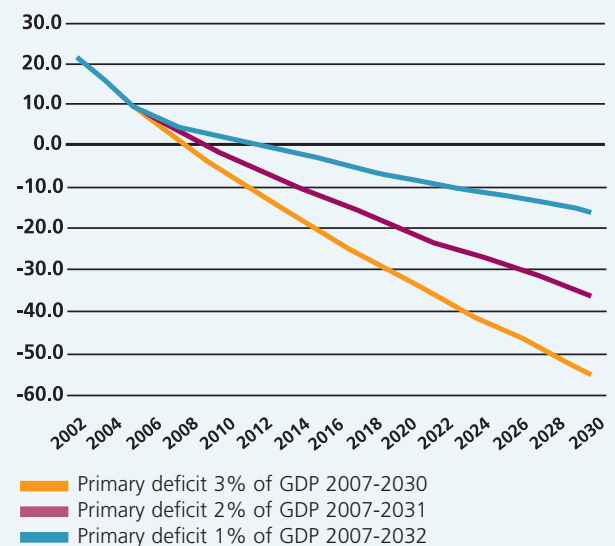
⁶ Source: Finance Ministry, "Rapport d'activité 2002".

⁷ Central government net financial assets are the result of the accumulation of central government surpluses. By contrast, the gross consolidated debt is not really in line with the evolution of fiscal balances, because it is not affected by a deficit financed via the sale of financial assets or by a surplus used to acquire new assets. Apart from the fiscal balance, net financial assets could be influenced by capital or foreign exchange gains.

⁸ The primary deficit has been calculated considering net interest charges, namely interest payable less interest receivable.

As illustrated in the chart below, these substantial net financial assets would be exhausted around 2009 if the central government records the deficits projected in the 5th update of the stability programme from 2003 to 2006 and a primary deficit equal to 3% from 2007 onwards⁸. The net central government financial position would even turn negative afterwards, resulting in net financial liabilities equal to 19% of GDP in 2015, 33% in 2020 and 56% in 2030. Substantial liabilities would be observed even in the much more optimistic assumptions of central government primary deficits limited to 2% or 1% of GDP from 2007 onwards, thus highlighting the crucial importance of a balanced central government budget.

GRAPH 21: EVOLUTION OF THE NET CENTRAL GOVERNMENT FINANCIAL ASSET POSITION UNDER VARIOUS PRIMARY DEFICIT ASSUMPTIONS (AS A % OF GDP)



The net financial position is equal to central government financial assets less the central government gross debt. It has been calculated for the base year 2002. Its evolution from 2003 onwards is projected assuming a stable interest rate (4%) and inflation and economic growth rates equal to 2 and 3.5%, respectively, from 2006 onwards. Inflation and growth rates related to the 2003-2005 period are from the BCL autumn 2003 projections and are also based on STATEC data. Over the 2004-2006 horizon, the primary balances have been estimated on the basis of data published in the 5th update of the stability programme, whereas the 2003 primary balance has been communicated by STATEC in March 2004. The different scenarios assume that primary deficits will be equal to 3%, 2% or 1% of GDP from 2007 onwards. Net interest charges move in line with net financial assets or liabilities from 2007 onwards.

Source: STATEC, Finance Ministry, 5th update of the Luxembourg stability programme, BCL calculations

The net asset position of the social security system, which also belongs to general government, is currently extremely comfortable in Luxembourg. The reserves of the pension system reached 23% of GDP at the end of 2002 according to the IGSS (*Inspection Générale de la Sécurité Sociale*). However, these reserves cannot be counted fully as assets available to cover central government and local government deficits, because they are matched by even higher implicit pension liabilities. Future social contributions are indeed likely to be insufficient to cover future pension expenditure under an unchanged policy assumption. In addition, the healthcare system will be financially strained from 2005 onwards if health expenditures continue to grow at the recent pace.

Calculation of cyclically adjusted general government balances (CABs)

The European Commission calculated CABs for Luxembourg in its assessment of the 5th update of the Luxembourg stability programme, which served as a basis for the Council opinion on this programme. The Commission uses a standardised production function method, where potential GDP is estimated from a Cobb-Douglas production function with three inputs, capital stock, labour - a combination of the working age population, the labour market participation rate and the equilibrium unemployment rate - and total factor productivity. Output gaps can then be calculated and finally, the latter are multiplied by the GDP semi-elasticity of the budget balance in order to estimate the cyclical components of the effective budget balances. The CABs are obtained by difference.

As illustrated in the table on general government net lending or borrowing, the CABs calculated by the Commission on the basis of the production function method are significantly different from those estimated by the BCL using a disaggregated method developed by the European System of Central Banks (ESCB), which relies on the Hodrick-Prescott filter with a smoothing parameter λ equal to 30⁹.

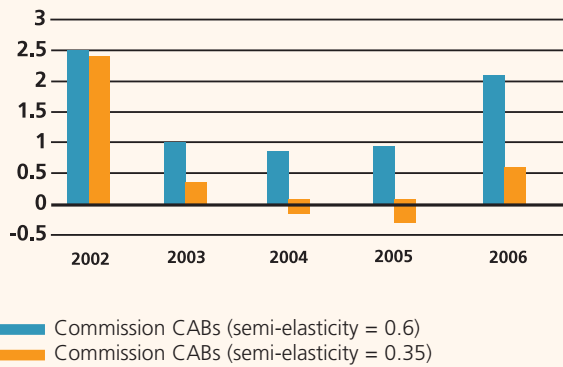
This difference reflects four major factors. First, the Commission calculates CABs based on the effective balances projected in the 5th update of the stability programme whereas the BCL relies on its autumn 2003 forecasts, which are more pessimistic, especially for 2005. Second, potential GDP growth estimated by the Commission over 2002-2006 is quite optimistic. This produces an output gap estimate of 5.5% and 6.2% of GDP in 2005 and 2006. An improbably strong economic recovery would be required in 2007 and 2008 to help close this gap. These optimistic assumptions may largely reflect the standardised Commission method's treatment of Luxembourg's large inflows of cross-border workers over the last decade. This leads to an overestimation of total labour productivity growth, which in turn affects the estimated potential growth rates. Third, the 0.6 GDP semi-elasticity of the fiscal balance considered by the Commission is quite high. As illustrated in Chart 22, a semi-elasticity equal to 0.35, which is more realistic considering the loose link between GDP and direct taxes paid by corporations, would result in strikingly different CABs. Fourth, the BCL uses the "disaggregated" ESCB method, based on five activity indicators, and not just GDP. These indicators (gross operating surplus, average wages, employment, number of unemployed persons and private consumption) exhibit a much closer link with the relevant tax bases than GDP. On the whole, they have been quite resilient to the deceleration of GDP observed since 2001. The estimated cyclical component of the fiscal balance is accordingly smaller, which results in less favourable CABs according to the ESCB method.

In spite of a stronger conceptual background, the production function method elaborated by the Commission suffers from the same shortcomings as the Hodrick-Prescott filter, because it relies on the latter to infer the "potential" level of labour market participation and "potential" productivity growth. It should also be noted that the less optimistic CAB results obtained by the BCL are only very partially attributable to the use of the Hodrick-Prescott filter. As illustrated in Chart 23, when output gaps estimated by the BCL with the production function approach are combined with a 0.35 GDP semi-elasticity of the budget balance, the resulting CABs are of about the same magnitude as those obtained by the ESCB approach.

⁹ See Bouthevillain et al. (2001) "Cyclically adjusted budget balances: an alternative approach" ECB Working Paper n°77. For a focus on Luxembourg, see "Les soldes budgétaires apurés des mouvements conjoncturels", BCL Bulletin 2002/1, pages 54 to 60.

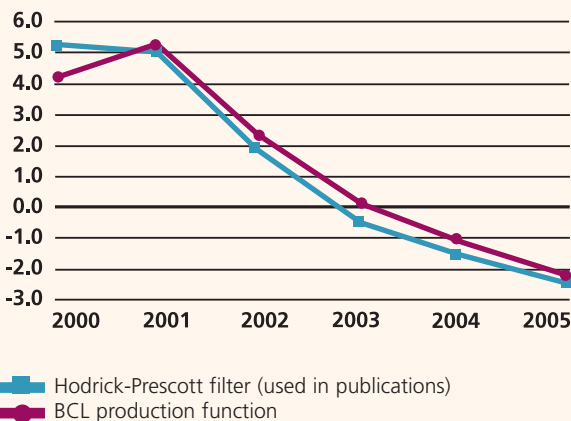
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GRAPH 22: IMPACT ON GENERAL GOVERNMENT CABs OF A LOWER GDP SEMI-ELASTICITY OF FISCAL BALANCES (% OF GDP)



Source: European Commission, STATEC, BCL calculations

GRAPH 23: GENERAL GOVERNMENT CABs ON THE BASIS OF ALTERNATIVE ESTIMATES OF THE OUTPUT GAP (% OF GDP)



Source: STATEC, BCL calculations

Finally, the CABs estimated by the Commission are difficult to reconcile with the generous discretionary measures adopted by the Luxembourg authorities in the recent past (e.g. much higher pensions and family allowances, ambitious tax cuts implemented in 2001 and 2002) and also with the significant expenditure drift, for instance in healthcare, government investment and public consumption. Considered together, these factors should imply a deterioration of the cyclically adjusted balance by at least 6% of GDP since 2000. However, no such evolution is reflected in the CABs calculated according to the standard Commission production function approach, although the latter may be considered correct from a purely technical viewpoint.

This clearly suggests that Luxembourg's budgetary strategy should not be based on the cyclically adjusted surpluses estimated by the standardised production function approach. The Commission itself underlined the need for caution in its assessment of the 5th update of the stability programme.

1.2.10 The Luxembourg stock market

Following the rise recorded in international stock markets, the Luxembourg LUXX index recovered strongly in 2003 (+29% between end 2002 and end 2003).

In 2003, the Luxembourg Stock exchange listed an additional 8 246 securities compared to 7 513 new listings in 2002. At the end of 2003, the total number of listings amounted to 29 102 securities, i.e. a 10% rise compared to end-2002. The bond share is by far the most important (73% of total listings) followed by UCIs (20% of total listings), warrants (6% of total listings) and stocks (1% of total listings).

GRAPH 24: NUMBER OF LISTED SECURITIES

