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Macroeconomic Imbalances - Luxembourg 2014

Results of in-depth reviews under Regulation (EU) No 1176/2011 on the prevention and correction of macroeconomic imbalances

The macroeconomic challenges of **Luxembourg** *have not been identified as imbalances in the sense of the MIP*. They stem from a growth model based on an efficient financial sector, which has weathered the crisis well. Still, losses in the manufacturing competitiveness, the evolution of the housing market and the high level of indebtedness of the private sector deserve continued monitoring.

More specifically, the analysis of the current account surplus shows that it does not stem from an anaemic domestic demand, but is rather the result of the particular growth model of the country strongly based on financial services. Still, it masks a large and steadily increasing deficit in merchandise trade, which broadly comes from disappointing exports. Losses of export market shares are largely associated with unit labour costs rising much faster than in trading partner countries, driven to a certain extent by the wage setting mechanism. In such regard, finding a structural solution to the temporary modulation of the automatic wage indexation constitutes a challenge. Risks to the domestic financial stability stemming from the presence of a large financial sector exist, but they are relatively contained as the sector is diversified and specialised at the same time. Furthermore, domestic banks post sound capital and liquidity ratios. The high level of indebtedness of the private sector and in particular of the non-financial corporations mainly reflects the presence of a large number of multinational firms that use their branches or subsidiaries in Luxembourg for intra-group financing operations. The dynamism of house prices represents an increasing source of concern. Finally, the current favourable position of public finances is highly dependent on the sustainability of the growth model based on a buoyant financial sector and presents a high sustainability risk in the long term. In this vein, the recently implemented pension reform is insufficient to cope with the challenge. However the structural balance is above the medium-term objective.

Excerpt of country-specific findings on Luxembourg, COM(2014) 150 final, 5.3.2014

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EXECUTIVE SUMMARY AND CONCLUSIONS

In the Alert Mechanism Report (AMR) published on 13 November 2013, the Commission found it useful to examine the existence of imbalances in Luxembourg. To this end, this In-Depth Review (IDR) provides an economic analysis of the Luxembourg economy in line with the scope of the surveillance under the Macroeconomic Imbalance Procedure (MIP). The main observations and findings from this analysis are:

- **Luxembourg has been pursuing a particular growth model, strongly based on financial services.** The strength of its financial services sector has allowed the country to create and sustain a generous welfare state without excessively high taxes and without jeopardizing public finances with budgetary surpluses over the cycle keeping public debt at a very low level. While the financial sector has been the main growth driver for decades, the manufacturing industry has also been expanding steadily until the beginning of the crisis. Nonetheless, the economy’s strong reliance on financial services comes with an inherent risk of overexposure to a single sector.

- **The large current account surplus has been accompanied by strong domestic demand. It also masks a big and steadily increasing trade deficit, which stems from disappointing exports of goods.** Luxembourg's current account surplus is exclusively the result of the extraordinary performance of services, notably from the financial sector. Exports of services have more than offset robust imports, boosted by a dynamic domestic demand. Concerning goods, persistent losses in overall export market shares are associated with comparatively high real wage increases, pointing to the existence of labour market rigidities. Unit labour costs in Luxembourg have been rising much faster than in trading partner countries, driven to a certain extent by the wage setting mechanism. The authorities have sensibly reacted to these developments by implementing a modulation of the automatic indexation of wages for the period 2012-2014. However, this only addresses the concern in a temporary way and more structural action will be necessary. Luxembourg's export performance also highlights competitiveness problems in a larger sense, both in terms of geographical orientation and product specialization, with intermediate goods dominating other types of manufactured exports.

- **Although the challenges for the manufacturing sector cannot be assessed as risk-free for the Luxembourgish economy, they do not seem to constitute a major threat.** A prolonged decline of manufacturing could negatively impact on the authorities' current strategy of reorienting the economy towards knowledge-intensive activities. Preserving a solid manufacturing base would support R&D activities and the necessary transition to the new sectors. Still, two additional factors need to be taken into account when qualifying the impact of the trade deficit for goods on the overall economy. First, non-financial services are dynamic enough and in such a strong positive external position that they can fully compensate for the trade of goods' deficit. Second, the weight of the manufacturing industry in the economy as a whole has become relatively small.

- **Nevertheless, Luxembourg would benefit from a more diversified economy.** For this to happen, it is essential for Luxembourg to speed up the transition towards a more knowledge-intensive industrial sector by enabling the full exploitation of the strengths of its research system. The relative importance of the non-financial services is often neglected due to their small size compared to the financial ones. However, the evolution of these service categories, which encompass areas such as transport, logistics, IT or satellite technology, might be pointing to a certain success of the diversification strategy of the country.

- **The financial sector in Luxembourg is at the same time diversified and specialised and the inter-linkages with the domestic economy are limited.** While Luxembourg is hosting the biggest banking sector of the euro area relative to the size of its economy, the absolute size is not as big as in other financial hubs such as London or Switzerland. While their results and profitability have not returned to pre-crisis levels, banks have weathered the crisis well. Overall, the vast size of the sector is the result of a successful strategy and has become a strong feature of the country's economic structure.

Finally, a higher degree of sectoral concentration is not atypical of a small economy, given the importance of economies of scale.

- **The presence of a large financial sector makes Luxembourg more vulnerable to external shocks.** The overall good results and profitability of the financial sector are exposed to the volatility of the financial markets, to pressures emanating from changes in the regulatory environment and to increasing international competition. Two important pillars of the financial sector have suffered during the crisis: financial intermediation and to a lesser extent fund administration. In addition, the regulatory changes yet to come in response to the crisis are expected to be a game changer for private banking. The adoption of the automatic exchange of information in 2015 will likely trigger some outflows in the private banking area. But this activity has also the potential for further expansion and Luxembourg is trying to create new products and attract new customers in order to take advantage again of its "first mover" strategy by substantially further developing the private banking business.

- **Luxembourg records the highest level of private sector indebtedness in Europe.** Concerning non-financial corporations (NFCs), vulnerabilities at sub-sector level cannot be discarded, although several aggregate indicators appear favourable. Specifically, an important share of debt is constituted by intra-group loans with non-resident affiliates, significant for multinationals in Luxembourg. Mortgage loans represent the bulk of household indebtedness but come hand in hand with a high amount of financial assets owned by the Luxembourgish households. The steady increase in house prices and the high share of variable rate loans could pose some threat in the case of an increase of interest rates, mostly to the low-income households. Finally, the housing market might be put under strong pressure, should the financial sector find it increasingly difficult to remain the country's main growth driver as this may result in downward pressure on employment and gross disposable income of households.

- **The current position of Luxembourg's public finances is reassuring although it is highly dependent on the sustainability of a growth model based on a buoyant financial sector. In addition, the low debt level conceals a substantial risk of sustainability in the long term.** Against this background, Luxembourg recently implemented a first pension reform. The latter is, however, clearly insufficient to cope with the magnitude of the challenge as it misses key elements such as a link between the statutory retirement age and life expectancy.

The IDR also discusses the policy challenges stemming from these developments and what could be avenues worth exploring in terms of policy actions. It is worth underlining that relevant policy responses were reflected and integrated in the country-specific recommendations (CSRs) issued for Luxembourg in June 2013.

- **Concerning the challenge of improving external competitiveness, the country would benefit from an improvement in cost competitiveness and labour costs.** One key element is the role of the wage formation mechanism and how it takes into account developments in labour productivity and competitiveness.

- **Regarding the challenge linked to the large financial sector, the country would also benefit from further intra sectoral diversification as this would limit exposure to a small number of financial sector activities.** Further developing private banking is welcome as this activity provides a reliable and stable source of revenues. The existence of a body promoting best practices and stimulating initiatives is a positive aspect that Luxembourg could further encourage.

- **In view of the strong increase of credit to households, mainly mortgages, and rapidly increasing house prices, economic and financial risks would diminish by the strict observance of a prudent loan–to-value ratio by financial institutions based in Luxembourg.** Considering the important number of subsidiaries and branches operating in Luxembourg, the supervision of the regulatory capital and liquidity ratios that credit institutions have to respect could be done at the entity and group level, allowing thus for enhanced supervision and, if any, early identification of weaknesses.

1. INTRODUCTION

On 13 November 2013, the European Commission presented its third Alert Mechanism Report (AMR), prepared in accordance with Article 3 of Regulation (EU) No. 1176/2011 on the prevention and correction of macroeconomic imbalances. The AMR serves as an initial screening device helping to identify Member States that warrant further in-depth analysis to determine whether imbalances exist or risk emerging. According to Article 5 of Regulation No 1176/2011, these country-specific 'in-depth reviews' (IDR) should examine the nature, origin and severity of macroeconomic developments in the Member State concerned, which constitute, or could lead to, imbalances. On the basis of this analysis, the Commission will establish whether it considers that an imbalance exists and what type of follow-up it will recommend to the Council.

This is the first IDR for Luxembourg. Overall, in the AMR the Commission found it useful to examine whether macroeconomic developments in Luxembourg constitute or could lead to imbalances. To this end this IDR takes a broad view of the Luxembourgish economy in line with the scope of the surveillance under the Macroeconomic Imbalance Procedure (MIP).

Against this background, Section 2 of this IDR looks more in detail into these developments covering both the external and internal dimensions. Section 3 presents an analysis of whether these developments represent an imbalance, as well as its associated risks. Section 4 focuses on certain aspects of the financial sector. Finally, Section 5 discusses policy challenges.

2. MACROECONOMIC DEVELOPMENTS

Recent macro-economic developments and outlook

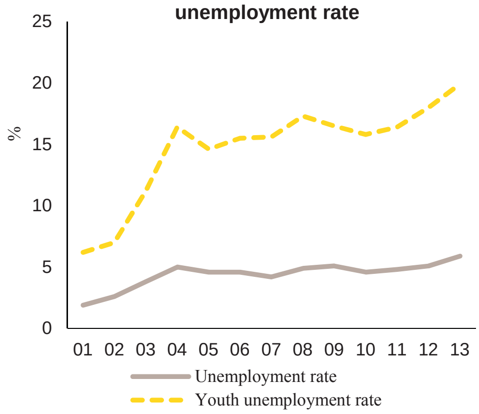
Potential growth has been revised down compared to the period before the crisis, when it was computed at around 4.7%. According to the most recent estimate, potential growth would situate below 2%, dragged down by the drop in the labour contribution, as well as by the negative contribution of total factor productivity, probably reflecting difficulties encountered by the country to further expand productivity. GDP is projected to post a growth rate just above 2% in upcoming years, meaning that the currently negative output gap, built up during the crisis, would narrow.

From a sectoral perspective, most of the recent increase in output is still due to the strong performance of the financial sector. Its diversification and the recent worldwide recovery of financial markets are likely factors behind its resilience. Looking into the near future, and on the basis of its diversification and the proactive behaviour of sectoral and national authorities, the financial sector is expected to successfully adapt to the challenges linked to the wave of new international regulations (Basel III ([1])), though its potential could be dented.

The labour market has continued to create jobs throughout the crisis, a unique performance in the euro area. The strong performance of the labour market is confirmed by the figures for total hours worked, which has the steepest increase across the euro area since 2007. Employment and total hours worked increased during the crisis years with the sole exception being 2009 when the increase in total employment was not supported by a parallel increase in total hours worked due to labour hoarding. The outlook for employment growth over the next years is positive, though a slow-down in the pace of job creation is expected, in line with GDP projections.

Unemployment increased quite substantially over the recent years, partly on the back of a buoyant population increase. Luxembourg remains nevertheless amongst the countries with the lowest overall unemployment rate. Youth unemployment is almost four times as high as overall unemployment (see Graph 2.1). While these ratios should also be viewed in the light of an overall low labour force rate of this age cohort, they hint to the existence of skills mismatches between demand and supply in the labour market. The measures recently introduced or in the pipeline with a view to increasing the participation of older workers in the labour market (among the lowest in the EU), could also bring about an increase of the unemployment rate if not counterbalanced by decisive active labour market policies, aiming at increasing the employability of the people concerned.

Graph 2.1: **Overall and youth unemployment rate**



Source: Commission services

Labour productivity remains high compared to the euro area average, though its growth rate has slowed down and even became negative in recent years. This can be partly explained by labour hoarding practices, encouraged by national policies supporting employment. A specific feature of the country is the sizeable divergence of labour productivity across economic sectors, with the financial sector posting by far the highest level. Productivity is expected to timidly return to positive territory in upcoming years with the decoupling between employment and productivity growth projected to come to a halt.

The inflation differential with the EA average is slowly narrowing. Apart from less dynamic oil prices, the modulation of wage indexation adopted in 2012, limiting annual wage increases at 2.5%, has played a role, albeit temporarily. This process of convergence is set to continue, subject to the condition that a similar agreement for wage

([1]) "Basel III" is a comprehensive set of reform measures to strengthen the regulation, supervision and risk management of the banking sector.

modulation would be maintained by the new government.

Risks of poverty in Luxembourg are among the lowest in the EU. However, it is worth underscoring that the number of people earning the minimum wage or the minimum guaranteed revenue has risen to 3% of the total population as compared with 1% a few years ago. Although poverty rates have increased in Luxembourg, the change can still be considered small and income inequality remains low. Among the factors that are likely to have contributed to this outcome is the existence of a generous social benefits system.

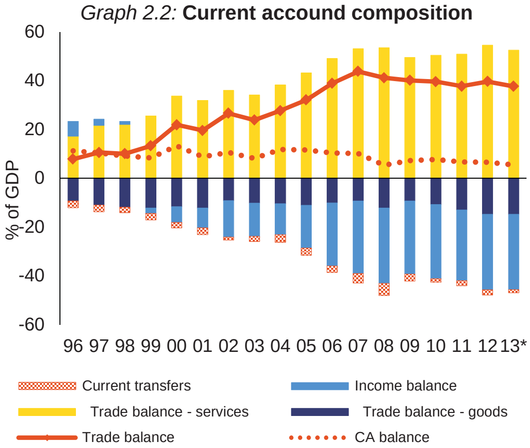
External developments

The current account balance recorded on average a surplus of around 10% of GDP during 2001-2007. It lost some ground afterwards but has stabilised around 7% (see Graph 2.2). This large and persistent current account surplus is driven by financial services and harbours a persistent and gradually increasing deficit in the trade balance for goods. The latter stems more from anaemic export growth than from an increase in imports as is also reflected in the important loss in export market share for goods in the aftermath of the financial crisis. This trend is likely to reflect not simply the increasing "tertiarisation" of the economy, but also a more structural loss of cost competitiveness.

The increase in nominal unit labour costs (ULCs) has doubtlessly contributed to these developments. These ULCs rose by 53.2% in Luxembourg between 2000 and 2012, more than twice as fast as the EA17 average of 23.3% and compared with 8.8% in Germany over the same period. The stagnation of labour productivity and the steady increase in nominal wages explain this notable development.

The current account surplus is dragged down by the widening deficit on the income balance. This net outflow increased to 31% of GDP in 2012 (from 14.8% of GDP in 2002), mirroring the increasing success of the financial services industry in placing its products abroad and the large number of foreign workers. The Net International Investment Position remains highly positive. Fluctuating around the level of 100% of GDP, it is the largest in the EU.

Graph 2.2: **Current account composition**



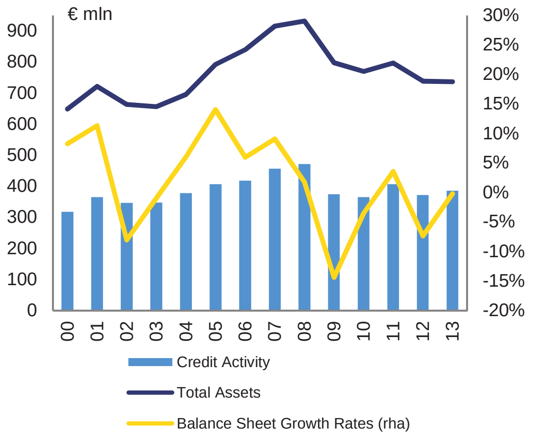
Source: Commission services
Note: *indicates estimated figures using quarterly data

The financial sector and credit

The financial sector in Luxembourg remains very large relative to the size of the economy. Yet, balance sheets have shrunk following the decrease in the intermediation activity (see Graph 2.3) and profitability is lower that before the crisis. This decline has been counterbalanced by the thriving of investment funds. In spite of the slowdown, the soundness of both capital and liquidity ratios are broadly reassuring. Potential risks for the sector stem from its capacity to adapt to changes in regulation, as well as to increased competition from emerging financial centres.

Conditions for lending to corporations have remained tight since the onset of the financial crisis, even if less so than in the euro area on average. The additional conditions (such as higher collateral) that banks are demanding in order to grant a loan have been tightened. Small enterprises are most affected, while medium-sized and large corporations can finance their needs directly on the bond market. Small enterprises in Luxembourg, especially innovative small and medium-sized enterprises (SMEs), would benefit from tapping into alternative sources of finance.

Graph 2.3: **Total Banks Assets**



Source: Luxembourg Central Bank

As regards lending to households for housing, conditions have also tightened recently. It is the result of both an increase in the financing costs faced by banks and an increase in the risk perception associated with this kind of operation. Such tightening is often reflected in a reduction in the loan to value ratio. However, lending for house purchase remains dynamic and is on an upward trend with respect to the years 2010-2011.

Domestic debt is mainly a private debt concern

Although still at a very low level compared to the EA average (92.7% of GDP), public debt increased from 6.7% in 2007 to 21.7% in 2012 and the trend is not expected to be reversed in the near future, with public finances facing challenges such as the change in the VAT on e-commerce. In light of the low level of public debt and its relatively solid economic fundamentals, Luxembourg enjoys an environment of very low interest rates, with the spread to German bonds being close to zero. Together with Finland and Germany, Luxembourg is one of the three countries in the euro area still enjoying an "AAA" rating. Existing public guarantees amount to 8.8% of GDP, of which 4.9% are related to the financial sector.

Although on a decreasing trend since 2009, the private sector debt is still at a level well above the euro area average. Household debt is on a stable path but indebtedness of non-financial corporations increased sharply in 2009 to reach 344% of GDP, on consolidated terms, and has failed to decrease to the pre-crisis levels. However, it should be noted that this measure includes intra-group debt with non-resident affiliates, which is significant for multinationals in Luxembourg. Before 2007, the overall private sector debt stood at similar levels when compared to the euro area (132% of GDP).

In this context it can be noted that the continuous increasing housing prices could represent a nascent threat to the economy. Since 2000 house prices increased, in nominal terms, by 173%, or 8.1% on average annually. According to the latest figures prices rose by 6.5% on an annual basis in Q3-2013, the steepest increase since the start of the financial crisis. Concerns also refer to the fact that the majority of mortgages are subscribed at variable rates, putting debt service constraints on households should interest rates normalize and align again with historical average levels.

Table 2.1:

Key economic, financial and social indicators - Luxembourg

	2007	2008	2009	2010	2011	2012	Forecast 2013	2014	2015
Real GDP (yoy)	6.6	-0.7	-5.6	3.1	1.9	-0.2	2.1	2.2	2.5
Private consumption (yoy)	3.3	-0.8	-1.4	2.6	1.3	2.2	2.0	2.3	2.6
Public consumption (yoy)	2.8	1.5	4.9	2.5	1.3	4.8	1.7	1.9	2.5
Gross fixed capital formation (yoy)	18.4	2.0	-16.2	-0.7	12.1	3.5	2.1	2.9	1.8
Exports of goods and services (yoy)	9.0	4.4	-12.9	7.2	5.4	-1.9	2.3	3.6	4.9
Imports of goods and services (yoy)	9.3	6.1	-15.4	11.4	7.4	-1.0	2.3	3.9	5.3
Output gap	4.5	1.3	-5.0	-2.4	-1.6	-3.3	-2.7	-1.8	-0.7
Contribution to GDP growth:									
Domestic demand (yoy)	5.1	0.4	-3.2	1.2	2.8	2.2	1.3	1.6	1.6
Inventories (yoy)	-0.9	0.0	-2.2	5.1	0.2	-0.4	0.0	0.0	0.0
Net exports (yoy)	2.4	-1.1	-0.2	-3.2	-1.0	-1.9	0.7	0.6	0.9
Current account balance BoP (% of GDP)	10.1	5.4	7.3	7.7	6.6	6.6	.	.	.
Trade balance (% of GDP), BoP	43.8	41.2	40.1	39.6	37.7	39.6	.	.	.
Terms of trade of goods and services (yoy)	0.5	-0.5	0.4	2.5	0.6	0.2	1.2	0.6	0.5
Net international investment position (% of GDP)	95.5	100.1	86.7	98.0	74.2	169.1	.	.	.
Net external debt (% of GDP)	-2678.6	-2517.0	-2938.9	-3193.3	-2438.5	-2444.8	.	.	.
Gross external debt (% of GDP)	3671.2	4101.2	3670.1	3311.8	4610.3	5182.5	.	.	.
Export performance vs. advanced countries (5 years % change)	.	.	.	.	.	.	.	.	.
Export market share, goods and services (%)	.	.	.	.	.	.	.	.	.
Savings rate of households (Net saving as percentage of net disposable income)	4.3	9.5	12.1	13.0	13.6	13.7	.	.	.
Private credit flow (consolidated, % of GDP)	16.6	-17.8	-14.8	-23.7	0.5	-5.1	.	.	.
Private sector debt, consolidated (% of GDP)	163.9	399.0	399.6	339.4	328.0	317.4	.	.	.
Deflated house price index (yoy)	4.7	0.0	-2.2	4.0	1.1	2.5	.	.	.
Residential investment (% of GDP)	2.9	3.6	3.9	3.6	3.5	3.5	.	.	.
Total Financial Sector Liabilities, non-consolidated, (% of GDP)	15.1	-17.0	8.3	13.7	8.0	11.3	.	.	.
Tier 1 ratio (1)	.	10.4	15.6	17.6	15.0	21.2	.	.	.
Overall solvency ratio (2)	.	15.1	18.1	17.8	17.8	21.9	.	.	.
Gross total doubtful and non-performing loans (% of total debt instruments and total	.	.	.	.	.	.	.	.	.
Employment, persons (yoy)	2.4	3.3	1.0	1.7	2.7	2.5	1.8	1.7	1.9
Unemployment rate	4.2	4.9	5.1	4.6	4.8	5.1	5.9	6.0	5.9
Long-term unemployment rate (% of active population)	1.2	1.6	1.2	1.3	1.4	1.6	.	.	.
Youth unemployment rate (% of active population in the same age group)	15.6	17.3	16.5	15.8	16.4	18.0	19.9	.	.
Activity rate (15-64 years)	66.9	66.8	68.7	68.2	67.9	69.4	.	.	.
Young people not in employment, education or training (% of total population)	5.7	6.2	5.8	5.1	4.7	5.9	.	.	.
People at-risk poverty or social exclusion (% total population)	15.9	15.5	17.8	17.1	16.8	18.4	.	.	.
At-risk poverty rate (% of total population)	13.5	13.4	14.9	14.5	13.6	15.1	.	.	.
Severe material deprivation rate (% of total population)	0.8	0.7	1.1	0.5	1.2	1.3	.	.	.
Persons living in households with very low work intensity (% of total population)	5.0	4.7	6.3	5.5	5.8	6.1	.	.	.
GDP deflator (yoy)	3.7	0.4	0.8	7.2	4.2	3.0	3.9	2.8	2.7
Harmonised index of consumer prices (yoy)	2.7	4.1	0.0	2.8	3.7	2.9	1.7	1.5	1.7
Compensation of employees/head (yoy)	3.7	3.4	1.8	2.6	2.4	2.0	1.5	3.1	2.5
Labour Productivity (real, person employed, yoy)	2.0	-5.5	-6.4	1.3	-1.0	-2.6	.	.	.
Unit labour costs (whole economy, yoy)	1.6	9.4	8.7	1.4	3.4	4.7	1.1	2.6	2.0
Real unit labour costs (yoy)	-2.0	8.9	7.9	-5.4	-0.7	1.7	-2.6	-0.2	-0.7
REER (ULC, yoy)	0.5	7.0	6.0	-0.3	2.4	0.8	1.4	2.4	0.8
REER (HICP, yoy)	0.9	1.9	0.9	-1.6	0.7	-1.4	1.5	0.9	0.0
General government balance (% of GDP)	3.7	3.2	-0.7	-0.8	0.1	-0.6	-0.2	-0.5	-2.4
Structural budget balance (% of GDP)	1.6	2.6	1.7	0.3	0.8	1.0	1.0	0.3	-2.1
General government gross debt (% of GDP)	6.7	14.4	15.5	19.5	18.7	21.7	24.3	25.5	28.1

(1) domestic banking groups and stand-alone banks.

(2) domestic banking groups and stand alone banks, foreign (EU and non-EU) controlled subsidiaries and foreign (EU and non-EU) controlled branches.

Source: Eurostat, ECB, AMECO.

3. IMBALANCES AND RISKS

3.1. ANALYSIS OF THE EXISTENCE OF EXTERNAL IMBALANCES

Luxembourg is enjoying a strong current account surplus, which is the result of a particular growth model based on financial services that have been expanding over recent decades. The overwhelming importance of the financial sector in the overall economy is clearly inferred from Graph 3.1 that shows the contribution of each economic sector to the evolution of gross value added. The large and persistent current account surplus is thus mainly driven by exports of services, mostly financial services.

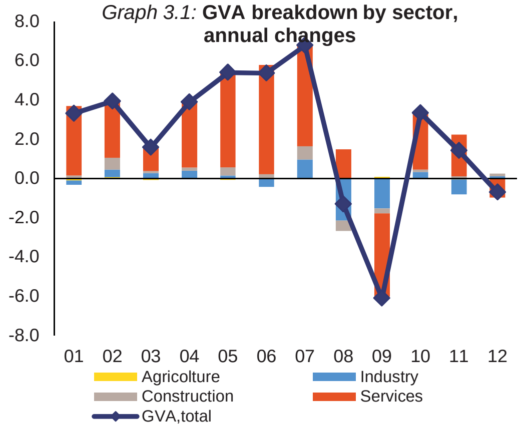
This overall positive external position hides a big and steadily increasing trade deficit, which broadly stems from disappointing exports of goods. Persistent losses in overall export market shares for goods are associated with eroding external competitiveness as a result of comparatively high unit labour costs (ULCs), pointing to the existence of labour market rigidities. While productivity levels are very high, productivity growth has been very low and helps explain why ULCs are growing faster in Luxembourg than in trading partner countries.

Despite these negative developments in the trade of goods balance, the Net International Investment Position (NIIP) of the country is strongly positive, fed by the continuous net lending capacity of the country over time.

3.1.1. The evolution of the current account and its main components

Both Luxembourg's external trade (goods and services) and current account balances continuously recorded large surpluses over the period 1990-2013. Until the emergence of the crisis the current account surplus averaged around 10% of GDP without a clear upward or downward trend. It fell to 6.3% of GDP on average in 2008 and 2009. Preliminary figures for 2013 point to a positive position just below 7% (see Graph 3.2).

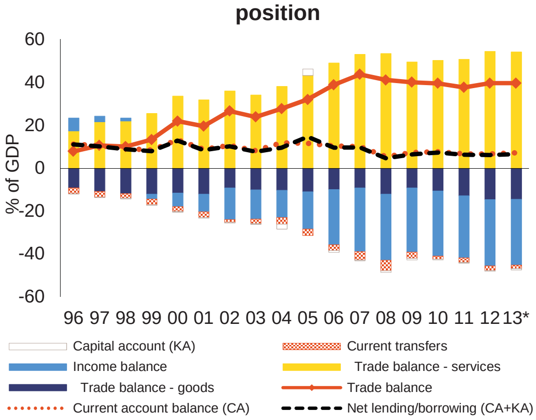
Graph 3.1: **GVA breakdown by sector, annual changes**



Source: Commission services

The balance of goods was always strongly negative and broadly stable at a deficit of about 10% of GDP up to 2009, but has deteriorated recently to attain -14.8% in 2012. The surplus of trade in services steadily increased from about 15% of GDP in the early 1990s to almost 50% in 2009 and reached 54.4% in 2012. This led to rising surpluses in the overall balance of goods and services, which reached about 40.1% of GDP in 2009, broadly remaining at that level thereafter. However, these surpluses were increasingly offset by the growing deficit in the income balance, which changed from a surplus of about 10% of GDP at the beginning of the expansion phase decades ago to a deficit of more than 30% in 2009 and 31.9% in 2012. This change partly reflects the rising recourse to cross-border workers, who now account for more than 40% of the total labour force compared with about 10% in the early 1980s.

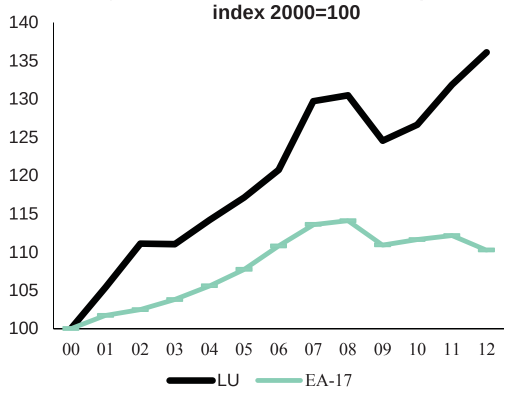
Graph 3.2: **Decomposition of external position**



Source: Commission services
Note: * indicates estimated figure using quarterly data

In the future, and given the structure of the pension system, the increasing flow of pensions to be paid to retired cross-border workers will add to the negative net income from abroad. Moreover, the deficit of the investment income balance ([2]) has become increasingly negative since it changed sign in 2002, reflecting higher outflow of incomes (dividends, interests, etc.) paid to the rest of the world and it has increased up to the point that the deficit is almost equal to that of compensation of employees. Finally, the balance of current transactions has exhibited a fairly stable and small deficit. It cannot be excluded either that this negative position becomes larger in the future.

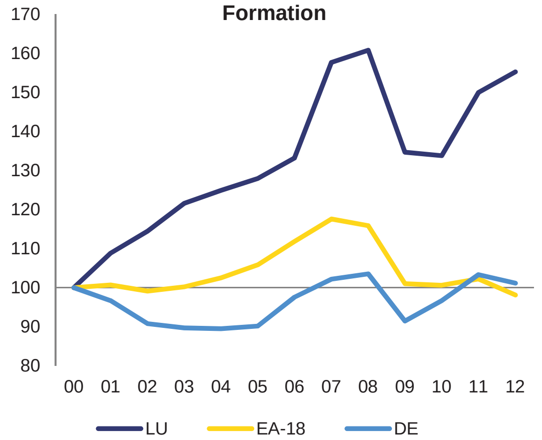
Graph 3.3: **Domestic demand developments, index 2000=100**



Source: Commission Services

The large current account surplus was accompanied by strong domestic demand. As Graph 3.3 shows, since 2000 Luxembourg has seen a much more dynamic domestic demand than the euro area with an average of 2.6% real growth per year compared with an average of 0.8% in the euro area. In particular, high wage increases, partly linked to the automatic indexation mechanism, (see section 3.1.6) have supported private consumption, well above the average of the euro are. In parallel, investment from corporations and households has also been dynamic, largely outpacing developments in the euro area or in Germany (see Graph 3.4). Therefore, the Luxembourgish current account surplus cannot be attributed to an anaemic domestic demand, but rather to its particular financial-services-based growth model.

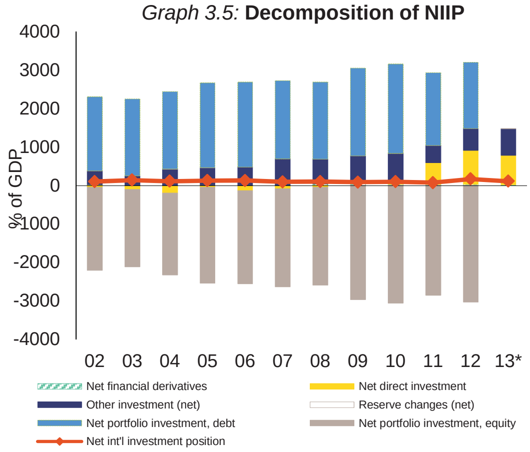
Graph 3.4: **Trend in Gross Fixed Capital Formation**



Source: Commission services

In line with continuous and strong current account surpluses, the NIIP of the country lays comfortably in positive territory. It has been constantly improving, representing in fact the highest positive position in the EU (see Graph 3.5). This strong overall NIIP encompasses, on the one hand, a large and persistent borrowing position from the non-financial private sector, which is more than offset by a sizeable surplus of the financial sector, including the central bank. The external position of the general government is in slight surplus, though this is very small compared to the magnitudes of the private sector (see Graph 3.6).

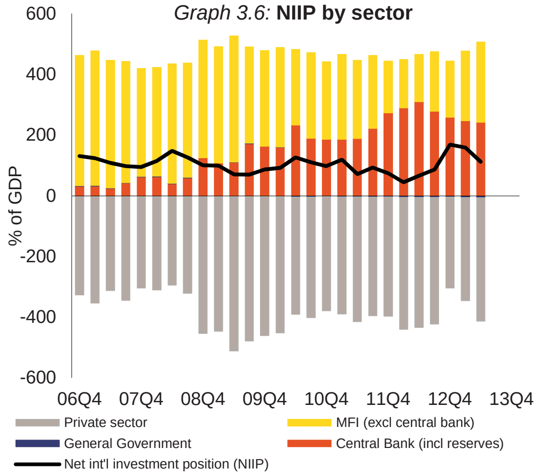
Graph 3.5: **Decomposition of NIIP**



Source: Commission services
Note: *indicates estimated figues using quarterly data

([2]) The income section of the balance of payments can be distinguished between labour and non-labour related incomes. The non-labour section is also sometimes reported as investment income as it reports investment-related flows such as dividends, interests, rents, etc..

Graph 3.6: **NIIP by sector**



Source: Commission services

3.1.2. A general overview of the evolution of exports

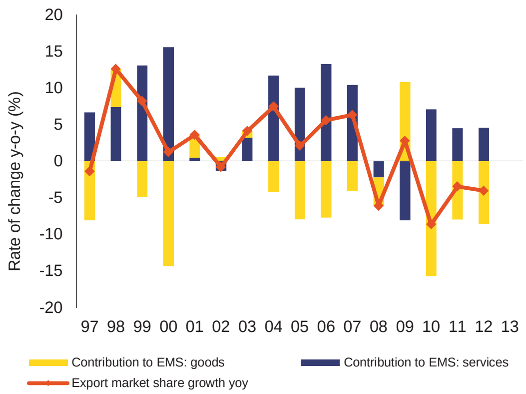
Exports of goods and services as a percentage of GDP rose from slightly more than 100% in 1990 to about 162% in 2009 and to 177.4% in 2012, by far the highest percentage in the whole EU. Exports of services represent the lion's share of Luxembourgish exports: they rose from about half of both GDP and total exports in the early 1990s to more than 147.1% of GDP and about 83% of total exports in recent years.

Exports of goods have been dynamic for many years. Between 1990 and 2008 export growth was at 4.9% on average, below euro area export growth of 6.5% but superior to average GDP growth rate of 4.3%. Consequently, the export-to-GDP ratio increased from 35% in 1990 to 39% in 2008. However, since the onset of the crisis, Luxembourgish exports of goods have lost ground. Between 2008 and 2012 their performance has been dismal, contracting on average by an annual rate of 2.8% compared to a still positive rate of 1.8% for the EU, resulting in an important loss in market shares, both with respect to the world and to the euro area. Specifically, the market share of goods in world trade shrunk from 0.13% in 2007 to less that 0.09% in 2012. The share of exports of goods in total Luxembourgish exports declined from about half of total exports to around 20% since 1990. Obviously, the contrary can be stated for services, which now represent 80% of the country's exports. However, and also taking into account the rapid expansion of financial services, the importance of good exports should not be understated: boosted partly by re-exports, they still amounted to 30.2% of GDP in 2012, which was just below the EU-27 average (33.8%) but is more than in France (21.4%) or Italy (24.9%).

3.1.3. The evolution of market shares

Luxembourg's market shares have been continuously growing between 1998 and 2007 for both goods and services, on the back of strong contribution from the trade of services that more than compensate losses in market share for goods (see Graph 3.7). However, since 2008 the evolution of total export market shares has entered red territory on the back of less dynamic or even negative contribution from the trade of services and even sharper losses in goods.

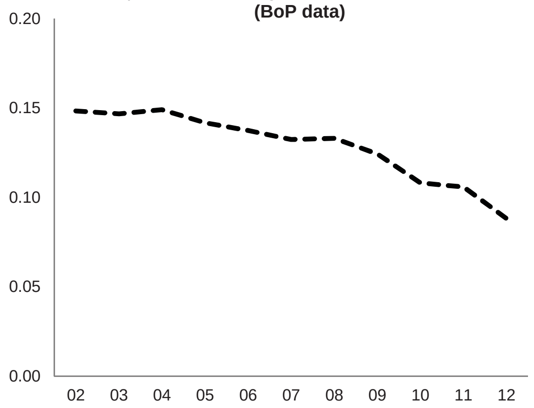
Graph 3.7: **Export market share decomposition**



Source: Commission Services

Luxembourgish exports of goods have been growing slower than global trade and performed worse than the euro area average. As a large majority of euro area countries have experienced losses in export market shares since 2003, netting out Luxembourg's losses from this shift in global patterns could shed some light on the specific situation of the country vis-à-vis its peers (see Graph 3.8). Changes in market shares at constant prices confirm that Luxembourg lost ground. As a percentage of world trade they contracted by 40% over the period 2002-2012, with the bulk (30%) of the deterioration happening after the start of the financial crisis.

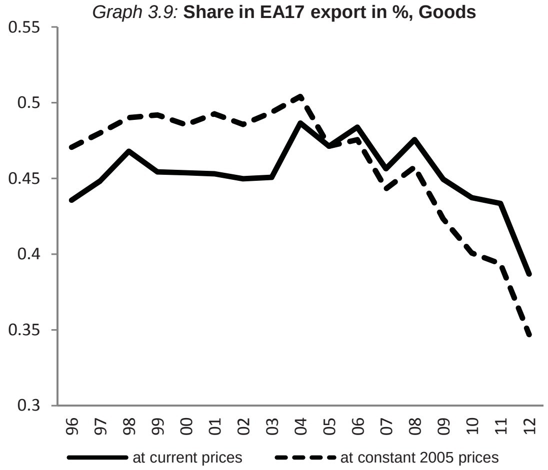
Graph 3.8: **Trade of goods as % of World Trade (BoP data)**



Source: Commission Services

The country started losing market shares in euro area exports already before the beginning of the crisis. The share of Luxembourg exports of goods in the euro area total increased between 1996 and 2006. Since then, it has decreased in value terms up to 2012, while in volume it started decreasing already in 2004 (see Graph 3.9). However, it was compensated in value terms by a sharp rise in prices, which might perhaps also help explain why the volume started to decline itself, given that the Luxembourgish industry is mostly price-taker, thus subject to fierce competition.

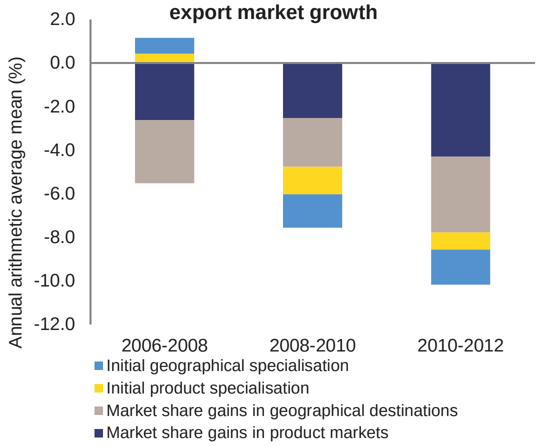
Graph 3.9: **Share in EA17 export in %, Goods**



Source: Commission services

The European Commission's Surplus Report (2012) looked into changes in export market shares by decomposing total nominal export growth per country (net of the global import growth) into four components (see Graph 3.10) ([3]). According to this analysis, in pre-crisis years (2006-08), Luxembourg did not benefit much from its initial export specialisation in terms of products and destination compared to other 'surplus countries' ([4]). However, competiveness changes in product specialization as well as in geographical destination were much more outspoken drivers behind the drop in nominal export growth between 2006 and 2008. The concentration on slow-growing euro-area countries and on less dynamic category of products played an additional negative role in the performance of export market share in the after-crisis years (2008-2012).

Graph 3.10: **Decomposition of nominal export market growth**



Source: COMTRADE and Commission Services

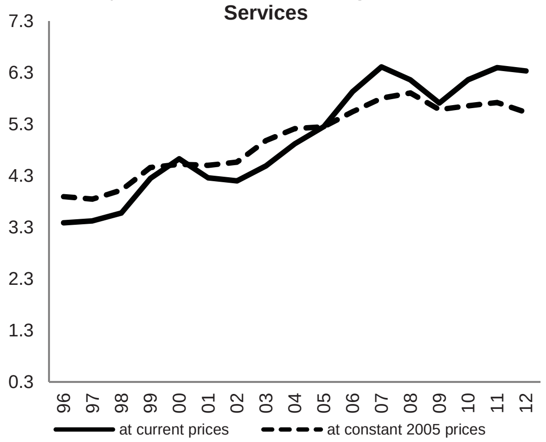
Unsurprisingly, the loss in export market shares has only been substantial for goods, with a remarkable performance by services (see Graph

([3]) The use of the export decomposition can contribute to the identification of the factors behind long-term changes in export market shares. The first two components (initial specialization) are structural factors, capturing the initial product and geographical specialization and reflecting whether a country is specialized in sectors with dynamic global demand and whether destination countries are dynamic markets. As such they reflect past export strategies and competitive advantages. The other two, dynamic components (market share gains) capture how successful a country has been in increasing its exports above market growth in product and geographical markets as a consequence of competitiveness developments. Competitiveness is understood in a broad sense, comprising both cost and non-cost elements

([4]) Surplus countries included: AT, BE, DE, DK, FI, LU, NL & SE.

3.11). Indeed, the 5-year change in export market shares for goods and services combined showed a drop of 18.3% in 2012([5]) with the loss in export market shares for goods at 33.5% and of only 9.2% for services (using the 5-year change compared with 2007, when the financial markets reached their top; the change would be more favourable when compared with any other year). Service sector exports are mainly driven by the financial sector and are much less price elastic ([6]). However, Box 3.1 provides some insights on the increasing and not negligible importance of the non-financial related services.

Graph 3.11: **Share in EA17 export in %, Services**



Source: Commission services

([5]) As from the scoreboard table attached to the 2014 Alert Mechanism Report, available at:
http://ec.europa.eu/europe2020/pdf/2014/amr2014_en.pdf

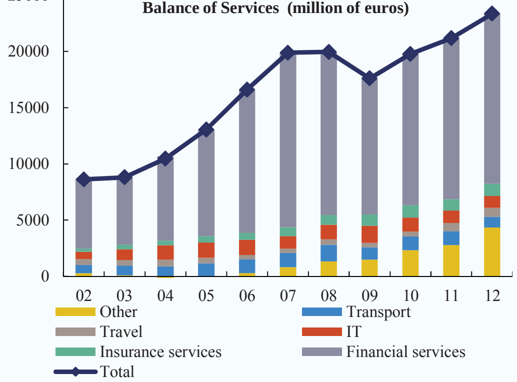
([6]) BCL (2005), "Les determinants du solde de la balance des transactions courantes au Luxembourg", Wording Paper n. 13, for a more in-depth discussion of Luxembourg export elasticity.

Box 3.1: A more detailed view of the services balance

The surplus of the current account balance is exclusively the product of the surplus in the balance of services, mostly financial services. In view of the respective size of the country and of the fund industry, financial services represent around two third of the total of export of services. In no other country of the EU the weight of the financial service is so overwhelming. This ratio is on average below 10% in all other EU countries, with the exception of Cyprus (28%) and the UK (20.6%).

A more careful analysis of the balance of services allows however to grasp the growing importance of the non-financial services, given that the overwhelming contribution of the financial services leads often to neglect them (see Graph 1). To understand their importance, it is enough to highlight that they alone can more than offset the deficit of the trade balance, with a surplus position of 16.7% of GDP in 2012.

Graph 1: **Breakdown by categories of the surplus of the Balance of Services (million of euros)**



Source: BCL and Commission Services

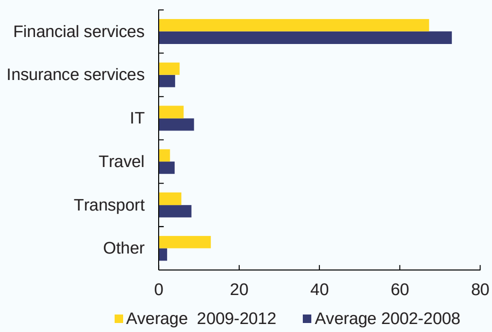
It could be stated that the growing importance of the non-financial services partly also reflect a partial success of the diversification (from the financial sector) strategy of the country. Based on the figures produced by the National Central Bank the largest surpluses correspond to the "transport" and "IT" categories,

Specifically, the transport category represents the development of the logistic industry, which is one of the "economic clusters" chosen by the country to diversify the economy.

The large surplus posted by the "Telecommunication and IT" category reflects the presence in the country of important actors of the satellite industry (for instance SES, which is the world largest satellite company in terms of turnover). However, the relative importance of this category of services is declining, from a large surplus in 2006 to a narrow deficit in 2012 (see Graph 2). In particular, the sub-category "Information Technology" is responsible for most of the decline. While these developments may look at first sight surprising given the extraordinary recent dynamism of the e-commerce industry, they are partly explained by the methodological change of the Balance of Payments, according to which flows produced by several large companies recently established in the country are not any longer recorded under the "Information Technology" category, but allocated to the category "Other services linked to trade". This change in methodology explains then the sudden jump of the residual category "Other", boosted by the rapidly increasing activities related to the e-commerce industry, represented in Luxembourg by a few big multinational companies, such as Apple or Amazon.

Overall, this overview of the balance of services proves the relative success of the diversification strategy of the country from the financial sector that has seen its share in the overall surplus to shrink from 71.2% in 2002 to 64.7% in 2012.

Graph 2: **Average share of the overall surplus of the balance of services**



Source: BCL and Commission Services

3.1.4. Geographical and product specialisation of exports of goods

Since the crisis erupted, the strong orientation towards the slow growing EU market has contributed to Luxembourg's loss in market shares. Also product specialisation has played a negative role, though to a lesser extent. All in all, both geographical specialisation and competitiveness developments have caused Luxembourg to suffer a loss in market share.

Exports of goods are for the most part directed to the EU (86.7%), mainly to the neighbouring countries Germany (27.9%), France (14.8%) and Belgium (12.8%) (see Table 3.1)**.** They are essentially composed of metal-made manufactures (33.2%), machinery and equipment (18.1%) and "other" or "diverse" products (25.3%). In contrast, exports of services seem to be chiefly directed towards countries where the economic weight of the financial sector is more important, namely Germany (18%), the UK (13%), Switzerland (11%), as well as to Belgium, France and Italy (10% each).

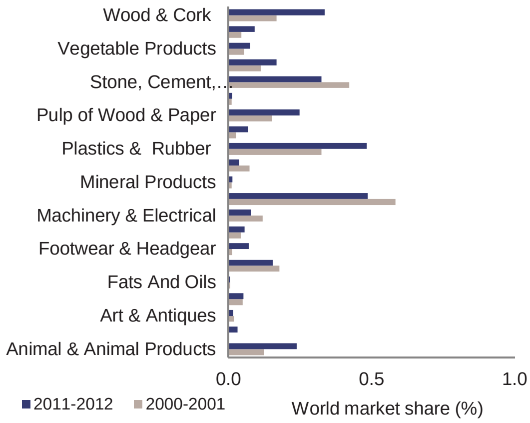
Luxembourgish exports of goods consist largely of intermediary products explaining why trade takes mostly place with neighbouring (or other) euro area countries. Graph 3.12 highlights Luxembourg's product specialisation in intermediate goods and its recent evolution. Metals, and other intermediate materials such as rubber, plastic or glass, represent the bulk of its exporting capacity. However, even for this category, the trade balance has reverted into deficit as shown in Graph 3.13. This evolution goes hand in hand with anecdotal evidence of several enterprises choosing to reduce production or to relocate outside the country.

Table 3.1:
Main trading parterns (in % of total)

	exports		imports	
	2000	**2012**	**2000**	**2012**
Total	100	100	100	100
EU27 - INTRA	86.7	82.2	83.9	77.8
EU27 - EXTRA	13.3	17.8	16.1	22.2
DE	24.3	27.9	24.8	26.7
FR	20.7	14.8	12.5	11.8
BE	12.7	12.8	35.7	34.8
NL	5.5	5.1	4.9	5.7
US	4.1	3	5.7	7.7
CN	0.8	1.8	0.4	0.5

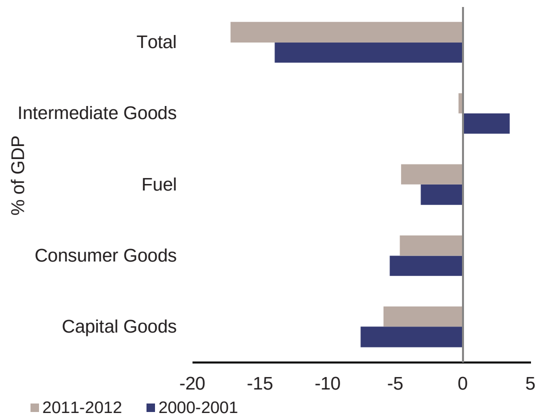
Source: Statec, Commission Services

Graph 3.12: **Sectoral Export Market Shares (% of World Market share)**



Source: Comtrade and Commission services

Graph 3.13: **Trade balance contribution by Broad Category**

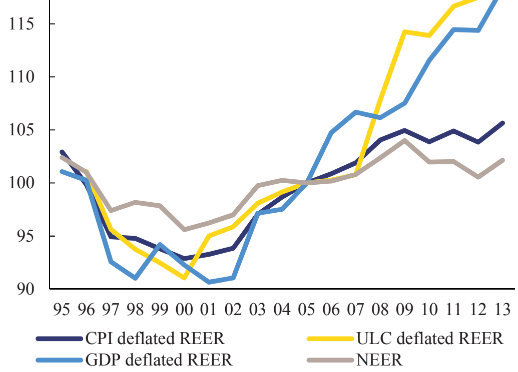


Source: Comtrade and Commission services

3.1.5. Cost competitiveness

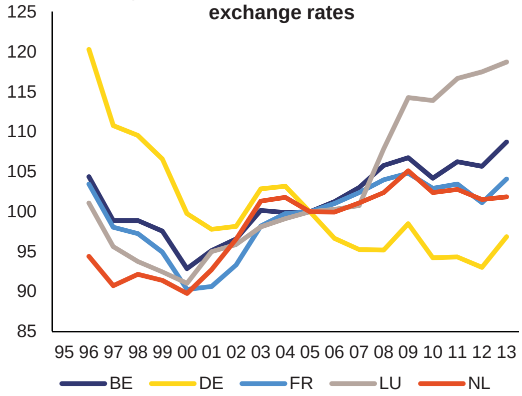
The deterioration of the trade balance and the loss in export market shares can be attributed at least partially to Luxembourg's declining cost competitiveness. As Graph 3.14 and Graph 3.15 show, the price and cost competitiveness of Luxembourg, as measured by the real effective exchange rate, have deteriorated substantially since the beginning of the current decade.

Graph 3.14: **Real effective exchange rate versus 35 industrialised countries**



Source: Commission services

Graph 3.15: **ULC-deflated real effective exchange rates**



Source: Commission services

Part of this deterioration is due to the appreciation of the euro, but this factor has influenced the cost-competitiveness of all countries of the euro area and probably less that of Luxembourg, whose exports exhibit a greater concentration on the euro area. Moreover, Graph 3.15, which compares ULC-deflated REERs for some countries of the euro area, shows that since the beginning of the current decade, the cost-competitiveness of Luxembourg has deteriorated more rapidly than is the case for most neighbouring countries, especially in the last few years.

This faster rise in ULCs, in turn, is due to less favourable developments both in wages and productivity. Table 3.2 decomposes developments in real GDP, employment, productivity, wages and unit labour costs in Luxembourg and neighbouring countries since 2000. The main conclusions that may be drawn from these data are the following:

- Since 2000, real GDP and employment grew substantially faster in Luxembourg than in neighbouring countries and about three times faster than in the euro area as a whole;

- Employment growth outpaced output growth between 2000 and 2012, a quite exceptional development inside the EU, explained in part by labour hoarding. As a result, real GDP per person employed, though remaining the highest in the EU, decreased over the period.

- Wages rose during that time about one and a half time faster in Luxembourg than on average in the EU-15 and more than twice as fast as in Germany, the country where they increased the least.

- As a result of both the stronger increase in wages and the decline in labour productivity, unit labour costs rose one and a half times faster in Luxembourg than on average in the EU-15 and more than four times faster than in Germany, the best performer in the EU.

Table 3.2:
Luxembourg, neighbouring countries and EA-17 : productivity, wages and labour costs (2000 – 2012)

Indices levels (2000 level = 100)	LU	BE	DE	FR	NL	EA-17
1. Real GDP	131.1	116.8	114.5	114	113.9	113
2. Total employment	143.5	110.7	105.7	105.3	107	106.1
3. Real GDP per person employed (1:2)	91.3	105.4	108.3	107.8	110.5	108.3
4. Compensation of employees per head	139.8	137.4	117.9	137.3	143.3	132.9
5. Unit labour costs (4:3)	153.2	130.4	108.8	127.4	129.7	123.3

Source: Commission services

Productivity growth has been disappointing. International comparison shows that while in terms of productivity levels Luxembourg belongs to the top EU countries (see Graph 3.16), in terms of productivity growth Luxembourg is one of the worst performers (see Graph 3.17). This may be related to already very high average productivity levels. Although subdued productivity growth constitutes a general challenge for euro area countries, this does not take away Luxembourg's competitiveness problems. Given that capital intensity of production is already high, further increases are unlikely to yield the strong productivity gains that warranted rapid wage increases in the past.

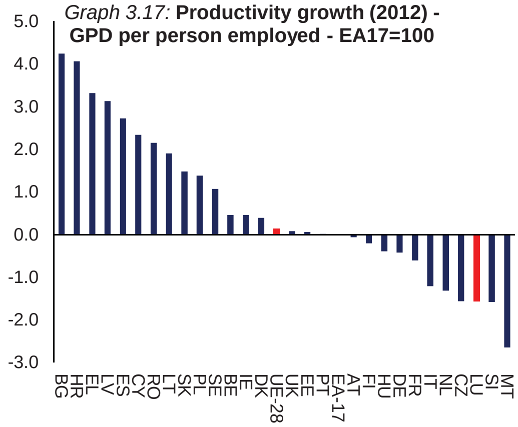
This highlights the importance of both wage development and total factor productivity, as the factors able to curb the current

competitiveness deteriorating trend. Moreover, Luxembourg's particular growth model adds an additional challenge to cost-competitiveness for the manufacturing industry, given that employment in the financial sector includes a relevant number of high-skilled workers for whom the remuneration is usually higher than the average. It cannot be discarded then that, due to the small size of the country, they put upward pressure on the general price level of the economy and, via the automatic indexation of wages, push all salaries up.

Graph 3.16: **Productivity level (2012) - GDP per person employed - EA17=100**

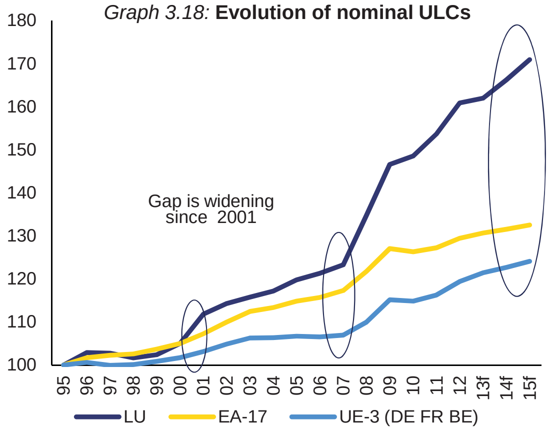
Source: Commission services

Graph 3.17: **Productivity growth (2012) - GPD per person employed - EA17=100**



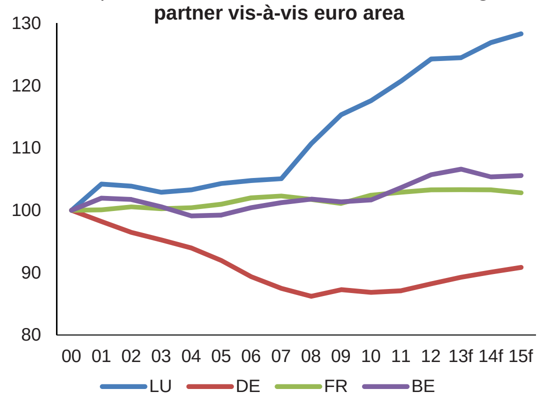
Source: Commission services

Graph 3.18: **Evolution of nominal ULCs**



Source: Commission Services

Graph 3.19: **Relative ULC of the main trading partner vis-à-vis euro area**



Source: Commission services

3.1.6. The wage setting mechanism

The steady increase in unit labour costs is clearly hurting the country's competitiveness, and this independently from geographical orientation, product specialization or productivity developments.

The adoption at the beginning of 2012 of the law on the temporary modulation of the automatic indexation mechanism until 2014 is intended to improve the cost competitiveness of Luxembourg's economy by preventing an upward spiral of cost and price increases. The automatic indexation of March 2012 was postponed to October 2012.

The automatic indexation steps make that wages increase each time the cost of living increases by 2.5%. However, until end-2014 at least 12 months should elapse between each indexation step. This means than between October 2012 and the end of 2014 there will be at most three indexations. However, the composition of the reference basket for calculation of the annual cost of living index still needs to be modified (as announced) by taking out the more volatile components (alcohol, tobacco and fuel).

From 2015 onwards, the automatic indexation system will be applied in the standard way again. In addition, as the counter clock for the next automatic indexation will be set to zero before returning to the normal system, some of the gains in cost competitiveness could become permanent. This implies that, in case inflation surpasses 7.5% (i.e. three indexation steps) during the period 2012-2014, this will not be taken into account for the next automatic wage indexation in 2015.

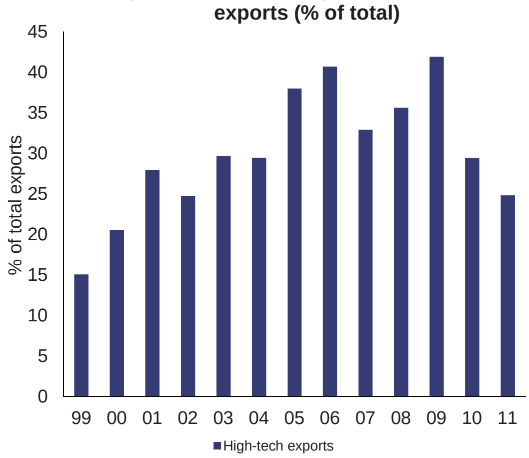
Nevertheless, further action will be necessary in order to better link wage and productivity developments so as to ensure long-term price competitiveness. The measures described above are temporary and thus not designed to address cost competitiveness in a structural way. While the government has not announced its intention to reconsider the principle of wage indexation, the possibility of differentiating wage increases in function of sectorial productivity differences would be beneficial to the economy's overall functioning and its export capacity. This is because the drop in productivity has been particularly sizeable in the industrial sector and much larger than in the financial sector. In the latter, the level of productivity is more than double that of the non-financial sectors.

A crucial question relates to the impact of the high productivity levels of the services sector on the economy as a whole. It cannot be ruled out that the most competitive parts of the services sector (in particular financial services) are setting the tone for wage increases in the whole economy. This would particularly hamper the manufacturing industry given its position as a price-taker on international markets. In such an economic context, a system of automatic indexation on the basis of inflation substantially increases the difficulty for manufacturers to remain competitive.

3.1.7. Non-cost competitiveness

There are a number of additional, non-cost factors, such as technological competitiveness driven by innovation and efficiency that need to be taken into account when analysing the reasons behind the deterioration of the current account and the loss of market shares. The technological content of manufactured products reflects a country's ability to translate innovation into exportable products with a higher value added. The availability of sufficient appropriately skilled labour is another important factor with regard to external performance.

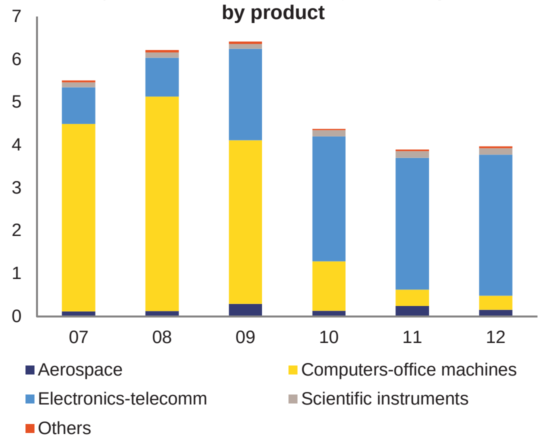
Graph 3.20: **Share of High-Tech Products in exports (% of total)**



Source: Comtrade and Commission services

Exports contain less high-tech products. Looking into the developments of the share of high-tech exports, a declining trend can be observed since 2006 (see Graph 3.20). At that time most of high-tech exports referred to computers and office machines, falling in the category electronics and telecommunication (see Graph 3.21).

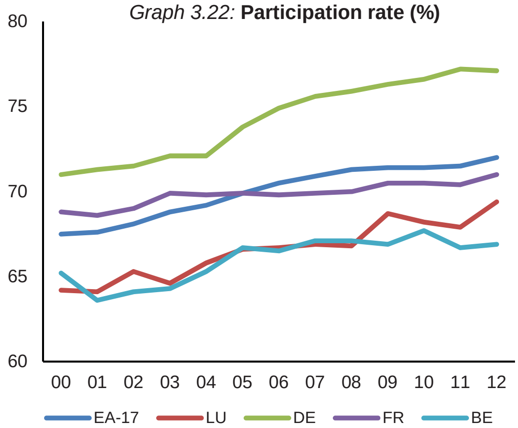
Graph 3.21: **Breakdown of high-tech export by product**



Source: Commission services

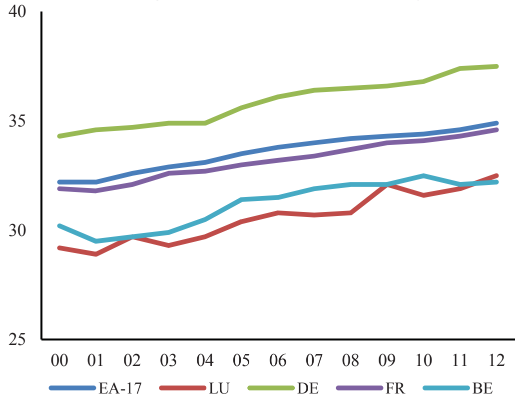
Furthermore, certain sectors might be suffering from structural mismatches between labour demand and supply, leading to a high number of vacancies. Also financial disincentives to work stemming from the existing tax and benefit system, suboptimal activation policies and the so far continuation of early retirement schemes contribute to Luxembourg's labour market problems, reflected, amongst else, in a weak participation rate (see Graph 3.22), in particular of older workers and in an equally low duration of working life (see Graph 3.23).

Graph 3.22: **Participation rate (%)**



Source: Commission services

Graph 3.23: **Duration of working life**



Source: Eurostat

Luxembourg is not on track to reach its R&D intensity target for 2020 of 2.3-2.6% of GDP as its R&D intensity is on a declining trend. This declining trend is explained by the sharp decrease in business R&D intensity (from 1.53% of GDP in 2000 to 0.98% in 2011). Public sector R&D intensity on the contrary steadily increased from 0.12% in 2000 to 0.45% of GDP in 2011([7]), reflecting Luxembourg authorities' willingness to build up public research capacity.

Luxembourg's research and innovation system remains weak, with its public parts not yet able to play a decisive role in fostering innovation-driven economic activity, although the efforts carried out and the policy of attracting foreign researchers to work in Luxembourg have already allowed for a good level of scientific performance to be reached ([8]). The performance of Luxembourg as regards the indicators on cooperation between public research institutions and firms is well below the EU average, reflecting the current disconnection between private sector R&D and the public research system. The many actions taken to foster public-private cooperation and more generally business R&D and innovation have so far had limited impact([9]). Objectives in terms of

([7]) This, however, remains well below the EU average of 0.74%.
([8]) The programmes ATTRACT and PEARL 2008-2013 of the National Funds for Research (FNR-Fonds national de la recherché), which aim at attracting and keeping researchers in the country, involved EUR 3.8 million in the year 2008-2010. For the period 2011-2013 the amount has increased to EUR 13.7 million.
([9]) e.g. the law of 5 June 2009 organising state aid for the private sector, the law of 21 December 2007on IP tax incentives, the law of 18 February 2010 providing public aid to the private sector in the field of eco-innovation, the

spin-off creation specified in the performance contracts of public research organisations are not being met.

3.1.8. Conclusion on external imbalances

Luxembourg is exhibiting a strong current account surplus, which stems exclusively from the services sector, both financial and non-financial. It does not seem to have its origin in an insufficient domestic demand. On the contrary, Luxembourg's internal demand has been one of the most dynamic ones in the euro area. The current account surplus is thus largely the result of a particular growth model strongly based on the financial sector.

The deficit in the trade balance is persistent and on an increasing trend. In fact, Luxembourg has been suffering losses in export market shares for goods over the past decade. While the manufacturing sector would need an improvement of its cost-competitiveness to secure its future, a general boost of the innovative capacity of economic agents will increase the attractiveness of the country for higher-technology products, less price dependent, therefore less subject to fierce international competition.

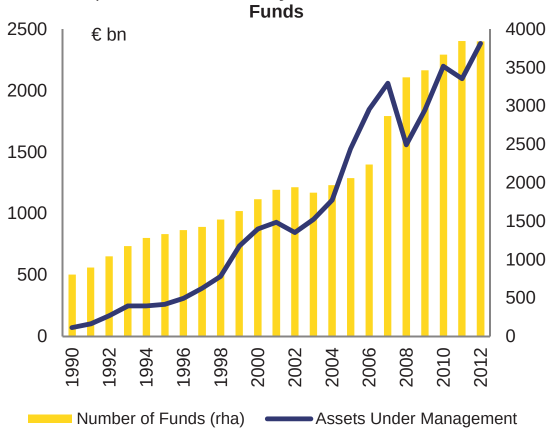
3.2. ASSESSMENT OF THE EXISTENCE OF INTERNAL IMBALANCES

3.2.1. The financial sector

Luxembourg's financial sector has been growing since the 1920s, when the Grand Duchy decided to embark upon specialization in this area. Since then, it has developed activities in three main areas: investment funds, insurance and banking, and became a prominent international financial centre. The importance of the financial sector for the domestic economy is such that it contributed to around a quarter of the total gross value added and employed 44,000 persons representing 12% of Luxembourg's labour force.

The non-banking financial sector, especially the investment fund administration expanded rapidly since the introduction of the UCITS directive in 1985 creating a European passport for funds. Luxembourg is today an international hub for the administration and distribution of funds and the second largest centre judged by the assets under management, after the United States. This activity now covers more than 3900 funds and over EUR 2.6 trillion of assets. After the sharp decline in assets in 2008 (-24% over the year), the fund industry regained steam and since then, strong positive inflows have prevailed except for 2011 when the negative value effect due to poor market performance outweighed the positive volume effect (Graph 3.24).

Graph 3.24: **Fund Industry Assets and Number of Funds**

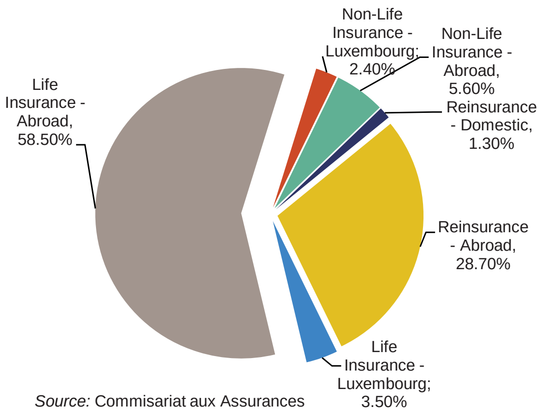


Source: CSSF

The insurance sector has increased steadily since 2006 mainly thanks to life-insurance activities and at the end of 2012 it reached roughly 4 times GDP. Akin to other financial sector activities, Luxembourg insurers sell mainly to non-residents who prefer life-insurance products, a close substitute of bank deposits. The reinsurance activity is less significant and represents about 30% of overall insurance sector (Graph 3.26).

setting up of business incubators, the creation of a partnership with a business accelerator located in Silicon Valley (Plug and Play Tech Centre), the setting up of a cluster programme, the creation of a Master's degree in Entrepreneurship and Innovation, the setting up of the Luxembourg Future Fund, the specification of IP/spin-off requirements in public research centre performance contracts, etc..

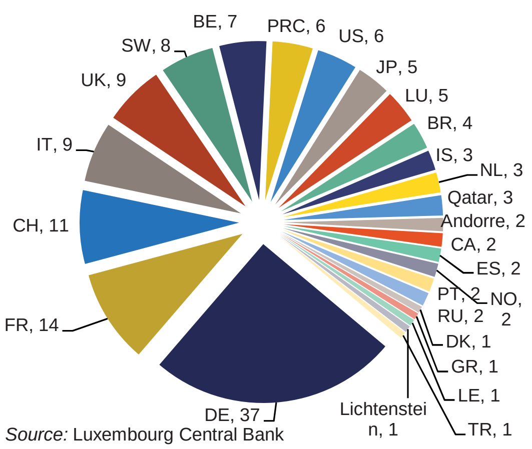
Graph 3.25: **Insurance Premiums paid by type and origin**



Source: Commisariat aux Assurances

The banking sector development began in the 1920's as a reaction to stricter regulation in foreign jurisdictions. It was supported by the flexible and sound regulatory framework that Luxembourg chose to implement over time. There were 147 credit institutions operating in Luxembourg at the end of 2013, the majority of which are subsidiaries or branches of foreign banking groups. 38 branches, 104 subsidiaries and 5 domestic banks make up the financial sector of Luxembourg and the home country of the parent group is generally European (Graph 3.26).

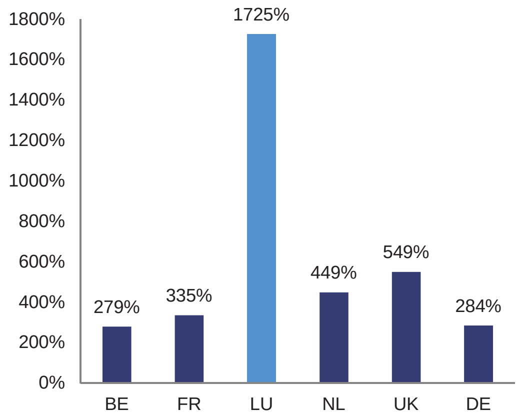
Graph 3.26: **Banks by Country of Origin**



Source: Luxembourg Central Bank

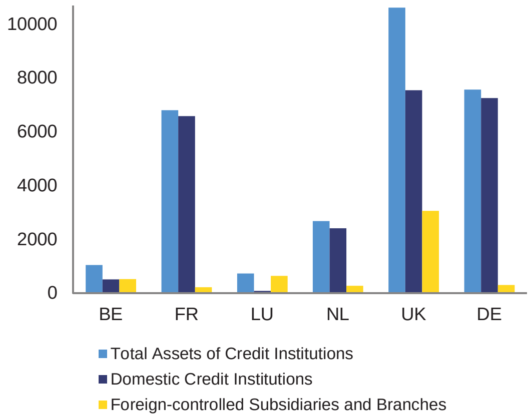
In November 2013, total assets in the Luxembourg financial sector amounted to nearly EUR 736 billion or more than 17 times GDP. Judged by the size of the total assets of banks as percentage of GDP, Luxembourg's financial sector is the largest in the euro area and appears as an outlier (Graph 3.27). In absolute terms however, the aggregate size of the balance sheets of banks operating in Luxembourg is inferior to banks in Belgium or France (Graph 3.28).

Graph 3.27: **Financial Sector as % of GDP**



Source: European Central Bank, own calculations (2012)

Graph 3.28: **Size of Financial Sector (EUR billion)**

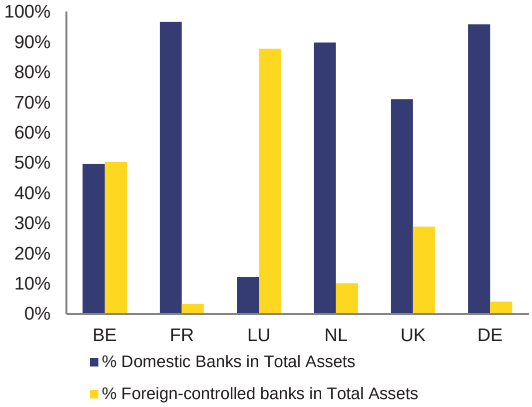


Source: European Central Bank, own calculations (2012)

A significant share of the large financial sector of Luxembourg is internationally-oriented and with a high level of foreign ownership. More than 87% of the assets in Luxembourg are in subsidiaries or branches that belong to international banking groups. In Belgium, the same share is nearly half of the total, while in France or Germany foreign ownership is below 5% of the total assets of the financial sector (Graph 3.29). From this perspective, Luxembourg is exposed to exogenous developments that can threaten the financial stability but that are outside the control of local authorities. The activities of the foreign banks are mainly cross-border interbank operations and require strict supervision mechanisms.

The *Commission de Surveillance du Secteur Financier* and the Central Bank of Luxembourg are in charge of the micro- and macro-prudential supervision of the banking sector, the health of which is of course of utmost importance for the sustainability of both economic growth and public finances. The supervising capacity and the financial sector have evolved in parallel and the supervising authorities were wisely given the necessary means to ensure effective supervision**.**

Graph 3.29: **Share of Domestic Banks (as % of Total Assets)**



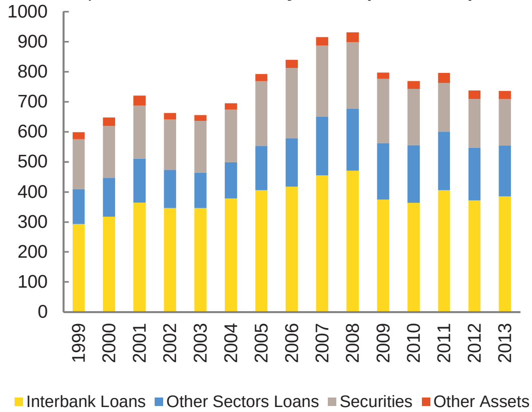
Source: European Central Bank

3.2.2. Impact of the financial crisis on the financial sector

The performance of the financial sector has been affected by the crisis but the effects on the economy as a whole have been contained. The financial sector which is internationally oriented contracted sharply. The impact of the crisis has been mainly seen on the banks' balance sheets through a reduction in international financial operations and on the investment fund industry that suffered from the lower value of the assets and outflows.

As the effects of the financial crisis became more visible, distinct parts of the financial system became affected by the turmoil, including Luxembourg's financial centre due to its structure and specialisation. The activity of credit institutions slowed down and the aggregate balance sheet contracted by 27% between 2008 and 2013, mainly as a result of the 23% reduction in interbank lending between cross-border institutions.

Graph 3.30: **Bank Assets Dynamics (EUR billion)**



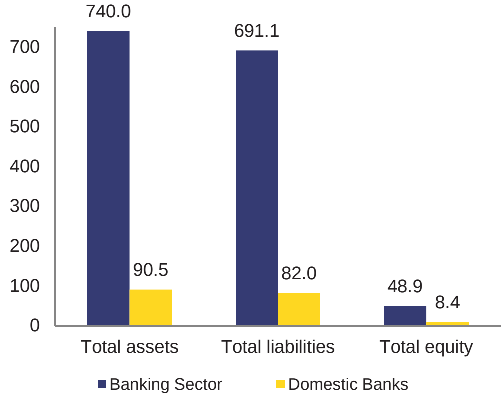
Source: Luxembourg Central Bank

The crisis also revealed a certain vulnerability of Luxembourg's banks in times of scarce liquidity. A large part of assets and liabilities on the banks' balance sheet is represented by interbank operations and many cash–rich subsidiaries act as a conduit for lending to their parent groups. At the height of the crisis when short-term funding markets dried up, many foreign subsidiaries pledged collateral to the ECB to benefit from the liquidity facilities for their parent banks. Today, the situation is normalized and only around 15 banks of the 147 use the ECB deposit and borrowing facilities.

Luxembourg had to contribute to several bail-out operations. The effectiveness of the cross-border cooperation and of the existing deposit guarantee scheme allowed for uneventful outcomes. Although the foreign banking groups' subsidiaries were in good health, due to their importance for the domestic market, Luxembourg had to participate to the cross-border capital injections in the groups Dexia (EUR 376 million), Fortis (EUR 2.5 billion) and ING jointly with Belgium, France and the Netherlands. The cross-border co-operation and a specific winding-up procedure for banks have allowed effective crisis resolution in the banking sector. These difficulties appear to have been successfully resolved without a significant impact on credit supply as there is little evidence of credit tightening in the domestic economy.

The Luxembourg Deposit Guarantee Scheme covers only deposits up to EUR 100,000 in subsidiaries and banks, but not in foreign branches. The total amount of deposits covered by the scheme represents roughly two thirds of GDP. The existing scheme had to intervene successfully on a limited number of cases, the last one being the collapse of the three Icelandic subsidiaries located in Luxembourg. On this occasion, Luxembourg had to disburse about EUR 310 million to compensate the clients who had deposits in the three subsidiaries and all cases were handled smoothly.

Graph 3.31: **Banking sector :Total and Domestic Banks Assets (EUR billion)**



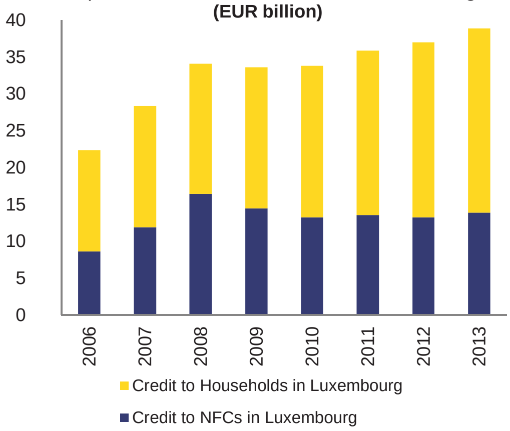
Source: European Central Bank

3.2.3. The domestic dimension of the financial sector

The banking sector in Luxembourg is diversified and specialized at the same time. Luxembourg is mainly active in financial intermediation and fund administration but is also present to a lesser extent in insurance, private banking and Islamic finance. The domestic banks' assets as per cent of GDP, an indicator of potential contingent liabilities for the sovereign in case domestic entities need to be rescued, are on the low side compared to European peers (Graph 3.29). The assets of the 5 domestic banks amount to EUR 90.5 billion as of 2012 and represent 210% of GDP, below the euro area average of 283.9% of GDP (Graph3.31). These banks are mainly retail oriented, well-capitalised and profitable. The bulk of the domestic market is catered for by 5 banks, 3 from Luxembourg and 2 foreign ones. From all the banks operating in Luxembourg, only 6 are systemically significant and will be subject to ECB's Asset Quality Review in 2014.

The inter-linkages of the financial sector with the domestic economy are limited. While Luxembourg is hosting the biggest banking sector of the euro area as a share of GDP, most banks play a marginal role in the financing of the domestic economy. Furthermore, the effect of the crisis on the credit to the private sector has been contained. While the access to private sector credit in the euro area was hindered in the aftermath of the financial crisis, this tightening was not felt in Luxembourg as credit standards have tightened only marginally. Demand and supply weighted on the growth of credit to non-financial corporations. Both weak demand for new loans and the slowdown in economic activity led to a sharp decline in credit growth to non-financial corporations compared to pre-crisis levels (Graph 3.32). Credit to households continued its upward trend mainly due to the expansion of credit for house acquisition.

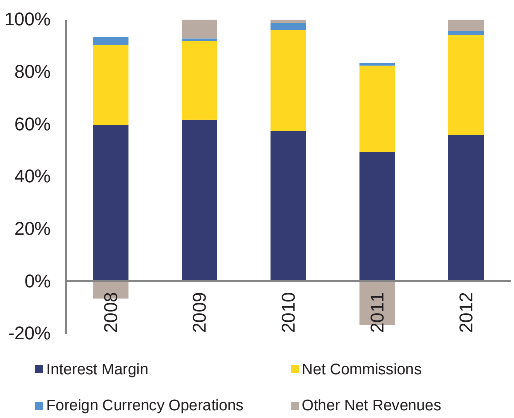
Graph 3.32: **Private Sector Credit in Luxembourg (EUR billion)**



Source: Luxembourg Central Bank

While the results and profitability of the banks have not returned to pre-crisis levels, they have weathered the crisis well. The low rates environment squeezed the interest rate margin, upon which banks rely for half of their results (Graph3.33). The performance of the portfolio of securities and the amount of collected commissions correlated with the financial market movements are thus more volatile. At end of 2012, domestic banks posted a ROE of 3.95% and a ROA of 0.37% while their cost to income ratio of 48.84% is among the lowest in the EA.

Graph 3.33: **Bank Product Composition**



Source: Luxembourg Central Bank

Despite challenging business conditions, banks in Luxembourg post sound solvency and liquidity indicators in aggregate terms although at the individual level the results can be more dispersed. Despite rapid credit growth before and after the crisis, the NPL ratio of 0.5% is still one of the lowest in the euro zone.

3.2.4. The Outlook for the financial sector

The economic developments in Luxembourg are tightly linked to the evolution of the demand for the financial services offered by the financial institutions operating locally. Output level and growth rates have been historically dependent on the performance and dynamism of the financial sector and Luxembourg has largely benefited from the expansion of the financial services industry. For a long period, Luxembourg has enjoyed sustained growth, fuelled by the emergence and dynamism of its financial sector. The increase in living standards and the path of public finances were particularly underpinned by the development of the financial industry. But even if Luxembourg weathered the crisis well, it remains vulnerable to external shocks and needs to increase its awareness with regards to longer term challenges linked to both its growth model and the sustainability of its public finances.

In the years that followed the financial crisis, the growth rate of the economy slowed and the prospects for the longer term have become more uncertain. The future prospects of the financial sector, which are central to the outlook for the economy of Luxembourg, are affected by changes in the financial industry and in the regulatory environment. On the one hand, a fall of revenues from banks would put public finances under strain and might be permanent.

The international, regional and local regulation changes and the competition among financial centres will impact further on the potential for growth which will likely settle at a lower level compared to the pre-crisis one. The volume of the activity and the size of Luxembourg banks' balance sheets look set to stay lower than before the crisis. On the other hand, it cannot be discarded that other areas will manage to compensate for the loss in bank revenues due to the decrease in financial intermediation: the assets under management in the investment fund industry increased strongly after 2008 and private banking has a high growth potential.

Concerning private banking, the regulation changes yet to come are expected to be a game

changer. Private bankers in Luxembourg argue that the adoption of the automatic exchange of information in 2015 will trigger outflows in the private banking area. However, based on the new global wealth creation forecasts this activity also has the potential to grow, unlike other areas of finance that have come to a standstill or even regressed. Even if Luxembourg has traditionally targeted mature markets such as Western Europe, it has built expertise in related activities like wealth management, investment funds and investment advice. With its know-how and skilled workforce, Luxembourg is striving to take advantage again of its "first mover" strategy and develop the private banking business in promising areas like the Family Offices that target very wealthy individuals.

3.2.5. Conclusion on internal imbalances

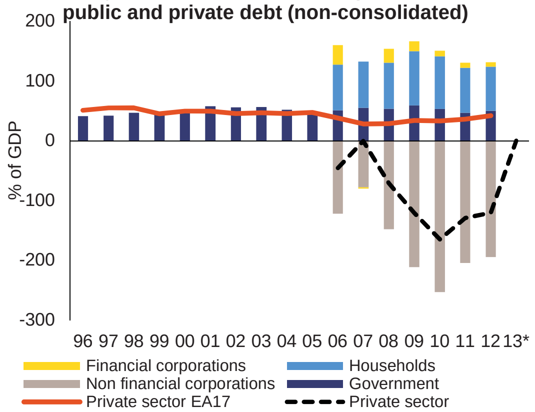
Luxembourg has developed an economic model that gravitates around the financial sector, which is adapting to a changing world. The reliance on its results became even more pronounced during the volatile years that have followed the onset of the financial crisis as the very generous public finances and welfare system rely on the revenues generated by the financial sector. While in good times this would be no issue, the crisis revealed cracks in the mirror. The dynamism of the last decades in the financial sector revenues could not to return in the near future, at least not in the same areas of business. The new regulatory environment and increased competition between financial centres will represent a challenge, but also an opportunity, for further expansion.

3.3. INDEBTEDNESS OF NON-FINANCIAL COMPANIES AND HOUSEHOLDS

Concerns about the sustainability of debt have been at the origin of the crisis in many countries.

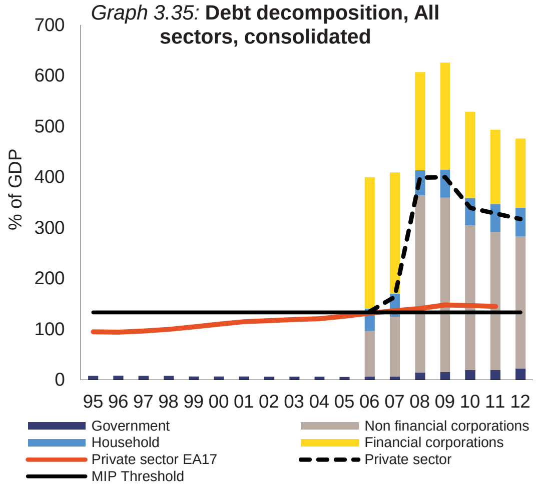
Consolidated debt of the Luxembourg non-financial private sector stood at 317% of GDP in 2012, much above the indicative threshold in the macroeconomic scoreboard of 133% of GDP[10]. A breakdown of the private debt between households and non-financial corporations (NFCs) shows that households' debt, mainly related to house acquisition, is in line with the euro area average, although growing rapidly. Conversely, borrowing of the NFCs is much higher than in the other euro area countries (see Graph 3.35). Household debt represents 56.8% of GDP, compared to 63.9% in the euro area. NFCs account for the remaining 260.6% of GDP, compared to 81.4% in 2012 in the euro area.

Graph 3.34: **Net assets decomposition of public and private debt (non-consolidated)**



Source: Commission services

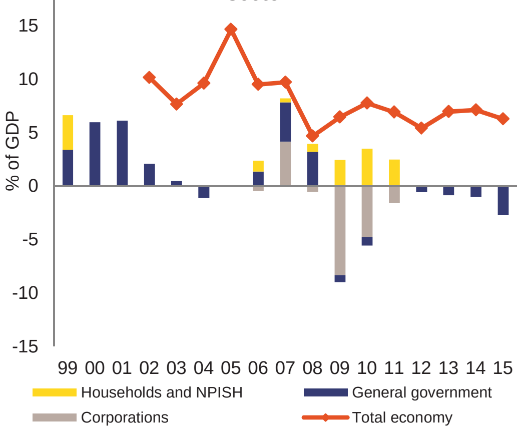
Graph 3.35: **Debt decomposition, All sectors, consolidated**



Source: Eurostat

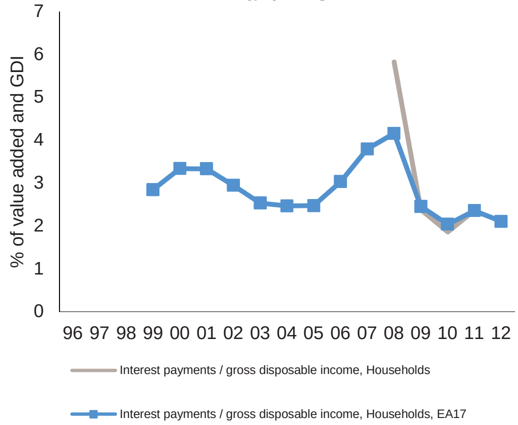
(10) Private sector debt is the stock of liabilities in the form of loans and securities other than shares excluding financial derivatives.

Graph 3.36: **Net lending/borrowing by sector**



Source: Commission services

Graph 3.38: **Interest burden on Households and NFC**

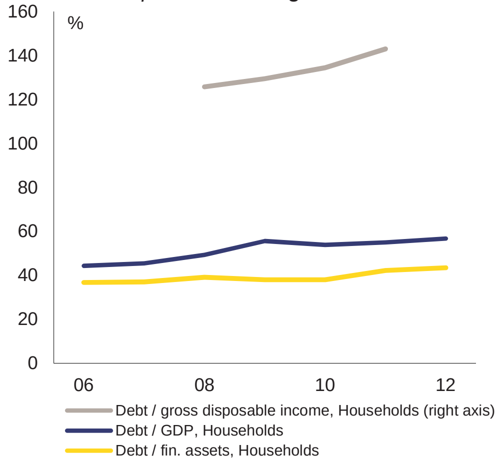


Source: Commission services

3.3.1. Households' indebtedness

Household indebtedness has been increasing steadily since 2001. As can be observed in graph 3.37, the increase in the debt/asset ratio is less pronounced than that of GDP, given that the accumulation of debt has been accompanied by a concomitant increase of assets. More than 80% of household indebtedness is mortgage related, and the rising indebtedness path can be explained by increasing house prices (see section 3.3.2). However, the low interest rates environment and the more favourable tax treatment of mortgage loans since 2005 can help explain the capacity of households to absorb a higher debt burden (see Graph 3.38).

Graph 3.37: **Leverage of households**



Source: Commission services

Net financial assets of Luxembourgish households are lower than in the euro area. They amount to about 73.9% of GDP in 2012, well below the average of the euro area at 136.1%. However the gap narrows in case the net financial assets are compared to the national income: the figures for Luxembourg households shoot up to 108.5%, while for the euro area they remain almost unchanged (see Table 3.3), even if they remain below. Looking at the evolution in recent years, net financial assets have not been impacted by the fall in equity prices in 2008 while the contrary can be observed for the euro area. This could be partly due to the more conservative behaviour of the Luxembourg households that invested a larger share of their net financial wealth in risk-averse instruments (see Graph 3.39 and Graph 3.40). In 2008 currency and deposits represented a 56.1% share of net financial assets compared to 36.1% on average for the euro area. Net financial wealth jumped in nominal terms from EUR 40.9 bn. at the end of 2006 to EUR 56.1 bn. at the end of 2013. The increase was just sufficient to compensate for inflation, implying therefore a broad stagnation in real terms.

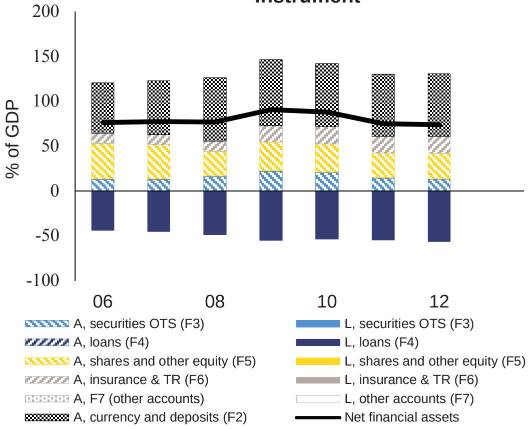
Table 3.3:
Households net financial assets

	2007	2008	2009	2010	2011	2012
	Net Financial Assets (% of Gross Domestic Product)					
Luxembourg	77.4	76.8	90.8	88.0	75.1	73.9
Euro area	135.2	120.3	131.9	132.7	127.9	136.1
	Net Financial Assets (% of Gross National Income)					
Luxembourg	96.2	97.2	137.6	127.4	109.1	108.5
Euro area	135.1	120.8	131.9	132.4	127.7	135.7

The evidence coming out from these data that Luxembourg households are worse off than

their corresponding euro area peers needs to be qualified. First, it is likely that the ratio is biased by the evidence that GDP per inhabitant (and even GNI) is much higher than in the euro area. Second, a breakdown of households' wealth shows that financial assets represent for Luxembourg households a smaller fraction of the overall wealth than for the corresponding households in the euro area (see Graph 3.41). Actually, according to the figures provided by the BCL the Luxembourg households' net financial assets per capita would be the highest in the euro area, just above the Belgian (see Graph 3.42). Real estate assets have increased over the years in line with developments in housing prices and represented around 81% of the overall wealth in 2012, compared to 68.0% in the euro area([11]).

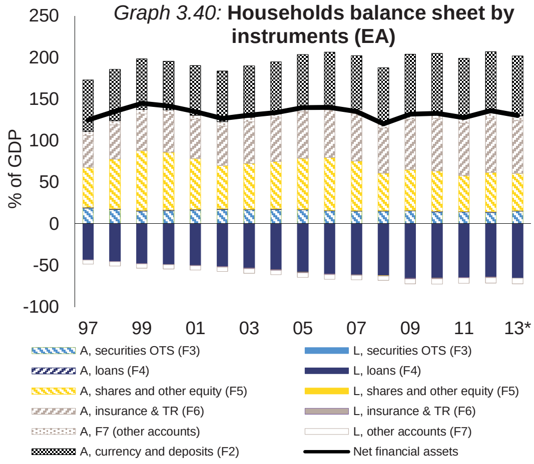
Graph 3.39: **Households balance sheet by instrument**



Source: Commission services

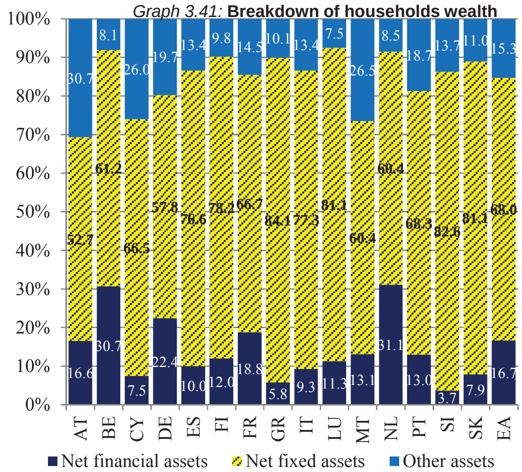
([11]) This figures has been computed on the basis of the data collected in the context of the "Households Finance and Consumption Survey" and are not completely compatible with national account data. For additional information refer to the methodological note to the report, available at:
http://www.ecb.europa.eu/home/html/researcher_hfcn.en.html

Graph 3.40: **Households balance sheet by instruments (EA)**



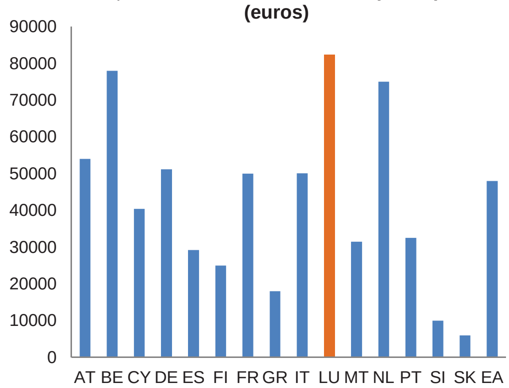
Source: Commission services

Graph 3.41: **Breakdown of households wealth**



Source: BCL

Graph 3.42: **Net financial assets per capita (euros)**

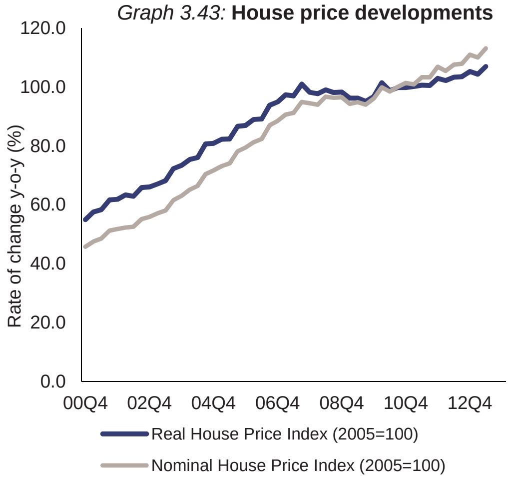


Source: BCL and Commission services

3.3.2. House prices

House prices in Luxembourg have increased almost without interruption since 2000 including during the crisis year. After a peak in the third quarter of 2007, prices have recorded a small drop in the two consecutive quarters, having returned to grow already in the second quarter of 2008 (see Graph 3.43). Graph 3.44([12]) confirms the dynamism of the real estate market in Luxembourg. Real prices at end of 2012 were above the level recorded during the previous peak.

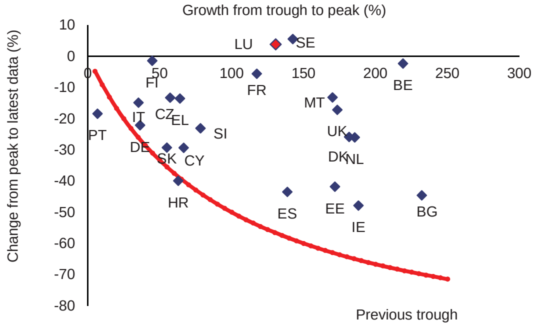
Graph 3.43: **House price developments**



Source: Eurostat, ECB, Commission services

Graph 3.44: **House price cycle**

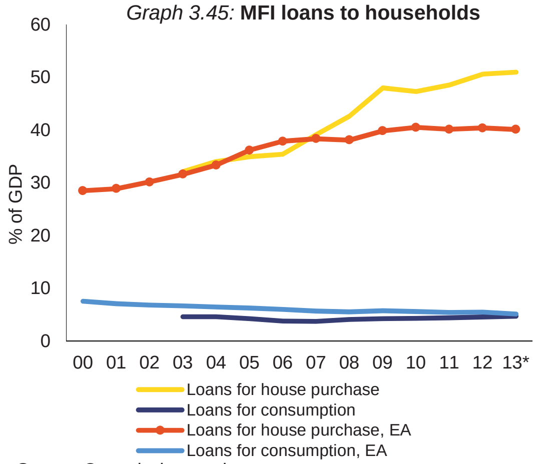
Growth from trough to peak (%)



Source: Commission services

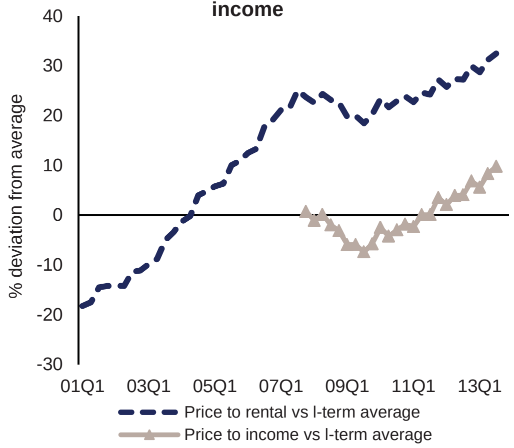
Several additional factors might be pointing to overvaluation pressures. Graph 3.44 presents the evolution of the price-to-rent and the price-to-income ratios. Both are following a firm upward trend since year 2000, with just a minor correction at the beginning of the crisis. In the particular case of the price-to-income ratio, it situates since 2011 above its long-term average, meaning that Luxembourgish households have to face an increasingly higher effort to pay back their mortgages. In other words, their affordability or capacity for real estate acquisition is declining. If current levels do not represent an excessive burden for households, as witnessed by the very low level of non-performing loans, the constantly upward trend represents a source of concern.

Graph 3.45: **MFI loans to households**



Source: Commission services
Note: * indicates estimated figures using quarterly data.

Graph 3.46: **Price to rent and price to income**



Source: Eurostat, OECD, ECB, BIS and Commission services

([12]) Trough/peak: BE 85Q2/11Q3, DE 08Q3/94Q3 IE 97Q1/07Q3, EL 00Q1/09Q1, ES 97Q4/07Q3, FR 97Q1/07Q3, IT 00Q2/07Q3, LU 95Q2/07Q3, MT 00Q2/08Q1, NL 88Q1/08Q3, AT n/a, PT 07Q2/09Q4, SI 03Q2/08Q1, FI 08Q4/10Q3, BG 02Q2/08Q3, CZ 04Q3/08Q4, DK 93Q2/07Q3, EE 03Q3/07Q2, LV 00Q2/07Q3, LT 00Q3/07Q3, HU n/a, PL n/a, RO n/a, SE 96Q1/07Q3, UK 96Q2/07Q3. Note: due to the specific dynamics of the DE cycle, the vertical axis represents the cumulated growth from peak to trough and the horizontal axis yields the cumulated change from trough to latest data.

3.3.3. Indebtedness of non-financial corporations

The analysis of NFCs debt is important for a number of reasons. Firstly, high levels of indebtedness can make NFCs more vulnerable to interest rate increases, shocks or unexpected economic events. Secondly, if NFCs debt is impaired, this can negatively impact the balance sheets of those that lent to those companies. Finally, when NFCs with a high debt burden need to deleverage, it can act as a drag on economic growth.

In order to cast some light on the potential vulnerabilities represented by a high level on indebtedness, our analysis will scrutinize the issue from different angles. An international comparison will provide information on where Luxembourg stands compared to other countries.

3.3.4. A cross-country perspective

Indebtedness of NFCs has increased substantially in most of the EU countries, including Luxembourg, in the years preceding the financial crisis. The leverage ratio of NFCs, measured as percent of GDP, rapidly increased from 90.3% in 2006 to 349.7% of GDP in 2008, since then a deleveraging process has started with the ratio decreasing to 260.6% of GDP in 2012. Luxembourg non-financial-sector debt to GDP ratio is however still more than double the threshold in the scoreboard at 133% of GDP. While a certain level of debt is considered a desirable feature, excessively high private sector indebtedness can imply significant risks for growth and financial stability and increase overall the vulnerability of a country ([13]).

The definition of debt to GDP ratio adopted by the MIP uses a consolidate measure of sectoral debt. This measure includes all liabilities in the form of securities other than shares, plus loan liabilities, net of intra-company loans. In some countries, intra-company loans are a significant element of financing for large NFCs. Loans between companies may represent a large part of the NFC debt. Group loans are often motivated by tax optimisation strategies. This reflects, in part, diverging tax regimes, which, by leading to a high inter-company loans level, will present a distorted image of NFC debt. By comparing non-consolidated and consolidated measures of debt to GDP, it is possible to obtain an estimate of this effect, that also partly reflect the potential increasing importance of intra-company loans during the crisis to compensate for constraints in access to traditional financing from the banking sector.

However, Luxembourgish NFCs had the highest level of debt to GDP, both in non-consolidated and consolidated terms. Other countries such as Belgium and Malta also have a significant number of multinational companies with dynamic intra-group lending flows. But the consolidated data do not exclude inter-company debt with non-resident affiliates, which play a particularly significant role for multinationals in Luxembourg.

While the debt-to-GDP ratio is frequently applied for international comparison, aggregated measures of affordability such as GDP does not provide the most accurate picture on the ability of economic agents to service their debt. A significant amount of research, notably by the ECB([14]) and the European Commission ([15])has been performed using a wider set of indicators, amongst else the ratio of NFC debt to financial assets. An analysis of debt relative to financial assets provides a more complete understanding of the NCF balance sheet and its capacity to service debt. The ratio of NFC debt ([16]) to total financial assets at the end of 2012 is presented in Graph 3.47. Under this measure, Luxembourg NFCs had a ratio of 34.6%, implying that debt levels are less than one third of the sector's stock of financial assets. The average debt-to-total financial assets ratio for the 17 countries in the euro zone was 59%. However, this indicator should not be taken

([13]) European Commission (2011), 'Scoreboard for the surveillance of macroeconomic imbalances: envisaged initial design, Commission Staff Working Paper, November.

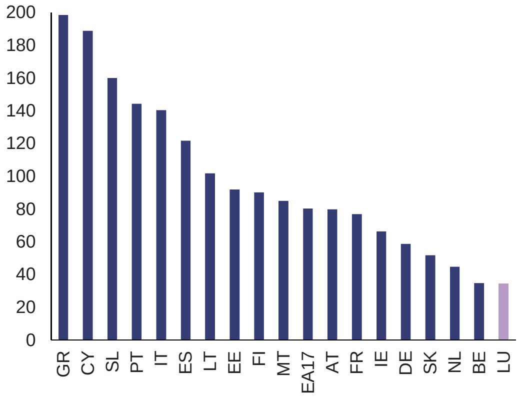
([14]) ECB Monthly Bulletin, February 2012, "Corporate indebtedness in the euro area".

([15]) EC (2013), "Indebtedness, deleveraging dynamics and macroeconomic adjustments", Economic paper 477.

([16]) Debt here is defined as the sum of debt securities, loans and pension fund reserves. In contrast with the MIP, the ECB and the European Systemic Risk Board measures NFC debt by adding in pension fund reserves with loans and securities. There are seven countries in the EU where NFCs report reserves: Belgium, Czech Republic, Germany, Italy, Luxembourg, Portugal and Sweden.

directly, given that valuation effects of financial assets should also be taken into account as they are much more volatile than debt instruments, especially in a downturn when indebtedness adjustments tend to last longer on average (EC, 2013).

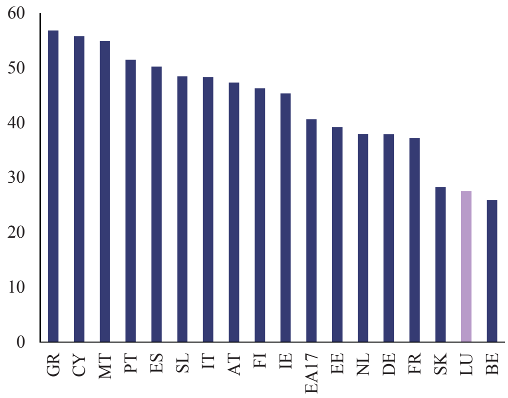
Graph 3.47: **Ratio Liabilities to Assets**



Source: Commission services

A single measure may be misleading and it is then warranted to complete the picture using more ratios linked to the balance sheets. Indeed, NFCs financing and investment decisions impact both sides of the balance sheet. NFCs reacted to the financial crisis by reducing their debt levels or following the ongoing deleveraging in the banking sector that is likely to make bank financing durably more expensive, changing the type of financing. This results in an increased use of alternative sources of finance such as equity, unquoted equity and other accounts payable. The ratio of debt to total liabilities provides a measure on the reliance by the enterprise on alternative sources of funding than debt. A lower ratio of NFC debt to total liabilities indicates a reduced reliance by NFCs on funding from loans and debt securities, compared with funding from equity and other accounts payable. Graph 3.48 shows that NFCs in Luxembourg were the second lowest with a ratio of 27.5%.

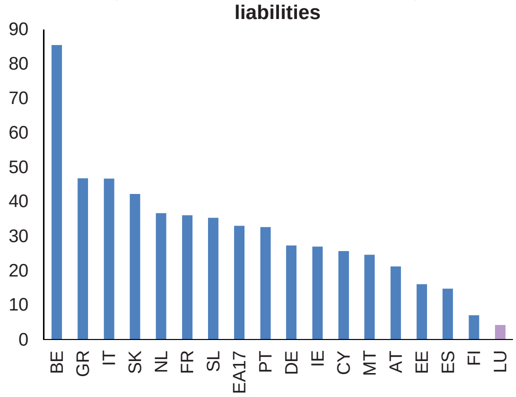
Graph 3.48: **Ratio Debt to Total liabilities**



Source: Commission services

Another different approach to assessing NFC debt is to compare the maturity profile of the types of debt by sector. If companies rely on short-term loans or securities, this may result in higher liquidity risks and greater sensitivity to increases in interest rates (ECB, 2012). Generally, a smaller share of short-term debt reduces corporate vulnerabilities as debt repayments and a prolongation of debt occur less frequently. NFCs in Luxembourg have the lowest ratio at 4.4% (see Graph 3.49).

Graph 3.49: **Short-term versus Long-term liabilities**



Source: Commission services

Overall, while NFCs debt levels in Luxembourg can appear striking compared with other EU countries in debt-to-GDP ratio terms, the use of a wider set of indicators provides a broadly reassuring picture of the NFCs indebtedness, although risks cannot be fully ruled out given their extremely high debt levels.

3.4. SUSTAINABILITY OF PUBLIC FINANCES

Luxembourg's public finances are not isolated from the particular growth model of the country. The strength of financial services has allowed the country to create and sustain a generous welfare state without excessively high taxes. Simultaneously the country managed to keep public finances in a sound position with the fiscal balance generally in surplus and public debt at a very low level.

Luxembourg does not appear to face a risk of fiscal stress in the short term, but it is at high risk in the long term. The latter refers mainly to the budgetary impact of ageing costs. Concerning the short run, government debt (21.7% of GDP in 2012 and expected to rise to around 28% in 2015) is well below the 60% of GDP threshold. The focus should, therefore, be on curbing age-related expenditure in general and pension expenditure in particular.

On 5 December 2012, the Luxembourgish Parliament finally adopted a pension reform proposal submitted in January 2012. The reform entered into force on 1 January 2013. However, the new calculation method will be implemented only gradually over the next 40 years. According to data from the 2012 Ageing Report, which had already anticipated most of the aspects of the forthcoming reform, Luxembourg would still need to implement long-term sustainability-enhancing policies equivalent to a permanent improvement of 8.6 pps. of GDP in the primary balance to close the fiscal gap. This is an effort significantly above the average improvement required for the EU as a whole (3.0 pss.). Thanks to its lower initial debt, Luxembourg has some time to adjust policies to account for the impact of age-related expenditure. Moreover, the country has accumulated public reserves of around 27% of GDP, but this only reduces risks for sustainability in the short to medium term.

The recently legislated pension reform does not include a reference to a link between the statutory retirement age and life expectancy. Moreover, given the projected high increase in expenditure by 2060, it is likely that additional reform steps will be necessary to further boost sustainability in the future, considering that the impact of the 2012 pension reform is likely to be very small compared with the funding gap as projected in the 2012 Ageing Report.

Even after the reform, in order to guarantee the financial viability of the pension system, a substantial increase in the contribution rate after 2020 would be necessary, in addition to the built-in moderation of the adaptation of pensions to the standard of living. This would entail a significant increase in the burden on labour supported by the future active population and consequently a loss of cost competitiveness. Given the currently high replacement rate (87% compared to between 42% and 49% in the neighbouring countries) and even for high wage earners, several measures could have been taken so as to ensure that future generations do not have to bear an excessive burden or simply a substantial reduction in benefits.

Rising spending on long-term care is projected to contribute by 2.1 pps. to the aforementioned sustainability gap. The 2012 Ageing Report shows a high expected increase in both the number of elderly and the number of self-assessed dependents in Luxembourg. Therefore, a continued focus on cost-saving prevention and rehabilitation measures, and on improved conditions for independent living, combined with increased efficiency and effectiveness of long-term care services would prove useful as a means to contain the expected need for long-term care services. In addition, Luxembourg does not appear to apply a means-tested eligibility criterion for either in-kind or cash long-term care benefits. Finally, the objectivity of the existing eligibility criterion on the basis of dependency could be strengthened, as it is assessed by individual medical doctors, nurses or care workers.

Fiscal governance in Luxembourg is essentially not rules-based. Neither the debt nor the expenditure agreements is established in law and there is no identified monitoring body and no predefined action in case of non-compliance. Luxembourg does not have a medium-term budgetary framework underpinning multi-annual fiscal planning by providing guidelines for smooth revenue and expenditure evolution, thereby contributing to budgetary discipline in the medium and long term. A multi-annual programme exists for investment expenditure but has only an indicative character.

Government revenues in Luxembourg are relatively low and particularly volatile, notably because of the country's openness and because of the economy's strong specialisation in the financial sector. With tax revenues amounting to 37.9% of GDP in 2012, Luxembourg stands out with a tax level both below the EU-27 average (39.9 %) and below that of its three neighbouring countries − Belgium, France and Germany. The structure of the Luxembourg tax system, in terms of the proportion of revenues collected by the different taxes, has remained relatively stable since 2000. Less than one third of tax revenue is raised from consumption taxes, which places Luxembourg among Member States with the lowest share in the EU-27, partially owing to moderate nominal VAT rates and reduced rates. Labour taxation is among the lowest in the EU, with the tax wedge on labour for an average single earner without children amounting to 36.0% in 2011, substantially lower than the EU-27 average (41.1%). Revenues from capital taxes as a percentage of total taxes (28.1%) are among the highest in the EU (20.5%). The revenues from corporate income taxation are among the highest in the EU, which is partly due to the importance of the financial sector in the economy. Taxes are collected in a relatively efficient way, with Luxembourg's administrative costs for tax collection standing at the EU-27 average.

Overall, while in the short to medium term Luxembourg's public finances appear to have absorbed the shock induced by the burst of the financial crisis, sizeable challenges remain in the long-run.

4. SPECIFIC TOPICS

4.1. THE FINANCIAL SECTOR: ECONOMIC IMPACT, INVESTMENT FUNDS AND PRIVATE BANKING

Although the financial sector faces major challenges, this section will discuss how the sector responded to challenges during the financial crisis. This relates to the means the sector has given itself to build a solid reputation, as well as to the recent regulatory initiatives at the local, regional and global level.

We will begin by establishing the contribution of the financial sector to the Luxembourgish economy. Then we will make an overview of the most significant features that characterised the local financial market at the height of the financial crisis. Finally, we will look at two areas for further development chosen by Luxembourg: asset management and private banking.

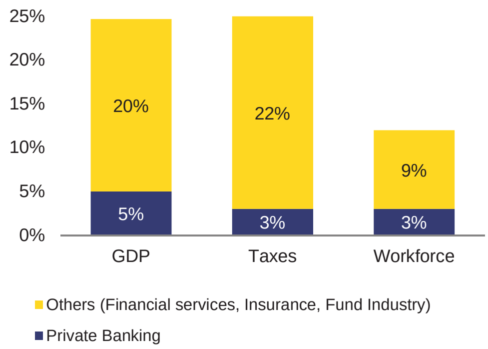
4.2. THE FINANCIAL SECTOR AT THE HEART OF THE ECONOMIC MODEL OF LUXEMBOURG

Even if the sector weathered the crisis well, the intense specialisation in the financial area has drawn attention to Luxembourg since the onset of the crisis. This because its economic performance is dependent on international developments, is subject to the volatility of financial markets and may be dented by increased competition with other financial centres. The deleveraging and the market effect have been the main drivers of the shrinking of the banks' balance sheets but Luxembourg has also benefited from the flight-to-quality movement in the financial markets. Thanks to its favourable institutional framework, Luxembourg has continued to attract capital into the investment fund industry. The absolute size of the domestic banking sector is on the low side compared to the EU average and the credit institutions are profitable and well capitalized by international standards.

4.2.1. The contribution of the financial sector to the economy of Luxembourg

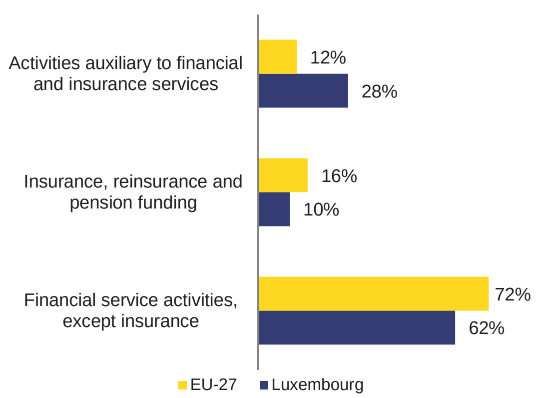
The social development of Luxembourg went hand in hand with the progress in the financial services industry and today it has the highest per capita income in the OECD. The direct economic contribution of financial services is significant in many aspects (Graph 4.1): contribution to value added (25% of GDP), to the fiscal revenues (25% of the total, according to ABBL) and to employment (12%). The financial and insurance activities continue to play a central role in the economy of Luxembourg despite a declining economic impact, consequence of the financial and economic crisis. The development of the fund industry led to the development of activities auxiliary to the financial industry and today their share in total value added is significantly above the euro area average (Graph 4.2).

Graph 4.1: **Financial Sector Direct Contribtion to the Economy**



Source: STATEC, Luxembourgforfinance, own calculations

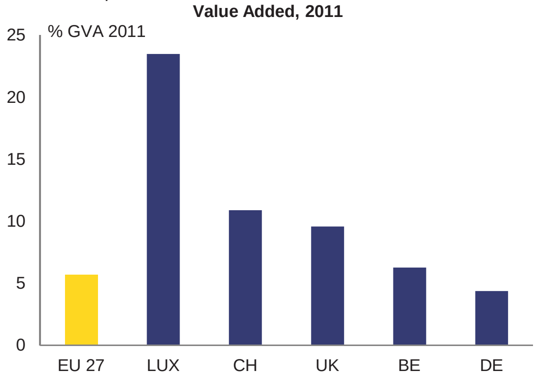
Graph 4.2: **Financial Subsectors (% od Sectoral Value Added, 2012)**



Source: STATEC (2013), own calculations

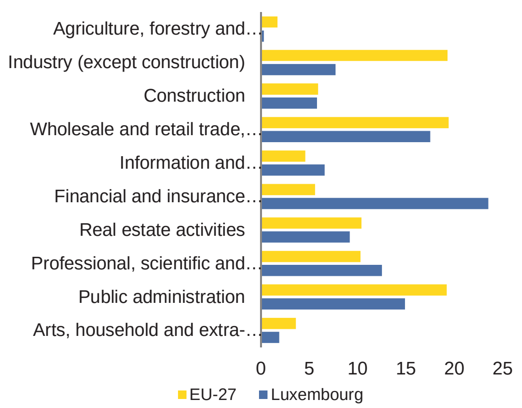
Luxembourg stands out as highly dependent on its financial sector (Graph 4.3 and 4.4). In absolute terms, the financial sector contributed to value added up to EUR 149 billion in the UK, EUR 100 billion in Germany or EUR 48 billion in Switzerland, while its contribution of EUR 9 billion in Luxembourg is not that impressive. The financial sector generating a quarter of total value added implies that shrinking the sector represents a big challenge for a small economy.

Graph 4.3: **Financial Sector as % of Total Gross Value Added, 2011**



Source: EUROSTAT, STATEC (2013)

Graph 4.4: **Value Added by Sector as %of Gross Value Added (2011)**



Source: STATEC (2013), own calculations

4.3. RISKS INHERENT TO THE STRUCTURE AND SPECIALISATION OF THE FINANCIAL SECTOR IN LUXEMBOURG

Luxembourg hosts numerous foreign credit institutions specialised in financial intermediation and asset management. A financial intermediary is a financial institution connecting surplus and deficit agents. Luxembourg subsidiaries are generally cash rich thanks to the deposits they collect and are liquidity providers to their parent group through intra-group lending. The banking sector is also characterised by the strong links with the fund industry, through their role as funds' depositaries. Despite the specialisation in financial activities, the share of the domestic market is small as only five banks are from Luxembourg and their main activity is directed to the local retail market.

4.3.1. Subsidiaries have large exposures to the same entity and this concentrates the risks

By the nature of the interbank operations, subsidiaries and branches in Luxembourg are exposed to the intragroup risks and subject to the group's strategy. For example, if a Dutch banking group has to provide a loan in Germany, the loan can be channelled through the Luxembourg subsidiary of the group. The subsidiary established in Luxembourg would either borrow the amount from its Dutch parent bank, thus increasing its liabilities, or use its excess liquidity to lend it to the German operations of the bank, increasing thus its assets.

Of the total lending operations realised by banks in Luxembourg, financial intermediation represents 52%, a high figure compared with the euro area average of 28%. While prudential rules call for an upper limit on the exposure of a single entity, in Luxembourg the average exposure to the parent group fluctuated around the 50% (of total assets) mark, but for some financial institutions this figure can be much higher. A cap on exposure is supposed to limit the risks incurred by the lender in case the borrower defaults. The Luxembourg state of play and the current level of exposure to a single entity were made possible by the exclusion of short-term intra-group and interbank exposures from this rule, as is the case in many other countries.

4.3.2. Stronger requirements on liquidity will have to be observed with Basel III, reinforcing the current supervisory framework

By the nature of their activities, banks operating in Luxembourg are exposed to the risk that liquidity might not be available on the financial markets. According to the local practices, Luxembourgish banks have to post on a permanent base a liquidity ratio of minimum 30%. According to the Central Bank of Luxembourg, the average liquidity ratio was unchanged over 2012 at 69%. This ratio is however static and it offers very limited information on future developments so that, to fill the gap, the Central Bank performs stress tests in order to assess banks' resilience and provides a daily reporting on the short term liquidity status of the banks.

The implementation of Basel III regulation will ensure that a uniform approach is used for the assessment of the liquidity position of banks. The foreign banks intra-group lending operations require an assessment of the liquidity positions at the entity level so as not to discriminate between domestic banks and international banking groups. In anticipation of the future Basel III Liquidity Coverage Ratio, the Central Bank in cooperation with the CSSF performs impact studies on the new liquidity rules on Luxembourgish banks. According to the data as of June 2012, 36% of banks comply with the Liquidity Coverage Ratio and 46% comply with the Net Stable Finding Ratio. Thus, despite a healthy liquidity position and the easing of the Liquidity Coverage Ratio computation rules set by the Basel Committee, some Luxembourgish banks will have to adjust their stock of liquid assets in order to comply with this ratio at the 2015 horizon.

The financial crisis underlined the need and the benefits of having an efficient deposit guarantee scheme. By itself, Luxembourg could hardly meet the needs in case of bank failures or sudden withdrawal of deposits, but the existence of these mechanisms to prevent or deal with failed banks gives credibility to the existing framework.

The general perception is that a deposit guarantee scheme is a reliable backstop which will prevent bank runs in times of trouble for the credit institutions. The deposits guarantee scheme in Luxembourg should evolve from the current ex-post funding towards an ex-ante funding. The overall customer deposits reached EUR 280 billion in Nov 2013 but the deposits guarantee scheme only covers a fraction of them as a large share of deposits go above the threshold of EUR 100,000. Since its creation in 1989, the scheme had to intervene in a limited number of cases and they were handled smoothly (Box 4.1).

4.3.3. Credit institutions have large exposures to the investment funds

Investment funds domiciled in Luxembourg have to appoint a locally established credit institution to perform depositary activities. At the end of 2013, 63 custodians were operating in Luxembourg, meaning that around one out of two banks (147 banks in total) in Luxembourg are performing custodian activities. The depositary market is dominated by branches of US and French credit institutions, with the largest depositary of UCITS funds having around €500 billion of assets under custody. The depositaries usually perform a wide range of activities, from the obligatory custody functions to fund accounting, fund administration, transfer agency, foreign exchange agent or securities lending agent. The profitability of the depositary function is directly linked to the amount of assets under management in Luxembourg and is therefore exposed to the risk that assets managed in Luxembourg domiciled funds decrease.

Even if the assets under custody do not represent a direct risk for the bank balance sheets due to their segregation, depositaries remain exposed to operational risks linked to this activity. Depositaries are liable for a number of events, including the loss of assets belonging to the funds. To avoid being held financially responsible, depositaries need to implement robust monitoring of their internal procedures but also of their delegation arrangements with sub-custodians.

Box 4.1: **Luxembourg's Deposit Guarantee Scheme had to intervene for the three failed Icelandic banks.**

The DGS had to intervene for the customers of the subsidiaries of three failed Icelandic banks. Together with the Luxembourg and Belgian sovereign, the DGS was able to compensate the deposits of close to 25.000 customers. Total DGS disbursement to date sum up to about EUR 310 million.

The failure of Kaupthing Bank Luxembourg was responsible for 96 % of the funds paid out by the DGS. The bank ceased activities on 9 October 2008. The deposit banking activities in Belgium were transferred to Crédit Agricole Belgique and those in Luxembourg to a newly created institution, Banque Havilland. The bank's Swiss branch depositors were reimbursed by the Swiss deposit guarantee scheme. The ex-post funded DGS reimbursed close to EUR 310 million of eligible covered deposits. The bank's remaining assets and liabilities, including the liabilities towards the DGS, were transferred to a special purpose vehicle (SPV).

By year-end 2008 the shortfall between the failed estate's assets and its liabilities, including the uninsured depositors, was estimated a EUR 310 million plus a buffer of EUR 10 million. To cover this shortfall the Kingdom of Belgium lent EUR 160 million to the Grand Duchy of Luxembourg, which injected EUR 320 million into the bank, accepting bonds issued by the SPV in return. A tranche of EUR 210 million will have seniority during the recovery period, and repayments will be split equally between the two sovereigns. The remaining EUR 110 million will be repaid pari-passu with the DGS and the other interbank creditors depending on the outcome of the orderly liquidation of the assets in the SPV, which is forecast to end in 2017.

Landsbanki Luxembourg S.A. was ordered to be wound up by a court on 8 December 2008. With the exception of subordinated debt-holders, all other creditors had been repaid in full by 9 June 2009. The DGS recovered its entire debt.

Glitnir Bank Luxembourg was placed into liquidation on 3 April 2009. All deposits, interbank liabilities and trade credits were settled in full by August 2009. The DGS recovered its entire debt. After that date, the Central Bank of Luxembourg (BCL) remained the sole creditor of Glitnir. In 2011, two years ahead of schedule, BCL could recover EUR 1 billion lent to Glitnir through liquidating a substantial pool of collateral pledged previously.

Sources: ABBL, AGDL, Glitnir, Landsbanki, European Commission – DG Competition.

4.3.4. Home-host country cooperation and cross-border regulation and supervision are important for the financial stability in Luxembourg

The international dimension and the openness of the Luxembourg financial sector have limited the links and the involvement of credit institutions in the domestic economic and financial network. The high foreign ownership of the financial entities operating in Luxembourg is another dimension defining the financial landscape. A number of them are of systemic importance and carry significant risks for the local economy, not only from the perspective of credit to the private sector but also for contingent liabilities and wider spill over effects considerations. From this perspective, cross-border cooperation between home and host countries is essential and a common recovery and resolution framework as well.

The recent progress made towards the creation of the banking union engaged Luxembourg in the creation of a resolution fund and authority and of an authority for macro-prudential surveillance. . The banking union and the ECB as the sole supervisor for systemically important banks are big steps in harmonising the approach to common banking supervision.

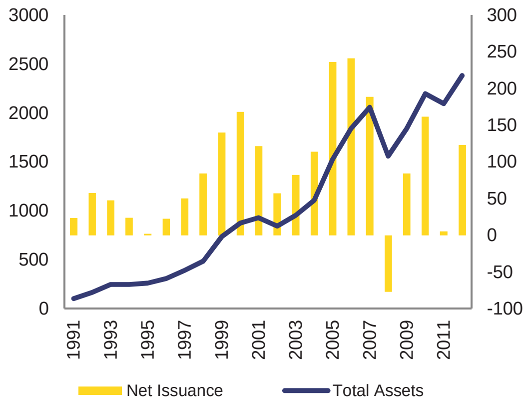
4.3.5. Money market funds are relevant to the financial stability and would benefit from a better prudential framework

The systemic relevance of the money market funds industry emerged during the financial crisis as they are potential amplifiers of a financial turmoil. Money market funds represent a convenient tool for investors because they offer features analogous to bank deposits: instantaneous access to liquidity and stability of value. On the other side, money market funds are important short-term funding providers to banks, companies and governments. This type of funds is highly sensitive to investor redemptions, which can turn in massive runs in times of market stress. On the one hand, in case of significant withdrawals from the funds, the short term funding of banks and companies would suffer. On the other hand, it will affect the sponsors of such funds which are mainly banks. Experience shows that sponsors prefer to financially support the value of their money market fund instead of letting the value dropping. This strong link with the banking sector has forced governments to intervene during the crisis. Notably, Luxembourg announced that it would take all necessary steps needed to stabilize the national money market funds. The money market funds activity in Luxembourg of around EUR 200 billion as of November 2013 has steadily decreased since the end of 2008 mostly as a result of low interest rates. As Luxembourg cannot guarantee the important amounts invested in the money market funds, regulation is all the more important to avoid putting the country at risk.

4.3.6. The size of the investment fund industry

The fund industry has shown a remarkable resilience despite the significant contraction of the balance sheet of the investment funds as asset prices tumbled and market investors became more risk averse in 2008. Since 1990, 2008 was the only year when the fund industry registered net outflows and when the net value of the assets under management fell due to the decline in stock markets (Graph 4.5).

Graph 4.5: **Fund Industry Total Assets and Annual Change (EUR billion)**



Source: CSSF

The size of the investment fund sector in Luxembourg raises a number of questions regarding the supervisory and regulatory environment. As most investment funds domiciled in Luxembourg comprise assets belonging to investors from other countries, continued confidence in Luxembourg as a major fund domicile rests on the effectiveness of its financial supervision. Media coverage of investor disputes and fund failures have the potential to affect the reputation of the Luxembourgish investment funds centre. The independence and the quality of the supervisory work are crucial to ensure that investors continue to trust Luxembourg as a host for their assets. In line with the strong growth of the asset management sector in Luxembourg, efforts need to be redoubled in order to ensure that asset managers and investment funds are supervised in an effective manner and that applicable rules (notably the harmonised UCITS and AIFMD frameworks) are properly enforced.

4.4. CHALLENGES AHEAD FOR THE ASSET MANAGEMENT SECTOR

The real boom in the financial industry came with the creation of the internal market through the Single European Act and this was the moment when Luxembourg started its ascension to the top of the fund administration industry. Luxembourg has made from the first mover strategy a comparative advantage, especially in creating the regulatory framework necessary to the development of specific activities. Luxembourg was a first mover when it transposed into local law the European Union directives that created the European passport for funds, also known as the Undertakings for Collective Investment in Transferable Securities (UCITS) regulation. Initially designed to commercialize funds in the European Union, the UCITS framework is today a global distribution gateway for fund promoters from all over the world. The legal framework as well as the skilled workforce initially attracted foreign banks looking to develop their asset management activities and continues to do so, transforming the Grand Duchy in a financial hub for the funds distribution and administration.

The bulk of the Luxembourgish asset management industry is composed of UCITS funds. Out of €2.6 trillion, €2.1 trillion of assets under management are managed according to the UCITS rules. Luxembourg hosts one third of the total UCITS assets in Europe. This domination in the UCITS sector has largely contributed to establish Luxembourg as a leading financial centre in Europe and abroad. The challenge for the Luxembourg industry is to find new sources of growth, either in the UCITS sector or in the emerging alternative investment fund sector.

4.4.1. International presence of UCITS

The UCITS brand has established itself as the global reference in terms of investment funds. Currently around 45% of the UCITS assets are marketed on a cross-border basis and Luxembourg hosts 75% of these funds. These cross border assets are mainly sold within the European Union but UCITS are marketed also outside Europe. From these cross border assets, around 40% are sourced from third countries with Switzerland accounting for 16%, Asia 15% and South America 6%. The Luxembourg asset management sector is seeking to increase the presence of UCITS funds in these third country markets. Even if the funds are invested in third country assets and managed mostly out of the EU, a fund domiciliation generates side activities such as depositary activities, audit or legal activities. The association representing the interests of the sector, ALFI, is holding discussions for opening the Chinese market to funds domiciled in Luxembourg.

Competing investment platforms are emerging in Asia and Asian regulators are in the process of setting up mutual recognition agreements between themselves. The creation of fund passports in Asia could in the long-term alter the prospects for the marketing of UCITS funds in Asia.

4.4.2. The emergence of AIFs

With the entry into application of the AIFM directive in July 2013**, the European single market is equipped with a second fund passport, for the so-called Alternative Investment Funds** (AIFs). Once the manager of such AIFs is authorised under the AIFM directive, it can market its AIFs to professional investors throughout the Union.

The Luxembourg AIF sector is currently not very large in comparison to the size of its UCITS sector (EUR 0.5 trillion of assets under management). At the beginning of 2014, 90 AIF managers had asked for an authorisation and 12 had received an authorisation so far.

The introduction of this new fund passport is a major challenge for the Luxembourg financial sector. Up to now, the AIF market was mostly national with little cross-border flows. As Luxembourg did at the end of the 80’s with the

UCITS directive, Luxembourg can largely profit from this new passport for hedge funds, private equity funds or real estate funds. Based on the UCITS experience, it is not unrealistic to target for Luxembourg an increase of the assets under management in the AIF sector that needs however to be accompanied by a robust supervision and regulation in order to avoid reputational damages.

4.5. CHALLENGES AHEAD FOR THE PRIVATE BANKING BUSINESS FOR INTERNATIONAL TAX AND REGULATORY CHANGES CONSIDERATIONS

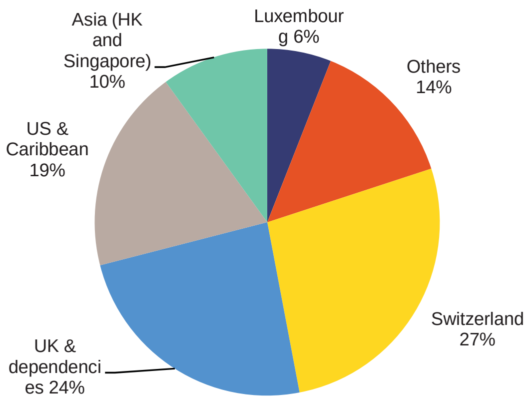
The long run prospects for the financial sector are closely linked to its ability to adapt to the changing regulation as well as to the increased competition from other international financial centres. The development of Luxembourg as an international financial centre is related to its "first mover" strategy in implementing international regulation, low taxation and strict banking secrecy rules. In this vein, Luxembourg is considering the further development of private banking as a way forward. This is an activity at the crossroads of financial intermediation, portfolio management and investment advice where Luxembourg has traditionally been active in. While the phasing-in of the automatic exchange of information will also weigh on private banking, the extent of the impact of the new regulatory environment is still unclear. The small share of private banking in the Luxemburg economy today and its potential for growth might mitigate, at least partially, the effects of the new regulation. In fact, the sector already targets the Family Office niche seeking a positioning as a provider of sophisticated services to complex profile clients.

Private banking is one of the most promising avenues to be explored within the financial sector of Luxembourg for at least three reasons. First, Luxembourg can build on the already existing experience, products and legal framework. Secondly, the revenues in private banking are still high compared to other financial activities where the margins continue to shrink. Finally, private banking still has the potential to expand based on the projections for growth of the new investable wealth.

Private banking can be seen as an investment-advisory branch of financial services, incorporating retail banking, financial planning, portfolio management, legal resources, tax and investment advice. It can be performed by banks, wealth managers (part of the professionals of the financial sector) or by Family Offices. A Family Office is a form of private banking by which an entity provides on a professional basis a wide range of patrimonial, administrative, financial or legal services for well-off clients belonging to the same family. Private banking targets the share of the global wealth which is investable, either onshore or offshore and it is addressed to high-net-worth individuals, small-business owners and well-off families. Offshore wealth is defined as the assets booked in a country where the investor has no legal residence or tax domicile. The revenues in private banking are generated by fees. In good times, financial market activity driven by risk appetite would boost the transaction-based fees while the appreciation of assets and the new inflows would increase the asset-based fees.

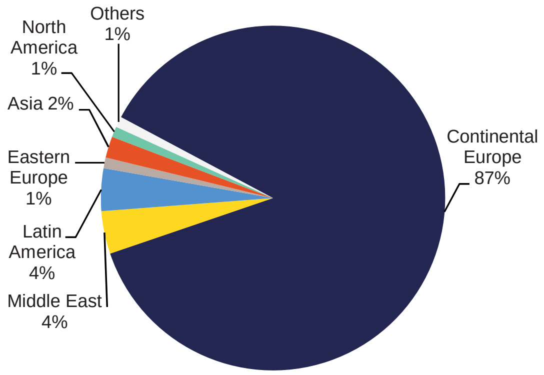
According to Private Banking Group, Luxembourg, private banking in Luxembourg reached EUR 305 billion in 2012, or roughly 6% of the global offshore wealth (Graph 4.6), slightly increasing from EUR 300 billion in 2011 and divided between private banks (79%), wealth managers (18%) and Family Offices (3%). Although the leader in private banking in the euro area, Luxembourg is far smaller in terms of assets compared to Switzerland which is five times bigger.

Graph 4.6: **Share of Luxembourg in International Private Banking**



Source: Private Banking Group, Luxembourg (2011)

Graph 4.7: **Geographic Origin of Private Banking Clients in Luxembourg**



Source: Private Banking Group, Luxembourg (2011)

Luxembourg has initially attracted mainly small to medium sized clients from Belgium, France and Germany because of its tax system. A decade ago, these three countries represented 90% of the offshore assets but over the last ten years, their share fell to 56%. Today Luxembourg is still oriented towards continental Europe with 87% of the total assets being European (Graph 4.7).

4.5.1. Past advantages no longer prevail

For a long time, a combination of macroeconomic stability, friendly business environment, sound business practices, low taxes and strict banking secrecy rules (Article 458 of the Criminal Code) has been the recipe that attracted flows into private banks in Luxembourg. Furthermore, the confidentiality that guided the business relationships, the stricter tax policies in neighbouring countries and also the expertise of the local workforce and elaborated product offer reinforced the growth of private banking from the 1980s on.

The international push for transparency has put under the spotlight countries like Luxembourg, which have made banking secrecy a commercial argument. While having shown resistance to the initiatives targeting banking secrecy in order to preserve its financial sector, the Grand Duchy has been looking for alternative sources for growth. Private banking, accounting for 5% of the economy, has been a traditional pillar of the financial sector.

4.5.2. Private banking is being affected by international tax and regulatory changes

Since 2008, the industry has embarked on a series of adjustments in order to meet the new global banking rules setting the capital adequacy framework. The global financial crisis and the fiscal consolidation in many countries has put an emphasis on fairness and led to a global push for more transparency in order to maximize tax revenues (the United States Foreign Account Tax Compliance Act-FATCA, the European Directive 2003/48/EC on the taxation of interest income from savings). Furthermore, in November 2013 Luxembourg failed the transparency test performed by the Global Forum on Transparency and Exchange of Information for Tax Purposes overseen by the OECD.

Different initiatives indicate that the Grand Duchy is becoming increasingly aware of the need to act in order to realign economic interests and national choices with international acceptance. In 2009, Luxembourg adhered to the OECD standards on the exchange of financial information upon request by competent foreign authorities. Since April 2013, 10 years after the adoption of the Directive 2003/48/EC on the taxation of interest income from savings, Luxembourg decided to end the transitional period that it benefited from and to introduce the automatic exchange of information in tax matters with competent government tax authorities. This will be out in place as of 1st January 2015.

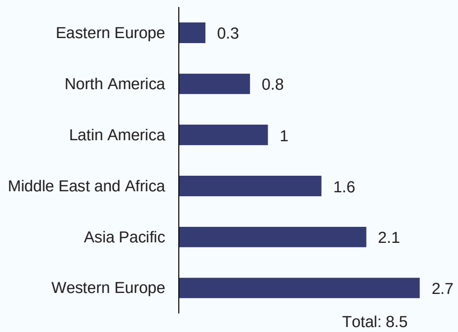
Private banking is undergoing a refocusing phase. In this sense, attract newly created wealth seems to be an important element. A recent trend is for private banks in Luxembourg to establish subsidiaries in the country of residence of their clients in order to retain the clients and preserve the client relationship.

From a growth perspective, the industry in Luxembourg seems to attract both rich and very rich individuals. As regards geographical focus, Luxembourg seems to show a stronger presence in Europe, the Middle East and Africa. Having a stronger foothold and access to the newly created wealth in these regions is something a well-known European financial centre like Luxembourg can achieve. However, being less prominent in Asia

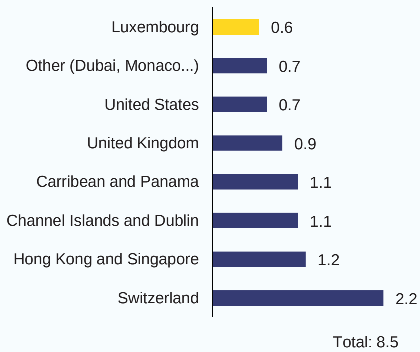
Box 4.2: Newly created wealth by origin and destination.

According to Boston Consulting Group, managed offshore wealth worldwide (assets booked in a country where the investor has no legal residence or tax domicile), amounted to USD 8.5 trillion in 2012, originated mainly from Western Europe (Graph1a), Switzerland being the most popular destination (Graph1b). The projections of Boston Consulting Group for the newly created offshore wealth by 2017 are of USD 1.4 trillion for Asia Pacific, USD 0.5 trillion for Latin America, USD 0.5 trillion for Middle East and Africa and USD 0.2 trillion for Eastern Europe or an average 6.5% annual growth rate.

Graph 1a: **Origin of Offshore Wealth, 2012 (USD trillion)**



Graph 1b: **Destination of Offshore Wealth, 2012 (USD trillion)**



Source: BCG Global Wealth Market-Sizing Database (2013)

and Latin America will limit its potential for expansion in these faster growing regions.

The Parliament passed a law by which Luxembourg became the first EU member state to offer a regulatory framework for the activities of the Family Offices. With this move, Luxembourg is attempting to create once again the "first mover" advantage with the aim of accessing this client niche. In 2009 there were 30 Family Offices in Luxembourg but given the legislative developments, their number is likely to increase.

Looking at the outlook for newly created wealth worldwide, the prospects for private banking look promising (see Box 4.2). With already important steps taken towards developing the private banking activity, Luxembourg could consolidate its place in private banking and reap economic profits from its dynamism.

5. POLICY CHALLENGES

Competitiveness

The most important economic challenge that the country is currently facing refers to safeguarding and even enhancing its growth model, which has brought about very high standards of living in Luxembourg. However, the analysis in section 3 indicates that in the areas of external competitiveness of goods and private indebtedness, risks are non-negligible.

Concerning the challenge of improving external competitiveness, the country could benefit from an improvement in cost competitiveness and labour costs. The analysis in this IDR has pointed to the paramount importance of cost competitiveness for the export performance and how its deterioration can be considered to be at the origin of the dramatic loss in export market shares for goods. A key aspect to safeguard competitiveness is to ensure that wage cost developments do not contribute any more to an erosion of the external position. One key element is the role of wage formation and how it takes into account developments in labour productivity and competitiveness. The temporary measures that have been recently implemented could serve as inspiration for a more structural reform in the way wages are formed in Luxembourg. Regarding non-cost competitiveness, the findings of this IDR highlight again the specificities of Luxembourg. In an economy in which a large and productive financial sector is constantly pushing up salaries, it becomes increasingly difficult for manufacturers to remain competitive. As a consequence, it becomes essential for these producers to shift their output towards goods with a higher gross value added. This can only be achieved when all economic agents in the country, private and public, agree on a coherent strategy in all the key areas compounding non-cost competitiveness, such as research and innovation, business environment, or ensuring a high-skilled workforce. Decisively implementing measures in that direction will also bring about other crucial benefits for the country, among which, reducing the importance of price in the overall marketing strategy.

Financial sector

Concerning the challenge linked to the vast size of the financial sector, Luxembourg could further benefit from fostering IT and business services as this know-how could underpin the expansion of other areas of activity. The country could aim at a further intra sectorial diversification, which would limit exposure to a small number of financial sector activities. Private banking is for example an activity that generates stable revenues. The beneficial role played by a body promoting best practices and stimulating initiatives is an element that Luxembourg should not underestimate in its development strategy.

A key aspect for healthy credit practices in view of the strong increase of credit to households, mainly mortgages, refers to ensuring that prudent loan–to-value ratios are observed by all the financial institutions located in Luxembourg. This seems to be currently the case but with house prices increasing rapidly, the consequences of a sudden price correction also become more severe. Therefore, stricter practices concerning a prudent loan-to-value ratio would help diminish such a risk. Considering the regulatory capital and liquidity ratios that credit institutions have to observe, their availability at the entity and not only at supra-national group level would ensure better supervision and allow, if any, early identification of weaknesses and equal treatment with domestic banks.

The need for healthy credit practices is particularly relevant for NFCs, whose level of indebtedness is the highest in the EU. While the presence of a large number of multi-national companies help to explain the high borrowing levels, a continuously increasing indebtedness path could weigh on future growth prospects.

Public finances

Although public finances are currently in good shape, they are highly dependent on the evolution of the financial sector in the short run. In addition, their long term sustainability is at risk given a dramatic projected increase of age-related costs. Concerning the former, the key variable relates to a containment of expenditure growth as to ensure the full respect of the expenditure benchmark and avoid that the country departs from its already achieved medium term objective. Regarding long term challenges for public finances, the country cannot turn the back to the fact that liabilities are growing and that revenue projections must be prudent and count on modest future growth scenarios. This could be translated into a new pension reform, which would fully take into account all parameters.

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