Eesti Pank

ESTONIAN ECONOMY AND MONETARY POLICY

4/2017

The Estonian Economy and Monetary Policy is an Eesti Pank review released four times a year that summarises the main recent events in the global and Estonian economies. Twice a year, in June and December, the review also contains the forecast for the Estonian economy for the current year and the next two calendar years.

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INTRODUCTION

The Estonian economy has been gaining in strength throughout 2017. The latest data show that output volumes grew in most sectors in the third quarter and total output in the economy was 4.2% more than a year earlier. The economies of Estonia's main trading partners and other countries in Europe have grown more than was previously expected, and this has given a boost to the Estonian economy as well. It is forecast that Estonian economic growth for 2017 as a whole will exceed 4%, which is the fastest rate of the past six years. The economy will also grow by more than 4% in 2018, but then growth will slow as the boost from foreign markets fades and supply-side limits bite harder.

Strong demand in Estonia and in foreign markets has pushed the Estonian economy above its long-term sustainable level. Although it is not possible to measure long-term sustainable growth or the consequent size of the economy directly, low unemployment, a rise in the number of unfilled vacancies, worsening labour shortages, strong wage growth, and rising inflation all indicate that the economic cycle has reached a point where growth is being driven mainly by demand, not by increases in the production capacity of companies or in labour productivity. Productivity has grown a little faster in the past year, but the rate of growth is still lower than in the previous decade.

Productivity is increasing gradually as companies have started to invest more in fixed assets. As financing conditions will remain favourable in the coming years and companies find themselves under heavy pressure to raise wages to remain competitive as employers, investment will increase to raise the value added created per person employed. Exporting companies and other companies that are exposed to foreign competition are in a better position than they have been in previous years, as prices are rising faster in international markets, allowing production costs to be passed into end prices more easily. The consequence is that profits have increased in the corporate sector and opportunities to raise production through investment have improved.

Upward pressure on wages will be weaker in the near future, but only for the time being. Pressure will be eased in 2018 by the income tax reform and smaller rises in the minimum wage than earlier, though in subsequent years companies will again have to deal with strong wage competition. Although labour costs have risen strongly for a long time now, the wage level in Estonia is still only about half of the European Union average, and as large differences remain in income levels, so upwards pressure on wages will remain. Low paid jobs are gradually disappearing as they are not competitive in the labour market.

The current state of the economy does not yet indicate overheating, but the danger is certainly present. Unlike 10 years ago, the structure of the economy is not being distorted by rapid growth in debt levels. The construction industry is growing strongly however, as orders from both the private and the public sectors are increasing. Construction stands out among other sectors for its large labour shortages, which may lead to excessive growth in labour costs if orders continue, and this may tempt workers in from other sectors. The rate of job change has reached that of the previous boom, and it is important to avoid temporarily peaking projects and the volatility in the construction sector together amplifying the growth cycle in the whole economy. The general government has an important role to play in achieving this.

The rapid growth in spending by the general government will boost the economy in 2018. General government investment will increase in 2018 and the changes to income tax will raise the disposable income of households, which will boost the economy as a large part of it will go into consumption. It is forecast that fiscal policy will boost economic growth until the end of the forecast horizon in 2020, as throughout this time the consolidated general government budget will be in nominal and structural deficit. As the economy is already in a good position and is being stimulated by the single monetary policy of the euro area, fiscal policy will push economic growth too far in the near future and offsetting this in the downward phase of the economic cycle will require even larger deficits, which would be in breach of both domestic and European Union rules. If the state does not build up reserves during the current good times, it will not be able

to support the economy enough during future bad times.

There is nothing evidently apparent in the domestic economy that could bring a sharp stop to growth in the economy. The main risks come from the pressure on labour costs that have been noted for some time already and that threaten the international competitiveness of companies, and from the recently emerged danger of overheating in the construction sector. Even if the rise in labour costs is based on excessive optimism however, wages are likely to adjust smoothly as the financial indicators for companies are strong enough to let them survive such pressure and they are evidently in better condition than before the last crisis. External risks are potentially more serious than domestic risks and Estonia's openness means they could seriously harm the prospects for growth in the Estonian economy.

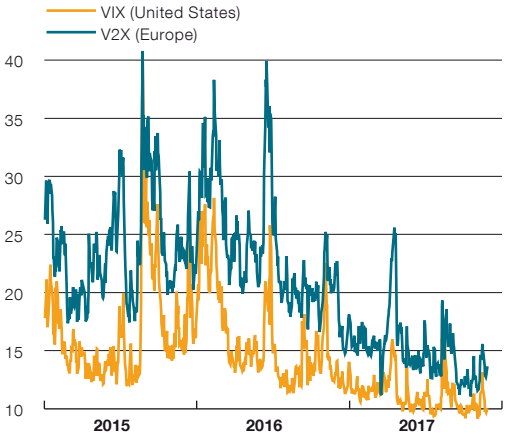
Inflation is falling. Consumer prices grew at close to 4% over the year in the last months of 2017, but this will fall to close to 2% in the years ahead. Inflation will mainly fall as commodities prices rise more slowly, and it will be brought down by the contribution of indirect taxes, which will raise the cost of the consumer basket by 0.7% in 2018 but by around 0.4% in the next two years.

THE EXTERNAL ENVIRONMENT

THE GLOBAL ECONOMY

The global economy has grown faster and faster in recent months thanks to growth in investment, industrial output and trade (see Table 1). Growth has accelerated in almost all the major economic regions, and the OECD puts the current rate of global growth at its fastest since 2010. Improved demand from advanced economies is also supporting faster economic growth in emerging economies. Forward-looking activity indexes[1] have steadily strengthened in recent months, indicating that growth will continue in the future. Geopolitical tensions and volatility in financial markets are also lower than they were in the summer (see Figure 1).

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



Last observation 27.11.2017
Source: Bloomberg

The improvement in economic activity in the advanced economies in the third quarter was mainly due to stronger domestic demand and exports. While the growth in the US and euro area economies was as fast as expected, it was a little surprising that growth in the economy of the United Kingdom did not slow as sharply as previously. The industrial sector in the United Kingdom has proved surprisingly resilient, and exports have also increased. Although inflation in advanced economies has generally been below the inflation targets of central banks and wage growth has not picked up as expected, the Bank of England raised its monetary policy interest rate by 25 basis points to 0.5% in November, because it finds that price and wage pressures are rising in the United Kingdom.

Economic activity in emerging economies has increased throughout the past half year as demand has improved and commodities prices have risen a little. Financing conditions have remained favourable for economic growth and capital flows to emerging economies have continued to recover relatively stably after their low point in 2015-2016. In consequence the currencies of emerging economies have generally strengthened against the dollar. Equity prices have risen and long-term interest rates have mainly fallen. The rate of inflation in emerging economies has mostly come down because the impact of earlier weak exchange rates has faded. Inflation has particularly fallen in India and Brazil, where lower food prices and high levels of excess capacity have also played a role. Weaker price pressures make it possible to support the economy with monetary policy to a larger extent. Many countries, like India, Russia and Brazil, have cut their monetary policy interest rates in the past half year.

Table 1. GDP growth in various regions in 2011 - 2017 (change, %)*

	2011	2012	2013	2014	2015	2016	2017 Q2	2017 Q3	2017
World	3.8	3.0	2.9	3.2	3.4	3.1			3.6
Advanced economies	1.6	1.1	1.2	1.9	2.1	1.7			2.2
Emerging markets and developing economies	6.4	5.3	5.0	4.8	4.2	4.1			4.6
Euro area	1.6	-0.9	-0.3	1.2	2.1	1.8	2.3 (0.7)	2.5 (0.6)	2.1
United States	1.6	2.2	1.7	2.4	2.6	1.6	2.2 (0.8)	2.3 (0.8)	2.2
China	9.5	7.9	7.8	7.3	6.9	6.7	6.9 (1.8)	6.8 (1.7)	6.8
Japan	-0.1	1.5	2.0	0.3	1.2	1.0	1.6 (0.7)	2.1 (0.6)	1.5
United Kingdom	1.5	1.3	1.9	3.1	2.2	1.8	1.5 (0.3)	1.5 (0.4)	1.7

* GDP at constant prices, quarterly growth over previous quarter of the same year in brackets; 2017 is WEO forecast
Sources: IMF World Economic Outlook Update (October 2017), OECD, Eurostat, National Statistics

1 IHS Markit Composite PMI, Manufacturing PMI, Services PMI in World.

The Chinese economy has grown faster than expected, at a rate of 6.8% over the year in the third quarter and 1.7% over the quarter. About one third of the economic growth came from increased investment. Higher incomes meant that private consumption also supported growth in the economy to a large extent. Rapid growth in China does not necessarily reflect improved conditions in the economy. A policy of economic stimulation financed through debt reduces the room for manoeuvre in fiscal policy and structural reforms have not been implemented quickly enough. Inflation in China remains close to 2% and the yuan has risen by 4.4% against the dollar since the start of the year.

Increased spending by households helped the US economy to grow faster in the third quarter as well, by 2.3% over the year and 0.8% over the quarter. Trade also made its biggest contribution to economic growth since the last quarter of 2013, as exports continued to increase. It appears that hurricanes gave a temporary positive boost to the economy, which was reflected in the growth in retail sales in September climbing to close to its highest rate of the past decade, and the fastest growth in industrial output of recent years in September and October. Sentiment surveys for manufacturing[2] were strong in October and November as output volumes, new orders and new export orders all increased. Although optimism among consumers is currently at its highest level of the past 13 years, the sentiment survey for consumers[3] still fell a little in November, reflecting the slightly higher expectations of consumers for interest rates and inflation. The situation in the labour market is good as the employment rate is rising and unemployment is very low at 4.1%. Wages have not risen as expected and despite rising to 3.2% in September the rate of wage growth is still low given the good state of the economy. The yearly growth in consumer prices slowed a little to 2% in October, as energy prices rose a little more slowly than in the preceding months.

Foreign demand helped the Japanese economy to grow faster in the third quarter, with yearly growth rising to 2.1% from 1.6% in the second quarter. Quarterly growth was down slightly from 0.7% in the second quarter to 0.6% though. Even so, the Japanese economy has now grown for seven quarters in a row, which is the longest period of growth since 2001. Exports continued to grow rapidly in October with support from cars and industrial machinery. The domestic demand that has so far supported the economy surprisingly fell however. The fall in demand is probably temporary though, as the labour market remains favourable and consumer confidence was at its highest for four years in November. Confidence remains high in manufacturing[4] as new orders and especially new export orders to the Asia region increased. Growth in the economy may be hindered from continuing at the same pace though by labour shortages. Equally though, these shortages have led to a rise in employment among women and in the share of part-time employees. Although wages rose a little faster in September and were 0.9% higher than in September 2016, wage growth remains slow. The wages of those working part-time rose a little faster, at a rate of 2.3%. Unemployment remains very low at 2.8%. Consumer prices were down in October by 0.2% over the year, mainly because of a fall in food prices.

The economy in the United Kingdom grew by 1.5% over the year in the third quarter and 0.4% over the quarter, mainly because of faster growth in industrial output. The faster growth in industrial output in October clearly exceeded market expectations and confidence among industrial companies remains high primarily because of new export orders. Exports[5] from the United Kingdom are currently larger than ever before. Consumer confidence[6] has fallen throughout the year however because of high inflation and weak wage growth, and this is reflected in a fall in retail sales. Unemployment remains very low at 4.3% and the employment rate is high. Various real estate indexes have

2 IHS Markit.

3 Survey of Consumers, University of Michigan.

4 Reuters Tankan.

5 Measured in GBP.

6 GfK Consumer Confidence.

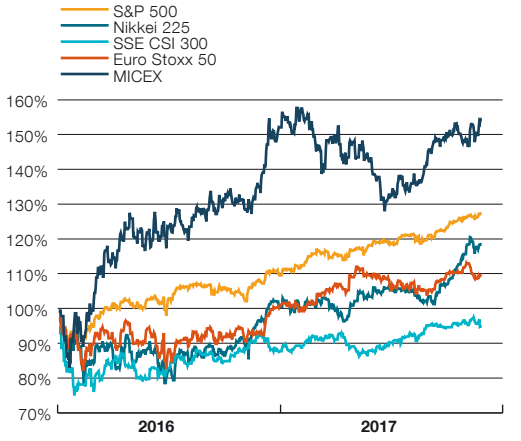
come down a little in recent months, but the rise over the year in prices for residential property has so far remained close to 5%. The pound has risen by around 5% against the euro from the low point it reached in August and is 15-20% off the peak reached in November 2015. The earlier fall in the pound and the rise in fuel prices have held inflation high, and yearly inflation has remained at 3% in recent months.

Global equity indexes have continued to rise and have reached ever higher levels. Strong economic figures meant that stock markets in the USA continued their very stable and even rise. The S&P was some 281% up at the end of November on the lowest point it reached in March 2009. Equity indexes in Europe have also climbed and climbed, and economic figures have improved. This meant the announcement by the European Central Bank of a reduction in its asset purchase programme did not have a significant impact on stock markets (see Figure 2).

Bond yields have moved in different directions. Equity prices repeatedly hitting new records with support from strong economic figures, a budget being passed in the US, expectations of favourable tax reform, and good economic indicators raised the yields on US Treasuries to new highs in October and November. Interest rates on German and Japanese sovereign bonds have fallen slightly in recent months however. The interest rates on sovereign bonds from emerging economies are also mostly down.

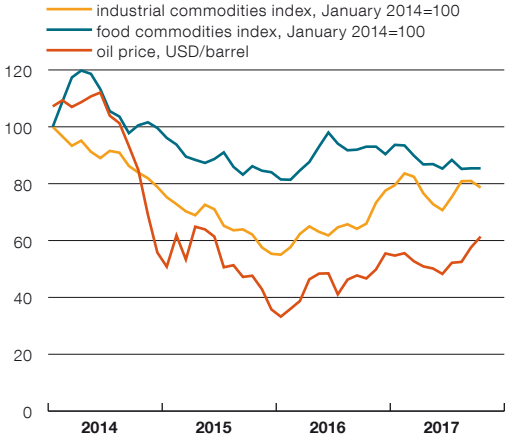
Commodities prices have mainly risen. The oil price continued to rise and Brent crude reached 60 dollars a barrel by the end of October, which is the highest oil price seen since July 2015. The price rose mainly because of the expectation that OPEC and several other oil exporting countries would extend their cuts in production until the end of 2018. The price of gold has fallen, but prices for other metals have mainly risen a little. An exception is iron ore, which fell in price on reports of rapid increases in stocks, which suggests a fall in demand. Prices of food commodities were not notably different in November from what they were in the previous month (see Figure 3).

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



Last observation 27.11.2017
Source: Bloomberg

Figure 3. Commodity price indexes and the oil price, USD



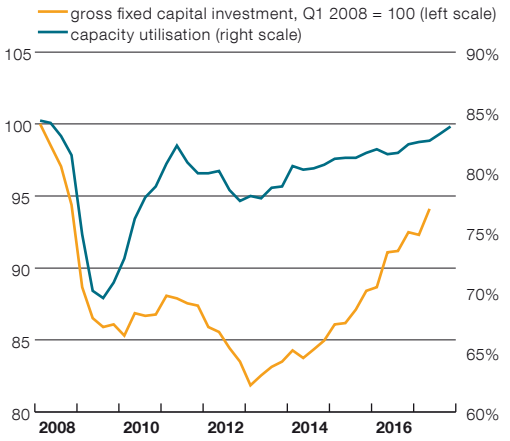
Sources: HWWI, Reuters, Bloomberg

THE EURO AREA

Economic growth in the euro area remains strong. The flash estimate shows that the euro area economy grew by 0.6% in the third quarter, which is more than was expected, while yearly growth accelerated to 2.6%, which is the fastest rate in the past decade. Although the structure of GDP for the third quarter has not yet been published, the improvement in the labour market and higher incomes allow the assumption that private consumption continued to make a strong contribution to growth in the economy. The high levels of capacity utilisation and the improved demand for credit and improved credit conditions have created favourable conditions for

investment, while the risks to the outlook for growth have declined (see Box 1 for more details), so growth in investment may be expected in the third quarter (see Figure 4). Activity indexes show that the fourth quarter also started well. The Purchasing Managers Index (PMI) published by Markit in November remained at its highest levels of the last six and a half years. The Economic Sentiment Index (ESI) published by the European Commission has climbed steadily this year and in November it reached its highest level for 17 years. Activity indexes give grounds to expect that total growth will be faster in the last quarter of the year than in the third quarter.

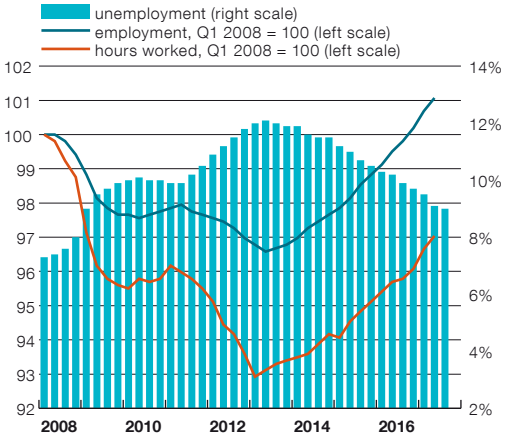
Figure 4. Investment in the euro area



Sources: Eurostat, European Commission

Unemployment in the euro area is at its lowest level of the past eight years. The unemployment rate fell below 9% in October (see Figure 5). Employment has risen every quarter for almost four years, and the yearly growth in it was 1.6% in the first and second quarters of this year. Surveys indicate that growth in employment has probably continued at a similar rate in the second half of the year. The PMI statistics for recent months show that new jobs were created at the fastest rate of the past decade. The sentiment survey by the European Commission also shows that expectations for employment have improved steadily throughout the year.

Figure 5. Employment and unemployment in the euro area



Source: Eurostat

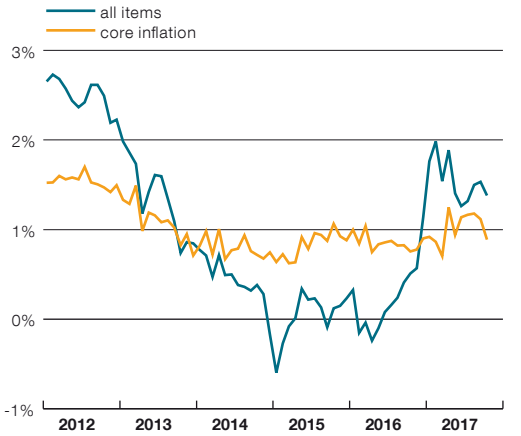
Despite the improvement in the labour market and the fall in unemployment, wage growth in the euro area remains modest. Various factors are hindering faster rises in wages. One is that there is still a lot of unused labour resources available despite the fall in unemployment. Another is that weak growth in labour productivity in the euro area is holding back wage pressure, and is probably being caused by the coincidence of cyclical and structural factors. One such factor might be the fall in investment in research and development at the time of the economic crisis and the more risk averse attitude of companies towards innovative ideas and technology, which now affects productivity growth. Although raising productivity is an issue in all advanced economies, productivity in the euro area has for a long time been weaker than in other countries. This may be because of certain structural rigidities in the euro area, such as over-regulation of product and labour markets, which limit innovation and growth in companies[7].

Inflation in the euro area has not reached the inflation target of the European Central Bank. Inflation fell to 1.4% in October. This was partly because the low reference base for energy prices meant they started to rise more slowly from September. Prices for food in contrast have risen somewhat faster. The negative output gap and weak wage pressure meant that core inflation in the euro area remained below its historical average level of 1.4-1.6% (see Figure 6). Forward-looking surveys indicate more clearly than last

7 For more details see the ECB's Economic Bulletin for May 2017.

year that households and companies expect inflation to rise. Companies report that the rise in prices is partly due to the pass-through of higher input prices into selling prices, but improved demand has also created better conditions for prices to be raised. Inflation expectations derived from financial derivatives have also risen from their low levels in the summer months. The long-term outlook of various institutions for inflation in the euro area still remains at 1.8-1.9%. A rise in inflation over the medium term is supported by the continuing accommodative monetary policy of the euro area (see Box 2).

Figure 6. Euro area inflation



Source: Eurostat

Box 1. The impact of political and geopolitical events on the outlook for growth in the European economy

The economies of Estonia and of the whole of Europe have been affected by uncertainty about the future in recent years. The uncertainty has had three causes, economic, political and geopolitical[8]. There has been most discussion of economic uncertainty, which has arisen from macroeconomic risks like at the time of the global financial crisis, with worries about the sustainability of the financial system, repayment of debt by the private and public sectors, and the recovery in economic growth. Economic development may be held up by changes coming from political uncertainty, as companies and households feel more secure in a stable and predictable political environment but confidence starts to shake as the danger increases that political decisions may prove harmful for economic growth. The third cause of uncertainty is geopolitical risks like military conflict, terrorist acts and other violent events or the risk of them occurring. Whether the uncertainty is caused by economic, political or geopolitical factors, an increase in it makes companies reduce investment and households consumption, and this amplifies changes in asset prices substantially.

Economic and political uncertainty has recently declined in Europe. The general acceleration in growth in the economies of the euro area, optimistic expectations, and growing corporate profits led the volatility index for European stock markets, which reflects economic uncertainty, to fall to its lowest level since 2005 in November. Like economic uncertainty, political uncertainty declined sharply in the second half of 2017 after it had been raised higher than usual in Europe by the difficulties in the negotiations about the aid programme for Greece, the decision of the United Kingdom to leave the European Union, and the elections in the Netherlands and France[9] (see Figure B1.1).

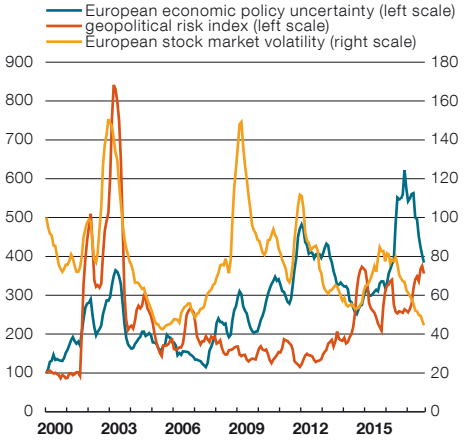
Geopolitical uncertainty has increased because of international tensions and terrorist activity. Dario Caldara and Matteo Iacoviello have recently put together an index of geopolitical risks that allows escalations in geopolitical tensions to be taken into account together with acts of violence

8 Uncertainty, the Economy and Policy (Carney, 2016).

9 Measuring Economic Policy Uncertainty (Baker, Bloom, Davis 2015).

that have already taken place[10]. The index of geopolitical risks is put together from articles published in 11 influential newspapers since 1985 discussing military and nuclear dangers, military conflicts, and acts of terrorism. The index shows that geopolitical uncertainty was increased most sharply by the terrorist attacks in the USA in 2001, the fall of the Saddam Hussein regime in Iraq, the annexation of Crimea by Russia, and the terrorist attacks in Paris. In recent years the index has been raised by terrorist attacks, conflict in the Middle East, and military aggression by North Korea.

Figure B1.1. Economic, economic policy and geopolitical uncertainty indexes (2000 = 100, 6-month average)



Sources: Bloomberg, PolicyUncertainty.com

Political and geopolitical risks affect both stock markets and growth in the economy. Some political events, such as government crises, geopolitical tensions or military conflict, have a substantial impact on the whole of society, including the economy. In contrast to the more usual macroeconomic risks, the realisation of political risks is very hard to foresee. If markets do not take full account of political risks, their expectations for the future may be deceptively optimistic, and so the realisation of political risks that are hard to predict leads to major volatility in prices in financial markets. It emerges from the research of Caldara and Iacoviello that a rise of 100 points in the geopolitical risks index will reduce global share prices by an average of 1.23%. The stock markets of large countries in Europe are particularly sensitive to this, as a substantial increase in geopolitical uncertainty brings French share prices down by 2%, German shares down by 2.45%, and Italian shares down by 2.54%. Stock markets in the USA and the United Kingdom are affected less by geopolitical risks, falling only 1.32% in the US and 1.62% in the United Kingdom. It also appears that a rise in the geopolitical risks index of 167 points reduces global industrial output by 0.5% over one year, and the effect of this is felt mostly in advanced economies.

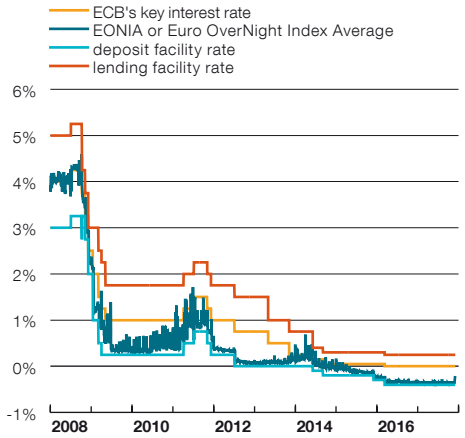
Political risks can affect the outlook for economies in the European Union. The outlook for growth in the European economy has generally improved, as many worries such as an increase in protectionist economic policy, have not materialised as feared. Even so it is important to map out the possible political risks that could impact the economy in the near future. Parliamentary elections in Italy in spring next year will be dominated by opposing political forces that could make it hard to put a coalition together and could cause uncertainty about the future political direction of the country. Tensions in the Middle East and the Korean peninsula give rise to geopolitical risks as relations in the Middle East between Shia Iran and Sunni Saudi Arabia have worsened as Saudi Arabia has accused Iran of military aggression in supplying rockets to the rebels in Yemen. The multiple rocket tests launched by North Korea in 2017 in defiance of international condemnation have stoked tensions with the USA. Although military conflict on the Korean peninsula is considered improbable, an escalation in tensions could have a major impact on financial markets and on economic activity around the world. The price of oil is particularly sensitive to geopolitical tensions, and a sharp rise in it could put the brakes on economic growth.

10 Measuring Geopolitical Risk (Caldara, Iacoviello 2017).

Box 2: 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 experts of the Eurosystem of December 2017 expects that inflation will climb to 1.7% by 2020[11]. Inflation is being boosted by monetary policy measures and a recovery in the economy. 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 2017, 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 B2.1). The Governing Council expects that these rates will remain at their current levels for a long time and for notably longer than the duration of the asset purchase programme.

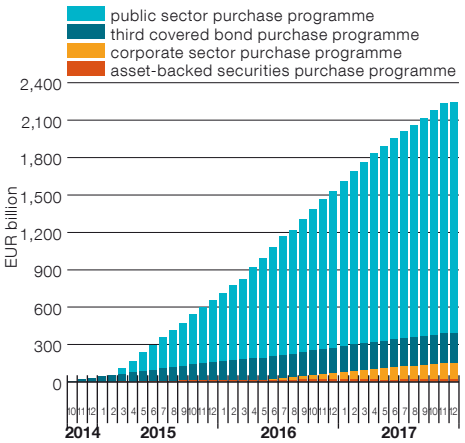
Figure B2.1. Eurosystem key interest rates and EONIA



Last observation 03.12.2017
Source: European Central Bank

The Eurosystem has complemented low interest rates with a variety of monetary policy measures, in order to ease financing conditions and revitalise 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 60 billion euros from April 2017 to December. At its meeting in October the Governing Council of the European Central Bank decided to extend the asset purchases, and 30 billion euros of assets will be purchased each month from January to September 2018. Purchases are intended to continue until at least September or longer if necessary, until a lasting correction in inflation is apparent that is in line with the price stability goal of the Eurosystem. The Governing Council declared its readiness to increase the volumes of asset purchases or extend the programme or do both to maintain a supportive monetary policy stance with a sustainable rate of inflation. The expected effect of the measures on the economy of the euro area and on inflation will be seen in the medium term.

Figure B2.2. Eurosystem holdings under the expanded asset purchase programme



Last observation 01.12.2017
Source: European Central Bank

The support from the monetary policy measures meant that the consolidated balance sheet of the Eurosystem at the end of November stood at 4.4 trillion euros, which is more than double what it was in autumn 2014. As at 1 December total asset purchases stood at 2.2 trillion euros (see Figure B2.2). At 1.9 trillion euros, the largest part of the portfolio consists of public sector bonds, of which Eesti Pank's purchases accounted for 5 billion euros at the end of November 2017.

11 European Central Bank press conference, 14 December 2017.

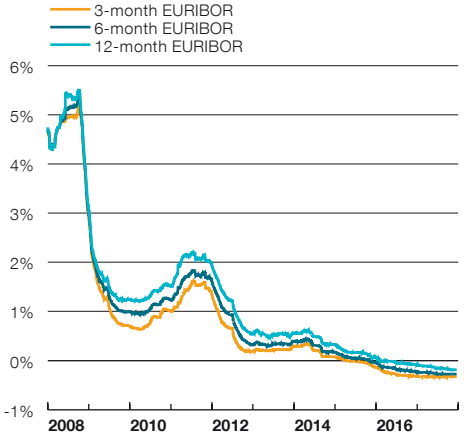
Yearly growth of the money supply in the euro area remains strong with support from the accommodative measures taken by the Eurosystem. The average yearly growth in the broad money aggregate (M3) was 5% in the first three quarters of 2017 and yearly growth in the narrower aggregate (M1) was 9%. The growth continued in October. The extremely low interest rates have affected the return earned by the non-financial sector from term deposits, which has fallen to close to 0.3% in the euro area on average. The stock of corporate and household deposits has been larger in 2017 than a year previously though, which could to some extent indicate that consumption and investment are being postponed.

Yearly growth in the stock of loans to the non-financial sector has accelerated since the second half of 2015. The yearly growth in the stock of housing loans and corporate loans has remained at close to 2% for more than a year, and this autumn it passed 2.5%. Interest rates on loans are at record low levels. 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 the past two years.

Such changes indicate that monetary policy measures have aided a recovery in private sector lending channels. The latest Bank Lending Survey of lending by banks in the euro area shows that the lending conditions for companies and households have improved[12], 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 however be noted that interest rates remaining low could threaten financial stability and hurt the profitability of the banks.

The accommodative monetary policy in the euro area has helped short-term money market interest rates to fall to their lowest ever levels. The expectations for short-term interest rates that are revealed by financial instruments remain low, and this also affects long-term interest rates. EONIA was quite stable from September to November at between –0.35% and –0.36%, holding just above the interest rate on the standing deposit facility. At the end of November the three-month EURIBOR was at –0.33%, the six-month EURIBOR was at –0.27%, and the 12-month EURIBOR was at –0.19%, and they were all at the same level as at the end of August (see Figure B2.3). The money market yield curve as shown by the gap between the one and 12-month EURIBORs had fallen by a few basis points since May, and the expectations of market participants of a rise in monetary policy interest rates have been pushed back.

Figure B2.3. Euro area money market interest rates



Last observation 03.12.2017
Source: Bloomberg

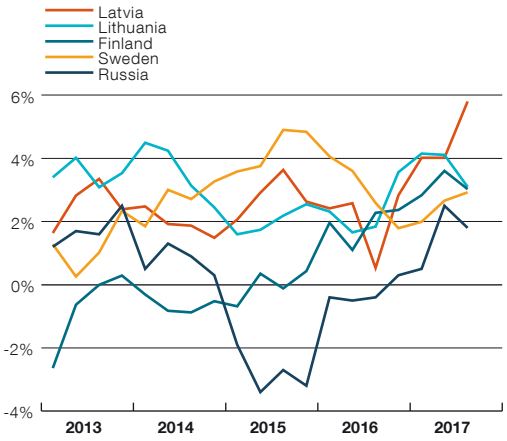
12 Changes in lending conditions are interpreted in the survey by analysing the net difference in the shares of those banks that have noted in the review that they have tightened credit conditions such as margins or collateral demands, and those banks that said they have loosened their conditions. A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

ESTONIA'S MAIN TRADING PARTNERS

The growth rates in the economies of Latvia and Lithuania moved in opposite directions. Yearly growth in the Latvian economy accelerated in the third quarter to 5.8% (see Figure 7), its highest rate for five years, and in quarterly terms the economy grew very strongly for the fourth consecutive quarter. The yearly growth in the Lithuanian economy however slowed to 3.1% in the third quarter. Quarterly growth also decelerated for the third consecutive quarter, slowing to only 0.1% in the third quarter. Rising household incomes in Latvia have increased private consumption, and the industrial and construction sectors are also growing strongly. Household consumption in Lithuania is being restrained by high inflation and by the modest level of public investment driven by the use of European Union funds. The previously rapid growth in the Lithuanian industrial sector has also slowed in recent months. However goods exports in both countries have increased strongly, partly due to increased economic activity in Russia (see Figure 8). Labour market developments have been favourable as employment increased in Latvia in the third quarter to its highest rate of the past 20 years at 63.6%, while unemployment fell in Lithuania and the number in employment rose (see Figure 9). Inflation has been relatively stable in Latvia for the past half year, falling to 2.8% in October (see Figure 10). Although the yearly rise in consumer prices in Lithuania slowed in October, inflation was still measured at 4.4%.

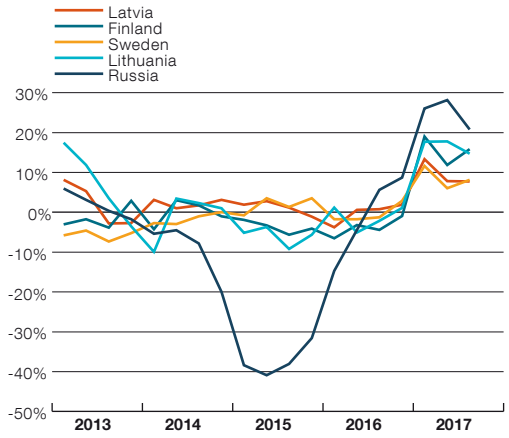
Levels of economic activity in the Nordic countries are high. Yearly growth in GDP in Finland was measured at 3% in the third quarter, while growth in the Swedish economy sped up to 2.9% over the year. The economies of both countries also grew from the previous quarter and the growth in Finland and in Sweden has mainly been based on investment by the construction sector and household consumption. On top of strong domestic demand there has been a major revival in foreign trade in both countries, and the value of their goods exports was significantly larger than a year earlier both in the third quarter and in the first three quarters of 2017 as a whole. Production of metals, mining and forest industry has helped growth remain high in the Finnish industrial sector, and Swedish manufacturing has

Figure 7. GDP of trading partners, yearly growth rate



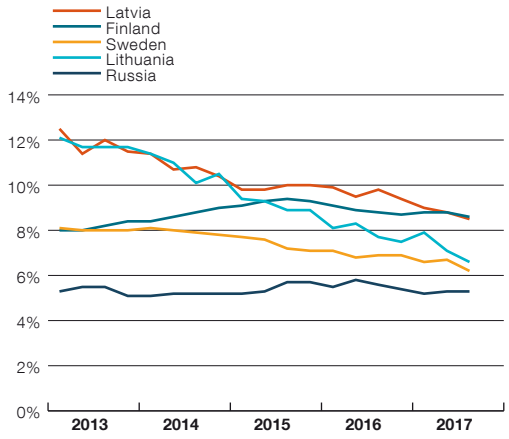
Source: Eurostat

Figure 8. Yearly export growth of trading partners, EUR



Source: Reuters

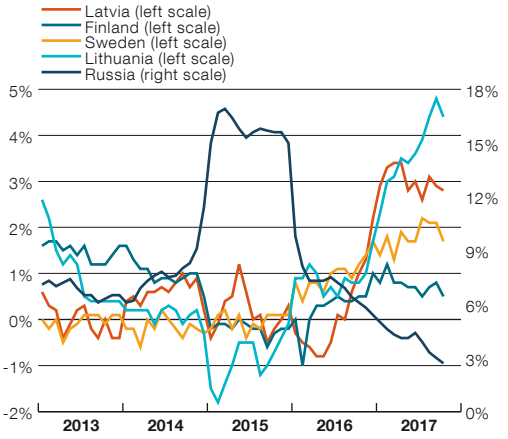
Figure 9. Unemployment rate in trading partners



Sources: Eurostat, OECD

grown noticeably in recent months with support from production of cars and metals. The state of the Nordic labour market is good as unemployment is falling and the number in employment continues to rise. Price pressures are low and inflation fell in Finland to 0.5% in October and in Sweden it fell to 1.7%, which is the lowest level for four months. The accommodative monetary policy of the Swedish central bank has substantially increased investment by households in residential property. However, sentiment in the Swedish residential property market has declined in recent months, and an increase in imbalances in the real estate market could pose a threat to the Swedish economy.

Figure 10. CPI inflation in trading partners



Source: Eurostat

The Russian economy continued to grow but at a slower rate. Yearly growth in the economy declined to 1.8% in the third quarter and the economy shrank in quarterly terms. Yearly growth was slower in both investment and consumption, while the contribution of industrial output remained weak. Economic output increased in the first three quarters of 2017 by 1.6% over the year, mainly with support from higher commodities prices. Although the value of exports was up 20% in the third quarter, the major share of the growth came from the higher oil price. Export volumes of crude oil and oil products and various other large export items declined at the same time. Although the low purchasing power of consumers means household consumption remains modest, recovery in growth in real wages meant that the sales volumes of retail companies were higher in the past half year than a year earlier. Inflation pressures have eased substantially, and in October the yearly consumer price inflation was down to a record low of 2.7%. Lower inflation allowed the Russian central bank to cut its base interest rate to 8.25%. The sharp drop in inflation is however temporary and no major reduction in base interest rates is to be expected.

THE ESTONIAN ECONOMIC ENVIRONMENT

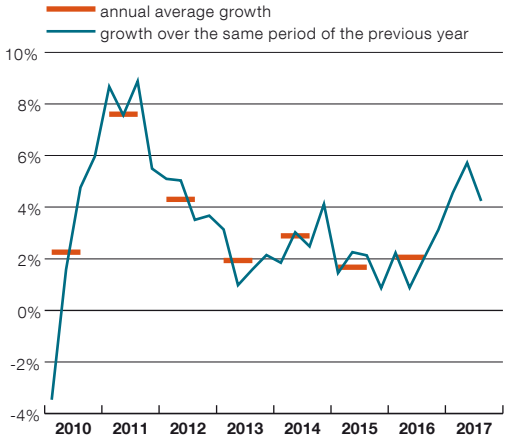
ECONOMIC ACTIVITY

Yearly growth in Estonian GDP was 4.2% in the third quarter (see Figure 11) and quarterly growth of GDP, adjusted seasonally and for the number of working days, was 0.3%. Economic growth was slower than in the second quarter partly because the effect of some one-off factors disappeared, such as the growth in the oil shale sector that had been brought about by the recovery in the oil price. Growth also slowed because of net taxes, which made a strong contribution in the second quarter because of the stocking of excise goods.

The data available so far for the fourth quarter indicate some slowing in the growth in construction volumes, though this is offset by faster growth in industrial production. The Eesti Pank nowcasting models show GDP growth in the fourth quarter to be similar to that in the third quarter (see Figure 12). The economic confidence index, which brings together the expectations of companies and consumers for the months ahead (see Figure 13), has remained at a similar level since the summer. The expectations of construction companies for orders and for hiring additional labour remain optimistic, but are lower than in the summer, which reflects some slowing in the growth in construction volumes in the fourth quarter. Growth increased however in the output of industrial companies in October and the expectations in November for output in the months ahead tend to indicate that growth will be faster than in the third quarter. Economic growth in the fourth quarter will also be affected by the stocking up that will precede the rise in excise rates at the start of 2018, though this effect will probably be less than that at the end of 2016.

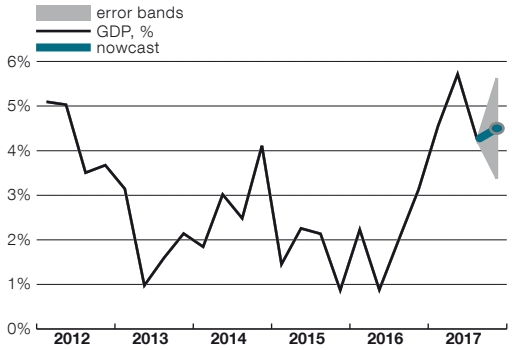
Growth in the economy in the third quarter was based largely on domestic demand, as export volumes decreased. Investment grew more slowly than in the previous quarter, though still did so faster than a year earlier at 13%, with general government investment increasing faster than corporate investment. Growth in private consumption was faster than in the preceding quarters, but still slower than growth in the economy (see Figure 14). Imports grew

Figure 11. GDP growth



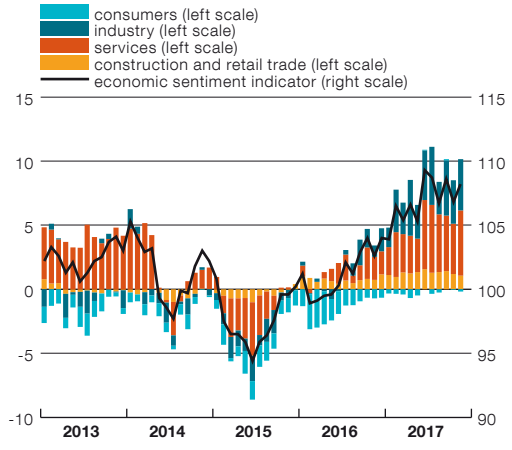
Source: Statistics Estonia

Figure 12. GDP growth and current quarter nowcast



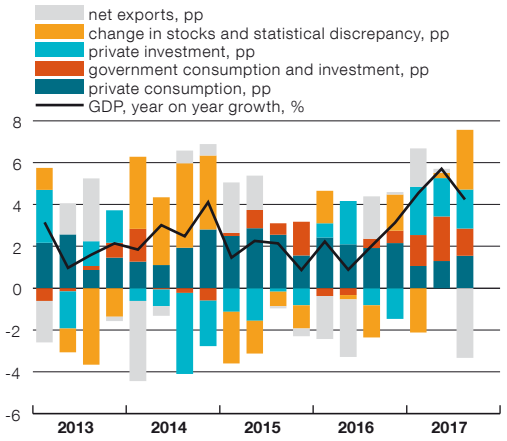
The nowcast produced by the Eesti Pank indicator model is a technical regression-based forecast that takes in data as they are received. There are fifteen models in the set and the nowcast is the median of the individual forecasts. The uncertainty related to our forecast is indicated by the mean historical absolute nowcast errors.
Source: Eesti Pank

Figure 13. Economic sentiment indicator and economic confidence by sectors



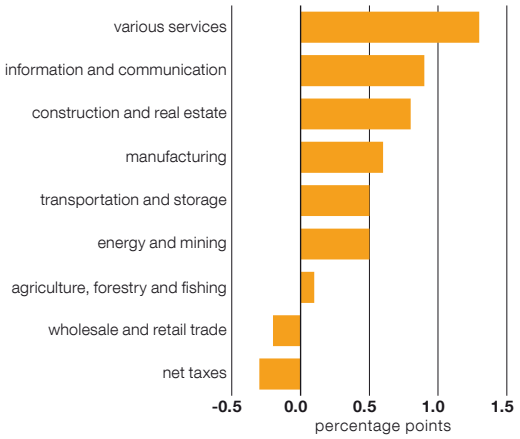
Source: European Commission

Figure 14. GDP growth



Sources: Statistics Estonia, Eesti Pank

Figure 15. Contributions of sectors to GDP growth in Q3 2017



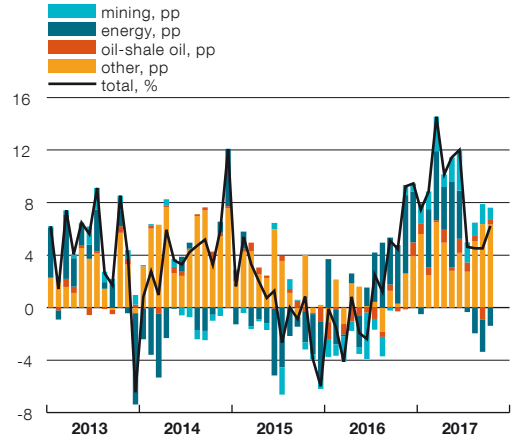
Source: Statistics Estonia

faster than exports partly because investments were growing rapidly and investments are often import intensive, and also because inventories were increased. At the same time exports were down, which was because of reduced exports from import intensive branches of the economy that affect the figures for turnover more than they affect profits and wages.

The support from investment to GDP growth is reflected in the development of value added in different sectors (see Figure 15). One of the biggest contributions to GDP growth came from the construction sector, while subsectors of mining except oil shale mining also grew, such as mining of gravel and sand for use in road construction. A large share of the growth in the economy in the third quarter also came from manufacturing, which is the main exporting sector. Despite the reduction in exports, the value-added of manufacturing increased as exports mainly fell in branches of manufacturing with low value added, where export items contain a much larger share of imported content than of value added in Estonia.

Growth in industrial output was brought down in the third quarter substantially by output growth in the energy sector (see Figure 16), and it slowed from 11% in the second quarter to close to 4%. Manufacturing output grew over the year at a similar rate to industrial output overall, but was 2% less than in the previous quarter. Growth in industrial output

Figure 16. Yearly industrial production growth



Sources: Statistics Estonia, Eesti Pank

picked up sharply in October however, with seasonally adjusted value added increasing in manufacturing over the month by 2.3%, and over the year by 8.1%.

Strong demand has meant that GDP growth has run ahead of its sustainable level for the past year, meaning that supply-side constraints are becoming more binding. The share of companies that are mainly restricted by labour shortages has increased (see Figure 17), and the share of companies that are restricted by demand has decreased.

That supply-side limits have emerged when economic growth has been rapid only for a short time confirms that potential growth in

the economy has been reduced. In contrast to the case a decade ago, potential growth in the economy has been reduced by slower growth in capital and total factor productivity (see Figure 18). Weak growth in capital has been caused by a reduction in investment as a share of GDP and by a rise in the depreciation rate. This is because of changes in the structure of investment and production capital. Investment in information technology and smart production depreciate relatively quickly. However, the growth in total factor productivity has remained slow despite the investment in digital technology. The growth in total factor productivity is being restrained by a narrowing of the gap in productivity between Estonia and the wealthier countries in Europe. The more Estonia becomes similar to the wealthier European countries, the less technology there is available that can be adopted. Rapid productivity growth requires research and development, but this is much more complicated than simply copying solutions.

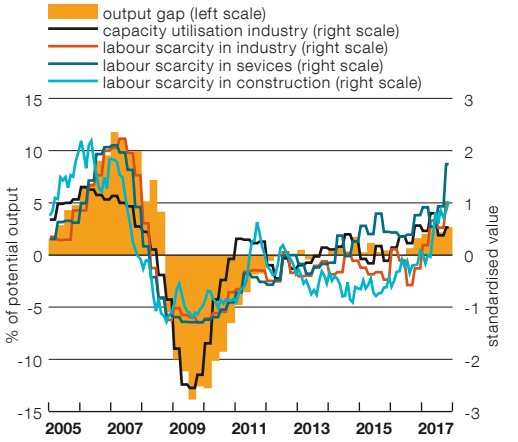
DOMESTIC DEMAND

Domestic demand in the Estonian economy was 7.0% more in the third quarter of 2017 than in the third quarter of 2016. All the components of domestic demand increased, but the biggest boost came from increased investment in fixed assets (see Figure 14). The general government and companies contributed roughly equally to the yearly growth of 13.2% in gross fixed capital formation (see Figure 19).

Corporate investments continued to increase rapidly in the third quarter. Gross fixed capital formation at non-financial companies was 11.4% more at constant prices than in the third quarter of 2016. The sector that contributed the most to the increase in corporate investment was manufacturing, and investment in machinery and equipment increased especially. The growth in investment activity at manufacturing companies is supported by the utilisation of production capacity remaining at its highest level of the past decade, and by the raised expectations for orders in the near future. Investments were largely funded from companies' own funds, but long-term loans were taken out more than previously.

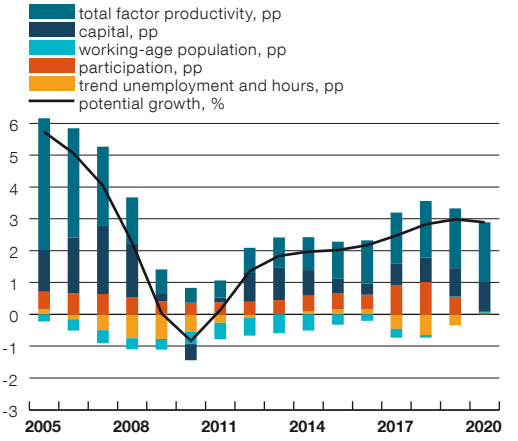
The general government invested mainly in construction in the third quarter. General

Figure 17. The business cycle



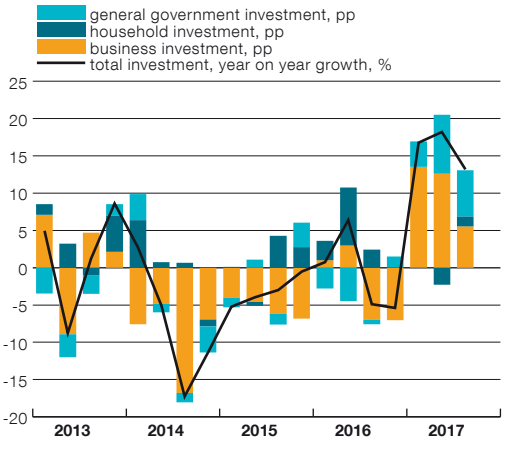
Sources: European Commission, Statistics Estonia, Eesti Pank

Figure 18. Contributions to potential output growth



Sources: Statistics Estonia, Eesti Pank

Figure 19. Gross fixed capital formation



Sources: Statistics Estonia, Eesti Pank

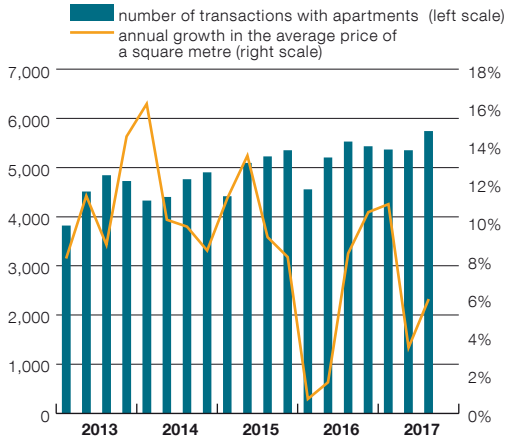
government investments in construction were one third more at constant prices than in the third quarter of 2016 and gross fixed capital formation was up 23.0% on a year earlier. Local governments and central government contributed roughly equally to the growth in general government investment.

The market for residential property was active in the third quarter of 2017 and household investments in new residential real estate were up 1.9% on a year earlier. The supply of new residential property has grown strongly. Statistics for construction and usage permits of buildings for the third quarter show that almost one quarter more residential space was granted a usage permit than at the same time a year earlier. The growth in supply has helped keep the rise in prices of residential space relatively moderate despite the strong demand. The yearly growth in prices of apartment transactions was around 6% in the third quarter, and preliminary data for October and November show a similar pace of growth (see Figure 20). Although the lending conditions of the banks have not been eased, the yearly growth in the stock of housing loans increased to 6.7% by the end of October on the back of strong demand for loans.

Yearly growth in private consumption at constant prices has accelerated during the year, but inflation has meant it has been slower than it was last year (see Figure 21). Spending by households on private consumption was 3.5% more in the third quarter than a year earlier at constant prices. Given price changes, the biggest increase from a year earlier was in spending on communications services and equipment, and on clothing and footwear. With the labour market favourable and consumer confidence high, spending also continued to increase on leisure time services and goods. As wages grew faster than a year earlier, the disposable income of households did likewise, and by more than private consumption. This has allowed household savings to grow and the household savings rate, which shows the ratio of savings to disposable income, to rise.

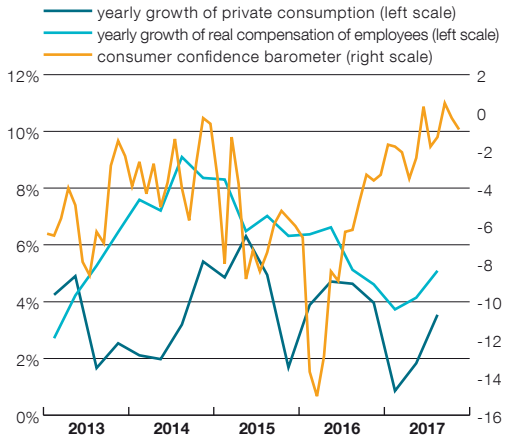
The savings rate of Estonian households has in recent years climbed to close to the average for the European Union. In 2016 the household savings rate was 11.8%. The household savings rate has been raised not only by disposable income exceeding consumption spending, but also by imputed income from the growth in the net equity of the reserves of households' pension funds. Had the reserves of pension funds not increased, the household savings rate would have been one quarter lower. Although household deposits are growing quickly, not all the disposable income left over after consumption is held as financial savings in the form of money, deposits and securities, but it is also invested in fixed assets. In the past five years households have invested in fixed assets, primarily living space, roughly the same amount as has been left over from disposable income after spending on consumption. With deposits

Figure 20. Number of transactions with apartments and the annual growth in the average price of a square metre in transactions with apartments



Source: Estonian Land Board

Figure 21. Private consumption



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

growing rapidly this indicates that as much as some households save, other households borrow, for example to fund investment in housing.

The growth in domestic demand in the third quarter was also supported by corporate inventories growing faster than they did last year. Inventories increased the most in wholesale and retail, where larger stocks of goods for sale were held than last year.

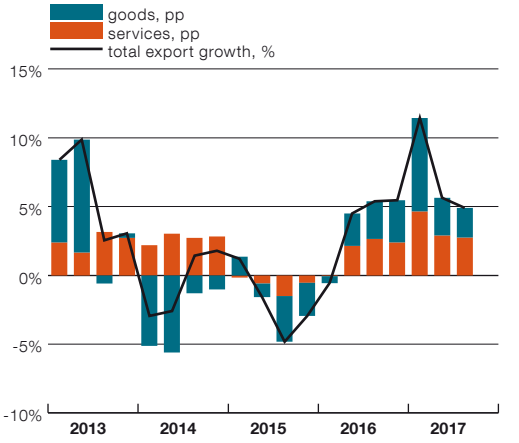
EXTERNAL BALANCE AND COMPETITIVENESS

Exports of goods and services were up 5% over the year in nominal terms in the third quarter in the balance of payments (see Figure 22). Exports grew at the same rate as the European Union average, so Estonia's competitive position did not change significantly. In the first nine months of the year exports grew a little more, by around 7%.

The growth in exports of goods was faster than in the second quarter. Growth has been supported throughout the year by strong exports of metal and wood products, and this continued in the third quarter. Foreign trade statistics show that total exports of metal products grew by a quarter. The rapid export growth that was seen in the oil shale sector at the start of the year tailed off in the third quarter, however, and exports of output from the sector grew only minimally. This is partly due to the reference base effect, because the first half of 2016 was not good for the oil shale sector and output started to increase again from the third quarter. Exports of communications equipment continued to decline.

Exports of services grew faster than exports of goods. Although the rate of growth was slightly slower in the third quarter, it remained rapid at 8%. Having been in difficulties last year, transport services have seen stable growth in exports this year. On top of this, exports have grown in other major branches of services. Only exports of travel services were at about the same level in the third quarter as a year previously. The number of tourists coming from Finland was 9% down on a year earlier, and for the first time they accounted for fewer than one third of the total number of visits. This is offset by a rise in the number of visitors

Figure 22. Export growth decomposed



Sources: Statistics Estonia, Eesti Pank

from other European countries, which was partly a consequence of Estonia's presidency of the Council of the European Union.

A large part of the growth in exports came from higher prices for exports. Export prices rose by around 4% in the third quarter. Prices rose at the same rate in Latvia, but inflation was lower in other neighbouring countries. Prices for exports of services rose particularly fast, and were up 5% on a year earlier. Prices for goods rose by one percentage point less. Import prices rose by slightly less at the same time, which means that Estonia's terms of trade have improved.

The competitiveness of companies has remained strong. Companies still consider their international competitiveness to be strong, and opinions on competitiveness outside the European Union are particularly optimistic. Estimates of changes in competitiveness in the European Union also indicate an improvement in competitiveness, but whereas opinions given in Estonia have previously been above the European Union average, this gap has now closed.

Comparing real growth in Estonian exports with growth in foreign demand shows that foreign demand has grown significantly faster this year, suggesting that Estonian competitiveness has in fact weakened. However, excluding exports of communications equipment, which account for a disproportionately large share of Estonian exports but bring a relatively small amount of value added into the economy, reveals that exports of other

goods and services have managed to keep pace with the growth in foreign demand (see Figure 23).

The current account surplus in the third quarter was 241 million euros, or 4% of the GDP of the period (see Figure 24). The surplus has declined from a year previously. Imports of goods grew faster than exports and so the deficit on the goods account was around 100 million euros larger than a year earlier. The changes from a year ago on the income side were smaller.

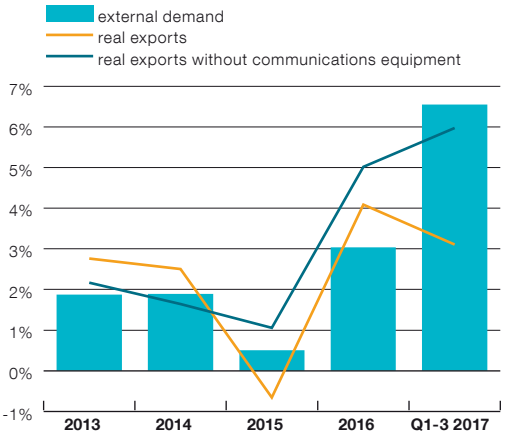
THE LABOUR MARKET

Wage growth accelerated in the first three quarters of 2017 to reach 7.4% in the third quarter (see Figure 25). Faster growth in productivity and prices in 2016 passed through into wage growth with a lag of half a year. Despite the acceleration, the average growth in labour costs over the first three quarters was more in line with the average rise in productivity than it was in previous years (for more on the factors of wage growth see Box 3).

The rise in the average wage was faster in many sectors, but the industrial sector contributed more to the acceleration than the service sector did. The acceleration in wage growth in the industrial sector was driven by energy and construction. Wages have risen faster in construction mainly because of increased demand for labour, as there is little labour available on the market. Demand for labour and estimated labour shortages also increased in manufacturing, though there has been no major increase in wage growth there. Wages in services grew at a faster rate in the public sector, though mainly because of temporary factors. The presidency of the Council of the European Union played a role in public administration, as did the delayed collective agreement in healthcare.

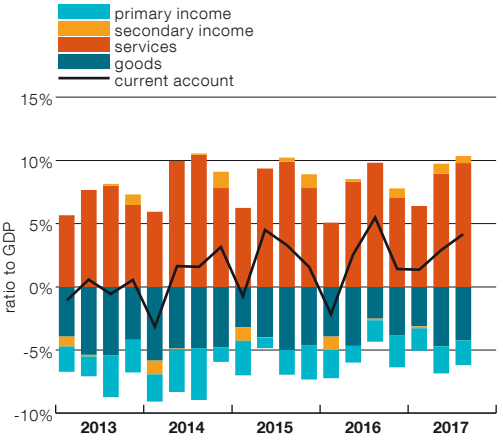
Real wages rose by 3.7% in the third quarter, which is the same rate as in the previous quarter but below the figure for 2016 (see Figure 25). It is probable that higher inflation influenced the wage demands of employees, while higher prices in foreign markets allowed companies to pass on higher wage costs to production prices.

Figure 23. Growth in exports and external demand



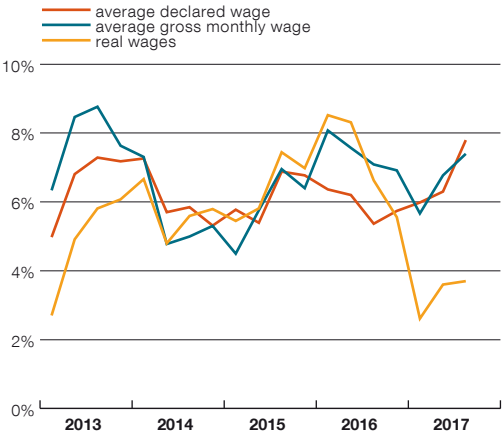
Sources: European Central Bank, Eesti Pank calculations

Figure 24. Current account



Sources: Statistics Estonia, Eesti Pank

Figure 25. Yearly change in average wages



Sources: Statistics Estonia, Tax and Customs Board

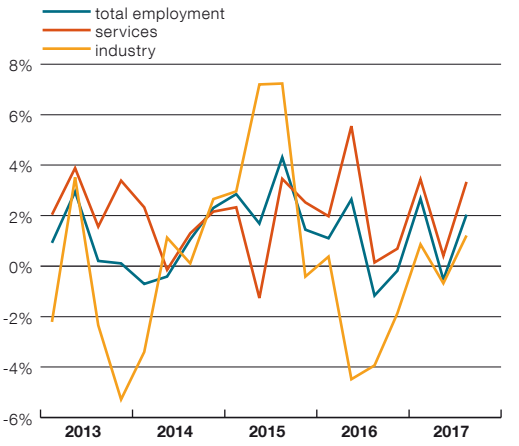
Company profits continued to grow at a faster rate than labour costs did in the third quarter. As labour costs per person in employment increased at around the same rate as GDP per employed person though, real unit labour costs remained at about the same level as a year earlier.

Demand for labour has increased in 2017, and the labour force survey by Statistics Estonia shows that 68.3% of people of working age were in employment in the third quarter, which is 1.8 percentage points more than a year previously. Most other data sources also indicate an increase in labour demand. The labour force survey shows a total rise in the number of people in employment in the third quarter of 2.1% (see Figure 26). Employment rose by 2.6% in Estonian resident companies and institutions though, as the number working abroad fell. The sentiment survey by the Estonian Institute of Economic Research shows that the employment expectations of companies in industry, construction, services and trade were at about the same level as in 2011, when the labour market recovered from the crisis. The same survey shows the share of companies that consider labour shortages to be a factor restricting production to be at the highest level since the economic crisis, and in services the share of companies equalled its peak of 2007 in October 2017.

The number of vacancies stood at 12,725 at the end of the third quarter of 2017, which is 15% more than a year previously. The rate of growth in the number of vacancies started to increase in 2016, but in the third quarter of 2017 there were some 40% fewer vacancies than in the third quarter of 2007. The number of vacancies rose fastest in the industrial sector, particularly in manufacturing and construction (see Figure 27).

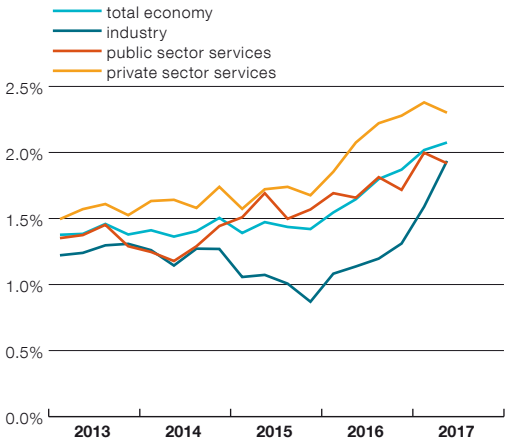
The unemployment rate fell in the data from Statistics Estonia to 5.2% in the third quarter, which is 2.3 percentage points lower than in the third quarter of last year (see Figure 28). The unemployment rate fell furthest in Ida-Virumaa and there were fewer short-term unemployed than previously.

Figure 26. Yearly growth in employment from the Labour Force Survey



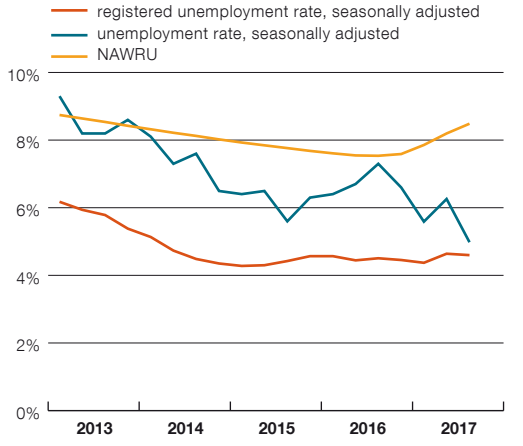
Source: Statistics Estonia

Figure 27. Vacancy rate, seasonally adjusted



Source: Statistics Estonia

Figure 28. Unemployment



Sources: Statistics Estonia, Töötukassa, Eesti Pank

Data from Töötukassa still show the number of registered unemployed increasing. This can be explained however by a rise in the number registered as unemployed with reduced capacity for work, without whom registered unemployment would have fallen. The figures do not match because the unemployed in Estonia do not have to register with Töötukassa, and not all the registered unemployed necessarily meet all the conditions to qualify as unemployed under the ILO definition. Those who have just entered the labour market for example may not necessarily be ready to take a job within the next two weeks.

Favourable conditions in the labour market for employees, and social security reforms have brought an ever larger share of the working age population into the labour market. Labour force participation did not increase in the third quarter of 2017 but remained at a record high of 72%. As the labour force participation rate did not rise, the size of the labour force shrank in the third quarter together with the size of the working age population.

Box 3: How inflation and other factors impact wage growth

Nominal wages and inflation are interrelated in two ways. Firstly, wages are one of the main production costs for companies, and companies want to pass higher wage costs on into their product prices. Secondly, the wage demands of employees take account of inflation or the general rise in prices, as it is natural that wage earners should be interested in the amount of goods and services that their wage is able to buy. Wages in several European countries[13] are indexed, so that collectively agreed wages are automatically adjusted for inflation. Automatic indexing is rare in Estonia, though a survey carried out in 2007 found that around half of employers[14] consider inflation when adjusting wages. Under certain conditions the mutual dependence of wages and price rises can lead to a spiral that could lead to uncontrolled inflation.

To understand the connection between wages and inflation, other factors that affect the average wage must be taken into account. Over the long term wage growth depends mainly on labour productivity and product prices, or put simply, how much income a company can earn to distribute between wages and profits. Depending on the stage of the business cycle, wage growth can also be affected by unemployment, because if this is higher than its natural or balanced rate then it is relatively easy for companies to find or replace employees as there are a lot of candidates, and this restrains wage growth in the economy. If unemployment falls below its natural level however, wages may be expected to rise faster as employers have to make better offers in order to attract employees. The rising labour costs then raise inflation, and this comes round again into wage demands. The minimum wage set by the state also plays a role in setting the average wage, as it has been shown that a rise in the minimum wage affects not only those receiving a wage close to it, but indirectly also those earning the average wage[15]. The impact and contribution of different factors to growth in the average wage can be estimated using an equation of the Phillips curve type:

13 Such as Belgium, Spain and Slovenia, see Survey evidence on wage and price setting in Estonia, Eesti Pank Working Papers 6/2011.

14 Ibid p 64.

15 Simona Ferraro, Jaanika Meriküll, Karsten Staehr. Minimum wages and the wage distribution in Estonia, Eesti Pank Working Papers 6/2016.

$$\Delta w_t = (1-\beta_1-\beta_2)\Delta y_t^* + (1-\beta_3)(1-\beta_4)(\bar{\pi}^y/\bar{\pi})^{-1}\pi_t^{y*} + \beta_5 u_t^- + \beta_6 u_t^+ + \beta_7 \Delta u_t + \beta_1 \Delta y_t + \beta_2 \Delta y_{t-1} + \beta_3 \pi_t + \beta_4 (\bar{\pi}^y/\bar{\pi})^{-1}\pi_{t-3}^y + \beta_8 \Delta w_t^{min} + \varepsilon_t,$$

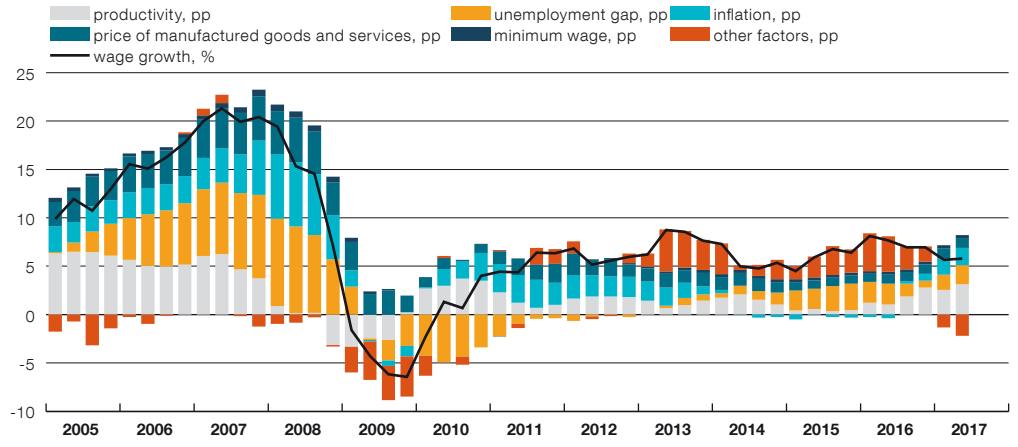
where Δw is the change in the average wage, Δy^* is the long-term trend for productivity growth, π^{y*} is the long-term growth trend for the GDP deflator showing changes in product prices over the long term, u_t^- is the negative unemployment gap where unemployment is below its balanced rate, u^+ is the positive unemployment gap where unemployment is above its balanced rate, Δy is productivity growth, π is consumer price inflation, $\bar{\pi}$ is average consumer price inflation up to now, π^y is the growth in the GDP deflator, $\bar{\pi}^y$ is the average growth up to now in the GDP deflator, Δw^{min} is the change in the minimum wage, and ε_t is the residual, or the wage growth that cannot be explained by the economic indicators in the equation. The relation from the start of 2001 to the second quarter of 2017 was:

$$\Delta w_t = 0.60\Delta y_t^* + 0.26\pi_t^{y*} - 0.35u_t^- - 0.10u_t^+ - 0.20\Delta u_t + 0.24\Delta y_t + 0.16\Delta y_{t-1} + 0.55\pi_t + 0.20\pi_{t-3}^y + 0.03\Delta w_t^{min}.$$

It is apparent from the data and the equation that growth in wages has relatively high inertia to productivity growth, meaning it depends more on the long-term trend of productivity than on productivity in the current period. Further proof of this is the relatively rigid relation in many cases between wages and output volumes, and so also with temporary changes in productivity. The same conclusion can be drawn about product prices, where short-term fluctuations have relatively little impact on wages. It is also interesting to note from the equation that when the economy is growing rapidly and unemployment has fallen below its balanced level, the upward pressure on wages is many times greater than the downward pressure on wage growth that arises when the economy is shrinking and unemployment exceeds its balanced rate to an equivalent extent. This is because of the downward stickiness of wages, which means that it is much harder to cut a wage than to raise it. Inflation also has an important impact on wage setting. Experience from earlier years suggests that a rise of 1% in consumer prices lifts the wage level by 0.55%.

Since 2012, wages have mostly grown faster than key economic indicators would suggest they should (see Figure B3.1). There is no one single explanation for this. It could be that the shortage of labour resources has put more pressure than expected on wages to rise, as there has been less available labour in the Estonian labour market than in other countries in Central Europe

Figure B3.1. Wage growth factors from the Phillips curve



Sources: Statistics Estonia, Eesti Pank

where wage pressures have been weaker. Alternatively, wage growth may have been increased by tighter competition between labour markets in the European Union, which has put pressure on wages to rise in countries with low wage levels. This is not necessarily caused by actual emigration to wealthier European Union countries but can come just from the possibility of such emigration. Pressure is put on wages in Estonia simply by workers having the option of going to find a job in Finland, whether or not they actually do so. Another explanation that has been much discussed in recent years could be that companies have tried to increase production in uncertain times by increasing the contribution of labour rather than through investment in fixed assets, and this also put pressure on wage costs.

Looking forward, wages may be expected to continue to rise rapidly, as indicated by all the main factors of wage growth. Labour productivity growth has picked up since the middle of last year and wage growth continues to be driven by the labour market gap, meaning the shortage of available labour with the skills and qualifications that match the demands of the labour market. On top of this it may be expected that higher inflation in 2017 will be passed into growth in nominal wages. Inflation caused around one quarter of the general rise in wage levels in the first half of 2017, and as it is expected to remain at the same rate in 2018 it is unlikely that its influence will disappear.

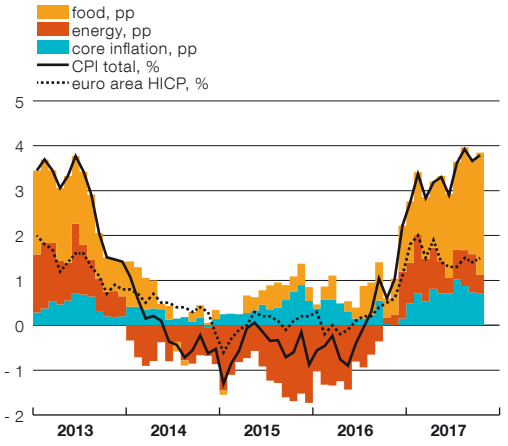
PRICES

Growth in consumer prices accelerated throughout 2017 at a rate that approached 4% in the second half of the year. The main cause of higher inflation was higher prices for food commodities and energy on global markets (see Figure 29).

The rate of growth in energy prices peaked in the first months of the year and then started to slow. The rise in the oil price on global markets passed rapidly into prices for motor fuels at the start of the year. Higher fuel prices were offset to some extent by an appreciation of the euro exchange rate. Prices of other energy goods rose at a moderate rate throughout the year. The price of electricity continued to rise slowly this year and prices of solid fuels have been falling for some years in a row. The price of heating energy did not particularly change in the first half of the year, though global prices for natural gas rose (see Figure 30).

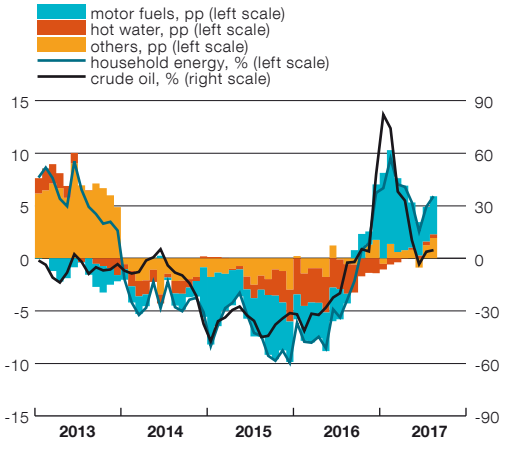
Food prices climbed rapidly in 2017 in Estonia and elsewhere in the European Union. The yearly growth in prices of dairy products reach 12% in the third quarter, and the price of butter rose at the same time by around 50%. Prices for fruit and vegetables were also notably higher in the second half of the year than in 2016. The European Union producer price indexes of

Figure 29. CPI growth



Sources: Statistics Estonia, Eesti Pank

Figure 30. Growth in energy prices



Sources: Statistics Estonia, Bloomberg

food indicate though that food price inflation may slow. Excise on alcohol was raised twice this year, in February and July. The rise in beer excise in July had a notable impact on inflation of 0.4 percentage point. As company mark-ups rose together with excise, the price of beer in shops rose by 21% in a month.

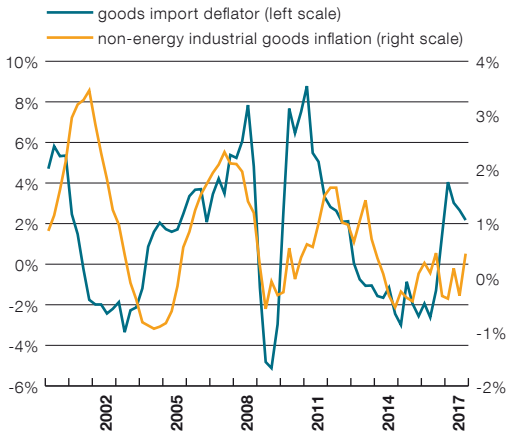
Inflation has also been raised this year by domestic economic factors. The revival in the economy lifted core inflation in the first half of this year so it reached 1.8% in July. This is partly because rapid wage growth has raised production costs and partly because incomes of both companies and households have risen strongly, and increased demand has allowed output prices to rise. Increased production volumes and a rise in the price level together allowed companies to increase their profits again in the first half of the year.

Inflation was already low for manufactured goods in the first half of the year and started to fall in the second half. This may have been because the euro exchange rate strengthened year-on-year, largely offsetting the effect of higher import prices and wages (see Figure 31). It may also have been partially because of structural factors, including intensified competition. The price level of manufactured goods is already quite high in Estonia at 90% of the European Union average. Prices for air tickets have created a lot of volatility in services prices. In October, high school pupils in Tallinn started to receive free school meals, which combined with cheaper prices for communications to bring services inflation down.

GENERAL GOVERNMENT

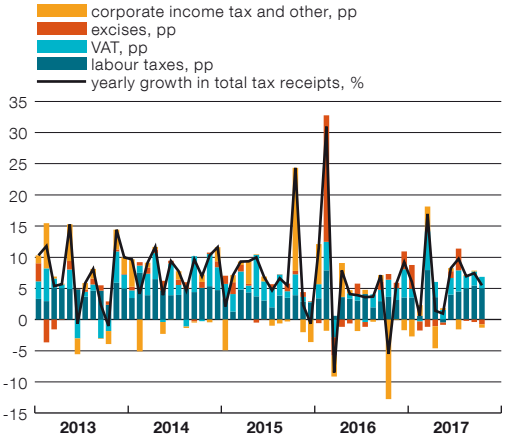
Faster wage growth in the second half of 2017 increased the growth in receipts of labour taxes from August. Receipts of personal income tax and social tax were up some 10% on a year earlier from August (see Figure 32). Receipts of indirect taxes have been restrained this year by a fall in excise income, as the higher tax rate has not compensated for a fall in volumes declared. The biggest fall is in excise on strong alcohol as declared volumes were 30% lower in the first nine months of the year than in the same months of 2016, though in September the reduction over the year narrowed to 15%. Tax revenues have risen by more than 6% over the first 10 months of the year, indicating that the tax burden, or tax revenues as a share of GDP, has fallen this year with the economy growing fast.

Figure 31. Inflation of industrial goods



Source: Statistics Estonia

Figure 32. Tax receipts in the state budget



Source: Tax and Customs Board

Growth in some general government expenditure items accelerated as expected in the third quarter. The growth in the payrolls of government institutions was raised by the presidency of the European Union, for which additional labour was hired and bonuses for additional work were paid out. In total the growth in the payroll of general government employees accelerated to 7.5% over the year in the third quarter. Growth in social benefits also accelerated as planned, as a higher rate of benefits was introduced from July for large families. The growth in total spending was restrained in the third quarter by slower growth in investment, which still grew over the year by 28%, though this was less than the very rapid growth in the first half of the year.

FORECAST

The Eesti Pank economic forecast is produced jointly by experts from the central bank's Economics and Research Department and Financial Stability Department. It is a part of the joint forecast for the euro area produced by the euro area central banks and the European Central Bank, which uses shared assumptions about interest rates in euro area money markets, the euro exchange rate and commodities prices. The outlook for demand and prices in Estonia's trading partners is based on forecasts prepared by other central banks in the euro area at the same time. The external assumptions used in the forecast are based on information available as at 27 November 2017, and the Estonian economic indicators on data available as at 30 November 2017. The Eesti Pank forecasts are compiled using EMMA, the macro-model of the Estonian economy developed and regularly updated by Eesti Pank.

THE GLOBAL ECONOMY

Growth in the global economy has been accelerated this year by growth in global trade, investment and industrial output. For this reason international institutions are more optimistic in their estimates of the future progress of the global economy. The October WEO[16] from the IMF has raised its growth outlook by 0.1 percentage point for this year and next year to 3.6% for 2017 and 3.7% for 2018. The OECD[17] forecasts similar numbers for growth, assuming that growth will accelerate further next year given the favourable current conditions. Looking further ahead, economic growth will continue to accelerate moderately, as emerging economies take an ever larger share of the global economy.

International institutions estimate that the outlook for growth in advanced economies is mainly better than in earlier forecasts at 2.2% for 2017 and 2% for 2018. Exceptions are the United Kingdom and to a smaller extent the United States this year, where the growth forecasts for the economies have been adjusted downwards because the expected large-scale budget spending in the United States has not happened yet and the outlook for growth in the United Kingdom economy is threatened by the drawn-out negotiations over the Brexit agreement. The Japanese economy will continue to grow rapidly with support from strong domestic demand and exports.

The rapid growth in the emerging market economies, which is supported by demand from advanced economies and favourable financing conditions, will continue in future in line with earlier forecasts. Commodities exporters will make a major contribution to growth, as they have grown a little faster than expected this year. The most recent estimate by the IMF puts growth accelerating in emerging economies from 4.6% this year to 5% by the end of the forecast horizon in 2022. This assumes continuing rapid growth in the Chinese economy, which is currently affected not only by the external environment but also by public-sector investment. It continues to be endangered by its large debt burden however. The IMF raised its growth forecast in October for China for this year by 0.2 percentage point to 6.8% and for next year by 0.3 percentage point to 6.5%.

Growth in the global economy continues to be restricted by the same dangers as before. In advanced economies these dangers are above all the ageing of the population and weak productivity growth, and to a smaller extent political insecurity, while in emerging economies the dangers are of commodities prices being lower than expected and possible tensions in international financial markets, which could cause a reduction in capital flows. Equally, geopolitical tensions have not disappeared.

Economic growth in the euro area will remain strong throughout the forecast horizon. An improving labour market and growth in real incomes will offer support to domestic demand. Low loan interest rates, favourable borrowing conditions and improved demand will support a recovery in investment. The accommodative monetary policy will keep interest rates low. It is assumed that the three-month EURIBOR will remain negative in the years ahead, moving into positive territory from 2020, and remaining at a very low level throughout the forecast horizon (see Table 2). Although the euro has

16 IMF World Economic Outlook, October 2017.

17 OECD Economic Outlook, November 2017.

Table 2. External assumptions in the forecast

					June 2017 projection		
	2017	2018	2019	2020	2017	2018	2019
Foreign demand growth (%)*	6.4	4.1	3.8	3.6	3.9	3.6	3.4
Oil price (USD/barrel)	54.3	61.6	58.9	57.3	51.6	51.4	51.5
Interest rate (3-month EURIBOR, %)	-0.33	-0.31	-0.13	0.15	-0.32	-0.19	0.03
USD/EUR exchange rate	1.13	1.17	1.17	1.17	1.08	1.09	1.09

*Foreign demand growth is the weighted growth of imports of trading partners
Source: European Central Bank

strengthened, the faster rate of global economic growth and increased external demand should favour increased exports from the euro area. Inflation will remain modest in the euro area in the near term, but as the negative output gap closes and wages rise faster, it should gradually rise. By the end of the forecast horizon, inflation in the euro area should reach 1.7%.

The outlook for growth in Estonia's main trading partners is becoming more optimistic. The main reason for this is the increase in global confidence, and faster growth in the global economy, which is lifting the economy in Europe as well. The economic position of Estonia's export partners has also become notably better following the improvement in the Russian economy in the past half year. Growth in the Latvian economy accelerated markedly in the third quarter and although that in the Lithuanian economy slowed in the third quarter, the growth in the years ahead will be higher than was forecast in June. The autumn forecast of the European Commission projects that GDP growth in Latvia and Lithuania will rise to close to 4% in 2017. The Swedish central bank estimated in October that the growth of 2.9% in 2017 will be pulled down by weaker domestic demand to 2.0% in 2019. The Finnish economy has rebounded strongly, and the European Commission estimates that growth will be lifted by investment and household consumption to 3.3% in 2017, and will remain at the same rate in the following year. Although the Russian economy grew more slowly over the year in the third quarter, the higher oil price will keep growth stronger than estimated in the June forecast, and the Russian central bank estimates it will be close to 2% in the years ahead. The Russian economy is, however, growing at close to its potential, and rapid and sustainable growth will need structural reforms to be carried out.

Inflation is largely driven by commodities prices. Inflation is mainly being held down in advanced economies by low wage growth, while prices in emerging economies are mainly driven by developments in food prices and commodities prices. The oil price will be a little higher throughout the forecast horizon than was assumed in June and will reach an average of 58.9 dollars per barrel in 2019. After reaching its lowest point in June, the oil price has risen by some 40% on the back of increased demand and reduced output in the US, and it climbed to 63 dollars a barrel at the start of December. OPEC and its partner countries decided on 30 November to extend their restrictions on production of crude oil until the end of 2018. As markets had already priced in the extension of output restrictions, the oil price did not rise following the OPEC decision. The oil price may well rise in the near future as tensions continue to mount in the Middle East. Bad weather raised food prices in the first half of 2017, but its impact remains short term and inflation for food commodities will remain subdued in the near future.

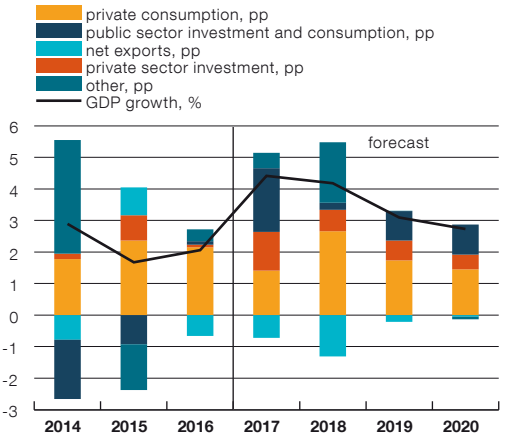
REAL ECONOMIC GROWTH

GDP growth will be slower in 2018 than in 2017 because of lower growth in the first half of 2018. Annual average growth will slow from 4.3% in 2017 to 4.2% 2018. It will continue to slow in 2019 and 2020 as supply-side constraints restrict it. The economy will grow by 3.1% in 2019 and 2.7% in 2020 (see Figure 33). The main indicators for the economic forecast are shown in Table 3, while Table 4 gives a comparison of growth and inflation forecasts with those of other institutions.

Several temporary factors will lead the economy to grow rapidly in 2018. A range of

fiscal policy measures will spur the economy on in 2018 as general government investment grows with support from European Union structural funds and the change in the income tax system increases the disposable income of households, boosting private consumption. Growth in exports will also be faster as the braking effect that the electronics sector had on growth in 2017 fades away. However, a risk remains that the competitiveness of the tradable sector has been reduced by labour shortages and higher labour costs, and so export growth may not necessarily offer as much support to the economy. Growth will largely be based on consumption and investment throughout the forecast horizon. Exports will also make a stronger contribution to growth, but

Figure 33. Contributions to GDP growth



Sources: Statistics Estonia, Eesti Pank

Table 3.Economic forecast by key indicators*

						Difference from June projection		
	2016	2017	2018	2019	2020	2017	2018	2019
Nominal GDP (EUR billion)	21.10	22.99	24.94	26.69	28.38	0.62	1.20	1.59
GDP volume**	2.1	4.3	4.2	3.1	2.7	0.8	0.9	0.2
Private consumption expenditures***	4.4	2.7	5.1	3.4	2.8	0.6	0.4	0.5
Government consumption expenditures	1.9	1.2	2.1	2.8	2.1	-1.5	-0.4	-0.5
Fixed capital formation	-1.2	13.3	2.0	4.3	4.2	2.1	-1.2	0.4
Exports	4.1	2.1	2.6	4.4	4.2	-3.5	0.0	0.4
Imports	5.3	3.1	4.5	4.8	4.4	-3.5	1.2	0.6
Output gap (% of potential GDP)	0.6	2.4	3.7	3.8	3.7	1.8	2.5	2.5
CPI	0.1	3.5	3.2	2.1	2.0	0.3	0.8	0.0
Core inflation	0.7	1.4	1.6	1.7	1.7	0.0	0.3	0.2
Services	1.2	2.8	2.8	2.8	2.9	0.0	0.6	0.1
Non-energy industrial goods	0.1	0.0	0.6	0.7	0.6	-0.1	0.2	0.3
Energy	-3.8	5.4	3.9	0.8	0.5	-1.3	1.0	-1.2
Food, including alcohol and tobacco	1.6	6.5	5.7	3.4	3.2	1.7	1.4	0.0
HICP	0.8	3.7	3.6	2.5	2.3	0.3	0.9	0.0
GDP deflator	1.4	4.5	4.1	3.8	3.5	1.2	1.3	1.1
Unemployment rate (% of the labour force)	6.8	5.9	7.3	7.9	7.9	-0.9	-1.4	-1.5
Employment****	0.3	1.3	0.0	0.1	0.1	0.4	0.6	-0.1
Average gross wage	1139	1217	1292	1366	1445	13	27	32
Average gross wage growth	7.4	6.8	6.2	5.7	5.8	1.1	1.1	0.3
ULC	4.0	4.2	2.6	2.6	3.1	1.6	0.9	0.0
GDP per employee	1.8	3.0	4.2	3.0	2.6	0.4	0.3	0.3
Private sector debt, outstanding amount (non-consolidated)	3.0	4.2	6.4	6.8	6.4	2.2	1.3	0.9
Private sector debt, outstanding amount (% of GDP, non-consolidated)	127.0	121.3	118.9	118.7	118.8	-6.1	-7.3	-7.1
Current account (% of GDP)	1.9	2.1	0.3	0.5	0.6	-0.9	-1.4	-1.2
Budget balance (% of GDP)*****	-0.3	-0.5	-0.4	-0.6	-0.6	0.0	0.6	0.3
Cyclical component (% of GDP)	0.2	0.0	0.4	0.4	0.3	-0.2	0.1	0.1
Temporary measures (% of GDP)	-0.3	-0.3	-0.1	-0.1	0.0	0.0	0.0	0.0
Structural budget balance (% of GDP)	-0.2	-0.2	-0.7	-0.9	-0.9	0.2	0.4	0.2

* Numbers reported are annual rates of change in per cent, if not noted otherwise; ** GDP and its components are chain-linked; *** including NPISH; **** employment by domestic production units; ***** the budget balance forecast considers only those measures on which sufficient information was available at the date of the forecast
Source: National Statistics, Eesti Pank

Table 4. Estonian economic forecasts by other institutions

	GDP real growth, %					CPI inflation, %				
	2016	2017	2018	2019	2020	2016	2017	2018	2019	2020
Eesti Pank	2.1	4.3	4.2	3.1	2.7	0.1 (0.8*)	3.5 (3.7*)	3.2 (3.6*)	2.1 (2.5*)	2.0 (2.3*)
Ministry of Finance	2.1	4.3	3.3	3.0	3.0	0.1 (0.8*)	3.4 (3.6*)	2.7 (2.9*)	2.5 (2.7*)	2.5 (2.6*)
European Commission	2.1	4.4	3.2	2.8		0.8*	3.7*	3.0*	2.7*	
IMF	2.1	4.0	3.7	3.0	3.0	0.8*	3.9*	3.4*	2.5*	2.5*
OECD	2.2	4.4	3.3	3.0		0.8*	3.7*	3.3*	2.8*	
Consensus Forecast	2.1	4.1	3.0			0.1	3.4	2.9		
SEB	2.1	4.1	3.3	3.0		0.8*	3.6*	3.0*	2.5*	
Swedbank	2.1	4.2	3.5	3.0		0.1	3.4	3.0	2.5	
Nordea	1.6	3.3	2.9	2.8		0.1	3.3	2.5	2.4	

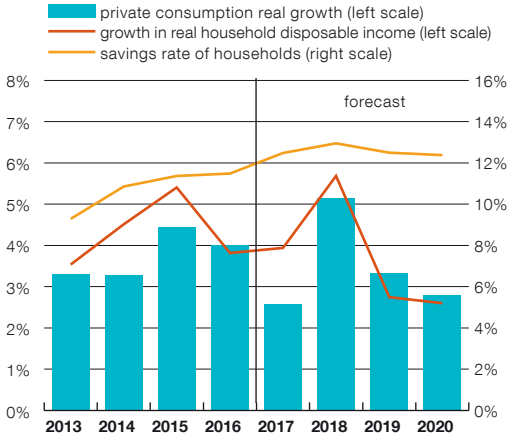
* HICP
Source: Eesti Pank, December forecast 19.12.2017; MoF, Summer 2017 forecast 13.09.2017; European Commission. Economic Forecast. Autumn 2017. 09.11.2017; IMF, WEO, October 2017, 10.10.2017; OECD, Economic Outlook, November 2017, 28.11.2017; Eastern Europe Consensus Forecasts, November 2017; SEB, Nordic Outlook, November 2017, 22.11.2017; Swedbank Economic Outlook 09.11.2017; Nordea Economic Outlook, 06.09.2017

as the recovery in investment will lead imports to grow faster, net exports will make a negative contribution to economic growth.

The constraining effect of the supply side is indicated by estimates by businesses that labour shortages are already constraining output more than previously. The employment rate is very high and productivity growth has remained weak. This is due not only to the poor growth in capital stock caused by the low rate of investment, but also to slower growth in total factor productivity (for more on potential GDP see the earlier part of this publication). The output gap will be positive throughout the forecast horizon.

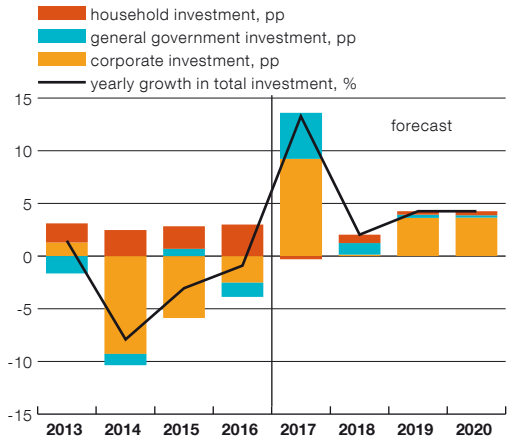
The continuing rapid rise in incomes together with falling inflation will drive private consumption forward in 2018 (see Figure 34). Private consumption will have grown more slowly in 2017 than in the previous couple of years. The rapid rise in wages will have helped make private consumption grow faster at current prices than it did last year, but the real growth will have been slowed by inflation to 2.6%. Wages will also rise fast in 2018 because of the high demand for labour, and the rise in the tax-free income threshold will increase the net incomes of a large part of the population. Rising incomes and falling inflation will help real growth in private consumption to accelerate to 5.2% in 2018. It will slow again in 2019 and 2020, as there is no longer any sign of the reforms that would significantly raise

Figure 34. Private consumption and disposable income of households



Sources: Statistics Estonia, Eesti Pank

Figure 35. Gross fixed capital formation



Sources: Statistics Estonia, Eesti Pank

the rate of growth of household net incomes. The economic tailwinds will allow households to increase their savings both this year and in the years ahead. Although the household savings rate will fall a little towards the end of the forecast period, it will remain higher than in previous years throughout the forecast horizon.

An increase in the supply of living space will lead to increased investment in residential property in 2018, but future growth in the supply of living space will start to be constrained by rapidly rising construction prices, labour shortages in the construction sector, and a cautious attitude from the banks towards funding housing development. Despite the activity in the real estate market, the volume of household investment in residential property in 2017 will be about the same as in the previous year (see Figure 35). A smaller amount of living space was completed in the first half of this year than last year, and this is constraining the growth in investment in housing this year. Activity in the real estate market and demand for new residential property will be held at high levels by the rapid rise in wages, which has lasted for a long time, very low interest rates, and high levels of confidence among households. Demand for new housing will also be supported by the popularity of new and more modern property and the movement of people to the towns. Demand will be restricted to some extent in the years ahead as the population shrinks, especially by the decline in the number of people aged 25-39 who are most likely to be buying real estate. The rate at which real estate prices rise will vary from quarter to quarter throughout the forecast horizon, but the average is unlikely to exceed the rate of growth in incomes.

There will be no rise in corporate investment in 2018 despite the strong external demand, as the impact of purchases of ships in 2017 recedes. The growth of 18.4% in total corporate investment in 2017 was largely caused by purchases of new ferries in the first half of the year, though the improvement in foreign demand and increased production volumes meant companies in other sectors also invested more. If foreign and domestic demand remains strong, the volume of corporate investment will increase further in 2019 and 2020.

The possibility for companies to finance investment will be good during the forecast horizon. Loan interest rates will remain very low and access to funding will be supported by the good capacity of the banks operating in Estonia to supply loans and the development of the non-bank financial sector. The substantial buffers that companies hold and the increase in their profits will allow them to fund a relatively large part of their investments from their own funds. This may leave credit growth slower than might be expected from the growth in investment, and the growth of corporate debt liabilities may be slower than the growth in nominal GDP.

Having risen strongly in 2017, the rate of growth of general government investment will start to come down gradually in the following years. General government investment this year has been one fifth larger than in the previous year, primarily because the government has increased investment funded from its own resources, but also because the structural funds of the European Union have been used more actively. In the years to come the growth in both investments funded by the government's own resources and those funded from the structural funds of the European Union will gradually slow.

Exports will grow faster throughout the forecast horizon. The growth in exports in 2017 has clearly been slower than the very fast growth in foreign demand. This is because of a fall in production volumes in the manufacturing of electronics. Growth in exports will pick up in the years ahead and will resume its usual level where it is slightly faster than growth in foreign demand, which will slow slightly (see Figure 36). Among exports of services, the growth in exports of travel services may remain modest as cross-border trade to the north is declining. There remains a question over exports of construction services, as the planned large infrastructure investments by the government make it doubtful whether there will be any capacity left for exporting after domestic orders have been filled.

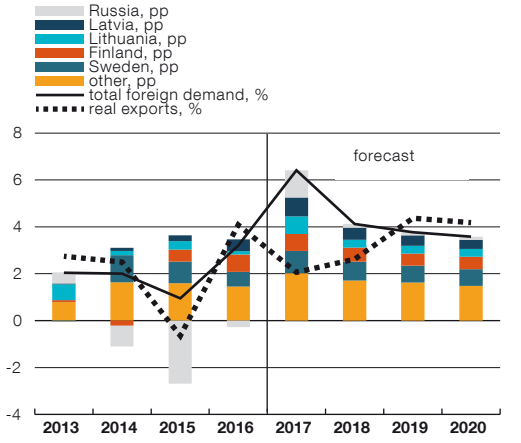
There will be no significant change in the international competitiveness of companies. Wages will continue to rise rapidly, but this will be offset by rising productivity. The euro has moved in different directions in recent months against currencies that are important for Estonia, as it has depreciated against the Swedish krona but strengthened against the Russian rouble. Given that the Swedish economy will grow more slowly, and that Russia should introduce structural reforms to maintain growth, it may be assumed that the nominal effective exchange rate (NEER) for Estonia will not depreciate. Companies themselves consider that their competitiveness outside Estonia remains strong, and their assessments of export orders now and looking forward are the most optimistic they have been for six years.

The current account surplus is smaller than it has been in previous years (see Figure 37). The surplus is being reduced by growth in investment and by recovery in profits at foreign owned companies. The reduction is being restrained though by growing exports, especially the large surplus on the services account, and by increased use of European Union support funds.

Labour productivity will grow faster in the years ahead and the payroll will decrease as a share of GDP. Productivity growth will be supported in the short term by the recovery in foreign demand. The main beneficiary will be the exporting sector, where companies will be able to increase their production volumes by using their labour resources more intensively. Looking further ahead though, growth in productivity will be based on recovery in investment. Productivity will not grow at a constant rate. In the first half of 2017 it was affected by temporary factors, like the recovery in the oil shale sector and growth in construction, but those temporary factors will have disappeared in the second half of the year.

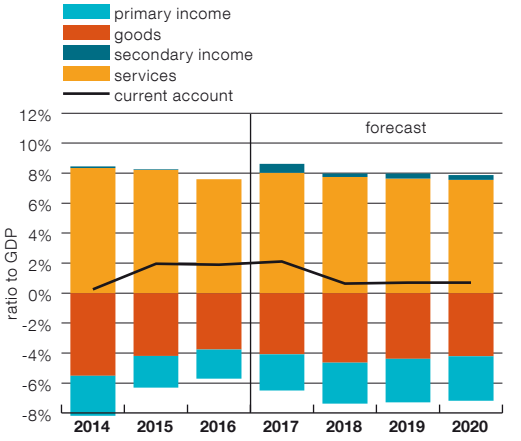
Faster growth in productivity, prices rising further in foreign markets, and the labour shortages that dominate the labour market will together keep wages rising fast. The average nominal gross monthly wage will grow at a yearly rate of 6-7% in 2017-2020 (see Figure 38). Employers will find it easier than in previous years

Figure 36. Growth in foreign demand and exports



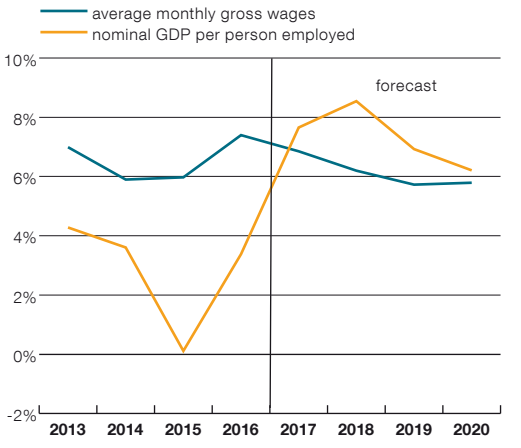
Sources: European Central Bank, Eesti Pank calculations

Figure 37. Current account



Sources: Statistics Estonia, Eesti Pank

Figure 38. Wage and productivity growth



Sources: Statistics Estonia, Eesti Pank

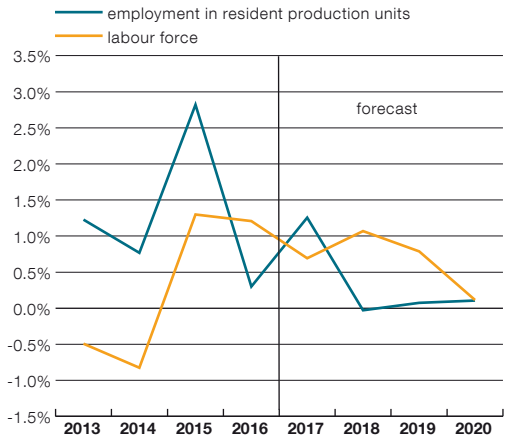
to cover the rise in labour costs, and the faster rise in prices in export markets means there is less danger to competitiveness than in earlier years.

The upwards pressure on gross wages will be eased to some extent by the income tax reform, which will raise net wages in the lower part of the wage distribution by up to 14%. Trade unions and employers have agreed that the minimum wage will rise by 6.4% in 2018, following its rises of around 10% in previous years. The tax burden for workers in the upper reaches of the wage distribution will increase however, and this may cause the wages of top professionals and specialists to rise a little faster.

A range of temporary factors will affect the growth in general government wages. The presidency of the Council of the European Union will end and so it will cease to have an effect any longer in 2018, having temporarily boosted the average wage in public administration. The wage agreement in healthcare came into force one quarter later than usual in 2017, meaning that the average wage growth was slower for a time in 2017, and so will be that much faster in 2018. The minimum rate of pay for teachers was raised by less in 2017 than in previous years, but from 1 January 2018 the minimum monthly pay for teachers will be 1150 euros, which will again encourage wages to rise significantly in education. The growth in the public sector payroll will be boosted by redundancy payments paid out as part of the administrative reform, as these are recorded in GDP as benefits paid to employees.

Increased demand will encourage companies to hire more labour. This is shown by sentiment surveys and by vacancies statistics. However, finding additional labour has become ever harder, as is shown by the sharp rise in the number of companies reporting to the sentiment surveys of the Estonian Institute of Economic Research that labour shortages are the most serious problem hindering output. It was apparent in the first three quarters of 2017 that some increase in employment is still possible, even though the employment rate is currently at record levels (see Figure 39). The shortage of available labour will however restrain any growth in employment in future.

Figure 39. Annual growth in employment



Sources: Statistics Estonia, Eesti Pank

There will be some increase in the labour supply in the economy as the positive net migration rate means the working age population will shrink more slowly than previously, and participation in the labour force will increase at the same time. Good conditions in the labour market will also encourage young people who are studying to look for work at the same time. However the Work Ability Reform has had less impact than was previously forecast, as data for the first 18 months show that a larger share of those receiving the new work ability benefit were in employment than was previously assumed. These people were already participating in the labour market anyway, and so the Work Ability Reform has not brought them into the market. Less labour with the experience and skills demanded by the labour market is entering that market than the rise in labour force participation may suggest, as the Work Ability Reform has brought in people who are at risk of remaining unemployed over the long term.

PRICES

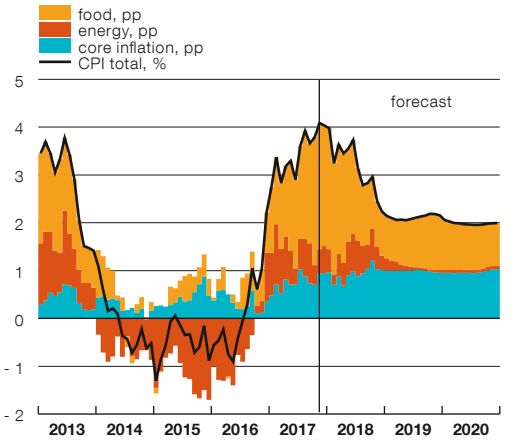
The economic environment is improving and will favour price rises throughout the forecast horizon. Consumer price inflation will be 3.5% this year and will fall to 3.2% in 2018. It will mainly be brought down by prices for food and energy. In the second half of the forecast period, in 2019-2020, inflation will fall to close to 2% (see Figure 40).

Inflation will come down in the years ahead mainly because the increases in commodities prices will be slower. Prices rose particularly fast for dairy products and butter in 2017, but the latest data indicate that price pressures have eased on global markets. As it takes some time for global market prices to pass into Estonian consumer prices, food prices will continue to rise quickly in the first half of 2018. The rise in energy prices will be driven in the forecast horizon by the higher oil price and by tax rises. The relatively low oil price currently has a subdued impact on energy prices for consumers, but it passes into the consumer prices of natural gas and heating energy with a lag (see Box 4).

The domestic economy will also favour rising prices. The economy will grow faster than its sustainable level in the years ahead and wages will continue to rise rapidly. There are few labour resources available, but unemployment will also start to climb gradually from its current very low level. Faster growth in productivity than in labour costs will allow companies to increase their mark-ups. Rapid wage growth will raise core inflation as it is primarily based on higher prices for services. Rising wages will not be the only driver of core inflation though, as higher prices for imports will slowly start to lift inflation for manufactured goods.

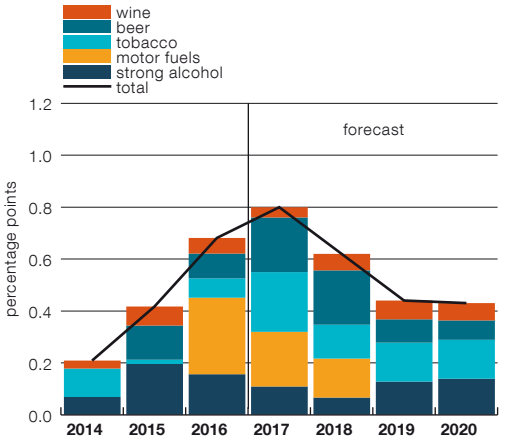
Tax rises will have less of an impact on inflation than was earlier forecast as the previously planned tax on sugary drinks will not be introduced. The total impact of excise taxes on inflation will be 0.6-0.7 percentage point in 2018 (see Figure 41). Upwards pressure will also come from rises in administered prices as well as from higher excise. Rises are planned for refuse handling fees and for recycling prices. There is a risk that higher regulated prices together with higher inflation could increase consumer expectations for further price rises.

Figure 40. CPI growth



Sources: Statistics Estonia, Eesti Pank

Figure 41. Contribution of indirect taxes to inflation



Source: Eesti Pank

The inflation expectations of households have risen together with inflation. The price expectations of consumers mainly reflect changes in the prices of the goods and services that are bought most frequently. Higher prices for food and motor fuels have raised inflation for such goods to 7%. High inflation expectations will mean pressure on companies to raise wages.

Box 4: How a rise in the oil price affects consumer prices

The volatility of the oil price on global markets has always been one of the central factors in rises and falls in consumer prices. The oil price started to fall at the end of 2014, coming down from around 100 dollars a barrel to some 30 dollars a barrel. Since the end of June 2017 however the oil price has climbed again by more than 30%.

How much the rise and fall in the price of oil affects consumer prices depends mainly on the volumes of oil products consumed and on the price of oil on world markets. The energy intensity of the Estonian economy as a whole has remained around the same throughout the past decade as energy consumption has grown at about the same rate as the economy, though the energy intensity of Estonian GDP was three times the European Union average in 2012. The biggest rise over recent years has been in the volume of diesel fuel consumed, especially by the transport sector. The end consumption of petrol for cars has fallen within the energy consumption of households over the years. Over the past decade energy prices have varied between 13% and 17% as a share of the consumer basket, with motor fuels accounting for around 5% of the basket.

Changes in the oil price affect the consumer price index most directly through energy prices, and indirectly through the cost of other goods and services. There is a strong correlation between annual consumer price inflation and the oil price (see Table B4.1). The price of motor fuels reacts fairly quickly to changes in the crude oil price and in the euro exchange rate, with a lag of only a week or two[18]. For this reason the correlation with the oil price is strongest within the same month at 0.94. Prices of natural gas and heating energy normally follow changes in the oil price within 7-9 months. The correlation of the price of electricity and the price of oil has, in contrast, been relatively weak.

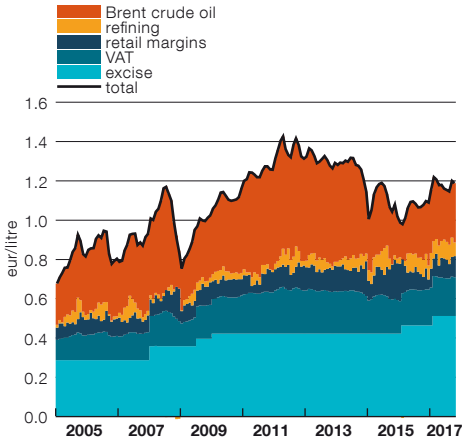
Table B4.1. The relation between the oil price and CPI and its components*

	Share in the consumer basket	Strongest correlation with the oil price [0;1]	Lag of the strongest correlation in months	Change in price over one year if the oil price rises 10% from 55 dollars
CPI total, of which	100.0%	0.798	6	0.33%
energy prices total	13.5%	0.800	2	2.41%
motor fuels	5.2%	0.949	0	2.80%
heating energy	3.1%	0.681	7	3.00%
electricity	3.8%	0.301	16	1.00%
solid fuels	1.1%	0.686	5	2.00%
gas	0.4%	0.724	7	6.90%
oils and lubricants	0.1%	0.678	1	3.50%

* Calculations using data from 2009-2017

The crude oil price fluctuates a lot more than the prices of oil products, as the consumer price of oil products is largely made up of excises and transport and sales margins. The higher the oil price rises on global markets, the smaller the share of indirect taxes becomes and the more directly the effect of the rise is passed into consumer prices. Over the past decade the excise on a litre of petrol has risen from 28 cents to 51 cents, and at the current price excise and VAT account for around 59% of the price of petrol (see Figure B4.1). The share of refining margins of oil within the price structure of motor fuels has also risen in recent years. If oil is cheap, oil producers do not

Figure B4.1. Price composition of E95 petrol



Sources: Reuters, Oil bulletin

18 Box 3. Asymmetries in the price changes for motor fuels – Estonian Economy and Monetary Policy 2/2009

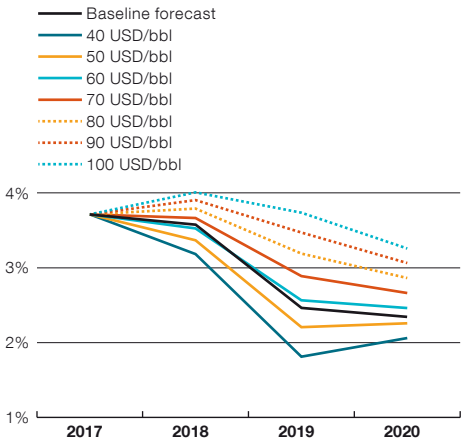
invest particularly in increasing production capacity. As the oil price rises, the refining margins usually narrow. The price of imported petrol also includes transport costs and sales margins. Comparing the price of a litre of E95 petrol in the port in the Netherlands and in petrol stations in Estonia reveals the largest price discrepancy to have been seen in the second half of 2008 and at the end of 2015, when the sales mark-ups on motor fuels in Estonia were twice what they usually were.

Changes in the oil price affect other energy prices as well as motor fuels. The prices of natural gas and heating energy were not yet at the levels of world markets before 2009-2010, and so their connection with the oil price was weaker. In 2013 the electricity market, where prices had earlier been regulated, was opened up to foreign competition. The gas price is relatively very sensitive to changes in the oil price, as the share of excise in it is small. Heating energy is produced from several energy sources, and the 30% of heat that is produced from natural gas depends heavily on the oil price.

The electricity price depends less on the price of oil than prices of other forms of energy do, though tests of causality and cointegration confirm that the electricity price on Nordic exchanges does depend on the oil price over the long term. Electricity is produced in Estonia from oil shale, which is also used for producing heating oil, making those two forms of energy competitors for the use of oil shale resources.

Given both the direct and indirect channels through which the oil price is passed into prices in the whole consumer basket, it appears that a rise of 10% in the oil price from a base of 55 dollars raises the whole consumer price index over one year by around 0.3% (see Table B4.1). Were the oil price to rise to 100 dollars by 2020, the rise in the consumer price index would be around 1.5-2 percentage points faster in each year than is currently forecast (see Figure B4.2). In this scenario a litre of petrol in a filling station would cost more than 1.5 euros under the current tax regime.

Figure B4.2. Inflation if alternative oil price assumptions are used



Source: Eesti Pank

GENERAL GOVERNMENT

The general government budget will remain in nominal deficit of around half of one per cent of GDP throughout the forecast horizon, despite the rapid growth in the economy (see Figure 42). As part of the growth in tax revenues in the years ahead will come from wage costs and consumption temporarily growing faster than their long-term trend, the underlying structural deficit will be larger and will reach 0.9% of GDP in 2019-2020.

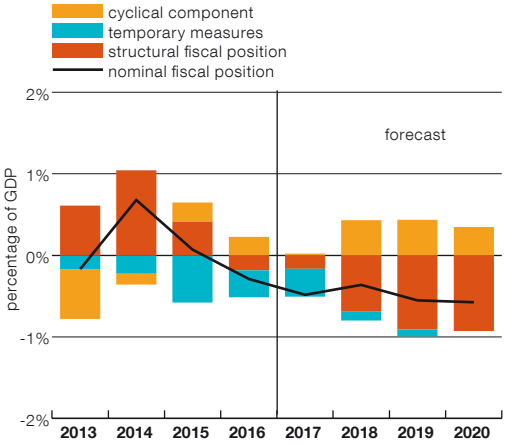
Fiscal policy will give a sharp boost to economic growth next year through rapid growth of 8% in general government spending. The state budget for next year foresees additional money for investment, social transfers, labour costs and subsidies. On top of this there will be various smaller spending measures agreed in the coalition negotiations. Growth in spending will be restrained from 2019 because the use of structural funds will peak and will then start to decline. Total spending will still grow by close to 5-6%, because the overall

growth in wages suggests that wages will continue to rise in government institutions as well, and this will be compounded by the wage promises made for health and education. Rapid growth in inflation and in social tax revenue will raise indexed social benefits.

The contribution of fiscal policy to economic growth will depend a great deal in the years ahead on the use of structural funds from the European Union. The impact of fiscal policy on the economy is usually estimated by looking at the fiscal position, and whether it is used by the government to put additional money into the economy or to take it out, but European Union funds must also be taken into account in the case of Estonia (see Box 5). These funds certainly increase demand, but they only affect the fiscal position through the co-financing of projects. After reaching a low point in 2016, the use of European funds in Estonia started to increase rapidly this year. This growth will continue in 2018-2019 and will thereby boost GDP growth. If the revenues and costs of the European Union budget are accounted as part of Estonian fiscal policy, the budget deficit would increase from 1.5% of GDP in 2016 to 3.2% in 2019, after which it would start to close.

The tax burden will shrink in 2018-2020 as the tax base will grow more slowly than the economy as a whole. The biggest change is the rise in the average tax exempt amount next year, which will reduce the tax burden on labour. The tax burden on labour will then start to rise again slightly as the tax exempt amount is not indexed and rapidly rising wages will quickly reduce the average tax-free income. The large

Figure 42. General government fiscal position



Sources: Statistics Estonia, Eesti Pank

negative impact of income tax reform on the budget will partly be offset by the introduction of road tax and a rise in excises. The effect of higher excise rates will be softened by purchases of goods subject to excise being reduced, as happened particularly sharply in 2017. By the end of the forecast horizon the tax burden will be down to 33% of GDP and will have shifted a little from labour to consumption.

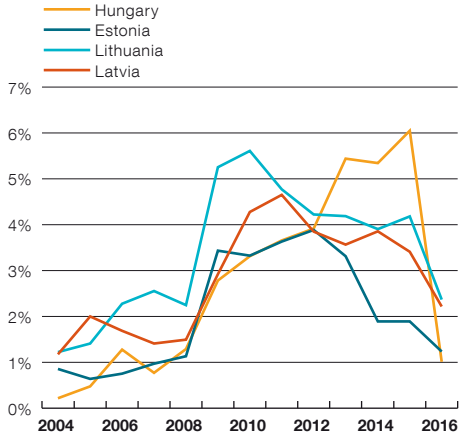
There is a lot of uncertainty around several of the new tax measures for next year. The tax burden may be much larger than forecast if changes to the corporate income tax law persuade foreign companies to alter their dividend policy substantially[19]. The possible positive effects of this measure during the forecast horizon will fade as the lower tax rate is gradually introduced. A negative risk to the fiscal position could be a larger fall than expected in consumption of goods subject to excise.

19 The Eesti Pank fiscal forecast does not fully include the estimate of changes in behaviour, which the explanatory note to the draft law says will increase tax receipts by 0.5% of GDP in 2018, 0.3% in 2019 and 0.2% in 2020. It does however take account of the calculated impact of the single advance income tax for the banking sector.

Box 5: The short-term impact of European Union budget transfers on economic growth

Estonia is one of the largest net recipients in the financial framework of the European Union, meaning that transfers from the European Union budget are larger as a ratio to GDP than Estonia's payments into the budget. Transfers from the European Union budget in 2004-2016 averaged 3.2% of Estonian GDP and once payments in are deducted they were 2.1% (see Figure B5.1). This figure is only exceeded in Latvia, Lithuania and Hungary. Around half of the money received in Estonia has gone into general government investment or other general government projects, one quarter has been agricultural subsidies, and the rest has gone to entities in the private sector.

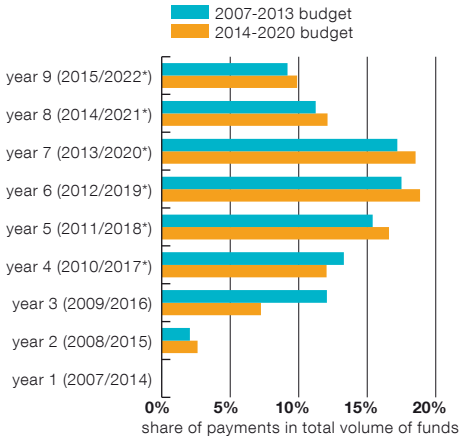
Figure B5.1. Net European Union transfers in selected countries, % of GDP



Source: European Central Bank Statistical Data Warehouse

The transfers from the European Union to Estonia, as well as those to other countries, in 2004-2016 were unevenly distributed across the years. This is mostly because of administrative deadlines and the administrative capacity of the member states or the European Commission, and the direct relation with other economic indicators is generally weak[20]. The budgetary period of the European Union lasts for seven years, and in the first two of these only very few payments are usually made, but projects from the previous budget period can still be completed. There is usually a sharp increase in the use of funds from the European Union in the third year of the budget period (see Figure B5.2). The launch of projects in Estonia and in other European countries in the current budget period for 2014-2020 was delayed and the increase in the use of funds only accelerated this year.

Figure B5.2. Use of structural funds over the budgetary period



* forecast
Sources: Ministry of Finance, Eesti Pank

The short-term impact on demand

The transfers from the European Union impact the economy in the short term by increasing demand and in the long term by increasing supply. Demand is affected when projects are carried out, so building infrastructure means that workers are hired, building materials are produced, and equipment is imported for example. This is then boosted by the Keynes multiplier effect as additional money earned by companies and people increases their spending and investment.

20 A weak economic position for example can hinder the use of structural funds from the European Union if it limits the capacity to provide own financing or co-financing. The finance provided from Estonia was only around 15% of the total value of projects in the 2007-2013 budget period. A survey ordered by the Ministry of Finance from Praxis and Centar concluded that guaranteeing own financing was only an obstacle for individual projects or local governments.

The impact on the economy is not only positive though. Increased demand raises inflation, which indirectly hinders growth in the rest of the economy. If supply is restrained in the economy, projects funded by the European Union can crowd out other orders. This means the impact on GDP growth depends on the economic cycle. The import content of the projects funded also affects domestic demand, because if some goods or services within the project are imported, not all of the money remains in the country that received the funding.

As transfers from the European Union make up a relatively large share of the Estonian economy, it may be concluded that they have a major impact on demand in the economy and through that on GDP growth. Estonia has received transfers from the European Union for only 13 years, and during the first years the sums were small as funding from the 2004-2006 budget was modest and it took time to establish the necessary procedures. As this period is too short to allow assessment of the impact of European Union transfers on one country, more reliable results need indicators from more countries to be observed. This can be achieved by looking at the 12 member states that have joined the European Union since 2004 and that are net recipients from the budget of the European Union. These countries have a lot in common, as they have similar income levels and are mostly small and open economies, where there have been major structural changes and the convergence process is ongoing.

The following equation, using a panel of the 12 countries, can be estimated by the fixed effects method to assess the short-term impact of European Union support:

$$\Delta\ln(SKP)_{it} = \beta_1 netosiired/SKP_{it} + \beta_2\Delta\ln(h\tilde{o}ive)_{it} + \beta_3\Delta\ln(EL\_SKP)_t + \alpha_i + u_{it},$$

where $\Delta\ln(SKP)_{it}$ is GDP growth and $\Delta\ln(h\tilde{o}ive)_{it}$ is employment growth in country i in year t, and $\Delta\ln(EL\_SKP)_t$ shows average GDP growth in the countries in the European Union in year t, to account for the general external economic environment of the countries. β_1 shows how many percentage points the GDP growth of the country increases by if the share of net transfers in GDP increases by one percentage point.

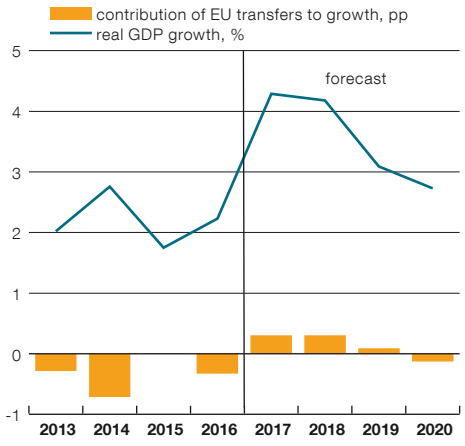
The estimation shows that in 2010-2016 an increase of one percentage point in the transfers from the European Union as a share of GDP led to a rise in economic growth of around 0.5 percentage point in the same year. A parameter that is less than one comes from the import content and crowding out effect already noted, and is generally in line with the estimates received from earlier studies on short term fiscal multipliers[21]. The period observed is shortened to the years 2010-2016, as the transfers from the European Union did not have a significant impact on economic growth during the years before the crisis. This can be explained by the economic boom that occurred in most of the countries, when demand in any case outstripped supply and the effect of European Union support was consequently less significant, especially because the size of the transfers to new member states was still small in those four years.

There is no reason to suppose that the transfers from the European Union would have significantly different effects across the countries selected. This allows the conclusion that changes in European Union transfers as a share of GDP can help explain to some extent the dynamics of economic growth in Estonia. Growth in Estonia would have slowed by around half a percentage point less in 2013 and 2014 for example had European Union transfers not started to decline as a share of Estonian GDP (see Figure B5.3). There was also a sharp drop in 2013 in projects funded from the sales revenue from emissions quotas, without which the growth in the economy would have slowed by less.

21 On the size of fiscal multipliers, see for example Warmedinger, T et al. Fiscal Multipliers and Beyond. ECB Occasional Paper 162 (2015).

An increase in support from abroad will also affect growth in the economy in the years of the forecast. Projects funded with structural funds have already increased demand in the construction sector in 2017. It is forecast that general government investment will increase by 21% this year, half of which comes from a rise in European Union transfers. The direct boost to economic growth will last throughout the next two years, though it will be declining. In the longer term however it must be remembered that transfers from the European Union budget will start to decrease, and the impact on economic growth will already be negative in 2020.

Figure B5.3. Short-term impact of European Union tranfers on economic growth



Sources: Statistics Estonia, Eesti Pank

The long-term impact on supply

The main impact from European Union support is not seen through the increase in demand when the projects are carried out however, but only in subsequent years. In the long run, transfers from the European Union, especially for cohesion policy projects, should increase the productivity of the region and its potential for economic growth. This means that GDP and economic growth in the countries receiving the support will continue to be affected after the projects are finished. Furthermore, projects carried out with the support of structural funds can have much wider benefit, for example when investment in research and development work in one area spills over into others.

It is hard to take full account of all the channels of impact, as a large part of them cannot be measured directly. Earlier research has mostly found that structural funds have a positive effect on GDP, especially in countries with low incomes, though this is only felt in full after several years. The final report by the European Commission stated that the spending of structural funds from the budget for 2007-2013 has a long-term positive effect both at the European Union level and at the level of individual member states. This is many times more for new member states, where it had boosted GDP by an average of 4% by the end of the budget period in 2015. It was found for Estonia that one euro of structural funds in 2007-2013 should increase Estonian GDP in 2023 by 2.7 euros[22]. Other authors have found however that if the share of transfers in the regional economy rises beyond a certain limit, it makes the transfers ineffective and the European Union as a whole loses[23]. The main reason for this is the diminishing marginal productivity of investments, though other restrictions can be imposed by the lack of administrative capacity in the country receiving the transfers and by weak institutions.

22 For more see http://ec.europa.eu/regional_policy/en/policy/evaluations/ec/2007-2013/#15

23 Becker, S.O., Egger, P.H., Erlich, M. Too much of a good thing? On the growth effects of the EU's regional policy. European Economic review 56 (2012).