INTERNATIONAL MONETARY FUND

IMF Country Report No. 18/125

REPUBLIC OF ESTONIA

2018 ARTICLE IV CONSULTATION—PRESS RELEASE; AND STAFF REPORT

May 2018

Under Article IV of the IMF's Articles of Agreement, the IMF holds bilateral discussions with members, usually every year. In the context of the 2018 Article IV consultation with the Republic of Estonia, the following documents have been released and are included in this package:

- A **Press Release.**
- The **Staff Report** prepared by a staff team of the IMF for the Executive Board's consideration on a lapse of time basis, following discussions that ended on March 19, 2018 with the officials of Republic of Estonia. Based on information available at the time of these discussions, the staff report was completed on May 7, 2018.
- An **Informational Annex** prepared by the IMF staff.

The documents listed below have been or will be separately released.

Selected Issues

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INTERNATIONAL MONETARY FUND

COMMUNICATIONS DEPARTMENT

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FOR IMMEDIATE RELEASE
May 24, 2018

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Washington, D.C. 20431 USA

IMF Executive Board Concludes 2018 Article IV Consultation with the Republic of Estonia

On May 22, 2018, the Executive Board of the International Monetary Fund (IMF) concluded the Article IV consultation[1] with the Republic of Estonia, and considered and endorsed the staff appraisal without a meeting.[2]

The economy of Estonia is gathering steam after several years of subdued growth. Real GDP grew by 4.9 percent in 2017, more than double the rate achieved a year earlier. Growth remains broad-based, and supported by strong private and public investment—the latter partly reflecting increased absorption of EU structural funds—and favorable external conditions. However, output runs above its sustainable level, and supply-side constraints are becoming more binding. Private consumption remains subdued, reflecting to some extent the impact of rising inflation on real wages. HICP inflation declined to 3.2 percent in the first quarter of 2018, but was well above the EU average throughout 2017, mostly driven by higher food and oil prices, one-off excise tax hikes, services, and wage increases. The external position remains substantially stronger than implied by medium-term fundamentals and desirable policies.

The outlook is positive. Over the medium term, growth is set to remain around 3.5 percent, supported by the continuing recovery of main trading partners, domestic investment, accommodative financial conditions, and continued strong market sentiment. Wage growth is projected to decline slightly in 2018, while labor market structural reforms are expected to alleviate constraints on labor supply, but also to contribute to higher unemployment in 2018. Inflation is expected to decelerate to 3 percent at the end of 2018, in line with expected stability in food prices and a slowdown in energy price rises. Going forward, GDP growth is projected at 3.9 percent in 2018 and 3.2 percent in 2019, driven by private consumption (further strong wage growth and income tax cuts) and continued strong investment. However, potential growth over the medium term is forecast at about 3 percent, constrained by labor supply and slow productivity growth. Risks arise mainly from international economic policy uncertainty in

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[1] Under Article IV of the IMF's Articles of Agreement, the IMF holds bilateral discussions with members, usually every year. A staff team visits the country, collects economic and financial information, and discusses with officials the country's economic developments and policies. On return to headquarters, the staff prepares a report, which forms the basis for discussion by the Executive Board.

[2] The Executive Board takes decisions under its lapse-of-time procedure when the Board agrees that a proposal can be considered without convening formal discussionss.

advanced countries, possible spillovers from Nordic countries' real estate and financial markets, and a continued wage growth, which going forward could impact adversely competitiveness.

Executive Board Assessment

In concluding the Article IV consultation with the Republic of Estonia, Executive Directors noted:

Macroeconomic policies should focus on supporting economic growth and structural reforms. In the context of a continued positive output gap, rising inflation pressures and a tightening labor market, a broadly neutral fiscal policy that protects productivity-enhancing investments would be appropriate. The favorable domestic and external environment should be used to accelerate reforms. Given the macro-financial developments, sustained prudent oversight would help prevent an unwarranted relaxation of credit standards, and continued carefully monitoring of macro-financial developments would help to update macro-prudential policies as needed.

A broadly neutral fiscal policy that protects structural reforms would be in line with economic conditions. The authorities should seek to unwind some of the large positive fiscal impulse embedded in the 2018 budget. While spending to enhance productive potential and support structural reforms is worthwhile to boost economic potential, low-priority capital spending could be deferred to ease pressures on the already-stretched construction sector. Current expenditure could also be rationalized wherever possible to streamline bureaucracy and accelerate savings from existing programs, and the recently piloted spending reviews could be advanced to identify potential efficiency gains. In the meantime, reallocating resources within the budget could help to scale-up the funding of some supply-side measures. Also, converting the current land tax into a market-based property tax could be envisaged to further mobilize resources without boosting the tax wedge.

Wage growth needs to be anchored gradually by fundamentals. Policies can contribute to this goal by ensuring that increases in public wages and in the minimum wage do not put undue pressure on private wages. Leaning against the demographic decline of labor by releasing labor resources from the relatively large government sector faster and from accelerated disability reform, allowing more immigration, and boosting female participation rates by reducing gender pay gap would also be helpful. In that context, the recent agreement by social partners on a formula to guide minimum wage raises by linking them in part to productivity, with a cap of 40 percent of the average wage, is welcome.

Raising productivity and boosting labor supply will be key to increase potential growth. While the budget stance should be neutral going forward, sustained increases of productivity-enhancing investments, accompanied by measures aimed at strengthening the institutional framework for selection and appraisal of public infrastructure projects, would be welcome. Beyond participation, skills shortages and mismatches remain. In this regard, current and planned efforts to strengthen the education system and align it with labor market needs are commendable. Programs to boost firms' innovative capacity and value addition, and to support the building of economic clusters around key technologies, notably information communications technology (ICT), are also commendable and should be broadened and accelerated where possible.

Maintaining a prudent approach to financial supervision and being prepared to use macro-prudential policies proactively if needed to address risks is critical in the current cyclical upswing. The countercyclical capital buffer, which is set to zero, is appropriate for the current stage of the cycle. Consumer credit developments need to continue to be monitored carefully. Bank risk weights should remain under scrutiny to ensure they reflect underlying risks appropriately. Developments in cross-border banking linkages indicate that potential spillovers from vulnerabilities in Nordic parent banks, notably the Swedish real estate sector, require further safeguards for financial stability, notably in cross-border banking supervision through the Nordic-Baltic cooperation platform.

Republic of Estonia: Selected Macroeconomic and Social Indicators, 2015–20

	2015	2016	2017	2018	2019	2020
				Projections		
National income, prices, and wages						
GDP (billions of Euro)	20.3	21.1	23.0	24.9	26.5	28.3
Annual change (in percent)	2.9	3.7	9.0	8.1	6.7	6.6
Real GDP growth (year-on-year in percent)	1.7	2.1	4.9	3.9	3.2	3.0
Private consumption	4.4	4.3	2.0	2.9	2.8	2.8
Gross fixed capital formation	-3.0	-1.2	13.1	13.1	11.9	9.9
Exports of goods and services	-0.6	4.1	2.7	3.1	3.4	3.5
Imports of goods and services	-1.8	5.2	3.5	4.7	5.7	5.4
Average HICP (year-on-year change in percent)	0.1	0.8	3.7	3.0	2.5	2.3
GDP deflator (year-on-year change in percent)	1.2	1.6	4.0	4.0	3.4	3.4
Average monthly wage (year-on-year growth in percent)	5.9	7.4	6.9	6.4	5.0	4.7
Unemployment rate (ILO definition, percent, pa)	6.2	6.8	5.8	6.3	6.7	6.7
Average nominal ULC (year-on-year growth in percent)	4.5	4.0	3.5	4.6	2.2	2.0
General government (ESA10 basis; percent of GDP)						
Revenue	40.3	40.3	39.9	40.3	40.5	40.5
Expenditure	40.2	40.6	40.2	40.7	40.7	40.6
Financial surplus (+) / deficit (-)	0.1	-0.3	-0.3	-0.4	-0.2	-0.1
Structural balance	0.8	0.3	-0.4	-0.9	-0.5	-0.3
Total general government debt	10.0	9.4	9.0	8.7	8.4	8.0
External sector (percent of GDP)						
Trade balance	-4.2	-3.7	-3.8	-4.7	-5.6	-6.3
Service balance	8.2	7.6	8.3	8.5	8.4	8.4
Primary income balance	-2.1	-2.0	-2.0	-2.2	-2.4	-2.6
Current account	2.0	1.9	3.2	2.0	0.7	-0.3
Gross external debt/GDP (percent) 1/	94.3	90.4	83.5	79.0	73.8	69.0
Net external debt/GDP (percent) 2/	-10.5	-11.7	-17.0	…	…	…
General government external debt/GDP (percent)						
Excluding government assets held abroad	10.0	9.4	9.0	8.7	8.4	8.0
Including government assets held abroad 3/	-2.2	-2.7	-2.1	0.0	0.2	0.3
Exchange rate (US$/Euro - period averages)	1.11	1.11	1.13	…	…	…
Real effective exchange rate (annual changes in percent)	-1.9	0.5	-0.2	…	…	…
Nominal effective exchange rate (annual changes in percent)	-0.5	1.3	-1.2	…	…	…
Money and credit (year-on-year growth in percent)						
Credit to the economy	4.8	7.2	1.9	…	…	…
Output gap (in percent of potential output)	-0.7	-0.8	1.3	1.7	1.1	0.6
Growth rate of potential output (in percent)	1.6	2.2	2.7	3.5	3.8	3.5

Social Indicators (reference year):

Population (2017, pa): 1.32 million; Per capita GDP (2017): $17,500; Life expectancy at birth: 82.2 (female) and 73.3 (male);

Poverty rate (share of the population below the established risk-of-poverty line): 21.7 percent; Main exports: machinery and appliances.

Sources: Estonian authorities; Eurostat; and IMF staff estimates and projections.
1/ Includes trade credits.
2/ Net of portfolio assets (including money market instruments, financial derivative assets, other investment assets, and reserve assets held by Estonian residents.
3/ Includes the Stabilization Reserve Fund (SRF).

INTERNATIONAL MONETARY FUND

REPUBLIC OF ESTONIA

STAFF REPORT FOR THE 2018 ARTICLE IV CONSULTATION

May 7, 2018

KEY ISSUES

Estonia's economy is performing well, underpinned by prudent economic management, ongoing structural reforms, and strong institutions. Real economic activity has surprised on the upside, bringing output above potential, and the fiscal position remains strong. Inflation has increased, but is expected to decelerate over 2018. The labor market has been tightening, and unemployment is low. Despite continued strong wage increases, rising export prices have eased pressure on corporate profitability. Over the medium term, low productivity and adverse demographics would weigh on long-term growth prospects. The authorities should take advantage of the current favorable conditions to accelerate structural reforms for sustained growth and income convergence, rather than boost demand through the expansionary policies embedded in the 2018 budget.

Key policy recommendations

- Better focusing expenditures, improving the efficiency of public spending and promoting stronger public investment management framework and processes. Implementation of existing programs for more efficient budget processes should be accelerated, supported by a review of the main public investment projects.

- Enhancing potential growth by boosting labor supply and raising productivity. The recent tax reform has significantly lowered the tax wedge. But continued improvement of labor taxation and social contributions would be welcome, as would be eased immigration policies, and sustained implementation of the work ability and civil service reforms. Boosting R&D spending and promoting private-sector innovation could raise productivity.

- Monitoring carefully macro-financial developments and related macro-prudential policies, taking early action, if necessary. This would need to be accompanied by a strengthening of cross-border banking supervision through the Nordic-Baltic cooperation platform. Also, policies designed to prevent money laundering and terrorism financing should continue.

Approved By
Philip Gerson (EUR) and Johannes Wiegand (SPR)

Discussions were held in Tallinn during March 6–19, 2018. The team comprised Cheikh Gueye (head), Alexander Pitt, Andreas Tudyka, Philippe Wingender (all EUR) and Ashni Singh (FAD). Eve Anni (OED) also participated in the meetings. Nhu Nguyen, Hannah Jung and Huy Nguyen supported the mission from headquarters.

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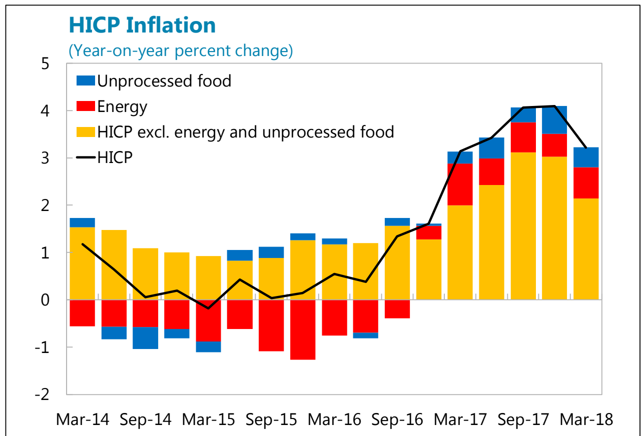
CONTEXT

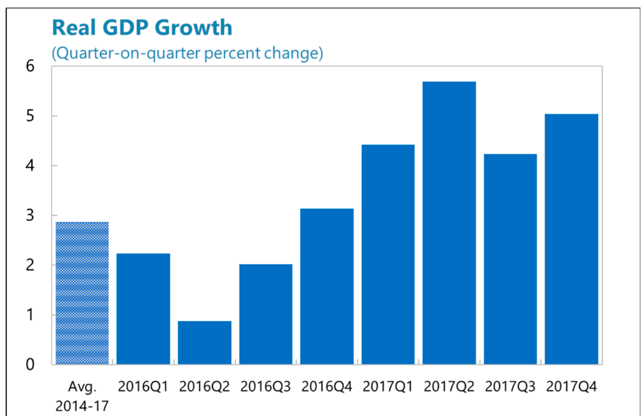
1. **Thanks to the solid institutions and determined market-oriented reforms, Estonia's economic fundamentals are strong.** The business environment is one of the best in the region, net public debt is negative, and financial soundness indicators are solid. The output gap has turned positive, labor force participation is historically high, and confidence indicators rose throughout 2017, although they have been subdued in the first quarter of 2018. Inflation is running above the EU average. The current account is in surplus. However, income convergence has slowed, while adverse demographics persist. Since the last Article IV, the authorities have taken measures to improve innovation and boost labor supply, closely aligned with staff advice (Annex II).

RECENT ECONOMIC DEVELOPMENTS

2. **Growth is accelerating and price pressures are mounting** (Table 2 and Figure). After several years of subdued growth, the economy gathered steam in 2017. Real GDP grew by 4.9 percent, more than double the rate achieved a year earlier. Growth was broad-based, and supported by strong private and public investment—the latter partly reflecting increased absorption of EU structural funds—and favorable external conditions. However, output has run ahead of its sustainable level, and supply-side constraints are becoming more binding. Private consumption was more subdued, reflecting to some extent the impact of rising inflation on real wages. HICP inflation averaged 3.7 percent in 2017, well above the EU average, mostly driven by higher food and oil prices, one-off excise tax hikes, services, and wage increases. HICP inflation declined to 3.2 percent in the first quarter of 2018. Core inflation was estimated at 3.3 percent in 2017, but eased to 2.7 percent in the first quarter of 2018.



Sources: Statistical Office of Estonia and IMF staff calculations.



Sources: Statistics Estonia and IMF staff calculations.

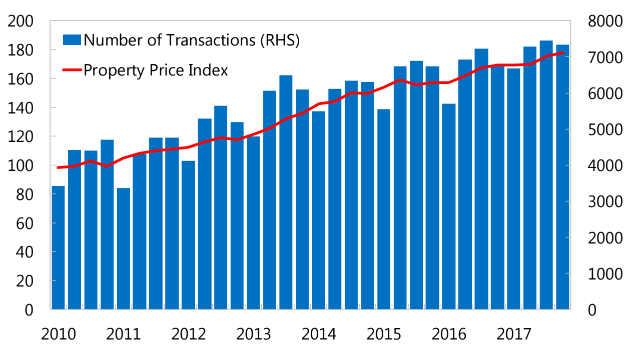
3. **The external position remains strong** (Annex 1). The current account is estimated at 3.2 percent of GDP in 2017, from 2 percent a year earlier, supported by rising export prices, and a stronger balance of services. In nominal terms, exports grew by 7.6 percent, slightly offset in net terms by investment-related imports (Table 4). In recent years, the current account has been in

surplus partly reflecting low levels of investment. The rise in export prices has eased pressure on firms' profitability, despite continued strong wage increases. The external position is assessed to be substantially stronger than implied by medium-term fundamentals and desirable policies. This assessment is partly due to one-off factors and structural changes,[1] but policy gaps, notably, Estonia's strong fiscal position, have contributed as well**.** Estonia's policy gap is estimated at 1.5 percent, reflecting mostly the average fiscal stance of the rest of the world, which is assessed overly accommodative at this juncture.

4. Public finances are healthy, with a small overall fiscal deficit and low debt (Table 3). The fiscal balance in 2017 stood at -0.3 percent of GDP, about ¼ percentage point of GDP stronger than budgeted. This performance was underpinned by strong revenue collection of value added, personal income, and social taxes, on the back of strong wage and demand growth. However, following substantial excise tax rate increases, the collection of alcohol duties decreased by 12.8 percent compared to the 2016 outturn. Expenditures were driven by an increase in public investment of almost 30 percent. The structural balance is estimated at -0.4 percent of GDP, as the cyclical component and one-off measures[2] largely offset each other. Gross public debt remains the lowest in the EU—9 percent of GDP—and is more than fully matched by fiscal reserves.

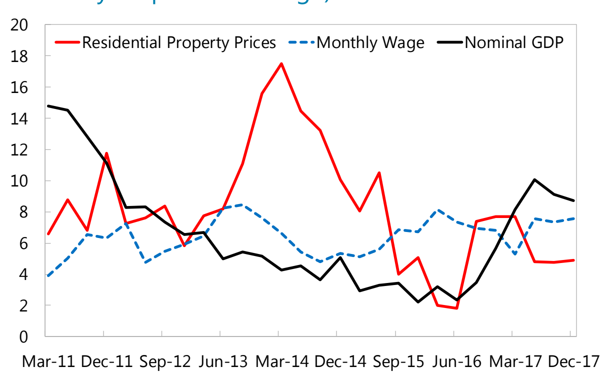
5. Residential real estate market activity has increased, but prices remain well anchored to income and nominal GDP growth (figures below). The number of transactions in 2017 rose by 8 percent compared to the level in 2016 and the real estate price index increased by 5 percent, driven partly by the growing share of new apartments. Going forward, the number of permit applications suggest construction activity should be sufficient to just maintain the current housing stock.

Residential Property Price Index (2010=100) and the Number of Transactions



Sources: : Bank of International Settlements, Estonian Land Board Transactions Database, and Haver Analytics.

Property Prices and Wage Growth
(Year-on-year percent change)



Sources: Bank of International Settlements, Statistics Estonia, and IMF staff calculations.

[1] Eesti Pank, 2017, "Estonian Economy and monetary policy, Box 3 (The Impact on the Current Account of Changes in the Structure of Domestic Demand and Exports)."

[2] For instance, the main one-off measures in 2017 (about 0.4 percent of GDP) are spending related to the local government reform, and contribution to the second pillar of the pension system.

6. There are no signs of a generalized credit boom, and financial soundness indicators suggest that the banking system remains strong:

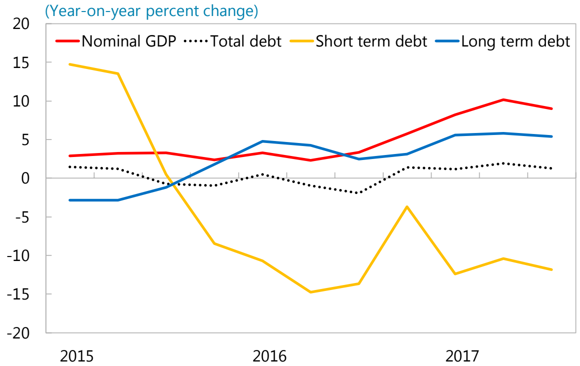
- Estonia's mostly Nordic-owned banking system is healthy. Capitalization is more than adequate; the average tier-1 capital adequacy ratio was 28.8 percent at end-2017. Profitability is strong despite low interest rates. This is partly due to low operating costs, thanks to extensive digitalization. The cost-to-income ratio was 48 percent and the net interest rate margin 2.0 percent, comparable to both EU and CEE-4 averages of 2.2 and 2.3 percent, respectively. Deposits grew at about 9 percent, reducing parent bank funding to 18 percent, from about 22 percent a year earlier. This has also contributed to a decline in the loan-to-deposit ratio to 107 percent. NPLs remain low. Bank credit and leasing combined have strengthened, reaching 6.8 percent annual growth for non-financial corporations and households.[3]

- Corporates' credit growth and debt levels are broadly in line with general economic developments. Corporates' overall liabilities have increased slightly, but their composition has changed: long-term debt rose, while short-term debt declined (figures below).

- Mortgage loan growth has accelerated to 6.7 percent, up from 4.5 percent a year earlier due to rising wages and low interest rates (figures below). The stock of household lending grew by 6.5 percent in 2017, but remains 60 percent below its 2007 level, in part because around 40 percent of real estate purchases are now self-funded compared to virtually none in 2007. The average loan-to-value and debt service-to-income ratios, as well as maturities, have remained stable.

Growth in Corporates' Debt

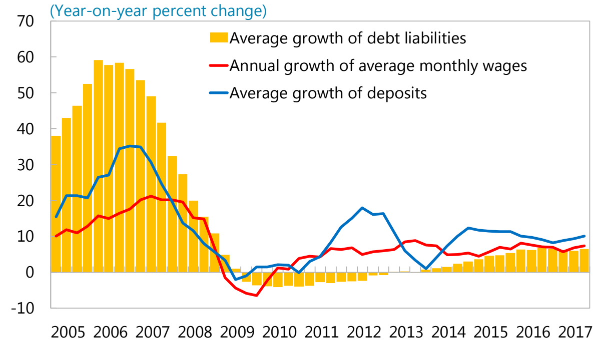
(Year-on-year percent change)



Sources: Bank of Estonia, Statistics Estonia, and IMF staff calculations.

Growth in Debt Liabilities, Deposits, and Wages of Households

(Year-on-year percent change)



Sources: Bank of Estonia, Statistics Estonia, and IMF staff calculations.

[3] This excludes a loan portfolio that was transferred to a parent bank following the merger of two Estonian banks in 2017.

OUTLOOK AND RISKS

7. **The medium-term outlook is positive.** Growth is set to remain broadly in line with potential over the medium term, averaging 3.5 percent (2018–19, Table 1), supported by the continuing recovery of main trading partners, domestic investment, accommodative financial conditions, and continued strong market sentiment. Wage growth is projected to decline slightly in 2018. The disability system reform, which aimed at encouraging disabled people to return to work, and the recent relaxation of immigration restrictions are expected to alleviate constraints on labor supply, but also to contribute to higher unemployment in 2018. HICP inflation is expected to decelerate to 3 percent over the year, in line with expected stability in food prices and a slowdown in energy price rises. In the longer term (2019–23, Table 5), output growth is projected at 3 percent, as potential growth is constrained by demographic factors, notwithstanding an expected rise in investment and productivity growth. Exports should continue to increase, helped by strengthening foreign demand, but the current account is projected to turn negative with rising investment-related imports and less favorable terms of trade.

8. **Near-term external risks appear broadly balanced** (refer to RAM below):

- On the upside, the recent growth momentum could prove to be more durable than expected, for instance, amid stronger consumer and business confidence in the euro area and in main trading partners.
- On the downside, international economic policy uncertainty is more of a concern than usual, reflecting, for example, potentially significant U.S. regulatory and policy shifts.
- Also, a perceived likelihood of more inward-looking policies in advanced economies could have adverse effects on Estonia's open economy, and trigger a correction in asset valuations and an increase in financial market volatility from its currently very low levels. This in turn could knock down spending and confidence more generally, especially in Nordic countries where bank funding conditions are strongly linked to global financial conditions.

9. **On the domestic side, risks are mainly tilted to the downside.** While corporates still have appropriate buffers, continued wage pressures not accompanied by improved productivity could threaten their medium-term profitability and affect their long-term ability to service their loans, impacting adversely the quality of banks' loan portfolios. Regarding the real estate market, continued strong demand could further boost housing prices and leave the banking system more exposed to risks from the real estate sector. Over the medium to long term, as the economy has entered a cyclical upswing, there are risks of overheating and inflationary pressures, with spillovers to Estonia's competitiveness. Estonia's strong fundamentals provide some degree of insulation against these risks and create room for a gradual adjustment path, if needed.

10. Policies need to be aligned with the cyclical upswing, but risks should not be overstated. Overall strong fundamentals give the authorities room to adopt a gradual and targeted approach to addressing vulnerabilities and further increasing productivity. Priorities are three-fold:

- Rebalancing the policy mix. In particular, the authorities should seek to unwind some of the positive fiscal impulse embedded in the 2018 budget. A prudent fiscal stance is important for the policy mix going forward, as the relatively high rate of inflation means real interest rates are likely to remain low for some time further supporting demand.

- Accelerating structural reforms to boost medium-term growth. As the economy is already functioning above potential, the authorities should prioritize fiscal spending that strengthens the supply side of the economy.

- Monitoring carefully macro-financial developments, and taking early actions, if necessary. In the absence of country-specific monetary policy instruments, Estonia could use its macroprudential policy framework to rein in pre-emptively systemic risks that could arise from housing market overheating, and banking system stress.

Authorities' Views

11. The authorities broadly agreed with staff on the outlook and risk assessment, that there is no generalized overheating of the economy and growth would be supply-side constrained. Going forward, the authorities project lower potential growth than staff, partly due to lower capital accumulation, and a wider positive output gap. They pointed to the current wage growth path arising from the tightness of the labor market as a growing source of risk, but noted that firms' profits recently increased after years of decline. However, they agreed that unsustainable wage growth could adversely affect firms' profitability and external competitiveness over the medium-term. The authorities stressed that the main source of financial sector risk stems from home country risks in the Nordic-owned banking sector, pointing for example to the real estate market in Sweden. Their view on the path of inflation over the medium term is similar to the staff's. Also, the central bank highlighted the unfavorable effects of the recent tax changes on the stability and predictability of government policies.

Table 1. Estonia: Risk Assessment Matrix[1]

Source of Risks, Likelihood, and Time Horizon	Impact on Estonia	Recommended Policy Response
Medium (short to medium term) **Retreat from cross-border integration.** A fraying consensus about the benefits of globalization leads to reduced global and regional policy collaboration, with negative consequences for trade, capital and labor flows, sentiment, and growth. Medium (short to medium term) **Policy uncertainty.** Two-sided risks to U.S. growth with difficult-to-predict policies; and evolving political processes—especially those with near-term elections—could weigh on global growth.	Medium As a highly open economy, Estonia would be affected, primarily through trade channels, including indirect ones, as well as confidence effects. Continued or escalating tensions with Russia could weigh on investment.	Participate in global and European policy responses. Diversify risk by pushing ahead with export diversification.
High (medium term) **Tighter and more volatile global financial conditions.** Reduced financial services by global/regional banks ("de-risking"); further loss of correspondent banking services significantly curtails cross-border payments, trade finance, and remittances in emerging and developing economies.	Medium Locally-owned banks could face challenges in securing correspondent banking relationships, but they account only for a small part of the banking system.	Engage in preventative policies; strengthen dialogue with global banks and address possible concerns about AML/CFT practices. Prepare alternative avenues for continued access to U.S. dollar clearing.
High (medium term) **Structurally weak growth in key advanced and emerging economies:** Weak demand, low productivity growth, and persistently low inflation from a failure to fully address crisis legacies and undertake structural reforms, leading to lower medium-term path of potential growth (the Euro area, Japan, and the United States) and exacerbating legacy financial imbalances especially among banks (the Euro area).	Medium Estonia would be affected through trade, confidence, and FDI channels. Economic growth and employment would suffer.	Participate in coordinated policy response at the European level. Allow automatic fiscal stabilizers to operate. If shock is of sufficient magnitude, consider discretionary fiscal action.
Medium (short to medium term) **Risks to competitiveness from a further tightening of the labor market.** Wage growth continues to significantly outstrip productivity growth for an extended period, starting to affect external competitiveness and to shift resources from the tradable to the nontradable sector.	High Exports are critical for Estonia's small open economy. Increased reliance on the nontradable sector could weaken economic dynamism and deteriorate the current account. Convergence with living standards in Western Europe would slow.	Engage in preventative policies to contain wage growth, unlock additional labor resources, and boost productivity growth through policies to foster innovation. Increase public investment.
Medium (short to medium term) **Risks to vulnerable Nordic parent banks.** They could come under pressure from a decline in domestic housing markets or tighter global financial conditions with lower risk appetite.	Medium Curtailed credit supply, confidence loss, and liquidity pressures in local affiliates. But strong local financial soundness is a strong line of defense.	Preserve high capitalization and liquidity. Strengthen cooperation with home-country authorities. Consolidate two-way exposures between head offices and affiliates.
Low (short to medium term) **Risk of overheating.** With the economy entering a cyclical upswing, pressures from inflation, REER appreciation and unsustainable credit growth could affect medium term growth.	Medium Housing price inflation could increase banking sector vulnerability and negative real interest rates could reduce the average quality of investment. Further rises in inflation could weigh on consumption.	Make active use of countercyclical fiscal policy and calibrate macroprudential policy to reign in pre-emptively systemic risks.

1\ The Risk Assessment Matrix (RAM) shows events that could materially alter the baseline path (the scenario most likely to materialize in the view of IMF staff). The relative likelihood is the staff's subjective assessment of the risks surrounding the baseline ("low" is meant to indicate a probability below 10 percent, "medium" a probability between 10 and 30 percent, and "high" a probability between 30 and 50 percent). The RAM reflects staff views on the source of risks and overall level of concern as of the time of discussions with the authorities. Non-mutually exclusive risks may interact and materialize jointly. "Short term" and "medium term" are meant to indicate that the risk could materialize within 1 year and 3 years, respectively.

POLICY DISCUSSIONS: STRENGTHENING THE SUPPLY SIDE

As growth has surprised on the upside, bringing output above potential, and with favorable external conditions, discussions focused on how to leverage fiscal policy to accelerate structural reforms, as well as on the need to improve public investment management and to monitor carefully macro-financial developments.

A. Fiscal Policy: Supporting Structural Reforms

12. Since the last Article IV, the authorities have introduced greater flexibility in the fiscal framework. The revised framework includes a medium-term budgetary objective for the general government structural deficit not to exceed 0.5 percent.[4] This new fiscal rule is welcome as it provides for more symmetry, allowing future deficits to be offset against accumulated surpluses in previous years, in effect using past discipline as a down payment toward limited current or future loosening. Accordingly, the authorities envisaged a structural deficit of 0.25 percent of GDP in 2018 and 2019 respectively, and a balanced budget in 2020.

13. Under the new fiscal framework, the 2018 budget projects a headline fiscal deficit. The planned nominal deficit is 0.1 percent of GDP, which corresponds to a structural deficit of 0.25 percent of GDP under the authorities' estimate of a 0.5 percent output gap and one-off measures amounting to -0.1 percent of GDP:

- Several tax measures, with partly offsetting effects are already being implemented: (i) the change in the personal income tax (PIT) to increase of the monthly basic allowance, from EUR 180 to EUR 500; and (ii) the lowering of the corporate income tax (CIT) on regularly-distributed dividends form 20 percent to 14 percent (Annex IV: Tax changes in 2018).
- The three-year (2018–20) investment program averages to about 0.4 percent of GDP per year, and was recently made less front loaded by delaying the projected start for one of the projects. Other discretionary measures include an increase in teachers' salaries, higher child support for large families, and transfers to local governments.
- The headline fiscal deficit in 2018 is projected by staff at 0.4 percent of GDP, owing to: (i) a lower projected revenue impact of the CIT reform (-0.2 percent of GDP) as the companies' behavioral response is uncertain, and/or will take time to materialize; and (ii) a higher projected revenue loss from the PIT reform (-0.2 percent of GDP).

14. The recent PIT reform has lowered the tax wedge and is expected to reduce income inequality, but it bears some fiscal cost. Provisional calculations show that the tax reform will substantially lower the tax-wedge. At 50 percent of the average salary, Estonia's tax wedge equals 32.5 percent against 36.8 percent for EU on average. But, it will result in a revenue loss of around 0.8 percent of GDP in 2018. The new tax system was also partly aimed at reducing income inequality which, measured by the GINI coefficient, has remained broadly high compared to the European average. Provisional estimates show that the new basic allowance under the new tax system will

[4] The former fiscal framework required unforeseen deficits to be compensated with subsequent surpluses, while unforeseen surpluses were not allowed to be credited against subsequent deficits.

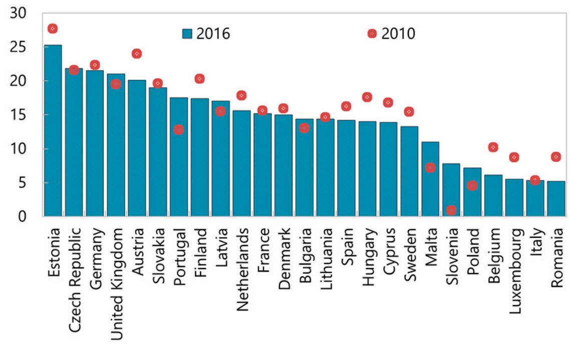
increase the net after-tax wage of low wage workers by up to 15 percent, and about 70 percent of workers would pay less income tax post-reform. But it is too early to assess fully the tax reform's distributional income impact. Future anti-poverty policies should include measures that enhance labor force participation of women by reducing substantially the gender pay gap (Box 1).

Box 1. Estonia: Gender Pay Gap

Despite some progress in recent years, the gap between what men and women earn in Estonia remains large. In 2016, the unadjusted gender pay gap (GPG) was 25.3 percent, compared to the European Union average of 16.2 percent.[1] Men's average wages exceed those of women in virtually all sectors of activity, but the gap is especially pronounced in wholesale and retail trade, manufacturing and health and social work—sectors that account for more than 40 percent of all jobs held by women. While smaller in terms of employment, the GPG in financial and insurance activities—a sector dominated by Nordic-owned banks—is also very high, at almost 35 percent. The GPG in the public sector was for many years higher than in the private sector, but it has declined since 2012 and indeed was eliminated in 2016.

Overall gender pay gap

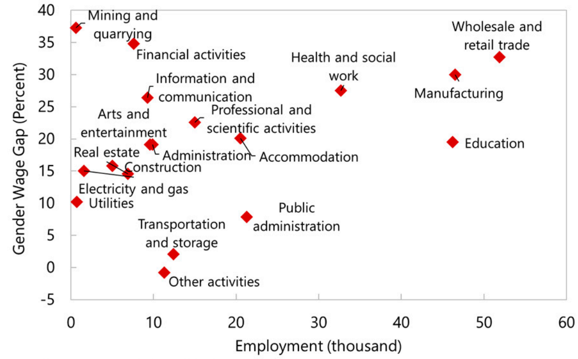
(Percent)



Source: Eurostat

Gender wage gap and female employment by sector

(2016)



Sources: Eurostat and Statistics Estonia

The government has recently put in place several measures to address the GPG. The Welfare Development Plan gives the Labor Inspectorate increased supervisory powers over gender wage differences at the firm and public-sector unit level. The Plan also requires more transparency, by promoting regular publication of gender wage data. While the initiative has only covered the public sector so far, transparency requirements are now being rolled out to private sector employers. In addition, parental leave policies are being reviewed to increase flexibility and availability of benefits and to encourage women to return to work after birth. Paternity leave was recently extended from 10 to 30 working days to minimize differences in time out of work for new parents. Finally, additional financing from the EU Social Fund will increase availability of childcare.

The GPG provides an overall assessment of the earnings differences between men and women and can be used for cross-country comparisons. However, the concept does not assess directly whether equal work receives equal pay. Some of the observed gap in wages is driven by factors such as differences in education, occupation, experience, and prevalence of full time or part time work. For Estonia, these factors can explain around 30 percent of the observed GPG. About 70 percent of the observed gap cannot be explained by these market factors, which is broadly similar to the average unexplained gap found elsewhere in the EU.

Reducing the GPG would have beneficial effects beyond addressing inequities in pay between men and women. A lower GPG would reduce income inequality and women's higher at-risk-of-poverty rate in Estonia. More equal pay for women would also encourage increased female labor force participation, which should have beneficial effects in the current tight labor market, and contribute to higher potential growth in the future.

1\ According to Eurostat, the unadjusted gender pay gap is defined as the difference between the average gross hourly earnings of men and women expressed as a percentage of the average gross hourly earnings of men.

15. Going forward, a broadly neutral fiscal policy that protects structural reforms-related spending would be appropriate. With output above potential and real interest rates low for the foreseeable future, a broadly unchanged cyclically-adjusted structural fiscal position for 2018 and 2019 would be in line with economic conditions. Hence, the authorities should seek to unwind some of the fiscal impulse (estimated at 0.5 percent of GDP by staff) embedded in the 2018 budget. While spending to enhance productive potential and support structural reforms is worthwhile to boost potential growth, low-priority capital spending could be deferred to ease pressures on the already-stretched construction sector. Current expenditure could also be rationalized wherever possible to streamline bureaucracy and accelerate savings from existing programs, and the recently piloted spending reviews could be advanced to identify potential efficiency gains. In the meantime, reallocating resources within the budget could help to scale-up the funding of some supply-side measures, notably: (i) strengthening of active labor market policies (ALMP) spending; and (ii) strengthening of the Innovation Voucher, and Company Development Programs, respectively.

16. Wage developments should be anchored by fundamentals. Government wage growth, which equaled 8–9 percent each year in 2013–16, continues to outpace average wage and productivity growth, though for 2017 strong increases reflect EU presidency-related expenses. This trend was also partly the result of a policy to lift pay for certain occupational groups and Estonia's new decentralized expenditure allocation system, which allows government entities to raise wages by consolidating employment. However, public-sector wages have some bearing on the average wage in the economy, both directly in sectors in which government employment accounts for large shares of total employment, and indirectly as they serve as a reference point for private sector wage agreements. Public wages influence the general wage level, but the authorities' leverage in setting private sector wages is constrained, as social partners negotiate independently (including on the minimum wage). At the same time, public-sector wages need to remain competitive. In this regard, the agreement by social partners on a formula to guide minimum wage increases that includes productivity and other parameters, with a cap of 40 percent of the average wage, is welcome.

17. Over the long term, demographic headwinds will put further pressure on public finances (Annex V). Estonia's shrinking working age population and rising old-age dependency ratio are projected to widen the healthcare system funding deficit and strain the pension system. The authorities have estimated that reserves would run out in 2021 if unmet healthcare need is met and no additional financing is provided. With regards to pensions, additional budget subsidies will be required to avert a rising risk of poverty or social exclusion for older people. In this context, ongoing reforms to extend the retirement age, and rationalize healthcare spending are welcome.

18. Under this scenario, additional revenue measures and efficiency-enhancing spending reforms will be needed (Annex V). Given the already relatively low spending levels, improving social outcomes, particularly lowering old-age poverty, may prove difficult to achieve only by cutting spending elsewhere. In combination with spending pressures, which will inevitably arise with an aging population, achieving better outcomes in a budget neutral way may necessitate broadening the tax base. Over the medium term, consideration could be given to broadening the tax base by converting the land tax into a market value-based property tax in urban areas, given the revenue potential and efficiency of such a tax. After recent changes, focusing in the near term on the stability of the tax system will be important.

Authorities' Views

19. The authorities agreed with staff on the importance of maintaining fiscal prudence and the fiscal risks posed by the current public spending plans, given that output is above potential. They see continued adherence to the EU's stability and growth pact (SGP) framework and Estonia's own fiscal rule as critical. The Central Bank stressed that a structurally balanced budget, with nominal surpluses, would be appropriate given the current economic conditions. But the government sees the current expansionary fiscal stance as partly the result of a faster-than-expected increase in economic growth, and to some extent arising from the investment program, with little scope to adjust in 2018 given that the budget law has already been approved. Over the medium term, the Ministry of Finance agrees on the importance of moving to better spending prioritization. Regarding the increase in the personal allowance, the authorities stress its positive impact in reducing inequality, but acknowledge its fiscal cost.

20. The authorities agreed with staff's recommendation that the tax system should remain transparent and simple while also being better aligned with economic developments. In that line, they see merit in gradually increasing revenues over the medium term from a stable revenue source, such as a property tax, but expressed doubts as to whether there is enough political will to pursue this path in the short run. Moreover, proper design, regulatory, and cadastral issues will have to be addressed.

B. Public Investment Management: Enhancing the Framework

21. A strong public investment management (PIM) framework is critical (Annex VI). Public investment has exceeded 4.5 percent of GDP for over a decade, at the high end relative to the rest of the EU. An additional 1.3 percent of GDP in investment above previous projections has been announced for the next three years. Strong PIM institutions will therefore be paramount to improved targeting to achieve policy objectives.[5] While Estonia's institutions and processes at the implementation phase appear strong, those at the planning and resource allocation phases could be strengthened. In particular, project appraisal and selection should be more rigorous, and a more efficient and strategic approach adopted to planning investments for the long term. Possible measures include:

- Ensuring that the most productive projects are selected for financing. The largest externally-financed projects are already subject to feasibility studies. But high standards of appraisal and criteria for selection should be extended to the rest of the portfolio. More broadly, project

[5] See IMF, 2015, *Making Public Investment More Efficient*, for the framework within which the quality of PIM institutions is assessed. For an example of detailed Fund advice on PIM, see IMF, 2017, *Ireland: Public Investment Management Assessment.*

prioritization should be based on relative strategic importance, ensuring that all projects are subject to minimum standards of appraisal.

- Planning investments for the medium and long term more strategically and efficiently. The planning process could be streamlined by reducing the number of plans and performance indicators. For consistency, the planning framework also needs to be aligned with the indicative fiscal framework for the long term. In addition, a single consolidated public-sector investment plan with indicative costings could provide a more holistic picture, and enable better coordination and monitoring.

- Advancing other efficiency-oriented public financial management initiatives. Following the launch of accrual-based budgeting in 2017, plans are underway to roll out performance-based budgeting by 2020, which should also help to improve accountability. In addition, rolling out further spending review pilots could help identify potential efficiency gains. Simplifying and strengthening the performance orientation of the system for fiscal transfers to local governments, and further improvements to oversight and governance of state-owned enterprises would also serve similar objectives.

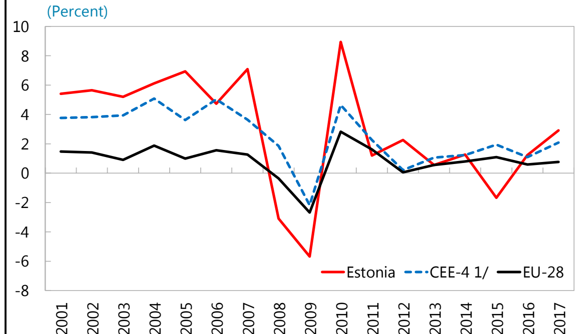
Authorities' Views

22. The authorities agreed with staff on the need to enhance public investment management institutions and processes. In that line, they would seek higher effectiveness through a more streamlined investment planning process leading to the next development strategy, "Estonia 2035." They also welcomed staff's recommendations that current arrangements for project appraisal and selection could be strengthened to ensure that the most productive investments are prioritized. In that direction, they expressed interest in a comprehensive Public Investment Management Assessment (PIMA). At the same time, the authorities reaffirmed commitment to their ongoing broader public financial management reform agenda, including by rolling out their recently initiated spending reviews.

C. Structural Reforms: Raising Productivity and Labor Supply

23. Potential growth is constrained, and strains on competitiveness are emerging. In recent years productivity growth has slowed, but it may now be recovering. Although high-tech industries have gained a clear foothold in Estonia, more traditional sectors still dominate the economy, and, overall, innovation by Estonian firms remains limited. At the same time, wage growth has been consistently higher than productivity growth in most of the last ten years, resulting in increasing ULCs. Recently, wage

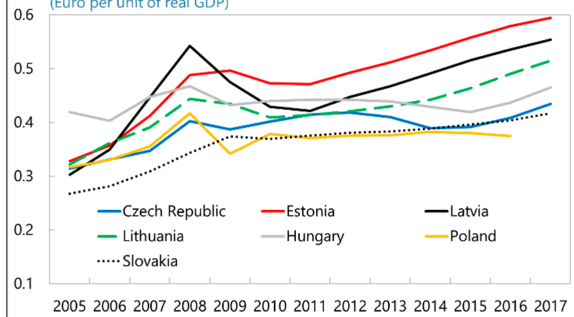
Labor Productivity Growth - All Activities
(Percent)



Sources: Eurostat; and IMF staff calculations.
1/ CEE-4 refers to Czech Republic, Hungary, Poland, and Slovak Republic.

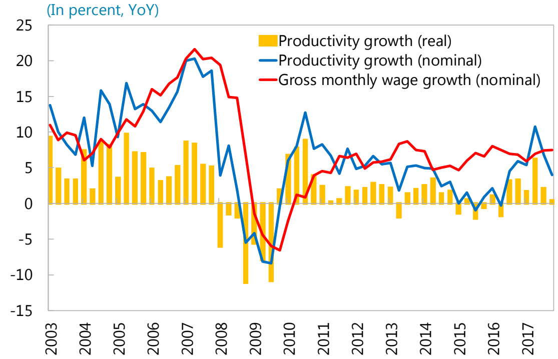
growth has decelerated, averaging 6.9 percent in nominal terms in 2017, from 7.4 percent in 2016, but it is too early to tell whether the uptick in productivity growth in 2017 will last. Overall, the gap between wages and productivity remains a problem, and this may not be sustainable and could lead to loss of competitiveness over the medium term.[6] Moreover, unfavorable demographics constrain potential growth, as the labor force shrinks.

Unit Labor Costs: Estonia vs. Peers
(Euro per unit of real GDP)



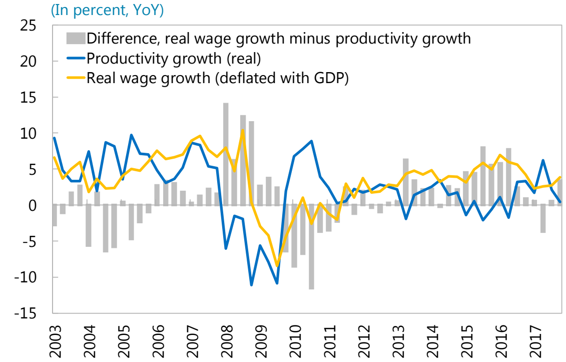
Sources: Eurostat and IMF staff calculations.
Note: ULC is calculated as the ratio of nominal compensation of employees over real GDP at 2010 prices.

Productivity and Wage Growth
(In percent, YoY)



Sources: Statistics Estonia, Haver Analytics, and IMF staff calculations.

Real Productivity and Wage Growth
(In percent, YoY)



Sources: Statistics Estonia, Haver Analytics, and IMF staff calculations.

24. **Policies to boost productivity and innovation should be accelerated, and oversight and coordination strengthened.** Productivity-enhancing policies are being designed and implemented on many fronts. The national reform program "Estonia 2020" sets out several broad objectives to be achieved by 2020: (i) 80 percent of the EU average productivity per worker; (ii) R&D expenditure of 3 percent of GDP; and (iii) 0.11 percent share of Estonian exports in world trade. However, progress towards these objectives could be accelerated. Recently the government estimated productivity per worker at 72 percent of the European average. It also made the decision to scale up R&D spending up to 0.88 percent of GDP. However, this will require decisive implementation given the downward trend of these variables in recent years and the structural dependence on European transfers. Overall spending on R&D is still short of the government's objective: only about 1.28 percent of GDP at end-2017. On entrepreneurship development, the main policy program, "Estonia Entrepreneurship Program," will be fully evaluated in 2018. The decision to enhance the industry clusters to increase cooperation between the private sector and research institutions is welcome. In terms of overseeing and coordinating productivity-enhancing policies, the establishment of the Research Development Council (RDC) as advisory group and the Economic Development Committee (EDC) under the prime minister's office is commendable and represents a strong signal for

[6] In 2015–16, Estonia's export market shares were reduced by about 1.7 percent globally and 4.1 percent in its traditional markets, and preliminary data for 2017 indicate that this trend continued in 2017. These estimates are based on market shares in real terms. In nominal terms, Estonia's position is estimated to have improved in 2017 due to large export price gains.

coordination institutionalization. Going forward, these bodies' performance (RDC and EDC) should be assessed to establish whether they need more statutory responsibilities and accountability, to be fully effective.

25. The labor market is performing well, but it has become tight and skilled workers are under-supplied (Annex VII). Estonia performs well in various metrics of labor market efficiency: youth unemployment is lower than in most peers, and the economy is providing employment opportunities for the low skilled.[7] At the same time, there is a high degree of wage flexibility, providing a buffer against shocks. However, Estonia faces a more severe decline in its working-age population than do most other European countries: the overall labor force is expected to decrease by 0.7 percent a year. Skill shortages, which have emerged since early 2000, have grown recently and prevented businesses from expanding in some sectors (information and communication technology and health care). Regarding wage developments in Estonia, they have in the past adjusted downward in nominal terms, in contrast to Europe outside the crisis countries (e.g., in other Baltic countries). This demonstrates that the current rapid wage growth can also be reversed rapidly if need be (Annex VII). Given the small size of the domestic market and the high trade openness (exports and imports of goods and services amount to more than 150 percent of GDP), the pricing power of domestic firms is likely limited, implying that the mark-up would need to adjust if wages rise faster than productivity—which is indeed what has happened.

26. Ongoing structural reforms aimed at boosting labor supply should continue, but scope may be limited given the already high participation rate (Annex VII):

- **Work ability reform.** The program is proceeding broadly as planned. The number of people classified as having reduced ability to work decreased by 19,000 in 2017. A newly introduced employment requirement for people with reduced ability to work has also resulted in more jobs, with 59 percent of individuals with partial ability to work now employed.

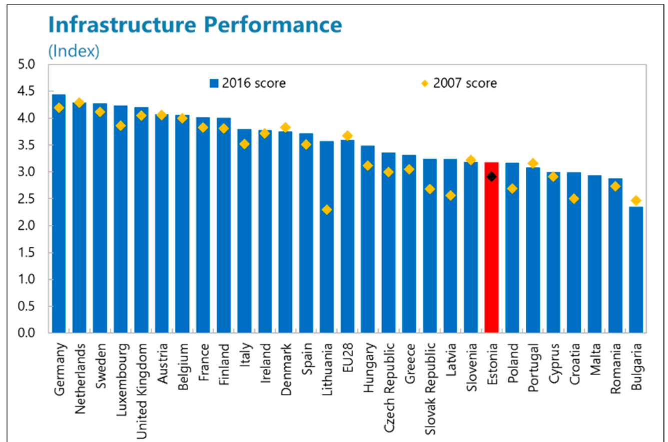
- **Civil service reform.** Downsizing of the government work force, which accounts for a significantly higher share of total employment than the EU average, is on track with employment reductions of about 2,300 civil servants since 2015. Going forward, its impact on private sector employment may be very limited: further streamlining public sector employment to encourage people to seek work in the private sector would be less effective in releasing more labor force.

- **Immigration policies.** The government has recently introduced changes to the immigration policy: (i) top specialists (paid at least 2 times the national average salary) are exempted from the annual immigration quota; and (ii) the period for short-term employment has been extended from 9 months to 1 year. Also, the government has established a working committee to review long-term immigration policies. Immigration policies could be relaxed further, but political constraints will likely limit this as well.

[7] Across the EU, low-skilled persons face significantly higher (and rising) risk of unemployment than higher-skilled person. The relatively good integration of low-skilled workers in Estonia may be indicative of a relatively slow shift to higher value-added industries.

- **Other programs** to raise labor supply and improve skills are also proceeding as planned, but results will only be felt in the medium to long term: (i) extension of the retirement age; (ii) alignment of the education system with labor market needs and the strengthening of vocational education and training and life-long learning; and (iii) a reform of parental leave to facilitate female labor force participation. In addition, the authorities have put in place the Welfare Development Plan (2016–23) aimed at reducing the gender pay gap (Box 1).

27. More upgraded transportation infrastructure and higher energy efficiency is critical. A more efficient and integrated transportation system could reinforce Estonia's comparative advantage in transportation services, and attract foreign direct investment and the associated technological knowhow. To achieve this objective, the Rail Baltic project is still under preparation and construction is expected to start at end-2019 and to end in 2025. On electricity, Estonia is a net exporter, but electricity is still more expensive for instance than in Finland because of network fees, excise taxes, and a renewable energy fee. However, the establishment of a Free Trade zone with the other Baltic countries has helped the pricing system which become more transparent. Going forward, the authorities are working on the synchronization with Central Europe through Poland and in reducing electricity fees.



Source: World Bank.

Authorities' Views

28. The authorities broadly concurred with staff's views on competitiveness, labor reforms, and other structural reforms:

- **Productivity and Competitiveness.** The authorities concurred with staff that insufficient modernization of low-medium technology, which dominates in the manufacturing sector, and current wage dynamics could affect competitiveness over the medium term. However, they said that exporters have not complained about competitiveness losses, and seem to have regained some pricing power, while continuing to diversify export markets. At the same time, they pointed to the stronger external position in 2017 supported by good export performance of services, somewhat offset by exports of mobile equipment which settled on a lower level offset. They noted that, excluding this effect export volumes increased throughout the year.

- **Structural reforms.** The authorities concurred with staff that the current favorable conditions provide a window of opportunity to accelerate structural reforms, while maintaining fiscal discipline. They agreed that reform policies should aim at boosting potential growth, including through public investment that contributes to strengthening the economy's supply side. They pointed out that Estonia is already ranked high according to many structural efficiency indicators and that further progress would be achieved through a series of smaller initiatives. They pointed to good progress in implementing their 'zero bureaucracy' program to reduce the administrative burden for the private sector. They indicated that some further privatizations would be carried out in 2018, while new initiatives would support the private sector's efforts to increase value added for own-brand products and services. In that line, ongoing programs for improving productivity are being pursued.

- **Labor market.** The authorities saw labor shortages, and lower supply of high-skilled workers and skills mismatches, as a source of overheating in the labor market and a significant obstacle to furthering potential growth. Several programs are aimed at improving training, addressing youth unemployment, enhancing female labor force participation through reducing the gender pay gap and more flexible parental leave, and relaxation of immigration restrictions, especially for higher-educated workers. They also pointed to several rounds of education reforms, including the 2013 amendments to the Higher Education Act, to boost the number of graduates in key fields of specialization. They also indicated good progress on the Work Ability reform.

D. Macro Financial Linkages: Housing and Financial Sector Policies

29. Housing market trends, both domestic and abroad, are important drivers of banking sector developments in Estonia. While household indebtedness is moderate, banks' extension of housing loans accelerated in 2017. Higher interest rates following an eventual monetary policy normalization could pose a risk for household finances and potentially affect future financial developments and economic growth. In addition, developments in cross-border banking linkages indicate that potential spillovers from vulnerabilities in Nordic parent banks, notably the Swedish real estate sector, require further safeguards for financial stability, notably in cross-border banking supervision through the Nordic-Baltic cooperation platform.

30. While financial soundness indicators (FSIs) are strong, macro-financial developments and the anti-money laundering measures taken should continue to be monitored. FSIs point to a healthy banking system, with appropriate levels of capitalization, liquidity, and sufficient returns. The loan-to-deposit ratio improved in 2017 on the back of strong household and corporate deposits, and the level of nonperforming loans is low. A broad range of macroprudential instruments to rein in systemic financial risks has been put in place recently. Requirements for issuing loans, such as caps on loan-to-value (LTV) ratios, debt-service-to-income ratio (DSTI), and loan maturity began to apply in 2015. The countercyclical capital buffer, which is set to zero, is appropriately calibrated as the growth of credit is far below that of nominal GDP.[8] However, in light of the current cyclical position, there is heightened need to monitor developments carefully and the authorities should be prepared to tighten policies if necessary, for example by tightening loan-to-value, debt-service-to-income and maximum maturities limits.[9] Recently, the ECB withdrew the

[8] Nominal GDP grew at 9 percent in 2017 compared to credit to the private sector, which grew at 6.8 percent.

[9] LTV, DSTI, and maximum maturity of a housing loan are currently set to 85 percent, 50 percent, and 30 years, respectively.

authorization of a tiny non-systemic Estonian bank on the proposal of Estonian authorities due to persistent breaches of anti-money laundering rules. As the bank accounted only for 1.5 percent of all the deposits in banks operating in Estonia and 87 percent of them were held by non-residents, its closure will have negligible effect on the Estonian economy. This demonstrates the need to continue implementing policies designed to prevent money laundering and terrorism financing.

Authorities' Views

31. There was broad agreement that FSIs point to a stable financial sector, yet macro-prudential polices should be monitored carefully and updated as needed, given the position of the cycle and rising real estate prices. The authorities emphasized, however, that regulation on lending standards and the countercyclical buffer, which is currently set to zero, are appropriate. They also noted that Estonia's Deposit Guarantee Fund is adequately positioned. The authorities also stressed spillover risks from Nordic countries' real estate markets and financial systems. They highlighted that Estonia has one of the few financial systems that has a systemic risk buffer that helps to strengthen banks' resilience to possible external shocks. Nevertheless, the authorities underscored the importance of sustained supervision, along with their efforts for continued strengthening of implementation of AML/CFT measures. They confirmed that a new MoU for the Nordic-Baltic Stability group was signed in the beginning of 2018 and that a crisis simulation exercise is scheduled to take place in 2019.

STAFF APPRAISAL

32. Economic growth accelerated markedly in 2017, and is projected to remain strong. Policy support, recovering external demand, and reform progress have helped to bring strong broad-based economic activity, lifting output above potential. Wage growth has accelerated and unemployment declined to 5.8 percent at end-2017. The external position remains substantially stronger than implied by medium-term fundamentals and desirable policies. Over the medium term, the output gap is projected to remain positive, while growth will be driven by private consumption—thanks largely to strong wage growth and to recent income tax cuts—and continued strong investment. However, potential growth will be constrained by labor supply and slow productivity growth. Risks arise mainly from international economic policy uncertainty in advanced countries, possible spillovers from closely-linked neighboring economies, and continued wage growth, which going forward could impact adversely competitiveness, should productivity continue to slow.

33. Macroeconomic policies should focus on supporting economic growth and structural reforms. In the context of a continued positive output gap, rising inflation pressures and a tightening labor market, a broadly neutral fiscal policy that protects productivity-enhancing investments would be appropriate. The favorable domestic and external environment should be used to accelerate reforms. Given the macro-financial developments, sustained prudent oversight would help prevent an unwarranted relaxation of credit standards, and continued carefully monitoring of macro-financial developments would help to update macro-prudential policies as needed.

34. A broadly neutral fiscal policy that protects structural reforms would be in line with economic conditions. The authorities should seek to unwind some of the positive fiscal impulse embedded in the 2018 budget. While spending to enhance productive potential and support structural reforms is worthwhile to boost economic potential, low-priority capital spending could be deferred to ease pressures on the already-stretched construction sector. Current expenditure could also be rationalized wherever possible to streamline bureaucracy and accelerate savings from existing programs, and the recently piloted spending reviews could be advanced to identify potential efficiency gains. In the meantime, reallocating resources within the budget could help to scale-up the funding of some supply-side measures. Also, converting the current land tax into a market-based property tax could be envisaged to further mobilize resources without boosting the tax wedge.

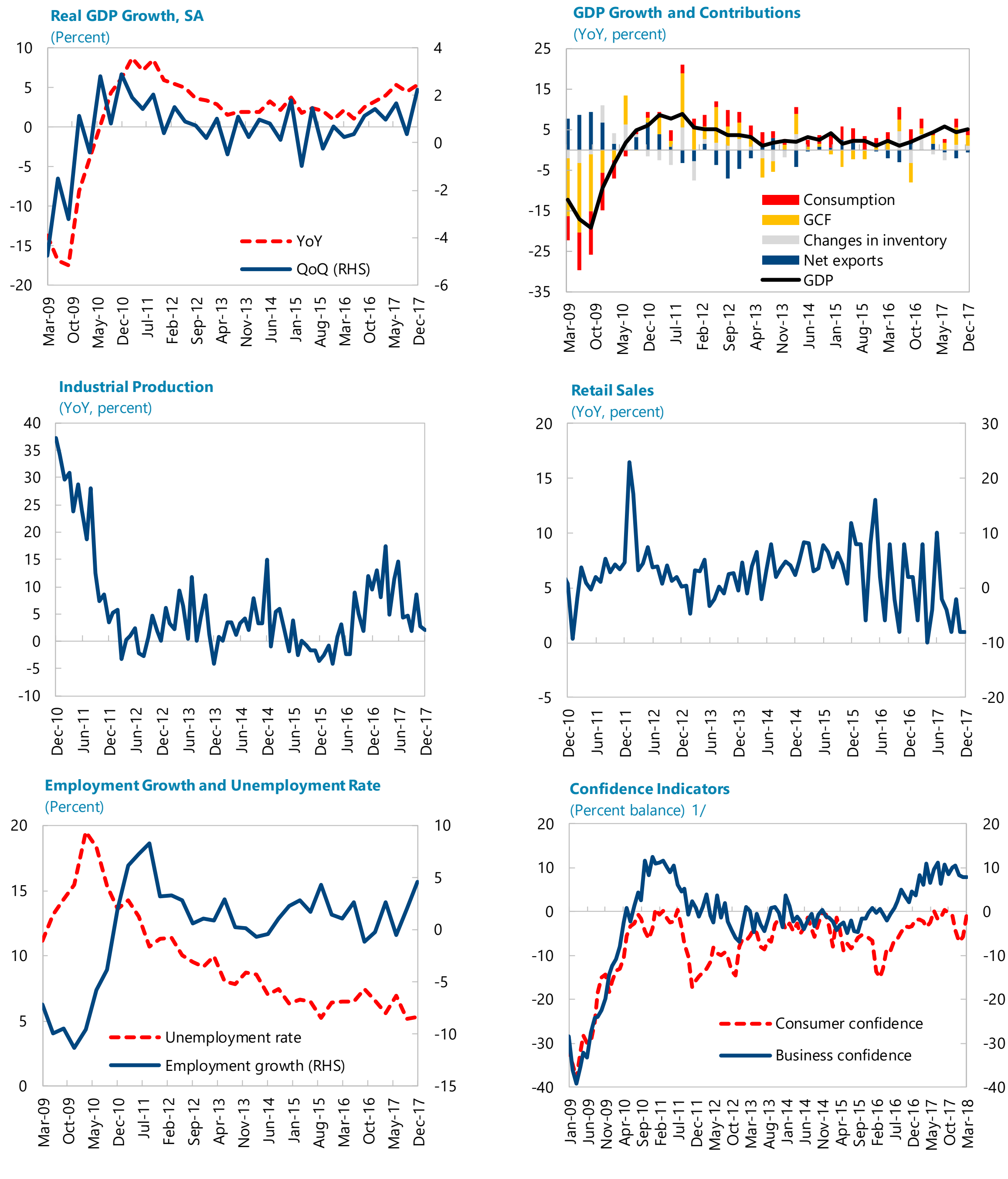
35. Wage growth needs to be anchored gradually by fundamentals. Policies can contribute to this goal by ensuring that increases in public wages and in the minimum wage do not put undue pressure on private sector wages. Leaning against the demographic decline of labor by releasing labor resources from the relatively large government sector faster and from accelerated disability reform, allowing more immigration, and boosting female participation rates by reducing gender pay gap would also be helpful. In that context, the recent agreement by social partners on a formula to guide minimum wage raises by linking them in part to productivity, with a cap of 40 percent of the average wage, and the relaxation of the immigration quota welcome.

36. Raising productivity and boosting labor supply will be key to increase potential growth. While the budget stance should be neutral going forward, sustained increases of productivity-enhancing investments, accompanied by measures aimed at strengthening the institutional framework for selection and appraisal of public infrastructure projects, would be welcome. Beyond participation, skills shortages and mismatches remain. In this regard, current and planned efforts to strengthen the education system and align it with labor market needs are commendable. Programs to boost firms' innovative capacity and value addition, and to support the building of economic clusters around key technologies, notably information communications technology (ICT), are also commendable and should be broadened and accelerated where possible.

37. Maintaining a prudent approach to financial supervision and being prepared to use macro-prudential policies proactively if needed to address risks is critical in the current cyclical upswing. The countercyclical capital buffer, which is set to zero, is appropriate for the current stage of the cycle. Consumer credit developments need to continue to be monitored carefully. Bank risk weights should remain under scrutiny to ensure they reflect underlying risks appropriately. Developments in cross-border banking linkages indicate that potential spillovers from vulnerabilities in Nordic parent banks, notably the Swedish real estate sector, require further safeguards for financial stability, notably in cross-border banking supervision through the Nordic-Baltic cooperation platform.

38. It is proposed that the next Article IV consultation with Estonia take place on the standard 12-month cycle.

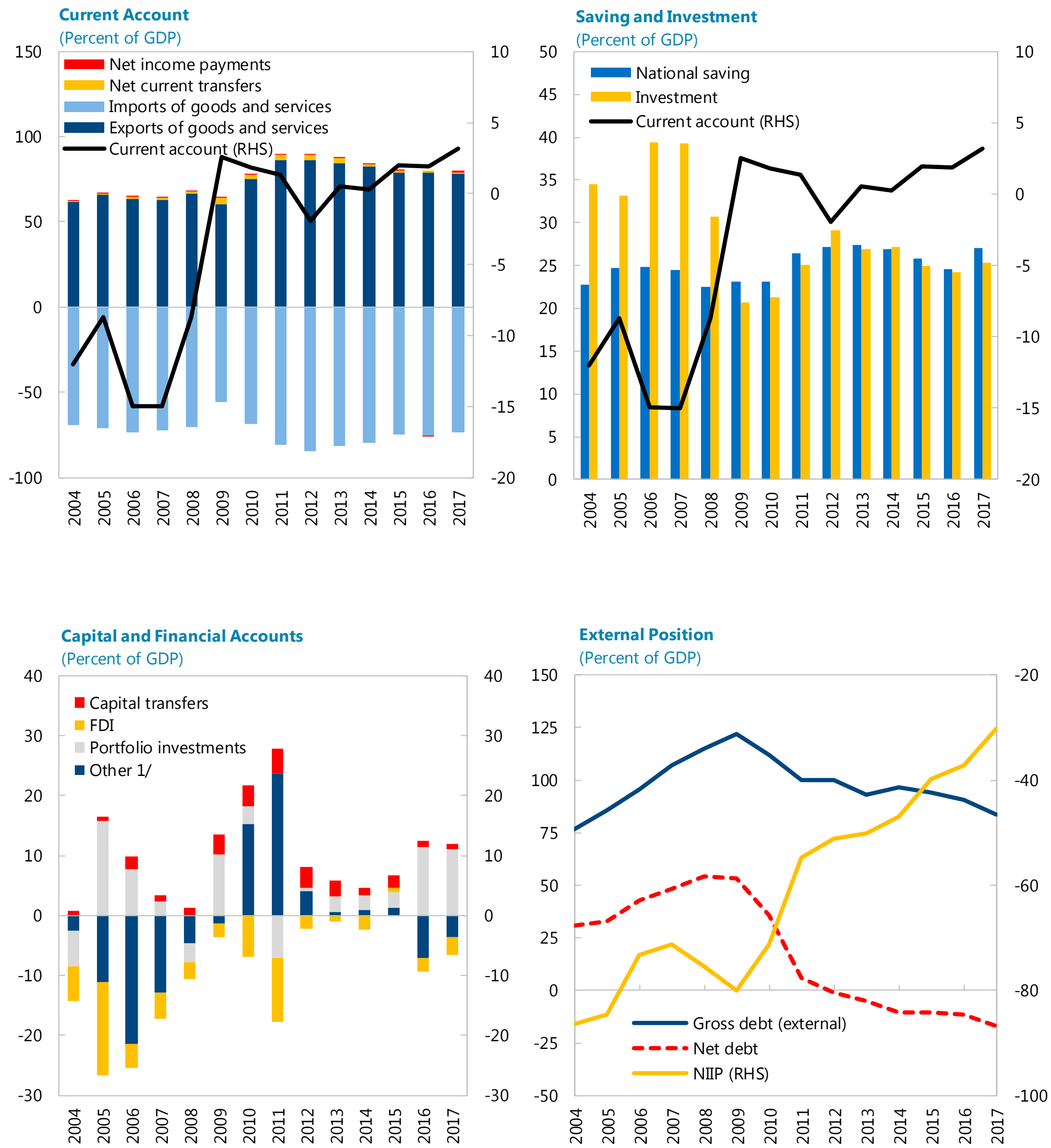
Figure 1. Estonia: Real Sector Developments, 2009–18



Sources: Haver; and National Authorities.

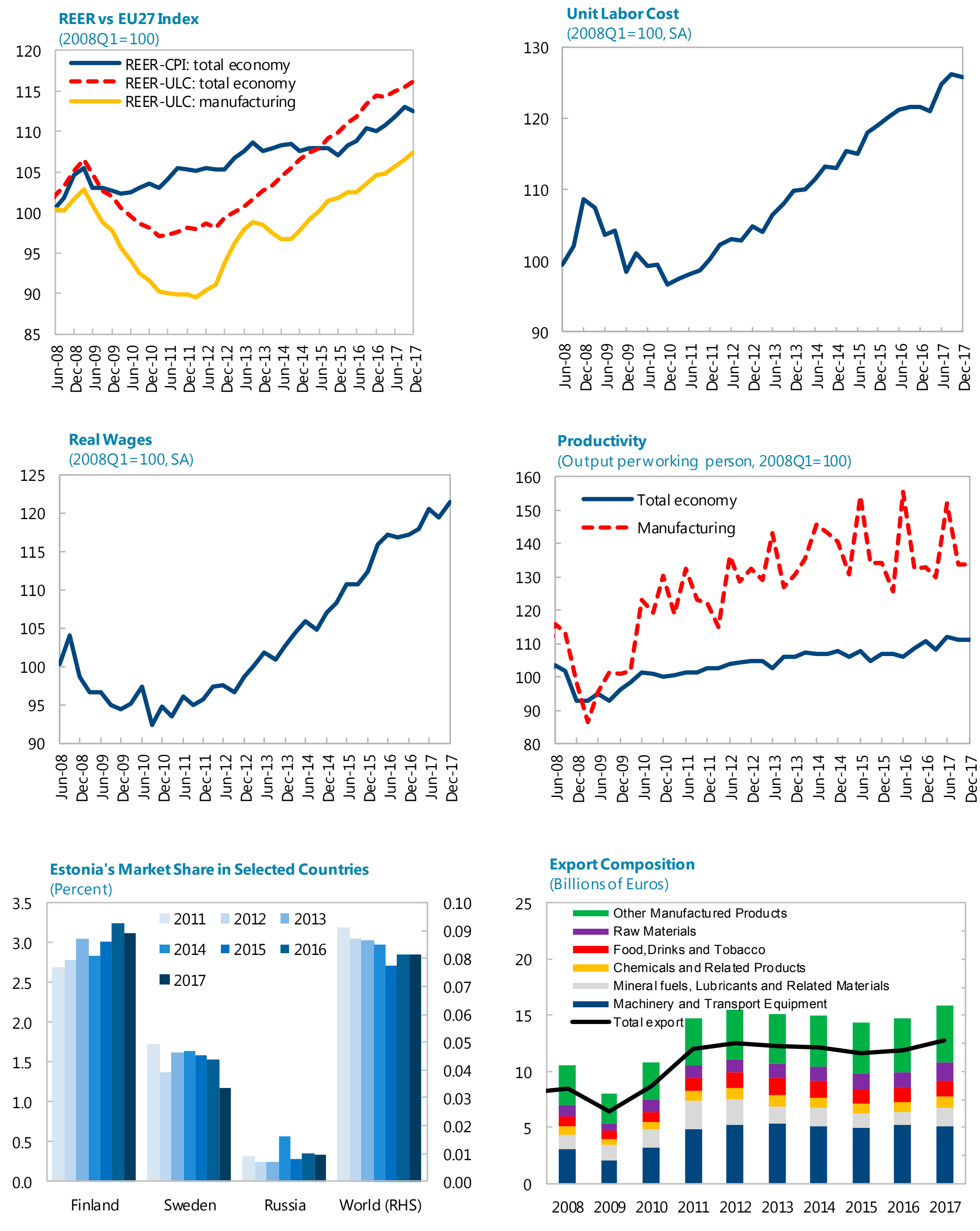
1/ Balance equals percent of respondents reporting an increase minus the percent of respondents reporting a decrease.

Figure 2. Estonia: External Developments, 2004–17



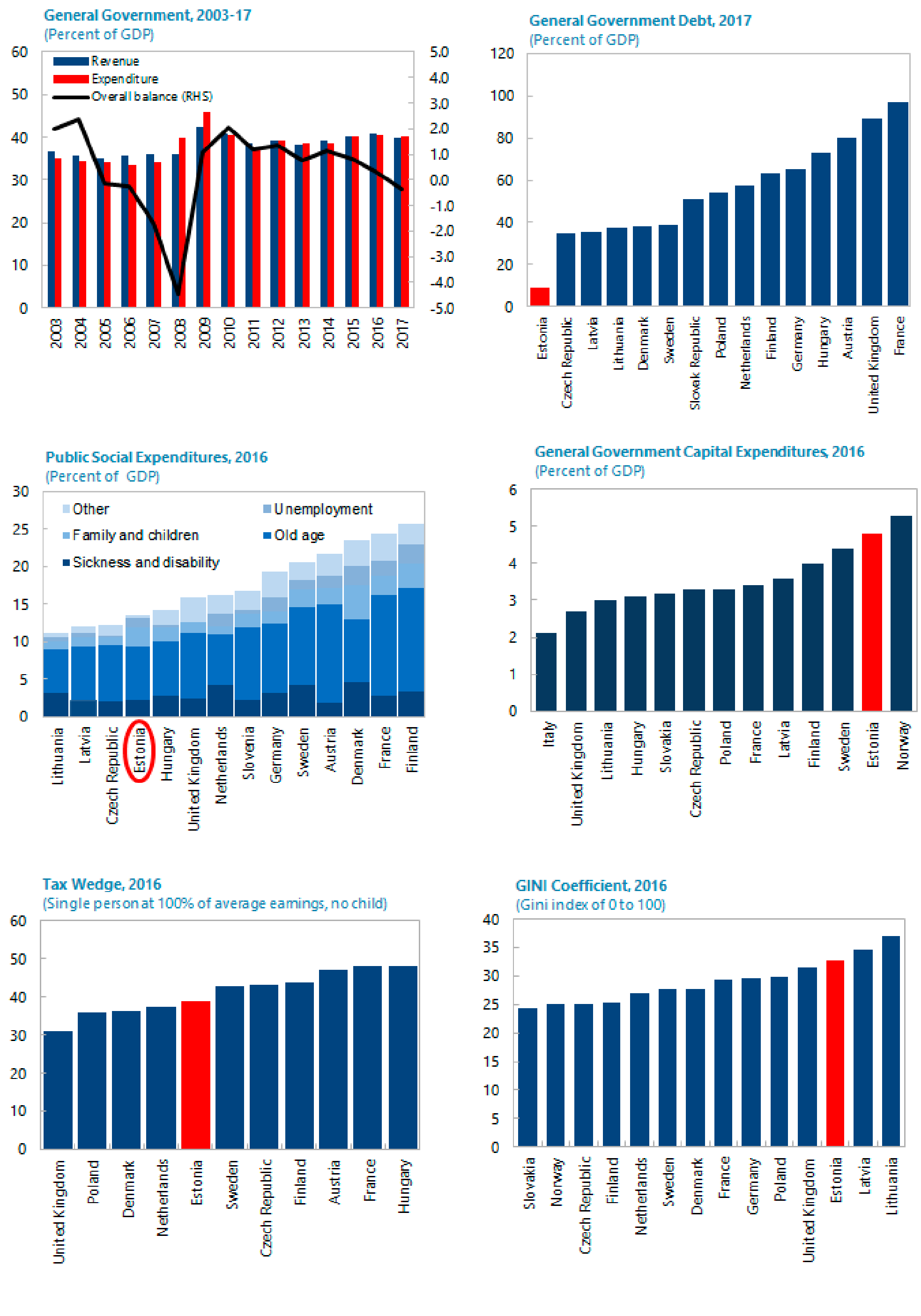
Sources: Haver; Statistics Estonia; and IMF staff calculations.
1/ Other is defined as the sum of financial derivatives, and other investments.

Figure 3. Estonia: External Competitiveness, 2008–17



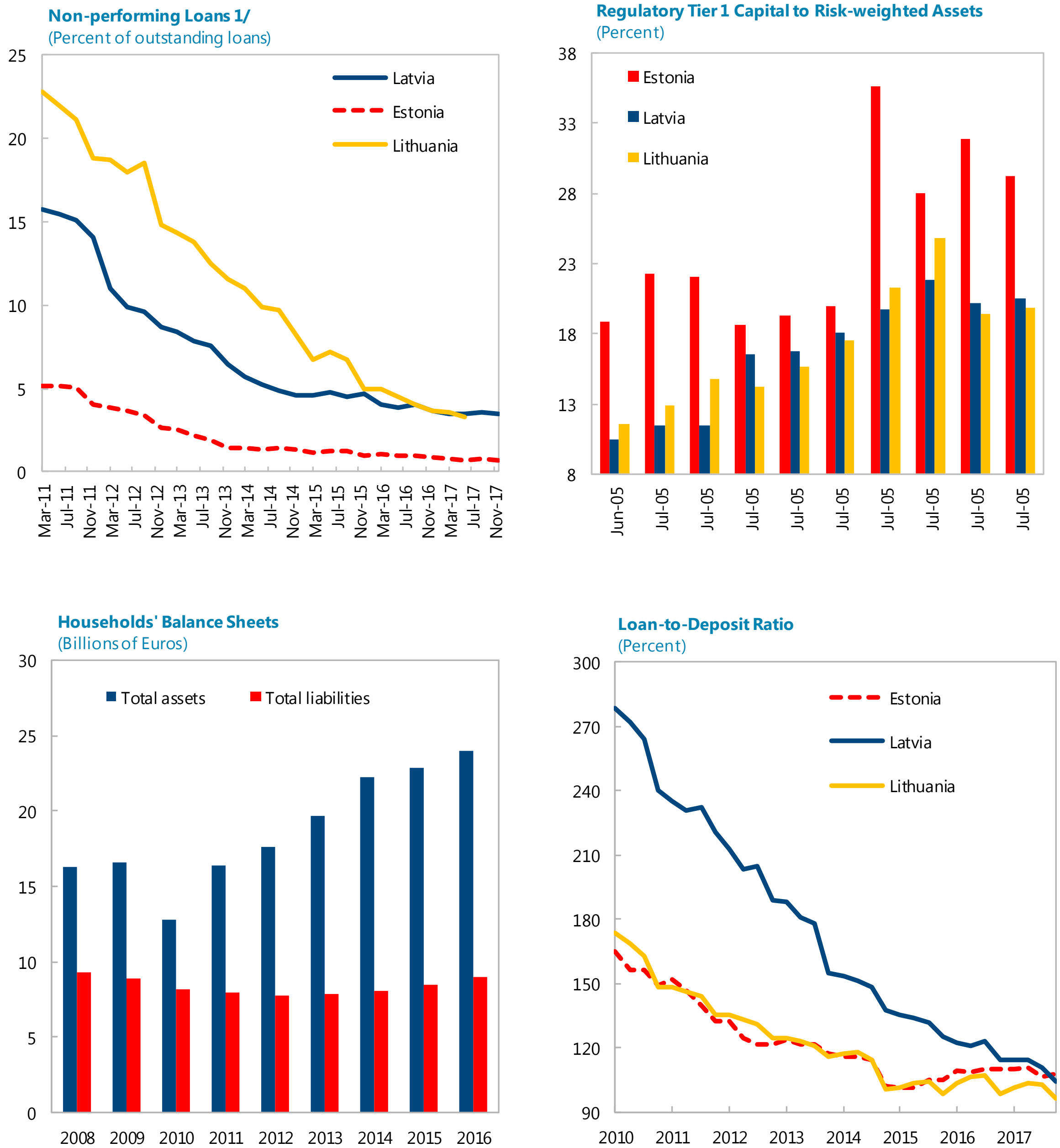
Sources: DOTS; Haver; WEO; and EU Commission.

Figure 4. Estonia: Fiscal Developments and Structure



Sources: WEO; Eurostat; and OECD.

Figure 5. Estonia: Financial Sector Developments



Sources: Haver; national authorities; and IMF staff calculations.
1/ In Lithuania, NPLs include impaired loans and loans past due by 60 days but not impaired; in Latvia, NPLs are loans overdue by more than 90 days; in Estonia, they are loans overdue by more than 60 days.

Figure 6. Estonia: Public Sector Debt Sustainability Analysis (DSA)—Baseline Scenario

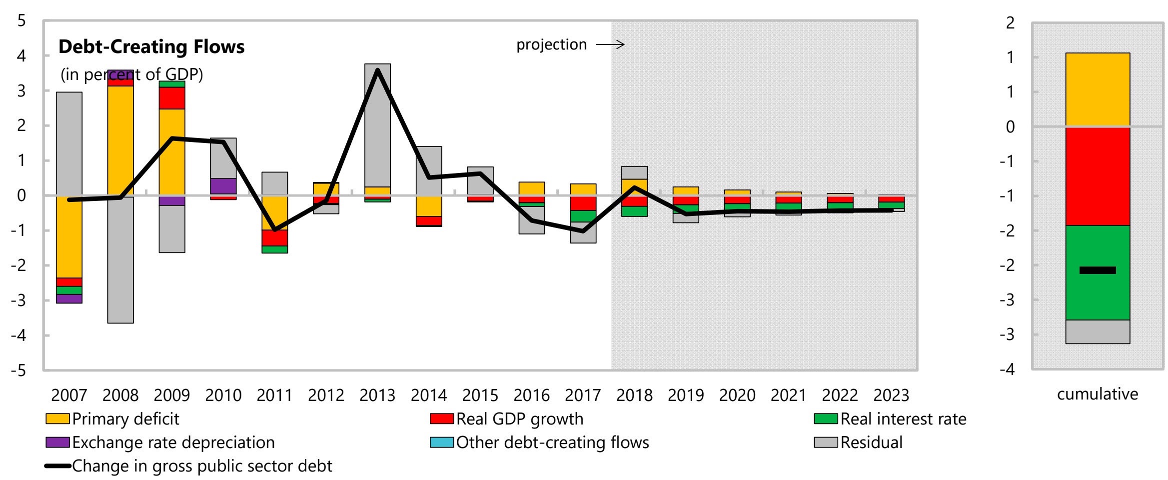
(in percent of GDP unless otherwise indicated)

Debt, Economic and Market Indicators [1/]

	Actual			Projections						As of April 02, 2018		
	2007-2015 [2/]	2016	2017	2018	2019	2020	2021	2022	2023	Sovereign Spreads		
Nominal gross public debt	6.7	9.6	8.6	8.9	8.3	7.9	7.4	7.0	6.6	EMBIG (bp) 3/		0
Public gross financing needs	1.7	2.1	2.0	0.9	2.1	1.8	1.6	1.5	1.4	5Y CDS (bp)		65
Real GDP growth (in percent)	0.9	2.1	4.9	3.9	3.2	3.0	3.0	2.9	2.9	Ratings	Foreign	Local
Inflation (GDP deflator, in percent)	4.0	1.6	4.0	4.0	3.4	3.4	3.4	3.4	3.4	Moody's	A1	A1
Nominal GDP growth (in percent)	5.0	3.7	9.0	8.1	6.7	6.6	6.5	6.4	6.3	S&Ps	AA-	AA-
Effective interest rate (in percent) [4/]	3.0	0.5	0.4	0.6	0.5	0.6	0.6	0.6	0.7	Fitch	A+	A+

Contribution to Changes in Public Debt

	Actual			Projections							
	2007-2015	2016	2017	2018	2019	2020	2021	2022	2023	cumulative	debt-stabilizing primary balance [9/]
Change in gross public sector debt	0.7	-0.7	-1.0	0.2	-0.5	-0.4	-0.5	-0.4	-0.4	-2.1	
Identified debt-creating flows	0.1	0.1	-0.4	-0.1	-0.3	-0.3	-0.3	-0.3	-0.3	-1.7	
Primary deficit	0.3	0.4	0.3	0.5	0.2	0.2	0.1	0.1	0.0	1.1	-0.4
Primary (noninterest) revenue and grants	39.0	40.2	39.8	40.2	40.4	40.4	40.3	40.2	39.9	241.3	
Primary (noninterest) expenditure	39.2	40.6	40.2	40.7	40.6	40.5	40.4	40.3	39.9	242.4	
Automatic debt dynamics [5/]	-0.1	-0.3	-0.8	-0.6	-0.5	-0.5	-0.4	-0.4	-0.4	-2.8	
Interest rate/growth differential [6/]	-0.1	-0.3	-0.8	-0.6	-0.5	-0.5	-0.4	-0.4	-0.4	-2.8	
Of which: real interest rate	0.0	-0.1	-0.3	-0.3	-0.2	-0.2	-0.2	-0.2	-0.2	-1.4	
Of which: real GDP growth	-0.1	-0.2	-0.4	-0.3	-0.3	-0.2	-0.2	-0.2	-0.2	-1.4	
Exchange rate depreciation [7/]	0.0	0.0	0.0	...	...	...	...	...	...	...	
Other identified debt-creating flows	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Contingent liabilities	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Please specify (2) (e.g., ESM and Euroare	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Residual, including asset changes [8/]	0.6	-0.8	-0.6	0.4	-0.3	-0.1	-0.1	-0.1	-0.1	-0.3	



Source: IMF staff.

1/ Public sector is defined as general government.

2/ Based on available data.

3/ Long-term bond spread over German bonds.

4/ Defined as interest payments divided by debt stock (excluding guarantees) at the end of previous year.

5/ Derived as [(r - π(1+g) - g + ae(1+r)]/(1+g+π+gπ)) times previous period debt ratio, with r = interest rate; π = growth rate of GDP deflator; g = real GDP growth rate; a = share of foreign-currency denominated debt; and e = nominal exchange rate depreciation (measured by increase in local currency value of U.S. dollar).

6/ The real interest rate contribution is derived from the numerator in footnote 5 as r - π (1+g) and the real growth contribution as -g.

7/ The exchange rate contribution is derived from the numerator in footnote 5 as ae(1+r).

8/ Includes asset changes and interest revenues (if any). For projections, includes exchange rate changes during the projection period.

9/ Assumes that key variables (real GDP growth, real interest rate, and other identified debt-creating flows) remain at the level of the last projection year.

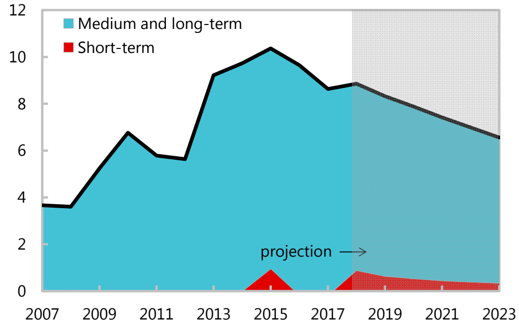
Figure 7. Estonia: Public DSA—Composition of Public Debt and Alternative Scenarios

(in percent of GDP unless otherwise indicated)

Composition of Public Debt

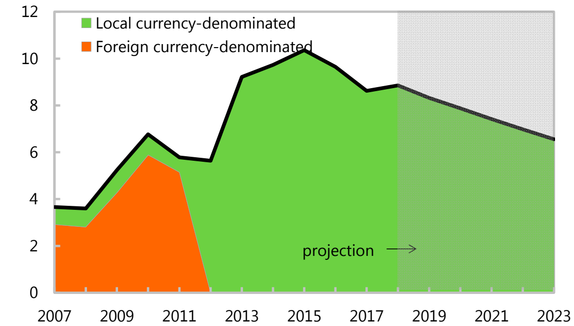
By Maturity

(in percent of GDP)



By Currency

(in percent of GDP)

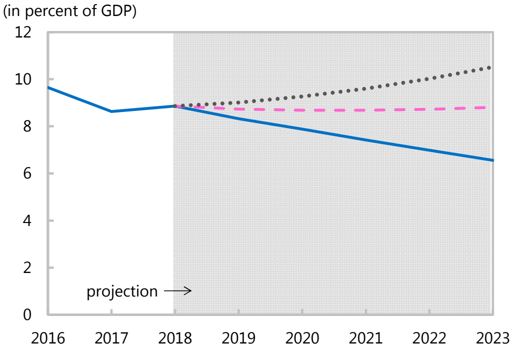


Alternative Scenarios

Baseline Historical Constant Primary Balance

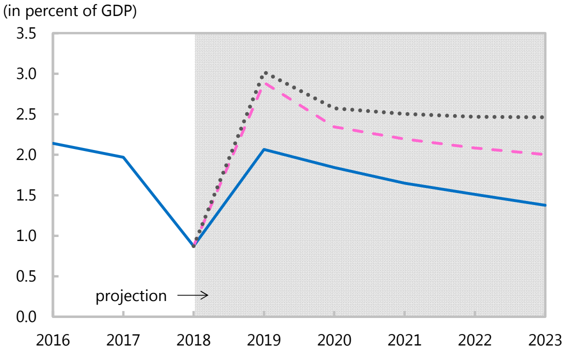
Gross Nominal Public Debt

(in percent of GDP)



Public Gross Financing Needs

(in percent of GDP)



Underlying Assumptions

(in percent)

Baseline Scenario	2018	2019	2020	2021	2022	2023
Real GDP growth	3.9	3.2	3.0	3.0	2.9	2.9
Inflation	4.0	3.4	3.4	3.4	3.4	3.4
Primary Balance	-0.5	-0.2	-0.2	-0.1	-0.1	0.0
Effective interest rate	0.6	0.5	0.6	0.6	0.6	0.7
Constant Primary Balance Scenario						
Real GDP growth	3.9	3.2	3.0	3.0	2.9	2.9
Inflation	4.0	3.4	3.4	3.4	3.4	3.4
Primary Balance	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5
Effective interest rate	0.6	0.6	1.2	1.6	2.0	2.4

Historical Scenario	2018	2019	2020	2021	2022	2023
Real GDP growth	3.9	0.7	0.7	0.7	0.7	0.7
Inflation	4.0	3.4	3.4	3.4	3.4	3.4
Primary Balance	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5
Effective interest rate	0.6	0.6	1.9	2.8	3.7	4.4

Source: IMF staff.

Table 2. Estonia: Selected Macroeconomic and Social Indicators, 2015–23

(Units as indicated)

	2015	2016	2017	2018	2019	2020	2021	2022	2023
				Projections					
National income, prices, and wages									
GDP (nominal; billions of Euro)	20.3	21.1	23.0	24.9	26.5	28.3	30.1	32.0	34.1
Annual change (in percent)	2.9	3.7	9.0	8.1	6.7	6.6	6.5	6.4	6.3
Real GDP growth (year-on-year in percent)	1.7	2.1	4.9	3.9	3.2	3.0	3.0	2.9	2.9
Private consumption	4.4	4.3	2.0	2.9	2.8	2.8	2.7	2.7	2.7
Gross fixed capital formation	-3.0	-1.2	13.1	13.1	11.9	9.9	9.6	9.2	8.5
Exports of goods and services	-0.6	4.1	2.7	3.1	3.4	3.5	3.5	3.5	3.6
Imports of goods and services	-1.8	5.2	3.5	4.7	5.7	5.4	5.3	5.3	5.3
Average HICP (year-on-year change in percent)	0.1	0.8	3.7	3.0	2.5	2.3	2.2	2.1	2.1
GDP deflator (year-on-year change in percent)	1.2	1.6	4.0	4.0	3.4	3.4	3.4	3.4	3.4
Average monthly wage (year-on-year growth in percent)	5.9	7.4	6.9	6.4	5.0	4.7	4.5	4.5	4.5
Unemployment rate (ILO definition, percent, pa)	6.2	6.8	5.8	6.3	6.7	6.7	6.5	6.3	6.1
Average nominal ULC (year-on-year growth in percent)	4.5	4.0	3.5	4.6	2.2	2.0	1.8	1.8	1.8
General government (ESA10 basis; percent of GDP)									
Revenue	40.3	40.3	39.9	40.3	40.5	40.5	40.4	40.3	40.0
Expenditure	40.2	40.6	40.2	40.7	40.7	40.6	40.4	40.3	40.0
Financial surplus (+) / deficit (-)	0.1	-0.3	-0.3	-0.4	-0.2	-0.1	-0.1	0.0	0.0
Structural balance	0.8	0.3	-0.4	-0.9	-0.5	-0.3	-0.2	0.0	0.0
Total general government debt	10.0	9.4	9.0	8.7	8.4	8.0	7.6	7.2	6.8
External sector (percent of GDP)									
Trade balance	-4.2	-3.7	-3.8	-4.7	-5.6	-6.3	-7.1	-7.9	-8.5
Service balance	8.2	7.6	8.3	8.5	8.4	8.4	8.4	8.3	8.3
Primary income balance	-2.1	-2.0	-2.0	-2.2	-2.4	-2.6	-2.8	-2.8	-2.4
Current account	2.0	1.9	3.2	2.0	0.7	-0.3	-1.3	-2.1	-2.5
Gross external debt/GDP (percent) 1/	94.3	90.4	83.5	79.0	73.8	69.0	64.8	60.9	57.3
Net external debt/GDP (percent) 2/	-10.5	-11.7	-17.0	…	…	…	…	…	…
General government debt/GDP (percent)									
Excluding government assets held abroad	10.0	9.4	9.0	8.7	8.4	8.0	7.6	7.2	6.8
Including government assets held abroad 3/	-2.2	-2.7	-2.1	0.0	0.2	0.3	0.4	0.4	0.4
Exchange rate (US$/Euro - period averages)	1.11	1.11	1.13	…	…	…	…	…	…
Real effective exchange rate (annual changes in percent)	-1.9	0.5	-0.2	…	…	…	…	…	…
Nominal effective exchange rate (annual changes in percent)	-0.5	1.3	-1.2	…	…	…	…	…	…
Money and credit (year-on-year growth in percent)									
Credit to the economy	4.8	7.2	1.9	…	…	…	…	…	…
Output gap (in percent of potential output)	-0.7	-0.8	1.3	1.7	1.1	0.6	0.3	0.0	0.0
Growth rate of potential output (in percent)	1.6	2.2	2.7	3.5	3.8	3.5	3.3	3.2	2.8

Social Indicators (reference year):
Population (2017, pa): 1.32 million; Per capita GDP (2017): $17,500; Life expectancy at birth: 82.2 (female) and 73.3 (male);
Poverty rate (share of the population below the established risk-of-poverty line): 21.7 percent; Main exports: machinery and appliances.

Sources: Estonian authorities; Eurostat; and IMF staff estimates and projections.
1/ Includes trade credits.
2/ Net of portfolio assets (including money market instruments, financial derivative assets, other investment assets, and reserve assets held by Estonian residents.
3/ Includes the Stabilization Reserve Fund (SRF).

Table 3. Estonia: Summary of General Government Operations, 2014–20

(In percent of GDP)

	2014	2015	2016	2017	2018	2019	2020
						Projections	
Revenue and Grants	39.1	40.3	40.3	39.9	40.3	40.5	40.5
Revenue	37.0	38.0	38.5	37.8	37.9	38.0	38.0
Tax revenue	21.4	22.3	22.8	22.0	21.9	22.1	22.3
Direct taxes	7.5	7.9	7.7	7.4	7.1	7.2	7.2
Personal income tax	5.7	5.8	6.0	5.8	5.2	5.3	5.3
Corporate profits tax	1.7	2.1	1.7	1.6	1.9	1.9	1.9
Indirect taxes	13.9	14.4	15.0	14.6	14.8	14.9	15.1
VAT	8.7	9.2	9.4	9.3	9.5	9.6	9.8
Excises	4.3	4.3	4.7	4.3	4.3	4.4	4.4
Other taxes (incl. land tax)	1.0	0.9	0.9	0.9	0.9	0.9	0.9
Social contributions	11.2	11.5	11.8	11.7	11.9	11.8	11.6
Pension insurance (net)	5.6	5.7	5.9	5.8	5.9	5.9	5.8
Health insurance	4.5	4.7	4.8	4.8	4.9	4.8	4.7
Unemployment insurance tax	0.9	0.7	0.7	0.7	0.8	0.8	0.8
Other (incl. self employed)	0.3	0.3	0.3	0.4	0.4	0.4	0.4
Nontax revenue	4.4	4.2	4.0	4.1	4.1	4.1	4.1
O/w: Interest income	0.2	0.2	0.1	0.1	0.1	0.1	0.1
Grants	2.1	2.3	1.8	2.1	2.4	2.5	2.4
O/w: EU	1.8	1.9	1.5	1.6	2.0	2.1	2.1
Expenditure	38.4	40.2	40.6	40.2	40.7	40.7	40.6
Expense (current expenditure)	33.3	35.0	35.9	34.7	34.8	34.7	34.6
Compensation of employees	10.9	11.5	11.8	11.6	11.4	11.3	11.3
Wages and salaries	7.7	8.0	8.2	8.0	7.9	7.9	7.9
Employers' social contributions	3.3	3.5	3.6	3.6	3.5	3.5	3.4
Other goods and services	6.7	6.8	7.0	6.8	6.6	6.6	6.6
Transfers and subsidies	15.6	16.7	17.2	16.3	16.7	16.7	16.7
Subsidies	0.5	0.5	0.5	0.4	0.4	0.4	0.4
Transfers to households	12.5	13.4	13.9	13.6	13.8	13.8	13.8
Social benefits	10.7	11.5	11.9	11.7	11.9	11.9	11.9
Social transfers in kind	1.8	1.9	2.0	1.9	1.9	1.9	1.9
Other transfers	2.6	2.8	2.8	2.2	2.5	2.5	2.5
Property income	0.1	0.1	0.1	0.0	0.0	0.0	0.0
O/w: Interest	0.1	0.1	0.1	0.0	0.0	0.0	0.0
International cooperatioon	1.7	1.9	2.0	1.6	1.8	1.8	1.8
Capital transfers	0.8	0.8	0.7	0.6	0.6	0.6	0.6
Net acquisition of NFA (capital expenditure)	5.2	5.2	4.7	5.5	5.9	6.0	6.0
Acquisition	5.3	5.3	4.8	5.7	...	...	...
Disposal	-0.1	-0.1	-0.1	-0.2	...	...	...
Financial surplus (+) / deficit (-)	0.7	0.1	-0.3	-0.3	-0.4	-0.2	-0.1
One-off items	-0.2	-0.5	-0.3	-0.4	-0.1	-0.1	0.0
Cyclical adjustment	-0.2	-0.2	-0.3	0.4	0.6	0.4	0.2
Structural balance	1.1	0.8	0.3	-0.4	-0.9	-0.5	-0.3
Financing (accrual basis)	-0.1	0.0	0.3	0.3	0.4	0.2	0.1
Net incurrence of liabilities	1.0	-0.7	0.6	0.6	0.4	0.2	0.1
Net acquisition of financial assets	1.1	-0.7	0.3	0.3	0.0	0.0	0.0
Other and Errors and Omissions	0.6	0.1	0.0	0.0	0.0	0.0	0.0

Sources: Estonian authorities; and IMF staff projections.

Table 4. Estonia: General Government Financial Assets and Liabilities, 2011–17

(In millions of euros)

	2011	2012	2013	2014	2015	2016	2017
Total Assets	**7,163**	**7,974**	**8,493**	**8,848**	**11,121**	**11,264**	**11,931**
Fiscal reserves	2,019	2,207	2,201	2,371	2,068	2,149	2,175
Currency and deposits	978	1,107	1,289	1,300	1,002	1,085	1,390
Securities other than shares, excl. financial derivatives	862	912	738	879	825	825	527
Short-term securities, excl. financial derivatives	352	492	501	552	342	470	270
Long-term securities, excl. financial derivatives	510	421	236	327	483	356	257
Financial derivatives	0	0	0	0	0	0	0
Other	180	187	175	192	240	239	258
Loans	299	598	728	709	664	650	636
Short-term	50	10	7	6	6	5	5
Long-term	249	588	722	703	658	645	631
Equity	4,124	4,420	4,863	5,000	7,428	7,509	8,086
Other	721	750	701	768	961	957	1,034
Total Liabilities 1/	**1,592**	**2,361**	**2,580**	**2,782**	**2,635**	**2,761**	**2,905**
Securities other than shares, excl. financial derivatives	254	247	279	271	228	221	264
O/W: Long-term securities, excl. financial derivatives	254	247	279	271	228	221	264
Loans	736	1,471	1,613	1,802	1,767	1,722	1,753
Short-term	9	11	10	7	7	5	9
Long-term	727	1,461	1,603	1,795	1,760	1,717	1,744
Other accounts receivable/payable	567	602	645	662	591	765	824

Source: Statistics Estonia.

1/ Including commitments under the European Financial Stability Fund.

Table 5. Estonia: Summary Balance of Payments, 2015–23

	2015	2016	2017	2018	2019	2020	2021	2022	2023
				Projections					
				(Millions of Euros)					
Current Account	397	400	734	486	182	-73	-395	-684	-851
Primary Current Account 1/	1,815	1,919	2,334	2,199	2,015	1,903	1,735	1,553	1,413
Trade Balance	-855	-790	-869	-1,159	-1,495	-1,785	-2,136	-2,524	-2,907
Exports of goods	10,757	11,168	11,897	12,679	13,673	14,731	15,855	17,065	18,423
Imports of goods	11,612	11,958	12,766	13,838	15,168	16,516	17,991	19,589	21,330
Services Balance	1,669	1,604	1,909	2,115	2,233	2,377	2,518	2,668	2,816
Exports of services	5,237	5,496	6,038	6,562	7,106	7,687	8,308	8,979	9,693
Imports of services	3,568	3,892	4,129	4,448	4,873	5,310	5,790	6,311	6,878
Primary Income	-427	-412	-449	-538	-625	-735	-847	-899	-831
Receipts	990	1,106	1,151	1,176	1,208	1,241	1,283	1,339	1,433
Payments	1,417	1,518	1,600	1,714	1,833	1,975	2,130	2,237	2,265
Secondary Income	10	-2	143	67	69	70	71	71	71
O/w: General government	3	29	-53	-10	-40	9	3	29	-53
Capital Account	424	226	181	190	209	241	277	318	328
Non-produced non-financial assets	73	0	-95	...	...	...	...	...	...
Capital transfers	351	225	277	...	...	...	...	...	...
Of which: General Government	219	126	187	...	...	...	...	...	...
Net lending (+) / borrowing (-) balance	822	626	915	676	391	168	-118	-366	-524
Financial Account	948	386	1,048	676	391	168	-118	-366	-524
Direct investment	129	-509	-680	-669	-783	-877	-980	-1,059	-1,109
Assets	-532	156	-54	-76	-78	-79	-81	-85	-87
Liabilities	-661	665	626	593	705	798	899	974	1,022
Portfolio investment	542	2,425	2,567	2,097	1,429	1,300	1,138	974	868
Financial derivatives	-85	-10	35	45	49	44	20	20	20
Loans and other investments (net) 2/	339	-1,472	-856	-797	-304	-298	-295	-301	-302
SDRs	0	0	6	0	0	0	0	0	0
Change in reserves	23	-48	-24	0	0	0	0	0	0
Errors and Omissions	127	-239	133	0	0	0	0	0	0
				(In percent of GDP, unless otherwise specified)					
Current Account	2.0	1.9	3.2	2.0	0.7	-0.3	-1.3	-2.1	-2.5
Trade balance	-4.2	-3.7	-3.8	-4.7	-5.6	-6.3	-7.1	-7.9	-8.5
Service balance	8.2	7.6	8.3	8.5	8.4	8.4	8.4	8.3	8.3
Primary income balance	-2.1	-2.0	-2.0	-2.2	-2.4	-2.6	-2.8	-2.8	-2.4
Seconadry income balance	0.1	0.0	0.6	0.3	0.3	0.2	0.2	0.2	0.2
Net lending (+) / borrowing (-) balance	4.0	3.0	4.0	2.7	1.5	0.6	-0.4	-1.1	-1.5
Exports of goods and services (growth in percent)	-2.0	4.2	7.6	7.3	8.0	7.9	7.8	7.8	8.0
Imports of goods and services (growth in percent)	-3.7	4.4	6.6	8.2	9.6	8.9	9.0	8.9	8.9
Net FDI from abroad	-0.6	2.4	3.0	2.7	3.0	3.1	3.3	3.3	3.3
Total external debt 3/									
Gross	94.3	90.4	83.5	79.0	73.8	69.0	64.8	60.9	57.3
Net 4/	-10.5	-11.7	-17.0	...	...	...	...	...	...
NIIP	-39.8	-37.1	-29.5	-24.6	-21.6	-19.6	-18.8	-18.8	-19.3
General government external debt 5/									
Excluding Govt. assets held abroad	10.0	9.4	9.0	8.7	8.4	8.0	7.6	7.2	6.8
Including Govt. assets held abroad	-2.2	-2.7	-2.1	0.0	0.2	0.3	0.4	0.4	0.4
Debt Service/Exports of GNFS (percent)	70.8	69.3	60.2	53.8	49.6	45.9	42.5	39.5	36.6

Sources: Bank of Estonia; and IMF staff estimates and projections.

1/ Excluding interest payments and reinvested earnings.
2/ Includes operations in debt securities.
3/ Starting in 2000, the definition of external debt was widened to include money market instruments and financial derivatives.
4/ Net of portfolio assets (including money market instruments), financial derivative assets, other investment assets, and reserve assets, other investment assets, and reserve assets held by Estonian residents.
5/ Includes government guaranteed debt.

Table 6. Estonia: Macroeconomic Framework, 2015–23
(Percent of GDP, unless otherwise indicated)

	2015	2016	2017	2018	2019	2020	2021	2022	2023
				Projections					
Real GDP growth (percent)	1.7	2.1	4.9	3.9	3.2	3.0	3.0	2.9	2.9
Domestic demand real growth (percent)	1.0	3.2	4.2	5.5	5.2	4.7	4.6	4.5	4.4
Final consumption real growth (percent)	4.3	3.8	1.8	2.5	2.5	2.5	2.4	2.4	2.4
Capital formation real growth (percent)	-7.0	1.5	11.0	13.4	11.7	9.5	9.1	8.6	8.0
Fixed capital formation real growth (percent)	-3.0	-1.2	13.1	13.1	11.9	9.9	9.6	9.2	8.5
Net exports contribution to real GDP (ppts)	0.9	-0.7	-0.5	-1.0	-1.6	-1.3	-1.4	-1.4	-1.3
Exports real growth (percent)	-0.6	4.1	2.7	3.1	3.4	3.5	3.5	3.5	3.6
Imports real growth (percent)	-1.8	5.2	3.5	4.7	5.7	5.4	5.3	5.3	5.3
Statistical discrepancy contribution to real GDP (ppts)	-0.4	-0.2	1.4	0.0	0.0	0.0	0.0	0.0	0.0
Gross saving	25.8	24.6	27.1	28.1	28.9	29.2	29.6	30.2	31.1
Private	20.5	20.1	21.8	22.6	23.1	23.3	23.7	24.3	25.6
Public	5.3	4.4	5.3	5.5	5.8	5.9	5.9	5.9	5.5
Investment	24.9	24.2	25.4	27.3	29.3	30.5	31.9	33.3	34.6
O/w: Fixed investment	23.6	22.3	23.7	25.5	27.4	28.7	30.1	31.5	32.8
Private	18.3	17.5	18.0	19.6	21.2	22.7	24.2	25.6	27.2
Public	5.3	4.8	5.7	5.9	6.0	6.0	5.9	5.9	5.5
Current account	2.0	1.9	3.2	2.0	0.7	-0.3	-1.3	-2.1	-2.5
Memorandum items:									
Fiscal balance 1/	0.1	-0.3	-0.3	-0.4	-0.2	-0.1	-0.1	0.0	0.0
Revenues	40.3	40.3	39.9	40.3	40.5	40.5	40.4	40.3	40.0
Expenditure	40.2	40.6	40.2	40.7	40.7	40.6	40.4	40.3	40.0
Structural balance	0.8	0.3	-0.4	-0.9	-0.5	-0.3	-0.2	0.0	0.0
Total general government debt	10.0	9.4	9.0	8.7	8.4	8.0	7.6	7.2	6.8
Net non-debt creating capital inflows ("+" inflow)	1.5	15.7	14.7	11.6	8.8	8.3	7.7	7.1	6.5
Capital transfers 2/	2.1	1.1	0.8	0.8	0.8	0.9	0.9	1.0	1.0
Portfolio investment (net)	2.7	11.5	11.2	8.4	5.4	4.6	3.8	3.0	2.5
FDI liabilities	-3.2	3.2	2.7	2.4	2.7	2.8	3.0	3.0	3.0
HICP inflation (average, in percent)	0.1	0.9	3.7	3.0	2.5	2.3	2.2	2.1	2.1
Unemployment rate (percent)	6.2	6.8	5.8	6.3	6.7	6.7	6.5	6.3	6.1
Average wage growth (percent)	5.9	7.4	6.9	6.4	5.0	4.7	4.5	4.5	4.5
Labor compensation share of GDP	48.3	49.3	48.7	48.3	47.7	47.1	46.3	45.6	44.9
Output gap (in percent of potential output)	-0.7	-0.8	1.3	1.7	1.1	0.6	0.3	0.0	0.0
Growth rate of potential output (in percent)	1.6	2.2	2.7	3.5	3.8	3.5	3.3	3.2	2.8

Sources: Estonian authorities; and IMF staff estimates and projections.

1/ Public savings minus public investment differs from the fiscal balance by the amount of capital transfers received from abroad.
2/ Mainly EU capital grants, all of which are channelled through the budget.

Table 7. Estonia: Indicators of External Vulnerability, 2011–17

(Percent of GDP, unless otherwise indicated)

	2011	2012	2013	2014	2015	2016	2017
Financial Indicators							
Public sector external debt 1/	6.1	9.7	10.2	10.7	10.0	9.4	9.0
Private sector credit (year-on-year, percent) 2/	-4.1	1.0	1.1	3.3	4.8	7.2	1.9
External Indicators							
Exports of goods and services (year-on-year, percent)	30.5	6.9	3.5	2.3	-2.0	4.2	7.6
Imports of goods and services (year-on-year, percent)	33.2	12.4	1.9	2.2	-3.7	4.4	6.6
Current account balance	1.3	-1.9	0.5	0.3	2.0	1.9	3.2
Capital and financial account balance	5.4	1.4	3.1	1.3	4.0	3.0	4.0
Total external debt 3/	100.3	100.1	93.1	96.4	94.3	90.4	83.5
of which: Public sector debt 1/	6.1	9.7	10.2	10.7	10.0	9.4	9.0
Net external debt 4/	6.0	-0.9	-5.3	-10.2	-10.5	-11.7	-17.0
Debt service to exports of GNFS	62.6	66.2	65.6	66.2	70.8	69.3	60.2
External interest payments to exports of GNFS (percent)	3.0	2.4	2.1	2.1	1.8	1.7	1.6
External amortization payments to exports of GNFS (percent)	59.6	63.9	63.5	64.1	69.0	67.6	58.6
Exchange rate (per US$, period average) 5/	1.39	1.29	1.33	1.33	1.11	1.11	1.13
Financial Market Indicators							
Stock market index 6/	531	734	818	755	899	1076	1242
Foreign currency debt rating 7/	AA-	AA-	AA-	AA-	AA-	AA-	AA-

Sources: Estonian authorities; Bloomberg; Standard & Poor's; and IMF staff estimates.

1/ Total general government and government-guaranteed debt excluding government assets held abroad.

2/ Loans and leases to households and non-financial corporations.

3/ External debt includes money market instruments and financial derivatives.

4/ Net of portfolio assets (including money market instruments), financial derivative assets, other investment assets, and reserve assets held by residents.

5/ For 2008-10, EEKs per US$; starting in 2011, Euros per US$.

6/ Tallinn stock exchange index (OMX Tallinn), end of period.

7/ Standard & Poor's long-term foreign exchange sovereign rating.

Table 8. Estonia: Households, Financial Assets and Liabilities, 2011–17

(In millions of euros)

	2011	2012	2013	2014	2015	2016	2017
Total Assets	**14,514**	**17,637**	**19,652**	**22,262**	**22,877**	**24,877**	**27,529**
Currency and deposits	4,452	5,176	5,229	5,875	6,540	7,084	7,856
Securities other than shares	36	32	31	31	58	65	63
Shares and other equity	7,915	9,940	11,555	12,948	12,458	13,390	14,715
Insurance technical reserves	1,604	1,984	2,327	2,821	3,271	3,728	4,301
Other	507	505	510	587	550	610	594
Total Liabilities	**7,816**	**7,742**	**7,825**	**8,098**	**8,485**	**8,994**	**9,600**
Loans	7,316	7,256	7,312	7,527	7,931	8,402	8,965
Short-term	128	147	146	170	193	143	142
Long-term	7,189	7,108	7,166	7,357	7,738	8,258	8,823
Other	500	486	513	571	554	592	635
Net Financial Assets	**6,698**	**9,895**	**11,827**	**14,164**	**14,392**	**15,883**	**17,929**
Memorandum item							
Total liabilities as a ratio of total gross wages and salaries	140.9	127.2	121.8	117.5	116.3	116.4	115.4

Source: Eesti Pank; and Statistics Estonia.

Table 9. Estonia: Financial Soundness Indicators, 2011–17

(Percent)

	2011	2012	2013	2014	2015	2016	2017
Capital adequacy							
Regulatory capital to risk-weighted assets	18.6	19.3	20.0	35.7	28.0	31.8	29.2
Regulatory Tier I capital to risk-weighted assets	17.8	19.3	21.0	35.2	27.7	31.4	28.8
NPLs net of provisions to capital	22.4	14.5	8.3	7.0	5.7	4.6	3.5
Capital adequacy ratio	18.6	19.3	20.0	35.7	28.0	31.8	29.2
Asset composition and quality							
NPLs to gross loans (non-financial sector)	4.0	2.6	1.5	1.4	1.0	0.9	0.7
Sectoral distribution of loans to non-financial sector:							
Loans to households	40.2	41.4	40.9	42.3	41.4	40.8	37.7
Loans to non-financial corporations	47.3	46.1	44.8	46.1	44.3	42.5	44.4
Earnings and profitability							
Return on assets	2.6	2.1	2.2	1.8	3.7	1.9	1.7
Return on equity	23.5	15.0	16.5	11.4	29.9	15.6	13.1
Interest margin to gross income	55.0	57.8	41.2	55.5	47.5	56.8	46.0
Noninterest expenses to gross income	47.8	53.2	50.0	59.3	53.1	56.2	68.3
Liquidity							
Liquid assets to total short-term liabilities	25.7	25.8	21.6	28.7	32.1	29.1	32.5
Loans to deposits	132.5	121.4	117.4	102.0	105.4	109.9	107.6

Sources: Eesti Pank; and Financial Supervisory Authority.

Annex I. External Sector Assessment

Estonia's external position in 2017 was substantially stronger than implied by medium-term fundamentals and desirable policies, partly due to one-off factors and structural changes,[1] but policy gaps, notably Estonia's strong fiscal position, have contributed as well. Over the medium term, staff expect factors contributing to the imbalances to unwind bringing the current account close to the norm.

External Stability Assessment	
CA - actual	3.2
CA - norm	-3.2
CA gap	6.4
Of which: policy gap	1.5%
Implied REER gap	-11.3%
REER - actual	4.65
REER - norm	4.57
REER gap	7.8%
Of which: policy gap	-0.8%

1. Estonia's external current account(CA) surplus was 3.2 percent of GDP in 2017, substantially stronger than implied by medium-term fundamentals. Based on the EBA-lite methodology, Estonia should run a CA deficit of -3.2 percent, consistent with its catch-up requirements and its declining and ageing population. Estonia's policy gap is estimated at 1.5 percent, which, however, reflects mostly the average fiscal stance of the rest of the world, which is assessed overly accommodative at this juncture. Estonia's strong external position is explained by: (i) a decline in investment which despite its strong recovery in 2017 remains 4 ppts of GDP below its long-run average; (ii) increased EU funds disbursement amounting to 1.8 percent of GDP in 2017, but are expected to drop by over 1 percent of GDP in the 2021–27 Medium-term Fiscal Framework; and (iii) improvements in the terms of trade that contributed about 0.5 ppts of GDP of the surplus; and change in the structure of imports and exports, with decreased import contents. Other factors include one-off payments registering in the secondary income account stemming from payments of fines. As these factors unravel and income convergence advances, Estonia's CA surplus is projected to gradually decline and shift to a deficit of about 2½ percent of GDP by 2023.

2. The EBA-estimation results for the real effective exchange rate are mixed. The EBA-lite CA estimation finds an undervaluation of close to 11 percent, mainly driven by the 2017 CA surplus. At the same time, the REER estimation suggests a positive REER gap of close to 8 percent (text table). Hence, on balance the exchange rate appears broadly appropriate as indicated above, most of the factors contributing to the CA surplus are projected to unwind, which would bring the CA closer to the norm without a need for the exchange rate to adjust. However, a close monitoring of the productivity growth-wage growth gap is needed to safeguard competitiveness.

3. Estonia's net international investment position continues to improve, but remains deeply negative (-32 percent of GDP in 2017). It is largely explained by an excess of inward over outward FDI. Gross external debt is relatively large (83 percent of GDP), but on a declining trend and

[1] Eesti Pank, 2017, "Estonian Economy and monetary policy, Box 3 (The Impact on the Current Account of Changes in the Structure of Domestic Demand and Exports)."

mostly owed to parent companies or parent banks. Net external debt is negative (-11 percent of GDP). Government fiscal reserves remain large (9.5 percent of GDP) and exceed government debt. Although Estonia's net international investment position compares well with CEE peers, further improvement is desirable given ageing related pressures and volatility of portfolio flows.

Annex II. Implementation Status of Fund Advice

Relations between Estonia and the Fund are excellent. While Estonia's policies have always been characterized by a high degree of ownership, they have also been closely aligned with Fund advice.

1. The authorities have made progress on number of reforms since the 2016 Article IV review, including:

- Amending of the budget law to allow structural deficits of up to 0.5 percent of GDP; increasing investment outlays; and taking various actions aimed at enhancing labor supply, including reducing government employment to free labor resources for the private sector and increasing ALMP spending by at least 50 percent;

- Raising the statutory retirement age; boosting labor force participation of younger women; reforming the disability system; establishing a productivity unit at the Prime Minister's office; and better aligning the minimum wage with productivity developments.

- Enhancing cross-border crisis preparedness and management; and finalizing recovery and resolution plans for cross-border banking.

2. Ongoing reforms include:

- Measures to contain government wages; increasing government representation in wage negotiations, tripling the innovation voucher program's outlays; doubling the Company Development Program; and allowing more immigration from outside the EU and removing the floor on immigrant wages.

Annex III. Estonia's Medium-Term Growth Potential[1]

Estonia's income convergence is expected to continue thanks to strong policy settings and provided existing policy plans are implemented with determination. These include enhancing innovation, advancing the modernization of the industrial sector; easing immigration; and closing the country's infrastructure gaps. On this basis, potential growth is projected to average 3.4 percent over the next five years.

1. Estonia's medium-term economic outlook is favorable. The macroeconomy is stable and strengthening; the business environment is one of the best in the region; business and consumer confidence are strong; external demand is rising; and mobilizing the country's high catch-up growth potential is at the top of the economic agenda. On the demographic front, while long-run pressures from population ageing persist, there are early indications that recent reforms to boost labor supply are bearing fruit.

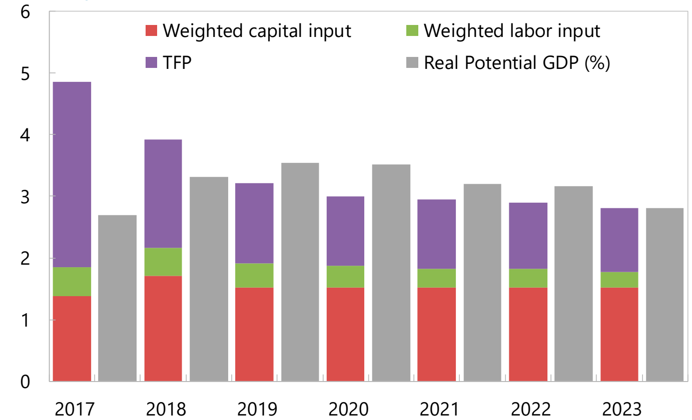
2. With the economy running above potential, sustaining the on-going economic momentum beyond the near-term without facing supply constrains will require durable high corporate investment and enhanced labor inputs. More specifically:

- Consistent with the need to raise the country's capital intensity, the increased focus on innovation and economic modernization is expected to bolster corporate investment which is projected to remain one of the main drivers of growth in the short-medium term. In that regard, the on-going efforts to raise R&D spending should translate quickly into a marked technological upgrade in the industrial sector that will raise the sector's value-added ratio.

- There are early indications that recent government reform—notably the work ability and civil service reforms and the extended retirement age for women—have started to bear fruit. Labor force participation rates have reach historical highs and rising intersectoral transfers of labor resources from the nontradables sector to the tradables are helping the economy cope with a tightening labor market. These trends are expected to continue in the coming years as these reforms mature. Also, in the last two years, the government has taken measures to enhance life-long education and training, improve the participation in the vocational education and training (VET) program, strengthen the operation of the insurance unemployment fund and increase spending on ALMPs.

[1] Written by Ramdane Abdoun, with contributions by Philippe Wingender.

Medium-Term Growth Decomposition
(In percent)



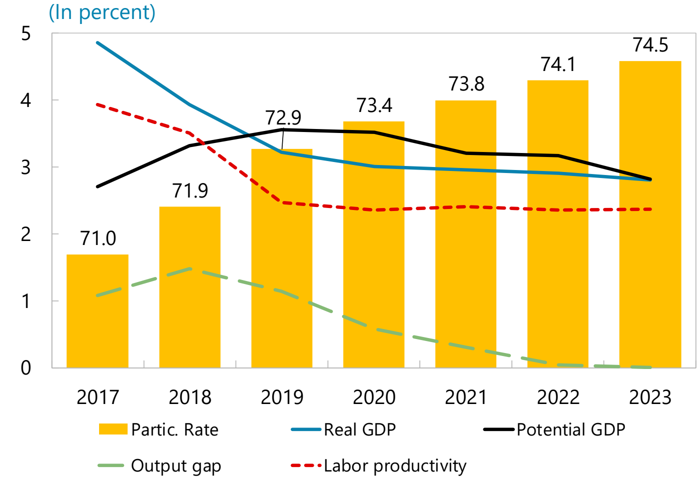
Source: IMF staff projections.

3. Using a multivariate Kalman filter, potential growth is projected to average 3.4 percent per year during the next five-years. Such performance is predicated on: (i) a strong contribution of capital inputs reflecting enhanced innovation policies; and (ii) continuous improvements in labor inputs mirroring the country's efforts to enhance the quality of the labor force, including stimulating women's participation in the labor market and developing a coherent immigration policy consistent with the country's demographic outlook. TFP is projected to grow at an annual average of 1.2 percent in line with the average of OECD countries.

4. Consistent with this projected path for potential growth, real GDP will average 3.6 percent in 2018–19, mainly driven by the on-going strong private investment revival. A sustained recovery of private consumption and the continuation of the deceleration of unit labor costs that would lessen pressure on export competitiveness will also provide important contributions. As a result, productivity—as measured by the real GDP per worker—will grow some 2 percent per year.

5. During the following years (2020–23) real growth is projected to remain strong, slightly below 3percent allowing the output gap to close by 2022. Corporate investment is expected to remain the key driver of growth. Exports are projected to grow 3½ percent annually, broadly in line with the growth of partners' import volumes. The growth of private consumption is projected to remain in line with the trend of households' purchasing power and grow by an estimated 2.8 percent per year. The tensions in the labor market will continue to ease with enhanced labor supply as reflected in the projected further increase in the participation rate and a continued deceleration in wage growth.

Medium-Term Growth Outlook
(In percent)

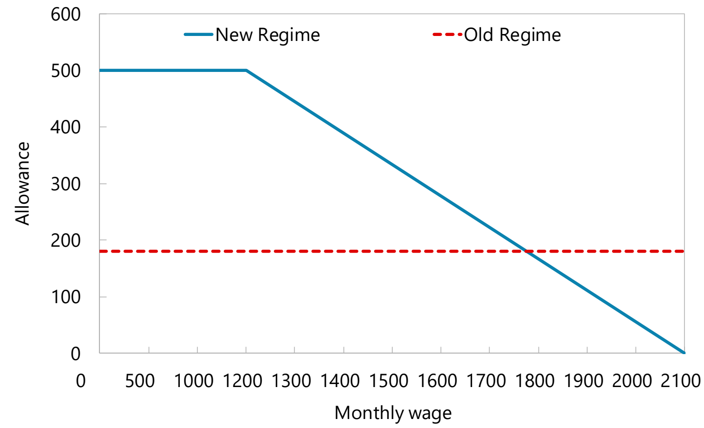


Sources: IMF staff projections.

Annex IV. Tax Changes in 2018

1. The new PIT regime, which comes into force in 2018, envisages an increase in the monthly basic allowance of EUR 500 from the current EUR 180. The full exemption will be applied to monthly gross salaries below EUR 1,200, after which the allowance will be reduced by one euro for each additional EUR 1.8 earned, reaching zero for incomes over EUR 2,100. The PIT rate will remain unchanged at 20 percent. The break-even point, at which the basic allowance will be the same under the new and old systems, will be at a monthly salary of EUR 1,776.

Basic Allowance Under the New and Old PIT Regimes
(in EUR)



Source: Statistics Estonia and Central Bank of Estonia.

2. The new regime is more progressive, but comes at a significant fiscal cost. The new basic allowance, which is about 55 percent of the average wage and equal to the 2018 minimum wage, will increase the disposable incomes of workers in the lower segment of the income distribution. In particular, estimates show that the new basic allowance will increase the net wage of low wage workers up to 15 percent. Overall, the change in the basic allowance is estimated to generate a revenue loss of around 0.8 percent of GDP in 2018.

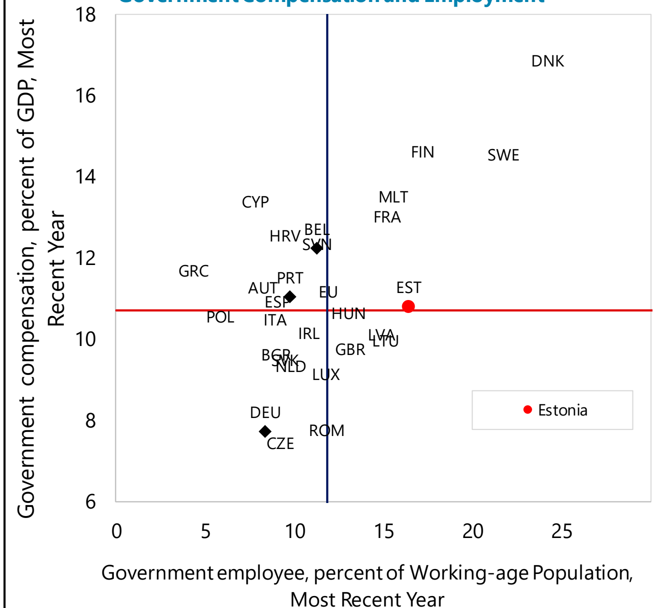
3. The CIT on regularly-distributed dividends will be lowered from 20 percent to 14 percent. Profit distributions are considered regular if the amount of the distribution does not exceed the company's last three years' average profit distributions. The income tax rate for all amounts exceeding the last three years' average profit distributions will remain taxable at 20 percent. Any unused portion of profit distributions, which fall below the last three years' average taxable dividends, cannot be carried forward. Dividends paid from Estonian companies to resident natural persons will, in addition to the 14 percent CIT, be subject to an additional 7 percent income tax withholding, while non-residents will be exempt from the 7 percent withholding tax. The CIT amendments are intended to incentivize regular distribution of earnings. The corresponding revenue estimate in the 2018 budget seems optimistic, however, as it remains to be seen how companies will eventually change their behavior.

Annex V. Potential Public Spending Efficiency Gains[1]

1. Estonia has no imminent consolidation needs, but more efficient public spending could create additional fiscal space to face impending demographic challenges and promote further convergence with Western Europe. With public reserves exceeding gross debt, and a structural balance close to zero, Estonia has fiscal buffers to absorb shocks. At the same time, Estonia faces significant spending needs to support the path to convergence with Western Europe. A comparatively low capital stock, imminent and sizeable demographic shifts coupled with a high degree of inequality will further impose spending pressures in the years to come. As such, a high degree of public expenditure efficiency will be required to counter fiscal headwinds going forward.

2. Estonia achieves a generally efficient use of public funds, with some key differences across sectors, but further efficiency gains are possible. With 40.4 percent of GDP, Estonia ranked well below the EU average of 43.9 percent in 2016. Spending is mostly driven by current spending, particularly compensation of employees and social benefits. Most outcome-based measures of the achievement of policy objectives indicate that public spending achieves satisfactory results, yet further reforms in the following areas could provide additional efficiency gains:

Government Compensation and Employment



Note: solid lines are EU.
Sources: IMF staff calculations, IMF Government Wage Bill and Employment Dataset.

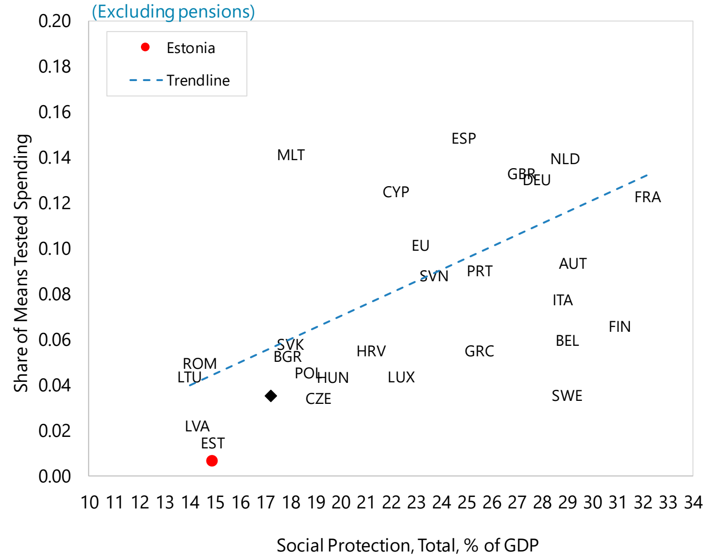
- Reducing **general government employment** could be done faster to free up labor resources for the private sector. This should be complemented with further structural measures.
- **Social spending** could be made more efficient through better means-testing and targeting the poor such as greater use of in-work benefits and by expanding the role of active labor market programs and strengthening their link to social assistance benefits.

[1] Based on the Selected Issues Paper "Public Expenditure Efficiency in Estonia," by Andreas Tudyka.

- Efficiency gains in the **health sector** can be achieved by e.g. addressing behavioral health risks, shifting acute inpatient care to lower-cost settings, changing medical training, and further increasing the role of nurses and midwives, while ensuring the sustainability of the health system in light of demographic challenges.

- Reforms of the **education sector** should focus on achieving efficiency gains in the supply of education services while maintaining a high level of education outcomes. At the same time, Estonia's education system needs to adapt to the declining numbers of students.

Social Protection spending and means tested spending
(Excluding pensions)



Excluding Denmark and Ireland.
Sources: Eurostat and IMF staff calculations.

Annex VI. Public Investment Management[1]

1. **Estonia has been investing heavily in its public capital stock.** Public investment is a critical aspect of Estonia's long-term strategy to raise competitiveness, accelerate economic growth, and improve development outcomes. High levels of public investment have been sustained, including with support from EU structural funds. Domestically financed investment is also expected to grow with new investments of 1.3 percent of GDP announced for the 2018–20 period.

2. **Ensuring that the elevated levels of investment contribute optimally to long term policy objectives will require strong PIM institutions**. The efficiency of the elevated levels of public investment will depend on the strength of the institutions involved in all phases of the PIM cycle, from strategic planning, through resource allocation, to implementation.

3. **Many PIM institutions in Estonia meet recommended requirements**. Budget execution and project implementation arrangements appear strong, with open and competitive procurement based on an e-procurement platform, ongoing oversight of project implementation, and regular ex post audits. In addition, arrangements for coordinating with the local government and state-owned enterprise sectors are also strong, particularly at the aggregate investment level, despite the fact that these sectors enjoy high autonomy over individual investment decisions.

4. **On the other hand, some institutions need to be strengthened, particularly those involved in strategic planning, project appraisal, and project selection**. On planning, despite a wide array of national and sectoral plans, the link to the fiscal framework needs to be strengthened, a single consolidation of public investment plans compiled, and the number of individual plans, strategies, and performance indicators streamlined. On appraisal and selection, the mega-projects and others funded by EU funds are subject to appraisal in keeping with EU requirements. Other projects are subject to qualitative appraisal by the sector ministries as well as the ministry of finance. Existing appraisal methods could be strengthened. In addition, formal guidance on appraisal methodologies, formal criteria to guide the prioritization and selection of projects, and the establishment of a central capability to lead this function, would all help to improve project appraisal and selection.

5. **Key elements of a plan to further strengthen PIM in Estonia should therefore comprise**:

- Strengthening project appraisal and selection arrangements
- Streamlining the planning process and improving its alignment with the fiscal framework
- Advancing the rest of the efficiency-oriented public financial management reform agenda including:
    - Performance-based budgeting, which is slated for implementation in 2020.
    - Spending reviews, which are currently being piloted.

[1] Based on the Selected Issues Paper "Public Investment Management in Estonia: Key Institutions and Reform Priorities," by Ashni Singh.

Annex VII. Wage and Inflation Dynamics[1]

1. In recent years, wages in Estonia have increased more rapidly than labor productivity, eroding competitiveness. Estonia has made remarkable progress in income convergence with Western Europe, and wages have increased in line. However, in recent years wage growth has significantly outpaced nominal GDP and productivity growth. While this does not immediately threaten external stability, continued divergence of wages from economic fundamentals could undermine growth and income convergence in the longer run.

2. Productivity gains, inflation expectations, and labor market slack are key drivers of wage growth in advanced economies.[2] However, in Estonia, as elsewhere in the Baltics and indeed the EU's New Member States (NMS) in CESEE, inflation appears to play a much smaller role in driving wages than in EU15 countries. This can be explained by the volatility of inflation, which is higher in the NMS, implying that the role of inflation as an anchor is more limited. Hence, during the decline in inflation during 2014–16, wage growth has been slow to adapt. Labor markets are also tightening, and Estonia's unemployment rate has declined to pre-crisis levels even though output now is about 1 percent above potential, while the positive output gap was much larger during 2005-08. Also, other indicators of labor market slack such as involuntary part-time work and the prevalence of temporary contracts, suggest a tight labor market. Productivity growth, on the other hand, has remained slow since the GFC.

3. Idiosyncratic factors and structural shifts explain some of the high wage increases. Increases in minimum wages have been relatively high in recent years (by 10 percent every year from 2013–17, though the increase in 2018 is slower, at 6.3 percent), which appears to influence wages also at higher levels. Structural shifts—a gradual narrowing of the gender wage gap, increasing labor force participation of women, rising preference for part-time work, and a shift in occupations toward higher-earning jobs—explain only a small fraction of the general wage increases.

4. There is some danger of a wage-price spiral emerging. Prior to the GFC, wage increases accelerated first, then core inflation and HCPI, suggesting the emergence of a wage-price spiral. During the GFC, wages and inflation fell broadly simultaneously, and wage growth took some time to recover to the rate of inflation. In 2013, inflation decelerated markedly, but not wage growth, and since 2016, wage growth has accelerated again, and so have measures of core and harmonized CPI, both broadly simultaneously with wages. Compared to peers, core inflation is significantly higher in Q32017 (3.9 percent, the highest rate in the EU), However, both wages and inflation in H2 2017 can partly be explained by one-off factors: inflation has been partly driven by excise tax increases, while wage growth in the public sector has been high on account of Estonia's EU presidency, which has increased the public-sector wage bill.

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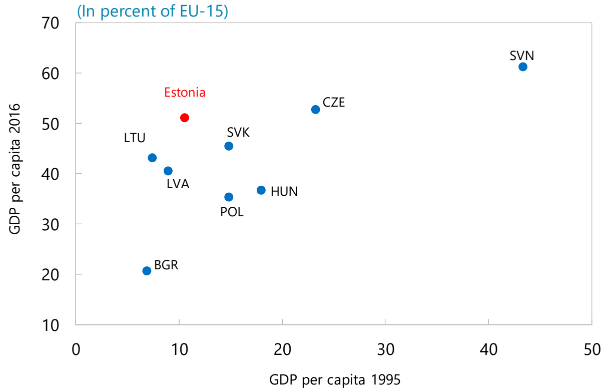
[1] Based on the Selected Issues paper "*Wages and Inflation in Estonia,*" by Alexander Pitt.

[2] See "*Recent Wage Dynamics in Advanced Economies: Drivers and Implications*", World Economic Outlook, IMF, October 2017.

Figure 1. Wage and Inflation Dynamics

GDP convergence has been rapid, …

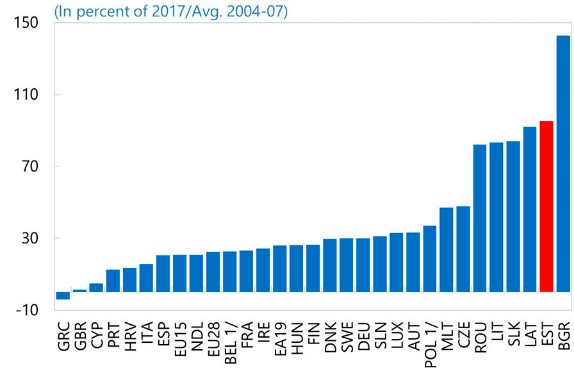
Convergence: GDP Per Capita
(In percent of EU-15)



Source: Eurostat.

… and wages high growth has continued …

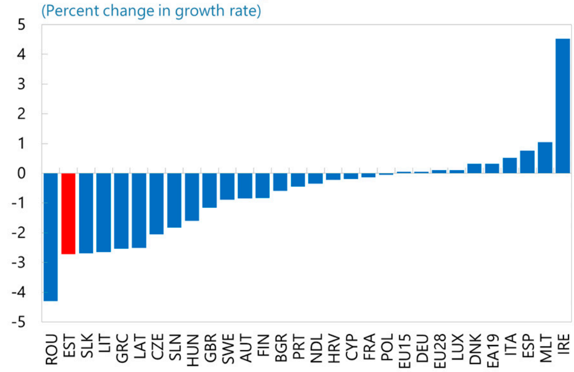
Nominal Hourly Wages
(In percent of 2017/Avg. 2004-07)



Source: Eurostat.

… even as productivity growth fell.

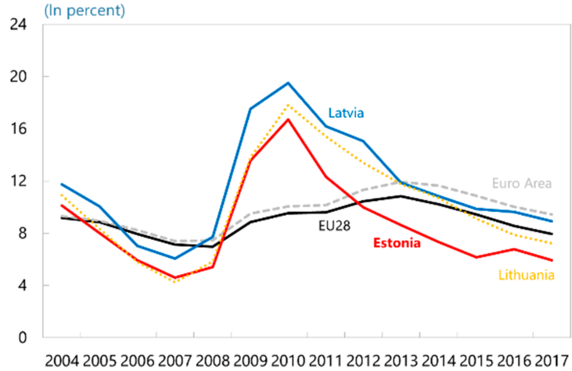
Real Labor Productivity, 2010-17 and 2002-08
(Percent change in growth rate)



Source: Eurostat.

In part, this can be explained by a rapidly tightening labor market.

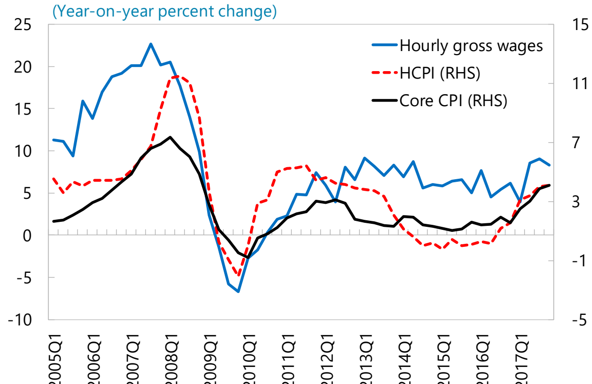
Unemployment
(In percent)



Source: Eurostat.

But wages have led inflation before

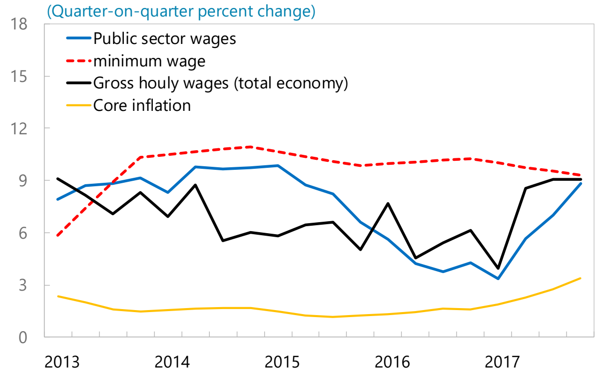
Wages and Inflation
(Year-on-year percent change)



Source: Statistics Estonia.

… and care will need to be taken to avoid a renewed wage-price spiral.

Wage Dynamics
(Quarter-on-quarter percent change)



Sources: Statistics Estonia, Country Economy, and IMF staff calculations.

INTERNATIONAL MONETARY FUND

REPUBLIC OF ESTONIA

STAFF REPORT FOR THE 2018 ARTICLE IV CONSULTATION—INFORMATIONAL ANNEX

May 4, 2018

Prepared By	European Department

CONTENTS

FUND RELATIONS

(As of March 31, 2018)

Membership Status: Joined: May 26, 1992; Article VIII

General Resources Account

	SDR Million	Percent Quota
Quota	243.6	100.00
Fund holdings of currency	209.05	85.82
Reserve Tranche Position	34.56	14.19

SDR Department

	SDR Million	Percent Allocation
Net cumulative allocation	61.97	100.00
Holdings	24.63	39.75

Outstanding Purchases and Loans: None

Latest Financial Arrangements

In millions of SDR

Type	Approval Date	Expiration Date	Amount Approved	Amount Drawn
Stand-by	03/01/2000	08/31/2001	29.34	0.00
Stand-By	12/17/1997	03/16/1999	16.10	0.00
EFF	07/29/1996	08/28/1997	13.95	0.00

Projected Payments to Fund: None

Implementation of HIPC Initiative: Not applicable.

Implementation of MDRI Assistance: Not applicable.

Implementation of CCR Assistance: Not applicable.

Exchange Arrangements: As of January 1, 2011, Estonia's currency is the euro, which floats freely and independently against other currencies.

Estonia has accepted the obligations under Article VIII, Sections 2(a), 3 and 4 of the Fund's Articles of Agreement, and maintains an exchange system free of multiple currency practices and restrictions on the making of payments and transfers for current international transactions, except for those measures imposed for security reasons in accordance with Regulations of the Council of the European Union, as notified to the Executive Board in accordance with Decision No. 144-(52/51). An updated and comprehensive list of all EU restrictions can be found at: http://ec.europa.eu/external_relations/cfsp/sanctions/measures.htm

Article IV Consultation: Estonia is on the 12-month consultation cycle. The last Article IV consultation was concluded on January 9, 2017. The Executive Board assessment is available at: http://www.imf.org/external/country/EST/index.htm

FSAP Participation and ROSCs: A review under the Financial Sector Assessment Program (FSAP) was completed at the time of the 2000 Article IV Consultation. Further Reports on Observance of Standards and Codes (ROSC) modules were discussed in the 2001 Article IV Consultations and updated during the 2002 Consultation. A FAD mission concluded a fiscal transparency ROSC in January 2009 and an FSAP update was completed in February 2009.

Anti-Money Laundering (AML) and Combating Financing of Terrorism (CFT): MONEYVAL's report on the 4th round assessment of Estonia adopted in September 2014, which is a follow-up round on the 2003 Financial Action Task Force (FATF) standard, highlighted the authorities' progress in strengthening the AML/CFT legal and supervisory frameworks, specifically development of a risk-based approach to determine priorities for AML/CFT activities, amendments to the financing of terrorism offence, and the establishment of the Economic Crime Bureau. The report notes some remaining deficiencies, in particular with respect to the sanctioning regime for AML/CFT breaches and the beneficial ownership identification of legal persons. The authorities are addressing these issues, including by preparing amendments to the penal code to allow for "administrative sanctions." They are also working on ensuring compatibility of the widespread use of information technology and AML/CFT requirements. Regulation has been issued with respect to the e-Residency program, namely with regards to customers' identification for non-face-to-face opening of bank accounts. As the e-residency program is in its early stages, it will be important to follow up on appropriate safeguards that should be put in place to ensure integrity of the program and limit the potential for abuse. Estonia issued its first regular follow-up report to MONEYVAL in September 2016 and was invited to seek removal from the follow-up process not later than September 2018.

Technical Assistance: The following table summarizes the technical assistance missions provided by the Fund to Estonia since 2000.

Republic of Estonia: Technical Assistance from the Fund, 2000–16

Department	Issue	Action	Date	Counterpart
FAD	Pension reform	Mission	April 2000	Ministries of Finance and Social Affairs
MAE	Banking Supervision	Staff Visit	December 2000	Bank of Estonia
FAD	Tax Policy	Mission	March 2001	Ministry of Finance
INS	Financial Markets	Training	September 2002	Bank of Estonia
FAD	Medium-term Budget	Technical Assistance	December 2003	Ministry of Finance
FAD	Tax Reform	Technical Assistance	February 2005	Ministry of Finance
FAD	Revenue Administration	Technical Assistance	December 2013	Ministry of Finance

STATISTICAL ISSUES

General: Estonia's data provision to the Fund is adequate for surveillance purposes. The latest data ROSC and fiscal transparency ROSC were conducted in 2001 and 2009, respectively. Estonia subscribed to the SDDS on September 30, 1998, with metadata posted on the DSSB on January 27, 1999, and met SDDS specifications on March 30, 2000. The latest (2016) annual observance report for Estonia for the SDDS is available on the Fund's website:
(http://dsbb.imf.org/images/pdfs/AnnualReports/2016/EST_SDDS_AR2016.pdf)
And the SDDS webpage for Estonia can be accessed at:
http://dsbb.imf.org/Pages/SDDS/CtyCtgList.aspx?ctycode=EST

National Accounts: The national accounts are compiled by Statistics Estonia (SE) in accordance with the guidelines of the European System of Accounts 2010 (ESA 2010). Quarterly GDP estimates at current and at constant prices are compiled using the production, income and expenditure approaches. The annual and the quarterly national accounts are compiled at previous year prices and chain-linked to 2010, using double deflation. As of September 2011, data are compiled on the basis of the new version of classification of activities EMTAK 2008.

However, there is room to improve the quality of national account statistics. Early releases are often subject to large subsequent revisions, statistical discrepancies between headline GDP and its expenditure components tend to be sizable, and indirect taxes minus subsidies in the production accounts sometimes make implausibly large growth contributions. All this complicates economic analysis.

The authorities have started addressing these issues and will be implementing a number of methodological upgrades suggested by the 2016 Article IV Consultation mission. These include: (i) more timely compilation of supply-and-use tables; (ii) use of volume indexes as the primary source for all real indirect taxes minus subsidies rather than partly deriving them by deflating nominal values; (iii) relying more on direct measures of volumes in estimating real gross value added generated by real estate activities; (iv) carrying forward input-output ratios in volume terms rather than in value terms when calculating value added by economic activity for non-financial corporations; and (v) integrating the estimation of gross fixed capital formation with the production and imports of capital goods and services. The authorities had initially planned to finalize the methodological upgrades by September 2017. However, agreement among EU members to undertake major historical revisions to national accounts statistics in 2019 means that upgrades will not be implemented until 2020.

Public Finance: Fiscal data are published by the Ministry of Finance (MoF), while historical data are also available on Statistics Estonia's website. Monthly central government data are disseminated with a lag of up to 25 days after the end of the month. This data provides detailed revenue breakdown, but expenditure breakdown is not available. Quarterly data on foreign loans and guarantees by the central government are published in Estonian with a monthly lag. The Ministry is using one of its two allowed SDDS flexibility options on the timeliness of monthly central government operations data, and disseminate these data on the National Summary Data page.

Comprehensive annual data on central and general government operations (accrual basis) are compiled according to the ESA2010 methodology. They are also reported in the *GFS Yearbook*. These data include the general government statement of operations and the financial balance sheet, including data on financial assets and liabilities, both domestic and foreign. Quarterly data for the general government are included in the *International Finance Statistics* (IFS) and quarterly debt data are reported in the World Bank's Public Sector Debt Statistics database.

Monetary and Financial Statistics: The European Central Bank (ECB) reporting framework is used for monetary statistics and data are reported to the IMF through a "gateway" arrangement with the ECB. Monetary statistics for Estonia published in the IFS cover the central bank and other depository corporations using Euro Area-wide and national residency criteria.

Financial sector surveillance: Estonia reports all 12 core and 13 additional financial soundness indicators for deposit takers on a quarterly basis.

External Sector: Quarterly balance of payments, external debt, and international investment position (IIP) data are compiled by the BoE consistent with the *Balance of Payments Manual* sixth edition (BMP6). Daily exchange rate data are available with a one working day lag. Monthly import/export data are available with a two-month lag. The Data Template on International Reserves and Foreign Currency Liquidity is disseminated monthly according to the operational guidelines and is hyperlinked to the Fund's DSBB.

Dissemination of Statistics: The Estonian authorities disseminate a range of economic statistics, with a significant amount of data are available on the Internet:

- metadata for data categories defined by the Special Data Dissemination Standard are posted on the IMF's DSBB (http://dsbb.imf.org);
- the Bank of Estonia website (http://www.eestipank.info/frontpage/en/) provides data on monetary statistics, balance of payments, IIP, external debt and other main economic indicators;
- the Statistics Estonia website (http://www.stat.ee/en) provides information on economic and social development indicators;
- the Ministry of Finance homepage (http://www.fin.ee/?lang=ee) includes information on the government's annual multi-year State Budget Strategy, as well as information and data on the national budget, and government finance statistics (deficit, debt, financial assets).

Republic of Estonia: Table of Common Indicators Required for Surveillance

As of April 23, 2018

	Date of latest observation	Date received	Frequency of Data[6]	Frequency of Reporting[6]	Frequency of publication[6]
Exchange Rates	March 29, 2018	March 30, 2018	D	D	D
International Reserve Assets and Reserve Liabilities of the Monetary Authorities[1]	March 2018	April 2018	M	M	M
Reserve/Base Money	February 2018	March 2018	M	M	M
Broad Money	February 2018	March 2018	M	M	M
Central Bank Balance Sheet	February 2018	March 2018	M	M	M
Consolidated Balance Sheet of the Banking System	February 2018	March 2018	M	M	M
Interest Rates[2]	February 2018	March 2018	M	M	M
Consumer Price Index	February 2018	March 2018	M	M	M
Revenue, Expenditure, Balance and Composition of Financing[3]—General Government[4]	Q4/2017	March 2018	Q	Q	Q
Revenue, Expenditure, Balance and Composition of Financing[3]—Central Government	January 2018	March 2018	M	M	M
Stocks of Central Government and Central Government-Guaranteed Debt[5]	Q4/2017	March 2018	Q	Q	Q
External Current Account Balance	Q4/2017	March 2018	Q	Q	Q
Exports and Imports of Goods and Services	January 2018	March 2018	M	M	M
GDP/GNP	Q4/2017	February 2018	Q	Q	Q
Gross External Debt	Q4/2017	March 2018	Q	Q	Q
International Investment Position[7]	Q4/2017	March 2018	Q	Q	Q

[1] Any reserve assets that are pledged of otherwise encumbered should be specified separately. Also, data should comprise short-term liabilities linked to a foreign currency but settled by other means as well as the notional values of financial derivatives to pay and to receive foreign currency, including those linked to a foreign currency but settled by other means.
[2] Both market-based and officially-determined, including discount rates, money market rates, rates on treasury bills, notes and bonds.
[3] Foreign, domestic bank and domestic nonbank financing.
[4] The general government consists of the central government (budgetary funds, extra budgetary funds, and social security funds) and state and local governments.
[5] Including currency and maturity composition.
[6] Daily (D), Weekly (W), Monthly (M), Quarterly (Q), Annually (A); Not Available (NA).
[7] Includes external gross financial asset and liability positions vis-à-vis nonresidents.