Creditreform Sovereign Rating

Creditreform Rating

Rating Object	Rating Information	
GRAND DUCHY OF LUXEMBOURG	Assigned Ratings/Outlook: **AAA /stable**	Type: Monitoring, 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: Rating Methodologies:	29-07-2016 31-05-2019 “Sovereign Ratings” “Rating Criteria and Definitions”

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Rating Action

Neuss, 31 May 2019

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. Highly productive and extraordinarily wealthy economy which should continue to display robust economic growth, backed by domestic demand and well-performing labor markets
2. While being a pivotal element of its economic strength, focus on high value-added financial services, together with ultra-high trade openness, leave the economy highly vulnerable to shocks; competitiveness, labor shortages, and household debt amid rising house prices have to be followed closely
3. Extraordinarily high quality of the institutional framework, paired with very high political stability, and substantial benefits that arise from the sovereign’s membership in the euro area and the EU
4. Sound fiscal policies illustrated by low debt levels and a track record of repeated headline surpluses; affordability set to remain high, and public debt ratio should decline further, though fiscal policy will become somewhat more expansionary as authorities implement measures envisaged in last December’s coalition agreement
5. Two decades of current account surpluses buttressing the sovereign’s large and positive net international asset position; however, high susceptibility to increased volatility in international financial markets

Reasons for the Rating Decision

Creditreform Rating has affirmed the Grand Duchy of Luxembourg’s AAA ratings, which are mainly underpinned by its generally strong macroeconomic performance, the exceptionally high quality of its institutional set-up, as well as very large fiscal and external buffers.

Macroeconomic Performance

Our assessment reflects a generally strong macroeconomic performance profile buttressed by extraordinarily high per-capita incomes, strong and stable growth, and a benign labor market performance, which have to be set against the economy's high dependence on the financial services industry and high private sector debt, weighing on economic resilience and flexibility.

The sovereign's creditworthiness continues to be backed by Luxembourg's extremely high economic wealth, which comes with high productivity levels. Luxembourg shows the highest GDP per head on a purchasing power parity among EU-28 members, and the third highest in the world, totaling USD 106,704 in 2018 (IMF data). Its per-capita income stood at 247% of the weighted EU-28 average, and outpaced that of AAA peers Germany (USD 52,559), the Netherlands (USD 56,383), and Denmark (USD 52,121) by far. By the same token, latest available Eurostat data shows that its economy enjoys very high productivity as compared to the EU-28 total. Luxembourg is one of the most productive economies in the EU, posting 61 and 74% above the EU-28 total as measured by nominal labor productivity per person and hour worked respectively, second only to Ireland (2017 data).

Luxembourg's economy grew by 2.6% in 2018 after expanding by 1.5% in 2017, and 2.4% in 2016. We have to reiterate that Luxembourg's national account statistics are at times hard to interpret and need to be treated with care, as these are frequently and significantly revised, partly due to the significant presence of multinational enterprises (MNEs). Real GDP growth readings were thus revised four times over the last three years, with the last revision taking place in October 2018, when real GDP growth for 2014, 2016 and 2017 was lowered, and growth for 2015 revised upwards. Having said this, Luxembourg's average real GDP growth has remained strong, consistently outpacing that of the euro area as a whole, with the 2014-18 average standing at 2.9% compared to 2.0% for the euro area.

Last year's economic growth was largely driven by vivid private consumption, which leapt by 4.2%, considerably above the 3.0% seen in 2017, and the highest increase since 2002 (4.3%), thereby contributing 1.3 p.p. to real GDP growth in 2018. Private household spending came on the back of high employment and real wage growth. From August 2018, salaries, wages, and pensions saw a 2.5% increase, prompted by the automatic wage indexation mechanism. We also observe a marked increase in government consumption, having grown by 4.0% in 2018 (2013-17 avg. 2.8%). By contrast, investment activity dragged on growth (-0.5 p.p.), contracting sharply by 2.7% as compared to growth rates of +10.4 and +4.0% in 2016 and 2017 respectively. Construction investment held up relatively well, and was up from 9.6 to 9.8% of GDP in 2017-18, facilitated by strong residential investment (+13.4%). At the same time, lingering risks related to external development weighed heavily on business expectations, and hence on investment in machinery and equipment, which plummeted by 15.6%, accounting for a mere 6.1% of GDP in 2018 (2017: 7.6%).

Net external trade contributed positively to economic growth (+0.5 p.p.) after two years of stagnation (0.0 and -0.1 p.p. in 2016 and 2017 respectively). According to Statec, the weak outcome of 2017 was also due to exceptional transactions by a small number of MNEs operating in Luxembourg. Exports strengthened significantly (+4.5%), exclusively driven by

exports of services, which edged up by 5.8%. While the net exports of the financial services sector expanded by only 0.9% in nominal terms (2017: 1.4%), exports of technical, trade-related, and other business services grew significantly by 35.8% on a net base (Eurostat data).

Growth prospects for Luxembourg's economy remain broadly benign, which we expect to expand by 2.5% in 2019 and 2.7% in 2020, with the pick-up next year mainly reflecting our assumption of strengthening euro area growth and gradually waning uncertainties pertaining to the external environment. We thus assume that real GDP growth will prove resilient and perform above the euro area average thanks to private household spending, which is set to remain strong and be the economy's main growth engine. Private consumption will be supported by the favorable labor market development, although employment gains are likely to slow down somewhat, as labor market conditions are becoming increasingly tight (see below). Besides faster wage growth, another round of wage indexation, which Statec expects for Q4-2019 or Q1-2020 latest, should further boost real disposable income and concurrently consumption. What is more, the government is taking expansionary fiscal measures, such as the net increase in the net minimum social wage, or the implementation of free public transport. Consumption should also be aided by still upbeat consumer confidence, as well as stable consumer expectations regarding the financial situation over the next twelve months.

Investment is likely to expand at a moderate pace. The outlook for investment activity is somewhat clouded, as corporates may postpone investments against the backdrop of elevated external risks. Indeed, soft data on industrial business confidence and new orders has weakened significantly in recent months, pointing to some moderation in corporate investment. New orders took a nosedive in Q2-19, falling to their lowest level since 2013. On the other hand, robust public investment spending, low funding costs, and high capacity utilization (Q2-19: 79.7%, 2001-18 avg. 79.1%) should bolster gross fixed capital formation. Moreover, expansionary fiscal measures targeted towards the corporate sector (see below) are likely to enhance business investment going forward.

Net external trade should contribute only modestly to GDP growth, as concerns about global growth, fears of a disorderly Brexit, escalating trade tensions between China and the US, and elevated international financial volatility are likely to curb export growth. Still, we expect that financial services exports, which are typically the main driver with a share in services exports of 57% (2018), are set to continue to grow robustly. International financial markets thus found a firmer footing in the first months of the year, mainly due to positive signs in economic data of Q1 and supportive central bank communication and policy measures. Sentiment in the financial and insurance sector picked up, with the euro area financial services confidence indicator showing signs of stabilization in 2019 after diminishing throughout 2018.

We continue to view Luxembourg's labor market conditions as credit positive, fostering the sovereign's economic resilience and flexibility, and against the background of elevated uncertainty around GDP estimates underscoring Luxembourg's fundamental economic strength. Luxembourg performs well on the EU's social scoreboard, in particular regarding

indicators related to social protection and inclusion. The harmonized annual average unemployment rate amounted to 5.4% in 2018, well below the euro area average of 8.2% and the lowest level since 2012, but trailing rating peers such as Germany (3.4%) and the Netherlands (3.8%). Unemployment was reduced by rapid employment growth, with total employment (domestic concept) climbing to a new all-time high of 454.9 thousand persons in the last quarter of 2018 – having risen by a yearly rate of at least 3.0% since Q4-16. The significant rise in employment was predominantly driven by non-resident workers, mainly from Belgium, Germany, and France. According to Statec data, non-residents commuting to Luxembourg account for almost half of total employment (Q4-18: 45.6%). While its participation rate has continued to rise over the last two years, at 71.6% of total population (15-64y) it still posts below the euro area average (73.5%) and well below AAA peers Germany, the Netherlands, and Denmark. In this regard, Luxembourg appears to have a non-negligible pool of unused labor resources, namely elderly workers (55-64y), as it exhibits the lowest employment rate of elderly workers among all EU-28 members (2018: 40.5%).

Labor shortages appear to be emerging, as the steadily declining number of jobseekers has been accompanied by sharply rising vacancy ratio, which nearly doubled from 0.9% in 2014 to historical high 1.7% in 2018. We note that bottlenecks in labor supply have to be followed closely as these may have a detrimental impact on attracting foreign corporates, which may refrain from establishing an office in Luxembourg in view of an insufficient qualified labor supply, or scale down their activities in the Grand Duchy. This issue may be compounded by the availability of affordable housing, which has become increasingly hard to find in the recent past (see in more details below).

In the same vein, the economy's cost competitiveness warrants continued attention. Although having somewhat improved in 2018 as compared to 2017, Luxembourg's cost competitiveness vis-à-vis its main trading partners (France, Germany, Belgium, the Netherlands) and the euro area deteriorated in 2015-18, with real unit labor costs having risen notably by 3.1% (AMECO data). The increase in real ULC was mainly due to an apparent weakness in real labor productivity, which fell by 3.4% over this period, partly due to methodological changes in accounting. To be sure, Luxembourg's global export market share has been broadly stable over the last five years, remaining flat at 0.55% in 2018 (2014: 0.55%), with the more important reading for the services export market share also remaining broadly stable (2018: 1.98%, 2014: 2.01%). As illustrated by the World Economic Forum's global competitiveness indicator 4.0, Luxembourg improved from rank 22 to 19 in 2017-18. Yet, the country still lags AAA peers Germany (rank 3) and the Netherlands (6), while being on par with Belgium (21) and France (17).

Meanwhile, private sector debt still posts at one of the highest levels in the EU-28. Non-financial corporate debt remains particularly high, totaling 222.4% of GDP in Q4-18, the highest reading in the EU-28, albeit down from 282.0% of GDP in the last quarter of 2016. Most of Luxembourg's NFC debt is related to cross-border activities of large MNEs, as is the above-mentioned pronounced decline, owing to the decision of a few MNEs to stop doing business in Luxembourg. Private households also appear to have increasingly less risk-bearing capacity, as Luxembourg's debt-to-disposable income ratio has consistently risen over the past decade, driven by the accumulation of mortgage debt in the context of the

dynamic housing market. At the end of 2017, Luxembourg features the fourth-highest household debt level in the EU, having increased by 12.6 p.p. to 170.7% of disposable income since the fourth quarter of 2014 alone.

We regard the strong focus on financial services as a constraint to Luxembourg's economic resilience and flexibility. While being a pivotal element of its economic strength, the high dependency on financial and insurance activities and activities auxiliary to financial services leave the economy - as well as the government's revenue intake - highly vulnerable to shocks emanating from tighter global financial conditions, as well as increased financial volatility and financial upheavals. As of Q4-18, financial and insurance activities stand for roughly a quarter of total gross value added (25.3%, euro area: 4.4%) and 10.9% of total employment – both the highest readings among all EU-28 members. Business services account for another 11.9 and 16.8% of total gross value added and employment respectively. In this context, we assess foreign-owned corporates to play a pivotal role in the domestic economy, accounting for almost half of the total value added and gross operating surplus (45 and 48% respectively, 2016 Eurostat data). Additionally, Luxembourg's ultra-high degree of trade openness, mirrored by the highest trade-to-GDP ratio worldwide (2018: 415.5%), aggravates its very high susceptibility to financial and/or external shocks.

Institutional Structure

Luxembourg's credit ratings are supported by the exceptionally high quality of its institutional framework, as reflected by the World Bank's Worldwide Governance Indicators (WGIs), which constitute an essential part of our institutional assessment. According to the latest vintage of the WGIs, the sovereign continues to rank among the highest-scoring economies worldwide, posting significantly above euro area median ranks and on par with its AAA-rated peers. Luxembourg features very high standards as regards the extent to which its citizens have a say in political matters, as well as freedom of expression, association and media, signaled by rank 7 out of 209 economies on the WGI voice and accountability. Its institutional strength is further buttressed by a highly predictable and effective policy formulation and implementation, ranking 14th on the WGI government effectiveness. In addition, the sovereign scores high on WGIs rule of law (rank 11/209) and control of corruption (rank 9/209).

The institutional set-up is also backed by the European Central Bank's (ECB) highly credible and accountable monetary policy. Luxembourg's HICP inflation has been broadly aligned with the euro area over the last years and tends to be less volatile than in other euro area economies. The moving 12-month average rate of change of Luxembourg's HICP inflation (Mar-19: 2.2%) is close to the ECB's target. We also see broadly synchronized movements concerning MFI interest rates. More importantly, we think that membership in the euro area and the European Union delivers substantial benefits for Luxembourg, entailing free movement of labor and capital, as well as broader and deeper capital markets and advantages related to the euro as a reserve currency.

Moreover, the sovereign is characterized by a persistently high degree of political stability, as indicated by rank 10 out of 211 economies with regard to the WGI political stability. The

three-party governing coalition of 2013-18 received a very slim majority of seats in parliament (31/60), but remained in power after the general election of October 2018, which we interpret as indicative of broad policy continuity in Luxembourg and showing that the coalition can rely on stable popular support. Notwithstanding, even in Luxembourg we witnessed signs of the Europe-wide trend that well-established parties tend to be increasingly losing support while smaller parties are gaining popularity, and the political landscape is becoming increasingly fragmented.

The re-elected governing coalition adopted an agreement at the beginning of last December along the lines of which it already tabled several reform measures. A main priority will be maintaining the competitiveness of its economy, and improving the business environment, which we view as welcome against the backdrop of increasing challenges to cost competitiveness and impediments to doing business. Besides the competitiveness challenges elaborated above, the latter is well documented, e.g. by the World Bank's Doing Business report. Thus, Luxembourg fell three places to rank 66 in 2018, one of the weakest performances in the EU-28, with the recent report highlighting particularly poor performance regarding resolving insolvency (rank 90/190 economies), registering property (92), and starting a business (73).

Entering into force in 2019, the IRC corporate tax rate will be cut by one percentage point and the income bracket to which the minimum tax rate is applied will be widened from EUR 25,000 to 175,000. Moreover, the government has committed itself to keeping public investment at over 4% of GDP by the end of the legislative term. More specifically, authorities have envisaged stacking up spending on infrastructure, education, research and development, digitalization, and sustainable energy. In February, parliament endorsed roughly 30 new major infrastructure projects. In this regard, we note that public investment in Luxembourg is already among the highest in the euro area, averaging at 4.0% over 2014-18 (EA-19 average 2.7%), and R&D expenditure at the government level ranks persistently among the highest in Europe (2017: 0.33% of GDP, second to Germany).

Furthermore, the government appears to recognize the importance of mitigating bottlenecks related to public transportation, congestion, and housing, which have a bearing on attracting companies and qualified staff alike. In this vein, policy-makers announced to make public transport free of charge effective from March next year and invest more heavily in transport infrastructure. Also, housing supply and investment shall be promoted, e.g. by reforming the tax levied on real estate (impôt foncier), boosting the provision of social and low-cost housing, overhauling the law on housing assistance, a greater involvement of municipalities, and revising the property tax system.

The government also plans to further advance efforts in diversifying the economy. Thus, in 2018 the Luxembourg Space Agency was founded and a Ministry of Digitalization has been established. While the so-called digital skills bridge entered into force in May 2018, aiming to alleviate the impact of technological innovations on skill requirements and employment, we acknowledge that Luxembourg's government is carrying forward initiatives to enhance its business environment by further aiding businesses and the workforce in the uptake of opportunities offered by digital transformation.

Also, the administration is seeking more inclusive growth by lowering the income gap and mitigating poverty. The coalition agreement contains some important proposals in this respect. The Cost of Living Allowance is to be improved and the indexation of family allowances is planned to be revised; but most important, and effective from 01 January 2019, is the net increase in the minimum wage of EUR 100, as well as the introduction of a new social inclusion income scheme (REVIS) which will replace the guaranteed minimum income (RMG).

On top of this, the governing coalition envisages tackling environmental issues. To this end, the 2019 budget includes a bonus for acquiring electric vehicles, and an increase of excise duties on oil products.

Fiscal Sustainability

Overall, we continue to view the sovereign's public finances as a credit strength, underpinned by sound and forward-looking fiscal policies, recurrent headline surpluses, very low debt levels, and high debt affordability.

In addition to the aforementioned reform plans of the government, authorities have reiterated the intention to remain committed to a prudent fiscal policy – pursuing a public debt ratio of below 30% of GDP and complying with the medium-term budgetary objective during the legislative term. Apart from that, we took note that Luxembourg's administration enacted a bill transposing the Anti-Tax Avoidance Directive (ATAD 1) in December 2018; ATAD 2 is expected to follow by the end of this year. Assessments by the OECD as well as the IMF testify that the sovereign shows strong adherence to international anti-tax avoidance and transparency initiatives.

Luxembourg's general government headline balance improved more robustly than expected, from 1.4 to 2.4% of GDP, with general government revenues growing by 1.1 p.p. to 45.5% of GDP, mainly driven by a significantly stronger intake of corporate and personal income taxes. On a positive side note, the central government posted its first surplus (0.1% of GDP) since 2007. Given the well-performing labor market and solid economic activity, current taxes on income and wealth rose sharply by 15.2%. What is more, the Ministry of Finance points out, that the significant increase in CIT revenues is also explained by a one-off related to the introduction of electronic corporate tax declarations. VAT receipts saw equally strong growth (2018: 9.2%). On the spending side, we observe a notable increase in the public wage bill of 8.5%, while interest outlays remained low, increasing by only 0.4% on the year.

For this and next year, fiscal policy will become somewhat more expansionary as authorities make use of the available fiscal space to implement measures envisaged in last December's coalition agreement, which we view as welcome, as these should be supportive to more inclusive growth and the economy's potential output. Still, we believe that Luxembourg's public finances will continue to be in very good shape, expecting a headline surplus of 1.3 and 1.1% of GDP for 2019 and 2020. This year, the main discretionary measures on the revenue side are the CIT rate cut and the widening of the minimum rate threshold, VAT and excise duty increases on various products, and minimum social wage tax credits. On

the spending side, we are about to see notable increases in public investment and public operating expenditure, complemented by higher public wages and additional social measures geared towards the unemployed. Further out, reform measures such as the reforms related to housing and free public transport need to be clarified in more detail, but these potential costs are likely to further dent the surplus in the medium term. Still, robust growth and well-performing labor market should further support revenues, while spending discipline should be warranted given the government's track record of fiscal prudence, as reflected in a persistent surplus in the structural balance over the years, which should prospectively remain in place.

It is worth noting that authorities adjusted the medium-term budgetary objective for the period 2020-22, raising the target from a structural deficit of 0.5% of GDP to a surplus of 0.5% of GDP in view of long-term fiscal pressures stemming from rising age-related costs. To be sure, there are no significant pressures from age-related spending up to 2030, as demographic challenges related to an ageing population are rather moderate as compared to EU averages. According to the latest EU ageing report, the decline in Luxembourg's working-age population is projected to be less pronounced than in the EU as a whole, and the old age dependency ratio will develop less dramatically than in the EU – largely driven by vibrant inward migration. At the same time, Luxembourg's population is forecast to rise by a high 34.0% by 2030, representing the largest increase in the EU-28 (avg. 3.0%). Age-related costs are estimated to increase by 1.3 p.p. of GDP by 2030, however from one of lowest initial positions in the EU-28 at 18.1% of GDP (2016).

Looking forward, we expect Luxembourg's debt level to continue on its gradual downward path, approaching the 20% mark in the medium term, aided by robust nominal GDP growth and sustained primary surpluses. General government gross debt is very low, having dropped from 23.0 to 21.4% of GDP in 2017-18 – the second-lowest reading in the EU-28. Hence, Luxembourg's debt level posts even well below the levels of its AAA peers Denmark (34.1%), Germany (60.9%) and the Netherlands (52.4%). The same applies to debt affordability. As measured by general government revenues, Luxembourg's interest outlays totaled 0.72% in 2018 and averaged at a mere 0.94% over the last decade, while its rating peers all displayed higher levels. We note that Luxembourg, as the only sovereign in the EU besides Estonia, finds itself in a positive net asset position (general government level), as net assets have hovered at roughly 10% of GDP since 2012 (Q4-18: 10.8% of GDP). Moreover, Luxembourg can rely on a sizeable and relatively stable amount of liquid assets, equating to some 38% of GDP in the last quarter 2018.

Large fiscal buffers thus protect the sovereign from shocks, which we consider to be necessary given the very high exposure to financial and insurance activities. While the financial sector contributes almost half of the state's tax revenues, the sheer size coupled with global and intra-sectoral interconnectedness can have serious knock-on effects on the sovereign's public finances. As revealed by ECB data for the third quarter of 2018, Luxembourg has by far the largest banking sector in the EU-28, with total assets equaling nearly 15 times the economy's total output (1,485% of GDP). Also, net assets in the investment fund industry account for approx. 7,390% of 2018 GDP (Mar-19, CSSF data).

At this stage, the banking sector can be deemed sound. Banks in Luxembourg have one of the lowest non-performing loan ratios in Europe, having dwindled to 0.9% in Q4-18 (EBA data, EU-28 average 3.2%), and are well-capitalized, with the CET 1 ratio trending upwards (Q4-18: 24.0%, Q4-17: 20.3%; EU average 14.7%). While banks remain profitable, the aggregate profit and loss account readings provided by the Commission de Surveillance du Secteur Financier (CSSF) point to rising challenges, with the result before depreciations, net provisions, and tax declining for the second year in a row, mainly due to rising administrative expenses. Meanwhile, annual growth in investment funds' net assets decreased at the turn of the year, but rebounded in February and March, with net assets increasing by 1.8 and 4.9% y-o-y respectively. The IMF has highlighted increasing risks in some fund segments, associated with lower liquidity, growing maturity mismatches, and increased exposures to government bonds.

Macro-financial risks related to accelerating house prices continue to build, as these have risen at a 3-year growth rate of 15% or higher since the first quarter of 2016, posting at 22.7% in Q4-18 (Eurostat data). OECD data shows that house prices at the national level exceede their long-term average (since 2007) by 26%, while affordability ratios indicate misalignments, deviating 26% (PTR) and 17% (PTI) from their long-term average. These risks are compounded by the fact that private households appear to be heavily indebted (see above) and that the extension of housing loans has gradually gathered steam over the last 12 months, as the outstanding amount of mortgages has grown at rates of 8% or higher since July 2017. Accordingly, CSSF imposed a 0.25% countercyclical capital buffer at the beginning of this year, taking effect from January 2020.

Foreign Exposure

Luxembourg's sustained current account surpluses continue to buttress the sovereign's large and positive net international asset position (NIIP). Yet, its economy is highly susceptible to global growth and trade dynamics, and international financial markets and banking developments in particular. In fact, Luxembourg's can be regarded as the country, which appears to be most integrated into global value chains. As evidenced by OECD TiVA data for 2015, the share of domestic value added embodied in foreign final demand stood at 65.7% – the highest value among all OECD members.

Having said this, the sovereign's large external buffers shield its economy somewhat from market volatility and adverse effects stemming from its very high degree of openness. Its current account has been in surplus since 1995 (Eurostat data), with an annual average of 8.0% of GDP. Last year, its current account surplus narrowed slightly from 4.9% of GDP in 2017 to 4.8% in 2018. Luxembourg's current account continues to be mainly driven by the financial services industry, reflecting large trade in services surpluses (2018: 38.4% of GDP) and primary income deficits (2018: -27.9% of GDP) owing to investment fund returns. With a view to this and next year, we expect Luxembourg's current account surplus to come in a touch lower, mirroring our more cautious outlook due to somewhat softer economic growth in the euro area and pronounced global political and trade tensions.

The persistent current account surpluses have led to a large and positive NIIP, which went up from 43.1 to 46.5% of GDP in 2017-18 (2014-18 average 43.3% of GDP). Luxembourg

thus has one of the largest NIIPs in the EU-28, comparable to its AAA peers. However, its NIIP is more volatile with large y-o-y variations in gross asset and liability positions, largely driven by its role as an international financial center and its extremely high degree of trade and financial openness.

Rating Outlook and Sensitivity

Our Rating outlook on Luxembourg's ratings 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 – is likely to remain fundamentally unchanged over the next twelve months.

Downward pressure on Luxembourg's ratings may stem from substantially lower-than-expected medium-term economic growth, which may be prompted by a sharp downturn in the euro area, an increasingly hostile trade environment accompanied by an escalation in protectionist measures, a disorderly Brexit, and/or significantly tighter financial conditions.

Although Luxembourg is among those countries most heavily exposed to trade and capital flows in the EU-27 (BRI: 3.1, EU-27 median 2.0; see "What if… Consequences of a hard Brexit for the EU-27 states"), we believe that Brexit-related risks are tempered to some degree, as the prospect of losing the European passport has led many financial corporations to relocate their operations or parts thereof to Luxembourg. According to Statec, a total of 33 businesses have been drawn to Luxembourg as of May 2018.

Protracted fiscal slippages over a significant period of time, resulting in a rising debt trend, could cause us to consider a downgrade. As discussed in our last review, changes in global taxation standards and financial sector regulation could have an adverse impact on the sovereign's macro and fiscal metrics, as these pose a serious threat to the economy's attractiveness for foreign direct investment and hence to the state's revenues.

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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

	2013	2014	2015	2016	2017	2018	2019e
Real GDP growth	3.7	4.3	3.9	2.4	1.5	2.6	2.5
GDP per capita (PPP, USD)	95,017	98,654	101,169	102,325	103,298	106,705	108,812
HICP inflation rate, y-o-y change	1.7	0.7	0.1	0.0	2.1	2.0	2.0
Default history (years since default)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Life expectancy at birth (years)	81.9	82.3	82.4	82.7	82.1	n.a.	n.a.
Fiscal balance/GDP	1.0	1.3	1.4	1.9	1.4	2.4	1.3
Current account balance/GDP	5.4	5.2	5.1	5.1	5.0	4.8	n.a.
External debt/GDP	5592.2	6936.8	7349.3	7314.6	6648.1	6220.4	n.a.

Source: International Monetary Fund, Eurostat, own estimates

Appendix

Rating History

Event	Publication Date	Rating /Outlook
Initial Rating	29.07.2016	AAA /stable
Monitoring	30.06.2017	AAA /stable
Monitoring	01.06.2018	AAA /stable
Monitoring	31.05.2019	AAA /stable

Regulatory Requirements

In 2011 Creditreform Rating AG (CRAG) was registered within the European Union according to EU Regulation 1060/2009 (CRA-Regulation). Based on the registration Creditreform Rating AG is allowed to issue credit ratings within the EU and is bound to comply with the provisions of the CRA-Regulation.

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. Between the disclosure of the credit rating to the rated entity and the public disclosure no amendments were made to the credit rating.

The rating was conducted on the basis of CRAG´s “Sovereign Ratings” methodology in conjunction with its basic document “Rating Criteria and Definitions”. CRAG 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 CRAG´s rating methodologies and basic document "Rating Criteria and Definitions" is published on the following internet page: www.creditreform-rating.de/en/regulatory-requirements/.

To prepare this credit rating, CRAG has used following substantially material sources: International Monetary Fund, World Bank, Organization for Economic Co-operation and Development, Eurostat, European Commission, European Banking Authority, European Central Bank, World Economic Forum, Banque de Luxembourg, Institute national de la statistique et des étude économiques (STATEC), Grand Duchy of Luxembourg – Ministry of Finance, Commission de Surveillance du Secteur Financier (CSSF).

A Rating Committee was called consisting of highly qualified analysts of CRAG. The quality and extent 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. No conflicts of interest were identified during the rating process that might influence the analyses and judgements of the rating analysts involved or any other natural person whose services are placed at the disposal or under the control of Creditreform Rating AG and who are directly involved in credit rating activities or approving credit ratings and rating outlooks. 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 CRAG´s "Sovereign Ratings" methodology. The main arguments that were raised in the discussion are summarized in the "Reasons for the Rating Decision".

As regards the rating outlook, the time horizon is provided during which a change in the credit rating is expected. This information is available within the credit rating report. There are no other attributes and limitations of the credit rating or rating outlook other than displayed on the CRAG website. In case of providing ancillary services to the rated entity, CRAG will disclose all ancillary services in the credit rating report.

The date at which the credit rating was released for distribution for the first time and when it was last updated including any rating outlooks is indicated clearly and prominently in the rating report; the first release is indicated as "initial rating"; other updates are indicated as an "update", "upgrade or downgrade", "not rated", "affirmed", "selective default" or "default".

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