

Rating Object	Rating Information		
REPUBLIC OF ESTONIA Long-term sovereign rating Foreign currency senior unsecured long-term debt Local currency senior unsecured long-term debt	Assigned Ratings/Outlook: AA- /stable	Type: Monitoring, unsolicited	
	Initial Rating Publication Date: Rating Renewal:	23-12-2016 31-08-2018	
	Rating Methodologies:	"Sovereign Ratings"	

Rating Action

Neuss, 31 August 2018

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

Contents

Rating Action	
Key Rating Drivers	
Reasons for the Rating Decision	
Rating Outlook and Sensitivity	į
Economic Data	į
Appendix	•

Key Rating Drivers

- Investment-driven upturn in 2017; growth is set to soften, but remain robust and ahead of EU average growth levels; last year income convergence resumed after several years of stagnation
- Despite recent labor market improvements and reform progress, medium- to longterm prospects clouded by slow productivity growth, unfavorable demographics and doubts about the sustainability of Estonia's cost competitiveness; very high degree of macro-financial volatility
- Sovereign characterized by very solid institutions, pro-active and reform-oriented policy-making, as well as high degree of ownership; general elections in Mar-2019, but we view policy-continuity as ensured
- 4. Very favorable fiscal metrics marginal interest outlays and gradually declining general government debt which already stands at very low levels; while authorities envisaged a plethora of revenue and expenditure measures, fiscal sustainability appears warranted as Estonia displays a remarkable track record of fiscal prudence
- Increasing current account surpluses and structure of external liabilities limit vulnerabilities stemming from large and negative net international investment position which has continued to improve

Reasons for the Rating Decision

The Republic of Estonia's credit profile is underpinned by very favorable fiscal metrics and predictable and prudent policy-making backed by solid institutions, balancing macroeconomic performance characterized by accelerating growth, a slowdown in income convergence, anemic labor productivity growth and strains on cost competitiveness, as well as risks stemming from the external sector which have somewhat abated more recently.

Creditreform Rating www.creditreform-rating.de

In general, Estonia's macro profile is somewhat constrained by its very small and open economy, entailing a high degree of macro-financial volatility, thus weighing on its economic resilience against external shocks. According to Eurostat data, trade-to-GDP totaled 151.5% in 2017, and nominal GDP came in at approx. EUR 23bn (2017), making Estonia the third smallest economy among the EU-28 members (ahead of Malta and Cyprus).

After a rather disappointing performance over recent years, economic growth accelerated substantially in 2017. Whereas Estonian total output expanded by a modest 1.7 and 2.1% in 2015 and 2016 respectively, displaying the weakest growth momentum among all Central and Eastern European (CEE) economies, real GDP growth soared to 4.9% last year, corresponding to one of the highest growth rates among all EU-28 members. The fastest growth since 2011 (7.6%) mainly resulted from strong private and public investment activity, with gross fixed capital formation leaping by 13.1% in 2017 after falling for three consecutive years, thereby contributing 3.1 p.p. to real GDP growth (2016: -0.3 p.p.). While construction investment grew strongly (8.1%), investment in machinery and equipment surged by 19.6%. It is also noteworthy that investment in intellectual property gained further momentum, with its growth rate surpassing the previous year's level again (2017: 14.6%, 2016: 10.5%). The rebound in investment came on the back of the benign external environment and an accelerated drawdown on European Structural and Investment (ESI) funds, but was also due to some large one-offs, e.g. in the transport equipment sector. As of 24-Aug-18, financial resources spent on selected projects are reported to have increased from 8.7% of planned investment (EUR 0.52bn) at the end of 2016 to 18.5% (EUR 1.1bn) by 31-Dec-17. Public and private consumption were also supportive to growth, contributing 0.1 and 1.2 p.p. respectively. That said, private household spending growth was significantly weaker in 2017 at 2.2% as compared with 4.4% in the year before, partly due to the adverse impact of rising inflation, which increased from 0.8 to 3.7% in 2016-17 (EA-19 avg. 1.5%), denting real disposable incomes. Import-intensive investment led to strong import growth (3.9%), but a less negative growth contribution of net external demand as exports, in particular services exports (+6.5%), benefited from buoyant growth in key trading partners.

Thanks to the surge in economic growth, income convergence towards EU-28 levels resumed in 2017. As illustrated by IMF data, Estonian GDP per capita is estimated to have increased from USD 29,685 to 31,750 in 2016-17 (in PPP terms). Hence, per capita income accounted for 77% of the EU-28 average, after 75% in 2016 (Eurostat data). However, Estonia was overtaken by Lithuania, which demonstrated a faster pace of convergence last year, posting a GDP per capita of USD 32,299, equating to 78% of the EU-28 average level. Estonia also stood well below other CEE peers such as the Slovak Republic (USD 33,025) and Slovenia (USD 34,407), and displays a sizable gap with other AA-rated sovereigns, which all have a per capita income of more than USD 40,000. It has to be highlighted that income convergence had slowed over the recent years, with GDP per capita stagnating in 2015 and 2016, after having fallen back from 76 to 75% of the EU average in 2014-15.

Creditreform Rating www.creditreform-rating.de

Further progress in raising Estonia's per capita income is likely to be achieved, mainly due to favorable economic prospects in 2018/19, with growth remaining well ahead of average EU levels. We forecast that growth will soften to more sustainable levels, with real GDP expanding by 3.6% this year and by 3.3% in 2019, owing to decelerating domestic demand, the somewhat weaker external environment, and partly due to labor and skill shortages. Investment growth should stay robust, though it is set to come down considerably due to base effects stemming from the exceptionally high levels seen in 2017. Business investment is likely to remain strong, supported by low funding costs and the recent recovery in corporate profits. As illustrated by Statistics Estonia data, the moving four-quarter average of enterprise profits turned the corner in 2017, and profits of manufacturing companies have been rising by double-digits since Q3-17 (yearly rates). Although having eased somewhat, sentiment as well as survey data on new orders in the construction and industry sectors also bode well for investment activity. Moreover, high capacity utilization in the industrial sector, with 75.2% (Q3-18) well above its long-term average of 72.2% (2000-17), may require further investment. We believe that public investment into infrastructure projects will remain conducive to growth, despite the less ambitious investment plans on the local government level reported by the Estonian central bank. To be sure, the positive impact form ESI fund absorption can be expected to fade out in the medium term. Meanwhile, we expect household spending to be fostered by strong labor market performance and rising disposable incomes, with slowing HICP inflation being less of a drag (2018e: 2.8%) and aided by the personal income tax reform, which entered into force in 2018. Private consumption is thus likely to grow briskly and more in line with the annual average of 4.0% in 2012-16, becoming more supportive to growth in 2018/19, further buttressed by consumer sentiment which rose to the high levels seen back in 2017 after a short-lived slump at the beginning of the year. We expect strong domestic demand to translate into vivid import growth, and exports should continue to expand on the back of upbeat export expectations and solid growth in Estonia's main trading partners. Up to May-18, exports of goods to Finland and Latvia (16 and 9% of total exports in 2017) increased by 11 and 19% respectively (y-o-y, nominal terms). Trade with Germany and Russia appeared to be equally strong, as exports rose by 14 and 8% respectively.

To sum up, we expect that economic growth will still run above potential this and next year, but not as fast as in 2017. However, we continue to believe that structural impediments may a pose a serious risk to Estonian growth potential and the catching-up process with EU income levels in the medium to long term, even though potential growth picked up in 2017, being estimated at 3.2 by the EU Commission (IMF: 2.7%). Capital accumulation has been the main driver of potential growth over the years, but investment levels are downward trending as measured by GDP. While private sector investment achieved an annual average of 26.6% of GDP in 2000-08, it fell to only 19.1% in the aftermath of the financial crisis in 2009-17. Aided by EU funds, public investment held up well, with annual averages of 5.2 and 5.4% in the respective periods of time. On a positive note, total investment-to-GDP rose from 22.3 to 23.7% in 2016-17, largely driven by the sharp pick-up in ESI funds which were swiftly channeled to investment projects. However, in a post-Brexit era the available EU budget may be significantly lower. Hence, Es-



tonia migth have to face correspondingly lower support from ESI funds in the next multiannual EU budget framework commencing in 2021.

On the other hand, Estonia's growth potential is constrained by slow productivity growth and unfavorable demographics, alongside a limited degree of innovation. Regarding the latter, there is evidence that Estonia is a moderate innovator, ranking 18th in the EU-28 and its innovation performance has deteriorated relative to that of the EU back in 2010 (Innovation Scoreboard 2018). R&D expenditure has languished, amounting to 0.15% of GDP in the government sector and a mere 0.66% of GDP in the business enterprise sector, as compared to an EU average of 0.23 and 1.32% respectively.

We note that labor productivity growth has been anemic, albeit showing signs of a recovery more recently (see below) – in 2017 real labor productivity per hour worked stood only 7.3% above the level of 2012, expanding by an annual average of 1.7% over the last five years, one of the lowest readings among the CEE economies (EU-28: 1.3%). Accordingly, nominal labor productivity per hour worked as a percentage of the EU total has been stagnating, posting at 64.0% in 2017, almost the same as in 2012 (63.8%), indicating a relatively weak labor productivity for a catching-up economy.

What is more, the decline in the Estonian population as well as the decreasing share of working-age population are acting as a drag on labor supply. We observe that the population trend shows signs of stabilization against the backdrop of the third year in a row with a positive net migration rate. As of 1-Jan-18, total population increased to 1.319m, 0.4% above the level seen at the beginning of 2015. Yet, working-age population has continued on its downward trend, having edged down by a further 0.2% in 2017-18 (64.1% of total population), standing almost 9% below the level seen 15 years ago. The EU ageing report 2018 signals unabated demographic headwinds to potential growth, as working-age population is forecast to fall to 61.4% of total population in 2030, while the old age dependency ratio is estimated to rise to 37.6%, up from an already high 30.0% (EU-average 29.9%).

At the same time, there are signs that reform efforts are beginning to pay off. Mainly due to the Work Ability reform, approx. a third of Estonians who had previously been earmarked as having no work ability now have a reduced work ability as of the end of 2017 (Statistics Estonia). The zero-bureaucracy reform, i.e. the reduction of the labor force employed in the public sector, is also making headway, freeing up labor capacities for the private sector; since 2015 employment in public administration and defense declined by 8.7%. The ongoing reform process has supported Estonia's labor supply and the labor market has continued to improve. With an annual average of 5.8%, unemployment reached its lowest level since 2008 (EU-average 7.6%). Furthermore, the participation rate has been climbing from one record high to another, hitting 79.8% in Q1-18 (Q1-17: 78.4%), the third-highest reading in the EU-28 behind Sweden and the Netherlands. Partly due to the increase in the retirement age, employment of elderly workers (55-64y) increased by 6.4% in 2015-17, three times as high as the rise of total employment (15-64y: 2.1%); and, unlike its Baltic peers, Estonia performs relatively well on most Social Rights Indicators, albeit showing a rather weak profile in terms of social protection and inclusion.



We believe that labor market tightening will put pressure on wages, potentially undermining Estonia's cost competitiveness in the medium term. Having said this, cost competitiveness improved for the first time since 2011, as growth of real compensation per employee (1.4%) was outpaced by labor productivity growth (2.1%), resulting in real unit labor costs falling by 1.3% in 2017 - comparing favorably to modest increases in Latvia and Lithuania and to the EU average (-0.2%). However, it would be premature to consider this as the beginning of a trend reversal. As labor market conditions should tighten further and wage growth is likely to outpace productivity growth against the background of the rather limited scope for a further expansion in labor participation and the declining working-age population. Intensifying labor and skill shortages are mirrored by survey data, with the share of manufacturing (Q3-18: 26.8%) and construction (Jul-18: 51.4%) companies citing labor shortages as a factor limiting production increasing from already high levels. Wage development in the public sector should be monitored vigilantly as these have grown markedly faster than average wages. Wage growth continued to strengthen at the turn of the year, with average gross wages rising by 7.7% y-o-y in the first quarter of 2018 (Q4-17: 7.5%), mainly driven by the public sector, where gross wages leapt by 9.0% (state ownership) and 12.3% (local government ownership) respectively.

We assess that strains on cost competitiveness will be alleviated by Estonia's strengths on the non-cost competitiveness side. The World Economic Forum put the country in its Global Competitiveness Report 17-18 at rank 29 out of 137 economies. Additionally, the World Bank attested Estonia to display one of the most business-friendly environments in the world and to be the best among the euro area members (rank 12/190 economies). Indeed, Estonia's share in world exports has been resilient over the recent years, posting at 0.09% in 2017 (goods and services), the same percentage as in 2012.

On the other hand, the government continues to pursue reforms to boost productivity, innovation, and labor supply. In the updated National Reform Program (26-Apr-18), authorities envisaged to implement measures to increase the ALMP impact, improve the quality of the educational system, keep public sector wage costs in check, and scale up investments into transportation, ICT, and infrastructure. On a side note, officials are already beginning to prepare the cornerstones of the development strategy "Estonia 2035".

Meanwhile, authorities have taken action to improve social and health outcomes and labor market performance. Thus, the parental benefit reform is effective from 1 March onwards, introducing more flexible ways to take parental leave, and efforts to amend the Gender Equality Act with the aim of closing the gender pay gap are ongoing. Moreover, in April the government endorsed a bill on making the pension system more flexible from 2021 onwards, changing the formula for the calculation of pensions, and tying the retirement age to life expectancy from 2027. In general, policy-makers want to increase government spending on health, education, and social protection from 18.8% of GDP in 2016 to 19.9% by 2021. As regards innovation, authorities intend to step up funds for the innovation and company development programs, allocating an additional EUR 20m towards measures supporting innovation in the budget 2018-21. With a view to mounting wage pressures, efforts are ongoing to better control minimum wage developments as well as to simplify and lift regulations on foreign workers, as the 2017 Aliens Act was amended



and a program geared towards attracting 2,000 foreign ICT specialists into the domestic labor market was launched.

The reform efforts outlined above are testament to the pro-active and reform-oriented policy-making of the government as well as the high degree of ownership of Estonian policies, which we continue to view as credit strengths. These strengths are complemented by the very solid institutional set-up by which the sovereign is characterized. It has to be noted that the institutional framework has not significantly changed since our last review. As illustrated by the World Bank's Worldwide Governance Indicators (WGIs), Estonia outperforms the EU and the CEE median on all WGIs we take into consideration, but exhibits a considerable gap towards AA-rated peers.

Estonian general elections are set to take place on 3 March 2019. Polls indicate that the Centre Party, which is currently governing in a coalition with the Social Democrats and the conservative IRL, may lose ground as support for the Reform Party has strengthened since the turn of the year. While most recent polls dating from end of July see the Reform Party 6 p.p. in front of the Centre Party, there appears to be a broad consensus on the present fiscal and economic policies. Hence we expect that policy-continuity will be ensured.

Although we consider the probability as low, we note that Estonia remains exposed to risks of large shocks stemming from resurfacing tensions with Russia or an escalation in the Russia-EU conflict, and from cyber-attacks given the very high degree of digitization of Estonia's public services and economy. Estonia generally benefits from EU/EMU membership, involving broader and deeper capital markets, significant trade integration, and the adoption of common standards and rules.

The sovereign's creditworthiness continues to be reflected by exceptionally strong fiscal metrics and its track record of fiscal prudence, which we regard as Estonia's key credit strengths. The government was able to maintain a solid fiscal position in 2017, as the headline deficit remained unchanged at a modest 0.3% of GDP, with both general government revenue and expenditure increasing by 7.9% in 2016-17. Over the last five years, the annual average of Estonia's headline balance has been 0.0% of GDP. Strong economic activity and the favorable labor market development provided for sharp increases in taxes on household and corporate income which edged up by 6.8 and 5.8% respectively. VAT collection was equally strong, expanding by 8.8% on the year. At the same time, income generated through excise duties fell by 0.7%, as Estonians substituted domestic with foreign products due to the recently implemented higher excise tax rates. The expenditure side was largely driven by public investment, which soared by 27.2% to roughly EUR 1.29bn, and the public wage bill (+7.1%).

Looking forward, the government should achieve a broadly balanced budget of -0.1% of GDP in 2018 and a modest surplus of 0.2% of GDP next year. The years 2018 and 2019 are marked by a plethora of additional revenue and expenditure measures, which should on balance be broadly deficit neutral. Alongside the planned spending programs targeted towards education, healthcare, social welfare, and public investment, the personal income tax (PIT) reform entered into effect at the beginning of 2018. The PIT allowance will

Creditreform Rating www.creditreform-rating.de

increase to EUR 500 per month for income levels up to EUR 1.200, gradually decreasing for earnings above EUR 1.200. The reform is supposed to be counter-financed by excise duty hikes and the corporate income tax (CIT) reform, reducing tax rates on regularly-distributed corporate dividends from 20 to 14%, with the intention to boost profit distribution and tax intake, and raising 14% rate on accrued profits of credit institutions. Additional measures mentioned in the 2018 Stability Program are envisaged to become effective next year. Authorities intend to generate a higher revenue intake through additional dividends and incomes taxes from state-owned enterprises (SOE, amounting to 0.37% of GDP), and several smaller items such as tax revenues from limiting the use of illegal labor (0.02%) and revenues from sales of 3.5 GHz licenses (0.06%). Expenditure measures, e.g. changes to investment, higher public labor costs or redirections of structural funds, are supposed to be fiscally neutral.

In our view the development of general government revenue remains surrounded by some uncertainty, as additional revenue on account of SOE-dividends and the CIT reform may be lower, and the loss from the PIT reform higher. Unexpected changes in consumer and corporate behavior may lead to outcomes deviating from the projected path. In this vein, authorities now expect that a higher number of taxpayers will opt for a higher tax rate in 2018, albeit the total revenue loss should remain unchanged. Also, the forecast for additional revenues due to excise tax hikes was scaled down for 2018. Meanwhile, tax revenues for the first five months appear to be evolving favorably, having grown by 8.3% (y-o-y) up to May-18. Between January and May, CIT receipts rose sharply by 40.6%, while VAT and excise duty collection increased by 10.1 and 4.5% respectively – more than outweighing the PIT loss of 30.7% as compared to last year.

We believe that risks associated with higher PIT losses and/or lower CIT effects are more than outweighed by the government's track record of fiscal prudence, ownership, and proactive policy-making. In general, we view fiscal risks as rather limited at this stage, considering the sovereign's substantial fiscal buffers. Estonia exhibits the lowest level of general government debt in the EU-28 and among our AA-rated sovereigns by far. Last year, debt-to-GDP was down to 9.0% (EU average: 81.6%), after 9.4% in 2016, and is set to gradually decrease over 2018/19. As regards affordability, Estonia features the lowest interest expenditure in the EU-28, totaling 0.1% of general government revenue in 2017.

Fiscal sustainability risks arising from the financial sector are contained. Due to the strong presence of Nordic banks, financial stability risks are mainly related to Nordic house price developments and the very high debt levels of private households in Scandinavia. Still, the Estonian banking system is characterized by high asset quality and sizable capital buffers, with its NPL ratio among the lowest in the EU-28 (Q1-18: 1.9%) and the CET 1 ratio standing at 32.3% in Q1-18 (highest in EU-28). Furthermore, its credit institutions are more profitable than those of most European counterparts, as return on assets has been significantly higher than the EU average (Q1-18: 1.6 vs. 0.5%) and the loan-deposit ratio (non-financial private sector) has dwindled to its lowest level since 2003 (2017: 116%), driven by an increase in deposits. Likewise, we view financial stability risks on the domestic housing market as limited, since house price growth is decelerating. According to OECD data, the 3-year-growth rate fell to 10.9% in Q3-17 and has remained flat since

Creditreform Rating www.creditreform-rating.de

then. Affordability remains warranted. As of Q1-18, the price-to-rent and price-to-income ratio standing roughly 10 and 7% below their long-term averages respectively. Mortgage lending has strengthened, with the outstanding volume of loans for house purchases exceeding last year's level by 6.9% in Jun-18; however, private household debt is falling from already subdued levels, totaling 42.8% of GDP in Q1-18, down from 43.8% a year before and well below the EA-19 average of 63.6%.

With regard to credit risks stemming from the external sector, we observe that Estonia's negative net international investment position (NIIP) remains large, though it has continued to improve. In the first quarter of 2018 its NIIP was again lower than last year, having increased from -37.4% of GDP to -32.1%, and considerably below the level seen five years ago (Q1-13: -55.2%). External risks are mitigated by the structure of external liabilities, as the highly negative NIIP remains largely explained by foreign direct investments. The Estonian economy displays the highest FDI inflow among all CEE peers, with inward FDI amounting to 98% of GDP in 2017. Moreover, Estonia remains in a net creditor position; net external debt stood at -13.9% of GDP in Q1-18, after -10.9% in Q1-17. Improvements are driven by external deleveraging in the banking sector and increasing current account surpluses. Estonia's current account surplus rose to 3.1% of GDP, up from 1.9% and the highest reading seen over the last two decades. The surplus was boosted by a widening trade of services surplus, which increased from 7.6 to 8.3% of GDP in 2016-17, while the secondary income balance rose to 0.6% of GDP (2016: 0.0%). Going forward, the current account should remain in surplus in 2018/19, but gradually decline, shifting into deficit over the medium term, as terms of trade should somewhat deteriorate and investment should outweigh savings due to scarce domestic investment opportunities.

Rating Outlook and Sensitivity

Our Rating outlook on the long-term sovereign rating 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.

Estonia's credit rating could be lowered if economic growth was to significantly slow over a protracted period of time which may be driven by a prolonged downturn in the economies of its key trading partners or an overheating Estonian economy, implying macroimbalances due to unsustainably fast credit growth, inflation or large current account deficits. A downgrade may also be triggered by a further deterioration of the geopolitical situation with regard to the Russian Federation, substantial losses in cost competitiveness driven by further rapid wage growth outpacing productivity growth, of if a financial shock stemming from Nordic parent banks hit Estonia.

Upward pressure may arise if we observe robust evidence that Estonia's per capita income is sustainably converging towards EU levels, if the relationship with Russia were to improve, or if structural reforms resulted in a slowdown of adverse demographic trends and productivity to grow more in line with wages over an extended period of time.

Creditreform Rating www.creditreform-rating.de

Primary Analyst Johannes Kühner Sovereign Credit Analyst j.kuehner@creditreform-rating.de +49 2131 109 1462

Chair Person
Benjamin Mohr
Head of Sovereign Ratings
b.mohr@creditreform-rating.de
+49 2131 109 5172

Ratings*

Long-term sovereign rating

AA- /stable

Foreign currency senior unsecured long-term debt

AA- /stable

Local currency senior unsecured long-term debt AA- /stable

Economic Data

	2012	2013	2014	2015	2016	2017	2018e
Real GDP growth	4.3	1.9	2.9	1.7	2.1	4.9	3.6
GDP per capita (PPP, USD)	25,494	26,508	27,856	28,685	29,685	31,750	33,842
HICP inflation rate, y-o-y change	4.2	3.2	0.5	0.1	0.8	3.7	2.8
Default history (years since default)	n.a.						
Life expectancy at birth (years)	76.7	77.5	77.4	78.0	78.0	n.a.	n.a.
Fiscal balance/GDP	-0.3	-0.2	0.7	0.1	-0.3	-0.3	-0.1
Current account balance/GDP	-1.9	0.5	0.3	2.0	1.9	3.1	n.a.
External debt/GDP	100.1	93.1	96.4	94.3	90.4	84.8	n.a.

Source: International Monetary Fund, Eurostat, own estimates

Appendix

Rating History

Event	Publication Date	Rating /Outlook
Initial Rating	23.12.2016	AA- /stable
Monitoring	27.10.2017	AA- /stable
Monitoring	31.08.2018	AA- /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.

^{*)} Unsolicited



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, upto-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, European Stability Mechanism (ESM), Estonian Ministry of Finance, Eesti Pank, Statistics Estonia, Estonian Fiscal Council (Eelarvenoukogu).

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".

In accordance to Article 11 (2) EU-Regulation (EC) No 1060/2009 registered or certified credit rating agency shall make available in a central repository established by ESMA information on its historical performance data, including the ratings transition frequency, and information about credit ratings issued in the past and on their changes. Requested data are available on the ESMA website: https://cerep.esma.europa.eu/cerep-web/statistics/defaults.xhtml.

An explanatory statement of the meaning of each rating category and the definition of default are available in the credit rating methodologies disclosed on the website.



Disclaimer

Any rating issued by Creditreform Rating AG is subject to the Creditreform Rating AG Code of Conduct which has been published on the web pages of Creditreform Rating AG. In this Code of Conduct, Creditreform Rating AG commits itself – systematically and with due diligence – to establish its independent and objective opinion as to the sustainability, risks and opportunities concerning the entity or the issue under review.

When assessing the creditworthiness of sovereign issuers, Creditreform Rating AG relies on publicly available data and information from international data sources, governments and national statistics. Creditreform Rating AG assumes no responsibility for the true and fair representation of the original information.

Future events are uncertain, and forecasts are necessarily based on assessments and assumptions. Hence, this rating is no statement of fact but an opinion. Neither should these ratings be construed as recommendations for investors, buyers or sellers. They should only be used by market participants (entrepreneurs, bankers, investors etc.) as one factor among others when arriving at investment decisions. Ratings are not meant to be used as substitutes for one's own research, inquiries and assessments. Thus, no express or implied warranty as to the accuracy, timeliness or completeness for any purpose of any such rating, opinion or information is given by Creditreform Rating AG in any form or manner whatsoever. Furthermore, Creditreform Rating AG cannot be held liable for the consequences of decisions made on the basis of any of their ratings.

This report is protected by copyright. Any commercial use is prohibited without prior written permission from Creditreform Rating AG. Only the full report may be published in order to prevent distortion of the report's overall assessment. Excerpts may only be used with the express consent of Creditreform Rating AG. Publication of the report without the consent of Creditreform Rating AG is prohibited. Only ratings published on the Creditreform Rating AG web pages remain valid.

Creditreform Rating AG

Creditreform Rating AG

Hellersbergstrasse 11 D - 41460 Neuss

Phone +49 (0) 2131 / 109-626 Fax +49 (0) 2131 / 109-627 E-Mail info@creditreform-rating.de Internet www.creditreform-rating.de

CEO: Dr. Michael Munsch

Chairman of the Board: Prof. Dr. Helmut Rödl

HRB 10522, Amtsgericht Neuss