

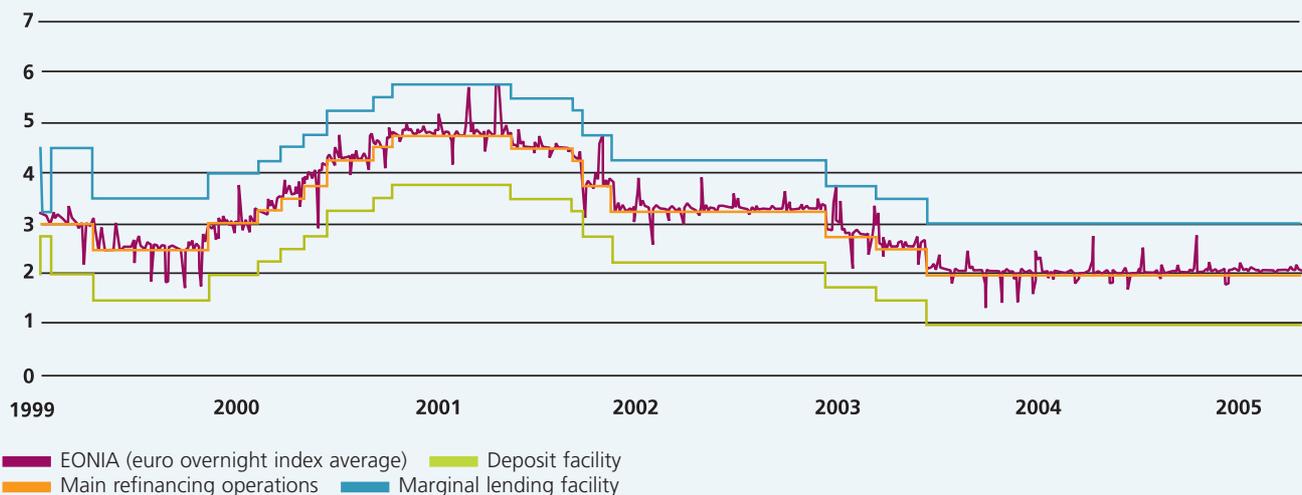
# 1. ECONOMIC AND FINANCIAL SITUATION

## 1.1 Economic situation at the international level

### 1.1.1 Short-term interest rates

After cutting interest rates twice in 2003, the Governing Council of the ECB decided to leave rates unchanged for the whole period under consideration, in line with its assessment that the monetary policy stance remains compatible with the maintenance of price stability over the medium term. Thus, the minimum bid rate on the main refinancing operations was maintained at 2%, while the interest rates on the deposit facility and the marginal lending facility were left unchanged at 1% and 3% respectively.

GRAPH 1: KEY POLICY RATES OF THE EUROSISTEM AND THE OVERNIGHT INTEREST RATE



Source : ECB, Bloomberg

Note : The rate for main refinancing operations is the rate applicable to fixed rate tenders for operations settled before 28 June 2000. Thereafter, the rate reflects the minimum bid rate applicable to variable rate tenders.

Nominal and real interest rates have been at exceptionally low levels since 2003, providing ongoing support for the economic recovery in the euro area. The recovery has however been modest in spite of robust global economic growth; this is in part attributable to the persistence of high oil prices which has also led to short-term inflationary pressures, although the medium-term outlook remained in line with price stability throughout the period under review.

Moreover, the impact of higher dollar-denominated commodity prices was somewhat mitigated by the euro's appreciation, while the absence of second-round and other (indirect) effects has prevented further inflationary pressures from building up. Additionally, the Governing Council stresses the importance of sustainable fiscal policies and structural reforms as a precondition to the maintenance of price stability at relatively low interest rate levels.

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Overall, since the beginning of 2005, the Governing Council has not modified its assessment regarding the medium-term outlook for the maintenance of price stability and growth in the euro zone is expected to pick up towards the end of 2005.

Regarding the monetary analysis, the annual growth rate of M3 has remained above the reference rate since May 2001 and liquidity in the euro area thus continues to exceed the volume required for non-inflationary growth. Although M3 growth has been slowing down considerably since the second semester 2003, it picked up again in June 2004, reaching 6.5% on an annual basis in March 2005. The acceleration of monetary growth since the second half of 2004 is attributable to the upward impact from continued historically low interest rates - which has stimulated demand for the most liquid components of M3 by reducing the opportunity cost of holding such assets - outweighing the downward impact of the portfolio normalisation effect. The low level of interest rates has also stimulated growth of credit to the private sector, in particular credit extended to households; mortgage loans, which grew over 10% annually in the first quarter of 2005, have largely contributed to this development.

### 1.1.2 Long-term government bond yields

Throughout the review period, government bond yields were largely driven by commodity prices and by developments in the US labour market. High energy prices tended to reduce growth prospects and increase inflationary pressures, while labour market developments in the United States reflected market participants' concerns regarding the sustainability of the US recovery. Bond yields in the United States and in the euro area essentially moved in tandem throughout most of the year under review; by the end of the year, bond yields in the euro area had reached historic lows, while in the United States yields stood at roughly the same level as end-2003. More recently, bond yields fell until mid-February when they rebounded, only to fall again one month later.

GRAPH 2: LONG-TERM GOVERNMENT BOND YIELDS



Source: Bloomberg

Following several months of decline in 2003, government bond yields continued on a downward trend in the first quarter of 2004 owing to a string of disappointing macroeconomic data, in particular US non-farm payroll data. This trend was subsequently reversed by better than expected data from the US labour market, as well as by inflationary pressures stemming from a rise in energy prices. After a temporary interruption to the rising oil prices, bond yields embarked on a long downward trajectory in mid-2004 in the face of renewed growth concerns in the United States and the euro area. Bond yields continued to move in tandem after a brief decoupling at the end of October 2004 when euro area yields declined while US yields went up due to contrasting growth expectations in the two economies.

The downward trend then continued until mid-February 2005, with euro area government bond yields reaching new historic lows which may at least in part be attributable to increased demand for bonds from institutional investors seeking to comply with new prudential regulations and accounting rules. Although yields have rebounded since February 2005, in March developments in government bond yields were divergent across the two markets, most likely because of relative changes to the growth outlook in the two economies.

### 1.1.3 Equity markets

Following a mixed performance in the first eight months of the year under review, the major stock price indices resumed the upward trend observed from early 2003. Between end-2003 and end-2004, the Dow Jones EURO STOXX and the Standard and Poor's 500 gained 9.96% and 8.99% respectively, finishing the year at 267.41 and 1 211.92; this contrasts with a slightly more modest performance for the Nikkei 225, which gained 7.61% in the same period (finishing at 11 488.76). Although corporate earnings and low government bond yields have had a positive impact on equity markets throughout most of the period under review, continuously rising energy prices acted as a drag, especially in Japan where the recovery was essentially export-led.

More recently, the Dow Jones EURO STOXX outperformed the other two indices owing to the strong performance of euro area companies; soaring energy prices, however, have been depressing equity markets since March 2005.

**GRAPH 3: MAJOR STOCK PRICE INDICES IN THE EURO AREA, THE UNITED STATES AND JAPAN**  
(INDEX: 01/01/2004 = 100; DAILY DATA)



Source: Bloomberg

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While in the first two months of the year under review the Dow Jones EURO STOXX and the Standard and Poor's 500 were supported by positive corporate earnings results and low government bond yields, the Nikkei 225 evolved in a rather volatile environment owing to fears about future exchange rate developments. In the aftermath of the terrorist attacks in Madrid, markets rebounded briefly although continuously rising energy prices implied that gains were modest and temporary at best. It was not until mid-August that stock price indices resumed on an upward trajectory; while oil prices were rising almost incessantly, equity markets increasingly benefited from a gradual improvement in the corporate outlook. Even the record energy prices in October 2004 did not fully interrupt the bullish mood that prevailed in equity markets, although the Nikkei 225 continued to remain somewhat more sensitive to oil price developments.

Throughout early 2005, the Dow Jones EURO STOXX outperformed the other two indices in the context of a continued upward movement in stock prices that gradually tapered off in the face of soaring oil prices; in the wake of peaking energy prices in March and April 2005, equity markets plummeted again.

### 1.1.4 Exchange rate developments

In the course of 2004, the euro appreciated by roughly 8% against the dollar, finishing the year at USD 1.36. Since the dollar's weight in the calculation of the euro's effective exchange rate is quite significant, this appreciation was largely transmitted to the nominal and real effective exchange rates of the euro; this was exacerbated by the fact that several Asian countries still peg their currencies to the dollar. In nominal terms, the effective exchange rate appreciated by 2.3% in 2004, while the real effective exchange rate strengthened by 1.83%.

GRAPH 4: BILATERAL EURO-DOLLAR AND NOMINAL EFFECTIVE EURO EXCHANGE RATES



Source: Bloomberg, ECB

For most of the year under review, the euro's nominal effective exchange rate moved in line with the bilateral euro-dollar exchange rate. The euro's appreciation against the dollar in early-2004 was only short-lived and in fact it was to a large extent reversed between mid-February and May. Following a period of substantial fluctuations, the upward trend in the euro-dollar exchange rate resumed and continued throughout most of 2004. The appreciation was especially sharp between October and December 2004, in the context of very high energy prices and renewed concern regarding the US trade deficit. The appreciation of the euro's effective exchange rate was less significant though, in part because the euro appreciated much less against the yen and the pound than it did against the dollar.

Since January 2005, the dollar has regained some of its earlier losses; on 28 April 2005, the euro stood at USD 1.31. The nominal effective exchange rate of the euro declined by 2.7% between January and April 2005.

It is also worth noting that six new Member States (Estonia, Lithuania, Slovenia, Malta, Cyprus and Latvia) have entered ERM II since the enlargement of the European Union on May 1, 2004.

### 1.1.5 Consumer prices

Euro area HICP inflation averaged 2.1% in 2004, unchanged compared to the previous year. Unexpected oil price hikes, further increases in indirect taxes (mainly on tobacco) and administered prices (mainly health-related services) had an inflationary impact on consumer prices. By contrast, the appreciation of the euro, subdued demand conditions and the decline in the annual growth rate of unprocessed food prices - due to the favourable meteorological conditions - offset these inflationary pressures in 2004.

The average inflation could be slightly above 2% in 2004. Its precise pattern will depend, to a large extent, on oil price developments. At the current juncture, there is no evidence suggesting that domestic inflationary pressures are building up in the euro area.

**TABLE 1: DEVELOPMENTS IN THE HICP AND ITS COMPONENTS IN THE EURO AREA  
(ANNUAL PERCENTAGE CHANGES)**

	2002	2003	2004	2004	2004	2004	2004	2004	2004	2004	2004	2004	2004	2004	2004	2005	2005	2005
				Jan.	Feb.	March	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March
<b>Overall HICP</b>	2.3	2.1	2.1	1.9	1.6	1.7	2.0	2.5	2.4	2.3	2.3	2.1	2.4	2.2	2.4	1.9	2.1	2.1
of which:																		
<b>Goods</b>	1.7	1.8	1.8	1.3	1.0	1.1	1.8	2.4	2.2	2.1	2.1	1.8	2.2	2.0	2.0	1.6	1.8	1.9
<i>Food</i>	3.1	2.8	2.3	3.1	2.7	3.1	2.9	3.1	2.8	2.6	2.1	1.4	1.2	1.0	2.0	1.5	1.9	1.5
- Unprocessed food	3.1	2.1	0.6	2.9	1.9	1.7	1.6	1.7	1.2	0.7	-0.2	-1.5	-1.2	-1.0	0.0	-0.6	0.7	1.3
- Processed food	3.1	3.3	3.4	3.3	3.2	4.1	3.9	3.9	3.8	3.8	3.6	3.3	2.8	2.3	3.2	2.8	2.6	1.6
<i>Industrial goods</i>	1.0	1.2	1.6	0.4	0.2	0.1	1.2	2.1	2.0	1.8	2.1	2.0	2.7	2.5	2.0	1.7	1.8	2.1
- Non-energy industrial goods	1.5	0.8	0.8	0.6	0.8	0.7	1.0	0.9	0.9	0.7	0.9	0.8	0.8	0.8	0.8	0.5	0.2	0.4
- Energy	-0.6	3.0	4.5	-0.4	-2.2	-2.0	2.0	6.7	5.9	5.9	6.5	6.4	9.8	8.7	6.9	6.2	7.7	8.8
<b>Services</b>	3.1	2.5	2.6	2.5	2.6	2.5	2.5	2.6	2.6	2.7	2.7	2.6	2.6	2.7	2.7	2.4	2.4	2.5
HICP excluding unprocessed food and energy	2.5	2.0	2.1	1.9	2.0	2.1	2.1	2.1	2.2	2.1	2.2	2.0	2.0	1.9	2.1	1.7	1.6	1.6
<i>Source: Eurostat</i>																		

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### 1.1.6 Output, demand and labour market developments

The recovery of economic activity in the euro area observable from the second half of 2003 continued in 2004. According to first estimates, real GDP as a whole increased by 1.8% in 2004, following a less significant increase of 0.5% in 2003. The recovery was largely driven by export growth, whereas the contribution of final domestic demand to GDP growth has been relatively modest. However, it should be noted that high oil prices and exchange rate developments weighed on growth during the second half of 2004.

Labour market conditions remained broadly unchanged in the euro area in 2004, although signs of a gradual improvement appeared. Employment growth was only moderate in 2004 (0.5%), after remaining relatively stable in 2003 (0.2%). The standardised unemployment rate in the euro area stabilised at 8.8% in 2004, reflecting the usual lags in cyclical developments in the labour market relative to economic activity.

### 1.1.7 External trade

Driven by strong international demand, the euro area exports increased to EUR 1 149 billion in 2004, i.e. an 8.5% rise compared with 2003 levels. Imports of goods also increased strongly (8.7%) reaching EUR 1 075 billion in 2004. As a result, the euro area trade surplus rose to EUR 73.7 billion in 2004 from 69.7 billion in 2003.

Developments in trade can be better explained by breaking down the values of exports and imports into price and volume indexes. The rise in the value of exports was entirely accounted for by the volume growth of exports as export prices fell slightly. Regarding the increase in the value of import goods, this reflected rises in both volume and price. The higher prices of oil and raw materials explained most of the rise in import prices. In 2004 as a whole, the geographical allocation of trade shows that the euro area registered the biggest surplus with the United Kingdom (EUR 62 billion), followed by the United States (EUR 60 billion) and Switzerland (EUR 13 billion). Trade deficits were recorded with China (EUR 52 billion), Japan (EUR 20.6 billion), Russia (EUR 20.5 billion), Norway (18.5 billion) and OPEC members (EUR 12.6 billion).

### 1.1.8 Balance of payments

In 2004, the euro area current account surplus amounted to EUR 42.3 billion compared with a surplus of EUR 21.8 billion in 2003. This almost twofold increase was the result of a drop in income and in the current transfers deficits. While services contributed slightly to the rise of the current account surplus, the goods surplus remained stable, as exports and imports of goods increased in the same proportions.

Developments in the financial account were characterised by net outflows amounting to EUR 4.5 billion in 2004 as a whole compared with EUR 18 billion in 2003. Driven by the stronger growth outlook for the rest of the world in 2004, net outflows in direct investments increased massively (EUR 38 billion). These net outflows were however offset by net inflows in portfolio investments as a result of net purchases of euro area equity securities and bonds by non-resident investors.

## 1.2 Economic situation in Luxembourg

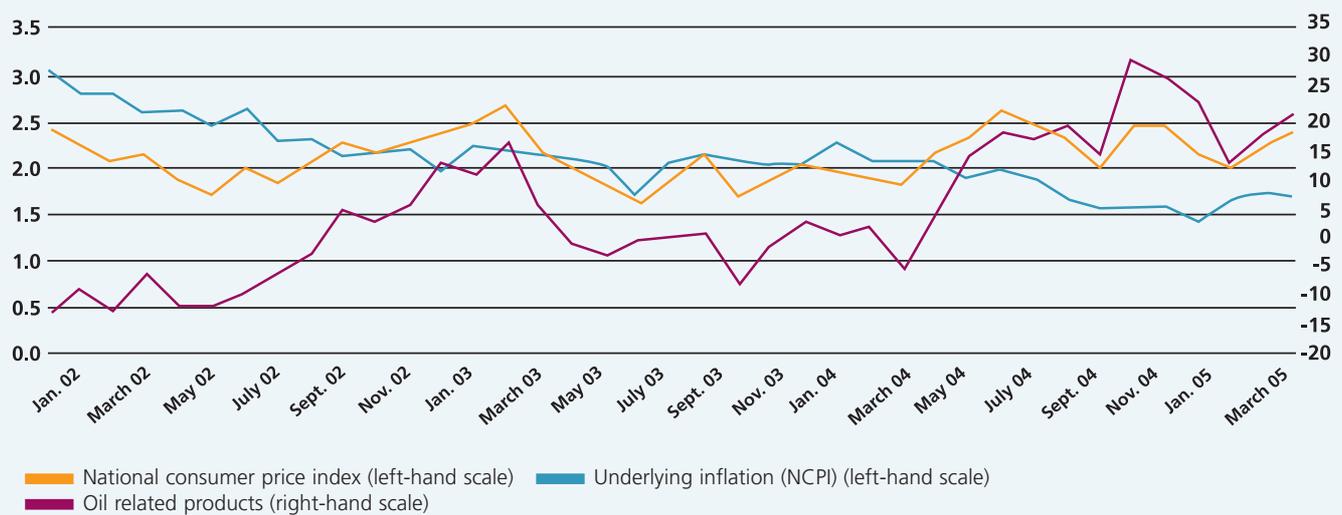
### 1.2.1 Prices and costs

#### 1.2.1.1 Consumer prices

HICP inflation in Luxembourg averaged 3.2% in 2004, substantially up from 2.5% in 2003, while the national consumer price index was at 2.2%, which represents an increase of 0.2 percentage point compared to the previous year.

This rise in overall inflation reflected to a large extent the sharp oil price hike which was somewhat moderated by the appreciation of the euro. In contrast, the easing of underlying inflationary pressures, which started in 2002, continued in 2004.

GRAPH 5: INFLATION AND OIL RELATED PRODUCTS (ANNUAL PERCENTAGE CHANGE)



Source: STATEC

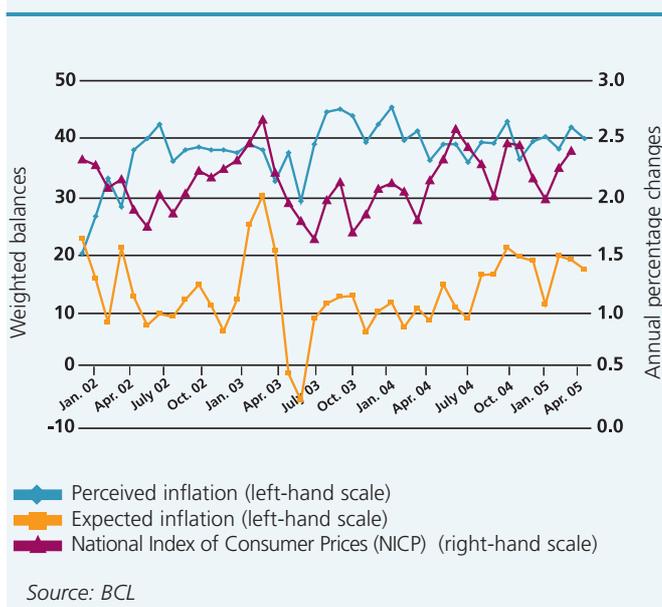
The annual growth rate of the services component moderated compared to 2003, while remaining high at 2.7% on average. The direct impact of the fiscal policy on the NICP was 0.5 percentage point in 2004.

The inflation differentials between Luxembourg and the euro area and between Luxembourg and its neighbouring countries worsened in 2004 as far as the overall HICP was concerned. By contrast, the differential for the HICP excluding energy and unprocessed food improved in the same year, while remaining unfavourable to Luxembourg.

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On the one hand, expected inflation remained remarkably stable in the course of 2004, while measured inflation reflected the high volatility of oil product prices. At the same time, consumers' inflation expectations for the next 12 months increased sharply during the first half of 2004 before stabilising at a high level.

**GRAPH 6: PERCEIVED, EXPECTED AND ACTUAL INFLATION**



### Inflation projections

#### Projection Assumptions

The underlying assumptions for the HICP energy projections follow the traditional scheme, i.e. a constant euro/dollar exchange rate over the forecast horizon and a pattern of oil prices as observed on the futures markets. At the end of May 2005, the quote for one euro against the dollar stood at 1.29, which corresponds to an appreciation with respect to the average of 2004 and is unchanged compared to the assumptions of the previous exercise. The price of oil fluctuated around the 53\$/bl level and the markets were only anticipating a marginal fall to a level close to 50\$/bl in June 2006, a significant upward revision compared to the previous exercise. Detailed assumptions are given in the following table.

**TABLE 2: ASSUMPTIONS UNDERLYING THE INFLATION PROJECTIONS**

	2003	2004	2005	05-Q1	05-Q2	05-Q3	05-Q4	06-Q1	06-Q2
Price of oil in \$/bl	28.9	38.3	50.6	47.7	51.7	51.4	51.7	51.3	50.9
Exchange rate \$/€	1.13	1.24	1.29	1.31	1.29	1.29	1.29	1.29	1.29
Price of oil in euro (in annual percentage changes)	-2.8	20.7	26.9	42.1	36.3	17.4	16.9	9.9	-1.3

Source: BCL

The government has increased the level of excise duties on diesel by 12.5€/1 000l from 1<sup>st</sup> January 2005 onwards. Simultaneously, the VAT rate on fuel was adjusted from 12% to 15%. According to our estimates, the additional impact of the two fiscal measures on the HICP corresponds to 0.2pp in 2005.

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 stabilisation against the dollar should not yield strong upward price pressure.

Furthermore, despite the hike in oil prices, wage developments have so far remained contained at the euro area level, favouring thereby a gradual deceleration of the HICP excluding energy. Nevertheless, domestic inflation may decelerate only very slowly. The risk of second round effects from the persistently high oil prices are indeed higher because of the automatic wage indexation scheme.

The VAT rate on tobacco was adjusted from 12% to 15% from 1<sup>st</sup> May onwards.

### Projection Results

On the basis of the euro oil price assumptions, the energy component would evolve rather unfavourably over the forecast horizon, and especially in the short term. The projections for the HICP excluding energy have become slightly more positive since the Autumn 2004 exercise but, overall, inflation rates remain relatively high compared to neighbouring countries. Headline inflation should decelerate over the projection horizon, and the NICP is expected to fall close to 2% by the end of the year 2005.

**TABLE 3: INFLATION PROJECTIONS AND REVISIONS COMPARED TO THE PREVIOUS EXERCISE  
(IN ANNUAL PERCENTAGE CHANGES, RESP. IN PERCENTAGE POINTS)**

	2003	2004	2005	2005-1 <sup>st</sup> half	2005-2 <sup>nd</sup> half	2006-1 <sup>st</sup> half
NICP	2.1	2.1	2.2 (+0.1)	2.3 (-)	2.2 (+0.3)	2.1
HICP	2.6	3.2	3.5 (+0.5)	3.6 (+0.1)	3.4 (+0.9)	2.6
HICP energy	1.2	11.8	9.5 (+5.4)	12.3 (+3.4)	6.8 (+7.1)	1.2
HICP ex energy	2.7	2.5	2.7 (-0.2)	2.6 (-0.4)	2.9 (+0.1)	2.7
Impact of government measures <sup>1</sup> on the NICP, in pp	0.4	0.5	0.5 (-)	-	-	-
Impact of government measures on the HICP, in pp	1.0	1.5	1.7 (+0.2)	-	-	-

<sup>1</sup> Impact of administered prices, indirect taxation and tobacco. For further details, please see BCL Bulletin 2004/3, pp.76-81.

Source: BCL

**TABLE 4: INDUSTRIAL PRODUCER PRICES  
(CHANGES WITH RESPECT TO THE PREVIOUS PERIOD)**

	Shares	2003	2004	04-Q1	04-Q2	04-Q3	04-Q4	05-Q1
Total	1000	1.2	9.0	0.7	7.5	3.8	3.0	1.1
Intermediate goods	675.9	0.8	12.8	1.1	10.4	4.9	4.2	0.9
Capital goods	109.9	0.7	5.6	1.4	2.1	1.4	3.0	1.8
Consumer goods	136.3	1.7	0.0	-0.8	1.2	0.3	-0.1	-0.1
Energy	77.9	4.6	5.6	4.0	2.1	3.1	2.6	2.1

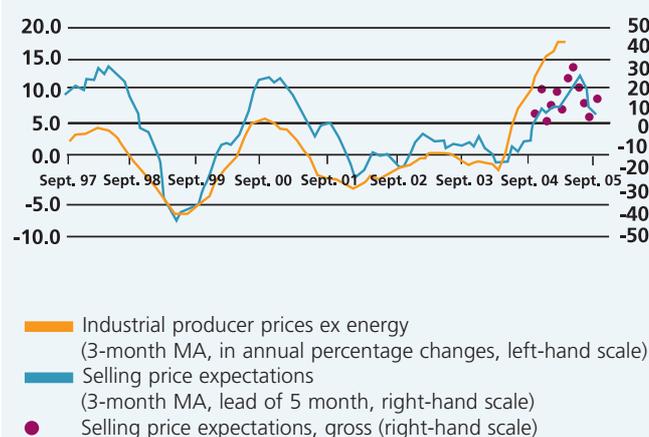
Source: STATEC, BCL

#### 1.2.1.2 Producer prices in industry

Spurred on by strong price dynamics in the steel sector, industrial producer prices increased at an exceptionally fast pace in 2004. The increase of 9% was the highest recorded over the last 15 years and was well above the rate observed at the euro area level. While the cyclical situation in the euro area hardly favoured such positive developments, the reasons for the increase are probably twofold. On the one hand the increase is probably partly cost-driven as the oil price increased on average by 33% in 2004 compared to 2003. Furthermore, it is likely that the global economic expansion has favoured a scenario where companies can pass the increase in costs on to their customers. So far, however, the overall price increase remains confined to intermediate and capital goods. Consumer goods are mostly sold in nearby markets. The fact that their prices stagnated in 2004 could therefore be due to the much more muted demand on these markets.

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**GRAPH 7: INDUSTRIAL PRODUCER PRICES, PAST AND EXPECTED DEVELOPMENTS**



Source: Eurostat, BCL

The outlook for industrial producer prices has become slightly less favourable in recent months. While inflation is expected to decelerate in 2005, industrial producer prices should still increase by around 5% (in annual percentage changes) according to the results of the harmonised business surveys (see figure).

### 1.2.1.3 Construction prices

Prices of construction services increased by 2.9% in 2004, at an accelerated pace compared to 2003 and at a slightly higher level than the national index of consumer prices. While the contribution of the automatic wage indexation to the nominal wage increase remained unchanged in 2004 compared to 2003, the relatively strong house price dynamics probably reflected the still dynamic demand in the building branch.

## 1.2.2 Sectorial developments

### 1.2.2.1 Industry

In 2004, the world economy expanded at the fastest pace of the past 20 years. The euro area economy was characterised by an acceleration in economic activity compared to the previous year.

On the back of these very favourable external conditions, industrial production in Luxembourg increased by 7.8%, its highest growth rate in recent years. A higher level of production, combined with the strong rise in prices implied an exceptional increase in turnover in 2004 with respect to 2003. However, the adjustment process on the cost side continued as companies laid off staff and real wages barely changed.

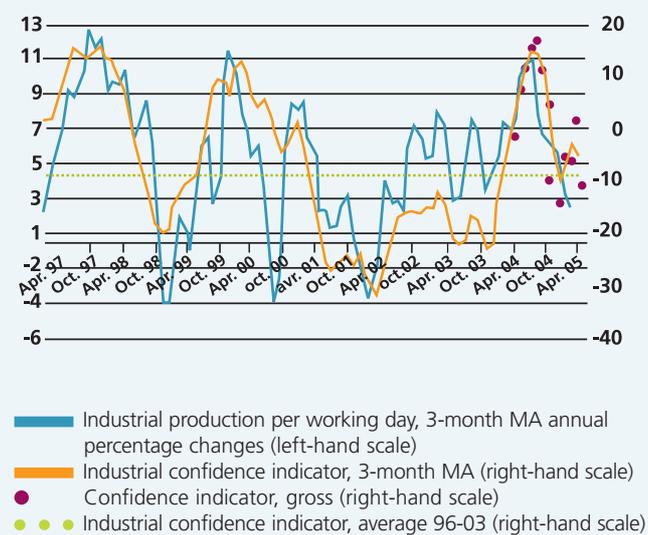
**TABLE 5: INDICATORS FOR THE INDUSTRIAL SECTOR (IN ANNUAL PERCENTAGE CHANGES)**

	2003	2004	T1-04	T2-04	T3-04	T4-04
Production - whole industry	5.0	7.8	7.3	10.2	7.9	5.9
Production - whole industry ex steel	6.5	8.5	7.6	10.7	8.9	7.0
Employees	-0.9	-0.6	-0.6	-0.4	-0.7	-0.7
Wage costs	1.8	1.9	2.9	3.2	1.4	0.1
Hours worked	-0.2	0.3	1.4	0.5	0.4	-1.2
Turnover	3.2	20.5	15.1	22.7	23.3	21.2
Order books	-0.1	14.2	4.3	17.0	21.1	16.2

Source: STATEC, BCL

Business confidence tracked relatively closely the industrial production cycle. It peaked in August 2004 and then embarked on a continuous downward trend until the end of the year. At the beginning of 2005, business confidence stabilised at a level consistent with trend growth.

**GRAPH 8: CONFIDENCE INDICATORS AND INDUSTRIAL PRODUCTION**



Source: STATEC, BCL

### 1.2.2.2 Construction

The construction sector saw a decline of its activities in 2004 compared to the previous year. Production and turnover decreased by 1% and 0.2%, respectively. However, the headline figures mask heterogeneous developments in the different branches. Demand for civil engineering slowed significantly as some large projects had been completed in 2003 and were not replaced by new work of a similar order of magnitude. The building branch benefited from the shortage of dwellings and the still buoyant housing demand. Building permits are up sharply and financing conditions remain very favourable precluding a continuation of the short-term dynamics into 2005.

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

	2003	2004	T1-04	T2-04	T3-04	T4-04	T1-05
Turnover - Total	6.7	-0.2	11.7	-2.7	-0.6	-5.8	Na
Production per working day - Total	0.8	-1.0	1.7	1.4	-1.0	-6	Na
Production per working day - Building	0.6	3.0	5.5	4.0	3.5	-0.5	Na
Production per working day - Civil engineering	2.6	-13.6	-3.2	-12.5	-15.1	-22	Na
Building permits <sup>1</sup>	11.5	18.2	9.8	-5.6	124.8	-17.6	Na
Loans for house purchases <sup>2</sup>	24.6	5.7	6.7	6.3	10.7	0.6	Na
Mortgage rates <sup>3</sup>	3.8	3.4	3.4	3.4	3.4	3.4	3.4

<sup>1</sup> Number of dwellings.

<sup>2</sup> Total of mortgage loans to residents.

<sup>3</sup> Break in series since the beginning of 2003.

Source: STATEC, BCL

**TABLE 7: TURNOVER AND CAR REGISTRATIONS (IN ANNUAL PERCENTAGE CHANGES)**

	2003	2004	T1-04	T2-04	T3-04	T4-04	T1-05
Car registrations	0.2	10.0	6.5	14.4	5.4	13.8	4.8
Wholesale trade	11.1	12.3	11.7	12.8	13.5	11.2	Na
Retail trade	5.5	3.1	2.8	3.1	3.5	3.1	Na
Hotels and restaurants	-4.6	-0.9	2.1	-1.5	-2.4	-1.3	Na

Source: STATEC, BCL

### 1.2.2.3 Commerce and other sectors

The overall acceleration in economic activity also had its repercussions on the trade sectors. Turnover in the retail sector might only have increased by 3.1%, but new car registrations saw a record year in 2004 with a 10% increase compared to 2003. However, turnover in the hotel and restaurant branch stabilised, probably reflecting some latent weakness in tourism activities.

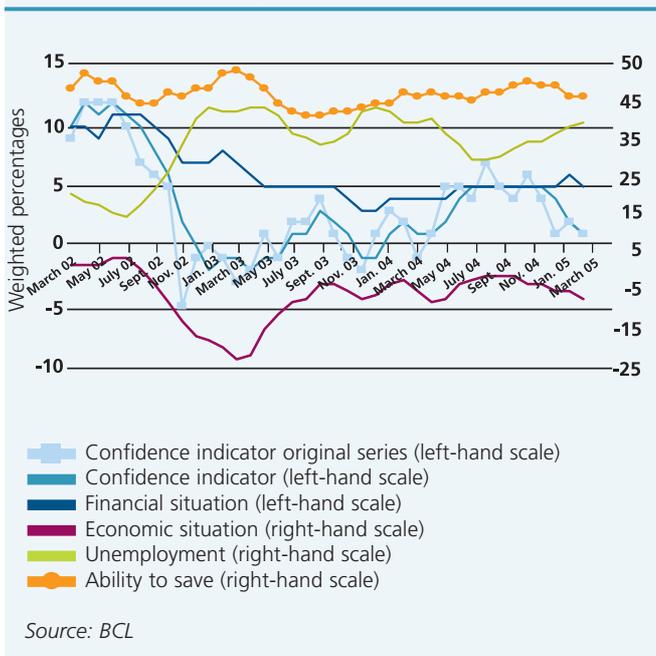
# 1. ECONOMIC AND FINANCIAL SITUATION

## 1.2.3 Economic activity

### Consumer survey on cyclical conditions

The three-month moving average of the consumer confidence indicator did not follow a clear trend in the first half of 2004, before stabilising at a higher level in the second half of the year. The rebound in the indicator toward mid-2004 was driven by more optimism with respect to the economic situation and unemployment. However, the indicator's value of 5 observed between August and December 2004 remains weak if compared to the levels recorded in the first half of 2002.

**GRAPH 9: THE CONSUMER CONFIDENCE INDICATOR AND ITS COMPONENTS (THREE-MONTH MOVING AVERAGES UNLESS OTHERWISE INDICATED)**



Turning to developments in consumer confidence in the beginning of 2005, the three-month moving average of the confidence indicator progressively declined to 1 in April. This worsening reflected deteriorations in three of the confidence indicator's components, namely the expectations with respect to the general economic situation, unemployment and the ability to save.

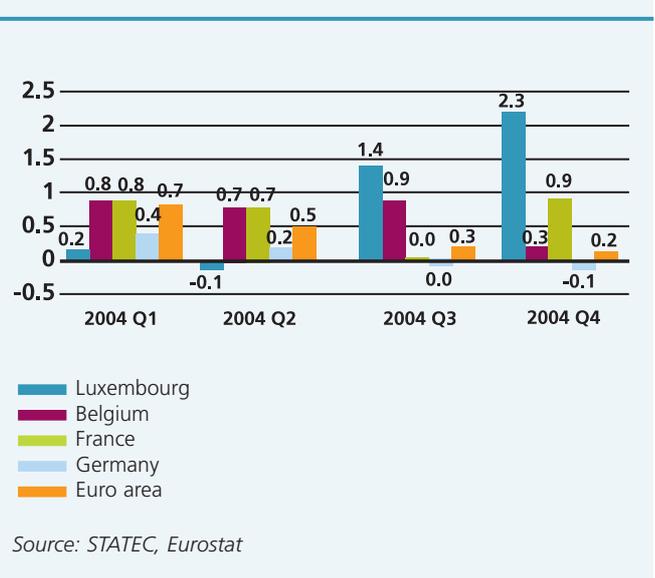
### Economic activity in 2004

In 2004, the economic recovery of Luxembourg was confirmed. Real GDP growth amounted to 4.5% in 2004, following an increase of 2.9% in 2003. The recovery was essentially export-led; exports were up 6.4% compared to 2003, while domestic demand was less dynamic than the year before.

As regards the domestic side, year-on-year growth of private consumption remained relatively moderate in 2004 (1.4% after 1.6% in 2003), reflecting developments in unemployment and the impact of oil prices on purchasing power. Gross capital formation decreased significantly during 2004, reflecting its volatile nature (-1.8% after 3.6% in 2003).

Benefiting from the strong expansion of international economic activity, exports and imports increased by 8.2% and 6.8% respectively in 2004; growth was, respectively, around 6 and 5 percentage points higher than in 2003. Thus, the contribution from net exports to real GDP growth in 2004 was higher than 2003.

**GRAPH 10: REAL GDP GROWTH IN LUXEMBOURG, IN THE EURO AREA AND IN THE BORDERING COUNTRIES**



**TABLE 8: REAL GDP GROWTH, ITS COMPONENTS AND CONTRIBUTIONS TO REAL GDP GROWTH**

	Annual growth rate at constant prices			Contributions (in p.p.) to real GDP growth		
	2002	2003	2004	2002	2003	2004
Households and NPISHs final consumption expenditure	3.2	1.6	1.4	1.3	0.7	0.6
Final consumption expenditure of general government	3.2	5.0	6.0	0.5	0.9	1.1
Gross capital formation	-8.4	3.6	-1.8	-2.0	0.8	-0.4
Domestic demand (excluding changes in inventories)	-0.2	2.9	1.6	-0.1	2.3	1.3
Exports of goods and services	-0.6	1.8	8.2	-0.9	2.6	11.3
Imports of goods and services	-2.6	1.6	6.8	3.5	-2.0	-8.1
Net exports	18.4	3.4	19.2	2.6	0.6	3.2
<b>Gross domestic product</b>	<b>2.5</b>	<b>2.9</b>	<b>4.5</b>			

Source: STATEC

### Potential growth in Luxembourg

This box provides an update of the output gap estimates published in the 2003 BCL annual report. Combining the output gap with the observed level of GDP, one may estimate the level of potential output each year and thus potential growth. Several alternative methods are applied to estimate the output gap<sup>1</sup>, thus evaluating the degree of divergence across results, which provides an initial estimate of the level of uncertainty that affects them. The sample includes annual observations from 1980 to 2004 and is extended to 2007 using the latest BCL projections. To take account of the important role of cross-border employment in Luxembourg, the unemployment measure used by the Apel-Jansson and production function methods is the regional unemployment rate.

The following table presents the different output gap estimates (expressed as a percentage of GDP) in the upper panel. In this part, the first column indicates the observed (or projected) level of GDP in 1995 prices. In the middle panel, the table reports the revisions to the output gap estimates published in the 2003 BCL annual report. In the middle panel, the first column indicates the revisions to observed or projected GDP compared with data available in 2004. Finally, the lower panel of the table presents the estimated rate of potential growth each year according to the different methods of estimating the output gap. In this lower panel, the first column reports the real growth GDP rate. The last two lines in the table indicate average potential growth since 1981 and since 2001 for each method.

<sup>1</sup> See BCL working paper n°4 for a description of the different methods.

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**TABLE 9: ESTIMATED OUTPUT GAPS AND POTENTIAL GROWTH**

	Real GDP (mia EUR)	Linear trend	Hodrick-Prescott	Harvey-Jaeger	Kuttner	Apel-Jansson	Production/Function
		<b>Output gap estimates</b>					
2001	18.87	3.7%	2.7%	3.9%	3.1%	3.0%	1.7%
2002	19.34	1.1%	0.7%	2.4%	2.4%	1.8%	-0.3%
2003	19.90	-1.1%	-0.7%	0.5%	1.0%	0.1%	-1.2%
2004	20.72	-1.7%	-0.5%	-0.7%	-0.6%	-1.1%	-0.4%
2005	21.53	-3.1%	-0.9%	-2.5%	-1.9%	-2.4%	-0.5%
2006	22.37	-4.2%	-1.1%	-3.8%	-2.6%	-2.9%	-0.5%
2007	23.24	-5.3%	-1.2%	-4.4%	-2.6%	-2.8%	-0.5%
	<b>Revisions</b>	<b>Revisions from output gap estimates published in 2004</b>					
2001	0.3%	-0.3%	-1.3%	0.6%	0.1%	-0.8%	-1.1%
2002	1.2%	0.8%	-0.6%	0.4%	0.5%	-0.1%	-2.3%
2003	1.7%	2.4%	0.6%	0.0%	0.8%	1.1%	0.5%
2004	2.5%	4.8%	2.3%	-0.2%	0.8%	2.7%	1.9%
2005	0.7%	5.6%	2.7%	-1.2%	0.5%	2.9%	1.3%
	<b>Real GDP growth</b>	<b>Potential growth estimates</b>					
2001	1.5%	5.2%	5.0%	3.1%	1.3%	3.0%	5.7%
2002	2.5%	5.2%	4.6%	4.1%	3.2%	3.7%	4.5%
2003	2.9%	5.2%	4.4%	4.9%	4.4%	4.7%	3.8%
2004	4.5%	5.2%	4.3%	5.8%	6.3%	5.8%	3.7%
2005	3.5%	5.2%	4.2%	5.5%	5.1%	5.1%	3.8%
2006	3.9%	5.2%	4.1%	5.3%	4.6%	4.4%	4.0%
2007	3.9%	5.2%	4.1%	4.6%	4.0%	3.9%	3.9%
	<b>Average real growth</b>	<b>Potential growth: average</b>					
Since 1981	4.8%	5.2%	4.8%	5.1%	4.9%	5.1%	5.0%
Since 2001	3.2%	5.2%	4.4%	4.8%	4.1%	4.4%	4.2%

Source: STATEC, BCL calculations

Comparing actual growth in the first column to the potential growth estimates, two methods (Hodrick-Prescott filter and production function approach) find that actual growth in 2004 already exceeded potential growth. However, in 2005 actual growth projected will fall below potential growth according to both these methods. It is only in 2006 and 2007, when actual growth nears 4% that it returns to potential growth. In fact, at the end of the sample, projected growth converges with potential growth according to all the methods except two (linear trend and Harvey-Jaeger).

Estimates of the output gap and potential output are subject to significant uncertainty, as illustrated by the size of revisions. However, these estimates can help position the national economy in its business cycle, along with an analysis of other economic indicators. The results presented here confirm that the level of GDP is currently below potential output and that growth in 2005 will probably remain below potential growth.

## 1.2.4 Financial sector

### 1.2.4.1 Profit and loss accounts of credit institutions

Despite the slight recovery of global financial markets and the world-wide economic up-swing, aggregated gross revenue before taxes and provisions for Luxembourg's credit institutions fell to 3 909 million euro in 2004. This represents a decrease of 6.8% or 284 million euro, compared with 2003. Global expenses (staff costs and other costs) rose by 3.3% during 2004. This increase in staff costs is due to a rise in wages and, in contrast to previous years, to new job creations.

First quarter 2005 total gross income increased by 3.5% compared to the corresponding period of 2004 and reached 1 985 million euro. This, combined with strict cost controls of, raised aggregated gross revenue before taxes and provisions to 1 085 million euro, resulting in an increase of 5.3% compared to the first quarter of 2004.

Net interest income in the first quarter of 2005 (934 million euro) declined by 2.8% compared with the first quarter of 2004 due to low interest rates. However, during the same period net income earned on commissions increased by 4.9% to 771 million euro relative to the first quarter of 2004.

Global expenses (staff costs and other costs) rose by 2.5% during the first quarter of 2005 in comparison with the first quarter of 2004. This is due to the creation of new jobs and a rise in wages resulting from an index tranche which became effective from October 2004.

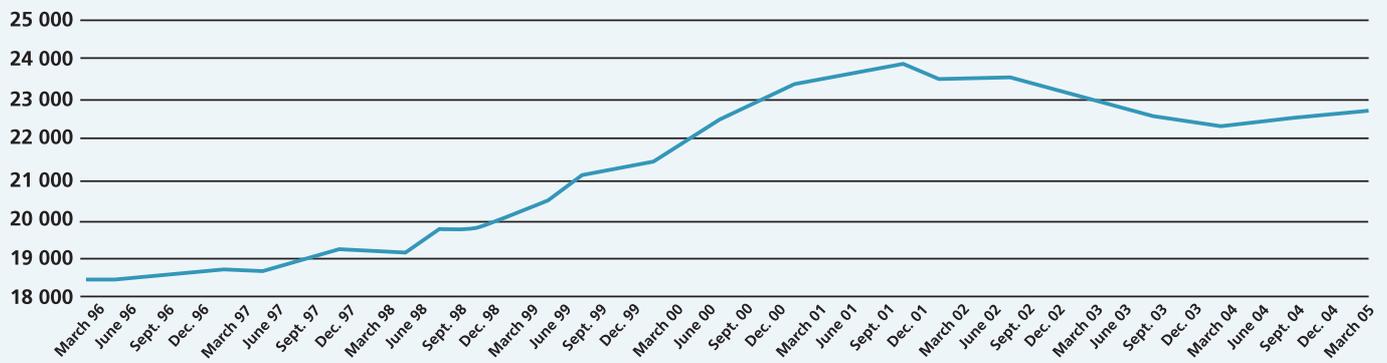
### 1.2.4.2 Employment in the financial sector

The collapse of stock markets during early 2001 and the subsequent economic slowdown strongly affected the activity of credit institutions in Luxembourg, which traditionally focuses on private banking. Confronted with a decrease in revenues due to lower demand for their services, credit institutions implemented payroll and operating cost reduction programs. As a result, employment in the financial sector decreased by 2.5% (594 positions) in 2002. A stronger contraction was observed in 2003 with employment reduction of 3.4% (787 positions).

The improving economic outlook and rising stock markets brought customers back to financial investments in early 2004. This allowed for the creation of new positions during early 2004 and this trend became even more pronounced in 2005. The number of positions at credit institutions grew by a quarterly average of 52 during 2004, and by 162 during the first three months of 2005. Between March 31, 2004 and 2005, the number of positions at credit institutions increased by 319 (+1.4%) to 22 711. Nonetheless, a turnaround of economic conditions cannot be ruled out and one should bear in mind that 1 183 positions were lost between end 2001 and March 2005 (-4.9%) in the financial sector.

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GRAPH 11: EMPLOYMENT EVOLUTION, MARCH 1996 TILL MARCH 2003



Source: BCL

### 1.2.5 Labour market

Employment growth accelerated throughout 2004, in line with the lagged response of employment to economic activity, rising by 2.6% in 2004 after an increase of 1.8% in 2003.

The inflow of non-resident labour has continued to account for the largest part of employment growth. Cross-border commuters represent nearly 67.7% of newly created jobs. This share is smaller than the previous year's figure. In 2004, the share of cross-border commuters in total domestic employment reached more than one third (37.1% of the annual average); 51.9% of all cross-border workers come from France, 27.2% from Belgium and 20.9% from Germany.

Despite the recovery in employment growth, the unemployment rate continued to increase further throughout 2004 (4.2% after 3.7% in 2003). This evolution shows that annual GDP growth has been insufficient to stabilise the unemployment rate.

Wages and social benefits increased automatically by 2.5% in October 2004 due to their peg to consumer prices. This raised labour costs in the last quarter 2004.

### Okun's law revisited: What output growth is required in order to stabilise unemployment?

Although the recovery observable in Luxembourg from 2002 was confirmed in 2004, the unemployment rate has increased throughout this period (from 2.9% in 2002 to 4.2% in 2004). This evolution seems to reveal a period of economic contradiction. Theory usually suggests that there is a negative relation between output and unemployment rates. Okun's law describes this link between unemployment rates and output and is usually readily accepted as an obvious empirical regularity that does not require formal hypothesis testing. The purpose of this box is to investigate the nature of this relation and to derive the output growth that is necessary to stabilize the unemployment rate in Luxembourg.

To estimate this relationship over the period 1985-2004 using annual data, we consider the following variant of Okun's law describing the relation in first differences between the unemployment rate (annual growth) and output (logarithm). The econometric estimation of this relationship does indeed suggest including up to one lag of GDP growth in the explanation of the current annual change in unemployment rate.

$$\Delta U_t = a_1 + a_2 \Delta Y_t + a_3 \Delta Y_{t-1} + \varepsilon_t$$

Where  $\Delta U_t = U_t - U_{t-1}$  denotes the first difference of the annual growth of unemployment

and  $\Delta Y_t = \log(Y_t) - \log(Y_{t-1})$  is a measure of the first difference of output

$a_1, a_2$  and  $a_3$ : are the estimated coefficients of the regression.

And  $\varepsilon_t$ : is the error term.

The following table describes the estimation results of Okun's law for Luxembourg<sup>2</sup>, the European Union, the Euro Area and the neighbouring countries.

**TABLE 10: THE LAGGED REACTION OF UNEMPLOYMENT TO OUTPUT GROWTH**

	Luxembourg	European Union (UE15)	Euro Area (12 countries)	France	Germany	Belgium
$a_1$	0.771** (5.870)	1.060** (8.200)	1.108** (6.634)	1.042** (5.426)	1.206** (5.845)	1.611** (8.269)
$a_2$	-0.059** (3.896)	-0.332** (7.138)	-0.347** (6.234)	-0.318** (4.746)	-0.512** (6.629)	-0.415** (7.996)
$a_3$	-0.059** (3.240)	-0.265** (10.564)	-0.290** (8.515)	-0.175** (3.164)	-0.271** (3.579)	-0.365** (5.802)
R-squared	0.629	0.950	0.942	0.725	0.845	0.850
Adjusted R-squared	0.579	0.937	0.927	0.688	0.810	0.831
F-statistic	12.703**	76.237**	64.457**	19.726**	24.489**	42.753**
Durbin-Watson-statistic	1.9	1.6	1.2	1.3	1.6	1.6
$-a_1/(a_2+a_3)$	6.5	1.8	1.7	2.1	1.5	2.1
Confidence interval of $-a_1/(a_2+a_3)$	[5.7; 7.3]	[1.6; 1.9]	[1.5; 1.9]	[1.6; 2.6]	[1.3; 1.8]	[1.8; 2.3]

(·): t-statistic with Newey-West correction

\*: the estimated coefficient is different from zero at (approximately) the 5% significance level

\*\* : the estimated coefficient is different from zero at (approximately) the 1% significance level

Source: ADEM, STATEC, Eurostat and BCL's estimations

<sup>2</sup> The unemployment rate corresponds to the "strict" domestic definition.

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$a_1$  represents the autonomous growth in unemployment independent from output fluctuations.

$a_2$  and  $a_3$  characterize the transmission of cyclical fluctuations in output to cyclical variations in the unemployment rate.

The results suggest that the estimated coefficients are significant (t-statistic with Newey-West correction) for all geo-political entities.

When proceeding with the hypothesis:  $0 = \Delta(U_t) = a_1 + a_2 \Delta(Y_t) + a_3 \Delta(Y_{t-1})$ , it is possible to calculate the output growth required in order to stabilise the unemployment rate:  $\Delta(Y_t) = \Delta(Y_{t-1}) = -a_1/(a_2 + a_3)$  assuming that the actual and past output growth accrued. As a result, the output growth required to stabilise the unemployment rate in Luxembourg is 6.5%. The confidence interval calculated with the Delta method shows that the average output growth observed from 1985 to 2004 is outside the calculated interval [5.7; 7.3]. Hence, the unemployment rate in Luxembourg can only be partially explained by Okun's law.

Moreover, it is worth noting that the regression adjustment as measured by the R-squared is lower for Luxembourg than for other geo-political entities. In addition, the confidence intervals for the other geo-political entities are narrower than in Luxembourg. One explanation for this could be the atypical labour market structure in Luxembourg. The fact that a large number of cross-border workers contribute to output without appearing in the unemployment statistics might weaken the relation between output and unemployment in Luxembourg.

**TABLE 11: DISTRIBUTION OF OBSERVATIONS**

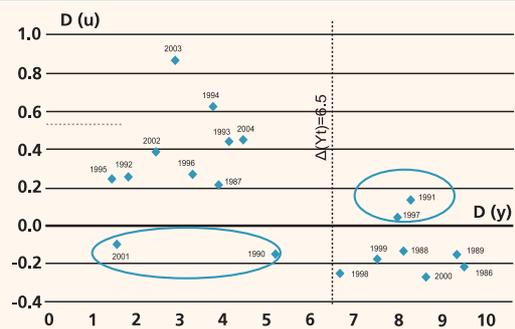
	$\Delta Y > \frac{-a_1}{a_2 + a_3}$	$\Delta Y < \frac{-a_1}{a_2 + a_3}$
$\Delta U > 0$	2	9
$\Delta U < 0$	6	2

Source: ADEM, STATEC and BCL

In order to explain the potentially growing impact of cross-border workers on the link between unemployment and growth, it would be appropriate to re-estimate the relation using a rolling regression. This approach consists in re-estimating the equation with a given number of observations while shifting the sample period by one year for each estimation. Results are presented on a chart describing the growth rate of annual GDP necessary to stabilise unemployment for each subperiod of 16 years ending at the indicated date on abscissa. The number of observations contained in the sample period is, of course, relatively small; this is due to data availability constraints with the SEC 95 version of the Luxembourg national accounts.

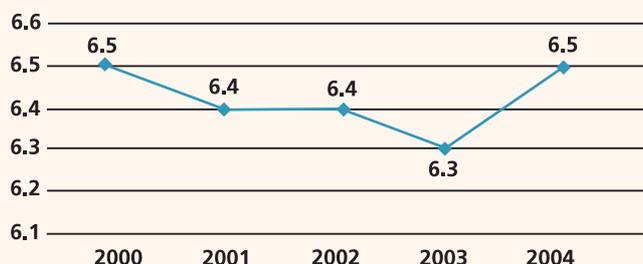
Observations are in most cases (78.9%) located on the diagonal, which means that they are compliant with Okun's law. But it should be noted that output growth above the value estimated by the ratio  $-a_1/(a_2+a_3)$  is neither necessary nor sufficient to reduce the unemployment rate. It is indeed not necessary because in 1990 and 2001, the unemployment rate decreased even though output growth was below the estimated ratio. And it is not sufficient because in 1991 and 1997, the unemployment rate increased even though output growth exceeded the estimated ratio.

**GRAPH 12: UNEMPLOYMENT AND GDP GROWTH IN LUXEMBOURG**



Source: ADEM, STATEC and BCL

**GRAPH 13: ROLLING REGRESSION RESULTS FOR OKUN'S LAW IN LUXEMBOURG**



Source: ADEM, STATEC and BCL

The estimates show a relative constancy of the GDP growth rate necessary to stabilise the unemployment rate. Considering the confidence intervals, differences between the results are not statistically significant. As a consequence, it is not possible to confirm the growing impact of cross-border workers on Okun's law in Luxembourg. The equation needs to be re-estimated using the newly published quarterly national accounts for Luxembourg.

### 1.2.6 External trade

After two consecutive years of decline, Luxembourg's external trade strongly recovered in 2004. The exports of goods rose by 10.4% reaching 9.7 billion euro. However, as the import of goods also increased strongly (10.8%), the trade deficit stood at 3.6 billion euro in 2004, i.e. a 11.7% rise if compared with 2003. The rise in imports of goods was driven by higher prices of oil and raw material as well as by the purchase of some aircraft. The growth of exports in 2004 resulted largely from the steel sector that benefited from higher international demand and prices.

### 1.2.7 Balance of payments

The Luxembourg current account surplus rose to 2.26 billion euro in 2004, from 1.96 billion euro in 2003. This improvement of 15% was the result of a strong rise (18%) in the services surplus while the goods, the income and the current transfer balances continued to deteriorate. The rise in net services receipts was for the most part driven by favourable developments in the financial sector. The performance of total services also benefited from computer and information services, from freight transport by air as well as from insurance services.

In the financial account, portfolio investments registered higher net inflows that were largely offset by net outflows in other investments and in direct investments to a lesser extent.

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### 1.2.8 Macro-economic projections

In 2004, real GDP growth at 4.5% turned out slightly above our expectations as expressed last autumn. Real wage growth was contained and the profit margin expanded for the second consecutive year after the sharp deterioration in 2002 and 2003. Short-term indicators for the beginning of 2005 provide a mixed picture. Business confidence in the industrial sector dampened in the wake of uncertainty about domestic demand in Europe, itself probably the consequence of the rise in oil prices to around 50\$/bl.

Overall, the outlook for the international environment has largely remained unchanged compared to the previous exercise. Only the oil price assumptions have been significantly revised upwards. A deceleration in economic activity would still be expected in 2005 and 2006, hardly a surprise since, in 2004, the world economy expanded at the fastest rate seen in the last 20 years.

However, the dynamism of the world economy has not yet spilled over into more favourable cyclical developments at the euro area level. In June 2005, the Eurosystem revised downwards its real GDP growth projections for 2005, from a range of 1.4% and 2.4% that prevailed in Autumn 2004 to a range of 1.1% and 1.7%. The downward revision stems mostly from the weaker than expected second half of 2004 that entailed a less favourable carry-over effect for 2005. The central scenario of a cyclical rebound in the second half of 2005 remains however intact. As regards the components of GDP, it is mainly the domestic demand, and in particular weak private consumption and private investment that remain below levels that might commonly be expected in the current economic environment.

**TABLE 12: PROJECTIONS OF INTERNATIONAL INSTITUTIONS  
(IN ANNUAL PERCENTAGE CHANGES, RESPECTIVELY IN  
PERCENTAGE POINTS)**

	2004	2005	2006
World trade (EE)	10.7 (+0.6 pp)	8.2 (+0.1 pp)	7.4 (-0.3 pp)
World GDP (EC)	5.0	4.2 (-)	4.1 (-0.1 pp)
Euro area GDP (EC)	2.0	1.6 (-0.4 pp)	2.1 (-0.1 pp)
Euro area GDP (Eurosystem)	1.8	1.1 - 1.7	1.5 - 2.5
World demand for Luxembourg	6.7 (+0.1 pp)	5.1 (-1.7 pp)	6.2 (-0.2 pp)
Oil in \$/bl <sup>1</sup>	38.3 (-0.7)	50.6 (+6.2)	50.7 (+9.9)
Exchange rate \$/€	1.24 (-)	1.29 (-)	1.29 (-)

<sup>1</sup> Revisions in \$/bl

Source: European Central Bank, European Commission

On the back of the euro area weakness, growth in world demand for Luxembourg in 2005 has been sharply revised downwards since Autumn 2004. But an acceleration is still expected for 2006, favouring thereby export-led growth dynamics. Financing conditions in the euro area remain favourable and do not impede the expected rebound.

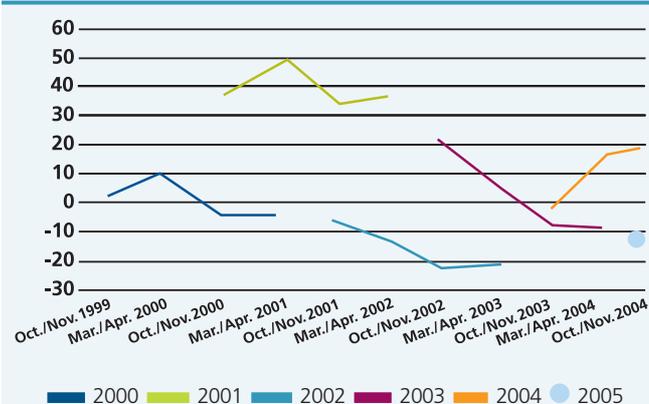
As regards the profile of economic growth in Luxembourg, it is likely that economic growth has decelerated in the first half of 2005. Indeed, the exceptionally strong dynamics in the fourth quarter of 2004, the weak growth performance of several euro area economies, except Germany, and the relatively weaker results of the opinion surveys in the industrial sector in the beginning of 2005 favour this scenario. The technical assumptions favour a rebound in the second half of 2005.

As regards the expenditure components of GDP, growth is mainly driven by the trade components and the impulse from the exports has not yet spilled over into a more vigorous growth of the domestic demand. Indeed, although the fundamentals such as real net wage income for households and balance sheets for companies remain quite solid in Luxembourg, past developments for private consumption and private non-residential investment suggest a relatively cautious consumption and investment behaviour of economic agents.

In light of the traditional determinants, projections for these two components remain also relatively low and our projections do not embody a catch-up effect for foregone consumption and investment. Indeed, the European Commission's bi-annual investment surveys in the industrial sector suggest that companies might have lowered their investment plans in 2005 compared to last year (see chart).

On the basis of this analysis and in the euro area context, it seems appropriate to revise downwards the real GDP growth projections for 2005 to between 3.2% and 3.8%. At the end of 2004, the carry-over effect on annual real GDP growth in 2005 amounts already to 2.2%, highlighting the relatively muted growth profile in the course of 2005. Economic growth is however expected to rebound to around 3.9% in 2006, a scenario in line with the profile of the foreign demand assumptions.

**GRAPH 14: BI-ANNUAL INVESTMENT SURVEYS IN THE INDUSTRIAL SECTOR (EXPENDITURES AT CURRENT PRICES, IN ANNUAL PERCENTAGE CHANGES)<sup>1</sup>**



<sup>1</sup> The surveys are carried out in October/November and in March/April of each year.

Source: European Commission

**TABLE 13: MACRO-ECONOMIC PROJECTIONS AND REVISIONS COMPARED TO AUTUMN 2004 (IN ANNUAL PERCENTAGE CHANGES, RESP. IN PERCENTAGE POINTS)**

	Spring 2005				Revisions		
	2003	2004	2005	2006	2004	2005	2006
Real GDP	2.9	4.5	3.2 - 3.8	3.5 - 4.3	0.4	-0.4	-
HICP	2.6	3.2	3.5	2.2	-	0.5	0.5
HICP energy	1.2	11.8	9.5	0.6	-	5.4	3.2
HICP excluding energy	2.7	2.5	2.7	2.4	-	-0.2	0.3
NICP	2.0	2.2	2.2	1.6	-0.1	0.1	-0.3
Compensation per employee	2.1	2.5	3.1	3.3	-0.5	0.3	-0.3
Employees	1.9	2.7	2.5	2.4	0.2	0.1	-
Unemployment rate	3.7	4.2	4.5	4.5	-	0.2	0.3

Source: BCL

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As regards wage costs, real wage increases have remained very low in 2004. Most wages are still being negotiated in light of the sharp deterioration of the profit margin that was observed in 2001 and 2002; they are thereby based on relatively cautious behaviour by the involved parties. The minimum wage was adapted by 2.1% in January 2005 and it is assumed that wages in the public sector will not be adjusted in 2005 and 2006. Automatic wage indexation in the context of an oil shock, the rise in unemployment and wage moderation in the neighbouring countries would indeed plead for relatively moderate real wage developments. The profit margin would thereby stabilise in 2005 and increase marginally in 2006 in the wake of the revival in economic growth.

In light of the upward revisions to the oil price, inflation in 2005 should exceed our previous expectations. The NICP is expected at slightly above 2% in 2005 and the timing of the automatic wage indexation has been brought forward to the end of 2005. The more optimistic scenario for 2006 is largely based on the absence of additional fiscal measures, moderate imported inflation and a decreasing profile of the oil price.

The strong employment growth seen in 2004 is unlikely to continue as economic growth decelerates and as the one-off factors related to public sector employment fade away in 2005. Despite the cyclical rebound in 2003 and 2004, there is hardly an impact detectable in the employment measures. In this respect, it is also likely that the narrow unemployment rate will at best stabilise at its current level.

### 1.2.9 Public finance

#### 1.2.9.1 Central government budgetary policy

The Luxembourg Parliament approved the 2005 central government budget on 9 December 2004. Total expenditure and revenue would both increase by 8% compared to the 2004 budget. As a result, the budget would be in deficit by 0.3% of GDP in both 2004 and 2005. However, the Treasury and Budget Minister announced on 10 May 2005 that the 2004 accounts posted a EUR 71 million surplus due, *inter alia*, to buoyant indirect taxes.

TABLE 14: KEY FIGURES OF THE 2005 CENTRAL GOVERNMENT BUDGET (IN EUR MILLION, UNLESS STATED OTHERWISE)

	2004 budget	2005 budget	Increase in nominal terms
<b>Revenue</b>	<b>6 392.6</b>	<b>6 902.5</b>	<b>+8.0%</b>
<b>Expenditure</b>	<b>6 476.7</b>	<b>6 991.5</b>	<b>+7.9%</b>
<b>Balance</b>	<b>-84.2</b>	<b>-89.0</b>	<b>--</b>
of which current balance	433.0	543.3	--
of which capital balance	-517.2	-632.3	--

Source: 2004 and 2005 budget laws

By contrast, the ESA 95 central government accounts were in deficit by 2.4% of GDP in 2004 according to data released by the national statistical institute STATEC in March (EDP notification) and May ("Note de conjoncture"). This discrepancy is attributable to the fact that Table 14 is confined to the central government *sensu stricto*, irrespective of the expenditures of extra-budgetary funds. Only the much lower transfers from the central government *sensu stricto* to the funds are taken on board in the official presentation synthesised in the table. Below we focus on the more encompassing ESA 95 presentation. In Moreover, all the subsectors of general government (i.e. central government, local governments and social security) are treated as a single consolidated entity in the text below.

### 1.2.9.2 General government revenue

In spite of dynamic indirect taxes, the revenue-to-GDP ratio declined by nearly 1% of GDP in 2004. This development reflects an even more pronounced decline in business taxes due to a marked deceleration in the collection of tax balances related to previous exercises. Social contributions also decreased as a percentage of GDP due to the underlying developments of the wage bill, whereas lower interest rates and government assets pushed down interest receivables (they are included in the "other revenue" item).

These negative evolutions were counterbalanced to a certain extent by buoyant indirect taxes, owing inter alia to higher prices for oil products, the impact on VAT of the strong activity of electronic commerce companies and tax hikes on tobacco and oil products by 0.3% of GDP in 2004.

**TABLE 15: GENERAL GOVERNMENT REVENUE (% OF GDP, UNLESS STATED OTHERWISE)**

	STATEC data March 2005						BCL projections spring 2005		
	1999	2000	2001	2002	2003	2004	2005	2006	2007
Direct taxes	15.7	15.4	15.5	16.0	15.7	13.9	14.0	14.1	14.0
Indirect taxes	14.2	14.6	14.0	13.7	13.8	15.2	15.4	15.2	15.0
Social contributions	11.4	11.2	12.0	12.2	12.4	12.2	12.3	12.3	12.2
Other revenue	4.2	4.1	4.2	4.3	3.9	3.7	3.7	3.6	3.6
<b>Total revenue</b>	<b>45.5</b>	<b>45.3</b>	<b>45.7</b>	<b>46.2</b>	<b>45.8</b>	<b>45.0</b>	<b>45.4</b>	<b>45.2</b>	<b>44.8</b>
<b>Nominal increase in total revenue (%)</b>	<b>9.3</b>	<b>12.9</b>	<b>4.5</b>	<b>4.8</b>	<b>4.0</b>	<b>5.3</b>	<b>6.3</b>	<b>5.6</b>	<b>5.2</b>

Source: IGF, IGSS, STATEC, UCM, 6th update of the Luxembourg stability programme 2003-2007, BCL calculations.

According to the BCL spring 2005 projections, which are based on unchanged policy assumptions, the revenue ratio and its structure will be fairly stable over the 2005-2007 horizon. The ratio would increase in 2005 owing to new discretionary measures, namely higher indirect taxes on oil products and an upward adjustment in healthcare social contributions. However, the ratio would resume its decline in 2006 and 2007. Indirect taxes would be less dynamic than GDP due to the underlying evolution of the tax base (i.e. essentially private consumption) and interest receivable would further decline as a result of eroding general government assets.

Direct taxes would be remarkably steady throughout the projection horizon. The introduction of a withholding tax on the interest income of non-resident households in the aftermath of the EU Savings Directive and the non-indexation of personal income tax brackets will induce additional direct revenue. However, a new deceleration in the collection of business taxes related to previous tax exercises would outweigh these two favourable factors.

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### 1.2.9.3 General government expenditure

The expenditure ratio was once again on the increase in 2004, when it amounted to about 46% of GDP in spite of more sustained GDP growth. Public investments reached a high level despite the negative incidence of a real estate sale, resulting from a methodological change brought about by a decision taken by Eurostat in February 2005 with respect to the statistical treatment of public-private partnerships. Due to this decision, some investment expenditure carried out by private real estate developers are now considered as government investment. The investment expenditure involved reached 0.6% of GDP in 2004.

**TABLE 16: GENERAL GOVERNMENT EXPENDITURE (% OF GDP, UNLESS STATED OTHERWISE)**

	STATEC data March 2005						BCL projections spring 2005		
	1999	2000	2001	2002	2003	2004	2005	2006	2007
Social transfers	20.1	18.8	20.1	21.4	22.4	22.5	22.7	22.7	22.7
Government investments	4.6	4.0	4.4	5.1	4.9	5.0	5.5	5.6	5.6
Consumption expenditure <sup>1</sup>	11.4	10.8	11.4	11.9	12.2	12.2	12.4	12.3	12.2
Subsidies <sup>2</sup>	1.6	1.7	1.7	1.8	1.8	1.8	1.9	1.9	1.9
Other expenditure <sup>3</sup>	4.4	3.8	1.9	3.8	4.0	4.6	4.3	4.3	4.2
<b>Total expenditure</b>	<b>42.1</b>	<b>39.1</b>	<b>39.5</b>	<b>44.0</b>	<b>45.3</b>	<b>46.1</b>	<b>46.8</b>	<b>46.8</b>	<b>46.6</b>
<b>Nominal increase in total expenditure (%)</b>	<b>8.7</b>	<b>5.4</b>	<b>9.8</b>	<b>9.8</b>	<b>8.3</b>	<b>9.0</b>	<b>7.0</b>	<b>6.1</b>	<b>5.7</b>

<sup>1</sup> Compensation of employees and intermediate consumption.

<sup>2</sup> Disregarding capital transfers.

<sup>3</sup> The expenditure ratio recorded in 2001 was negatively affected by a one-off transaction, namely the sale of a license to the satellite company SES Global. This explains the marked decrease in the "other expenditure" item in 2001. The nominal growth rates displayed in the antepenultimate row of the table have been adjusted by the impact of this transaction, which amounted to 1.9% of 2001 GDP.

Source: IGF, IGSS, STATEC, UCM, 6th update of the Luxembourg stability programme 2003-2007, BCL calculations.

All the expenditure categories displayed in the attached table increased in line with GDP in 2004, except the "Other expenditure" item due to much higher capital transfers (2.0% of GDP compared to 1.5% in 2003). However, capital transfers are usually overestimated in the spring public finance accounts. In order to remedy this bias, it is assumed in the projections that capital transfers expressed as a percentage of GDP will decrease over the 2005-2007 period (from 2.0% in 2004 to 1.7% in 2007). In spite of this assumption and of the dilution effect

brought about by a sustained rate of economic growth, the expenditure ratio would exceed 46% of GDP throughout the projection horizon. A high level of public investment and the indexation of private sector pensions to real wages in 2005 and 2007 will indeed outweigh the new measures aimed at curbing health expenditure adopted at the end of 2004. The more expansionary stance of the 2005 central government budget would further magnify the rise in the expenditure ratio compared to its 2004 level.

#### 1.2.9.4 General government net lending or borrowing and asset position

The general government balance moved into deficit in 2004 (1.1% of GDP) for the first time since 1992. This deterioration reflects a significant increase in expenditure (+9%) not matched by revenue growth (+5.3%). All general government subsectors contributed to this evolution. The central government deficit amounted to 2.4% of GDP in 2004, due a substantial gap between the revenue and expenditure of extra-budgetary funds. Local governments also recorded a deficit in 2004 because of a deceleration in the collection of local corporate taxes related to previous tax exercises. However, this adverse development was cushioned to a large extent by lower local investments. Finally, social security surpluses decreased for the third year in a row under the conjunction of social contributions which were less dynamic than GDP and a sustained increase in healthcare expenditure.

According to ESCB projections, the general government deficit will continue to deteriorate over the projection period. In 2005, the central government net borrowing requirement would rise to 3% of GDP due to the expansionary stance of the 2005 budget and high public investments. By contrast, the social security surplus would improve by 0.3% of GDP owing to new restrictive expenditure measures in healthcare and to an upward adjustment in social contributions. Overall, the general government deficit would increase to 1.4% of GDP in 2005. In spite of quite favourable macro-economic conditions, the general government deficit would amount to 1.6% of GDP in 2006 and 1.8% in 2007.

**TABLE 17: GENERAL GOVERNMENT NET LENDING (+) OR NET BORROWING (-) (% OF GDP)**

	1999	2000	2001	2002	2003	2004	2005	2006	2007
<b>Actual balances</b>									
<b>STATEC data March 2005</b>							<b>BCL projections spring 2005</b>		
<b>General government</b>	<b>3.4</b>	<b>6.2</b>	<b>6.2</b>	<b>2.3</b>	<b>0.5</b>	<b>-1.1</b>	<b>-1.4</b>	<b>-1.6</b>	<b>-1.8</b>
of which central government	1.7	3.1	3.1	-0.2	-1.4	-2.4	-3.0	-3.2	-3.3
of which local governments	0.2	0.5	0.2	0.1	0.0	-0.1	-0.1	-0.1	-0.1
of which social security	1.5	2.6	2.9	2.4	1.9	1.4	1.7	1.7	1.6
<b>Stability programme</b>					<b>0.8</b>	<b>-1.4</b>	<b>-1.0</b>	<b>-0.9</b>	<b>-1.0</b>
<b>Cyclically adjusted balances</b>									
Spring 2005 BCL estimate <sup>1</sup>	3.4	5.2	5.2	1.7	0.6	-0.8	-1.0	-1.4	-1.7
Stability programme estimate	--	--	--	--	0.8	-1.4	-0.9	-0.5	-0.6

<sup>1</sup> These cyclically adjusted balances are estimated based on a disaggregated Hodrick-Prescott approach.

Source: STATEC, 6th update of the Luxembourg stability programme 2003-2007, BCL calculations.

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The cyclically adjusted deficits would also increase over the projection period according to BCL estimates based on a common ESCB method. The corresponding calculations in the 6th update of the Luxembourg stability programme also point to a negative adjusted balance over the 2004-2007 horizon. As indicated in the chart below, continued compliance with the 3% reference value of the Treaty establishing the European Community would not be guaranteed with an adjusted deficit of about 1% of GDP, because of the pronounced volatility of cyclical developments in Luxembourg and of the influence of additional erratic budgetary components (e.g. a decline in the elasticity of revenue items to their respective tax bases, or a tax base less dynamic than GDP). According to the European Commission, the erratic component of the fiscal balance would reach 0.6% of GDP on average in Luxembourg (see "Public Finances in EMU - 2000"). The safety margin needed in order to withstand cyclical developments without infringing the reference value would be even higher, as it would amount to about 3% of GDP (see "Public Finances in EMU - 2002").

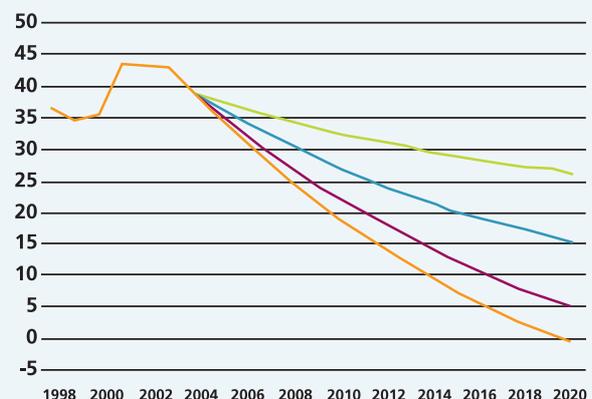
Continued compliance with the 3% deficit limit would therefore require a cyclically adjusted balance in equilibrium or even in surplus. These results underscore that Luxembourg should target a much more rigorous budgetary objective than the 1% deficit limit embedded in the March agreement on the reform of the Stability and Growth Pact for countries with a high potential GDP growth rate and a low public debt ratio.

The evolution of the general government net asset position - including the reserves of the private sector pension system - further illustrates the paramount importance of more ambitious medium-term objectives. As indicated in the following chart, general government accounts in balance or even in surplus should also be pursued in order to ensure an appropriate level of net assets in the medium-term. By contrast, net financial assets would quickly melt down in case less rigorous objectives are targeted. The Luxembourg economy would then lose a powerful buffer against adverse shocks.

A prudent medium-term fiscal strategy is all the more necessary because Luxembourg will have to address long-term sustainability issues, in particular as regards the pension system and healthcare. Moreover, some precautionary room for manoeuvre needs to be restored in order to ensure that discretionary initiatives related, for instance, to research and development, transport, housing and development aid could be financed.

Finally, indirect taxes are extremely buoyant owing to the conjunction of several favourable factors. These circumstances may come to an end, for instance in case the VAT regime of cross-border electronic transactions is amended.

**GRAPH 15: GENERAL GOVERNMENT NET FINANCIAL ASSETS RESULTING FROM ALTERNATIVE MEDIUM-TERM BUDGETARY OBJECTIVES (% OF GDP)**



Legend: 1% surplus (green), 0% Balance (blue), 1% Deficit (purple), 1.5% Deficit (orange)

*Note: The net financial assets are equal to total general government financial assets (including the equity portfolio at acquisition value) minus gross non-consolidated general government debt. Local government assets over the 1998-2004 period are estimated on the basis of interest receivables. From 2005 onwards, the net financial assets are inferred on the basis of the respective medium-term budgetary objectives. By assumption, the impact on assets of exchange rates and other financial market prices is nonexistent over the 2005-2020 period. Nominal GDP growth is set at 6% per year over the 2008-2020 period (the BCL spring projections are considered from 2005 to 2007).*

*Source: STATEC, Finance and budget commission of the Luxembourg Parliament, Finance Ministry, 6th update of the stability programme, Treasury, IGSS, UCM, BCL calculations.*

## 1.2.10 Luxembourg Stock Exchange

In 2004, the Luxembourg stock price index continued the recovery observed from 2003. Although the LuxX moved in tandem with other major equity markets for most of the year under review, it has been outperforming other stock price indices since mid-September 2004; between January and December 2004, the LuxX was up 26,83%, finishing the year at 1 292.22.

**GRAPH 16: THE LUXX COMPARED TO MAJOR FOREIGN STOCK PRICE INDICES**  
(INDEX: 01/01/2004 = 100 UNLESS OTHERWISE INDICATED; DAILY DATA)



Source: Bloomberg

Regarding the major index constituents of the LuxX, Arcelor shares (with a weighting of 22.5%)<sup>3</sup> performed exceptionally well, gaining 26.76% between end-2003 and end-2004. SES Global and RTL Group (with respective weighting coefficients of 20% and 17.5%) gained 19.38% and 17.3% respectively. KBL shares also recorded significant gains, in large part due to the merger between KBC and its holding Almanij.

Trade volume increased by 50.80% in 2004, while the number of listed securities rose to 33 022 (9 143 new listings versus 5 222 delistings).

In addition, it is worth noting that the Luxembourg Stock Exchange will launch an alternative market called LuxAlter; this alternative market will be defined by the Luxembourg Stock Exchange's internal regulations rather than by European directives. Moreover, a new project called "e-file" was launched; this project will enable all the steps and procedures required for launching an undertaking for collective investment or listing a security to perform in a virtual environment.

<sup>3</sup> The weightings date from December 31, 2004.

