EESTI PANK

ESTONIAN ECONOMY AND MONETARY POLICY

3
2018

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CONTENTS

INTRODUCTION

A lot of countries have had to adapt to expanding trade barriers since spring of this year, though these have not damaged the growth in global trade, at least not yet. Growth slowed a little in the summer months in the global economy as a whole, but this was partly caused by the typical cooling of the economic cycle. Although growth has eased a little, demand still increased in foreign markets, which was reflected in the Estonian economy as export revenues from goods and services increased substantially.

Revisions to the economic statistics recently released by Statistics Estonia confirm what was suspected, that the Estonian economy did not start growing sharply in 2017 but was already doing so earlier. This is more in line with the deepening shortage of labour, which has been a cause of concern for companies for a long time. Unfortunately the state of the labour market reflects not only the expansion of the economy, but also the lack of interest from companies in increasing productivity and in investment. This is particularly noticeable in branches of the economy with lower productivity, where available labour resources have become fewer, but this has not led to any increase in investment. Such a pattern could earlier be explained by uncertainty about the future, but now the main reason is probably that there is less future for types of production using outdated or obsolete technology, while there are difficulties in moving over to new technology. Branches of the economy with high productivity invest more and this attracts resources, including the reallocation of labour. However, the total purchases of fixed assets by the whole business sector are so small despite good funding conditions that they indicate bottlenecks that need to be resolved in the business environment.

The lack of investment by businesses and the higher savings rate of households means the current account has remained in surplus and Estonia is a net lender to the rest of the world. The income level of Estonia is still below the average for the European Union, so it might be expected that loans might be taken to finance investment so as to achieve faster growth and a higher income level. Instead, stresses have built up in the labour market. The unemployment rate has fallen to one of the lowest levels ever recorded and wage growth does not show significant signs of slowing. Given that some of the unemployed are those who entered the labour market under the Work Ability Reform and have not yet found work, the number of unemployed would have been even lower without the reform. The exceptionally low level of unemployment illustrates well the cyclical peak the Estonian economy has reached. It also indicates that the current rate of growth in the economy is not built on a stable foundation, and some decline in growth may be expected.

THE EXTERNAL ENVIRONMENT

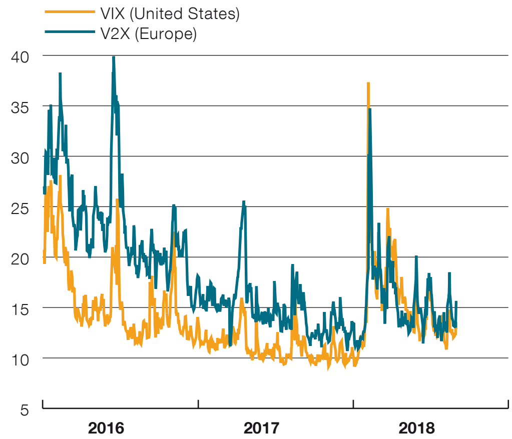
THE GLOBAL ECONOMY

The global economy again grew quite strongly in the summer months. The earlier rapid growth has faded as growth in global industrial output volumes and trade volumes has slowed and the growth cycle of the economy has reached a mature phase. The growth has been more uneven across countries and regions, especially compared to where it was at the end of last year (see Table 1). The introduction of new trade barriers and sanctions by several countries together with geopolitical tensions caused volatility in global financial markets in the summer (see Figure 1). However, these have not yet had any visible impact on the real economy. The consolidated index for global economic activity has weakened, primarily because of a fall in new orders, and looking forward, the risk of a sharp slowdown in global growth has risen.

Advanced economies grew at quite different rates in the second quarter. Growth accelerated in the US with support from the public sector, but it slowed a little in the euro area, the United Kingdom and Japan. There are various reasons for this, ranging from extraordinary weather conditions and uncertainty caused by barriers to trade, to domestic political choices. Even though the central banks of large countries are running a tighter monetary policy, funding conditions remain accommodative and equity prices in developed countries have generally risen.

Problems have deepened in some developing countries. Trade tensions have led financial markets to show a notable preference for the safe asset classes of developed countries once

Figure 1. Stock market volatility indexes in the USA and Europe



Last observation 31.08.2018
Source: Bloomberg

again, while there has been a moderate outflow of capital from developing markets and a depreciation in the currency of some developing countries including Turkey, Argentina, Brazil and India, all of which indicates a rise in uncertainty. The current account deficit, external debt and public and private sector debt burdens are generally large in those countries. Growth in the important developing countries like China and some oil exporters has been stable even so, or has even increased because of rising commodities prices or increased public sector spending.

The increased import tariffs imposed by the US have not yet had a substantial negative impact on the Chinese economy. Yearly growth in the economy was almost the same in the second quarter as in the first at 6.7%. Output fell, but foreign trade remains lively and exports grew rapidly at a rate of 11.8% in the second quarter. Imports also grew strongly in the summer because while

Table 1. GDP growth in different regions in 2012-2018 (change, %)

	2012	2013	2014	2015	2016	2017	Q1 2018*	Q2 2018	2018
World	3.5	3.5	3.6	3.5	3.2	3.8			3.9
Advanced economies	1.2	1.3	2.1	2.3	1.7	2.3			2.4
Emerging markets and developing economies	5.4	5.1	4.7	4.3	4.4	4.8			4.9
Euro area	-0.9	-0.3	1.2	2.1	1.8	2.4	2.5 (0.4)	2.2 (0.4)	2.2
United States	2.2	1.7	2.6	2.9	1.5	2.3	2.6 (0.6)	2.9 (1.0)	2.9
China	7.9	7.8	7.3	6.9	6.7	6.9	6.8 (1.4)	6.7 (1.8)	6.6
Japan	1.5	2.0	0.4	1.4	0.9	1.6	1.1 (-0.2)	1.0 (0.5)	1.0
United Kingdom	1.5	2.1	3.1	2.3	1.9	1.8	1.2 (0.1)	1.3 (0.4)	1.4

* GDP growth from the same quarter of the previous year and from the previous quarter in brackets; 2018 is WEO forecast
Sources: IMF World Economic Outlook Update (July 2018), OECD, Eurostat, national statistics

China raised retaliatory import tariffs on goods from the US, it lowered customs duties on products from several other countries. Domestically the government continues to take measures enthusiastically to reduce the risks and debt burden of the financial sector. This should mean that in future the economy develops in a more balanced way than it has been doing. However, trade barriers will make it harder for China to meet its goals for economic growth.

The US economy is currently doing well. Yearly growth in the economy increased to 2.9% in the second quarter thanks to strong domestic demand and increased public sector spending. Quite surprisingly, the trade tariffs introduced by the US government had a beneficial effect on foreign trade in the summer, as trade volumes were increased as a precaution in fear of retaliatory measures from trading partners. This can be seen in the increase in exports of soya beans to China, for example. Looking forward though, growth is more likely to fade in the US economy as import duties reduce foreign demand in the end, while the increased budget spending and the tax cuts are planned to be temporary. US industrial output grew rapidly in June and July and corporate confidence is strong, but the activity index for the industrial sector[1] has gradually weakened. This is largely because of higher prices for production inputs, obstacles in supply chains and the potentially harmful impact of tariffs. Consumers in the US are doing well in contrast, as unemployment is very low at 3.9% and annual wage growth has picked up to almost 5%. This is reflected in solid figures in confidence indexes[2] and strong growth in retail sales. In line with this, inflation remains high at 2.9%.

Growth has remained moderate in the Japanese economy. Consumer spending and corporate investment helped the yearly growth in the economy to remain at 1%. The export growth which has supported the economy until now slowed a little in the summer, while trade barriers reduced exports to the US. Several Japanese industrial districts suffered from floods and heat waves in the summer, and growth in industrial output dropped quite sharply in July. New export orders are down and the rapid rise in commodities prices has raised the price of production inputs, and in consequence the activity index for manufacturing[3] has weakened. There are still no clear signs of wage growth picking up in Japan, and while yearly growth in wages reached 3.3% in June, it fell again in August. Unemployment is extraordinarily low however, at 2.4%. It is expected that employers hit by labour shortages will turn to artificial intelligence and the wider use of technology, and will also increase the employment of women. The rapid rise in food prices has lifted inflation to close to 1%.

The economy in the United Kingdom performed a little better as household consumption increased. Yearly growth in the economy rose to 1.3% in the second quarter, and export growth remained strong in the summer while the foreign trade deficit narrowed. The exchange rate for the pound has declined steadily against other major currencies in recent months as the risk has increased of the United Kingdom exiting the European Union without a trade agreement, which would make trading relations much more complicated. The lower exchange rate does however favour exports. Output fell in the summer though, as it has for several consecutive months. The activity index for manufacturing[4] also weakened in June and July as corporate confidence[5] was reduced by trade barriers, domestic and foreign policy confusion about Brexit, and rising prices for production inputs. New orders are also down and companies have noted ever sharper labour shortages. Consumers remain uncertain[6] about the future, even though unemployment remains very low at 4% and the employment rate is high. The cause of uncertainty may be that wage growth has slowed in recent months. Inflation in contrast picked up in July for the first time in several months to 2.5% as various services rose in price.

1 United States Manufacturing PMI, IHS Markit.

2 The University of Michigan Consumer Sentiment Index.

3 Japan Manufacturing PMI, IHS Markit.

4 The IHS Markit/CIPS UK Manufacturing PMI.

5 The CBI Business Optimism indicator.

6 The Gfk Consumer Confidence index.

Equity prices rose in advanced economies. The MSCI World share index for advanced economies and the S&P 500 index for US stock markets both rose in July largely in consequence of the publication of good financial results by companies. Stock markets have still been supported by constant economic growth in developed countries. Share prices mostly rose in Europe in July as well, but in August they started to fall mainly because of political disagreements about the Italian budget. Share prices in several developing countries, including China, fell at the start of August primarily because of trade tensions and stresses in currency markets (see Figure 2).

Interest rates fell on risk-free sovereign bonds towards the end of summer. When the Japanese central bank announced in July that it would reduce its purchases of long-term bonds, the interest rates rose on the bonds of Japan and several other advanced nations, such as the US, the United Kingdom and Canada. Heightened tensions in developing markets in August led global financial markets to become more risk averse, and the interest rates on the 10-year sovereign bonds of the US, Germany, Japan and the United Kingdom fell. Increasing political confusion in Europe led the interest spreads on sovereign bonds to widen again between Germany and some southern European countries like Italy and Greece.

Commodities prices moved in different directions. The price of Brent crude fell from July to the middle of August as trade conflicts escalated and production volumes increased in several parts of the world. By the end of August the oil price had climbed back to 78 dollars per barrel, however, as the oil supply from Iran was reduced by sanctions. Metals prices also fell, primarily because of uncertainty about whether growth would continue in the global economy. Agricultural commodities in contrast saw grain prices rise because the extraordinarily hot summer in the northern hemisphere damaged harvests (see Figure 3).

THE EURO AREA

Growth in the economy in the euro area was stable in the first half of 2018, but slower than in the previous year. Eurostat estimated the quarterly growth in the second quarter at 0.4%, largely thanks to better economic results than expected in Germany. The annual growth rate slowed to 2.2%. Growth continues to be driven mainly by private consumption while favourable funding conditions helped investment to grow as well. Net exports proved a brake on economic growth for the second quarter in a row. There is no convincing reason yet to connect this to the tensions in international trade however, as it was due more to a sharp increase in imports than to a fall in exports. The euro exchange rate is putting pressure on euro area exporters though, as it was a little lower than in the first quarter, but still 4-5% higher than at the same time a year earlier (see Figure 4).

Figure 2. World stock indexes (03.01.2016 = 100%)

Last observation 4.09.2018
Source: Bloomberg

Figure 3. Commodity price indexes and oil price, USD

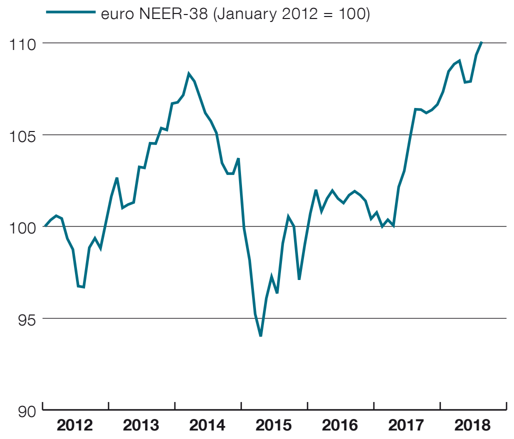
Sources: HWWI, Reuters, Bloomberg

Indexes of economic activity in recent months give grounds to expect that growth will continue at more or less the same rate in the third quarter. The Purchasing Managers Index (PMI) published by Markit has remained at more or less the same level since March, and indicates quarterly GDP growth of 0.4-0.5%. Various indicators show confidence remaining stronger than of late among both companies and consumers, though a shallow but clear downward trend is becoming more and more discernible.

Labour shortages are biting harder and harder in the euro area. The unemployment rate fell to 8.3% in the second quarter, which is its lowest since 2008 (see Figure 5). Growth in employment remained at 0.4% and survey results indicate that companies are planning to hire additional staff in future. Labour shortages are considered one of the main factors hindering production in the euro area, and are particularly sharp in countries where the unemployment rate is very low, like Germany, the Netherlands and Estonia. Wage growth has picked up a little, which is in keeping with other developments in the labour market. General inflation has also picked up in recent months, which is likely to keep wage growth high.

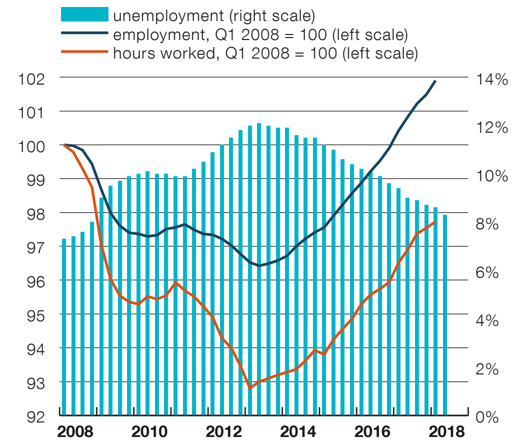
Inflation has been pushed a little above its target level by temporary factors. Rising prices for energy and services pushed inflation in the euro area to 2.1% in July, which is its highest level since the end of 2012 (see Figure 6). It fell by 0.1 percentage point in August, as the rise in energy prices and core inflation were a little lower. This slight fall in inflation was expected by the market. Core inflation, which is the constant component of inflation, has remained at around 1% since the start of the year. The Survey of Professional Forecasters found that long-term, five-year ahead, inflation expectations for the euro area remain anchored at 1.9%. The accommodative monetary policy in the euro area has helped to keep inflation at close to its target (see Box 1).

Figure 4. Trade-weighted euro exchange rate



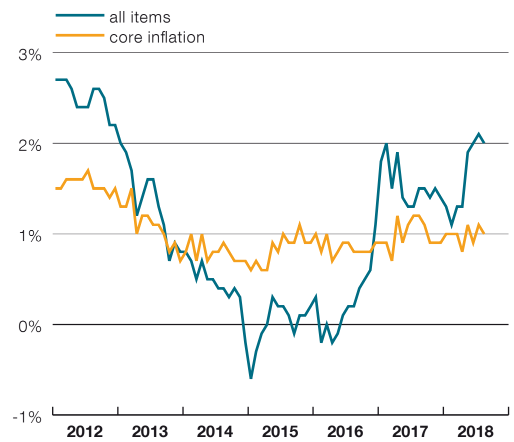
Source: European Central Bank

Figure 5. Employment and unemployment in the euro area



Source: Eurostat

Figure 6. Euro area inflation

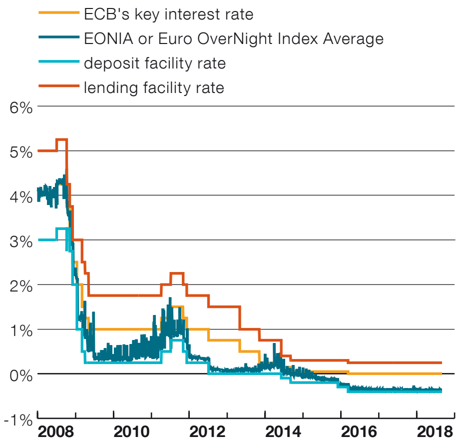


Source: Eurostat

Box 1. The euro area's monetary policy environment

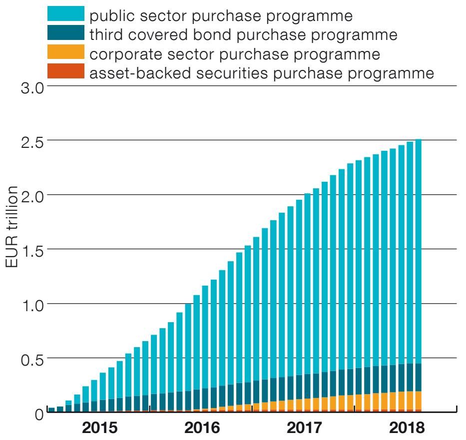
The objective of the Eurosystem monetary policy is to maintain price stability in the euro area. The forecast from the European Central Bank of September 2018 expects that inflation will climb to 1.7% by 2020[7]. Inflation is being boosted by monetary policy measures and the strong economy in the euro area. The Governing Council of the European Central Bank has held monetary policy interest rates at their lowest levels under the economic and monetary union in the first three quarters of 2018, with the minimum bid rate on main refinancing operations at 0.00%, the lending facility rate at 0.25%, and the deposit facility rate at -0.40% (see Figure B1.1). The Governing Council expects these rates will remain at their current level at least through the summer of 2019, and in any case for as long as necessary to ensure the continued sustained convergence of inflation to its target level.

Figure B1.1. Eurosystem key interest rates and EONIA



Last observation 31.08.2018
Source: European Central Bank

Figure B1.2. Eurosystem holdings under the asset purchase programme



Last observation 31.08.2018
Source: European Central Bank

The Eurosystem has complemented low interest rates with other monetary policy measures, in order to ease financing conditions and ensure the revitalisation of the supply of credit even more strongly to help in meeting the goal of price stability and in supporting the functioning of the monetary policy transmission channels. The monthly purchases under the asset purchase programme are of 30 billion euros from January 2018 to September, and will be 15 billion euros a month from October to December. Net purchases will cease at the end of 2018. After net asset purchases end, the Governing Council plans over a long period as part of the programme to continue reinvesting the principal repaid from securities that were bought earlier and have reached maturity. This is very important for the Eurosystem as in this way the programme can provide long-term support to monetary policy and favourable liquidity conditions. The expected effect of the measures on the economy of the euro area and on inflation will be seen in the medium term.

The support from the monetary policy measures meant that the consolidated balance sheet of the Eurosystem at the end of August stood at 4.6 trillion euros, which is 2.2 times what it was in autumn 2014, and was equal to 41% of the GDP of the euro area. Reinvestment of the asset purchase programme will help to maintain the size of the balance sheet at about the same level for some time to come. As at 31 August total asset purchases stood at 2.5 trillion euros (see Figure B1.2). At 2.1 trillion euros, the largest part of the portfolio consists of public sector

7 European Central Bank press conference, 13 September 2018.

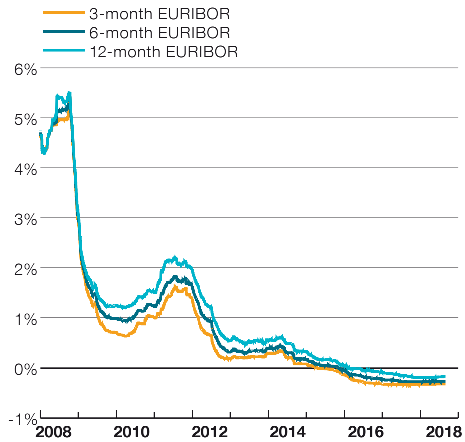
bonds, of which Eesti Pank's cumulative net purchases accounted for 5.4 billion euros at the end of August 2018.

Average yearly growth of the money supply in the euro area remains strong, and in the second quarter of 2018 the broad money indicator M3 was up 4.1% and the narrow indicator M1 was up 7.3%. The growth was a little slower than in the previous quarter because the asset purchases were smaller this year. The growth remained stable in July. The extremely low interest rates have reduced the return earned by the non-financial sector from term deposits, which has fallen to close to 0.2% in the euro area on average. The yearly growth in the stock of corporate deposits was a little slower than earlier in the second quarter, though the growth in the stock of household deposits was a little faster. The buffers that have been built up generally mean that less external funding is needed for necessary spending and more can be consumed in a favourable economic environment.

Yearly growth in the stock of loans to the private sector has accelerated since the second half of 2015. The yearly growth in the stock of both housing loans and corporate loans has been above 3% since autumn 2017, and lending to companies has grown fastest. Corporate loans have grown for all maturities, with support for growth coming from the increased need for investment in fixed assets. Interest rates on loans are at unprecedentedly low levels, averaging 1.7-1.8%. The spreads between interest rates for euro area countries facing problems and other member states and those between rates for loans of over 1 million euros and under 0.25 million euros have narrowed significantly in recent years.

Such changes indicate that monetary policy measures have improved access to loans for the private sector. The latest Bank Lending Survey of lending by banks in the euro area shows that the lending conditions for companies and households have improved[8], demand for credit is growing, and credit institutions have optimistic expectations for the near term. Banks report that their financing costs have been brought down with help from the monetary policy measures, and that the credit supply has been encouraged by stronger competition and lower risk assessments. It should be noted though that interest rates remaining low could harm the profitability of banks in the long term, and this in turn could reduce their ability to lend and increase the risks to financial stability. At the end of June this year credit institutions in the euro area were able for the first time to repay before maturity the targeted long-term loans that were issued from June 2016 to March 2017 for up to four years with low interest rates in order to revive lending to companies and households in the euro area. There was very little interest in repaying these loans and less than 3% of the total value was repaid, indicating that banks expect funding conditions and sources to remain favourable. As the banks use the targeted loans for lending to the non-financial sector, the supply of loans to companies and households continues to grow.

Figure B1.3. Euro area money market interest rates



Last observation 31.08.2018
Source: Bloomberg

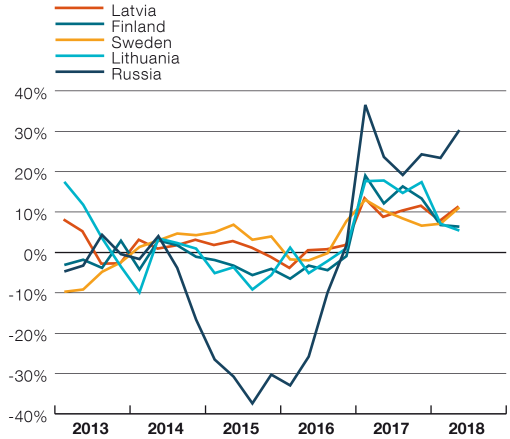
8 Changes in lending conditions are interpreted in the survey by analysing the net difference in the shares of those banks that have noted in the review that they have tightened credit conditions such as margins or collateral demands, and those banks that said they have loosened their conditions. A negative net rate means that a majority of banks have loosened their credit conditions.

The accommodative monetary policy in the euro area has helped short-term money market interest rates stay at their lowest ever level. The expectations for short-term interest rates that are revealed by financial instruments remain low, and this also keeps long-term interest rates low. EONIA was at between –0.35% and –0.37% from June to August, holding just above the interest rate on the standing deposit facility. At the end of August the three-month EURIBOR was at –0.32%, the six-month EURIBOR was at –0.27%, and the 12-month EURIBOR was at –0.17%, so they have remained at the level of the end of February (see Figure B1.3). The money market yield curve as shown by the gap between the one and 12-month EURIBORs was the same as in May, which shows that the expectations of the market for a rise in monetary policy interest rates have not changed.

ESTONIA'S MAIN TRADING PARTNERS

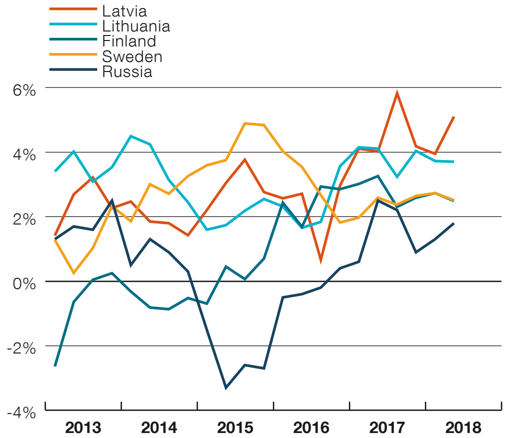
The economies of Latvia and Lithuania are growing strongly. Yearly growth in the Latvian economy picked up to 5.3% in the second quarter, while the Lithuanian economy grew by 3.8% (see Figure 7). Quarterly growth also remained strong and was measured at 0.9% in both countries. The growth is based largely on domestic demand. Rapid rises in household incomes have increased private consumption and boosted retail sales, while investment has also grown rapidly. Investment activity has been particularly strong in construction, which partly reflects the support from European Union funds for the rapid growth in infrastructure investment. Goods exports have also grown strongly (see Figure 8) as has manufacturing. Labour market indicators are good as unemployment fell in the second quarter in Latvia (see Figure 9) and the labour force participation rate hit record levels in the first quarter. The number of people in employment in Lithuania was at its highest ever in the first quarter and the unemployment rate declined significantly in the second quarter. Despite the rapid growth in the economy the net migration of Latvia has remained negative for some years, though in Lithuania immigration exceeded emigration last year. Inflation has been relatively stable in Latvia for the past

Figure 8. Yearly growth in exports of trading partners



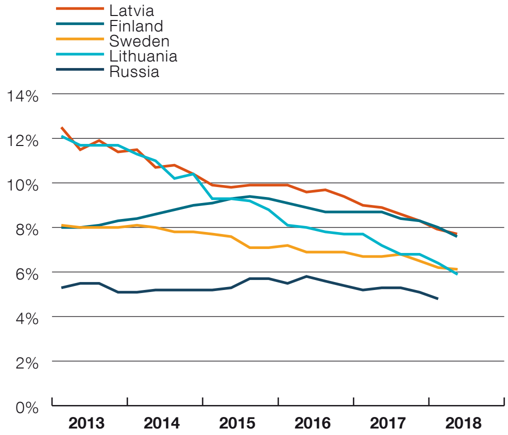
Source: Reuters

Figure 7. Yearly growth in GDP of trading partners



Source: Eurostat

Figure 9. Unemployment rate in trading partners



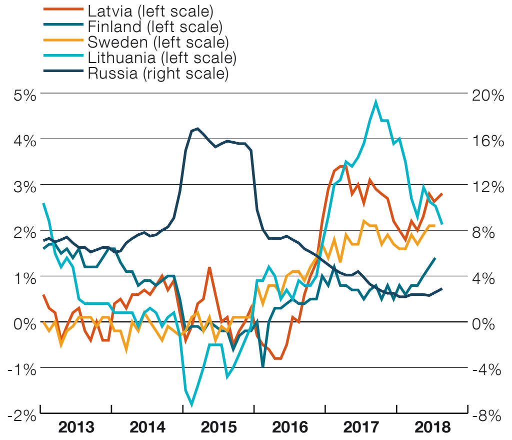
Sources: Eurostat, OECD

half year, and in August, consumer prices rose by 2.8% (see Figure 10). In Lithuania, the annual growth rate of consumer prices declined to 2.1% in August. In both Latvia and Lithuania, the price increase of services has slowed considerably.

The economic climate in the Nordic countries is good. In the second quarter, the annual GDP growth of both Finland and Sweden was 2.5% and the economies of both countries grew from the previous quarter. Growth was mainly based on investments and household consumption in the second quarter. On top of the strong domestic demand, foreign trade activity is high in Finland and Sweden and the value of goods exports from both countries was notably higher in the first half of the year than a year earlier. Growth remains strong in the industrial sector in Finland, but the construction sector faced some limits in the second quarter because of the strike days resulting from the breakdown of negotiations over a collective agreement with the Finnish Construction Trade Union. All major branches of manufacturing in Sweden saw growth in the first half of the year and despite trending downwards, the industrial Purchasing Managers Index stood at over 50 points, which indicates expansion. The Nordic labour markets are also good as unemployment is falling and the number participating in the labour force continued to rise. Inflation remains low in both countries, with the yearly rise in consumer prices at 1.4% in Finland in July and 2.1% in Sweden. Although the Swedish economy is doing well and inflation has risen a little, the central bank has kept its monetary policy accommodative and this is one reason why the krona fell to its lowest level for around a decade.

The Russian economy is continuing its gradual recovery. Yearly growth in the economy picked up to 1.9% in the second quarter, although for the first half of the year as a whole growth was measured at only 1.6%. Investment and consumption were up in the first half of the year on a year earlier, in part because of the football World Cup, but the construction sector remained in decline. Although manufacturing grew strongly in the second quarter, the Purchasing Managers Index of the sector has fallen below 50 points in recent months. The value of exports was around one third higher in the second quarter than a year earlier, though the lion's share of the growth came from the higher price of oil, while export volumes of crude oil shrank at the same time. Export volumes of gas and metal products nevertheless increased in the second quarter. Growth in real wages supported household consumption, and sales volumes at retail companies have grown steadily in the past half year. In August, yearly growth of consumer prices accelerated to 3.1%. As a result of higher inflationary pressures and a rise in VAT in the beginning of 2019, the Russian central bank raised its key interest rate to 7.5% in mid-September. Extension of the sanctions on Russia by the US government at the start of August led to a downturn in the Moscow Stock Exchange's RTS index. The rouble also weakened to its lowest level of the past two years.

Figure 10. CPI inflation of trading partners



Source: Eurostat

THE ESTONIAN ECONOMIC ENVIRONMENT

ECONOMIC ACTIVITY

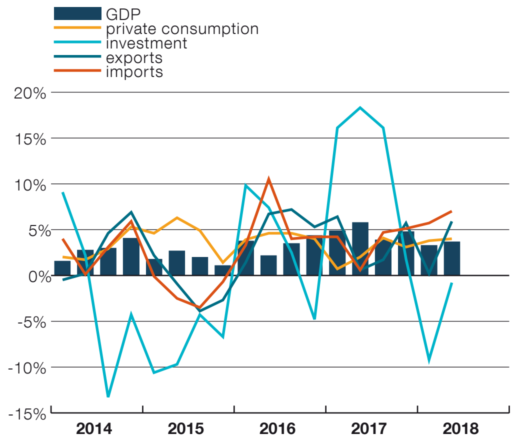
Growth has been fast in the Estonian economy in recent years and has exceeded its estimated sustainable level. It remained fast in the second quarter, as the economy increased by 3.7% from the second quarter of 2017 and by 1.4% from the first quarter of 2018 seasonally and calendar adjusted. Growth was again encouraged by accommodative monetary and fiscal policies and by a strong external environment (for more on the impact of monetary policy see Box 2).

The good performance of the economy conceals the fall in corporate investment, which occurred despite continuing strong demand growth as both exports and private consumption grew faster in the second quarter than GDP and made a large contribution to overall economic growth (see Figure 11). The weakness of investment is a concern as it limits growth in productivity and thus the long-term development of the economy. It can partly be explained by the shortage of resources caused by the recovery in the housing market and the increased investment by the general government, as the public and private sectors are competing for the same resources. As investment as a whole is down however, there are probably additional reasons for the fall in investment by companies. It is not impossible that corporate investment has simply been underestimated in the statistics, as has happened previously.

Almost all the sectors of the economy contributed to the growth in GDP in the second quarter (see Figure 12). A large part of the growth still came from the construction sector, reflecting the rapid growth in investment in housing on the demand side of the economy, but the exporting sector also grew strongly, as is shown by the rapid growth in value added in manufacturing and transportation and storage. In the service sector it was high productivity activities, such as business services, professional, scientific and technical activities, and information and communication, that grew quickly.

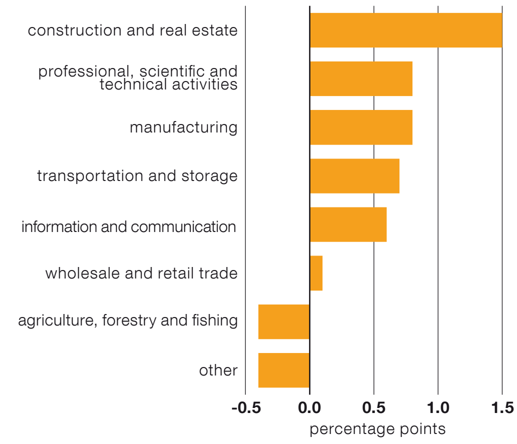
The growth in manufacturing slowed in June and July. Industrial output in July was up around 4% on the previous July, but a large part of that

Figure 11. GDP growth and its components



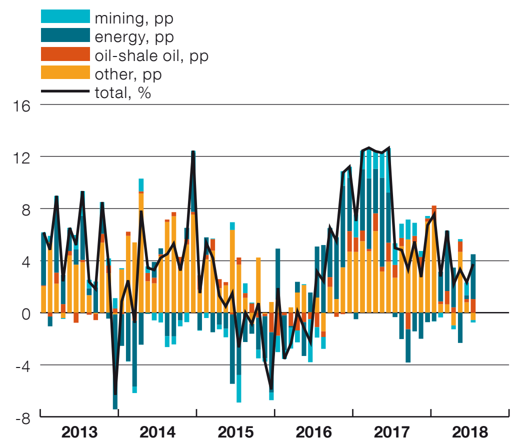
Source: Statistics Estonia

Figure 12. Contributions of sectors to GDP growth in Q2 2018



Source: Statistics Estonia

Figure 13. Yearly growth in industrial production



Sources: Statistics Estonia, Eesti Pank

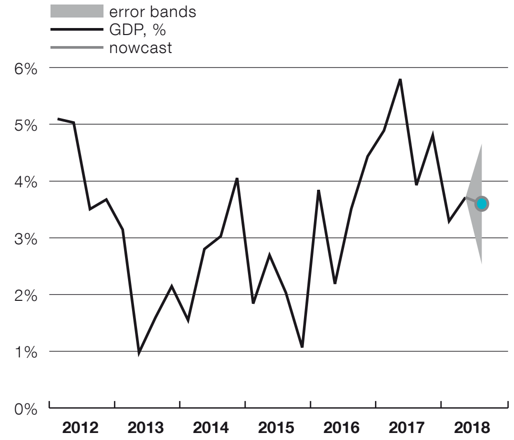
came from oil shale through electricity production and shale oil production (see Figure 13). A survey of industrial companies showed estimates of production in recent months were much lower for manufacturing companies for July and August than they were for May or June. Expectations remain optimistic for output in the coming months though.

The whole economy, not just the industrial sector, is looking forward to the near-term future with optimism. The economic sentiment index, which describes the expectations of companies and consumers for the months ahead, remains higher than in previous years. The Eesti Pank short-term outlook model for economic growth, which uses various monthly indicators as inputs, currently shows that GDP will continue to grow at around the same rate in the third quarter (see Figure 14). Growth in the economy in the third quarter may well be slowed by the unusually hot and dry summer, which has reduced value-added from agriculture and may also have affected other branches of the economy.

The ability to grow further in the future is threatened by supply-side restrictions, including the labour shortages confronting companies, as growth has been running at above its sustainable level for some time now. Labour shortages most affect branches of the economy where productivity is low and wages are below average (see Figure 15). The resulting pressure on wages to rise fast may reduce the ability of such industries to export. The problem of competitiveness is probably eased by the similar pressures on low productivity branches of the economy in other countries in central and eastern Europe with which Estonian exporters compete.

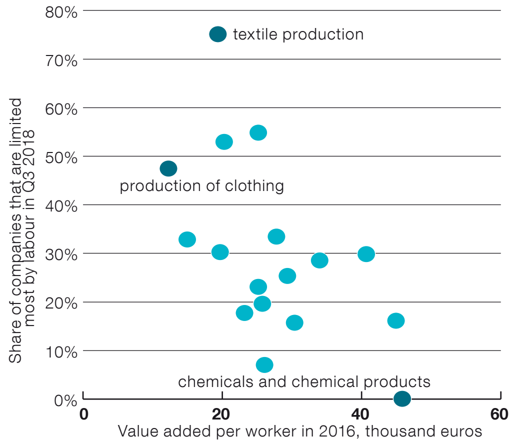
Wage pressures do not necessarily make industries suffering from labour shortages become more capital intensive. Such industries equally have little spare production capacity (see Figure 16). Labour shortages may thus indicate not just a shortage of people, but also the lack of production capacity relative to demand from the market. The shortage of machinery is not pushing companies to invest though, as the higher cost of labour means there is little future for such low productivity industries in Estonia. Branches of the economy with low productivity

Figure 14. GDP growth and current quarter nowcast



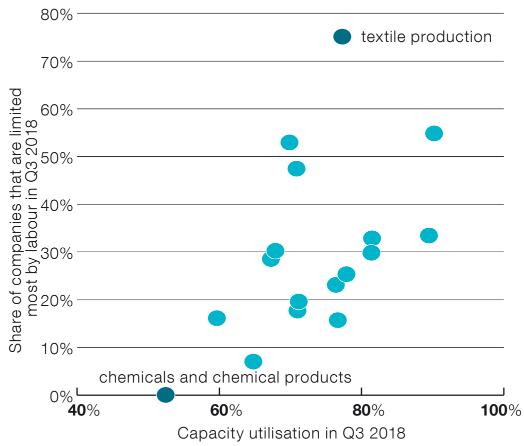
Source: Eesti Pank

Figure 15. Labour productivity and labour shortages in branches of manufacturing



Sources: Statistics Estonia, European Commission

Figure 16. Capacity utilisation and labour shortages in branches of manufacturing



Source: European Commission

invest less per worker than branches with high productivity, and growth in investment has on average been slower in the parts of the economy with low productivity.

Box 2. How strongly euro area monetary policy affects Estonia

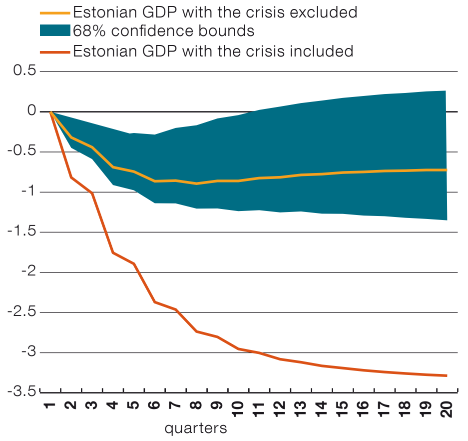
The euro area monetary policy has an effect on the Estonian economy, but the question is how strong it is. The economic cycles in Estonia and the other Baltic states have been rather volatile and earlier studies have found that the effects of monetary policy shocks are much larger for Estonia and other Baltic states than they are on average for the euro area.[9]

The level of price and wage rigidities mainly determines the strength of the effect of monetary policy on the economy in New Keynesian Dynamic Stochastic General Equilibrium models. However, prices and wages in Estonia are not likely to be so much more rigid than those in other European countries[10] that they could explain such large-scale differences. Various factors may still increase the impact of monetary policy. Housing loans in Estonia are based on variable interest rates much more commonly than in other countries in the euro area, meaning that monetary policy is transmitted more directly and faster into the economy, though it is unlikely that this would explain all of the large difference either.

This analysis shows how certain events can affect estimates of the impact of monetary policy. If the period of the economic crisis of 2008 is excluded, estimates of the impact of monetary policy in Estonia are reduced drastically and the estimate for Estonia is statistically no different from those for the whole euro area, although in the base estimate the impact on indicators for Estonia is still somewhat stronger than that for the euro area.

As the impact of monetary policy cannot be observed directly in full, it is assessed using statistical and economic methods. A vector autoregressive (VAR) system of equations is often used, where the effects of monetary policy are identified using the Taylor rule[11]. It is assumed that output and inflation are affected simultaneously by the monetary interest rate, though the monetary policy interest rate does not affect the other variables in the same period. This approach mostly works well, though the residuals in the equation for the interest rate must not correlate with other events in the economy. If another major event occurs in the economy at the same time as the monetary policy shock, and this is not taken into account, the VAR system will interpret that as a change due to monetary policy. Some correlation is inevitable in every sample, though it may present a serious problem in short time series, where it might ap-

Figure B2.1. Average impact of euro area monetary policy on Estonian GDP, %



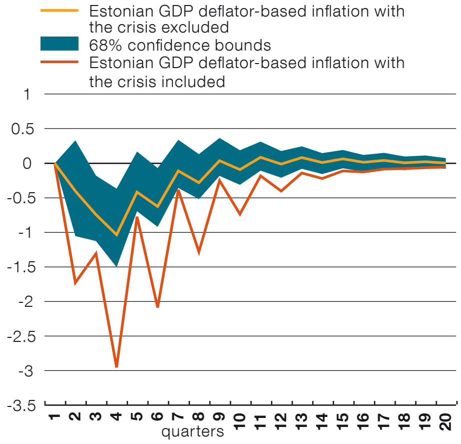
Sources: Eurostat, Statistics Estonia, Eesti Pank

9 See Errit, G. and Uusküla, L. (2014). Euro area monetary policy transmission in Estonia. Baltic Journal of Economics, 14(1-2):55-77, and Stakenas, J. and Stasiukynaite, R. (2017). Monetary policy transmission: the case of Lithuania. Baltic Journal of Economics, 17(1):1-24.

10 Branten, E., Lamo, A., Rõõm, T. (2018). Nominal wage rigidity in the EU countries before and after the Great Recession: evidence from the WDN surveys, Eesti Pank working paper no 3.

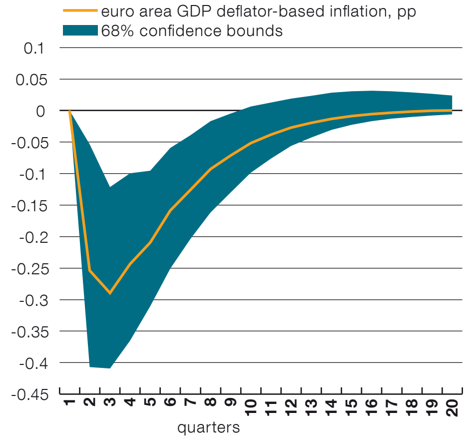
11 The rule was proposed in 1993 by John B. Taylor. He found that central bank interest rates rise when inflation and economic growth rates pass equilibrium values.

Figure B2.2. Average impact of euro area monetary policy on Estonian GDP deflator-based inflation, pp



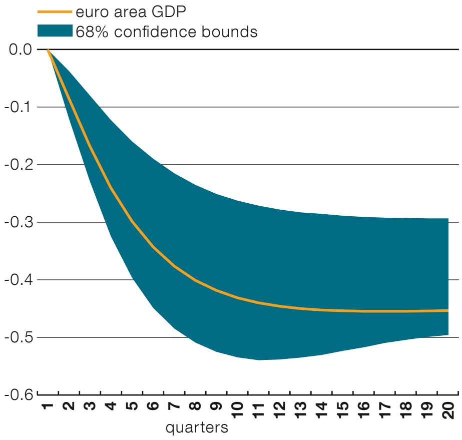
Sources: Eurostat, Statistics Estonia, Eesti Pank

Figure B2.4. Average impact of euro area monetary policy on euro area GDP deflator-based inflation, pp



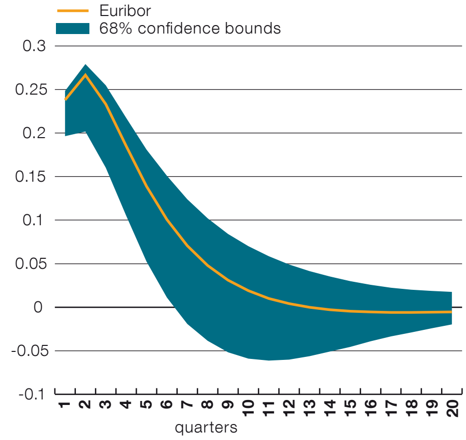
Sources: Eurostat, Statistics Estonia, Eesti Pank

Figure B2.3. Average impact of euro area monetary policy on euro area GDP, %



Sources: Eurostat, Statistics Estonia, Eesti Pank

Figure B2.5. Average impact of euro area monetary policy on Euribor, pp



Sources: Eurostat, Statistics Estonia, Eesti Pank

pear that other economic events are occurring together with monetary policy changes.

The yellow lines in Figures B2.1 to B2.5 show the average effect of a monetary policy shock on the euro area and on Estonia in the period from the first quarter of 1997 to the first quarter of 2018, with the events of 2008 excluded. The 68% confidence bounds for the estimate are indicated by the blue area around the point estimate.

The estimated model shows that a rise of 0.25 percentage point in the three-month Euribor interest rate leads to a fall in GDP in the euro area on average of more than 0.4% over five years. The GDP deflator inflation for the euro area falls by a little more than 0.2 percentage point over a year, and a year later by around 0.1 percentage point. Estonian GDP falls by around 0.8% over the five years and inflation falls by around 0.5 percentage point over a year and a half.

The differences between economic developments in Estonia and the euro area are not significant in statistical terms even within 68% confidence bounds, while the difference between point estimates is economically still sizable. It is understandable though that the impact on one small region may differ slightly from the overall average impact.

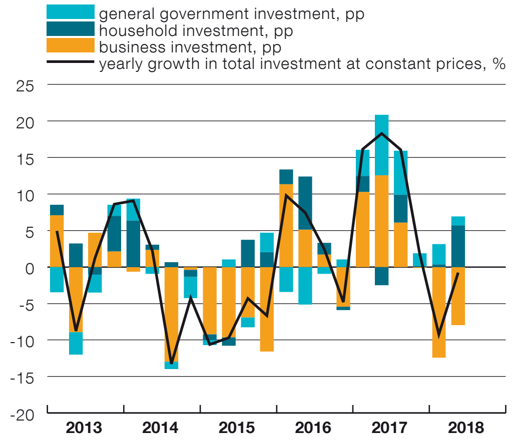
All the estimates for Estonia are substantially smaller than those indicated in orange, which are taken from a model where the impact of the financial crisis is not excluded. In this case Estonian GDP falls by as much as 2% and inflation falls by more than one percentage point. The shocks of 2008 may well in fact have been correlated with monetary policy shocks. The recession that started in 2008, which was not evidently caused by the tightening of monetary policy at the same time, may have significantly affected how the impact of monetary policy was understood.

In this estimate the monetary policy of the euro area once again has a significant impact on the Estonian economy. Other important macroeconomic indicators like consumption, investment, imports, exports, and credit indicators react significantly to changes in monetary policy and generally more strongly than those for the euro area do.

DOMESTIC DEMAND

Domestic demand increased in the second quarter of 2018 in Estonia primarily thanks to the rapid growth in private consumption. The growth of 4.5% in domestic demand was also given a boost by larger acquisitions of inventory than last year. Gross fixed capital formation was about the same level as a year earlier. Investment was up in the household sector and general government, but down in the business sector (see Figure 17).

Figure 17. Gross fixed capital formation



Sources: Statistics Estonia, Eesti Pank

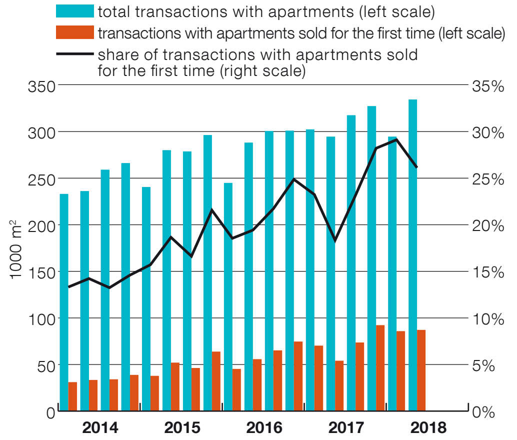
Corporate investment fell for the third quarter in a row. Gross fixed capital formation by companies was down by 14.4% over the year at constant prices in the second quarter. The fall was primarily due to a reduction in investment in means of transport and the largest fall in investment was in transportation and storage. The fall in investment in that sector and by companies as a whole can partly be explained by the purchase of two ferries a year earlier, which substantially raised the level of investment at that time. If that one-off transaction is excluded, the fall in investment by the business sector was one third smaller. Gross fixed capital formation also fell sharply in retail, as less was invested than last year in buildings. Statistics on construction and use permits show that less than half as much new trading space was built in the second quarter as a year earlier, which is to be expected given the earlier large amounts of construction. Though investment in transport and buildings was down, companies invested increased amounts in other machinery and equipment as investment grew in the industrial sector. Gross fixed capital formation increased in energy, mining and manufacturing, which between them create one fifth of the value added in the Estonian economy.

The options of Estonian companies for financing investment were good in the first half of 2018. Strong capitalisation and rapid growth in deposits meant the banks operating in Estonia have good capacity for lending. In recent years there have been fewer banks actively lending to large companies, though such banks have sufficient funds for lending and large companies are quite able to borrow from abroad. There are more banks in the market that are able to lend to small companies. One or two banks have raised their loan interest rates a little, but in the market as a whole interest rates and other lending conditions remain about the same as they were a year ago. The average interest rate on new long-term corporate loans averaged around 2.4% in the first seven months of 2018. Good access to domestic bank loans is also indicated by the relatively rapid growth in borrowing from banks in Estonia, as around 20% more was issued in new long-term loans and leases in the first seven months of the year than in the same period of last year. Borrowing from abroad and growth in gross debt have remained modest however.

The growth in general government investment slowed in the second quarter. Gross fixed capital formation by the general government was up 6.1% over the year, and the growth was driven primarily by increased investment in construction.

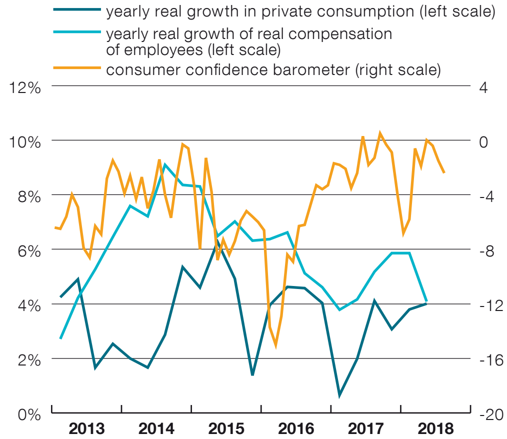
There was a lot of activity in the housing market in the second quarter of 2018, especially the market for new residential space, which is shown by the growth of 38.4% in investment by households in residential space. Statistics for construction and use permits for buildings show that one fifth more usage permits for new residential space were issued in the second quarter than a year earlier, like in the first quarter. The rapid growth in investment in housing reflects high levels of demand. Rapid growth in wages means that real estate remains easily accessible and there are a relatively large number of people who are currently of the prime age for buying housing. Few banks offer housing loans in Estonia, and competition between them is modest, but they have sufficient funds to be able to issue housing loans. Some 9% more was issued in new housing loans in the first seven months of 2018 than in the same months of the previous year. The average interest rate on new housing loans has risen a little in 2018, climbing above 2.5% in July, though other lending conditions have not changed noticeably. Data from the Land Board show the yearly rise in the average square metre price of apartment transactions was some 14% in the second quarter, though that was affected by an increase in the share of transactions for new and more expensive apartments (see Figure 18). Had the structure of transactions remained the same, the growth would have been around 8%. Preliminary data showed that prices rose more slowly in July and August.

Figure 18. Floor area of apartments purchased and sold and share of transactions with apartments sold for the first time



Source: Estonian Land Board

Figure 19. Private consumption



Sources: Statistics Estonia, Tax and Customs Board, European Commission

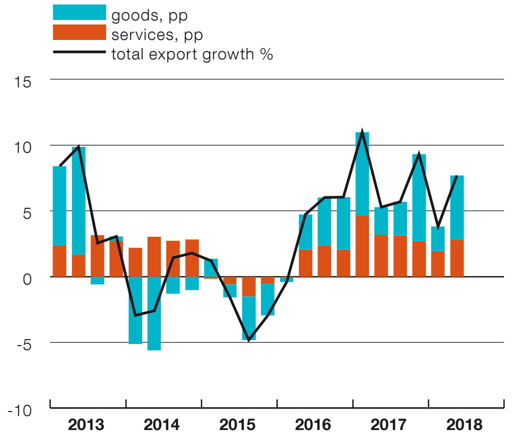
The yearly growth in private consumption increased for the third quarter in a row. Spending on private consumption by residents of Estonia was higher in the second quarter than a year earlier at constant prices, and adjusted for inflation the rise was 4.0% (See Figure 19). In previous years the payroll has grown faster than private consumption, but in the second quarter of this year private consumption grew at the same rate as the real payroll. Slightly slower growth in the payroll did not lead households to slow the growth in their outgoings, as consumer confidence about the future remains very strong and the net incomes of those earning the average wage increased substantially following the income tax reform. Rapid growth in private consumption did not lead to any reduction in saving, as the yearly growth in the stock of household deposits was a little faster than a year earlier. Sales revenues in retail grew more slowly than private consumption in the second quarter as spending grew faster than the average on services that do not come under retail, like communications, education, housing and leisure. As is typical for good times in the economy, demand for consumption loans has been strong for some time now, and there is tight competition between providers of consumption loans. As a result, the yearly growth in the stock of consumption loans, including car leases, was above 10% in July 2018.

The growth in domestic demand was also boosted in the second quarter by increases in inventory. Inventory was notably larger in the real estate sector than it was a year ago as stocks of unfinished products built up, and stocks also increased in manufacturing as commodities and materials were bought and stocks of unfinished products increased.

EXTERNAL BALANCE AND COMPETITIVENESS

Goods exports started to grow again in the second quarter together with economic activity, and positive net exports of services helped to improve the external balance. Nominal growth in exports was 7.5% for goods in the second quarter and 8% for services, while goods imports increased by 8.3% and services imports by 9.3%. Despite the recovery of growth in goods exports, the trade deficit did not change significantly in the second quarter, and the deficit of 226 million euros on the goods account and the surplus of 39 million euros on the services account were both larger than they were in the first half of 2017. Goods exports provided two thirds of the growth in exports of goods and services, and services exports provided one third (see Figure 20). In the European Union on average the nominal growth in exports in the first half year was 5% for exports within the European Union and 2.5% for exports outside the union, while the consolidated figure for Estonia was 4%. The current account surplus was 118 million euros in the second quarter, and combined with the deficit in the first quarter this meant the current account was close to balance for the half year as a whole at 37.6 million euros in surplus.

Figure 20. Export growth decomposed



Source: Eesti Pank

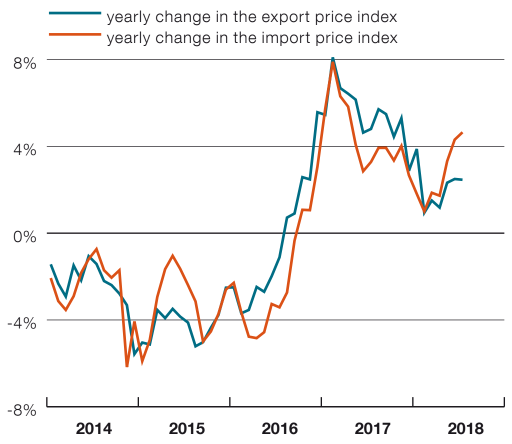
The growth in goods exports is in line with the recovery in economic activity in the second quarter and came mainly from intermediate goods as exports of them increased by 13% and they provided 59% of total exports. The group of goods that grew most was motor vehicles and motor fuel, which grew by 20% and accounted for 5% of all exports. Other major groups of goods grew less, while consumer goods, which had a share of 18% of exports, increased by only 1%. The largest contributors to the surplus on the services account were transport services and other business services, which both accounted for 21% of it, and exports of other business services were 20% more than in the first half of 2017. The growth in both exports and imports of services was broadly based.

Imports of goods grew most in the same groups as in exports, and this helped the trade deficit to remain about the same size as in the first quarter. Initial data show that imports of capital goods were 8% smaller in the first half of the year than in the first half of 2017, which reflects a stagnation of investment in fixed assets in the GDP statistics. The high reference base is a factor here though, as the import statistics for the first quarter of 2017 include a one-off transaction of over 200 million euros, which reduces the growth in imports of capital goods in 2018 through the base effect.

In parallel with the much smaller surplus in goods and services, competitiveness indicators are weaker than a year previously. The dynamics of the effective exchange rates show a moderate but stable appreciation and the nominal effective exchange rate (NEER) in the first half of the year was up 2.2% on the first half of 2017 and 0.9% on the second half. The real effective exchange rate (REER) was higher in the first quarter of 2018 than a year earlier by 3.9% for the GDP deflator-based REER and 4.9% for the unit labour cost-based REER. In the past 12 months the rise in the real effective exchange rate has come from both changes in exchange rates and the rise in relative prices. High frequency indicators show that terms of trade have deteriorated since February this year (see Figure 21). On top of changes in price-based competitiveness, it will be necessary in future to consider the impact of the trade barriers spreading around the globe, which will affect Estonia quite immediately because of its great openness (for more see Box 3).

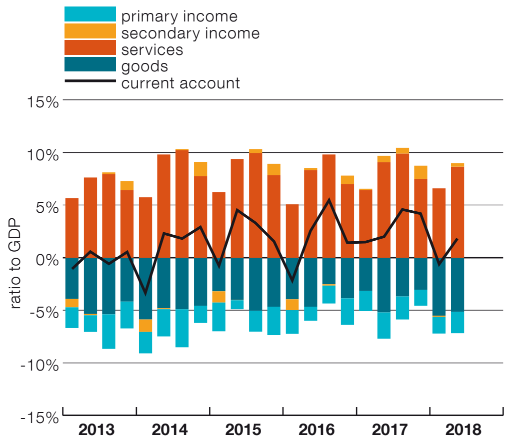
The sum total of the current account and capital account of the balance of payments was again positive in the first half of the year at 111 million euros, which indicates that Estonia continues to be a net lender to the rest of the world (see Figure 22). The financial account was close to balance at 22 million euros in surplus, as residents have invested this much more in foreign countries than has been invested in Estonia by non-residents. Overall there were no major changes in financial flows.

Figure 21. Export and import price indexes



Source: Statistics Estonia

Figure 22. Current account



Sources: Statistics Estonia, Eesti Pank

Box 3. The impact of trade barriers on Estonia through the international value chain

The trade barriers that came very much into focus in the spring could impact the Estonian economy substantially. Scenarios in which states simultaneously introduce barriers have been constructed to analyse the effect of protectionism[12]. The trade spat in the spring when measures were taken that quickly became threatening showed that trade barriers can be introduced for very different groups of goods and so there is no point in analysing the impact of restrictions only on certain groups of goods, but rather the broader impact of protectionism should be considered.

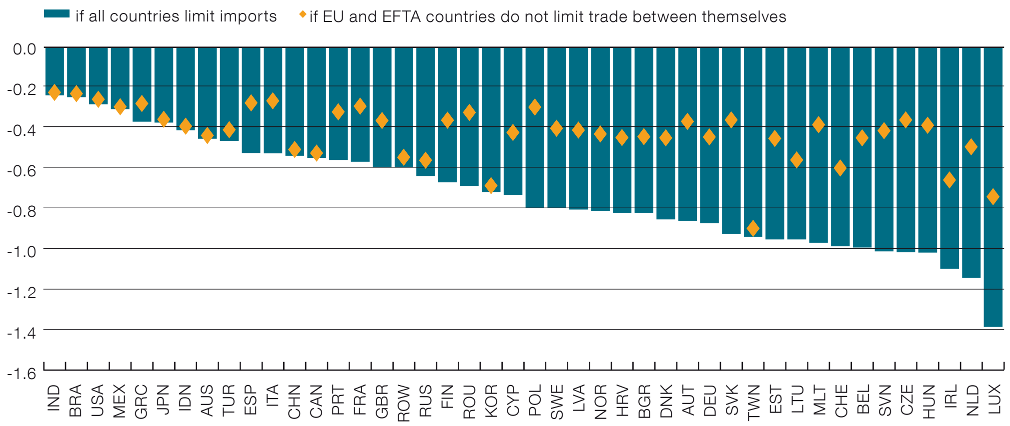
12 The analysis of global value chains uses a model of global trade based on the global Input-Output Database. Timmer, M. P., Dietzenbacher, E., Los, B., Stehrer, R. and de Vries, G.J. (2015), "An Illustrated User Guide to the World Input–Output Database: the Case of Global Automotive Production", http://dx.doi.org/10.1111/roie.12178 Review of International Economics., 23: 575–605.

As the Estonian economy is quite open, protectionism can have a serious impact on its fortunes. How open the economy is can be shown by exports relative to GDP, and last year the ratio of exports to GDP for Estonia was 77%. This does not mean that exports provide over three quarters of Estonian GDP though, as a large part of the value of the goods exported comes from imported production inputs. The value added of the exports that come directly from Estonia makes up around 40% of GDP, which is a very high figure in international comparison.

If all the countries in the world were to restrict imports by 1%, it would reduce Estonian GDP in the short term by around 1%. If all countries limited imports at the same time, global trade would be reduced by more than initially planned. The need for intermediate products in the value chain would be reduced, and this would amplify the decline in global trade. Exporters affected by weaker global trade would be able to pay less in wages, meaning their workers would have to reduce their consumption spending, pushing global demand down further.

The impact of trade barriers is eased for Estonia by membership of the European Union (see Figure B3.1). If the countries in the European Union and the European Free trade Area did not introduce trade barriers on each other, the effect of the trade barriers on Estonia would only be half as much as if all countries introduced trade barriers on one another.

Figure B3.1. Change in value added in % if all countries limit imports by 1%

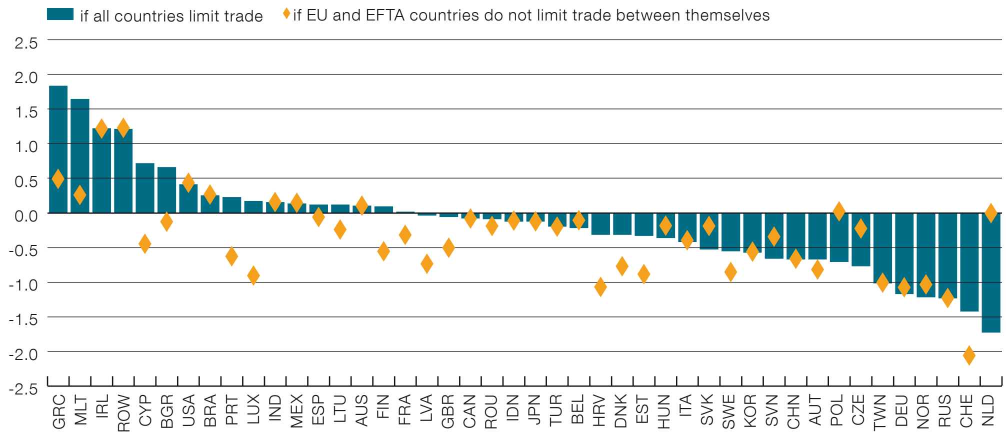


Sources: WIOD, Eesti Pank

One reason for countries to introduce trade barriers may be to protect their own workers, in which case it may be expected that they would want to substitute imports by the output of their own companies. Scenarios have been run to test this, where countries introduce barriers to reduce imports by 10% and produce the same goods themselves to replace those imports. The central assumption of the scenario is that goods can be produced in every country at the same price and branches of the economy competing with imports are freely able to increase their production. This is not actually very realistic, as goods are generally imported from abroad because they can be made more cheaply there or they are of better quality, or for some similar reason.

This scenario does indicate though which countries would lose relatively more if barriers to trade were really introduced. The biggest losers in the short term would be those countries that have a surplus on their current account. As global trade was reined back, production would fall most in those countries that export more than they import. This conclusion sits well with the arguments that politicians have used to justify trade barriers. It is equally apparent that in such a scenario

Figure B3.2. Change in value added in % if all countries substituted 10% of their imports



Sources: WIOD, Eesti Pank

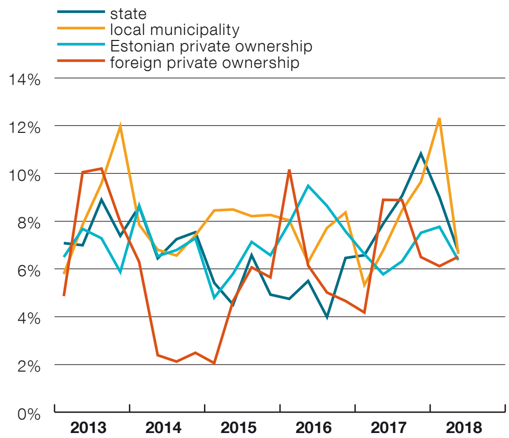
Estonia would lose most if countries in the European Union were not to introduce trade barriers on each other. The reason for this is that although Estonia has a surplus on its global balance for goods and services, it has a deficit against other countries in the European Union.

It should be remembered with import replacement that trade barriers not only have a measurable financial impact, but they also reduce freedom of choice and harm intercommunication and international relations. The ability to choose between different products is of value in itself for consumers, though that value is difficult to measure. In consequence trade barriers would also hurt consumers in countries that appear to gain from them by reducing the freedom of choice.

THE LABOUR MARKET

Yearly growth in the gross monthly wage decelerated from 7.7% in the first quarter of the year to 6.4% in the second. The growth slowed because of the slower rise in the minimum wage and the impact of income tax reform, which boosted growth in the wage paid out substantially for those earning up to around the average wage. Wage growth was again supported by the shortage of available resources in the labour market and the increasing labour shortages identified by employers. Revised data show unit labour costs increasing in 2017 and in the first half of 2018, but wage growth has been much better aligned with growth in labour productivity since 2017 than it was in 2014-2016. Real wages, which is the average wage adjusted for inflation, have risen by around 3-4% a year since 2017. The purchasing power of wages is increasing much more slowly than when consumer prices were falling in 2014-2015 and the first three quarters of 2016.

Figure 23. Yearly change in average wages by employer ownership



Source: Statistics Estonia

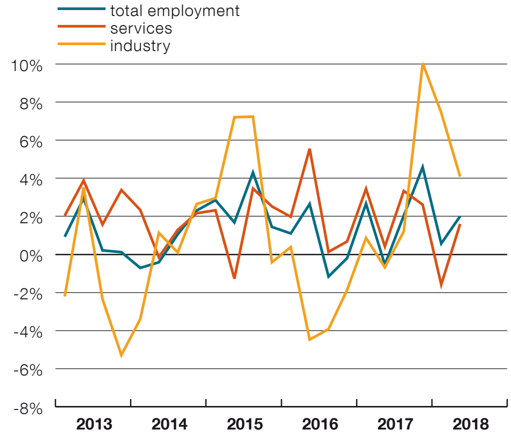
Growth slowed in the average wage in the public sector for employees of the state and of local government (see Figure 23). Wages grew at a falling rate at private companies with Estonian ownership, but grew at an increasing rate at foreign-owned companies. The wage growth in the state sector was boosted by the administrative reform of 2017 and the presidency of the Council of the European Union. The effect of those factors has now faded, and so slower wage growth was to be expected. Wage growth in education under local authorities slowed in the second quarter, probably because changes to the income tax system affected how holiday pay was taken, which impacted the wage statistics temporarily.

Wages in manufacturing, where a large part of output is exported, rose by less than elsewhere in the economy at a rate of 5.5%. Labour costs accounted for around the same share of value added in manufacturing as they did a year earlier. The improvement in foreign demand meant that labour productivity rose in manufacturing over the year at the same rate as, or even faster than, wage costs. The rate of wage growth in other countries in central and eastern Europe that are competitors in export markets also picked up at the same time. Wage growth accelerated in construction, driven by demand for labour, though there remains a shortage of qualified labour. If the need for labour in construction increases further, it may start to raise wage growth in the industrial sector, which competes for similar labour.

Revised data show that real unit labour costs, which approximately express the ratio of labour costs in the whole economy to GDP in current prices, rose by 0.8% in 2017 and 0.9% in the first half of 2018. This means that the labour share has not declined after rising rapidly during the years of rapidly rising wages and weak economic growth. However, it is now increasing at a slower rate. As an increasing labour share reflects a reduction in the share of profits in GDP and indicates narrowing profit margins, Estonia may have become less attractive as a place to locate production.

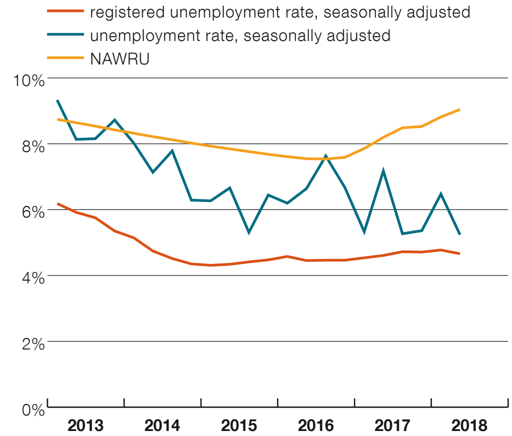
The labour force survey by Statistics Estonia found that 71.9% of people aged 15-74 were participating in the labour market in the second quarter, which is about the same as a year earlier. The labour force participation rate has risen to five percentage points above where it was before the crisis. Some 68.2% of working age people were in work and the employment rate rose by 1.3 percentage points over the year. The labour force participation rate fell in Harjumaa though it rose almost everywhere else, especially in Ida-Virumaa. Employment increased in both the service and industrial sectors, but at a faster rate in industry(see Figure 24). Other sources also indicate that the labour market remains favourable for employees. Data from the Tax and Customs Board show the number of waged employees rose by more than 2% in first half of 2018.

Figure 24. Yearly growth in employment from the Labour Force Survey



Sources: Statistics Estonia, Labour Force Survey

Figure 25. Unemployment



Sources: Statistics Estonia, Töötukassa, Eesti Pank

The unemployment rate was 5.1% in the second quarter which is almost two percentage points lower than a year earlier. Data from Töötukassa, the unemployment insurance fund, show a slight rise in the number of registered unemployed from the second quarter of 2017, though this can again be explained by the impact of the Work Ability Reform. Equally, fear of rising unemployment declined among households even though the unemployment rate is low.

An ever-increasing share of employers cite labour shortages as a factor preventing them expanding their activities, while their optimism about increasing growth in employment in future shows signs of fading. The share of service companies and industrial companies that considered labour shortages an obstacle to increased production grew further in the second quarter. There was no increase in the share of such companies in construction, and it remained at its high level of last year. Companies have however become more pessimistic at the same time about future growth in employment, and only the industrial sector expects growth in future.

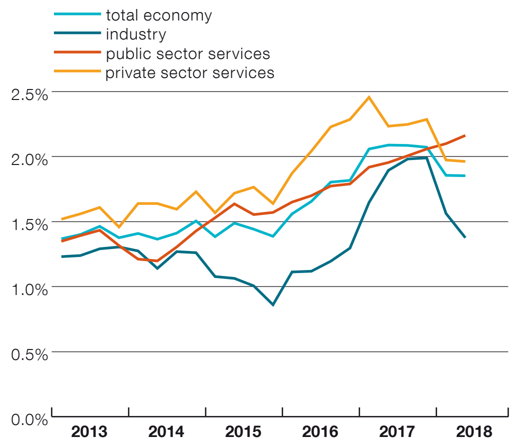
The number of vacancies and their share in the total number of jobs both declined in the first half of 2018. The fall in the vacancy rate is in line with the decline in optimism among companies about future growth in employment. A fairly large number of vacancies still remain because of the rapid rise in their numbers in 2017 (see Figure 26). Manufacturing drove the rise in vacancies last year and the fall in 2018 more than any other sector. As the construction market came to life, the number of positions available in that sector also increased. The rise in the number of vacancies in the public sector is also worthy of note, and comes mainly from education, though also from healthcare.

PRICES

Overall inflation accelerated notably in the second quarter. Inflation was 2.8% in April but it rose to 4% in June, driven by a rise in energy prices, especially electricity prices. Growth in food prices slowed at the same time though, and this slowed the inflation in the consumer basket (see Figure 27). The perceived inflation of consumers has been a little faster than is indicated by official statistics. Some fall in inflation is expected in the coming year though (see Box 4.1).

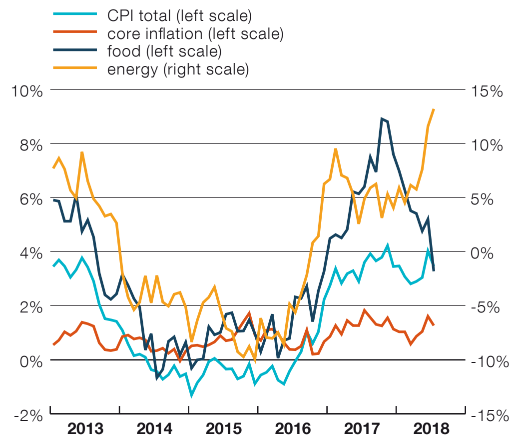
Inflation eased for food products in the first half of the year as prices for food commodities rose more slowly in global markets.

Figure 26. Vacancy rate, seasonally adjusted



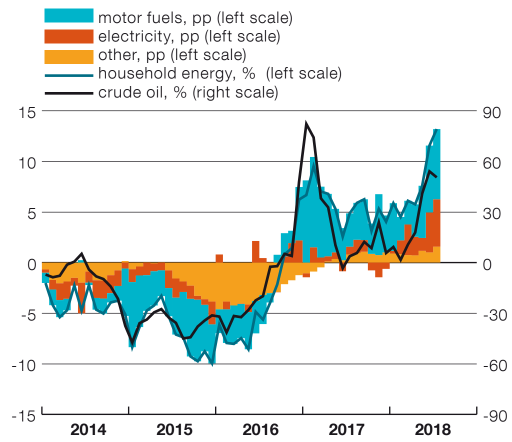
Sources: Statistics Estonia, Eesti Pank

Figure 27. CPI growth



Sources: Statistics Estonia, Eesti Pank

Figure 28. Growth in energy prices



Sources: Statistics Estonia, Bloomberg

Inflation for food products was slowed mainly because of the high reference base, though the level of retail prices has been broadly stable this year. The price of dairy products rose particularly sharply in the second half of 2017, and so the reference base will remain high until the end of this year. Food price inflation may start to pick up in the months ahead as the drought that started in spring has hit the harvest of a lot of garden produce and grains. A lot of other European countries have also suffered from the drought, though inflation has so far remained restrained for food commodities on the global market.

A large part of inflation, some 0.6 percentage point, comes from the rise in excises this year. The excise on fuel, tobacco and alcohol was raised at the beginning of the year, and the rise in excise on beer last July continued to have an effect throughout the first half of the year. Alcohol and tobacco products were 12% more expensive in the second quarter than they were a year ago in consequence. The price of beer has been raised further by the mark-up of merchants, while the price of wine is affected by higher prices for imports.

Growth in energy prices accelerated sharply in the second quarter. This is because motor fuels and electricity were more than 15% more expensive than a year earlier (see Figure 28). The price of crude oil on the global market rose in US dollars in the second quarter, and the rise was exaggerated by the depreciation of the euro. The exchange price for electricity was up by 42% in the second quarter as low water levels limited the production of electricity from hydropower in the Nordic countries. This means that energy price inflation will probably slow from next year.

Inflation has remained moderate for manufactured goods and services. Core inflation was only 1.1% in the second quarter. Service price inflation accelerated from 1% to 3% in the second quarter, partly because of seasonal factors, as the weather this year was good for holidays and travel. This was offset however by large discount sales for manufactured goods. Import prices have been weak for manufactured goods for some time now, and remain so despite the rise in commodities prices on global markets.

Box 4. The price perceptions and price expectations of consumers

Inflation expectations play an important role in price setting by companies and also in wage negotiations. The price expectations of consumers also give an indication of whether monetary policy is having its intended effect.

Price expectations cannot be measured directly, but they can be measured indirectly using surveys. The Estonian Institute of Economic Research carries out a monthly survey that investigates qualitatively the opinions of consumers about changes they perceive in prices and their expectations for inflation[13]. The survey results are published as a balance giving the weighted average for the different shares for each answer choice. The balance for how Estonian consumers perceive price rises has risen rapidly in the past year and is above its

Figure B4.1. Qualitative measures of inflation (balance)

Source: Estonian Institute of Economic Research

13 The questions offer a choice of six possible answers, for example question five on price changes in the past 12 months offers: 1) risen a lot; 2) risen moderately; 3) risen slightly; 4) stayed about the same; 5) fallen; 6) don't know. Question six on price changes in the coming 12 months offers: 1) increase more rapidly; 2) increase at the same rate; 3) increase at a slower rate; 4) stay about the same; 5) fall; 6) don't know.

Table B4.1 Expected and perceived inflation in 2002-2018

		Perceived inflation (balance)	Expected inflation (balance)	Perceived inflation (quantified*)	Expected inflation (quantified*)
	Full sample	37	31	4.0	2.7
Age	16-29	33	29	3.4	2.6
	30-49	37	32	4.0	2.7
	50-64	41	34	4.6	2.8
	65+	38	27	4.5	2.8
Education	Primary	37	28	3.8	2.8
	Secondary	40	32	4.1	2.7
	Higher	33	30	3.9	2.7
Gender	Male	41	33	4.3	2.8
	Female	32	29	3.7	2.7
Income	1 quartile	43	33	4.7	2.9
	2 quartile	39	33	4.2	2.8
	3 quartile	35	31	3.9	2.7
	4 quartile	33	30	3.7	2.6

* quantified using the Carlson-Parkin probability approach
Sources: Estonian Institute of Economic Research, Eesti Pank calculations

historical average. Having been muted for three years, the balance of consumer expectations for prices has also started to rise (see Figure B4.1). Table B4.1 shows the indicators for price balances for different social groups. The results are much as would be expected and are similar to those from other countries. The price perceptions and price expectations of men are on average lower than those of women. Price perception falls as incomes rise, though it rises together with age. The price perceptions and expectations of consumers with secondary education are higher than those of consumers with basic education or higher education.

The balances reflect the opinions of consumers about the expected direction of price changes, but not about their extent, and so they cannot be compared directly with official price statistics. Various methods can be used to make the survey results comparable with the quantitative form of CPI statistics, the most common methods being scaling of the survey results, probability methods, and non-linear regressions[14].

The recent data on consumer perceptions of price rises and inflation expectations translated into numerical form are depicted in Figure B4.2. Consumers' inflation expectations are strongly affected by past inflation rates and they are in general backward-looking. During the aftermath of the economic crisis in 2010-2013 consumers perceived much higher inflation than was indicated by the official price statistics. In recent data from the second quarter of 2018, the perception of inflation was at 4%, which was above the actual inflation measured by Statistics Estonia of 3.3%. Consumers expect though that inflation will fall next year to close to 3%.

Figure B4.2. Quantified inflation perceptions and expectations, %

Sources: Estonian Institute of Economic Research, Eesti Pank calculations

14 Lyziak, T. Consumer inflation expectations in Poland, ECB Working Paper, No 287 / 2003

GENERAL GOVERNMENT

The state budget for 2018 expects general government spending to grow rapidly at a faster rate than the economy as a whole. In planning faster growth in spending than previously it was thought that transfers from the European Union budget would increase substantially and the growth in spending would be pushed higher by the indexing of pensions and the rise in mid-2017 of family and child benefits. Numerous tax measures were intended to increase tax revenues and allow the government to increase spending on its priorities. Yearly growth in total spending by the general government was forecast at up to 9.5%.

Preliminary estimates show that the growth in spending from January to June was even faster than was planned for the average for the year. Capital transfers and investment grew especially fast with the backing of Structural Funds, and 18% more was spent on fixed capital formation in the first half of the year, and 13% more in the second quarter than in the same quarter a year before. Social transfers also grew faster than the average. Yearly growth in labour costs slowed from more than 9% in the first months of the year to 7.5% in the second quarter, while various administrative expenditures increased more slowly. The annual state budget expects general government spending to grow more slowly in the second half of the year.

Growth in tax revenues accelerated in the first half of the year. When the budget was drawn up it was forecast that the tax changes being introduced would increase the tax burden and overall would make tax revenues in the state budget grow faster than in the previous year at 8%.

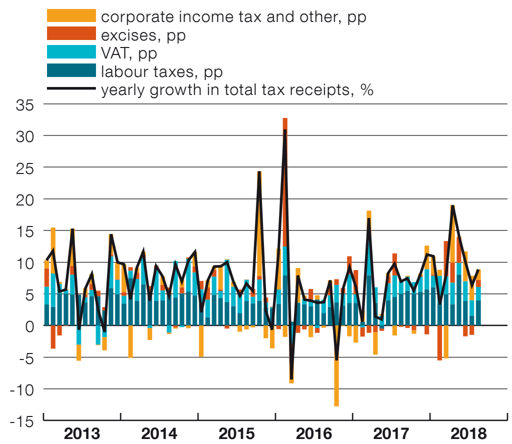
Preliminary estimates show that tax revenues grew even faster in the first half of the year. The package of tax changes had less impact than expected on raising revenues. Despite the rise in tax rates, revenues from alcohol and tobacco excise were lower in the first half of the year than in the previous year and revenues from all other excises rose by less than had been hoped. The lower revenues than expected from excise were offset by the smaller impact than forecast on government revenues from the reform of personal income tax. Corporate income tax revenues rose more or less as expected.

GDP grew more quickly than was expected when the budget was drawn up, and this increased tax revenues by more than planned. Better labour market indicators supported good revenues from labour taxes. Private consumption grew at the limit of what was forecast, but VAT revenues were supported by a large jump in general government investment and rapid growth in inventories and housing construction. Corporate income tax revenues were some 40% more in the first half of the year than in the first half of the previous year, as substantially more was taken out in dividends than previously.

Overall general government tax revenues were 12% larger in the first quarter than a year earlier. The rapid growth continued in the second quarter and the tax revenues received in the state budget in the first eight months of the year were 10% more than in the same months of last year (see Figure 29).

As tax revenues exceeded expectations in the first half of the year, the nominal fiscal position of the general government may also prove stronger than the budgeted deficit of 0.2% of GDP.

Figure 29. Tax receipts in the state budget



Source: Tax and Customs Board