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Rating Action

Neuss, 12 August 2022

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.

Key Rating Drivers

1. Estonia's convergence process has progressed well over recent years, and its economy shows a strong growth trend with a limited impact of the pandemic; we expect Russia's war against Ukraine to result in a sharp deceleration in this and next year's economic growth due to extremely high uncertainty, disrupted supply-chains, and surging material and energy prices, further aggravating already high inflationary pressures
2. Labor market developments against the backdrop of shortages in skilled labor and a shrinking workforce, as well as the transformation of Estonia's carbon-intensive economy, could pose challenges to competitiveness and medium- to long-term growth; we believe that related risks remain contained by Estonia's welcoming business environment, a competitive edge in the ICT sector, and the Recovery and Resilience Plan (RRP), which will be vital in tackling many of the longer-standing challenges
3. Strong institutional set-up supported by effective public administration and an efficient judicial system, both of which benefit from highly advanced digitalization; Russia's military aggression against Ukraine places geopolitical risks in the limelight, but we view these as mitigated by the sovereign's membership in the EU/EMU and NATO; we do not think that sound policy-making will be obstructed by the government reshuffle this summer
4. After the strong economic recovery had led to a significant improvement in the sovereign's public finances, we forecast its headline deficit to widen again, with the Russian invasion of Ukraine adding new fiscal risks; the need to expand outlays for energy security, defense, labor market and social measures in light of a brisk inflow of Ukrainian refugees will in part imply permanent spending increases; although we expect debt-to-GDP to trend upwards over the medium term, the public debt ratio will ultimately post at low levels, whilst debt servicing costs remain low; a track record of fiscal prudence and sound debt management as well as access to EU funds are further mitigating factors

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5. Despite trade frictions and vulnerabilities related to Estonia's small, open economy, we continue to view risks stemming from the external sector as contained, as also indicated by a moderately negative and improving net international investment position (NIIP)

Reasons for the Rating Decision and Latest Developments¹

Macroeconomic Performance

Estonia's macroeconomic performance profile continues to reflect a vigorous economic growth trend, which experienced a relatively moderate dent during the Covid-19 pandemic and has translated into considerable headway as regards the Estonian economy's income convergence towards European standards. At the same time, its small, open economy is susceptible to exogenous shocks, with macro-financial variables subject to heightened volatility. As a case in point, the Russian invasion of Ukraine will impose a heavy drag on the Estonian economy, causing significant swings in metrics such as inflation and economic growth. Trade restrictions, sharp increases in the prices of energy, food, and other raw materials, as well as extremely high uncertainty, should slow down economic activity in the near term. Over the medium term, the Estonian economy should converge towards its growth potential. That said, we think that labor shortages and demographic developments could exacerbate some misalignments with regard to wage and productivity growth and potentially complicate the green transition, thus posing some headwinds to the medium-to-longer term outlook. Whilst the pace of economic recovery will depend on geopolitical developments and on how quickly Estonian companies will be able to fall back on alternative export markets, structural reforms alongside EU financing in light of the RRP should provide for a soft landing, as will Estonia's welcoming business environment.

The Estonian economy had recovered swiftly from the corona crisis, with its Covid-19-induced slump in 2020 (-3.0%) followed by a sharp growth rebound to 8.3% in 2021. After having reached its pre-pandemic output level (Q4-19) already in the first quarter of 2021, Estonia thus continued to post one of the fastest growth rates in the euro area (EA). Despite the devastating health crisis, Estonia's average annual growth posted at 3.9% in 2017-2021, well ahead of the average of the euro area as a whole (1.0% p.a.).

Consumption expenditure of private households turned out as the main driver of last year's GDP expansion, propelled by relatively short-lived confinement measures, as well as by households' pension withdrawals related to the 2020 reform of the pension system. Household spending thus leapt by 6.4% on the year, contributing 3.2 p.p. to real GDP growth.

Investment growth decreased from a whopping 19.9% in 2020, largely due to the outstanding investment activity of a single foreign company, to 3.3% in 2021, still adding 1.1 p.p. to economic growth. By contrast, net external trade shaved off 0.7 p.p. While export growth was extraordinarily strong, surging by 19.8% in 2021, it was outpaced by import growth (+20.6%).

Thanks to vibrant growth in 2021, income convergence of the Estonian economy has continued. Drawing on latest IMF estimates, GDP per capita stood at USD 42,050 in 2021 (PPP terms, current prices), corresponding to 86% of the weighted EU average (2016: 77%), and indicating that Estonia has experienced one of the fastest convergence processes in Europe. At this level, Estonia's

¹ This rating update takes into account information available until 06 August 2022.

per capita income remains well ahead of fellow Baltic peer Latvia and is in line with Lithuania, even overtaking Spain (2021: USD 41,839).

While Estonia has weathered the Covid-19 pandemic remarkably well so far, we are somewhat more concerned with regard to the major headwinds to economic activity engendered by the adverse effects coming on the back of the Russian invasion of Ukraine. We believe that the Estonian economy will remain broadly resilient, but economic growth will be heavily constrained by supply-side shortages, disrupted trade flows, soaring consumer price inflation, and extremely high economic uncertainty.

In our view, Estonia is among the European countries with the highest economic exposure towards Russia, not least due to its geographic proximity. To be sure, Estonia has successfully managed to gradually loosen ties with the Russian Federation (see below), in particular in the wake of Russia's annexation of Crimea. However, Russia remains important in terms of trade and value chains, and ultimately energy imports in light of Estonia's relatively high energy intensity, as also underlined by an assessment of the European Commission (EC) suggesting that the Baltic and CEE economies are the most vulnerable member states in the EU27 (May-22).

Indeed, economic growth almost ground to a halt in this year's first quarter (0.1% q-o-q), mainly on account of significant declines in fixed investment and exports, which fell by 4.6% and 4.8% q-o-q, respectively. Household spending continued to increase (+1.5%), while corporations were heavily engaged in stock-building, in anticipation of more sustained trade frictions and supply-side issues.

At this stage, we still assume the Estonian economy will expand in 2022 and 2023. We expect real GDP growth to soften significantly – to 1.7% in the current year. Trade disruptions and inflationary pressures are likely to subside only gradually, still weighing on next year's growth performance, resulting in only a slight pick-up in economic growth to 1.8% in 2023, before converging to its trend growth further out. We have to emphasize that the forecast remains subject to unusually high uncertainty, being largely dependent on the further development of the geopolitical situation. Also, inflationary pressure could turn out to be significantly more persistent, whereas new strains of the coronavirus – although not part of our baseline scenario – could seriously dampen household spending and growth.

With all that said, we would have expected much lower real GDP growth in 2022 anyway, reflecting base effects regarding investment growth, which was inflated by heavy investment by foreign investor Volkswagen Group (see above). After having witnessed exceptionally strong, triple-digit intellectual property investment growth up to Q2-21, investment activity is set to normalize throughout 2022, implying a substantial contraction due to base effects.

Moreover, we expect the tremendously high level of uncertainty and supply-side shortages to restrain investment activity as long the geopolitical turmoil drags on, leading many businesses to push back investment decisions, although industrial production had held up relatively well until more recently. Confidence in the industrial and construction sectors has slid since the outbreak of the Russian war in Ukraine, but has nevertheless remained positive.

New orders in the industrial sector generally bode well for reinvigorated investment growth, despite having taken a marked hit. Capacity utilization in the industrial sector bounced back to 74.9% in Q3-22, following a dip below its long-term average (72.4%) in Q2. Despite turning tides concerning the ECB's monetary policy stance (see below), favorable financing conditions are likely to remain in place in the near term. We also note that the financial position of Estonian

businesses was healthy before the onset of the war, as corporates displayed large liquidity buffers and high sales volumes (Statistics Estonia data).

Gross fixed capital formation should support economic growth from next year as base effects fade. Public investment activity, facilitated by EU financing and reform initiatives coming on the back of the RRP, will lift overall investment, notwithstanding likely lingering pervasive shortages and still elevated inflation. Moreover, the government's plans with a view to increasing defense spending (see below) will add to this.

Under the Recovery and Resilience Facility, Estonia will be eligible to receive grants totaling EUR 969.5mn or 3.2% of 2021 GDP. Furthermore, EU financing in the form of the Multiannual Financing Framework (MFF) will lend vital support to economic growth. Under the new MFF for the years 2021 to 2027, Estonia will benefit from EU cohesion policy funds in the amount of EUR 3.68bn or 12.0% of GDP. More importantly as regards near-term growth, Estonia will be able to invest an additional EUR 2.17bn under the MFF 2014-2020 envelope by end-2023, as 66% of the ESIF 2014-20 funds were spent by the end of 2021 (EU cohesion data).

We anticipate private consumption to remain a driver of Estonia's economic expansion, but growth will visibly weaken in 2022 and 2023, mainly due to the complex geopolitical situation and the resultant impact on already high consumer price inflation. The latter registered double-digit rates at the turn of the year, accelerating to 22.7% y-o-y this July, marking one of the highest readings in Europe. Given that food and energy account for a comparatively large share of their expenditure, this will inevitably hurt Estonian households, jeopardizing their purchasing power. Accordingly, consumer confidence has plunged, falling to new record-lows.

Whilst record-high HCIP inflation is set to eat into households' real disposable income, we think that adverse effects of rapidly rising prices will be offset to some extent by the government's support measures, employment and wage growth as well as increased reliance on savings. Growth of average gross wages accelerated further to 8.1% y-o-y in Q1-22, up from a high 7.8% and 7.3% in Q3 and Q4 last year, and we expect wage growth to remain robust. What is more, minimum wages were raised by 12.0% as of 2022, while the average pension was increased to EUR 591 (+6.9%).

That said, wage growth should be outpaced by HICP inflation, which we forecast to average at 19.0% in 2022, before inflationary pressures presumably subside throughout next year (2023e: 7.0%). As wage and pension growth obviously cannot keep up with inflation, households will likely tap their savings, which have continued to mount up to Q1-22, prospectively helping to cushion some of the price pressure.

Public support has increasingly shifted from mitigating the pandemic's impact towards cushioning the fallout of soaring food and energy prices and accommodating refugees from Ukraine. Among others, households benefited from price limits for electricity and gas bills, most of which ran until March, while businesses received reimbursements for the gas network fee. Also, companies were eligible to EUR 50mn in loan guarantees. Overall, we expect the positive growth contribution from public consumption to ease from next year.

Labor conditions have improved considerably since our last review and gained additional strength until more recently. The Estonian labor market has proved to be rather flexible over recent crises, but will be put to another test in the face of the Russian war against Ukraine, which has clouded the economic outlook.

Employment growth is likely to gain traction going forward, continuing the recovery of the Estonian labor market following the pandemic. In 2021, employment (national accounts, domestic concept) increased by only 0.1% (EA: 1.2%), but made a strong start into this year, jumping by 5.3% in Q1 (EA: 2.9%), bringing the employment rate to its pre-pandemic level of 81.5%, 7.4 p.p. above the euro area average (LFS data, 20-64y).

The unemployment rate had dropped to 5.3% by this year's first quarter (Q1-21: 6.8%, LFS-adjusted, Eurostat), well below the euro area average (Q1-22: 7.1%) and down from 6.8% a year before. On a monthly basis, unemployment was down to 5.5% in May-22 (May-21: 6.8%). While refugees from the Ukraine will be reflected in LFS statistics from next year, we expect unemployment to increase moderately due to the rise in Estonia's workforce. Looking forward, the inflow of displaced people from Ukraine could somewhat ease labor shortages, essentially depending on the speed of integration into the Estonian labor market. Drawing on latest UN data (02-Aug-22), almost 31,000 refugees from the Ukraine had applied for temporary protection.

The Russian aggression will adversely impact foreign trade, but we assume a positive contribution from net external trade this year, largely attributable to contracting imports. Export expectations in the industry sector have deteriorated markedly since the Russian invasion of Ukraine, but improved slightly in the course of the third quarter, remaining positive on balance. Net export's positive growth contribution is likely to tail off in 2023 as supply-side frictions begin to wane and Russia is increasingly replaced as a trading partner, in particular with respect to key raw materials such as wood, metals, and fertilizers.

Estonia's trade links with Russia have declined significantly in the recent years, but are far from negligible, albeit somewhat inflated by re-exports. According to Statistics Estonia, the share of Estonian exports to Russia went down from 12.1% in 2012 to 4.4% in 2021. Arguably more importantly, Estonia's exports will likely be hampered by the war's impact on its European key trading partners, who are also affected by the materially changed economic environment. At the same time, Russia accounted for a substantial 11.1% of Estonia's imports, with crude oil and refined petroleum accounting for a significant share.

It has to be highlighted that the Estonian economy features not only one of the highest energy intensities in Europe (10.4% of GVA, EC data), but is also highly dependent on Russian energy imports, as Russia accounted for 32.0% of total Estonian oil imports, 100% of the import of solid fossil fuels and 46.2% of natural gas imports. If one includes intra-EU gas imports, virtually all natural gas imports are supplied by Russia (Eurostat data).

To that end, the Estonian government announced its intention to cease Russian gas imports by the end of 2022, with the set-up of a joint LNG storage capacity (together with Finland) in the form of a floating terminal by fall as a key initiative. Additionally, authorities have stopped issuing visas to Russian citizens. Russian tourists stood for roughly 12% of total foreign overnight stays in 2021 and 5% before the pandemic (2019, Visit Estonia data).

Although being ultimately dependent on the geopolitical context, we expect the Estonian economy to return to its trend growth beyond 2023, boding well for continued income convergence. Nevertheless, structural challenges associated with Estonia's labor input could, in our view, weigh on the economy's medium- to longer-term perspectives if these are not sufficiently addressed. In particular shortages of skilled labor in sectors such as ICT and business services, but also in social disciplines, might put obstacles to the economy realizing its full potential. To be sure, labor shortages have been perceived as diminishing since the onset of the war, but we

believe that this issue will regain importance going forward, partly due to labor market needs in light of the green and digital transitions.

A declining workforce constitutes a further factor prospectively impinging underlying growth. On a positive note, migration patterns have appeared to change over the last years, with the Estonian population edging up since 2016 (Statistics Estonia), thereby mitigating adverse effects of Estonia's shrinking working age population. To be sure, the share of workers aged 15 to 64 years was stable in 2021 (63.2%), following a multi-year decline. The inflow of Ukrainian migrants was substantially boosted by Russia's military aggression.

Moreover, tackling the relatively high carbon- and energy intensity of the Estonian economy against the backdrop of the green transformation may also entail negative repercussions as regards competitiveness. As indicated by Eesti Pank intelligence, Estonia faces a comparatively large volume of CO₂ emissions in its exports. That said, climate policy effects on competitiveness is challenging to gauge at this point of time, since many issues, e.g. technological changes, energy mix, as well as interdependencies regarding other competitors in terms of their efforts to facilitate the green transformation, are subject to a high degree of uncertainty.

Demographics and the relatively high energy intensity generally act as a drag on Estonia's productivity growth, which has been outgrown by dynamically rising wages in 2011-20. We thus continue to follow developments closely here, especially with a view to cost competitiveness. According to latest AMECO data, real labor productivity per person rose by 7.9% in 2019-21 (EA: -0.9%), broadly on par with real wage growth during this period (7.7%, per employee). This resulted in a slight decrease in real unit labor cost (-0.1%) as compared to a moderate increase in the euro area (+0.7%).

At the same time, the global market share of the Estonian economy increased from 0.09% to 0.11% in 2019-21 (2015: 0.08%), giving no indication of eroding competitiveness at the current juncture. The pick-up was also driven by dynamically evolving services exports which benefited from the expansion of telecommunications, computer, and information services as well as other business services.

What is more, a decent 22nd rank in the current IMD World Competitiveness Yearbook ranking (2022, 2019: rank 35) places Estonia well ahead of other CEE economies. A high degree of innovation potential, with Estonia being among the top ten innovators in the EU (Innovation Scoreboard 2021), a high-quality digital ecosystem (DESI 2022 rank 9) and an excellent environment for start-ups remain key traits of the Estonian economy (EC SME country fact sheet).

In any case, we think Estonia's RRP will be key to keeping potential growth sufficiently high to ensure that its economy remains on its convergence path towards Western European income standards. We assume that the implementation of the partly EU-financed structural reforms involved in the so-called "Estonia 2035" Action Plan should have significant impact on strengthening its underlying growth.

According to the latest EC estimates, Estonia's potential growth amounts to 2.4% in 2022 and 2023 respectively, well above euro area levels (1.3% and 1.4%), while the RRP could raise Estonian GDP by 0.9% to 1.3% by 2026, abstaining from potential positive effects entailed by the structural reforms.

Institutional Structure

Estonia's strong institutional framework is underpinned by its EU/EMU as well as NATO membership, which against the current geopolitical backdrop provide a counterweight to heightened geopolitical and related economic risks, flanking extensive advantages linked to access to the EU single market. We deem policy formulation and implementation as highly effective, notwithstanding some volatility around Estonia's government composition more recently. A well-advanced stage in terms of digitalization by European comparison, as well as a high degree of responsiveness to key policy recommendations by relevant institutions, add to the sovereign's institutional strengths in our view. We observe that risks concerning cyber-crime and the use of virtual assets are being addressed and are a work in progress, and we monitor further progress in the combat and prevention of money laundering and financing of terrorism.

The World Bank's Worldwide Governance Indicators (WGI), our preferred metrics when it comes to gauging the quality of a sovereign's institutional set-up, buttress our favourable institutional assessment of Estonia. Regarding the reporting year 2020, the sovereign slightly improved its relative ranking across the four dimensions on which we put the highest emphasis, moving in line with the median of our 'AA'-rated sovereigns, while outperforming the euro area median.

The sovereign was ranked 25th out of 209 economies concerning government effectiveness, reflecting its sound and coherent policy-making. As reflected by rank 23 out of 209 economies with respect to rule of law, the sovereign continues to exhibit a high perceived quality of its justice system. In terms of voice and accountability, Estonia ranked 25th (out of 208), underscoring the impression that citizens enjoy extensive participation rights. Outperformance of the euro area median appears most pronounced with regard to the WGI control of corruption, with regard to which Estonia occupies a strong 17th rank (out of 209 economies, EA median: 43). The 2021-2025 Anti-Corruption Action Plan underscores efforts to improve further as regards this field.

The high quality of Estonia's judicial system was reaffirmed by the latest EU Justice Scoreboard, published in July 2022, which among other aspects testifies to a high degree of efficiency in terms of the time it takes to resolve administrative as well as litigious civil and commercial cases. In the same vein, the EC's latest Rule of Law Report (Jul-22) emphasizes the advanced digitalization of the justice system in Estonia, while also mentioning as positive advancements as regards criminal proceedings.

As mentioned above, the government made headway with regard to enhancing its AML/CFT framework, with new regulation around virtual asset service providers, in particular affecting licensing requirements, entering into force in Mar-22. We also gather that political work is in progress as far as strengthening regulation around crowdfunding is concerned, further corroborating our impression of a high degree of taking ownership and timely action on challenges identified.

Turning to the domestic political backdrop, we expect policy continuation following the recent change of the government coalition, with the latter again illustrating a somewhat higher level of volatility around government stability over recent years. The break-up of the coalition of the Reform Party, led by prime minister Kaja Kallas, and the Center Party in Jun-22 was preceded by disagreement over welfare and education reform measures. In Jul-22, the Reform Party formed a new coalition with the Social Democrats and Isamaa, with Kallas reconfirmed as prime minis-

ter, holding a majority of 56 seats out of 101 seats in the Riigikogu. Regular parliamentary elections are scheduled to be held by 05-Mar-23, with the Reform Party currently polling at about 32% based on voting intentions, followed by EKRE (18%), which was temporarily leading in polls at the beginning of this year.

Looking at recent developments associated with the green transformation, we recall that Estonia remains firmly committed to reaching climate neutrality by 2050 and has set itself the goal of reducing its CO₂ emissions by 70% by 2030 (vs. 1990 levels). Notwithstanding considerable progress over recent years, judging by greenhouse gas (GHG) emissions per head Estonia's economy remains one of the more carbon-intensive among the EU members, with a high energy intensity in the transport sector and buildings contributing to this. Estonia's dependency on oil shale, which according to the EC accounts for about 60% of its energy consumption, also adds to this, with socio-economic challenges around the aspired transition towards renewables aimed to be smoothed by its Just Transition plan.

That said, GHG emissions per head dropped to 8.7 tons of CO₂ equivalent in 2020 (EU: 7.5 tons, Eurostat), almost halving since 2017 (16.1 tons). With regard to the overall share of energy from renewable sources, Estonia stood well above the EU average as of 2020, displaying a share of 30.2% (EU: 22.1%), mainly pushed by a relatively high share of renewables as regards heating/cooling. A further increase in the share of renewable energy is envisaged to be achieved in particular through increased use of wind power and biomass.

Drawing on the EC's Eco Innovation Index (2021), Estonia ranks in the lower half among the EU countries, although viewed as having made good progress compared to the preceding assessment. We note that the government's 'Estonia 2035' development strategy was updated last year with activities dedicated to facilitate the implementation of climate objectives. Among other things, apart from the intention to develop an advising system for companies on how reduce their carbon footprint, it was decided to set up a new fund (EUR 100mn) for the development of technology-intensive start-ups. A sustainability reporting tool is being prepared to facilitate the collection and transmission of data.

Fiscal Sustainability

Estonia's creditworthiness remains underpinned by a track record of fiscal prudence and one of the lowest public debt ratios worldwide, notwithstanding its increase in the wake of the pandemic, which is likely to prove more persistent in view of higher spending related to mitigating the economic and geostrategic risks related to Russia's aggression against Ukraine. There also remains ample fiscal headroom to address further improvements to the health system and the social safety net, as is foreseen in the RRP. Debt affordability remains strong, although refinancing costs are set to rise in view of tightening global monetary policy and related reactions on capital markets. Estonia's very sound debt management continues to add to our favorable assessment of its creditworthiness.

Following the pandemic-induced large headline deficit in 2020 (-5.6% of GDP), Estonia's general government deficit more than halved to -2.4% of GDP last year, coming in considerably lower than we had assumed in our last review (Aug-21). Over the period 2012-2021, Estonia remains one of the EU members with the most prudent fiscal stance, judging by the average general government balance over this time span (EE: -0.9% of GDP, EU-27: -2.6%).

Apart from last year's strong economic recovery on the heels of a relatively mild recession in 2020 (see above), the significantly better-than-expected fiscal outturn can partly be attributed

to withdrawals from the second pension pillar, which pushed up income tax receipts to the tune of about 1% of GDP (EC intelligence). Current taxes on income and wealth overall soared by 25.0% y-o-y in 2021, while VAT and net social contributions also saw significant increases, lifting total general government revenue by 13.4% last year (2020: -1.4%, Eurostat data).

With the pandemic support widely phased out, total government expenditure rose by 5.4% in 2021 (2020: 12.6%), partly boosted by a further marked increase in the public wage bill. Public investment, meanwhile, continued its strong expansion, registering an increase of 11.4% (2020: 13.1%, 2019: 0.4%).

In the current year, total government outlays will be buoyed by spending related to cushion the impact of higher commodity prices, first and foremost higher energy prices. Higher spending on defense and for social purposes will add to this, likely driving up the headline deficit. In May-22, the Riigikogu, adopted the government's supplementary budget entailing measures in the amount of EUR 755.6mn (Ministry of Finance, MoF, about 2.3% of our estimated 2022 GDP). The additional budget encompasses appropriations to strengthen the country's security and defense (EUR 255.6mn), including e.g. enhancement of cyber security, energy security (EUR 257.3mn) such as formation of a central state gas reserve, and EUR 242.7mn for the accommodation for refugees from Ukraine.

These measures thus significantly add to discretionary measures previously estimated to have an impact of about 0.37% of GDP in 2022 (Draft Budgetary Plan 2022, DBP22), although the net impact of recent supplementary actions will likely be somewhat smaller, as part of the measures will generate labor and consumption tax income. Looking at monthly figures on the state budget, tax revenue has exceeded plans in the first five months of 2022, mounting by 16.9% y-o-y. According to the MoF, the general government budget deficit posted at 0.8% of GDP in May-22.

Uncertainty over this year's fiscal outcome remains high, though, given that a protracted military conflict in Ukraine and/or further escalation thereof would presumably call for higher government spending, while likely negative effects on the revenue side may be curbed to some extent, also bearing in mind that e.g. rising energy prices had lifted revenues from CO2 quotas. Hence, we cannot rule out the adoption of another supplementary budget throughout this year.

At this point in time, we estimate the Estonian budget deficit to come to 4.0% of GDP in 2022. With regard to 2023, we would expect a limited decrease, to -3.5% of GDP, given our assumption of still subdued GDP growth (see above). Notwithstanding less favorable medium-term fiscal prospects amid the adverse impact of the geopolitical tensions, authorities' commitment to fiscal discipline appears steadfast, although the target expressed in the SP22 of not allowing the structural fiscal deficit to exceed 3.5% of GDP in 2023 could prove ambitious in view of the current challenging circumstances. We take note of the Fiscal Council pointing out that the take-up of EU funding was limited, which has been a pattern observed more frequently in the recent past.

As a consequence of the pandemic, Estonia's public debt ratio had more than doubled to 19.0% of GDP in 2020 before dropping to 18.1% last year and further to 17.6% of GDP in Q1-22 (preliminary data, Eurostat). Nevertheless, at this level, the country's debt-to-GDP ratio still represents the lowest in the euro area by a considerable margin (EA: 95.6% in Q1-22), underscoring significant buffers to drive its convergence process while pursuing the path towards greener

economic growth and putting together a robust strategy to ensure and enhance its defense and energy security.

We forecast Estonia's general government debt to rise again this year, to about 19.9% of GDP, reflecting the markedly higher expected government deficit this year and despite some support to nominal growth through higher inflation. For 2023, we currently assume the public debt ratio to continue to drift upwards to roughly 22.4% of GDP, amid a continued, albeit somewhat smaller, deficit and as we expect inflation rates to decrease next year. Overall, we view risks to fiscal sustainability as very low due to the still comparatively low debt ratio, the convincing track record of fiscal prudence, sound policy-making, and highly affordable debt.

Corroborating the positive assessment of Estonia's debt profile, the average term to maturity of the government's debt portfolio has inched up further to 7.4y at the end of 2021 (MoF data), whilst the yield on 10-year bonds rose to 2.48% as of Jun-22 (ECB data). Interest outlays in 2021 fell by 8.4%, leaving the interest-to-revenue ratio at a mere 0.1% of total revenue (0.03% of GDP), representing the lowest level in the EU-27 by far and underscoring high debt affordability, even if the latter is set to become somewhat less favorable on the back of less benign refinancing conditions on capital markets amid global monetary policy tightening.

For the first time since 2011, the ECB raised its key policy rates this July by 50 basis points and approved the Transmission Protection Instrument as a new addition to its toolkit. The latter will focus mainly on euro area public sector securities purchases, subject to certain conditions, and aims to deflect unwarranted, disorderly market dynamics potentially hampering monetary policy transmission. Given protracted price pressure and broad continuation of labor markets becoming more tight, we think that it is increasingly likely that the refinancing rate will be raised further, up to 1.5% by the end of this year.

Estimates by the MoF suggest that an increase in interest rates by 100bp would have a direct impact on the general government budget of about EUR 58mn or about 0.2% of GDP in 2022 (SP22), emphasizing still high debt affordability. Further increases of 100bp p.a. until 2026 would have a cumulative effect of about EUR 409mn euro. Adding to Estonia's rating strengths as seen from the fiscal sustainability point of view, we would further highlight central government reserves amounting to 5.9% of GDP in 2021 (SP22).

In terms of contingent liability risks, public guarantees appear well-manageable, amounting to 8.4% of GDP in 2021, which also encompasses callable capital related to EU-level organizations and structures such as the ESM. Covid-19-related guarantees come to roughly 1.3% of GDP, with an estimated take-up of about 0.5% of GDP.

Estonia's relatively small, but highly concentrated, banking sector has weathered the pandemic well. The sector boasts a high capital adequacy ratio, ample liquidity, and a low ratio of non-performing loans (NPL). The latter decreased from 2.0% in Q1-19 to 0.7% in Q1-22, representing the third-lowest ratio in the EU (Q1-22: 1.9%, EBA data), while the CET1 capital ratio dwindled from a pandemic peak of 30.0% in Q1-21 to 25.0% in Q1-22, only surpassed by Latvia among the EU members. Although the corona crisis did take a certain toll on the sector's profitability, profitability as measured by return on assets, at a rather stable 1.0% lately, continues to compare favourably against the EU as a whole (EU: Q1-22: 0.4%).

We see pockets of vulnerability as concerns the quality of banks' loan portfolios, which we would monitor given a relatively high bank exposure to mortgage loans and a combination of rising

mortgage debt and vivid house price increases. The latter are also fueled by pension withdrawals related to the second pension pillar, adding to rising income boosted by strong wage growth, which finds its way into the real estate sector. The current situation as regards displaced people from Ukraine may also add some pressure here.

Mortgage loans account for roughly half of outstanding loans to the private sector (May-22: 50.5%, ECB data), highlighting some vulnerability to rising interest rates when it comes to debt servicing. According to Eesti Pank, the share of borrowers subject to a comparatively high loan service to income has gone up in 2021. The outstanding volume of loans to households for house purchases registered an annual growth rate of 10.7% in May-22, having been re-accelerating from the beginning of last year. Meanwhile, house price growth has pushed well into double-digit territory, standing at 21.0% y-o-y as of Q1-22. Compared to three years prior, house prices have increased by more than 40% (Q1-22: 43.8%). Affordability indicators such as the price-to-income ratio (OECD) suggest that price momentum is becoming less aligned with income recently, although the ratio remains significantly below the high witnessed in the middle of 2007.

On the other hand, Eesti Pank has signaled it could consider tightening requirements on banks' issuance of mortgages loans, such as a loan-to-value-ratio of up to 85% and loan repayments of a maximum of 50% of the borrowers' income, if house price and household debt increases are deemed to be rising very rapidly. As regards other macroprudential measures, in November 2021 Eesti Pank extended the basis for applying the countercyclical capital buffer, introducing two parts of the buffer with a base rate of 1% in the absence of crises, and a cyclical requirement added to that in the event that rapid credit growth should cause higher cyclical risks. On this occasion, Eesti Pank raised the base rate to 1%, which banks will be obliged to comply with from 07-Dec-22, without applying an additional cyclical rate. While May-22 saw these decisions unchanged, mainly as the worsening economic climate is seen to be reducing risks from rapid credit growth, there remains some tightening bias given that debt growth may exceed growth of nominal GDP at some point.

Foreign Exposure

We continue to view external vulnerabilities that come with Estonia's status as a small, open economy as largely contained, notwithstanding some trade frictions linked to supply-side bottlenecks and reverberations from Russia's aggression in Ukraine. Due to sustained current account surpluses driven by the services balance in the years before the recent succession of crises, Estonia's net international investment position (NIIP) has further improved. In addition, the NIIP composition mitigates to some extent risks associated with the status as a net external debtor.

Following years of boasting surpluses, the pandemic caused Estonia's current account balance to turn into a small deficit in 2020, chiefly due to a significantly smaller surplus in services trade in annual terms. While the latter saw some recovery in 2021, this effect was offset by the returns of the goods balance as well as the portfolio income account to a larger deficit. As a result, Estonia exhibited a current account deficit of 1.6% of GDP last year (2020: -0.3% of GDP, average 2015-19: +1.7% of GDP).

More recently, and looking at quarterly data, the current account balance has become positive again (from Q3-21), causing the 4-quarter-moving-sum to reach a nearly balanced position as of Q1-22 (-0.2% of GDP), largely on the back of the surplus in the services balance. Assuming a

persistent surplus regarding the trade in services, we expect to witness a current account surplus for the whole year 2022. Some uncertainty remains over net effects on the goods balance from our anticipated contraction in goods imports on the one hand and higher import prices on the other against the backdrop of tensions between the West and Russia. We expect some unwinding of the factors currently causing high uncertainty, with subsiding supply-side frictions and Estonia increasingly finding alternative trade partners to Russia, implying that 2023 could thus see a somewhat more pronounced current account surplus.

Estonia's NIIP stood at -13.3% of GDP in 2021, narrowing by 8.2 p.p. compared to 2020 and continuing its improving trend. The net direct investment position continues to dominate the overall NIIP position, coming to -64.9% of GDP in 2021, with liabilities and hence incoming direct investment, having grown more rapidly than outgoing direct investment over recent years, corroborating some mitigation of external risks. As of Q1-22 the NIIP had changed little, posting at -14.6% of GDP.

Rating Outlook and Sensitivity

Our rating outlook on Estonia's long-term credit ratings is stable, as we consider downside risks to the growth outlook linked to the fallout from the Russian attack on Ukraine as largely balanced by Estonia's persistent strong position in terms of fiscal sustainability and its strong institutional framework. We also continue to view vulnerabilities with regard to foreign exposure as largely mitigated.

A negative rating action could be prompted by a significant worsening of the medium-term growth outlook, which could be the case if we see further escalation of the geopolitical tensions, possibly resulting in a suspension or even reversal of Estonia's convergence progress, also as important trade partners could be affected more severely by such developments. In such a scenario, implementation of RRP measures and initiatives could see considerable delays. We could also consider a negative rating action if fiscal metrics see a substantial deterioration over a protracted period.

By contrast, upward pressure on the ratings or the outlook could arise if there is only very limited economic damage from current developments around Russia's attack on Ukraine, or if there is a significant relaxation of the tensions. Such a scenario would be conducive to a continued and sustained convergence process which we view as a prerequisite to a rating upgrade. By the same token, the medium-term outlook could be strengthened if RRP measures are followed through in a timely manner and if reliable alternative energy sources are quickly established, while continuing to build on strengths concerning services exports. A sustainable return to debt levels prior to recent crises could also lead us to consider a positive rating action.

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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 |

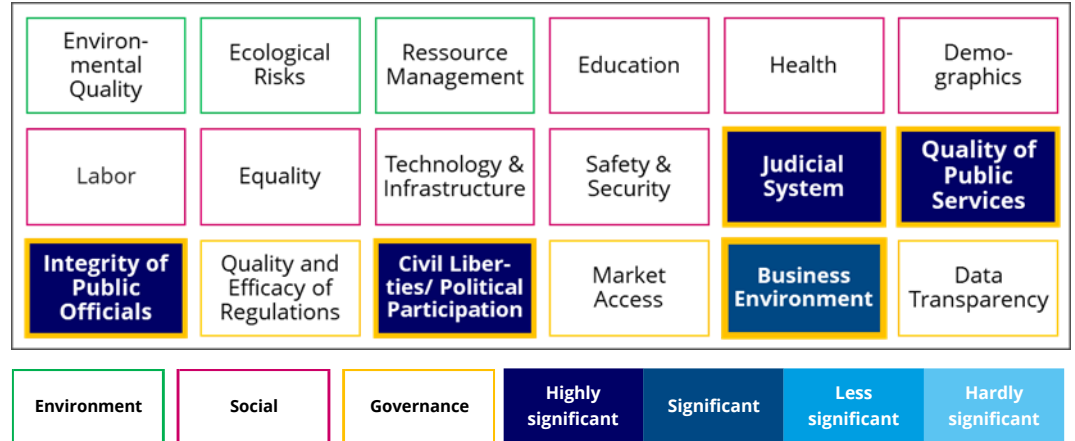
*) Unsolicited

ESG Factors

While there is no universal and commonly agreed typology or definition of environment, social, and governance (ESG) criteria, Creditreform Rating views ESG factors as an essential yardstick for assessing the sustainability of a state. Creditreform Rating thus takes account of ESG factors in its decision-making process before arriving at a sovereign credit rating. In the following, we explain how and to what degree any of the key drivers behind the credit rating or the related outlook is associated with what we understand to be an ESG factor, and outline why these ESG factors were material to the credit rating or rating outlook. For further information on the conceptual approach pertaining to ESG factors in public finance and the relevance of ESG factors to sovereign credit ratings and to Creditreform Rating credit ratings more generally, we refer to the basic documentation, which lays down key principles of the impact of ESG factors on credit ratings.

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ESG Factor Box



The governance dimension plays a pivotal role in forming our opinion on the creditworthiness of the sovereign. As the World Bank’s Worldwide Governance Indicators Rule of Law, Government Effectiveness, Voice and Accountability, and Control of corruption have a material impact on Creditreform Rating’s assessment of the sovereign’s institutional set-up, which we regard as a key rating driver, we consider the ESG factors ‘Judicial System and Property Rights’, ‘Quality of Public Services and Policies’, ‘Civil Liberties and Political Participation’, and ‘Integrity of Public Officials’ as highly significant to the credit rating.

Since indicators relating to the assessment of a economy’s competitive stance by e.g. the World Bank, the World Economic Forum, the European Commission, and IMD Business School add further input to our rating or adjustments thereof, we judge the ESG factor ‘Business Environment’ as significant.

While Covid-19 may have significant adverse effects on several components in our ESG factor framework in the medium to long term, it has not been visible in the relevant metrics we consider in the context of ESG factors – though it has a significant bearing concerning economic prospects and public finances. To be sure, we will follow ESG dynamics closely in this regard.

Economic Data

| [in %, otherwise noted] | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022e |
|--|--------|--------|--------|--------|--------|--------|--------|
| Macroeconomic Performance | | | | | | | |
| Real GDP growth | 3.2 | 5.8 | 4.1 | 4.1 | -3.0 | 8.3 | 1.7 |
| GDP per capita (PPP, USD) | 31,310 | 33,903 | 36,022 | 38,029 | 37,277 | 42,050 | 44,778 |
| Credit to the private sector/GDP | 78.5 | 72.9 | 70.9 | 68.9 | 74.1 | 70.1 | n/a |
| Unemployment rate | 6.8 | 5.8 | 5.4 | 4.5 | 6.9 | 6.2 | n/a |
| Real unit labor costs (index 2015=100) | 101.1 | 101.4 | 102.6 | 104.8 | 111.0 | 104.7 | n/a |
| World Competitiveness Ranking (rank) | 31 | 30 | 31 | 35 | 28 | 26 | 22 |
| Life expectancy at birth (years) | 78.0 | 78.4 | 78.5 | 79.0 | 78.9 | 76.9 | n/a |
| Institutional Structure | | | | | | | |
| WGI Rule of Law (score) | 1.2 | 1.3 | 1.2 | 1.3 | 1.4 | n/a | n/a |
| WGI Control of Corruption (score) | 1.3 | 1.2 | 1.5 | 1.6 | 1.6 | n/a | n/a |
| WGI Voice and Accountability (score) | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | n/a | n/a |
| WGI Government Effectiveness (score) | 1.1 | 1.1 | 1.2 | 1.2 | 1.3 | n/a | n/a |
| HICP inflation rate, y-o-y change | 0.8 | 3.7 | 3.4 | 2.3 | -0.6 | 4.5 | 19.0 |
| GHG emissions (tons of CO2 equivalent p.c.) | 15.1 | 16.1 | 15.4 | 11.2 | 8.7 | n/a | n/a |
| Default history (years since default) | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| Fiscal Sustainability | | | | | | | |
| Fiscal balance/GDP | -0.4 | -0.5 | -0.6 | 0.1 | -5.6 | -2.4 | -4.0 |
| General government gross debt/GDP | 10.0 | 9.1 | 8.2 | 8.6 | 19.0 | 18.1 | 19.9 |
| Interest/revenue | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | n/a |
| Debt/revenue | 25.6 | 23.5 | 21.2 | 21.6 | 47.1 | 45.1 | n/a |
| Total residual maturity of debt securities (years) | 4.9 | 4.1 | 3.2 | 4.1 | 7.3 | 7.4 | n/a |
| Foreign exposure | | | | | | | |
| Current account balance/GDP | 1.2 | 2.3 | 0.8 | 2.5 | -0.3 | -1.6 | n/a |
| International reserves/imports | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 | n/a |
| NIIP/GDP | -39.5 | -33.0 | -30.0 | -22.8 | -21.5 | -13.3 | n/a |
| External debt/GDP | 88.7 | 83.4 | 78.2 | 76.3 | 91.1 | 86.9 | n/a |

Sources: IMF, World Bank, Eurostat, IMD Business School, AMECO, ECB, Statistics Estonia, 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 |
| Monitoring | 30.08.2019 | AA- /stable |
| Monitoring | 21.08.2020 | AA- /stable |
| Monitoring | 13.08.2021 | AA- /stable |
| Monitoring | 12.08.2022 | AA- /stable |

Regulatory Requirements

In 2011 Creditreform Rating AG (CRA) 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. The rating was not endorsed by Creditreform Rating AG from a third country as defined in Article 4 (3) of the CRA-Regulation.

This sovereign rating is an unsolicited credit rating. The Ministry of Finance of the Republic of Estonia participated in the credit rating process as it provided additional information. Between

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

| Unsolicited Credit Rating | |
|--|-----|
| With Rated Entity or Related Third Party Participation | YES |
| With Access to Internal Documents | YES |
| With Access to Management | NO |

The rating was conducted on the basis of CRAG's ["Sovereign Ratings" methodology](#) (v1.2, July 2016) in conjunction with its basic document ["Rating Criteria and Definitions"](#) (v1.3, January 2018). 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 our [website](#).

To prepare this credit rating, CRAG has used the 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, IMD Business School, European Center for Disease Prevention and Control (ECDC), Blavatnik School of Government, UNCTAD, National Bank of Estonia, Republic of Estonia - Ministry of Finance, Statistics Estonia.

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 with 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.

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