

Rating Object	Rating Information	
GRAND DUCHY OF LUXEMBOURG	Assigned Ratings/Outlook: AAA /stable	Type: Follow-up Rating, unsolicited
Long-term sovereign rating Foreign currency senior unsecured long-term debt Local currency senior unsecured long-term debt	Initial Rating Publication Date: Rating Renewal:	29-07-2016 30-06-2017
	Rating Methodologies:	"Sovereign Ratings"

Rating Action

Neuss, 30 June 2017

Creditreform Rating has affirmed the unsolicited long-term sovereign rating of "AAA" for the Grand Duchy of Luxembourg. Creditreform Rating has also affirmed Luxembourg's unsolicited ratings for foreign and local currency senior unsecured long-term debt of "AAA". The outlook is stable.

Key Rating Drivers

1. Exceptional quality of institutional conditions; a very high level of political stability and the country's integration in the European Single Market
2. Very strong fiscal position, track record of budgetary surpluses, the second lowest debt-to-GDP ratio in the EU-28, and a sizeable asset position of the government
3. Dynamic GDP growth, very high levels of per-capita income and labor productivity mirroring the large presence of the financial industry; lack of diversification across industries leaving the economy exposed to swings in financial market sentiment
4. Persistent current account surpluses reflecting strong service exports; though in a net creditor position, NIIP is subject to elevated volatility due to financial flows related to the fund industry and treasury activities of multinationals

Reasons for the Rating Decision

First and foremost, Luxembourg's authorities exhibit a long-standing track record of very sound and solid policy-making, and the country's institutional framework continues to be of exceptionally high quality – serving as a role model not only in the European Union but also by international comparison. This is highlighted by the World Governance Indicators, according to which the sovereign consistently ranks among the top-performers in terms of governance standards. Notably, Luxembourg receives the highest score of all EU-28 members when it comes to political stability (rank 6/211 world-wide). What is more, we believe that Luxembourg is one of the major beneficiaries of the European Single Market. Taking into account that about 75% of the workforce consists of resident non-citizens and cross-border commuters (Statec data) as well as the country's role as a financial hub, free movement of capital and persons is essential to the country's business model.

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Our assessment of Luxembourg's macroeconomic performance reflects the country's dynamic GDP growth in the recent past and high levels of productivity and wealth, but also a lack of diversification across industries. When it comes to labor productivity, Luxembourg outperforms almost every EU-28 member (2016: 168.9% of EU-28 total), with only Ireland achieving higher labor productivity per person. Strong labor productivity translates into exceptionally high levels of wealth. As IMF data reveals, Luxembourg enjoyed a GDP per capita of USD 104,003 in PPP terms last year, second only to Qatar in the world. These strengths have to be balanced against the economy's heavy reliance on financial services, which we believe remains a key credit risk. As of Q4-16, 11.7% of employment and more than a quarter (26.8%) of the economy's GVA could be attributed to financial and insurance activities. On 14 November 2016, the government presented a strategy (The 3rd industrial revolution) to foster the diversification of the domestic economy and establish a more sustainable economic strategy. Among others, projects in the fields of e-mobility, smart grids, and sustainable food production are envisaged.

The pivotal role of the financial industry is mirrored by the country's recent growth performance. Due to a marked adjustment in the financial markets at the beginning of last year, economic activity weakened in Q1-16, but gained momentum in Q2-16 and became more sustained in the second half of the year. On the whole, financial services alone contributed 0.9 p.p. to last year's GDP growth, which came in at 4.2% (2015: 4.0%). Thus, Luxembourg recorded one of the highest growth rates in the euro area, mainly boosted by external demand. While investment was not supportive of growth in 2016, with gross fixed capital formation remaining flat (+0.2% y-o-y), net exports were the dominant growth driver. Strong net exports were accompanied by a moderate increase of robust private consumption, which was supported by stable prices (2016 HICP: 0.0%) and growing employment. Total employment expanded at a rate of 3.0% in 2016. However, the increase in employment was not matched by a significant fall in unemployment. Luxembourg's unemployment rate only slightly decreased from 6.5 to 6.3% in 2016, reflecting rising skill mismatches. Notwithstanding generally low levels of unemployment, Luxembourg has room to improve with regard to labor market participation. With 70.0% of the population at age 15-64y employed in 2016, Luxembourg exhibits a considerably lower participation rate than its peers (DE: 78.0%; NL: 79.7%).

We expect the country to maintain its growth momentum in 2017, but the composition of GDP growth should be more broad-based than last year, with domestic demand taking over from net exports as the main driver of output expansion. In particular, private consumption expenditure is set to grow vividly, driven by the comprehensive tax reform (see below), ongoing job growth, and rising wages. Employee compensation, which is linked to inflation in Luxembourg, was hiked by 2.5% in Jan-17 for the first time since Oct-13. At the same time, growth of private investment should resume against the background of persistently high capacity utilization and firming external demand from the euro area. Under our baseline scenario, we expect Luxembourg's GDP to grow at a rate of 4.2% in 2017 and 4.4% in 2018, before gradually returning to the country's potential growth in the medium term (Stability Program 2017: 2017-21 avg. 3.7%).

Although Luxembourg's medium-term growth prospects remain favorable, the country has scope to improve its domestic business environment. Ranking 59th out of 180 countries, Luxembourg's performance on the World Bank's Doing Business Indicators is falling short of its AAA-rated peers. Judging by OECD data, Luxembourg's service sector shows comparatively high levels of restrictiveness.

More importantly, the country's current business model is facing risks emerging from intensifying international efforts to curb tax avoidance and enhance transparency. Against this background, a bundle of reforms have been adopted by Luxembourg in 2016-17 which are intended to improve compliance with international standards. As laid down in the OECD/BEPS Action 5 ruling, the government adopted legislative changes in Dec-15, according to which the current IP-box regime will be gradually phased out from 2016 onwards. Furthermore, legislative steps were taken in order to comply with the Anti-Money Laundering/Combating Financing of Terrorism (AML/CFT) framework. In Jan-17, Luxembourg agreed to participate in the EU-wide automatic data exchange on advance tax rulings (ATR). Authorities plan to transpose the EU Anti-Tax Avoidance Directive into national law. In general, we believe that Luxembourg's active participation in global efforts to fight tax avoidance should contain reputational risks. Still, preserving its competitive tax regime and complying with international tax standards at the same time creates significant challenges going forward.

With regard to the country's fiscal performance, Luxembourg remains in a very strong position. In 2016, Luxembourg reached a budgetary surplus of 1.6% of GDP on the general government level, up from 1.4% of GDP in 2015 and significantly better than projected in the government's recent draft budgetary plan 2017 (1.2% of GDP). The budgetary outcome was mainly driven by the strong performance of social security funds, which reported a surplus of 1.6% of GDP, while the central and local government budgets came in close to balance. In particular, the 2016 budget benefited from the implementation of consolidating measures included in the 'Zukunftspak' which was passed in 2015 and stronger-than-expected GDP growth, boosting total tax receipts (+4.7%). Meanwhile, social benefits and transfers, which is by far the largest budget item (2016: 47.4% of government expenditure), reported only a moderate increase of 2.6% against the background of ongoing employment growth. Furthermore, expenditure growth was curbed by postponing some government investment and zero inflation (2016 HICP: 0.0%), which led to a delay of the automatic wage adjustment for public sector employees.

Looking forward, we expect Luxembourg's fiscal surplus to decrease significantly, mostly driven by policies affecting the revenue side of the budget. Firstly, due to changes in the VAT taxation of e-commerce activities, the state budget should experience a loss of revenues in the amount 0.3% of GDP. More importantly, the implementation of a tax reform which became effective on 01 January 2017 is narrowing the tax base, as the new legislation will ease the tax burden on individuals as well as for corporate taxpayers. To boost the purchasing power of private households and promote work incentives, the 0.5% surcharge on the PIT tariff was abolished, whereas tax credits (e.g. on income and pensions) and the deductibility ceiling on mortgage interest were increased. The CIT reform is intended to improve the economy's cost competitiveness and to encourage more private

investment. The CIT rate was lowered from 21 to 19% in 2017 and will drop by another percentage point in 2018. Moreover, startups with an annual income below EUR 25,000 are presently subject to a reduced CIT rate of 15%. In total, tax relief for corporations and households should lower revenues by 0.7% of GDP in 2017. Contrarily, we expect government expenditures to expand significantly this year driven by accelerating government investments and higher expenditure on public employment.

As a result, we anticipate Luxembourg's budget surplus to decline to 0.3% of GDP, still complying with provisions of the Stability and Growth pact by a wide margin. Maintaining a balanced budget in the years after 2017 should also contribute to a stabilization of Luxembourg's public debt. Standing at an already low 21.6% of GDP in 2015, Luxembourg's debt-to-GDP ratio further decreased to 20.0% of GDP in 2016, with only Estonia posting a lower debt level in the EU-28. Taking into account sizeable government assets (2016: 83.3% of GDP), Luxembourg's budgetary situation appears even more impressive.

Long-term fiscal sustainability risks are still looming, mainly stemming from the projected increase of age-related spending, in particular spending on pensions. According to OECD data, the average effective retirement age was at 61.9y (2014) in Luxembourg, well below the OECD average of 64.4y. This was more than offset by the favorable labor market development in recent years, which contributed positively to an accumulation of pension reserves. As of Dec-16, pension reserves amounted to a high EUR 17.8bn or 32.9% of GDP. However, according to a recent pension review by the national authorities (Dec-16), the pension fund will have to draw on these reserves from the 2020s onwards to cover its financial obligations. Assuming a no-policy-change scenario, reserves would be exhausted by 2043, leading to a funding gap of public pensions in the years thereafter.

Apart from age-related costs, an increase in risk aversion continues to pose significant downside risks to Luxembourg's large financial sector and, in turn, public finances. As of 2016, the country was hosting the world's second largest fund industry. Net assets increased by EUR 235.1bn (+6.7% y-o-y) last year, bringing total assets up to EUR 3.7tr – approx. 6,900% of GDP. In its 2017 Financial Sector Assessment Program (FSAP), the IMF identified some pockets of vulnerability in Luxembourg's fund industry. Some funds, in particular in the high yield segment, could face elevated liquidity risks in case of a redemption shock. However, stress tests conducted in the context of the FSAP indicated that the country's fund industry should be largely resilient in the event of asset fire sales.

Since funds hold significant claims on banks, financial interconnections between both industries remain significant. As indicated by EBA data, the constitution of Luxembourg's banking sector, which is dominated by foreign banks, can be considered as robust. While the CET1-ratio improved from 16.8% to 19.9% in 2015-16, banks in Luxembourg displayed the lowest level of NPLs (Q4-16:1.1%) in the EU-28. Also, credit conditions for NFC and mortgage lending remained buoyant last year.

House prices posted y-o-y growth between 5 and 8% in each quarter of 2016. Going forward, we think that house price dynamics should be closely monitored against the backdrop of deteriorating affordability indicators. That said, housing market risks appear limited at this time as the development of property prices is underpinned by supply-side

bottlenecks, vivid population growth averaging at an annual rate of 2.4% in 2013-17, and tax incentives regarding home ownership. What is more, authorities are taking proactive measures to safeguard financial stability in the light of rising house prices. In Dec-16, the EU Mortgage Credit Directive was transposed into national law, which includes a mandatory creditworthiness assessment based on the borrower's financial circumstances. The new legislation also requires mortgage lenders to implement measures to protect their customers from risks related to foreign currency loans and provides mortgage borrowers with greater transparency regarding variable rate loans. Moreover, from Jan-17 onwards, countercyclical capital buffers in the range of 0.25-0.5% are applicable for six O-SIIs.

Luxembourg's external balance mirrors the country's role as financial hub. While the country's surplus in trade in services amounted to 38.0% of GDP in 2016, driven by the export of banking services and investment funds, primary income balance posted a deficit of 28.5%. Last year's current account surplus stood at 4.7% of GDP (2015: 5.1% of GDP) mainly due to some deterioration of the Luxembourg's trade balance. Meanwhile, the net international investment position (NIIP) reached 23.2% of GDP, down from 35.0% in 2015. Thus, Luxembourg's NIIP continues to be subject to elevated volatility, oscillating between -28.9% (2009) and 52.0% (2012) over the last decade. In particular, Luxembourg's NIIP is driven by significant FDI gross positions, due to treasury operations conducted by multinational corporations and to the domestic fund industry. As of 2016, FDI assets and liabilities exceeded GDP by factor 91 and 81 respectively.

Rating Outlook and Sensitivity

Our Rating outlook on the long-term sovereign rating of AAA is stable, as we assume that the risk situation underlying the key factors affecting sovereign credit risk – including macroeconomic performance, institutional structure, fiscal sustainability, and foreign exposure – will remain fundamentally unchanged in the near term.

Our AAA rating could be lowered if medium-term growth should significantly fall short of our expectations. Thus, a prolonged period of subdued growth in the euro area would drag on Luxembourg's growth. Furthermore, increasing risk aversion in global financial markets could adversely affect Luxembourg's financial sector. In particular, large and persistent outflow of funds over an extended period should have a dampening effect on GDP growth.

Luxembourg's economic model represents another downside risk to growth. In view of the international tax transparency agenda, Luxembourg is pushed to modify integral parts of its national tax legislation, putting one of the country's key competitive advantages at risk.

In addition, we could lower our rating if we observed a substantial deterioration of the government's fiscal metrics in the years to come. Although this is not our base case, the materialization of contingent liability risks could result in increasing government debt levels.

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Ratings*

Long-term sovereign rating AAA /stable

Foreign currency senior unsecured long-term debt AAA /stable

Local currency senior unsecured long-term debt AAA /stable

*) Unsolicited

Economic Data

[in %, otherwise indicated]	2011	2012	2013	2014	2015	2016	2017e
Real GDP growth	2.5	-0.4	4.0	5.6	4.0	4.2	4.2
GDP per capita (PPP, USD)	92,407	91,781	94,976	98,899	101,054	104,003	107,737
Inflation rate, y-o-y change	3.7	2.9	1.7	0.7	0.1	0.0	2.4
Default history (years since default)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Life expectancy at birth (years)	81.0	81.4	81.8	82.2	82.2	n.a.	n.a.
Fiscal balance/GDP	0.5	0.3	1.0	1.4	1.4	1.6	0.3
Current account balance/GDP	6.0	5.9	5.5	5.0	5.1	4.7	n.a.
External debt/GDP	3,495.5	5,200.0	5,725.7	5,609.4	6,593.9	6,466.2	n.a.

Appendix

Regulatory Requirements

This sovereign rating is an unsolicited credit rating. Neither the rated sovereign nor a related third party participated in the credit rating process. Creditreform Rating AG had no access to the accounts, representatives or other relevant internal documents for the rated entity or a related third party.

The rating was conducted on the basis of Creditreform Rating's "Sovereign Ratings" methodology. Creditreform Rating AG ensures that methodologies, models and key rating assumptions for determining sovereign credit ratings are properly maintained, up-to-date, and subject to a comprehensive review on a periodic basis. A complete description of Creditreform Rating's rating methodologies is published on the following internet page: www.creditreform-rating.de.

A Rating Committee was called consisting of highly qualified analysts of Creditreform Rating AG. The quality of information available on the rated entity was considered satisfactory. The analysts and committee members declared that the rules of the Code of Conduct were complied with and that the rating action was and is free of any existing or potential conflicts of interest. The analysts presented the results of the quantitative and qualitative analyses and provided the Committee with a recommendation for the rating decision. After the discussion of the relevant quantitative and qualitative risk factors, the Rating Committee arrived at a unanimous rating decision. The weighting of all risk factors is described in Creditreform Rating's "Sovereign Ratings" methodology. The main arguments that were raised in the discussion are summarized in the "Reasons for the Rating Decision".

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