01 THE ECONOMIC AND FINANCIAL SITUATION

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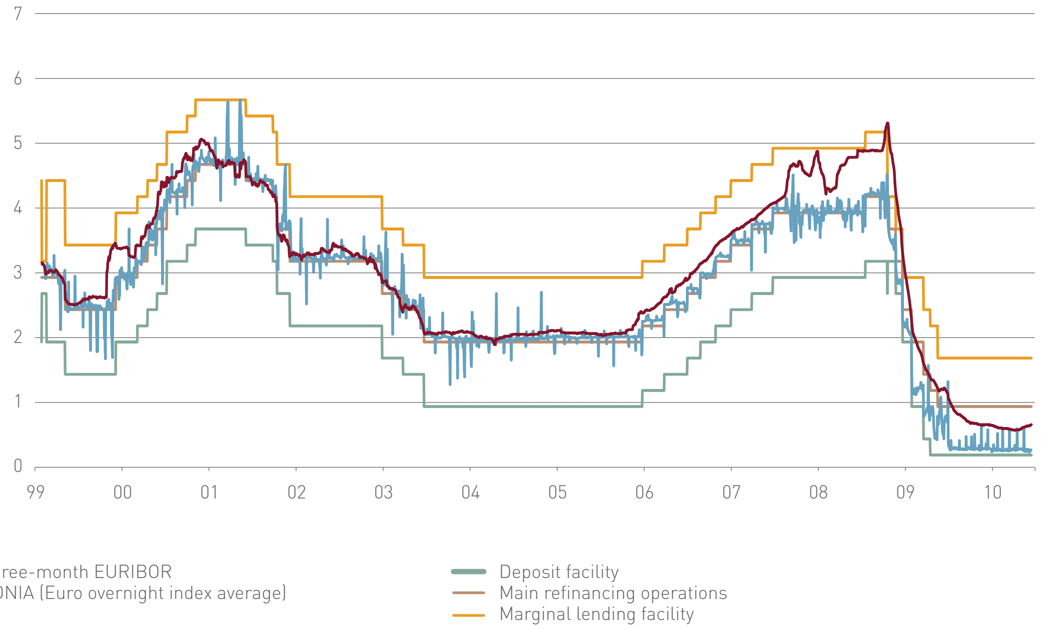
THE ECONOMIC AND FINANCIAL SITUATION

1.1 THE ECONOMIC SITUATION AT THE INTERNATIONAL LEVEL

1.1.1 Short-term interest rates and monetary policy decisions

Chart 1.1: Key policy rates of the Eurosystem, the EONIA and the three-month EURIBOR (percentages per annum)



Sources: ECB, Bloomberg

Between January and May 2009, the interest rate on the main refinancing operations was lowered by 150 basis points. The interest rate on the deposit facility and on the marginal lending facility was lowered by 175 and 125 basis points respectively. Since May 2009, key ECB rates have remained unchanged. Thus, the interest rate on the main refinancing operations stands at 1.00%, while those on the deposit facility and on the marginal lending facility stand at 0.25% and 1.75% respectively.

The Governing Council also adopted a series of non-standard measures in order to cope with dysfunctional money markets and facilitate the monetary transmission mechanism. These measures are temporary in nature and designed to maintain price stability over the medium term.

Annual HICP inflation stood at 0.3% in 2009, the lowest level on record since the launch of the euro, after a record high of 3.3% in the preceding year. The inflation rate has however edged up gradually, reaching 1.5% in April 2010; according to Eurostat's flash estimate, annual HICP inflation stood at 1.6% in May. Looking ahead, inflation rates should remain moderate over the medium term.

Regarding economic activity in the euro area, annual real GDP contracted by 4.1% in 2009. Quarterly growth rates of real GDP turned positive in the second half of the year. In the third and fourth quarters of 2009, quarterly real GDP progressed by 0.4% and 0.1% respectively. According to Eurostats' flash estimate, euro area real GDP progressed by 0.2% quarter-on-quarter in the first quarter of 2010. The rebound in economic activity is linked to the ongoing economic recovery at the global level, the accommodative monetary policy stance and the measures adopted to restore the functioning of financial markets. Looking ahead, the Governing Council expects real GDP to grow at a moderate and still uneven pace.

Turning to the monetary analysis, the annual growth rates of M3 and of loans to the private sector have continued on their respective downward trends. However, the annual growth rates stabilised in the fourth quarter of 2009 and subsequently evolved in a relatively narrow range. In April 2010, the annual growth rate of M3 stood at -0.1%, unchanged from the previous month, while the annual growth rate of private sector loans turned positive (+0.1%). The fall in M3 is largely attributable to the decrease in M3-M2 and M2-M1, while the narrow spread between interest rates applied to different short-term deposits encouraged the allocation of funds to the most liquid instruments.

As for the counterparts of M3, loans to the private sector fell by 0.2% between end-2008 and end-2009. The annual growth rate of loans to non-financial corporations stabilised in the course of 2009 while remaining negative, reaching -2.6% in April 2010. The available data pertaining to consumer credit also point to a stabilisation of the annual growth rates (-0.3% in April), while loans for house purchase recovered even if their annual remains weak (+2.9% in April).

1.1.2 Long-term government bond yields

In the course of the period under review, long-term government bond yields in the United States and in the euro area were subject to a considerable degree of volatility but generally followed opposing trends. Between January 2009 and mid-May 2010, ten-year government bond yields decreased by 43 basis points in the euro area and increased by 124 basis points in the United States, reaching 3.26% and 3.45% respectively at the end of the period.

Chart 1.2: Long-term government bond yields in the euro area and in the United States
(LHS: Percentages per annum; RHS: Percentage points)

Sources: ECB, Bloomberg

In early-2009, government bond yields on both sides of the Atlantic first increased owing to substantial issuance of securities aimed at propping up the economy and the banking sector. This upward trend was nevertheless interrupted around mid-June. The accommodating monetary policies and the unconventional measures taken by the central banks supported the absorption capacity of the market. Besides the direct purchase programmes of the Fed and the Bank of England, the expected low level of reference rates for an extended period, in association with contained inflation pressures, led investors (in particular banks) to diversify their bond portfolio toward longer-term maturities. At the end of the period, the tensions encountered in euro area "peripheral" countries translated into a rise in risk aversion and hence a flight to quality, resulting in a fall in US and German long-term yields.

As for the spread between two-year and ten-year government bond yields in the euro area, the yield curve continued to steepen at the beginning of 2009 to reach a historically high level. Intra euro area yield spreads also widened substantially in the course of the period under review. In a context characterised by the decrease of liquidity premia in bond markets, these persistent spreads have reflected the risk premium associated with the quality of the sovereign issuers. In December 2009, the downgrading of Greek bonds by the main rating agencies caused the risk premium on Greek debt to reach record levels, before speculative attacks led to contagion effects on Portuguese, Irish and Spanish bonds. The conditional 110 billion euro support to Greece approved by the European Union, however, did not reduce market uncertainty. The ECB's decision to buy government debt securities on secondary markets and the joint 750 billion euro EU-IMF stabilisation plan finally managed to put an end to this self-fulfilling prophecy. Despite these measures, which should enable national governments to implement austerity measures under satisfying conditions, the intra euro area yield spreads remained, on May 15, 2010, at historically elevated levels.

1.1.3 Stock markets

After the record losses posted in 2008, major stock markets witnessed a significant rebound from March 2009 onwards. This rebound was considerably supported by the measures put in place to prop up the financial system and the economy at large. Between end-2008 and mid-May 2010, the Dow Jones EURO STOXX rose by 13.7%; while the Standard & Poor's 500 and the Nikkei 225 rose by 25.7% and 18.1% respectively.

Chart 1.3: Major stock indices in the euro area, the United States and Japan
(index 01/01/2008 = 100)

Source: Bloomberg

In the first three months of 2009, major stock indices continued to record further losses. This was due to uncertainty regarding the magnitude and length of the recession, as well as investors' concerns regarding the health of the financial sector. After the troughs recorded in early-March, the Dow Jones EURO STOXX, the Standard & Poor's 500 and the Nikkei 225 rebounded sharply and embarked on an upward trend which lasted until September. The prospective end to the crisis, substantiated by the progressive release of optimistic economic data and the non-conventional measures adopted by central banks and governments, led to a fall in risk aversion which provided further impetus to stock markets.

However, by mid-January 2010, the recovery in stock markets was sharply interrupted by a downward correction, which in turn was owing to profit-taking by firms. This was soon exacerbated by a number of unfavourable elements, most notably potential contagion effects from the fiscal crisis in Greece. The stabilisation plan adopted by European finance ministers and the IMF, as well as the non-conventional measures adopted by the ECB, led to a rebound in stock markets towards the end of the period under review.

1.1.4 Foreign exchange markets

In the course of 2009, the nominal effective exchange rate of the euro (NEER) at first followed an upward trend, before recording significant losses from December 2009 onwards. On May 15, 2010, the NEER stood at its lowest level since March 2006. This is largely attributable to the appreciation of the US dollar and the British pound, given their weights in the basket of the NEER.

Chart 1.4: Exchange rate developments

Sources: ECB, Bloomberg

In early-2009, the euro embarked on an upward trend versus the dollar and in November the single currency reached 1.50 USD. The euro's rebound was largely due to a fall in risk aversion. Moreover, the Federal Reserve's decision to keep interest rates close to zero for a protracted period and the fall in volatility in foreign exchange markets encouraged carry trade activity. The upward trend of the euro then took a U-turn and the single currency fell back to its first quarter level. While the fiscal situation in a number of euro area countries contributed to the euro's depreciation, the dollar's rise against the single currency was largely linked to the unwinding of carry trade positions, as market participants expected monetary policy in the United States to tighten more rapidly than in the euro area. Towards the end of the review period, in the context of rising risk aversion, the US dollar increasingly benefited from its safe haven status. On May 15, 2010, the single currency stood at 1.24 USD, 11.4% below its 2009 average.

As for the Swiss franc and the Japanese yen, the euro followed an upward trend against these currencies in the first few months of 2009; however, the euro depreciated sharply from December onwards. The British pound also appreciated against the euro towards the end of the review period. By mid-May 2010, the euro stood at 0.86 GBP, 3.6% above its 2009 average.

ERM II currencies remained mostly stable against the euro in 2009. The other currencies from European Union Members States generally appreciated versus the single currency from March onwards, following market participants' renewed interest in these countries.

1.1.5 Consumer prices

HICP inflation in the euro area averaged 0.3% in 2009, its lowest level since the introduction of the euro in 1999. After having reached its trough at -0.7% in July 2009, headline inflation turned positive in November and accelerated sharply thereafter, to 0.9% in December 2009 and further to 1.5% in April 2010, its highest level since the end of 2008.

The reversal of the inflation dynamics stems exclusively from the renewed rise in the price of oil and the subsequent acceleration in energy prices throughout 2009. In spite of higher energy costs, the inflation rate for the HICP excluding energy and unprocessed food declined steadily, from 1.8% in January 2009 to 1.0% in December 2009 and further to 0.7% in April 2010. This disinflationary trend results mostly from the lagged effects of the fall in the price of oil in 2008, the unwinding of the commodities shock and the moderate wage developments that have come about from the 2008/2009 recession and the resulting weak labour market.

Table 1.1: Developments in the HICP and its components (annual percentage changes)

	2008	2009	09 q4	10 q1	April-10
HICP	3.3	0.3	0.4	1.1	1.5
Unprocessed food	3.5	0.2	-1.5	-0.8	0.7
Processed food	6.1	1.1	0.5	0.6	0.6
Non-energy industrial goods	0.8	0.6	0.3	0.1	0.2
Energy	10.3	-8.1	-3.2	4.8	9.1
Services	2.6	2.0	1.7	1.5	1.2
HICP ex energy and unprocessed food	2.4	1.3	1.0	0.9	0.7

Source: Eurostat

The June 2010 Eurosystem staff projections foresee inflation reaching its trough in 2009 and re-accelerating thereafter. Average annual HICP inflation is anticipated between 1.4 and 1.6% in 2010 compared to 0.3% in 2009. For 2011, inflation should be between 1.0% and 2.2%. Compared with the March 2010 ECB staff projections, the inflation projections have been revised up.

1.1.6 Output, demand and labour market developments

In 2009, economic activity continued to deteriorate in the euro area. GDP decreased by -4.1% after +0.6% in 2008. Nonetheless, after the deep recession, real GDP picked up (faster than expected) in the third quarter of 2009 and available evidence suggests that recovery continued to strengthen during the first quarter of 2010, confirming previous signs of improvement in economic activity.

Even though annual growth rates of exports and imports remain largely negative, on a quarterly basis, there are some signs of recovery in international trade during the second half of 2009. In addition to net exports, the gravity of the crisis was particularly well reflected by the fall in domestic demand, and especially by investment and private consumption. After a sharp slowdown during the first quarter of 2009, private consumption gradually recovered and stabilized by the end of the year. The decline in private consumption had a direct impact on imports, the annual growth rate of which declined from +1.1% in 2008 to -12.0% in 2009. Although the depressed economic environment and the permanent uncertainty continue to dampen investment in the euro area, there are some signs of improvement during the past few months.

Regarding the labour market, the phase of weakness entered in 2008 continued to worsen in 2009 as evidenced by the decrease in employment (-1.9% in annual terms) and the corresponding increase in the unemployment rate, which increased by almost 2.0 percentage points (from 7.5% in 2008 to 9.4% in 2009). The latest available evidence suggests that the situation seems to have stabilized somewhat during the last few months. In fact, the deterioration in employment had slowed down by the end of 2009 (in quarterly terms), and the unemployment rate has increased at a slower pace since September 2009.

Table 1.2: Composition of real GDP growth (Percentage changes, seasonally adjusted data)

	Annual rate of change			Annual rate of change					Quarterly rate of change				
	2007	2008	2009	2009	2009	2009	2009	2010	2009	2009	2009	2009	2010
				Q1	Q2	Q3	Q4	Q1	Q1	Q2	Q3	Q4	Q1
Real Gross Domestic Product	2.8	0.6	-4.1	-5.3	-5.6	-3.9	-1.7	0.8	-2.5	-0.1	0.4	0.1	0.2
of which:													
Domestic Demand	2.4	0.6	-3.5	-3.8	-4.4	-3.3	-2.4	0.2	-2.4	-0.7	0.4	-0.1	0.7
Private consumption	1.6	0.4	-1.2	-1.9	-1.6	-1.3	-0.1	0.1	-0.6	0.1	-0.2	0.2	-0.1
Public consumption	2.3	2.1	2.6	3.2	2.7	2.6	2.0	1.8	0.7	0.7	0.7	0.0	0.6
Gross fixed capital formation	4.8	-0.6	-10.9	-11.6	-12.8	-10.8	-8.3	-4.9	-5.1	-1.7	-1.0	-1.3	-1.1
Net exports (contribution to real GDP growth in p.p.)	0.4	0.0	-0.7	-1.6	-1.2	-0.7	0.7	*	-0.2	0.6	0.0	0.2	*
Exports of goods and services	6.3	1.0	-13.2	-16.6	-18.1	-13.3	-4.7	6.2	-8.4	-1.1	2.8	1.7	2.5
Imports of goods and services	5.5	1.1	-12.0	-13.5	-15.9	-12.1	-6.5	4.6	-8.1	-2.7	2.8	1.2	4.0
Employment	1.8	0.7	-1.9	-1.3	-1.9	-2.2	-2.1	*	-0.8	-0.5	-0.5	-0.3	*

Sources: Eurostat, Eurosystem

According to the Eurosystem staff projections for macroeconomic developments in the euro area, average annual real GDP growth is projected to be between 0.7% and 1.3% in 2010 and between 0.2% and 2.2% in 2011. These projections for 2010 and 2011 have been revised upwards compared with the previous ones (December 2009).

Real GDP grew modestly in the first and second quarter of 2010. Over the remainder of 2010, growth is expected to remain subdued, as the factors that temporarily boosted growth in the initial phase of the recovery, such as the fiscal stimuli and the inventory cycle, diminish in strength. Further ahead, the economic pick-up is projected to strengthen, supported by gradually rising domestic demand. The lagged effects of monetary policy moves and the significant efforts to restore the functioning of the financial system are expected to strengthen economic activity over the full projection horizon. Growth in 2010 and 2011 is, however, projected to remain weaker than before the recession, owing to the ongoing need to improve balance sheets in various sectors, while private consumption is dampened by high unemployment, precautionary savings and modest income growth.

Table 1.3: Macroeconomic Projections for the euro area (average annual percentage changes)

	2009	2010	2011
HICP	0.3	1.4 – 1.6	1.0 – 2.2
Real GDP	-4.1	0.7 – 1.3	0.2 – 2.2
Private consumption	-1.2	-0.2 – 0.4	-0.2 – 1.6
Government consumption	2.6	0.3 – 1.3	-0.3 – 1.1
Gross fixed capital formation	-10.8	-3.4 – -1.2	-2.1 – 2.7
Exports (goods and services)	-13.2	5.5 – 9.1	1.1 – 7.9
Imports (goods and services)	-12.0	3.8 – 7.0	0.4 – 6.8

Source: BCE

Among the domestic components of GDP, non-residential private investment is expected to remain fairly weak during 2010, limited by high spare capacity, weak and uncertain demand prospects, low profitability and financing constraints; but to recover slowly thereafter. After some short-term weather-related volatility early in 2010, residential investment is projected to remain subdued, dampened by ongoing adjustments in housing markets in some countries. In line with the fiscal packages announced in several euro area countries and their subsequent withdrawal, government investment in real terms is expected to stabilise over 2010, before declining markedly the following year.

Private consumption growth is expected to rise modestly in 2010 before gradually accelerating the following year. Real incomes are expected to be dampened by the weakness of projected employment growth. At the same time, the savings ratio is projected to remain substantially above its pre-crisis level, as some precautionary savings continue to be held in a context of high economic uncertainty and modest prospects for income growth. However, the savings ratio is expected to fall somewhat as the economic situation gradually improves. Euro area exports rebounded towards the end of last year, and grew strongly again in early 2010. Over the projection horizon, the recovery in exports is expected to continue, driven by foreign demand and higher competitiveness. As a consequence, net trade is projected to contribute positively to GDP growth in both 2010 and 2011.

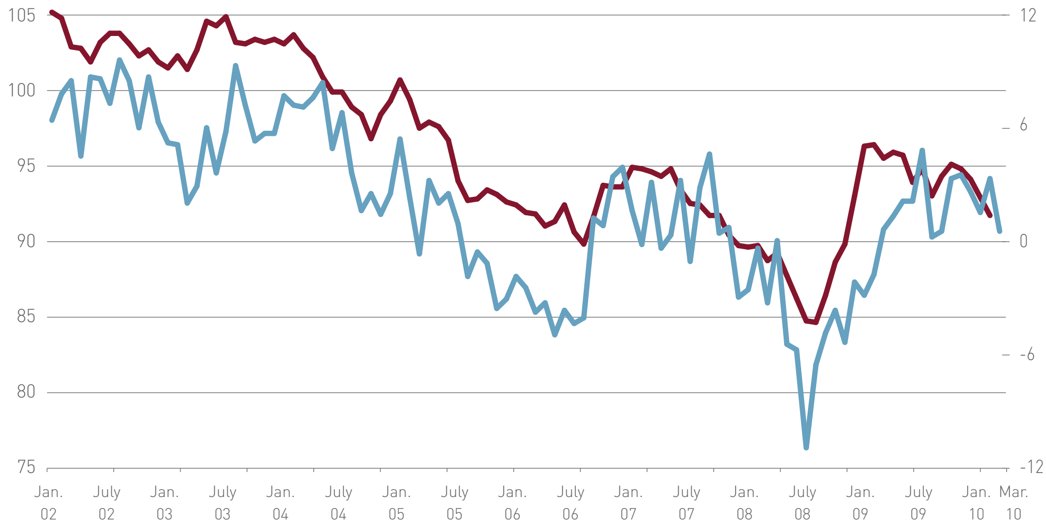
The Governing Council continues to view the uncertainties in this outlook as broadly balanced. On the upside, the global economy and foreign trade may recover more strongly than projected and confidence may improve more than expected, with the result that the recovery becomes self-sustaining. On the downside, concerns remain relating to renewed tensions in some financial market segments. In addition, the possibilities of a stronger or more protracted than expected negative feedback loop between the real economy and the financial sector, renewed increases in oil or other commodity prices, an intensification of protectionist pressures, or a disorderly correction of global imbalances, may weigh on the downside.

1.1.7 External Trade

In 2009, the euro area external trade in goods recorded a surplus of €22.7 billion, compared with a deficit of €51 billion in 2008. This reversal occurred alongside a strong fall both in goods exports and imports. As a result of a sudden decline in global demand, goods exports dropped by 18%, reaching €1 278 billion in 2009. Monthly developments in the volume index shows a sudden fall in goods exports from September 2008 to February 2009, when the international financial crisis intensified. Since the second quarter of 2009, goods exports started to stabilize and to recover gradually. However, in 2009 as a whole, the monthly volume index declined by 17% on average as compared with 2008. Declining export prices (-1.7%) also contributed, to a lesser extent, to the decrease in export value in 2009.

In 2009, Euro area goods imports declined further in value (-22%) than exports, reaching €1 255 billion. Import volumes dropped, albeit to a lesser extent (-14% in 2009 as a whole) than export volumes, through the first half of the year and began to stabilize only in the third quarter of 2009. Meanwhile, the monthly import price index declined further (-9% on average) than the export price index (-1.7%), driven by the fall in oil prices that began in summer 2008, contributing to the improvement in the euro area's terms of trade. This later development supported the reversal in the euro area trade balance.

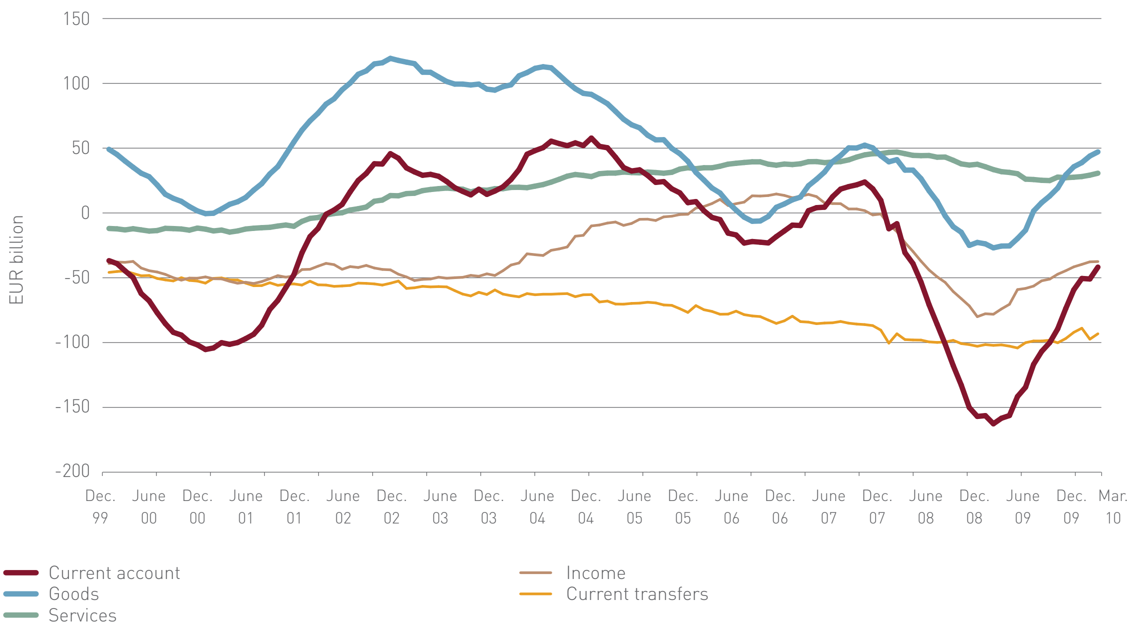
Chart 1.5: Monthly developments in the euro area trade balance and in the terms of trade (seasonally adjusted data)



Source: Eurostat

1.1.8 Balance of Payments

Chart 1.6: Current account balance and its components (12-month cumulated transactions)



Source : ECB

In 2009, the deficit in the current account of the euro area decreased substantially, reaching €56 billion (or 0.7% of euro area GDP), compared with a deficit of €154 billion in 2008. This improvement resulted mainly from the shift in the goods balance from a large deficit in 2008 to a surplus in 2009. Lower deficits in the income balance and in the current transfers also contributed to the overall narrowing of the current account deficit in 2009. However, these positive developments were partly offset by a fall in the surplus of the services balance.

In the financial account, the euro area recorded net inflows of €45 billion in 2009 as a whole, compared with net inflows of €163 billion in 2008. This development reflects lower net inflows in debt instruments and more outflows in other investments.

1.2 ECONOMIC SITUATION IN LUXEMBOURG

1.2.1 Prices and costs

1.2.1.1 Consumer prices

Headline inflation was characterised by increased volatility over the course of 2009. NICP inflation fell sharply in the first half of the year, from 1.1% in December 2008 to -0.7% in July 2009, only to reaccelerate sharply thereafter, to 2.3% at the end of 2009 and further to 2.4% in May 2010. Overall, consumer prices increased by only 0.4% in 2009, their lowest rate since 1987.

Chart 1.7: Inflation indicators (annual percentage changes)

Source: Statec

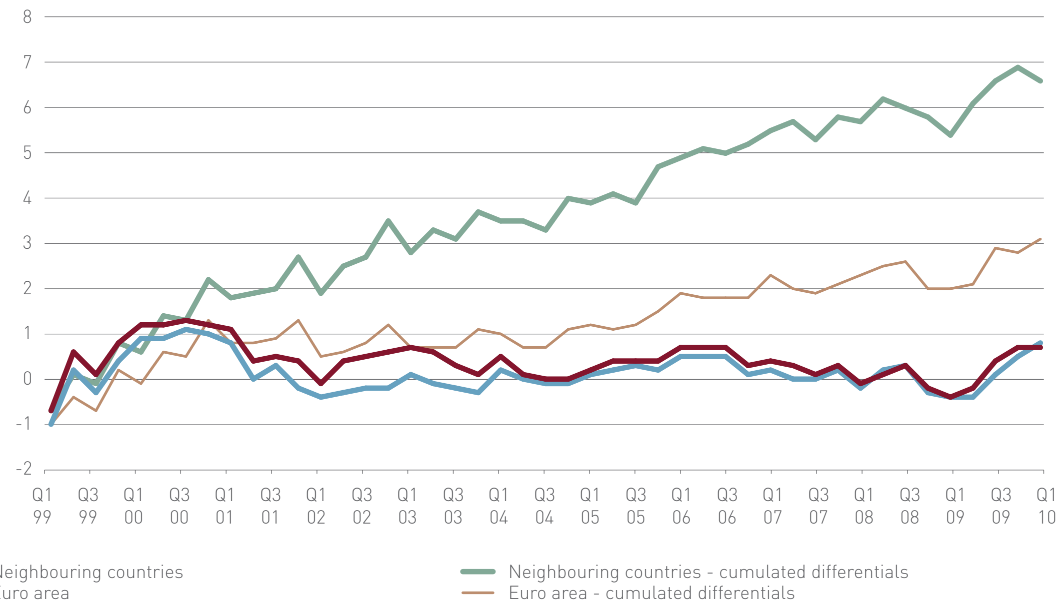
The HICP index was even more volatile, as the annual inflation rate fell from 0.7% in December 2008 to -1.5% in July 2009, then turned positive again in November, rising to 2.5% in December 2009 and further to 3.0% in May 2010.

The reversal of the headline inflation rates and the recent adverse developments are exclusively the result of energy prices in the context of the renewed rise in the price of oil over the course of 2009. Excluding oil-related products, the inflation rates have been on a steady downward trend, falling from 2.4% in January 2009 to 1.7% at the end of 2009 and below 1.3% in May 2010.

Luxembourg's inflation differentials against the euro area and against the three neighbouring countries deteriorated again in the second half of 2009. Over the period from the beginning of phase III of EMU in 1999 to the beginning of 2010, Luxembourg's cumulated inflation differential stood at 3.2 percentage points vis-à-vis the euro area and 6.7 percentage points vis-à-vis Luxembourg's neighbouring countries (see chart).

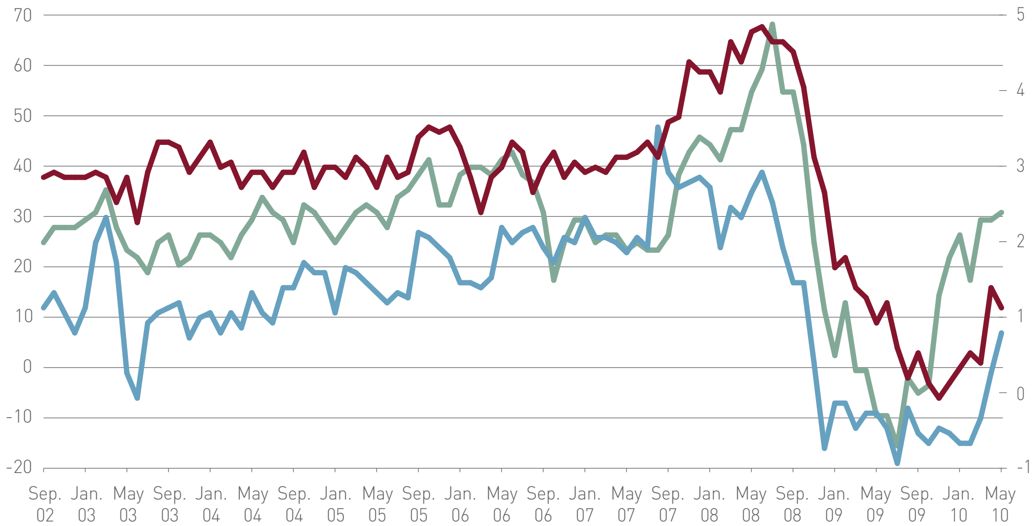
According to the BCL's consumer survey, qualitative inflation perceptions fell sharply from mid-2008 through early 2009, turned negative from August to the end of 2009, and then rebounded in the beginning of 2010. These sharp reversals were in line with the large swings observed in the headline inflation rates. Consumers' inflation expectations remained negative throughout 2009 in spite of headline inflation turning in mid-2009 and becoming positive towards the end of the year.

Chart 1.8: Inflation differentials (in percentage points)



Sources: Statec, Eurostat, own calculations

Chart 1.9: Consumer price inflation - observations, perceptions and expectations



Sources: BCL, Statec

Inflation projections

Assumptions

At the end of May 2010, the price of oil fluctuated around 80 USD per barrel and the financial markets were anticipating a rise to around 84 USD per barrel in June 2011. The quote for one euro against the dollar stood at 1.26, which corresponds to depreciation with respect to both the average of 2009 and the previous exercise.[1] On average, the price of oil in euros is expected to fall by 39% in 2010 compared to 2009. Compared to the previous exercise, this result is sharply higher owing to higher oil prices and to the depreciation of the euro against the dollar. Detailed assumptions are given in the following table.

Table 1.4: Asssumptions underlying the inflation projections

	2008	2009	2010	2010-Q1	2010-Q2	2010-Q3	2010-Q4	2011-Q1	2011-Q2
Price of oil in USD/barrel	98	62	79	77	81	79	81	82	83
Exchange rate USD/EUR	1.47	1.39	1.30	1.38	1.29	1.26	1.26	1.26	1.26
Price of oil in € (annual percentage changes)	24	-33	39	61	46	31	27	18	5

Source: BCL

The decline in inflation excluding energy is expected to come to an end soon. The inflation rates should first stabilise, and thereafter embark on an upward trend.

1 BCL, Bulletin 2010/1, pp.30-33

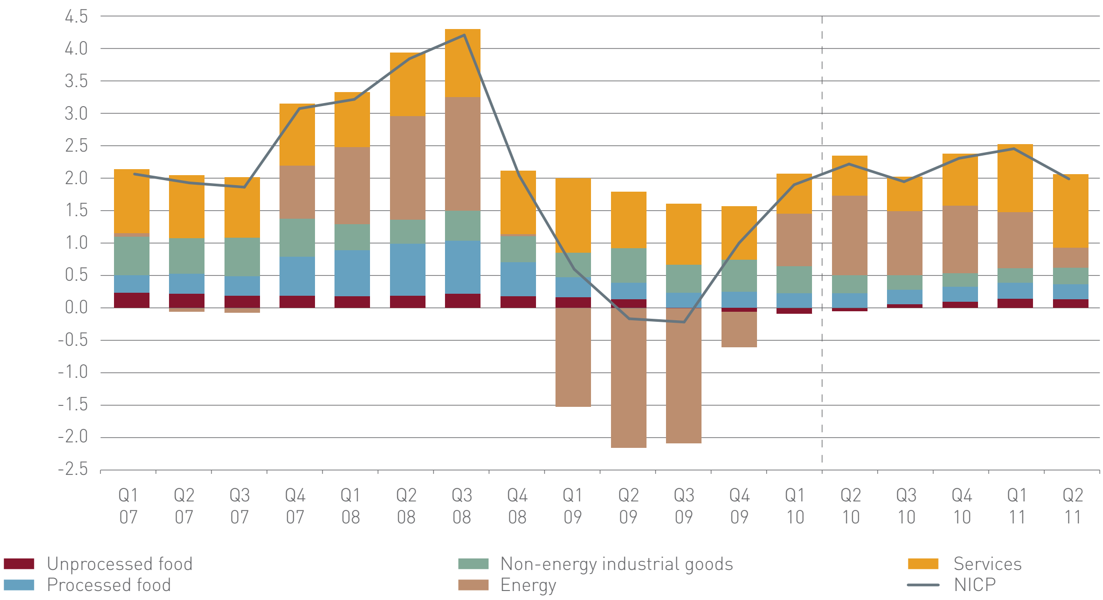
Indeed, the disinflation process should soon end as several driving forces have already reached or are about to reach a turning point. Industrial producer prices have already stabilised and could rise as a result of the doubling of oil prices since the end of 2008. The depreciation of the euro against the dollar will also lift the euro area's import prices. However, despite the higher input costs, demand seems insufficiently strong to induce a surge in consumer prices. The labour market could stabilise with the end of the recession, but the employment and unemployment dynamics would still constrain households' disposable income in the euro area. Luxembourg's imported consumer price inflation, as proxied by the Eurosystem's projections for HICP inflation in the euro area, is set to accelerate sharply in 2010, though it should remain below 2%, before stabilising thereafter. Services inflation would also soon reverse its downward trend as wages are set to re-accelerate sharply. The automatic 2.5% general wage hike, expected for mid-2010, and the adjustment in the minimum wage announced for January 2011 would drive services inflation above 2.5%.

Results

On the basis of the euro oil price assumptions, the contribution of the energy component to headline inflation would remain positive throughout the whole projection horizon (see chart). On average, the HICP energy index would increase by 13% in 2010, before dropping off to around 6% in the first half of 2011. Compared to the previous exercise, the projections for the energy component of inflation have been sharply revised up, in line with the adjustments to the common assumptions.

The projections for the HICP and the NICP excluding energy remain largely unchanged. NICP ex energy inflation would drop from 1.8% in the second half of 2009 to 1.3% in 2010. Thereafter, the prospects would deteriorate as the expected wage dynamics would push it close to 1.9% in the first half of 2011.

Chart 1.10: Contributions to NICP inflation



Sources: Statec, BCL projections

Table 1.5: Inflation projections and revisions compared to the previous exercise (in annual percentage changes, resp. in percentage points)

	2009	2010	2010-1st half	2010- 2nd half	2011-1st half
NICP	0.4	2.2 (0.6)	2.1 (0.4)	2.2 (0.8)	2.3
NICP ex energy	1.9	1.3 (0.1)	1.2 (-)	1.3 (0.1)	1.9
HICP	0.0	2.9 (0.8)	3 (0.5)	2.9 (1.1)	2.7
HICP energy	-15.9	13.1 (7.0)	14 (5.3)	12.2 (8.6)	6.2
HICP ex energy	2.3	1.7 (-)	1.6 (-0.1)	1.8 (0.1)	2.2
Impact of government measures on the NICP, in pp	0.1	0.3			
Impact of government measures on the HICP, in pp	0.5	0.7			

Source: BCL

Headline inflation accelerated to 2.4% in May 2010. It could moderate close to 2.0% in the coming months before rising again towards the end of the year. Except for one or two months, the monthly inflation rates are also projected to remain above 2.0%. On average, headline inflation in 2010 is expected at 2.2% for the NICP and 2.9% for the HICP. These rates are considerably higher than the corresponding 2009 averages, the historical average and the average inflation rates projected for the neighbouring countries.

The automatic wage indexation scheme as it prevailed prior to the 2006 Tripartite agreement has been re-introduced as of January 2010. On the basis of these inflation projections, the next 2.5% automatic wage increase would be due in mid-2010, a few months earlier than previously projected.

1.2.1.2 Industrial producer prices

Industrial producer prices decreased on average by 8.3% in 2009. This price development was mostly due to both energy and intermediate good prices. Prices for consumption and capital goods increased, but at a more moderate pace.

The last figures indicate an increase in industrial producer prices during the first quarter of 2010 (+1.0%, after +0.4% during the fourth quarter of 2009). The breakdown reveals that a price decline was recorded for all sectors during the first quarter of 2010, except for intermediate goods.

The available data from the harmonized business surveys, however, suggest that the increase in prices by producers should continue over the next few months.

Table 1.6: Industrial producer prices (changes with respect to the previous period)

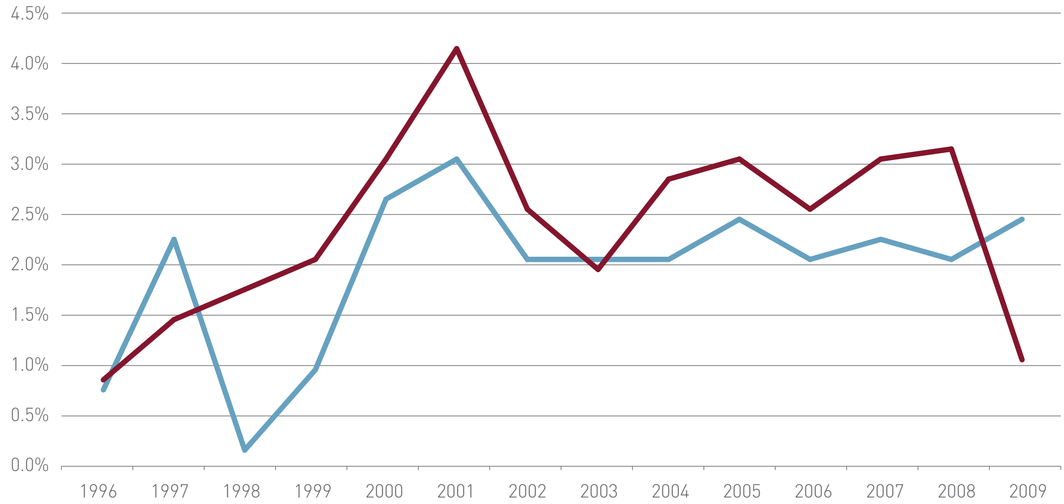
	2008	2009	2008-T4	2009-T1	2009-T2	2009-T3	2009-T4	2010-T1
Total	7.8	-8.3	-2.2	-4.6	-5.9	-1.7	0.4	1.0
Intermediate goods	7.4	-14.2	-3.9	-6.8	-9.9	-2.6	0.6	2.5
Capital goods	4.5	1.5	1.0	-0.2	0.0	0.6	0.7	-1.1
Consumer goods	1.9	2.6	0.5	1.6	-0.3	-0.1	0.8	-0.6
Energy	17.0	-0.8	0.0	-4.3	-0.4	-1.4	-0.5	-1.0

Source: STATEC

1.2.1.3 Construction prices

The price of construction services rose by 1.1% over the course of 2009 (after +3.2% in 2008). This moderate increase probably reflected price developments observed in the intermediate sector during 2009. Moreover, the overall moderation of wage growth in 2009 has certainly caused a slight drop in salary costs in the construction sector as labour is a significant input in the construction sector.

Chart 1.11: Construction prices



Sources: Statec, BCL calculations

Box 1.1:

PRICE AND COST COMPETITIVENESS – RECENT DEVELOPMENTS AND PERSPECTIVES FOR 2010-12

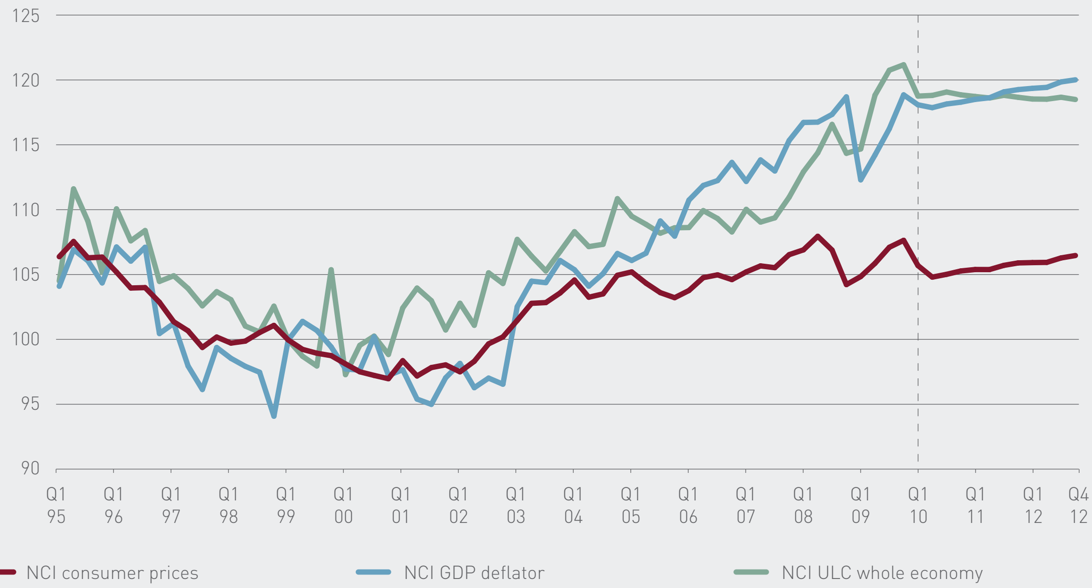
In 2009, the price and cost competitiveness indicators returned to the deteriorating trend that has marked them since 1999. As anticipated in the last annual report, the brief improvement in 2008 was a transitory phenomenon rapidly reversed in 2009 given the acceleration of inflation. According to the results of the recent Eurosystem projection exercise, the deterioration of Luxembourg's competitiveness should continue through 2012, although at a slower speed.

The competitiveness indicators calculated by the BCL are real measures of the effective exchange rate, where different price or cost variables are used as deflators. These indicators compare prices/costs in Luxembourg with a weighted average of prices/costs in Luxembourg's main trading partners[1] all expressed in a common currency. The weight attached to each trading partner reflects its importance in Luxembourg's external trade.[2]

1 The trading partners considered include the 26 other members of the European Union and eleven additional countries: Switzerland, Norway, USA, Canada, Japan, Australia, New Zealand, South Korea, Mainland China, Hong Kong and Singapore.

2 There has been a methodological change since the last publication. Different country weights are now used for the periods 1998-2000, 2001-2003 and 2004-2006, to better capture the changing structure of international trade.

Chart 1: National Competitiveness Indicators based on consumer prices, GDP deflator and unit labour costs in whole economy



Sources: Eurosystem and BCL calculations

The graph illustrates Luxembourg's competitiveness indicators extended through 2012 using the recent Eurosystem projections.[3] For each curve, an increase signals that prices or costs are increasing faster in Luxembourg than in its trading partners (deteriorating competitiveness). The indicator based on consumer prices fell sharply in the second semester of 2008, but for the year as a whole it registered a deterioration of +0.73%. It then rose through-out 2009, almost reaching its historical peak of 2008Q2. According to the projections, there should be an improvement again in 2010 (-1%), but a deterioration in 2011 (+0.38%) and in 2012 (+0.53%).

According to the most recent national accounts figures, the indicator based on the GDP deflator improved by -1.70 % in 2009. The projections anticipate a sharp deterioration in 2010 (+2.4%) and slower deterioration in 2011 and 2012 (+0.7 %). Thus, this indicator should deteriorate over the whole projection horizon, but at a rate below its historical average since 1999Q1 (+1.66 %).

The indicator based on unit labour costs in the whole economy deteriorated strongly in 2008 (+4.3%). Revisions to the underlying data led to a new deterioration in 2009 (+3.76%). According to the projections, cost-competitiveness should slightly deteriorate in 2010 (+0.6%) and slightly improve in 2011 and 2012 (-0.13%).

3 The years 2010-2012 are based on projections of the deflators for the 16 euro area countries and technical assumptions for the UK, Switzerland, USA and Japan.

1.2.2 Sectoral developments

1.2.2.1 Industry

The industrial production per working day index, which is corrected for price developments, fell sharply in 2009. The sectoral breakdown of production per working day suggests fairly heterogeneous developments in the different sectors in 2009. Production of both consumption goods and energy decreased only slightly compared to 2008, whereas the other sectors experienced a large fall in production levels. The latest data indicate that during the first quarter of 2010, the production per working day went up in all branches of the industrial sector excluding capital goods. The confidence indicator based on harmonised monthly business surveys has continued to improve since the beginning of the year 2010. It therefore suggests that industrial production should continue to rise in Luxembourg over the coming months.

Table 1.7: Indicators for the industrial sector (in annual percentage changes)

	2008	2009	2008-T3	2008-T4	2009-T1	2009-T2	2009-T3	2009-T4	2010-T1
Production per working day (ppwd)- Industry	-5.3	-16.3	2.1	-17.9	-24.7	-21.3	-17.3	1.5	14.6
Intermediate goods (ppwd)	-7.0	-16.6	1.7	-22.7	-29.1	-24.7	-17.4	12.4	24.0
Capital goods (ppwd)	-0.3	-30.4	3.6	-13.2	-30.5	-34.1	-31.9	-24.4	-9.4
Consumer goods (ppwd)	-6.0	-4.9	-0.4	-14.2	-15.7	-5.1	-5.3	8.6	18.8
Energy (ppwd)	-6.0	-2.7	2.0	-10.7	-8.0	0.1	-2.4	0.5	8.8

Source: STATEC

1.2.2.2 Construction

In 2008 and in the beginning of 2009, the construction sector showed some signs of resilience. In 2009, turnover accelerated to 12%, and production per working day (ppwd) increased by 1.1%. Over the first quarter of 2010, ppwd and hours worked decreased slightly, probably because of bad weather conditions.

The economic indicators related to the housing sector indicate a fresh decline in building permits in 2009, while apartment prices decreased by 2.1% over the same period. The latest figures indicate that apartment prices rose by 3.2% in comparison with the preceding quarter during the first quarter of 2010. The number of new loans to households (for house purchases) increased by 34.2% in 2009. Over the same period, the amount of outstanding loans to households (for house purchases) decreased significantly.

Table 1.8: Indicators for the construction sector (in annual percentage changes)

	2008	2009	2008-T3	2008-T4	2009-T1	2009-T2	2009-T3	2009-T4	2010-T1
Turnover - Total	2.3	12.0	4.2	2.9	-2.6	15.9	2.4	29.1	-4,4
Production per working day -Total	-2.0	1.1	-1.0	-3.8	0.7	-3.9	5.6	3.1	-1,3
Hours worked	-0.2	-0.9	1.5	-1.6	0.2	-2.4	3.5	-4.9	-2,0
Building permits	-18.6	-8.5	2.6	-26.7	-36.7	6.7	-2.8	-4.4	-
Loans for house purchase - outstanding amounts	10.7	6.4	10.6	8.4	6.9	6.2	5.8	6.7	6,6
Loans for house purchase - new business	13.8	34.2	43.1	-13.4	7.6	16.8	41.7	70.0	6,4
Mortgage rates	4.9	2.4	5.1	4.6	3.1	2.3	2.0	2.0	2,0

Source: STATEC

1.2.2.3 Trade and other sectors

In 2009, turnover in wholesale trade decreased significantly. Turnover in retail trade was rather stable. However, retail trade data need to be interpreted carefully as they are affected by e-commerce activities. After correcting for these activities, the turnover growth rate would have been -0.4% in 2009. Car registrations declined strongly in 2009, while motor vehicle repair saw a marked decrease in sales. Developments in the other service sectors have been rather heterogeneous (see table).

The latest available statistics in these areas show a more favourable outlook. Car registrations increased by 11% over the first three months of this year, in comparison to the same period in 2009. The latest statistics indicate notable increases in turnover in retail sales and the transport sector over the two first months of the year 2010.

Table 1.9: Turnover and car registrations (in annual percentage changes)*

	2008	2009	2008-T3	2008-T4	2009-T1	2009-T2	2009-T3	2009-T4	2010-T1**
Car registrations	2.0	-9.7	10.7	-6.7	-10.4	-12.4	-11.8	-9.7	11.0
Trade and Repair of motor vehicles and motorcycles	3.5	-9.8	4.8	5.4	-3.5	-14.7	-13.6	-6.7	-13.1
Wholesale excluding motor vehicles and motorcycles	-3.1	-15.3	-3.4	-16.5	-19.6	-32.5	-12.3	10.5	-2.4
Retail trade	6.2	-0.1	7.9	-0.3	-3.6	-5.2	-1.5	9.7	9.2
Retail trade (corrected for mail order)	2.6	-0.4	3.5	-0.8	-2.0	-1.9	-2.0	4.0	1.0
Transport	8.7	-15.0	9.2	8.8	-13.6	-21.5	-12.8	-12.4	12.1
Programming, consultancy and other computing activities	0.5	5.4	16.3	-13.1	23.2	3.7	-3.4	-0.8	-8.7
Legal, accounting and business consultancy activities	12.0	-10.5	4.1	5.9	5.0	-20.8	0.8	-23.8	5.8

* Value.

** Data recover the January-February 2009 and 2010 period for all series except car registrations.

Source: STATEC

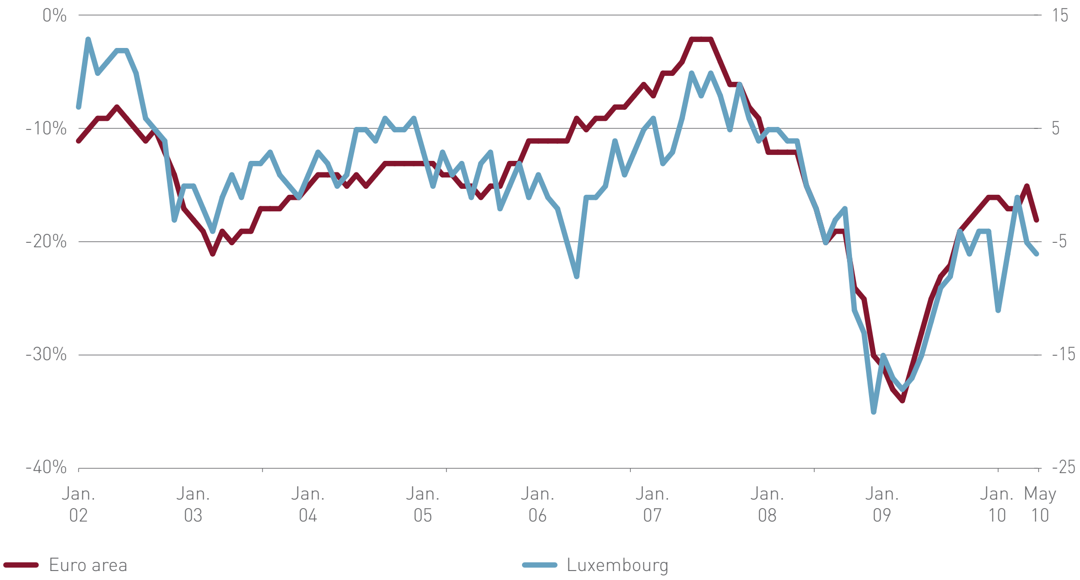
1.2.3 Consumer survey

Consumer confidence in Luxembourg[2] has been on a downtrend since mid-2007, which coincided with the start of the financial turmoil, reaching its historical minimum in December 2008. Consumer confidence then improved throughout 2009. Since the beginning of 2010, its movements have been more volatile than those of the euro area. The latest data nevertheless suggest a halt of the improvement in both European and Luxembourg consumer confidence since the beginning of this year.

The latest consumer survey dates from May 2010, and it indicates that the consumer confidence indicator has slightly decreased. Different components of the indicator, however, behaved in different ways. Consumers' expectations as regards the general economic situation in Luxembourg and their financial situation declined markedly in May, while consumers' expectations as regards unemployment in Luxembourg improved for the fourth time in a row. Finally, consumers' expectations as regards their savings improved since April.

2 The consumer survey carried out in Luxembourg is part of the Joint Harmonised EU Programme of Business and Consumer Surveys and is co-financed by the European Commission.

Chart 1.12: Consumer confidence indicators (seasonally adjusted data)



Sources: BCL and European Commission

1.2.4 Economic growth

The first release of national accounts data for 2009 has highlighted the depth of the recession. Even though all GDP components, except for public consumption, have contributed to the negative output growth (-3.4%), the evolution of GDP is essentially due to the negative contribution of net exports (-0.3 p.p.) and domestic demand (-3.5 p.p.).

The negative contribution of foreign trade is mainly due to the decrease in exports (-7.6% in 2009 after 1.5% in 2008), but this effect has been mitigated by the parallel and slightly higher (in percentage terms) decrease in imports (-9.2% in 2009 after 3.3% in 2008). Beside exports, the deterioration in gross capital formation (-17.1% in 2009) has been the main driver of the negative contribution of domestic demand to GDP growth. Furthermore, as a result of the deterioration in the labour market, private consumption growth has dropped by 4.5 percentage points to -0.6% in 2009.

Although the increase in compensation per employee slowed for the second year in a row (from 3.6% in 2007 to 2.0% in 2008 and 1.7% in 2009), reflecting the deterioration in the labour market, unit labour costs have continued to rise as a result of the decrease in labour productivity for the second year in a row (-4.3% in 2009 after -4.5% in 2008). These figures should be interpreted with caution as they are subject to future revisions.

The latest available evidence suggests that the domestic economy has picked up again recently. In fact, quarterly data point to the rebound of GDP growth since the third quarter of 2009. On the labour market, even though employment growth remains historically low, it has strengthened since the second half of 2009.

Table 1.10: Annual national accounts: first estimate of 2009 real GDP growth

	April 2010 national accounts								Contributions to GDP growth							
	Yearly rate of change															
	2002	2003	2004	2005	2006	2007	2008	2009	2002	2003	2004	2005	2006	2007	2008	2009
Domestic demand (excluding stocks)	2.6	0.5	3.3	5.2	2.2	4.2	3.2	-4.7	2.9	1.1	1.6	4.0	0.9	3.4	1.6	-3.5
Private consumption	5.8	-5.3	2.2	2.6	2.7	2.8	3.9	-0.6	2.4	-2.2	0.8	1.0	1.0	0.9	1.2	-0.2
Public consumption	4.6	4.1	4.5	3.3	2.8	2.9	3.0	2.9	0.7	0.7	0.7	0.6	0.5	0.4	0.4	0.4
Gross Capital Formation	-4.4	8.8	4.4	11.1	0.8	7.6	2.3	-17.1	-1.1	1.9	1.0	2.4	0.2	1.5	0.5	-3.4
of which:																
a) Gross fixed capital formation	5.5	6.3	2.7	2.5	4.7	12.6	-0.1	-14.9	1.2	1.4	0.6	0.5	1.0	2.4	0.0	-2.9
b) Changes in inventories	-64	-173	-318	-4	144	-48	96	35	-0.8	-0.7	1.0	0.0	0.7	-0.5	0.5	0.4
c) Acquisitions less disposals of valuables	-259.0	-126.8	-232.6	-540.5	-97.8	-1 105.4	-2.2	274.5	-1.5	1.2	-0.6	1.9	-1.5	-0.4	0.0	-0.9
Net exports	11.3	5.9	7.8	6.2	15.6	11.4	-6.3	-0.8	2.0	1.1	1.9	1.5	4.0	3.6	-2.1	-0.3
Imports	0.8	6.9	11.8	4.2	12.9	8.3	3.3	-9.2	-1.0	-8.4	-13.3	-5.3	-16.8	-11.4	-4.8	12.9
Exports	2.1	6.8	11.1	4.5	13.3	8.8	1.5	-7.6	3.0	9.5	15.2	6.8	20.7	14.9	2.7	-13.1
Gross Domestic Product	4.1	1.5	4.4	5.4	5.6	6.5	0.0	-3.4	4.1	1.5	4.4	5.4	5.6	6.5	0.0	-3.4
GDP deflator	2.1	6.0	1.8	4.6	6.8	3.0	5.0	-0.7								
Employees	3.4	1.9	2.4	3.1	3.9	4.7	4.9	0.9								
Total employment	3.2	1.8	2.2	2.9	3.6	4.4	4.7	0.9								
Compensation per employee	3.1	1.1	3.3	4.6	3.3	3.6	2.0	1.7								
Labour producivity	0.8	-0.3	2.1	2.5	1.9	2.0	-4.5	-4.3								
Unit labour cost	2.2	1.4	1.2	2.1	1.4	1.6	6.8	6.3								
Profit margins	-0.2	4.6	0.5	2.5	5.4	1.3	-2.0	-6.7								

Sources: STATEC, BCL calculations

Box 1.2:

POTENTIAL OUTPUT – A VERY GRADUAL EXIT FROM THE CRISIS

Table 1: Estimates of the output gap and potential growth

	Real GDP (bn EUR)	Linear Trend	Hodrick-Prescott	Harvey-Jaeger	Kuttner	Apel-Jansson	Production Function
		Output Gap Estimates					
2005	26.24	3.0%	0.7%	0.7%	0.7%	-1.2%	0.8%
2006	27.71	3.8%	2.8%	2.7%	2.8%	0.4%	2.3%
2007	29.50	5.5%	6.1%	5.9%	6.1%	3.1%	4.3%
2008	29.51	0.9%	3.1%	2.8%	3.1%	0.2%	0.2%
2009	28.50	-7.1%	-2.9%	-3.5%	-2.9%	-5.6%	-4.5%
2010	29.34	-8.7%	-2.5%	-3.3%	-2.5%	-4.7%	-2.4%
2011	30.00	-10.8%	-2.4%	-3.4%	-2.4%	-4.1%	-0.8%
2012	30.99	-12.3%	-1.7%	-3.0%	-1.7%	-2.9%	1.2%
	Revisions	Output Gap Revisions with respect to estimates published in 2008					
2005	0.1%	-0.1%	-0.5%	-1.5%	-3.9%	3.0%	-0.2%
2006	-0.7%	-0.9%	-1.8%	-2.4%	-5.0%	4.1%	-1.5%
2007	0.5%	0.3%	-1.0%	-1.3%	-4.8%	5.2%	-2.2%
2008	1.4%	1.3%	-0.6%	-0.8%	-1.5%	0.7%	-3.2%
2009	2.8%	2.6%	0.2%	0.1%	2.7%	-2.2%	-1.7%
	Real GDP growth	Potential Growth Estimates					
2005	5.4%	4.7%	3.7%	3.8%	5.7%	4.3%	3.8%
2006	5.6%	4.7%	3.4%	3.4%	5.3%	3.9%	4.0%
2007	6.5%	4.7%	2.8%	3.0%	5.8%	3.6%	4.3%
2008	0.0%	4.7%	3.1%	3.3%	0.6%	3.0%	4.3%
2009	-3.4%	4.7%	2.6%	2.8%	-1.1%	2.0%	1.1%
2010	2.9%	4.7%	2.5%	2.8%	4.9%	2.1%	0.8%
2011	2.3%	4.7%	2.4%	2.7%	3.1%	1.8%	0.7%
2012	3.2%	4.7%	2.4%	2.7%	3.3%	1.9%	1.2%
	Average real growth	Average potential growth					
1985-2009	4.7%	4.7%	4.6%	4.7%	4.6%	4.7%	4.7%
2001-2009	3.0%	4.7%	3.7%	3.8%	3.4%	4.0%	3.9%

Sources: BCL calculations, STATEC data

According to the most recent projections, potential growth in Luxembourg will remain weak over the horizon 2010-2012. The estimates are surrounded by significant uncertainty, but most of the methods[1] implemented in this box anticipate a fall in potential growth towards a range between 2% and 3%. It bears repeating that these potential growth estimates are not the basis of the BCL projections but are conditioned on its results. Thus, they incorporate the assumption that the financial crisis will have a persistent effect on Luxembourg's growth, consistent with the experience of such crises in other countries.[2] The effects of the crisis should appear as a joint fall in the level of potential output and its rate of growth. In a context of weak international demand, expected growth in Luxembourg should not return to its historical average even in 2012. Of course, the high degree of uncertainty means that growth could be stronger than anticipated, especially if foreign demand recovers more strongly than expected. In its latest country report for Luxembourg, the OECD stresses that

1 For more details, see BCL Working Paper No. 4.

2 European Commission, DG ECFIN (2009) "Impact of the current economic and financial crisis on potential output," European Economy Occasional Paper 49.

international reforms of financial regulation represent a major challenge for our financial centre, but also an opportunity to take advantage of new markets, which could allow a return to higher potential growth once cyclical effects dissipate.[3]

According to all the methods considered here, the real contraction of GDP in 2009 changed the sign of the output gap,[4] which in 2008 ranged from +0.2% to +3.1% and in 2009 ranged from -7% to -2.9%. This confirms the assessment already published in the 2008 BCL Annual Report. It seems likely that observed GDP has fallen below its potential level.

As indicated in the table, the linear trend method provides an implausible estimate of the output gap in 2009 (-7%), and the estimates for 2010-2012 suggest an endpoint bias. According to the other methods, the output gap in 2009 ranged between -2.9% and -5.6%. The Apel-Jansson model finds the largest output gap, partly because it considers inflation and unemployment developments. Very low inflation in 2009 and the rapid increase in unemployment represent two signs of low tensions on the factor markets, thus suggesting a higher level of potential output. This results in a more negative output gap.

3 OCDE (2010) Luxembourg, Economic Surveys volume 2010/5, text box 1.1.

4 The output gap is the distance between observed GDP and potential GDP measured as a percentage of potential GDP.

According to the 2010-2012 projections, all the methods (except the linear trend) anticipate a gradual fall in the output gap. A positive gap appears at the end of the horizon only according to the production function approach.

Turning to potential growth, the linear trend is the only method to assume this is unchanged through the business cycle. For the other methods, estimated potential growth in 2009 is below 3%. This is the opposite situation to what was forecast for 2009 two years ago. For the 2010-2012 projections, potential growth is expected between 0.7% (production function) and 3.3% (Kuttner). This range is consistent with projections of Luxembourg potential growth published by other institutions.

Table 2: Luxembourg Potential Growth Estimates

	2010	2011
European Commission (April 2010 forecasts)	2.1 %	2.5 %
Statec (Note de Conjoncture 2-09, November 2009)	2.0 %	2.5 %
OECD (Economic Outlook 86, November 2009)	1.7 %	2.3 %

Sources: European Commission, Statec, OECD.

1.2.5 Financial sector

During the year 2009, the number of credit institutions in Luxembourg declined by three overall compared to 2008, from 152 to 149. This is the result of four new constitutions, three mergers and four liquidations. In January 2010, the number of registered credit institutions increased by one unit and then, in April, one merger occurred. Therefore, as of end of May 2010, the number of credit institutions in Luxembourg is 149.

1.2.5.1 Credit institutions' balance sheets

Between December 2008 and December 2009, the aggregated balance sheet of Luxembourg banks decreased by 14.4% (134 101 million euros) to reach 797 461 million euros at the end of 2009.

The year 2009 saw a decline of 96 892 million euros (-20.6%) in interbank loans on the asset side. Over the same period, loans to non-banking customers fell by 17 073 million euros (-8.3%) to 188 149 million euros.

The value of the investment portfolio fell by 7 167 million euros (-3.2%) in 2009, to reach 214 425 million euros. This moderate decline can be explained by the makeup of the portfolio, 91% of which is invested in fixed income securities, and only 9% in variable income securities. Lastly, other assets, which include derivative financial instruments, fell by 38.8% in 2009.

The conclusions derived from the asset side of the aggregated balance sheet can also be applied to the liability side. On an annual basis, outstanding interbank debts fell by 108 585 million euros, to reach the amount of 370 593 million at the end of 2009 (-22.7% compared to 2008). This drop could be explained by the reduction of liquidity operations managed by the central banks over the course of 2009.

The deposits from non-banking customers represented 266 619 million euros at the end of 2009, 7% less than at the end of 2008. These represent the second largest source of income for the banks.

Lastly, the outstanding amount of debt securities at the end of 2009 was 81 914 million euros, 2.3% more than at the end of 2008.

Table 1.11: Main figures relative to the asset side of the aggregate balance sheet (in million euros, outstanding amounts at the end of the period)

Assets	Amounts in million euros			Variation in million euros and in %				Relative weight [1]
				2008/12 - 2009/12		2009/12 - 2010/03		
	2008/12	2009/12	2010/03	in million euros	in %	in million euros	in %	2010/03
Interbank loans	471 281	374 389	352 740	-96 892	-20.6	-21 649	-5.8	45.2
Loans to non-banking customers	205 222	188 149	189 186	-17 073	-8.3	1 037	0.6	24.2
Portfolio investment	221 593	214 425	218 729	-7 167	-3.2	4 304	2.0	28.0
Other assets	33 466	20 497	20 155	-12 969	-38.8	- 342	-1.7	2.6
Total assets	931 562	797 461	780 811	-134 101	-14.4	-16 650	-2.1	100.0

1) Relative weight in relation to total assets.

Source: BCL

Table 1.12: Main figures relative to the liability side of the aggregate balance sheet (in million euros, outstanding amounts at the end of the period)

Liabilities	Amounts in million euros			Variation in million euros and in %				Relative weight [1]
				2008/12 - 2009/12		2009/12 - 2010/03		
	2008/12	2009/12	2010/03	in million euros	in %	in million euros	in %	2010/03
Interbank debts	479 178	370 593	350 862	-108 585	-22.7	-19 731	-5.32	44.94
Deposits to non-banking customers	286 692	266 619	266 274	-20 073	-7.0	- 345	-0.1	34.1
Debt securities issued	80 062	81 914	83 220	1 851	2.3	1 307	1.6	10.7
Other liabilities	85 630	78 336	80 455	-7 294	-8.5	2 119	2.7	10.3
Total liabilities	931 562	797 461	780 811	-134 101	-14.4	-16 650	-2.1	100.0

1) Relative weight in relation to total liabilities.

Source: BCL

Loans to non-bank residents

At the end of 2009, the amount of outstanding loans granted to non-bank residents of Luxembourg was 62 936 million euros, compared to 64 722 million euros at the end of 2008. During the final quarter of 2009, these loans fell by 8.5% (5 871 million euros). A major reason for this decrease was the strong decline in the demand for loans from other financial intermediaries. However, during the first quarter of 2010, the amount of outstanding loans granted to non-bank residents rose by 2 338 million euros (+3.7%) to reach 65 273 million euros.

The evolution in the amount of loans granted to other financial intermediaries is mostly driven by the undertakings for collective investment (UCIs), which represent the main part of the other financial intermediaries in Luxembourg. The UCI's demand for loans is linked to the evolution of the financial markets; for example, when the markets started to fall, investors requested the compensation of their securities. To avoid selling securities during a time of uncertainty on the financial markets, the UCIs made recourse to bank loans. This explains why the end of the third quarter of 2008 was characterized by the unprecedented amount of 41 026 million euros of loans granted to other financial intermediaries, while at the end of 2009 the outstanding amount of loans was only 26 676 million euros. However, they rose again to 28 220 million euros during the first quarter of 2010.

Unlike loans granted to other financial intermediaries, the outstanding amount of loans granted to insurance corporations and pension funds was relatively low, 180 million euros, at the end of 2009.

The recourse of the general government to bank loans in 2009 (2 457 million euros) was quite stable compared to 2008. This stability could be explained by the December 2008 bond issue of two billion euros, which prevented the need for further bank loans.

Outstanding loans to resident households increased by 8.1% in 2009, to reach 19 131 million euros. This increase is mainly due to a growth in mortgage loans of 941 million euros in 2009. In December 2009, 82.8% of the loans to resident households were granted for real estate projects.

Table 1.13: Credits granted by credit institutions to non-bank residents (in million euros, outstanding amounts at the end of the period)

	Amounts in million euros			Variation in million euros and in %				Relative weight [1]
				2008/12 - 2009/12		2009/12 - 2010/03		
	2008/12	2009/12	2010/03	in million euros	in %	in million euros	in %	2010/03
Total	**64 722**	**62 936**	**65 273**	**-1 786**	**-2.8**	**2 338**	**3.7**	**100.0**
General government	2 406	2 457	2 415	50	2.1	- 42	-1.7	3.7
Other financial intermediaries / Financial auxiliaries	27 950	26 676	28 220	-1 274	-4.6	1 543	5.8	43.2
Insurance corporations / Pension funds	247	180	195	- 68	-27.3	15	8.5	0.3
Non financial corporations	16 427	14 492	15 206	-1 934	-11.8	713	4.9	23.3
Households / Non profit institutions serving households	17 691	19 131	19 238	1 440	8.1	107	0.6	29.5

1) Relative weight to total credit to non-bank residents.

Source: BCL

Deposits of non-bank residents

At the end of 2009, the outstanding amount of deposits by non-bank residents received by credit institutions amounted to 145 469 million euros, as against 166 157 million euros at the end of 2008 (12.5% less). However, during the first quarter of 2010, this amount rose by 5 401 million euros.

The deposits from the other financial intermediaries represent the largest part of the deposits received by the credit institutions. At the end of 2009, the amount of outstanding deposits from the other financial intermediaries was 96 700 million euros, 18.3% less than in 2008. This decline could be explained by the revival of the financial markets in 2009, which encouraged the financial intermediaries to turn away from safe savings products (like bank deposits) to invest in the markets.

Households and non-profit institutions serving households held 15.8% of bank deposits in December 2009 (22 765 million euros), 1% less than at the end of 2008.

The central government's deposits declined strongly in 2009. Indeed, the outstanding amount of the central government's deposits was 3 344 million euros at the end of 2009, as against 5 354 million euros the previous year (37.5% less). However, in the first quarter of 2010, the amount of these deposits increased by 568 million euros (17%) to reach 3 912 million euros.

Deposits by non-financial corporations rose by 18.1% in 2009, which brings their outstanding amount to 16 976 million euros. This rise continued during the first quarter of 2010.

Table 1.14: Non-bank residents deposits received by credit institutions (in million euros, outstanding amounts at the end of the period)

	Amounts in million euros			Variation in million euros and in %				Relative weight [1]
				2008/12 - 2009/12		2009/12 - 2010/03		
	2008/12	2009/12	2010/03	in million euros	in %	in million euros	in %	2010/03
Total	**166 157**	**145 469**	**150 870**	**-20 688**	**-12.5**	**5 401**	**3.7**	**100.0**
General government	5 354	3 344	3 912	-2 010	-37.5	568	17.0	2.6
Other financial intermediaries / Financial auxiliaries	118 422	96 700	99 366	-21 722	-18.3	2 667	2.8	65.9
Insurance corporations / Pension funds	5 006	5 684	5 455	678	13.5	- 229	-4.0	3.6
Non financial corporations	14 380	16 976	19 174	2 596	18.1	2 198	12.9	12.7
Households / Non profit institutions serving households	22 995	22 765	22 963	- 230	-1.0	197	0.9	15.2

1) Relative weight to total non-bank residents deposits.

Source: BCL

Box 1.3:

BANK DELEVERAGING AND THE IMPACT ON LOAN SUPPLY IN LUXEMBOURG

Since the onset of the financial turmoil, deleveraging in the financial sector has been a dominant characteristic of the world economy and a major propagation mechanism of the subprime crisis to the real economy. The aim of this box is to analyse the scale of this dynamic in the Luxembourg banking sector.

As the chart illustrates, the Luxembourg banking sector has been characterized by a deleveraging process since the third quarter of 2008. An examination of the aggregate bank balance sheet indicates that the deleveraging process has taken place through a simultaneous decrease in total assets and an increase in equity (between 2008Q4 and 2010Q1, -19.4% and +11.6% respectively).

More specifically, most of the balance sheet adjustment comes from the contraction of interbank activity, which amounted to around 70% of the drop in the size of total assets over the period under review. This is attributable to the importance of the interbank market in Luxembourg, and the substantial repatriation of international capital flows.

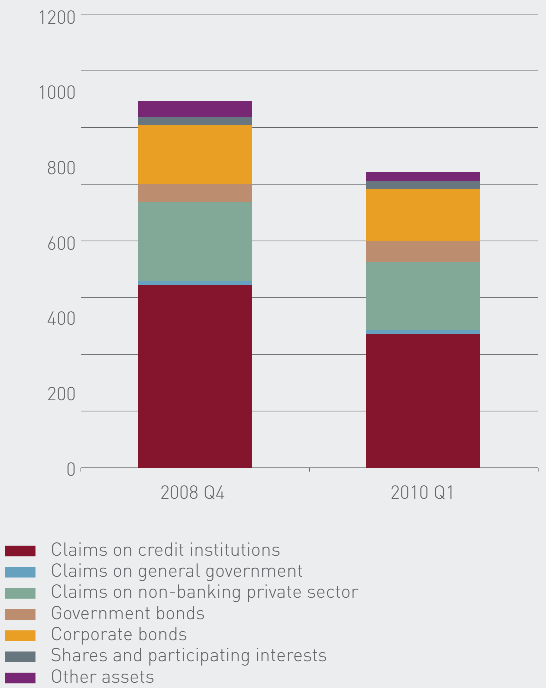
Moreover, the security portfolio has been reduced by 15 billion euros (7% of the size of the total asset reduction in the banking sector), and has at the same time been characterized by restructuring towards less risky assets (mostly government bonds).

Finally, the outstanding amount of credit to the non-banking private sector has been reduced by 35 billion euros (16% of the size of the total asset reduction in the banking sector) since October 2008. Financial corporations represented two third of this adjustment, while the non-resident non-financial corporate sector accounted for most of the remaining asset reduction.

Chart 1: Leverage ratio in the Luxembourg banking sector (assets/equity)

Source: BCL

Chart 2: Evolution of the size and structure of the Luxembourg banking sector asset (billion euros)



Source: BCL

Overall, the deleveraging process in the Luxembourg banking sector does not seem to have translated to date into a substantial drop in credit to the resident non-financial private sector. This conclusion is confirmed by the Bank Lending Survey, which indicates a relatively modest tightening of lending standards owing to refinancing difficulties and banks' capital position. According to this source of information, this phenomenon has contributed only marginally to the slowdown of credit to the resident non-banking private sector (and concerns mainly non-financial corporations), the demand-side and the deterioration of banks' risk perceptions being the main determinants.

Table 1: Evolution of the outstanding amount of credit by sector and geographical origin of the counterparty, 2008Q4 to 2010Q1 (billion euros)

	Credit to financial corporations	Credit to non-financial corporations	Credit to households
Luxembourg	- 7.9	-0.9	+1.7
Other euro area countries	-4.3	-5.1	+0.5
Rest of the world	-8.5	-4.5	-1.8

Source : BCL

1.2.5.2 Retail interest rates in Luxembourg

During 2009, main refinancing operations interest rates were reduced twice, by 50 basis points each time, on 21 January and 11 March, followed by two reductions of 25 basis points each, on 8 April and 13 May. The rates remain unchanged at 1.00% since 13 May 2009.

New financing conditions were quickly passed on to customers and non-financial corporations, either through reduced variable interest rates or reduced interest rates according to changed market conditions on new contracts.

The cost of new housing loan contracts with variable interest rate conditions decreased by 219 basis points between the end of December 2008 (4,22%) and the end of December 2009 (2,03%). At the end of the first quarter of 2010, a further interest rate increasing of 9 basis points was passed on to customers and drove housing loans with variable interest rates up to 2.00%. New housing loans contracts were set back to a historically feeble level of 1.91% at the end of January 2010.

End March 2010, domestic banks granted 300 million euros of housing loans for new business, compared to 326 million in 2009 and 238 million in 2008 (monthly average of the corresponding year).

After the first quarter of 2009, which was characterized by a slow downward trend for consumption loan rates, these rates rose and stabilized around 5% between the second quarter of 2009 and the end of the year. During first quarter of 2010, there was an even more significant decline due to the so-called Luxembourgish "car festival". Between December 2008 and December 2009, the cost of new business consumption loans with fixed interest rates over one and up to five years decreased by 103 basis points from 6.20% down to 5.17%. Between December 2009 and March 2010, this dropped by a further 143 basis points down to 3.74%.

The cost of consumption loans with fixed interest rates over five years, was reduced by 148 basis points between December 2008 (6.24%) and December 2009 (4.76%). From December 2009 until March 2010 costs in this category declined by another 51 basis points (4.25%).

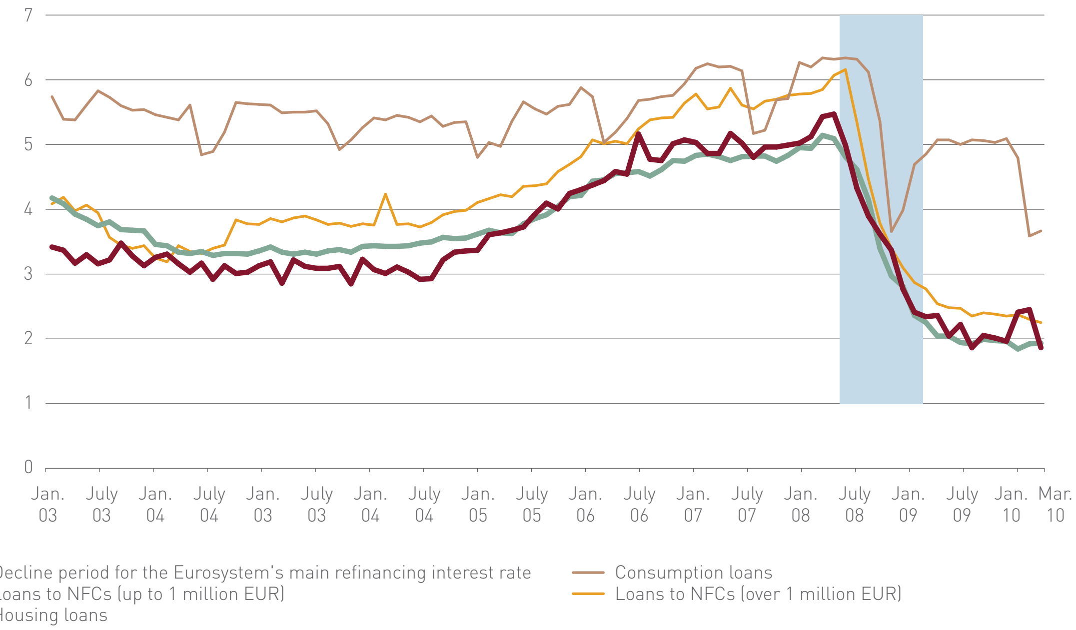
Interest rates on other loans category plunged between December 2008 (3.39%) and December 2009 (1.77%) by 162 basis points. This trend continued with a reduction of 1 basis point observed from December 2009 to March 2010 (1.76%). A majority of the other loans category is offered to non-domestic counterparts (mainly households out of Monetary Union).

The cost for new loans to non-financial corporations (NFCs) and for contracts below one million euros dropped by 213 basis points between December 2008 (4.54%) and December 2009 (2.41%) and by a further 9 basis points throughout the first three months of 2009 (2.32% in March 2010).

Regarding new contracts over one million euros, interest rates decreased by 194 basis points during 2009 and 10 basis points between December 2009 and March 2010, reaching a level of 1.93% as of the end of March 2010.

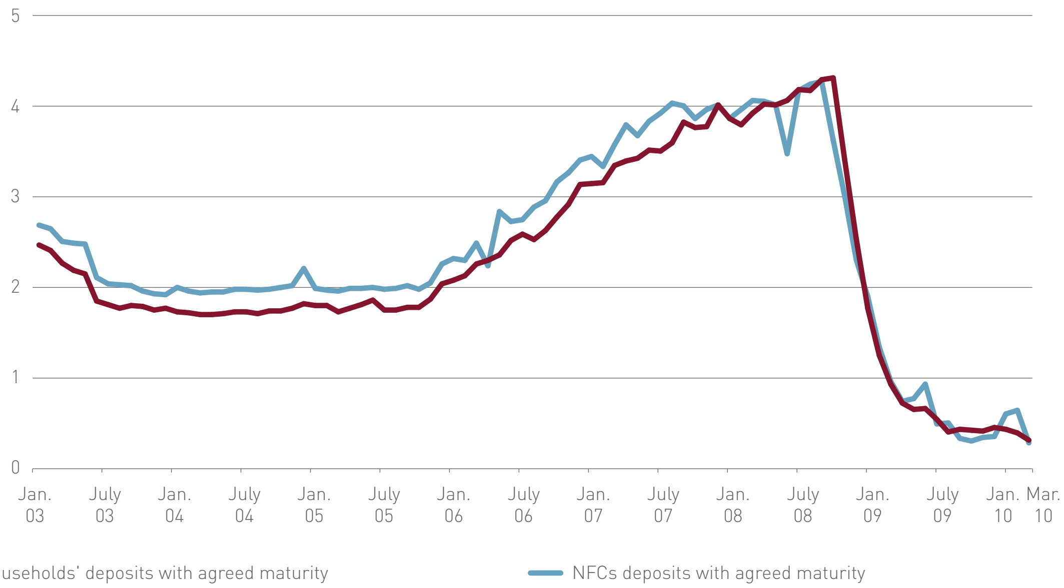
Between December 2008 (2.59%) and March 2010 (0.36%) term deposits rates (with maturities below one year) for households plunged by 223 basis points. Interest rates offered to non-financial corporations in the same category tumbled by 203 basis points from 2.36% in December 2008 down to 0.33% in March 2010.

Chart 1.13: Loans to households and to non financial corporations between January 2003 and March 2010 (in %)



Source: BCL

Chart 1.14: Households' and non financial corporations' deposits: development of interest rates between January 2003 and March 2010 (in %)



Source: BCL

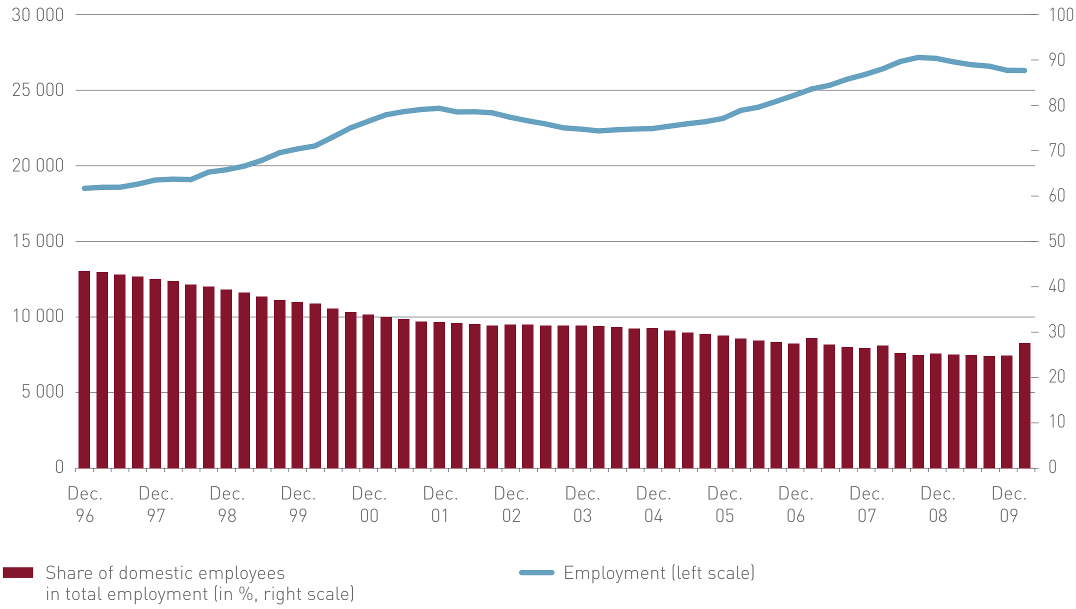
1.2.5.3 Employment in the banking sector

Employment in Luxembourg's banking sector decreased by 2.9% between December 2008 and December 2009. This represents a loss of 792 positions. Employment in the banking sector reached its peak in the third quarter of 2008 with 27 269 employees; since then this number has kept falling.

At the end of March 2010, 26 404 people were working in the banking sector in Luxembourg, compared with 26 416 at the end of December 2009.

The share of Luxembourgish employees in total employment, in the banking sector, accounted for 27.7% at end of March 2010. This share is higher than in previous years.

Chart 1.15: Evolution of the employment in the banking sector between December 1996 and March 2010



Source: BCL

1.2.5.4 Credit institutions' profit and loss accounts

Luxembourg credit institutions have achieved a result before provisions and tax of 6 190 million euros at the end of December 2009. This represents an increase of 3.4% compared to December 2008. The net result has strongly increased, from 177 million euros in 2008 to 2 627 million euros in 2009. Indeed, the depreciations and net provisions have fallen by 51.5% between 2008 and 2009.

Owing to the financial crisis, depreciations and net provisions were substantial in 2008. The decline in uncertainty has contributed to a reduction in depreciations and net provisions in 2009. However, one has to be cautious, as new depreciations or needed provisions, as a consequence of the economic situation, cannot be ruled out.

The results of the credit institutions in 2009 are characterized by a fall in the interest margin and by a rise in other net income due to an increase in the valuation of securities portfolios.

Table 1.15: Aggregate profit and loss account of Luxembourg credit institutions
Results of Luxembourg banks, including their foreign branches
(in million euros, outstanding amounts at the end of the period)

	Debit and credit items	2008	2009	Variation in million euros	Variation in %
1	Interest receivable	60 968	27 755	-33 213	-54.5
2	Income from securities	1 515	773	-742	-49.0
3	Interest payable	55 023	21 906	-33 117	-60.2
4	Interest margin (1+2-3)	7 460	6 622	-838	-11.2
5	Income from commission	3 801	3 188	-613	-16.1
6	Income from foreign exchange	384	103	-281	-73.2
7	Other net income	- 830	794	1 624	ND
8	Net income (5+6+7)	3 355	4 085	730	21.8
9	Gross income (4+9)	10 815	10 707	-108	-1.0
10	Staff costs	2 635	2 491	-144	-5.5
11	Other administrative expenditures	1 931	1 747	-184	-9.5
12	General administrative expenditures (10+11)	4 566	4 238	-328	-7.2
13	Write-downs of non-financial fixed assets	264	279	15	5.7
14	**Results before provisions and tax (9-12-13)**	**5 985**	**6 190**	**205**	**3.4**
15	Depreciations and net provisions	5 540	2 688	-2 852	-51.5
16	Result before tax	445	3 502	3 057	687.0
17	Tax on income and profit	268	875	607	226.5
18	**Net result**	**177**	**2 627**	2 450	1 384.2

1) Data has been verised in the light of new information.

Source: BCL

Profit

During the year 2009, the interest margin decreased by 838 million euros compared to 2008 (11.2% less). However, if one does not take into account the income from securities, the interest margin realized in 2009 would be close to that of 2008. Indeed, the year 2007 distinguished itself with excellent results, which led to high incomes from securities in 2008.

Furthermore, the interest receivable and the interest payable have respectively fallen by 54.5% and 60.2% compared to 2008. These drops can be explained by the decrease in the volume of activities and by lower interest rates.

Income from commissions fell by 16.1% in 2009, to reach the outstanding amount of 3 188 million euros.

The 1 624 million euros increase in other net income between 2008 and 2009 could be explained by the increase of the valuation of the securities portfolios held by the banks.

Altogether, gross income of banks has fallen by 1% during the year 2009. Its outstanding amount is 10 707 million euros.

Loss

Regarding costs faced by banks in 2009, general administrative expenditures have fallen by 7.2%, other administrative expenditures by 9.5%, and staff costs by 5.5%. However, staff costs have started to rise again during the last quarter of 2009, and this upward trend has continued during the first quarter of 2010.

Table 1.16: Quarterly profit and loss account of Luxembourg credit institutions[1]
Results of Luxembourg banks, excluding their foreign branches (in million euros, outstanding amounts at the end of the period)

						Variation in %			Variation in million euros		
	Debit and credit items	2009/03	2009/06	2009/09	2009/12	Variation from Q1 to Q2	Variation from Q2 to Q3	Variation from Q3 to Q4	Variation from Q1 to Q2	Variation from Q2 to Q3	Variation from Q3 to Q4
1	Interest receivable	10 752	6 047	5 623	4 874	-43.8	-7.0	-13.3	-4 705.0	-424.0	-749.0
2	Income from securities	157	250	100	258	59.2	-60.0	158.0	93.0	-150.0	158.0
3	Interest payable	8 887	4 641	4 337	3 651	-47.8	-6.6	-15.8	-4 246.0	-304.0	-686.0
4	Interest margin (1+2-3)	2 022	1 656	1 386	1 481	-18.1	-16.3	6.9	-366.0	-270.0	95.0
5	Income from commission	830	804	806	697	-3.1	0.2	-13.5	-26.0	2.0	-109.0
6	Income from foreign exchange	27	- 60	157	36	-322.2	-361.7	-77.1	-87.0	217.0	-121.0
7	Other net income	- 54	532	93	151	ND	-82.5	62.4	586.0	-439.0	58.0
8	Net income (5+6+7)	803	1 276	1 056	884	58.9	-17.2	-16.3	473.0	-220.0	-172.0
9	Gross income (4+9)	2 825	2 932	2 442	2 365	3.8	-16.7	-3.2	107.0	-490.0	-77.0
10	Staff costs	638	579	614	626	-9.2	6.0	2.0	-59.0	35.0	12.0
11	Other administrative expenditures	434	397	425	467	-8.5	7.1	9.9	-37.0	28.0	42.0
12	General administrative expenditures (10+11)	1 072	976	1 039	1 093	-9.0	6.5	5.2	-96.0	63.0	54.0
13	Write-downs of non-financial fixed assets	65	59	71	68	-9.2	20.3	-4.2	-6.0	12.0	-3.0
14	Results before provisions and tax (9-12-13)	1 688	1 897	1 332	1 204	12.4	-29.8	-9.6	209.0	-565.0	-128.0
15	Depreciations and net provisions	-1 115	-1 377	- 789	- 646	ND	ND	ND	-262.0	588.0	143.0
16	Result before tax	- 139	- 123	- 118	- 91	ND	ND	ND	16.0	5.0	27.0
17	Tax on income and profit	2 326	2 476	1 946	1 830	6.4	-21.4	-6.0	150.0	-530.0	-116.0
18	Net result	-2 122	-2 294	-1 757	-1 671	ND	ND	ND	-172.0	537.0	86.0

1) Discrepancies may arise from rounding.

Source: BCL

A comparison between the first quarter of 2009 and the first quarter of 2010 shows that the interest receivable and the income from securities are falling, and so are the interest payable and interest margin. However, total revenues, in particular foreign exchange income, are rising.

Table 1.17: Aggregate profit and loss account of Luxembourg credit institutions at the end of March 2009 & 2010.
Results of Luxembourg banks, excluding their foreign branches
(in million euros, outstanding amounts at the end of the period)

	Debit and credit items	2009/03	2010/03	Variation in %	Variation in million euros
1	Interest receivable	10 752	5 085	-52.7	-5 667
2	Income from securities	157	143	-8.9	- 14
3	Interest payable	8 887	3 775	-57.5	-5 112
4	Interest margin (1+2-3)	2 022	1 453	-28.1	- 569
5	Income from commission	830	917	10.5	87
6	Income from foreign exchange	27	115	325.9	88
7	Other net income	- 54	309	ND	363
8	Net income (5+6+7)	803	1 341	67.0	538
9	Gross income (4+9)	2 825	2 794	-1.1	- 31
10	Staff costs	638	685	7.4	47
11	Other administrative expenditures	434	444	2.3	10
12	General administrative expenditures (10+11)	1 072	1 129	5.3	57
13	Write-downs of non-financial fixed assets	65	67	3.1	2
14	Results before provisions and tax (9-12-13)	1 688	1 598	-5.3	- 90

Source: BCL

1.2.5.5 Undertakings for collective investment

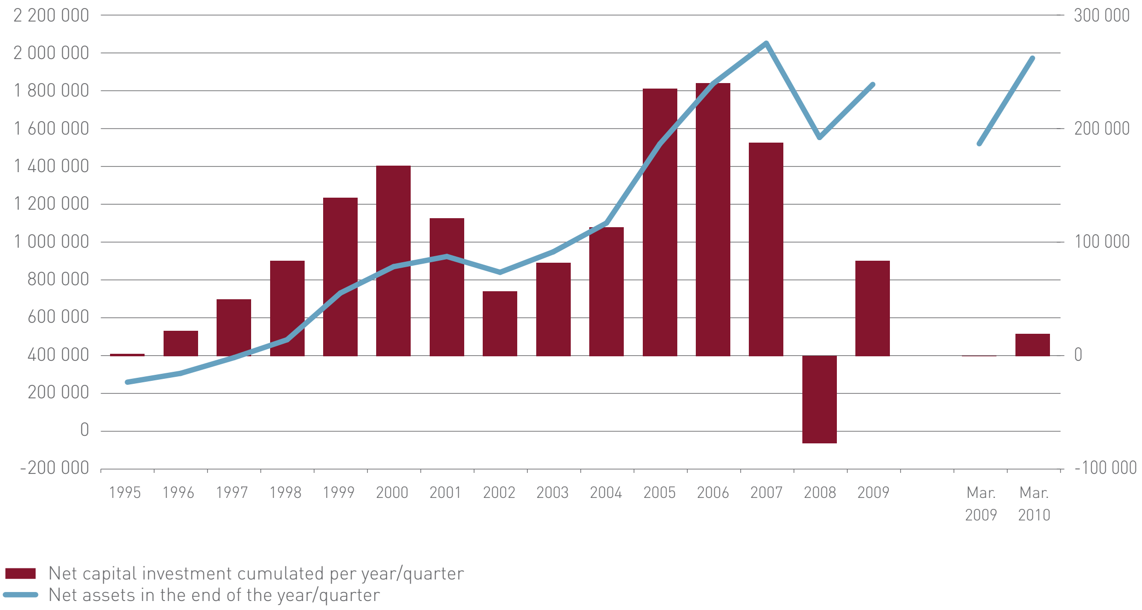
The evolution of the number of funds

At the end of 2009, the official list recorded 3 463 UCIs, compared to 3 372 at the end of 2008. This represents an increase by 91 units in 2009. The rate of creation of new UCIs has been slower in 2009 compared to previous years and with 53 new units, the rate of creation of new UCIs increases but remains quite low in the first quarter of 2010.

Net asset value

In 2009, the UCIs' net global property increased considerably. Between December 31, 2008 and December 31, 2009, the net asset value rose by about 281 billion euros to reach 1 840.9 billion euros, representing an increase of 18%. The upward movement of the net asset value had been noticeable since spring 2009 due to the good performance of financial markets. In parallel, a capital increase of 84.3 billion euros and a market effect of 196.9 billion euros were recorded for the year 2009. This upward movement of the UCIs' net global property was confirmed in the first quarter of 2010 with a net asset value of 1 980.5 billion euros.

Chart 1.16: Development of the net assets and of the net capital investment (in million euros)



Source: CSSF

Table 1.18: Global situation of undertakings for collective investments
(in million euros, outstanding amounts at the end of period, except where otherwise stated)

	Number of UCIs	Number of subfunds	Net asset value	Net capital investment[1) 2)]	Variation of financial market[2) 3)]	Annual change in EUR million	Annual percentage change	Monthly change in EUR million	Monthly percentage change
2000	1 785	6 995	874 600	168 200	-28 118	140 082	19.1		
2001	1 908	7 519	928 447	121 700	-67 900	53 847	6.2		
2002	1 941	7 806	844 508	57 314	-141 206	-83 939	-9.0		
2003	1 870	7 509	953 302	82 609	26 185	108 794	12.9		
2004	1 968	7 876	1 106 222	113 731	39 189	152 920	16.0		
2005	2 060	8 497	1 525 208	236 277	182 709	418 986	37.9		
2006	2 238	9 473	1 844 850	241 344	78 298	319 642	21.0		
2007	2 868	11 115	2 059 395	188 488	26 057	214 545	11.6		
2008	3 372	12 325	1 559 653	-77 191	-422 549	-499 742	-24.3		
2009									
Jan.	3 398	12 278	1 571 534	3 458	8 423	-379 607	-19.5	11 881	0.8
Feb.	3 402	12 255	1 530 291	-4 375	-36 868	-432 554	-22.0	-41 243	-2.6
Mar.	3 396	12 200	1 526 563	-226	-3 502	-368 882	-19.5	-3 728	-0.2
Apr.	3 415	12 177	1 592 932	7 005	59 364	-371 144	-18.9	66 369	4.3
May	3 425	12 172	1 619 269	8 080	18 257	-377 690	-18.9	26 337	1.7
June	3 435	12 172	1 631 256	4 272	7 715	-270 836	-14.2	11 987	0.7
July	3 438	12 164	1 706 030	22 448	52 326	-190 327	-10.0	74 774	4.6
Aug.	3 449	12 198	1 739 417	16 128	17 259	-178 576	-9.3	33 387	2.0
Sep.	3 457	12 207	1 773 834	10 467	23 950	-22 862	-1.3	34 417	2.0
Oct.	3 454	12 247	1 777 528	13 645	-9 951	130 500	7.9	3 694	0.2
Nov.	3 473	12 251	1 788 910	2 111	9 271	184 673	11.5	11 382	0.6
Dec.	3 463	12 232	1 840 993	1 356	50 727	281 340	18.0	52 083	2.9
2010									
Jan.	3 480	12 316	1 860 688	21 474	-1 779	289 154	18.4	19 695	1.1
Feb.	3 498	12 425	1 897 934	12 688	24 558	367 643	24.0	37 246	2.0
Mar.	3 516	12 513	1 980 538	19 848	62 756	453 975	29.7	82 604	4.4

1) Net capital investment is defined as the difference between net proceeds from shares or units and net payments made in settlement of redemption adjusted to take into consideration UCIs in liquidation.
2) Figures cumulated on a yearly/monthly basis.
3) The "variation of financial markets" column reflects the change in net assets, which is due to the fluctuation of financial markets.

Source: CSSF

1.2.5.6 Money market funds

The number of money market funds

By the end of December 2009, 479 units were recorded on the official list, compared to 477 units at the end of 2008, representing an increase of only 2 units. During the first quarter of 2010, the number of money market funds continued to rise moderately by 2 units, reaching 481 units by March 31, 2010.

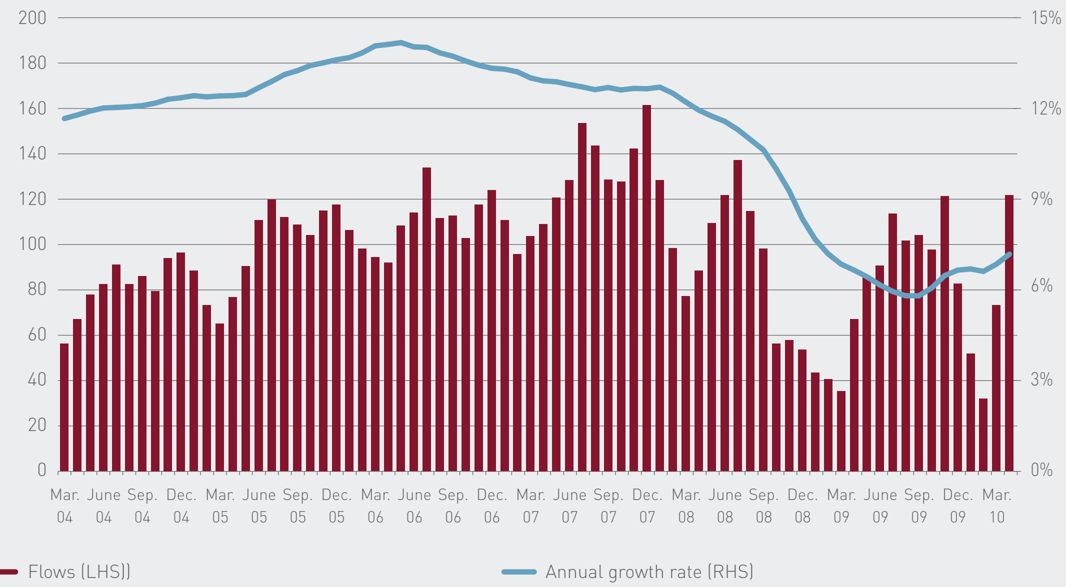
The balance sheet of money market funds

Over the course of 2009, the balance sheet of monetary funds decreased by 6.2%, from 340.2 billion on December 31 2008 to 319.2 billion on December 31 2009. But in the first quarter of 2009, the balance sheet continued its increase, reaching 358.9 billion on March 31, 2009. However in April 2009, due to the good performance of financial markets and low money market interest rates, the upward trend of money market funds ran completely out of steam. The downward movement of money market funds continued into the first quarter of 2010, with their balance sheets reaching 310.4 billion by March 31, 2010.

Box 1.4:

THE EVOLUTION OF CREDIT TO HOUSEHOLDS AND NON-FINANCIAL CORPORATIONS

Chart 1: Mortgage loans to Luxembourg residents (in million euros and percentages per annum, three-month moving averages)



Source: BCL

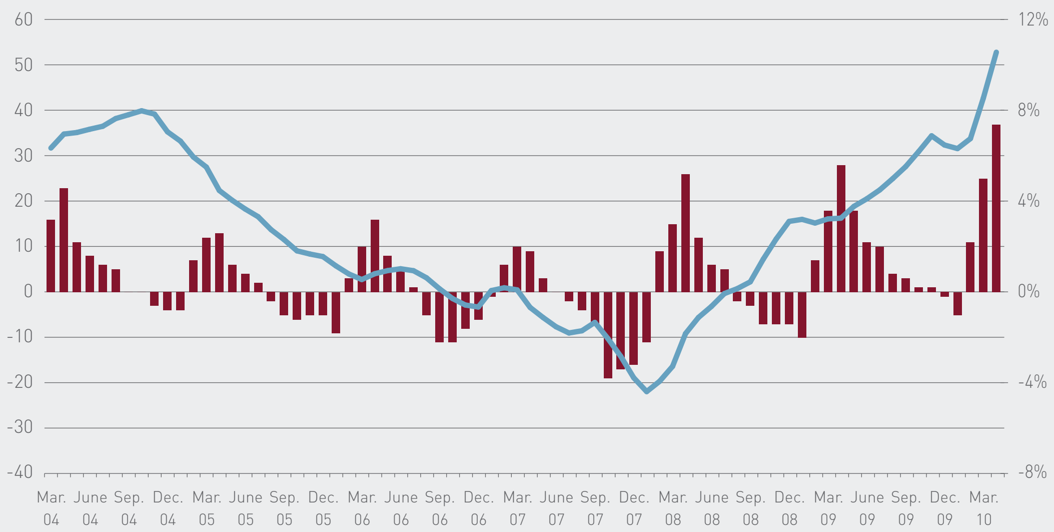
This box reviews the latest credit developments regarding loans to households and to non-financial corporations (NFCs).

Household credit

Chart 1 plots the evolution of loans for house purchase to Luxembourg residents in terms of flows (i.e. monthly changes in outstanding amounts) and annual growth rates.

While loans for house purchase have picked up pace in the course of 2009, their progression remains less important than in the period preceding the crisis. Both the annual growth rate and the flows at first continued their downward trend, before rebounding in the course of 2009, with the rise in monthly flows preceding the rebound in annual growth rates. Although loan dynamics have somewhat slowed down around the turn of the year, the latest data point to a renewed pickup in lending. All in all, the hypothesis of a turning point in the mortgage credit cycle already advanced in a previous publication is thus substantiated by the latest available data.

Chart 2: Consumer credit to Luxembourg residents (in million euros and percentages per annum, three-month moving averages)



For statistical reasons, one large bank is excluded from the December 2009 flows. The annual growth rate has been adjusted from December 2009 onwards.

Source: BCL

The Bank Lending Survey (BLS) offers some insight into demand- and supply-side factors. The survey indicates that, overall, banks have left their credit standards unchanged over the review period. Indeed, although there was a net tightening of lending standards in the first quarter of 2009, this tightening was followed by a net easing in the fourth quarter. Net demand was positive for most of the period under review, though it is worth mentioning that demand was rather weak at merely 14% (the equivalent of one bank) since the sharp rebound recorded in the second quarter of 2009.

It should be noted that seasonality is a particularly pertinent issue with regard to consumer lending. In particular, the monthly flows tend to taper down considerably after the automobile festival in the first quarter of the year; developments are especially lacklustre in the second half of the year. The annual growth rate, on the other hand, has continued to trend upwards throughout 2009 and, despite a brief drop later in the year, hit a new high in April 2010. Credit dynamics have thus picked up at a considerable pace compared to previous years.

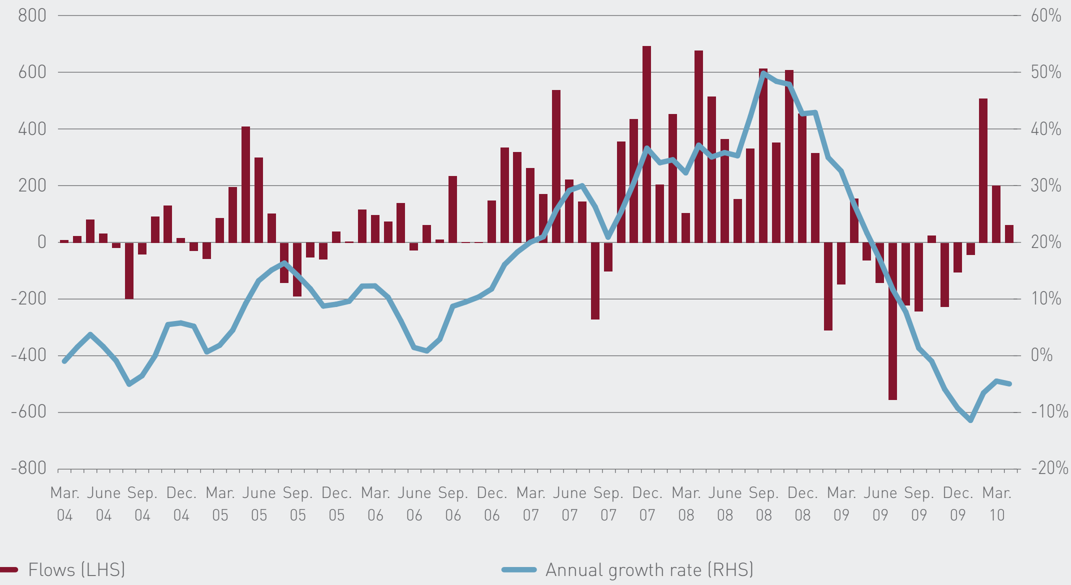
Credit standards applied to consumer credit (and other loans) generally followed the same trend as those applied to mortgage loans. Net demand has fallen overall, although there was a strong rebound in the second quarter of 2009.

Corporate credit

Overall, the evolution of credit to NFCs resident in Luxembourg was not very favourable and, for most of the period under review, loans to firms contracted. The annual growth rate has fallen sharply in 2009 and became negative in the second half of the year, in sharp contrast to the record growth rates recorded in 2008 (50% and more). Around the turn of the year there was a trend reversal in the annual growth rate which, however, remained negative. The latest data, however, point to a renewed slowdown. All in all, corporate credit developments remain lack-lustre.

BLS data indicate that banks have continued to tighten their credit standards. However, the tightening was rather weak for most of the review period, while actually remaining unchanged in the latest survey round (pertaining to the first quarter of 2010). To the extent that the evolution of lending standards has leading indicator properties, past tightening will most likely continue to weigh on credit dynamics even when banks actually begin to ease their lending standards. Net demand at first remained positive, though weakly so, before deteriorating from the third quarter of 2009. It should be noted that the aggregated survey results do not distinguish the geographical origin of the counterparty.

Chart 3: Credit to NFCs resident in Luxembourg (in million euros and percentages per annum, three-month moving averages)



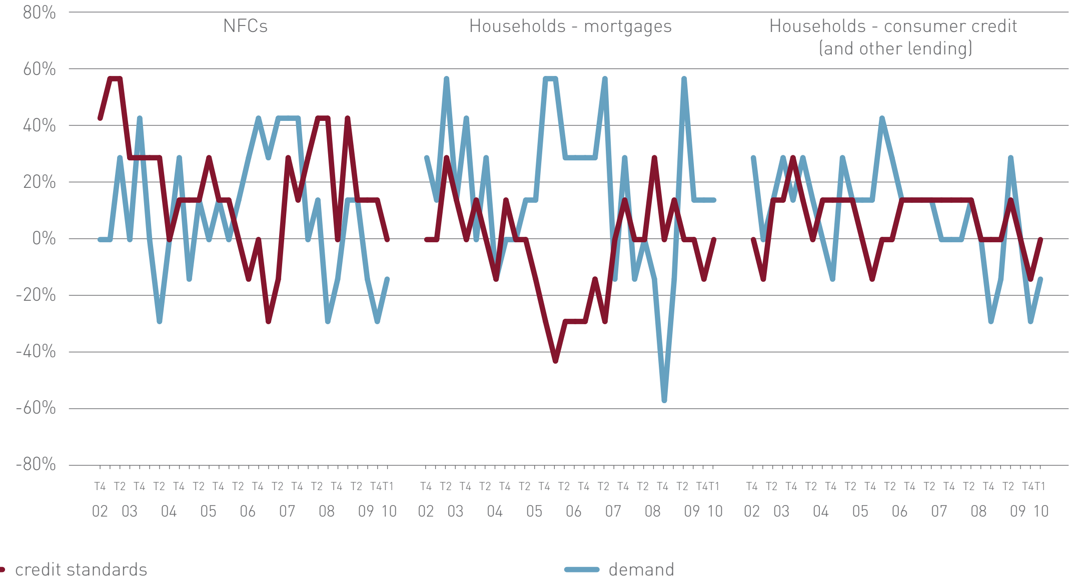
Source: BCL

1.2.6 The Bank Lending Survey

The Bank Lending Survey (BLS) carried out by the Eurosystem since end-2002 assesses credit conditions in the euro area. Every quarter, a questionnaire is sent out to the seven banks from the Luxembourg sample; the survey questionnaire contains a number of questions on the supply of and demand for credit, covering the household sector as well as non-financial corporations (NFCs). Results are generally expressed in terms of "net percentages". Concerning those questions on credit standards, net percentages refer to the difference between those banks that reported a tightening and those that reported an easing of credit standards. For the questions on credit demand, net percentages refer to the difference between those banks that reported a fall in demand and those that reported a rise.

The chart plots the survey results for some regular key questions in terms of net percentages.

Chart 1.17: The evolution of credit standards and loan demand in Luxembourg (net percentages)



Source: BCL

NFCs: While banks have generally continued to tighten their lending standards, net percentages have decreased in the course of 2009 as well as in the first quarter of 2010. All in all, the recorded net tightening was relatively weak for most of the period under review, while banks have left their credit standards unchanged in the first quarter of 2010. Although the impact of risk perceptions on lending standards has virtually vanished, banks continue to indicate that margins on riskier loans are widening. The tightening impact of the cost of funds and balance sheet constraints has also practically disappeared.

Net demand at first remained positive, though only slightly so, before deteriorating as of the third quarter of 2009. Lower financing needs for fixed capital investment and for mergers/acquisitions and corporate restructuring largely account for the fall in demand, though this was somewhat counterbalanced by higher financing needs for inventories and working capital, and for debt restructuring.

Households: Overall, credit standards applied to mortgage loans remained unchanged. Indeed, the net tightening in lending standards recorded in the first quarter of 2009 was offset by a net easing recorded in the final quarter. Net demand was mostly positive throughout the review period; however, it stood at only +14% since the strong rebound recorded in the second quarter of 2009. Banks have reported an improvement in the housing market outlook, as well as in consumer confidence, though these elements have failed to contribute to a rise in demand.

Lending standards applied to consumer credit (and other lending) have largely followed the same trend as those applied to mortgage loans. Overall, loan demand has fallen in net terms, in spite of a strong rebound recorded in the second quarter of 2009. Consumer confidence contributed to lower loan demand.

1.2.7 The Luxembourg Stock Exchange

Between end-2008 and end-2009, the LuxX index increased by 40%, going from 980.9 to 1 371.5. The index subsequently continued its upward trend before falling sharply in April 2010. In mid-May, the LuxX stood at 1 421.5. While the LuxX index largely followed the same trend as the major international stock indices, its progression was in comparison particularly strong.

It is worth noting that the composition of the index was revised twice in 2009: first in January, when Reinet Investments S.C.A. (a securitisation vehicle) and Intercultures S.A. (a holding company which primarily invests in various agricultural companies in Africa) were added to the index; and again in July, when Cegedel S.A. was removed from the basket.

Chart 1.18: The LuxX index and other major international indices
(Index: 01/01/2009 = 100 unless otherwise indicated; daily data)

Source: Bloomberg

ArcelorMittal shares, which make up 20% of the index, rose particularly strongly over the review period (+64%). However, the other main components also performed strongly. Thus, Reinet Investments S.C.A. and SES S.A., which each make up 20% of the index, rose by 62% and 31% respectively. Regarding banking or financial shares, KBC Group and Foyer S.A. rose by 42% and 39% respectively. The shares of RTL Group S.A. rose by 54%.

At end-2009, there were a total of 45 660 listings on the Luxembourg Stock Exchange (of which 5 915 were in the alternative Euro MTF market), compared to 49 097 in 2008. This represents a fall of 7%. In the first quarter of 2010, the number of listings fell further to 44 680.

The relative shares of listed securities remained more or less stable. Thus, the share of bonds remained largely unchanged at roughly 68%, while the share of UCITS stood at roughly 16%; the share of warrants also stood at 16% while shares continued to make up less than 1% of total listings.

1.2.8 The Labour market

1.2.8.1 Employment

Table 1.19: Annual employment growth (in%)* and rate of unemployment

	Employees*	Self-employed*	Total domestic employment*	Incoming cross-border commuters*	National employment*	Active population*	Unemployment (narrow definition)	Unemployment (narrow definition), seasonally adjusted	Unemployment (broad definition)
2003	2.0	0.3	1.9	3.8	0.7	1.8	3.5%	3.5%	5.2%
2004	2.6	0.3	2.4	4.7	1.9	1.9	3.9%	3.9%	5.7%
2005	3.2	0.3	3.0	5.8	1.7	2.1	4.2%	4.2%	6.1%
2006	4.1	-0.6	3.8	6.7	2.0	2.1	4.4%	4.4%	6.3%
2007	4.6	0.5	4.4	7.9	2.3	2.3	4.4%	4.4%	6.1%
2008	5.0	2.4	4.8	7.2	3.2	3.2	4.4%	4.4%	5.7%
2009Q1	2.7	0.8	2.6	3.5	2.0	3.2	5.5%	5.2%	6.8%
2009Q2	1.5	1.4	1.5	1.5	1.4	2.8	5.4%	5.7%	6.7%
2009Q3	0.3	1.7	0.4	-0.2	0.9	2.4	5.6%	5.9%	6.9%
2009Q4	0.2	2.4	0.3	-0.4	0.9	2.4	6.1%	5.9%	7.5%
2010Q1	0.4	2.8	0.6	0.1	1.0	1.8	6.4%	6.0%	7.8%
Jan-09	3.3	1.1	3.2	4.5	2.3	3.3	5.5%	5.0%	6.7%
Feb-09	2.6	0.6	2.4	3.4	1.8	3.0	5.6%	5.2%	6.9%
Mar-09	2.2	0.6	2.1	2.7	1.8	3.2	5.5%	5.4%	6.8%
Apr-09	1.9	1.2	1.8	2.1	1.6	3.0	5.5%	5.5%	6.8%
May-09	1.6	1.7	1.6	1.8	1.5	2.8	5.4%	5.7%	6.7%
Jun-09	1.0	1.4	1.0	0.7	1.2	2.7	5.4%	5.8%	6.7%
Jul-09	0.7	1.5	0.7	0.3	1.1	2.6	5.5%	5.9%	6.8%
Aug-09	0.3	1.7	0.4	-0.1	0.9	2.4	5.6%	5.9%	6.9%
Sep-09	0.0	1.8	0.1	-0.7	0.7	2.2	5.7%	5.9%	7.1%
Oct-09	0.0	2.2	0.1	-0.7	0.8	2.3	5.9%	5.9%	7.3%
Nov-09	0.2	2.4	0.3	-0.4	0.9	2.4	6.1%	5.9%	7.5%
Dec-09	0.3	2.7	0.4	-0.2	0.9	2.3	6.3%	6.0%	7.7%
Jan-10	0.3	2.7	0.4	-0.2	1.0	1.9	6.4%	5.9%	7.8%
Feb-10	0.5	2.8	0.6	0.2	0.9	1.8	6.5%	6.0%	7.9%
Mar-10	0.5	2.8	0.7	0.2	1.0	1.7	6.2%	6.0%	7.7%
Apr-10	0.5	2.3	0.6	0.3	0.9	1.4	6.0%	6.0%	7.6%

* Data from January to April are estimates

Sources: IGSS, STATEC and BCL calculations

The current crisis is characterized by the simultaneous and generalized slowdown of activity through nearly all economic sectors. Except for the sector "other services" (including public administration and other sectors less exposed to international competition), all economic sectors have experienced either a slowdown or a net decrease in employment.

Regarding the various components, cross-border workers seem to have been particularly impacted by the economic downturn. This sharper reaction of non-resident employment could result from the fact that non-resident workers are overrepresented in temporary employment contracts as well as in sectors that are particularly exposed to international demand.

Another striking feature of the crisis is the exponential increase of short-time work reaching a record high in June 2009 (10 290 workers).[3] Since November 2009, short-time work and expenditures thereon have continuously decreased. In a highly uncertain environment, in order to insure against further unforeseeable declines in activity, firms continue to apply—though to a lesser extent than previously—for short-time authorizations. Nevertheless, it is important to highlight that short-time work schemes have not been able to prevent lasting job losses, particularly in the industrial sector.

Chart 1.19: Evolution of short-time work
(number of workers effectively affected and number of workers potentially affected)

Remark: Data related to the number of workers effectively affected by short-time work from January to June 2010 are estimates.

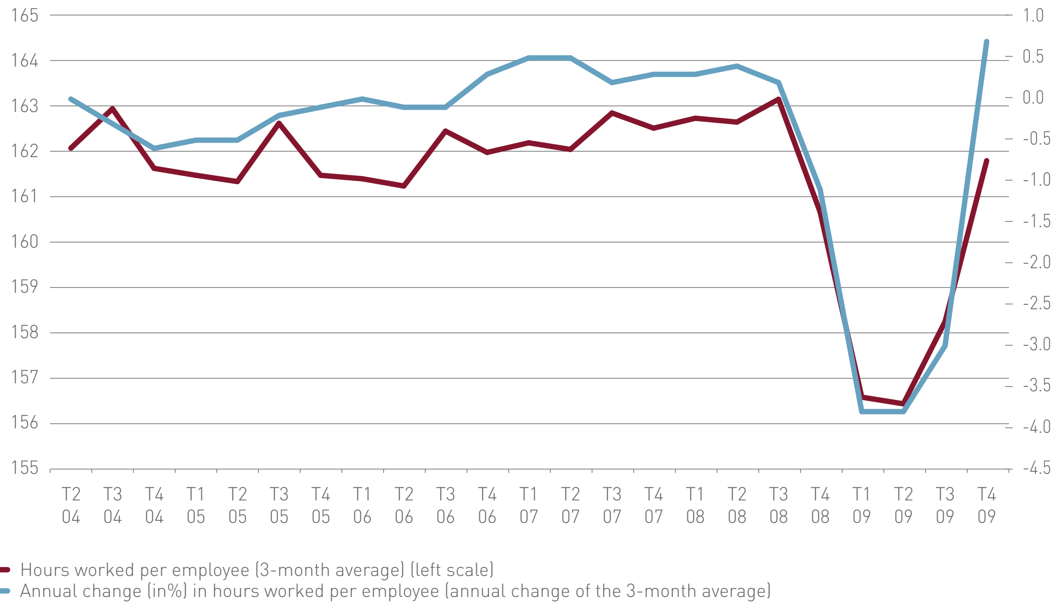
Sources: ADEM, Statec

According to IGSS, hours worked per employee have temporarily decreased during the first half of 2009, in line with the evolution of short-time work. However, these figures have to be interpreted with caution as the introduction of the *Statut Unique* has made difficult the comparison of 2009 data with older data.[4]

3 This corresponds to the number of workers for which firms have requested short-time permissions. The record high for the number of workers effectively affected by short-time work was reached in April 2009 with 8 159 people.

4 From 1 January 2009, compensation for hours during which the employee has been ill is paid by the employer (for the first 13 weeks of illness). As a result, even though these hours don't correspond to hours actually worked, they are accounted for as such in 2009. Though, in order to be able to compare the yearly figures of hours worked, we had to include the hours during which the employee has been ill, but for which the employer had to pay the compensation, in total hours worked. Furthermore, hours worked could be slightly underestimated for some months in 2009. In fact, another difference introduced by the *Statut Unique* relates to the fact that now, employers have to declare the number of hours effectively worked while previously they had to declare a monthly average.

Chart 1.20: Evolution of the number of hours worked per employee
(3-month average and annual change of the 3-month average)



Source: IGSS

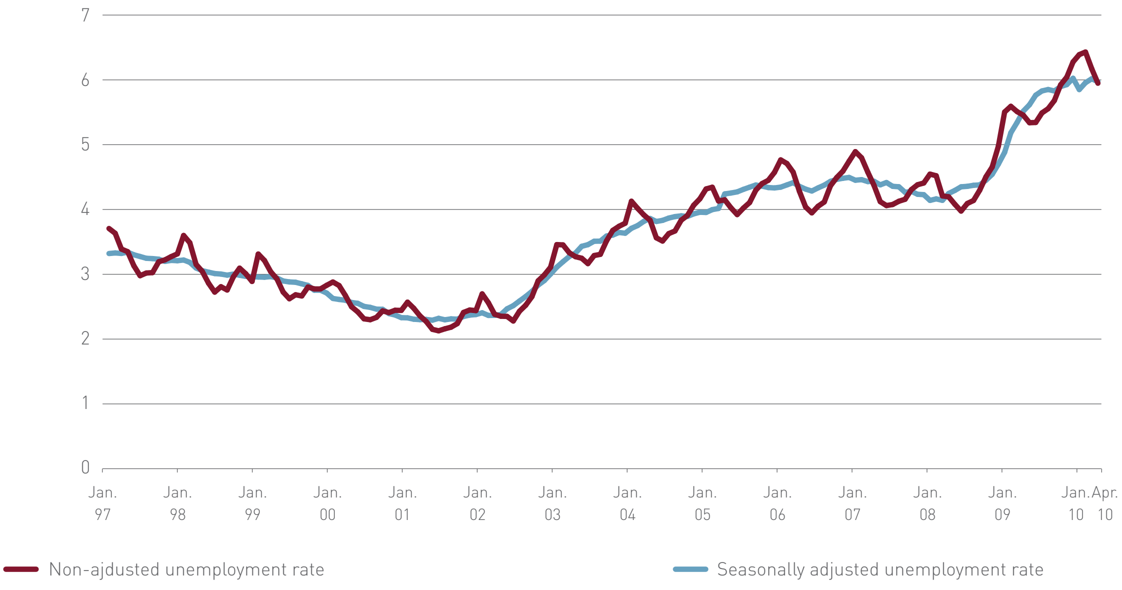
1.2.8.2 Unemployment

Unemployment took off during 2009 and reached a record high of 5.7% (yearly average). The seasonally adjusted unemployment rate increased until July 2009 and stabilized around 5.9%-6.0% thereafter.

The stagnation of the narrow unemployment rate can to some extent be explained by the increase of short-time work as well as by the increasing number of people beneficiating from "special measures for employment." Another possible factor is the long-term unemployed becoming discouraged and deciding to no longer register at ADEM. In addition, as stated before, the crisis has particularly affected cross-border commuters, who are not included in national unemployment figures.

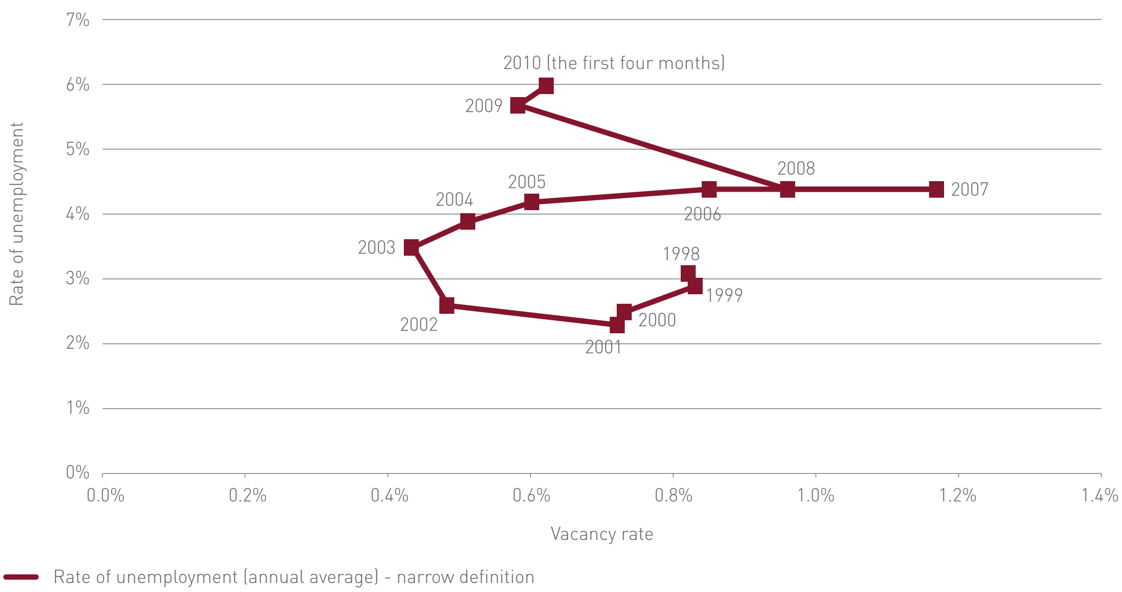
The deterioration and subsequent stabilization of the unemployment rate has also been reflected in moves along the Beveridge curve, first towards the upper left and afterwards towards the upper right of the curve, indicating that the labour market deteriorated as a consequence of the slowdown of economic activity.

Chart 1.21: Unemployment rate (narrow definition)



Source: Adem

Chart 1.22: Beveridge Curve



Sources: Adem, IGSS

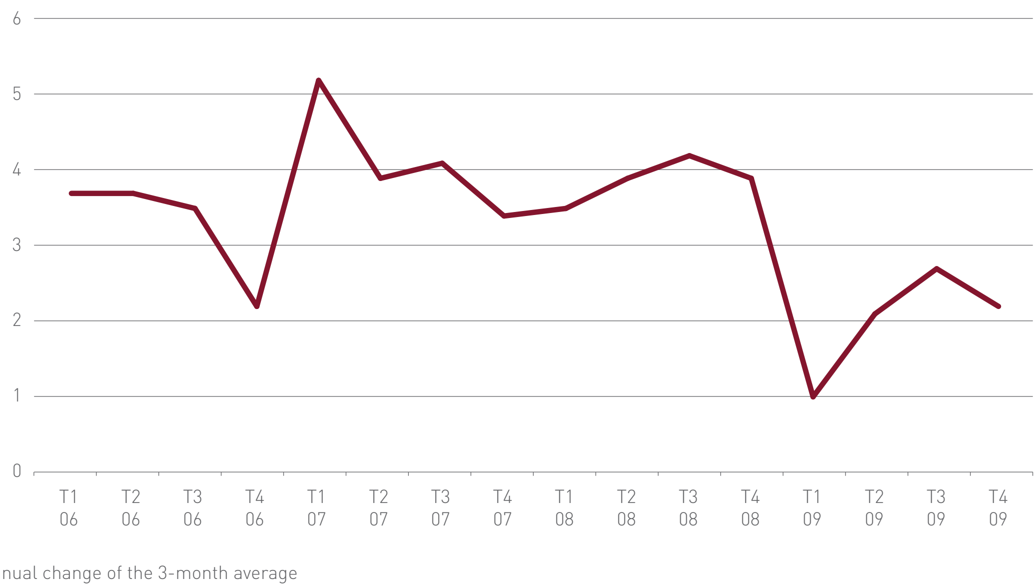
Regarding cross-border unemployment, the only reliable (but imperfect) indicator is the number of E301[5] certificates established by ADEM, which has increased after the crisis.

The latest available evidence suggests that labour market conditions have been improving in the last few months.

1.2.8.3 Labour costs

According to IGSS, compensation per employee rose by 2.0% in 2009, which seems reasonable given current provisional figures for national accounts (+1.7%). Compensation per employee decelerated during the first quarter of 2009 and accelerated afterwards, probably as a result of the automatic wage indexation.

Chart 1.23: Annual change (in %) in compensation per employee (3-month average)



Source: IGSS

It is important to reiterate that, as a result of the introduction of the *Statut Unique*, data from 2009 is not directly comparable to previous data. In order to be able to compare the figures, compensation per employee includes the compensation paid out by the *Caisse Nationale de Santé*. Under the hypothesis that compensation for illness remained stable compared to the previous years, its inclusion in compensation per employee should not influence the nature of our conclusion.

5 This certificate is established by ADEM and can be used by cross-border workers who have lost their job, in order to request unemployment benefits in their home country. However, the evolution of these requests has to be interpreted with caution as a same cross-border worker may request more than one certificate, overestimating cross-border workers' job losses. On the other side, Belgium cross-border commuters are not always required by the home country to provide these certificates so that this could lead to an underestimation of the job losses of non-residents.

Box 1.5:

ON THE INTEREST TO DIFFERENTIATE SOCIAL CONTRIBUTIONS IN LUXEMBOURG

We demonstrate through the DSGE model LOLA (see Pierrard and Sneessens, 2009, for a detailed exposition) how two modifications in the social contribution scheme could improve the functioning of the labour market in Luxembourg. The first modification is to reduce taxation of older workers (on the employees' side), in order to encourage longer work time. This measure is fully financed through higher income from the increase in labour supply. The second modification is to reduce taxation of low-skilled workers (on the employers' side). This measure is financed through a slight increase in employers' taxation of other workers.

Measure 1: Inactivity rate of older workers

The inactivity rate of the older workers is higher in Luxembourg than in any other OECD country. To induce people to work longer, the OECD (see for instance Duval, 2003) suggests reducing taxation of older workers. Moreover, the net replacement rate (ratio between the level of pension and past wages) is very high in Luxembourg, and small decreases could again induce people to work longer, while remaining socially acceptable. The LOLA model shows that an immediate reduction, by 10 percentage points, in the taxation of workers between 55 and 65 years old (on the employees' side), is initially not costly for the government budget because there are few old workers. Moreover, this policy stimulates the labour supply from these workers and their activity rate increases by about 15 percentage points. Higher employment increases the income from social contributions and, in the end, the policy is fully financed. Similarly, the LOLA model shows that an immediate reduction, by 10 percentage points, in the replacement ratio improves the government budget, but also stimulates the activity rate of older workers. As a result, employment and GDP increase, as does taxable income. In the long run, the budget balance improves by about 5% of GDP.

Measure 2: Low-skilled and long-term unemployment

In Luxembourg, about half of the unemployed are low-skilled workers. Moreover, long-term unemployment has strongly increased over the last 10 years. How could we improve the situation of these workers without further deteriorating public finances? A natural way to stimulate labour demand would be to reduce employment costs through lower taxation (on the employers' side). In particular, these reductions should target those with low wages. Indeed, it is easier to identify the wage level than the qualification level, and low–skilled workers usually have low wages. Moreover, the labour demand elasticity with respect to wages is usually high for the low skilled, because they are easy to substitute (see for instance Crépon and Desplatz, 2001, or Pierrard, 2004). Finally, stimulating low-skilled employment, which is mainly found outside the financial sector, would help to diversify the economy.

Simulations with LOLA show that lower taxation, targeted at those with wages below P15[1], with an *ex post* cost of 1% of GDP, reduces the unemployment rate by 0,5 percentage points. Lower taxation with a similar *ex post* cost but not targeted at those with low wages only reduces the unemployment rate by 0,1 percentage points. To completely offset the budgetary cost of such a measure, we foresee a"global package" where a reduction in taxation by 10 percentage points targeted at low wage workers is combined with an increase in taxation by 1 percentage point on all other workers. This global package is budget neutral and reduces the unemployment rate by 0.4 percentage point.

1 The P15 wage means that 15% of the workers have wages lower than it. According to the Statec (2009), the P15 wage corresponded to roughly 1800 EUR in 2006 (gross yearly wage transformed into monthly basis).

Of course, this kind of policy reduces the average productivity of the economy although, according to LOLA, this effect is quite marginal. Moreover, leaving a fraction of the population out of the working economy may generate huge indirect costs for society, e.g. either in public health or because of the lack of safety. Finally, in its latest survey on Luxembourg, the OECD (2010) also suggests implementing a similar policy (called 'working poor' policy).

Reforming the labour market should not only focus on the demand side but also on the supply side of the labour market. First, an unemployed worker has the right to receive unemployment benefits, but also has the duty to accept a job if one is offered. The Public Employment Agency (PEA or ADEM in Luxembourg) must therefore fix strict requirements, and punishments for abuses (see BCL, 2008). Second, the PEA must follow up on a worker as soon as (s)he enters unemployment, in order to avoid skill depreciation, stigmatization or discouragement. Finally, the PEA must check *ex post* through systematic evaluations that their active labour market policies are efficient and do not generate perverse effects.

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1.2.9 External Trade

The world economic slowdown negatively affected Luxembourg external trade in 2009. When compared with 2008, exports and imports of goods declined by 23% in 2009. This fall, however, had a positive impact on Luxembourg's trade deficit, which narrowed by 21% in 2009. The large negative impact of the world economic slowdown is also reflected in the quarterly developments in trade volumes. Export volumes dropped successively by 23%, 22% and 5% during the first three quarters of 2009, before rebounding by 5% in the last quarter of the year. Import volumes decreased respectively by 13%, 17%, and 14% during the first three quarters of 2009. Import volumes continued, however, to decline (4%) in the last quarter of the year. Declining import and export prices (almost in the same proportions), due to the fall in oil prices, also contributed to the decrease in trade values.

Table 1.20: External Trade of Luxembourg (Value in € millions and Change as % if compared with the same period a year earlier)

	Exports		Imports		Balance	
Period	Value	Change	Value	Change	Value	Change
2004	9 747.1	10.3%	13 637.4	12.6%	-3 890.3	18.8%
2005	10 319.4	5.9%	14 187.1	4.0%	-3 867.7	-0.6%
2006	11 306.9	9.6%	15 644.1	10.3%	-4 337.2	12.1%
2007	11 848.6	4.8%	16 311.0	4.3%	-4 462.3	3.3%
2008	11 890.4	0.4%	17 290.3	6.0%	-5 399.9	21.0%
1st quarter	3 062.0	-1.9%	4 108.1	1.4%	-1 046.1	12.0%
2nd quarter	3 226.8	6.6%	4 543.9	6.1%	-1 317.1	5.8%
3rd quarter	3 040.5	10.1%	4 553.0	16.5%	-1 512.5	32.1%
4th quarter	2 561.1	-12.8%	4 085.3	0.3%	-1 524.2	31.6%
2009	9 145.2	-23.1%	13 345.3	-22.8%	-4 200.1	-22.2%
1st quarter	2 243.1	-26.7%	3 308.3	-19.5%	-1 065.1	1.8%
2nd quarter	2 167.5	-32.8%	3 213.4	-29.3%	-1 042.8	-20.6%
3rd quarter	2 395.0	-21.2%	3 216.4	-29.4%	-821.4	-45.7%
4th quarter	2 339.5	-8.7%	3 607.2	-11.7%	-1 267.7	-16.8%
2010						
1st quarter	2 429.2	8.3%	3 514.5	6.2%	-1 085.4	1.9%

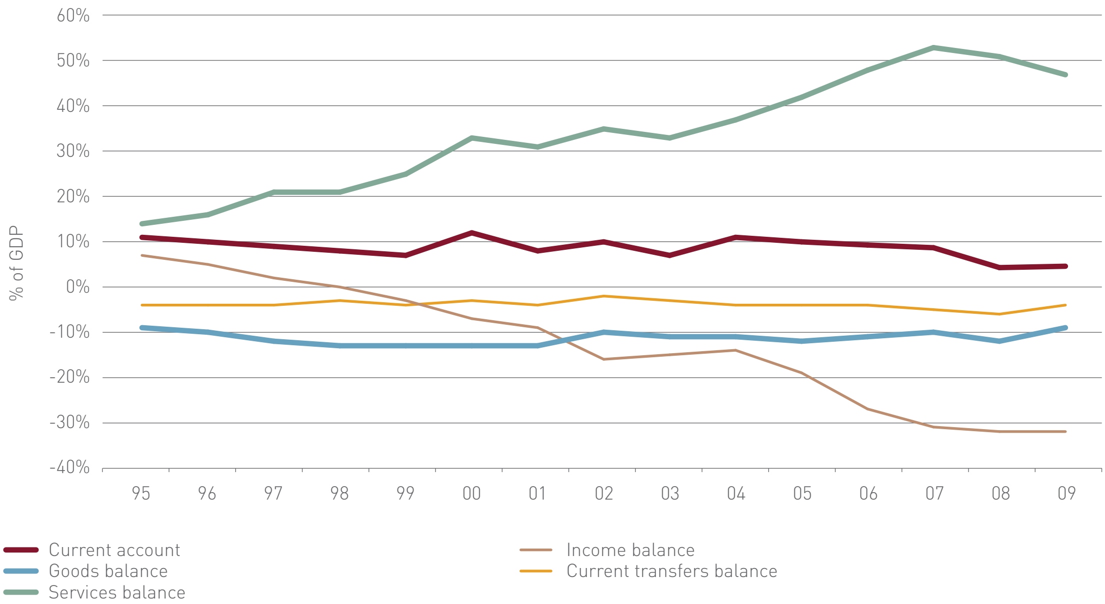
Source: STATEC

1.2.10 Balance of payments

In 2009, the Luxembourg current account surplus stabilised at its 2008 level (€2 billion or 5.6% of GDP). This result reflected contrasting developments in the main partial balances. The services balance continued to deteriorate due to the fall in exports of financial services in the wake of the financial turmoil. Meanwhile, the goods balance and the current transfers balance improved substantially, offsetting the decline in the services surplus.

In the financial account, Luxembourg's net outflows stabilised at the same level as in 2008 (€1.8 billion), as large outflows in direct investments and in portfolio investments (including financial derivatives) were offset largely by inflows in other investments.

Chart 1.24: Developments in the Luxembourg's current account and its components



Sources: BCL, Statec

1.2.11 Macroeconomic projections

Since the previous projection exercise, Luxembourg's economy has fared better than expected. The latest data have confirmed the economy's emergence from the recession which lasted about five quarters, from the second quarter of 2008 to the second quarter of 2009. The rebound in the second half of 2009 was almost as spectacular as the preceding plunge, as the economy has already managed to recover more than half of the 7% loss of total output. Real GDP is now estimated to have contracted by 3.4% in 2009, a slightly better performance than predicted six months ago by any national or international institute publishing macroeconomic projections. The carryover on annual average real GDP growth in 2010 is now estimated at 1.8%.

Recent developments

In the first half of 2010, the expansion of economic activity probably continued, though at a more moderate pace than in the second half of 2009. The performance also differed across sectors.

The financial sector's performance in the first half of 2010 was mixed, and marked by a reversal of fortunes on the financial markets towards mid-April. While the run-up in stock markets in the first quarter of 2010 had a positive impact on the net asset value of the mutual fund industry and the operational results of the banking sector, the second quarter performance should be tainted by the return of uncertainty. Spooked by the dire public finances in some euro area countries, sovereign bond yields increased sharply and led to more general financial market turmoil. The heightened risk perception and the fall in stock markets will most likely weigh on the financial sector's performance in the second quarter of the year.

The non-financial sector has escaped this turmoil and its production is steadily nearing the pre-recession peaks. Favoured by the global expansion and the inventory cycle, industrial production increased by about 4% quarter-on-quarter in early 2010, thus at roughly the same speed as in the two preceding quarters. The business surveys hint at a continuation of that trend in the second quarter, which is in line with the positive news of the decline in the use of short-time work. Nevertheless, these benign developments should not conceal the fundamental issue. The very fact that companies have made recourse to short-time work schemes highlights the dire state of the manufacturing sector. Production levels are still low, below pre-crisis peaks and also too low for the existing workforce.

Technical assumptions and the international environment

Technical assumptions about interest rates, exchange rates, commodity prices and financial markets are presented in the table 1.23. The global economic recovery was stronger than expected in 2009, thanks to international trade. Looking ahead, world economic growth is expected to reach 4.2% in 2010 according to the European Commission and 4.0% according to the IMF. For 2011, neither of them anticipates any (notable) acceleration in world economic growth. International trade is therefore expected to strongly rebound in 2010 and decelerate in 2011.

Table 1.21: Projections of international institutions and technical assumptions in annual percentage changes (revisions in percentage points) [1)]

	2009	2010	2011	2012
World trade (EC)	-12.1 (+1.9)	8.9 (+5.3)	6.3 (+1.7)	-
World GDP (IMF)	-0.6 (+0.5)	4.2 (+1.1)	4.3	-
World GDP (EC)	-0.9 (+0.3)	4.0 (+0.9)	4.0 (+0.5)	-
Real GDP euro area (IMF)	-4.1 (+0.1)	1.0 (+0.7)	1.5 (+0.6)	-
Real GDP euro area (EC)	-4.1 (-0.1)	0.9 (+0.2)	1.5 (-)	-
Real GDP euro area (Eurosystem)	-4.1	0.7 – 1.3	0.2 – 2.2	-
World demand for Luxembourg	-11.4 (+0.1)	6.1 (+3.1)	3.8 (+0.5)	5.1
Oil in USD/barrel[1)]	62	79 (-2)	84 (-2)	86
Exchange rate USD/EUR[2)]	1.39	1.29 (-0.20)	1.26 (-0.23)	1.26
Short-term interest rate	1.23	0.8 (-0.4)	1.1 (-0.4)	1.7
World demand for Luxembourg	3.9 (-0.1)	3.5 (-0.5)	3.9 (-0.7)	4.3

1) Revisions in comparison with the December 2009 projections.
2) Revisions en points d'indice

Sources: European Central Bank, European Commission, IMF

Real GDP grew modestly in the first and second quarters of 2010 in the euro area. Over the remainder of 2010, growth is expected to remain subdued, as the factors that temporarily boosted growth in the initial phase of the recovery – such as the fiscal stimuli and the inventory cycle – diminish in strength. According to Eurosystem forecasts, average annual real GDP growth is projected between 0.7% and 1.3% in 2010 and between 0.2% and 2.2% in 2011. With regard to real GDP growth, the projection ranges for 2010 and 2011 have been revised upwards compared with previous ones (December 2009).

The world demand for Luxembourg declined from mid-2008 to mid-2009. According to the underlying scenario, it should rebound strongly until the end of 2010. Thereafter, it should slow down over the next quarter before recovering a normal growth path.

Real GDP and demand components

As regards real GDP growth in Luxembourg, both the improvement in economic activity in the second half of 2009 and the continuation of the expansion in early 2010 yield a more favourable outlook than expected in the previous exercise. Real GDP growth in 2010 is now expected to be in a range between 2.6% and 3.2%.

The convergence to a normalised growth path in the subsequent years would be very gradual as the expansion would remain below past trend growth. Annual average growth in 2011 is expected to be between 1.8% and 2.8%, with a renewed acceleration to between 2.5% and 3.9% in 2012. These medium-term projections are a testimony to the expected lower potential growth that could result from the restructuring of the financial services sector.

It is only in mid-2011 that output levels would surpass the pre-recession peaks. This long period of "lost output" would leave its marks on the labour market. World trade might have regained strength, but employment would remain weak for a couple of quarters, which would weigh on the dynamics of domestic demand and prevent stronger real GDP growth.

In 2009, all demand components of GDP experienced a contraction, except public expenditures. In 2010, the upturn was kick-started by the reversal of export dynamics, the normal path for a very small open economy. Domestic demand should strengthen in 2010, but at a modest pace. These muted dynamics are expected to continue in 2011 when the impact of the recently announced government measures kicks in. Private consumption in particular will feel the brunt of the fiscal consolidation plan. Export dynamics should slow down in line with the expected moderation of trade expansion. Overall, a rebalancing of growth should slowly emerge, but the associated growth rates should remain rather low by historical standards.

The emergence from the recession had a positive impact on business confidence. According to the latest investment surveys in the manufacturing sector, companies do not plan to reduce their investment expenditures in 2010 compared to 2009, but rather to keep them flat (see chart). On that basis, private investment could now stabilise in 2010 though at a very low level. Gross fixed capital formation in the economy as a whole is set for a gradual re-acceleration after the drop in 2009. Public investment would not provide a strong impetus as the central government plans to freeze its investment expenditures at 2009 levels. But the outlook has improved for private investment. First, as output levels are nearing the pre-crisis peaks, needs for new equipments are slowly emerging. Second, demand prospects improved with the revival of world trade. Finally, financing conditions remain favourable as interest rates charged on loans to non-financial companies are at historic lows (see also under 1.2.5.2).

Private consumption is set for very modest growth. The stagnation of employment and the low real wage growth do not provide much impetus to reinvigorate demand. On top of that, households' real disposable income will feel the brunt of the recently announced fiscal consolidation measures, above all the higher direct taxes on households' income and cuts in social transfers. If households do not dig into their savings to compensate for those income shortfalls, private consumption could even decline. The impact on real GDP growth would however be muted, as a large share of private consumption is imported.

Overall, as expected, the total impact of these fiscal consolidation measures on economic activity, should be modest (for further information, please see box 1.7).

Table 1.22: Macroeconomic projections and revisions compared to December 2009
(in annual percentage changes, resp. in percentage points)

	2009	2010	2011	2012	2009	2010	2011
Real GDP	-3.4	2.6 - 3.2	1.8 - 2.8	2.5 - 3.9	0.3	1.0	0.1
HICP	0.0	2.9	2.5	2.2	-	0.8	0.4
HICP energy	-15.9	13.1	4.2	1.3	-	8.3	2.1
HICP ex energy	2.3	1.7	2.3	2.3	-	-0.1	0.2
NICP	0.4	2.2	2.1	1.8	-	0.7	0.3
NICP ex energy	1.9	1.3	1.9	1.9	-0.1	-0.1	0.1
Contribution of indexation to nominal wage increase	2.5	1.7	2.3	1.4	-	0.6	0.4
Compensation per employee	1.7	2.7	3.0	2.3	1.0	1.4	0.4
Employees	0.9	-0.2	0.0	0.8	-0.1	0.4	-
Unemployment rate	5.8	6.2	6.3	6.4	-	-0.7	-0.8

Source: BCL

The Labour market and wages

The recession might have ended, but the contraction of economic activity was deep and production levels are unlikely to surpass their pre-recession peaks before 2011. In the medium term, a permanent cut in employment should prevail over the temporary reduction in hours worked. According to our projections, employment should fall in 2010 before stabilizing in 2011 and increasing thereafter. "Partial unemployment" is expected to mutate into unemployment of both residents and non-residents. Unemployment is thus predicted to rise from 5.8% in 2009 to 6.2% in 2010, 6.3% in 2011 and 6.4% in 2012.

The adjustment in employment also had an impact on wage developments. Adjusted for the increase due to the automatic wage indexation scheme, wages fell by 0.8% in 2009. However, average changes give no indication of the distribution of the wage shock caused by the recession. When the increases in both the minimum wage and public sector wages are taken into account, it is clear that the impact of the crisis must have been much stronger for other groups of employees. In the coming years, real wages are expected to increase only slightly, and mainly as a result of the increase in hours worked. The evolution of nominal wages would therefore be mainly due to the impact of the automatic indexation to past inflation. According to our inflation projections, the next automatic wage hikes are due in July 2010 and August 2011. Nominal wages should thus increase by 2.7% in 2010, 3.0% in 2011 and 2.3% in 2012. These figures have been revised upwards as a result of the acceleration of inflation (impacting the automatic indexation of wages) and the stronger and faster than expected rebound of economic activity.

Regarding real negotiated wages, their dynamics should reflect the very weak employment prospects. These projections are based on the assumption that the real minimum wage will be adjusted in January 2011. Whereas the government has not yet announced the size of this adjustment, we have assumed an increase of 2.0%. Furthermore, despite the ongoing negotiations over public sector wages, we have assumed a stagnation of real wages in both 2010 and 2011.

Consumer prices

Inflation prospects have deteriorated considerably in recent months, mostly on account of the energy component. Indeed, the projections for the CPI excluding energy have barely changed from the previous exercise. With respect to the CPI excluding energy, however, the recently favourable dynamics are set for a turn-around, and the corresponding inflation rates are expected to re-accelerate soon. Most of the driving forces of the CPI excluding energy have already bottomed out or are set for a near-term reversal. Industrial producer prices could rise again with the recent and projected upturn in the euro price of oil. The Eurosystem staff projects higher inflation for the euro area, which would feed through to Luxembourg prices via the import channel. Finally, wage costs are expected to edge higher, amongst other reasons, because of the earlier than previously projected timings of the automatic wage indexations.

NICP and HICP inflation are expected to accelerate sharply in 2010 to, respectively, 2.2% and 2.9%. The rebound compared to the very low inflation rates in 2009 is essentially accounted for by the energy component. The more moderate dynamics of this component in 2011 and 2012 would also entail a softening of the headline inflation rates, whereas the CPI excluding energy would accelerate. In spite of NICP inflation falling below 2% in the medium term, the scenario remains unfavourable as Luxembourg's headline inflation would again be higher than the corresponding inflation rates in the neighbouring countries.

Risk assessment

The BCL indicator for economic activity is not directly used for macroeconomic projections but rather as a complement. According to the BCL indicator, economic growth was buoyant during 2010 Q1 and Q2. As of the second quarter of 2010, the carryover on annual average real GDP growth in 2010 is estimated to be around 3%. Therefore, our expected GDP growth for 2010 to be between 2.6 and 3.2% appears quite careful.

1.2.12 Public finances

The general government recorded a deficit of 0.7% of GDP in 2009, following a surplus of 2.9% in 2008. This deterioration was mainly caused by an acceleration of expenditure growth (which amounted to more than 9% in nominal terms) which, also given the decline in GDP, gave rise to an increase of about 5 percentage points in the expenditure-to-GDP ratio. This increase in spending was due, among other factors, to the implementation of fiscal stimulus measures in response to the economic crisis. According to BCL estimates, the fiscal stimulus indeed accounted for 1.5% of GDP in 2009. The most prominent measures were the limited indexation of tax brackets to inflation (impact of 0.9% of GDP), the introduction of three new tax credits ("*crédits d'impôts*") and the reduction in the registration tax for companies ("*droit d'apport*").

The deterioration in the fiscal position was, however, moderated by a much better than expected performance of tax and social contribution revenues. Corporate taxes proved especially resilient, as they increased by 2% in 2009 in spite of the economic crisis. This favourable evolution reflects, *inter alia*, long lags in the collection of corporate taxes. All in all, the revenue ratio increased in spite of significant tax cuts. Investment spending was also lower than planned. The government debt ratio increased slightly and reached 14.5% of GDP in 2009, compared to 13.7% in 2008.

Table 1.23: Fiscal developments, 2008-2012

	2008	2009	2010	2011	2012	2009	2010	2011	2012
	(as a percentage of GDP)					(percentage change in nominal level)			
Total revenue	40.1	41.6	40.2	40.1	39.9	-0.3	0.6	4.0	4.6
Fiscal burden	36.2	38.1	36.6	36.4	36.1	0.9	0.1	3.6	4.4
Total expenditure (EDP)	37.2	42.4	43.0	43.4	43.1	9.4	5.6	5.3	4.4
Interest payments	0.3	0.5	0.7	0.9	1.0	65.1	46.5	30.7	17.3
						(change in percentage points of GDP)			
Budget balance (EDP)	2.9	-0.7	-2.8	-3.3	-3.2	-3.6	-2.0	-0.5	0.1
Cyclical component	1.0	0.3	-0.1	-0.5	-0.6	-0.7	-0.4	-0.4	-0.1
Cyclically adjusted primary balance	2.2	-0.5	-1.9	-1.9	-1.6	-2.7	-1.5	0.1	0.3
Consolidated gross debt	13.7	14.5	19.3	24.3	28.6	0.8	4.8	5.1	4.3
Structural revenue[1]	40.2	40.1	39.4	39.7	39.9	-0.1	-0.8	0.3	0.2
Structural expenditure[1]	38.3	41.1	42.0	42.4	42.4	2.8	0.9	0.4	0.0
Latest stability programme									
Budget balance (EDP)	2.5	-1.1	-3.9	-5.0	-4.6	-3.6	-2.8	-1.1	0.4
Consolidated gross debt	13.5	14.9	18.3	23.9	29.3	1.4	3.4	5.6	5.4

1) As a percentage of trend GDP.

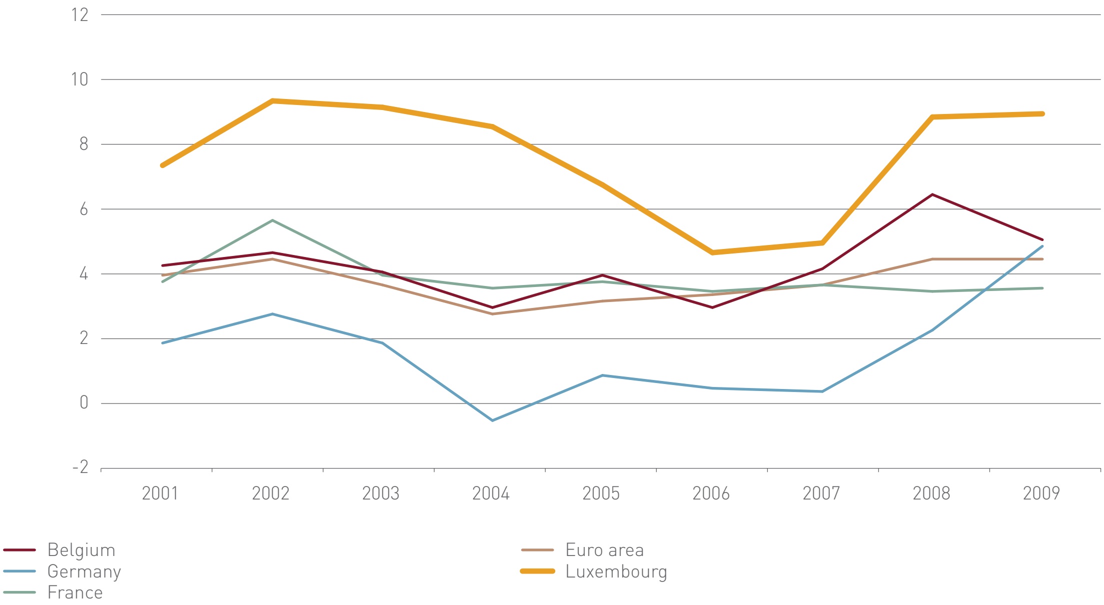
The government deficit was broadly in line with the target of 0.6% of GDP envisaged in the February 2009 stability programme update, as revenues held up in spite of lower than projected economic growth.

Budgetary projections for the period from 2010 to 2012

The general government deficit is projected to increase markedly over the projection horizon, approaching 3% of GDP this year and then rising further to between 3% and 3.5% in 2011-12. The deterioration is largely structural in nature, although the impact of the economic cycle is also assessed as somewhat negative, mainly on account of unfavourable composition effects. At the same time, government debt as a percentage of GDP is projected to almost double, from 14.5% in 2009 to 29% in 2012. This unfavourable evolution would be observed in spite of the adoption, by the Luxembourg authorities, of a consolidation package announced by the Prime Minister on 5 May. The composition of this package is summarised in the table 1 (table from box 1.7). This package amounts to about 1% of GDP in 2011 and in 2012. It would rest on lower investments (economy evaluated with respect to the "spontaneous" increase as estimated by BCL, not based on the planned investments expenditure, which are usually only partly implemented). Current expenditure would also be lower by about EUR 100 million, but with a much larger impact in 2011 due to a temporary measure (increase in pensions partly delayed from January 2011 to January 2012, but not cancelled). However, the fiscal adjustment would primarily rest on higher taxes, especially on households.

The revenue ratio is projected to decline over the projection horizon in spite of the new measures, largely on account of an unfavourable composition of growth. Moreover, having performed surprisingly strongly last year, corporate income tax receipts are expected to fall sharply in 2010 as a lagged response to the crisis (also partly reflecting the way in which these taxes are collected). Spending growth is projected to moderate gradually over the projection horizon, owing both to consolidation measures and the unwinding of past stimulus measures. Nonetheless, the structural spending ratio is projected to rise further in 2010 and 2011, before stabilising in 2012. This reflects the high and entrenched public expenditure growth rate in Luxembourg, which is illustrated in the following chart. Current expenditure in Luxembourg grew by 7.8% a year on average from 2000 to 2009. The corresponding rate reached 3.9% in the euro area and 1.8% only in Germany.

Chart 1.25: Current expenditure growth rate of the general government of Luxembourg compared to neighbouring countries



Sources: Eurostat, BCL calculations

The ESCB projection points to lower deficits than those targeted in the last update of the stability programme. Notwithstanding a more favourable macroeconomic scenario, differences are also partly attributable to favourable base-year effects, as the 2009 deficit turned out to be lower than expected in the stability programme. Risks to the fiscal projections mainly relate to a potential deterioration in the macroeconomic outlook, which could imply further revenue losses and/or increases in unemployment-related spending. Furthermore, corporate income taxes are extremely volatile in Luxembourg. The projections related to this revenue item should therefore be interpreted with caution.

Policy issues

Luxembourg recorded budget surpluses until 2008. Although this can partly be attributed to the implementation of consolidation measures adopted on the occasion of the Tripartite Coordinating Committee meeting in 2006, these surpluses were also achieved in an exceptionally favourable macroeconomic context, including substantial financial profits, which boosted government revenues. Although the ESCB projection points to Luxembourg being the only euro area country with a deficit below the 3% of GDP reference value in 2010, this is not expected to be the case anymore in 2011. This is in part due to sizeable fiscal stimulus measures, only some of which are to be reversed from 2011 onwards. In other words, the stimulus measures for Luxembourg cannot all be characterised as "timely, targeted and temporary".

Unfavourable fiscal developments in 2011 and 2012 are expected in spite of the impact of the consolidation measures announced by the Prime Minister on 5 May 2010. The consolidation package amounts to slightly more than 1% of GDP, but this impact would be partly offset by lower corporate income taxes, and the rate of expenditure growth would still be quite high. The measures announced by the Prime Minister do not primarily focus on expenditure restraints. The new measures will lead to a decrease in current expenditure of only about EUR 100 million from 2011 onwards, whereas taxes on households will go up by more than EUR 260 million in 2011. As explained in Box 2, this focus on higher taxes could have a negative impact on the economy in general and on labour demand in particular. This would in turn worsen the fiscal balance impact. As a result, according to the BCL general equilibrium dynamic model, the consolidation package would improve the fiscal balance by at most 0.4% of GDP over the medium-term – and not by 1% of GDP as suggested by mechanistic calculations.

As the deficit notified by the government for 2010 in the context of the Spring 2010 EDP notification exceeded 3% of GDP, the European Commission has initiated an excessive deficit procedure by preparing a report under Article 126(3) of the Treaty. However, the procedure has been put on hold, as the deficit planned for 2010 is close to the 3% of GDP reference value and the excess over this value has been deemed exceptional and temporary by the Economic and Financial Committee. The ESCB projection points to steps being necessary to keep the deficit below the reference value in 2011.

The February 2010 Stability Programme update sets Luxembourg's medium-term objective as the achievement of a structural surplus of 0.5% of GDP. This is less ambitious than the minimum value of 0.75% of GDP recommended by the European Commission. This is unfortunate, not least since according to the European Commission's latest Ageing Report (2009), the increase in age-related spending in Luxembourg will be the strongest in the EU over the coming decades. Structural measures must therefore be adopted as soon as possible in order to address these challenges and in view of the risk that the sustainability of public finances could be further eroded by a lower future potential growth rate in the aftermath of the financial crisis. Furthermore, the European Council agreement of December 2007 on a regulation related to the taxation of electronic commerce will imply revenue losses for Luxembourg of 0.7-1.2% of GDP as of 2015.

Overall, the deficit-to-GDP ratio is projected to exceed the 3% reference value. The medium-term objective of a small budget surplus is still to be achieved and substantial further adjustment and/or reform will still be needed to address the fiscal challenge posed by an ageing population. This problem is particularly acute in Luxembourg. According to BCL calculations further explained in Box 1.8, the public debt ratio should exceed 60% of the GDP reference value around 2027 if no additional measures are taken. The authorities have already announced that they will present new measures in order to contain pension expenditure in the future. BCL hopes that these measures will be in tune with this daunting task.

Box 1.6:

IMPACT OF THE 2009 FISCAL STIMULUS

In March 2009, the Luxembourg government announced a package of measures intended to fight the economic crisis unleashed by the failure of Lehman Brothers in September 2008. The government estimated the overall impact of these measures at more than 3.2% of GDP, which in relative terms was one of the most ambitious fiscal measures in the European Union. This text box attempts to quantify the actual impact of this plan on the Luxembourg economy. First of all, BCL analysis revealed that some of the measures announced were spread over several years, so that part of the fiscal stimulus announced would not occur in 2009 but only in 2010, 2011 or even in 2012. Second, part of the measures were eliminated from the analysis because they involved automatic adjustments already foreseen by the law and therefore did not fit the idea of a discretionary measure aimed at exceptional circumstances. Lastly, more than a year after the government announcement, current information on the 2009 budget exercise provides some idea of how much was actually implemented. At present, it appears that the discretionary part of the fiscal stimulus actually implemented in 2009 was only 1.5% of GDP, or 580 million euros.

This amount was distributed across the different public finance variables present in the BCL macro-econometric model.[1] Thus the measures actually introduced in 2009 were reclassified as follows:

1. A cut in the direct tax rate paid by households corresponding to a fall in revenues of 322 million euros (this reduction is independent of the endogenous fall in revenues linked to weaker domestic demand and the resulting cut in production and the wage bill);
2. A cut in the direct tax rate paid by firms corresponding to a fall in revenues of 117 million euros (independent of the endogenous fall in revenues linked to the fall in gross operating surplus due to lower production);
3. An increase in transfers to households of 91 million euros;
4. An increase in subsidies on production of nearly 13 million euros;
5. An increase in public investments of 48 million euros.

These assumptions were introduced in the model using add factors calibrated to generate the anticipated effect on each element of public finances considered in isolation. The solution of the model then allowed the system of simultaneous equations to interact, determining the level of all endogenous variables in 2009 in a baseline scenario that excluded the exceptional fiscal measures, and in an alternative scenario that included them. Results are expressed in percentage deviation from the level in the baseline scenario (without measures).

The most important impact is on private consumption. With respect to the scenario "without measures", household disposable income increased by more than 2.2%, boosting private consumption by 1.23% in real terms. Public consumption is not affected. On the other hand, higher public investment leads to a 0.83% increase in real gross fixed capital formation for the whole economy. By assumption, exports are unchanged, but imports increase by 0.34% in response to higher consumption and investment. As a result, domestic demand contributes an additional 0.63% to real GDP growth following the fiscal stimulus, but the contribution of net exports falls (-0.52%), which yields a total impact of only 0.11% additional percentage points of GDP growth. Thus the multiplier attached to the overall package of measures is very low

1 Guarda (2005) "The Luxembourg block of the Multi-Country Model," in Fagan & Morgan (eds.) Econometric Models of the Euro-area Central Banks, Edward Elgar Publishing.

(approximately 0.1). Each euro of fiscal deterioration produces only ten cents of additional growth in 2009.

At first sight, this result may seem disappointing, but it is plausible for the following reasons.[2] First, the Luxembourg economy is very small and very open, which implies significant "leakage" through higher imports. Second, the package of measures announced in 2009 stressed lower taxation rather than higher expenditure, which requires longer periods before it affects economic activity. Third, so far monetary policy has been expansionary, but the rapid increase in euro area public debt may already encourage households to increase savings, in anticipation of future increases in interest rates and fiscal pressure. Finally, as emphasised by the European Commission, the measures announced by the Luxembourg Government were not clearly temporary in nature, which could reduce their effectiveness as counter-cyclical policy.

This box has focussed on the impact of measures taken at the national level and deliberately ignored the existence of an EU coordinated fiscal effort to fight the crisis. Measures taken simultaneously in 2009 by governments in Germany, France, Belgium and our other trading partners will have supported foreign demand addressed to Luxembourg, probably with a much larger effect for the Luxembourg economy through the stabilisation of our exports. These spillover effects are considered in the projection exercise, but are beyond the scope of this box, which has merely focussed on the domestic effects of the national measures.

2 See Spilimbergo, Symansky & Schindler (2009) "Fiscal multipliers" IMF Staff Position Note SPN/09/11 and Ilzetzki, Mendoza & Vegh (2009) "How big are fiscal multipliers?" CEPR Policy Insight No. 39 and Coenen et al. (2010) "Effects of fiscal stimulus in structural models," IMF Working Paper WP/10/73 as well as ECB (2010) "Euro area fiscal policies and the crisis," Occasional Paper 109.

Box 1.7:

IMPACT OF THE FISCAL CONSOLIDATION ANNOUNCED ON 5 MAY 2010

This box evaluates the consolidation measures announced by the Prime Minister on 5 May 2010 before the Luxembourg Parliament. First, they are briefly reviewed and their purely "static", mechanical budgetary impact is calculated. This estimate does not take into account the impact of the new measures on domestic demand and net exports nor the related "second-round effect" on public finances. This is done in the second and third parts of the box, where this knock-on effect is estimated. This is done first on the basis of the BCL bloc of the multi-country model (MCM) and then on the basis of the general equilibrium model LOLA. The MCM model estimates the net budgetary impact of the new measures at about 1% of GDP. This is close to the "static" impact evaluated in the first part of the box, which illustrates the extreme weakness of fiscal multipliers in Luxembourg. Indeed the country epitomises the case of a small, open economy with large leakage effects. The net impact of the measures inferred on the basis of LOLA is much lower, as it would amount to at most 0.4% of GDP over a medium-term horizon. This reflects the fact that LOLA takes into account the adverse effect of higher taxes on the economy, including *inter alia* labour supply.

The new consolidation measures: static impact on public finances

On 5 May 2010, Prime Minister Jean-Claude Juncker announced a new fiscal consolidation package before Parliament. These measures

Table 1: New budget consolidation measures announced on 5 May 2010 by Prime Minister (EUR million)

	Expenditure	2011	2012
1	**Public investment (central government)** capped at 2009 level (768.6 mio EUR)	**96**	**70**
2	**Cut in capital transfers (investments)**	**10**	**10**
3	**Cut in government operating expenses**	**28.5**	**29.4**
	- cut in assessment costs (-20%)	10	10.5
	- cut in administrative costs, travel expenses, ...	10	10
	- hiring limits for new civil servants	8.5	8.9
	- freeze on indexation over next 4 years (to be confirmed)	0	0
4	**Transfers to households**	**85.5**	**49.5**
	- pension adjustment to real wages (0.95% in 2011 and 0.95% in 2012)	39	-3.6
	- elimination of family allowance for children 21 years and over and new rules for university grants and loans	44	46
	- education contribution paid only at 65 years of age (currently 60)	1.5	3.1
	- new treatment of interest payments in housing subsidies	1	4
5	**General 10% cut in subsidies to firms**	**4**	**4**
6	**Government cofinancing of sewage treatment cut from 90 to 75% (no impact on consolidated balance)**		
	Total expenditure	**224**	**163**
	Receipts	2011	2012
1	New 39% tax rate on labour income above 83,586 euros	26	39
2	Solidarity tax raised from 2.5% to 4% (6% for taxable income > 300,000 euros)	40	42
3	New crisis tax 0.8%	80	82
4	Firms' solidarity tax raised by 1%	12	12
5	Commuting expenditure deduction halved from 2011 onwards	50	50
6	Abolition of reduced registration and transcription fees when buying dwellings (Bëllegen Akt)	70	70
7	No adjustment of fiscal brackets for inflation		
8	Reduction in corporate income tax abadoned		
9	New maximum for bonus payments firms can deduct from taxes		
10	New charge for certain types of companies (e.g.: Société de participation financière)		
11	Accident insurance contribution rate set at 1.25% across all sectors		
	Total receipts	**278**	**295**
	Impact on budget balance of public sector	**502**	**458**

Note: figures report net impact with respect to BCL baseline scenario with unchanged policy.

were intended to address the deteriorating public finances and to contribute to ensuring that the Luxembourg general government returns to fiscal balance in 2014. These measures are summarised in the table below. Only those measures that were sufficiently detailed and that will likely be adopted by Parliament are listed in the table.

Expenditure-decreasing measures

The measures are the following:

1. Lower public investments. Central government investment expenditure will be frozen at the level recorded in 2009, namely EUR 768.8 million. Several projects will be delayed or even cancelled.

2. Lower central government operating expenditure. For instance decrease in expert fees by 20%, lower administrative and travel expenditure. Fewer civil servants will be recruited in 2011 and 2012 and the wages of civil servants will be frozen over the next four years.

3. Lower transfers to households.

   (i) Pensions should have increased by 1.9% in January 2011, in line with real wage developments. Instead, this increase will be split in two parts: +0.95% in January 2011 and +0.95% again in January 2012. This will deliver a temporary decline in expenditure in 2011.
   (ii) Children allowances will be cancelled for children aged 21 or over (currently 27).
   (iii) New policy as regards transfers and loans to students.
   (iv) Education allowance ("*forfait d'éducation*") paid from the age of 65, compared to age 60 currently.
   (v) Less generous tax credits for notary acts ("Bëllegen Akt") and more stringent conditions for interest reliefs.

4. Subsidies to companies decreased by 10%.

Revenue-increasing measures

The measures will deliver approximately EUR 300 million:

1. New 39% personal income tax rate for taxable incomes higher than 83 583 euros a year.

2. Higher solidarity levy on households. The solidarity levy is equal to 2.5% of the personal income tax for the moment. It will reach 4%, and even 6% for taxable incomes higher than 300 000 euros.

3. New "crisis tax" equal to 0.8% of overall income (wages, rents, dividends,...).

4. Higher solidarity levy on corporations. This levy is currently equal to 4% of "IRC" ("*Impôt sur le revenu des collectivités*") corporate taxes. The new rates will reach 5% instead.

Considered as a whole, the expenditure-decreasing and revenue-increasing measures will amount to EUR 502 million in 2011 and EUR 458 million in 2012 according to the BCL estimates. However, additional measures will probably be adopted later on, as they will probably not be sufficient to ensure that public finances are back to balance in 2014. But only the measures already announced and sufficiently spelled out are included in our calculations.

Table 2: Consolidation measures: impact according to the BCL bloc of the MCM model (% deviation with respect to the baseline scenario "no consolidation")

	2011	2012
Real GDP	-0.14	-0.07
Private consumption	-0.99	-0.41
Public consumption	-0.41	-0.37
Gross fixed capital formation	-1.59	-1.16
Exports (goods & services)	0.00	0.00
Imports (goods & services)	-0.38	-0.22
Contributions to real GDP growth:		
Domestic demand (% of GDP)	-0.73	-0.42
Net exports (% of GDP)	0.59	0.35
Budget balance (% of GDP):		
Consolidated public sector	**1.18**	**1.07**

Sources: calculations BCL

These assumptions have been incorporated into the ***BCL bloc of the MCM model*** in about the same manner as in the previous box related to the counter-cyclical measures adopted in 2009. The results (expressed as percentage deviation from the scenario without consolidation) appear in the attached table.

In 2011, the higher taxes paid by households contribute to a fall in disposable income by 1.8%, which induces a decrease in household consumption of 0.99% compared to the "no consolidation" scenario. Due to the decreased operating costs of the central government, public consumption is also lower than in the baseline, by 0.41%.

The limited increase in direct taxes paid by companies, along with the reduced public investments, weaken gross fixed capital formation, which is 1.59% lower than in the "no consolidation" scenario. All in all, the contribution of domestic demand to GDP growth is reduced (-0.73 GDP points compared to the "no consolidation" scenario). However, imports are also lower (-0.36% of GDP), and as a result lower domestic demand is largely offset by higher net exports (+0.59 GDP point). In 2011, GDP should be 0.14% lower than in the "no consolidation" scenario, which is quite limited.

In 2012, the decrease in household transfers is less pronounced than the year before. Disposable income and therefore private consumption are higher as a result: the latter is reduced relative to the no consolidation scenario by 0.41% only. In addition, public investments are lower than in the baseline, but to a lesser extent than in 2011. All in all, domestic demand is still lower than in the "no consolidation" baseline, but by 0.42% only. The net result is that GDP in 2012 is lower than in the no consolidation scenario by 0.07% only.

It should be borne in mind that the consolidation measures analysed here are the ones announced by the Prime Minister on 5 May 2010. The calculations do not take into account the impact on net exports of potential measures adopted in foreign countries.

As the impact of the measures on domestic demand is offset to a significant extent by lower imports, multipliers are low and the final budgetary impact of the consolidation measures is close to the static impact estimated in the first table of this box.

LOLA

The use of the dynamic stochastic general equilibrium model LOLA (see Pierrard and Sneessens, BCL WP N° 36, 2009, for a detailed exposition) may offer complementary insights. We summarize the different measures proposed by the government into three categories: (i) a decrease in public consumption, (ii) a decrease in transfers to households and (iii) an increase in the taxation of households' income. We assume the different measures are permanent.

First, lower public consumption does not affect the other variables in the model. Second, lower transfers to households reduce private consumption. To offset this effect, households will work more and in fine GDP slightly increases. The net effect on public finance is positive. Third, higher taxation on households' income immediately improves the public finance. On the other hand, the increase in labour taxation reduces labour supply. This results in lower output and higher social expenditures and the net effect on the public finance is negative.

These three measures together amount *ex ante* to about 1% of GDP. However, *ex post*, LOLA shows that the expected positive effects on public finance are much lower (around 0.35% of GDP). However, although rather weak, these effects are quite persistent since they are still present after 10 years.

Why do we obtain such weak estimated results, compared for instance with the results obtained from the MCM? The main reason is the implied general equilibrium effects of labour taxation on the labour supply, which is explicitly modelled in LOLA. Moreover, the general equilibrium effects are amplified because of the forward-looking nature of agents, i.e. agents in the model are fully aware that the shocks will be permanent.

Box 1.8:

LONG-TERM SUSTAINABILITY OF PUBLIC FINANCES IN LUXEMBOURG: AN APPRAISAL AFTER THE CONSOLIDATION MEASURES ANNOUNCED ON 5 MAY 2010

This box contains an assessment of the long-term sustainability of the Luxembourg public finances over the 2010-2040 period. The consolidation measures announced by the authorities on 5 May 2010 are duly taken into account in this exercise. The salient conclusion is that these measures are still grossly insufficient to address Luxembourg's deeply entrenched fiscal sustainability problem, and that additional measures should be considered. Only resolute action based on the conjunction of two pillars could ensure the sustainability of our public finances. The first pillar is the implementation of the EUR 1.5 billion effort presented in the 11th update of the Luxembourg Stability Programme. The second pillar is a structural reform of the social security system, focused in particular on a "ticking time bomb", namely the pension systems.

Reference simulation: the salient assumptions

The simulations carried out in this section mainly rely on two sources: the works of the Ageing Working Group of the Economic policy Committee (AWG), and the 2010-2012 BCL macroeconomic projections, presented elsewhere in this report. By assumption, economic growth is to reach 2.2% a year after 2012, with the rates forecast by the BCL from 2010 to 2012. The 2.2% assumption is clearly less favourable than the one privileged by the AWG, but this seems much more reasonable in the aftermath of the economic and financial crisis.

The relatively classic demographic assumptions will not be mentioned in detail in this section, as they are presented in the EPC report. It is appropriate to note the large number of immigrants, at a level of 3 000 to 4 000 people per year.

Public revenues and costs reflect from BCL projections until 2012, and the previously mentioned assumptions from 2012 onwards. It is appropriate to note that all these projections are carried out in structural terms. Economic cycles are certainly not modelled by the AWG from 2012 to 2060. For the 2010-2012 periods, the BCL has carried out projections on structural general government revenue and expenditure balance. These projections notably induce the calculation of the structural budgetary balance. In clear, these revenues and costs are "cleared" of the impact of economic cycles and temporary measures.

On the expenditure side, it is supposed that the wage bill of public sector employees will experience the same evolution as that of the private sector, which implies that average wages and public employment will increase at the same speed as in the private sector throughout the projection horizon. This means that in the steady state, public employment will increase by 0.5% per year (GDP growth of 2.2% and increase of productivity of 1.7% per year), which seems moderate compared to evolutions observed in the last ten years.

As far as social security is concerned, pension expenditures (both general - i.e. private sector - regime and the special regimes dedicated to, *inter alia*, civil servants), health insurance, unemployment allowances and dependency insurance are supposed to evolve in about the same manner as in the AWG basis scenario. This induces a clear increase of primary expenditure linked to these four sectors, by 13% of GDP, between 2012 and 2040. However, this impact is tempered by the treatment reserved to family allowances. This post, which carries a certain weight in Luxembourg, is not considered in the EPC study. To infer the long-term evolution of this post, which will represent about 3% of GDP in 2012 according to the BCL unchanged policy assumption, national family allowances are presumed not to be indexed to prices, along with decisions approved by the *Comité de Coordination Tripartite* in April 2006. In the same perspective, it is also presumed that the Luxembourg authorities will not implement new measures regarding family allowances. The nominal amount of these benefits is consequently frozen throughout the projection period. Therefore in the projections presented in this section, the cost of these benefits will fall from 2.8% of GDP in 2012 to only 1.1% of GDP in 2040. This decrease of 1.7% of GDP covers more than one sixth of the additional cost expected from pensions (10.9% of GDP).

On the revenue side, the general rule to which the scenarios discussed below stick, is that revenues grow proportionally to GDP. An example is social contributions paid by active people. Note that the wage bill itself is supposed to remain stable relative to GDP. However, there are several exceptions to the proportionality principle between revenue and GDP. First, contrary to the AWG, the BCL takes into consideration the positive impact of the marked increase in pensions on two revenue categories, namely social contributions paid by pensioners (health and dependency insurance), and direct taxes. This effect, which succeeds in mitigating somewhat the fiscal impact of population ageing, cannot be ignored. Indeed, it improves the primary public balance by about 1% of GDP from 2012 to 2040, which represents a little more than 10% of the increase in expected pension expenditures over the same period. Second, as indicated below, interest receivable is estimated according to general government assets, and consequently does not remain stable compared to GDP. Finally, direct taxes on corporations, which should reach a historically low level in 2011 and 2012, are supposed to gradually regain their 2010 level (at least as percentages of GDP) by 2015. Afterwards, taxes on companies are stable compared to GDP.

Another distinguishing factor compared to the AWG is the inclusion of interest receivable - notably on pension reserves - and interest payable. The rate of return on capital is supposed to attain 4% per year, which would be appreciatively the rate observed in the last years. The implicit interest rate on debt is also fixed at 4% in nominal terms all through the 2013-2040 period. The debt evolution dynamic considers an important constraint: the central government is surely not supposed to fund these deficits by drawing funds from pension reserves. A gross consolidated debt can therefore be accompanied by significant positive assets.

Table 1: Reference simulation: general government revenue, expenditure, balances and indebtedness (as % of underlying GDP)

	2012	2014	2015	2020	2025	2030	2035	2040
Total revenue	**39.9**	**40.2**	**40.3**	**40.2**	**39.9**	**40.0**	**40.2**	**40.4**
Direct taxes	13.0	13.2	13.4	13.5	13.6	13.8	14.0	14.1
Indirect taxes	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2
Social contributions	11.8	11.9	11.9	11.9	12.0	12.1	12.2	12.3
Interest income	1.0	1.1	1.0	0.8	0.2	0.0	0.0	0.0
Others	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
Total expenditure	**42.4**	**43.0**	**43.4**	**45.4**	**48.1**	**51.5**	**55.8**	**59.7**
Social transfers	21.3	21.8	22.1	23.8	26.2	28.4	30.9	32.7
Public investments	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
Compensation of employees	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1
Other primary expenditure	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8
Interest charges	1.0	1.1	1.1	1.4	1.8	3.0	4.8	6.9
Deficit (-) or surplus (+)	**-2.5**	**-2.8**	**-3.1**	**-5.1**	**-8.3**	**-11.5**	**-15.5**	**-19.3**
Public debt	27.6	29.8	31.1	39.2	48.6	86.2	134.4	191.3
Of which pension debt	-25.7	-25.4	-24.9	-17.4	0.2	28.9	68.6	117.3

Sources: Ageing Working Group, IGSS, Statec, BCL calculations.

Results of the reference simulation

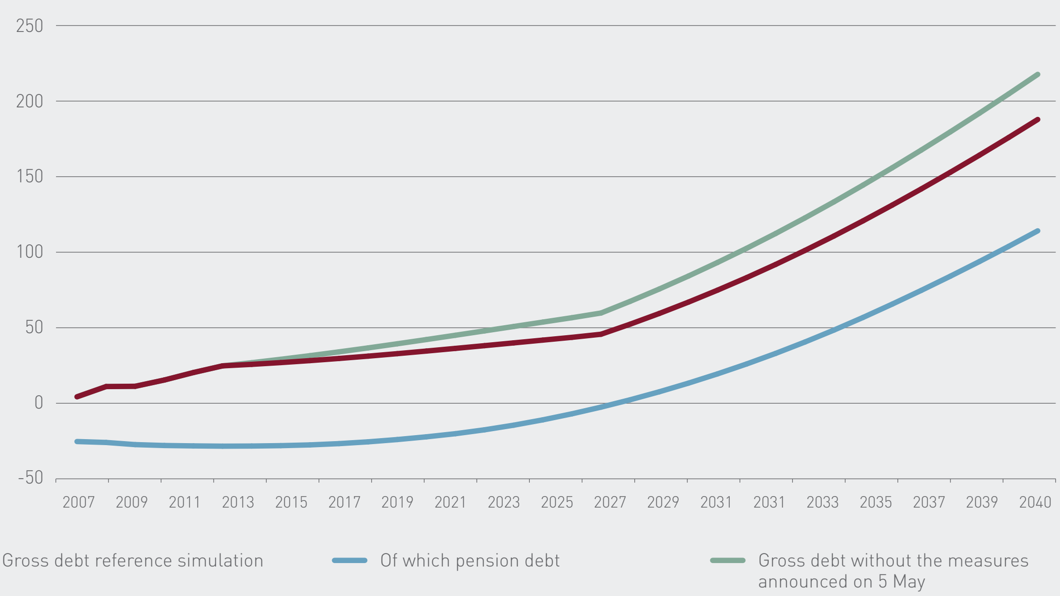
The results of the reference simulation are displayed in Table 1. It appears that the total revenue ratio would slightly increase during the reference period. Direct taxes and social contributions are indeed positively affected by the underlying rise of their common base, which is mainly composed of wages and pension incomes. Whereas by assumption the wage bill remains stable relative to GDP, this is not the case for pensions.

However, this positive impact of revenues would be largely offset by a fall in interest receivable, which would suffer from the effect of a progressive disappearance of pension reserves.

Pension expenditure should rise by 11% of GDP from 2012 to 2040. Health expenditure and dependency insurance expenditure should rise respectively by 1.6% and 0.9% of GDP over the same period of time. These increases, which total 13.4% of GDP, would only be partially countered by the diminution of family allowances (-1.7% of GDP) and of expenditures linked to unemployment (-0.2%). In total, social transfers would rise from 21% of GDP in 2012 to about 33% of GDP in 2040.

General government expenditures apart from social transfers are supposed to remain stable compared to GDP, except for interest charges, which should rise from 1% of GDP in 2012 to more than 7% of GDP in 2040. This result reflects the inherent dangers of a poorly controlled indebtedness dynamic. Because of the assumption of absolute rigidity of expenditure, the reference scenario results in growing deficits, which would largely exceed the 3% of GDP level, nearly all throughout the projection horizon. Around 2040, the general government deficit would even be close to 20% of GDP. In this scenario, the gross consolidated debt would increase in an exponential manner. It would already reach 30% of GDP by 2014 and would cross the 60% of GDP reference value in 2027. It would approach 200% of GDP by the end of the projection horizon. As indicated in the chart below, the pension system, whose indebtedness should in the end reach more than 100% of GDP in 2040, constitutes one of the major motors of the indebt-

Chart 1: Reference simulation: General government indebtedness (as % of underlying GDP)



Sources: Ageing Working Group, IGSS, Statec, BCL calculations edness dynamic. However, it is appropriate to note that other components of general government expenditure will also contribute to this dynamic, due to the importance of their structural deficits.

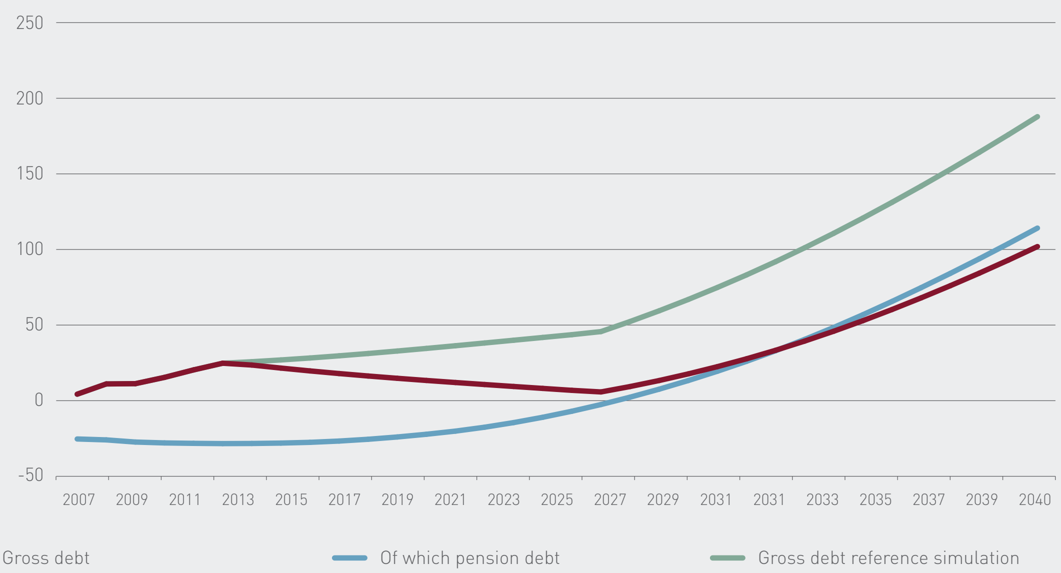
The deficits and the debt level expected for the 2013-2040 period do not constitute previsions *stricto sensu*, because it is probable that authorities will react before such deterioration occurs, in line with the unchanged policy assumption. This reference projection simply intends to illustrate the inherent dangers of a too passive budgetary policy in the coming years.

The chart above also illustrates that the measures announced by the Prime Minister on 5 May 2010 are not sufficient to address Luxembourg's fiscal sustainability problem. They are of course likely to improve the situation, but do not change the projections in a dramatic manner as illustrated by the limited difference between the brown and the green curves.

Simulation 2: Implementation until 2014 of the consolidation strategy presented in the 11th update of the Stability Programme

The second simulation illustrates the impact of the consolidation strategy presented in the 11th update of the Stability Programme, which should amount to EUR 1.5 billion (improvement of the general government balance of around 3% of GDP in 2014). In this case, as illustrated in the chart below, this effort, which would represent about three times the amount of the measures presented on 5 May, would improve the fiscal situation in a significant way. The public debt ratio would even tend to decrease before 2025. However, due to the strong structural increase in social transfers, the fiscal situation would deteriorate again from 2025 onwards, and the debt ratio would even exceed the 60% reference value in 2024. These results show that a consolidation strategy for the central government should be accompanied by lasting reforms of the social security system, with regard to pensions in particular.

Chart 2: General government indebtedness in a scenario where the consolidation effort amounts to EUR 1.5 billion until 2014 (11th update of the Luxembourg Stability Programme) (as % of underlying GDP)



Note: The total gross debt of general government could be lower than the debt of pension system by itself, as the gross official debt is a consolidated concept.

Sources : Ageing Working Group, IGSS, Statec, BCL calculations

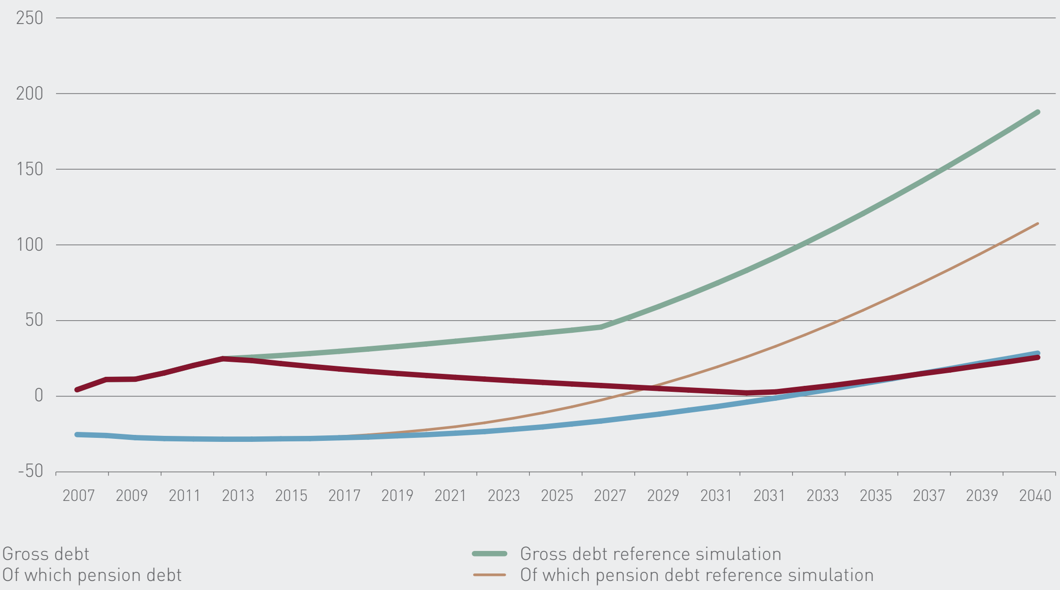
Simulation 3: EUR 1.5 billion consolidation effort and suspension of the indexation of pensions to real wages

Like the previous projection, the current simulation aims to apprehend the medium-term consequences of a consolidation strategy. This time though, this last one consists of a conjunction of two consolidation measures, namely the aforementioned EUR 1.5 billion package and a more gradual measure, which would affect exclusively the pension level. It consists of suspending the adjustment of pensions to real wages during the whole projection horizon. This adjustment currently occurs during even years, in order to stabilize the pension replacement rate. The impact on public finances of such a suspension is illustrated in the following chart.

The suspension should strongly affect the evolution of social transfers. While these would reach 33% of GDP in 2040 in the reference simulation, they would only amount to 25.6% in case of suspension of the adjustment of pensions to real wages. In other words, the impact of demographic ageing on public finances would be balanced in a significant measure. This would result in a much more favourable indebtedness dynamic than in the reference projection.

However, the average rate of replacement of wages by pensions would decrease by about 35% during the projection horizon. But this marked diminution could be palliated by a modulation of the suspension in function of the pension level, or by a shorter suspension period. In addition, the modulation could be accompanied by measures intended to diminish the cost of pensions without affecting the replacement rate, for instance an increase of the effective retirement age. Finally, transfers could be reduced in other social security branches than the pension sector, which would limit the required adjustment of the replacement rate.

Chart 3: General government indebtedness in a scenario where the consolidation effort amounts to EUR 1.5 billion until 2014 (11th update of the Luxembourg Stability Programme) and where the adjustment of pensions to real wages is suspended (as % of underlying GDP)



Note: The total gross debt of general government could be lower than the debt of pension system by itself, as the gross official debt is a consolidated concept.

Sources: Ageing Working Group, IGSS, Statec, BCL calculations