Eesti Pank

ESTONIAN ECONOMY AND MONETARY POLICY

2/2012

The Estonian Economy and Monetary Policy is published by Eesti Pank twice a year — in spring and autumn. The overview includes analyses of current economic developments as well as the central bank's forecasts for the coming years.

The Estonian Economy and Monetary Policy is available at http://www.eestipank.ee and is free of charge to subscribers.

Subscriptions of printed versions:
Fax: +372 668 0954
E-mail: publications@eestipank.ee
Mail: Eesti Pank
Publications Division
Estonia pst 13
15095 Tallinn
Estonia

ISSN 1736-7867
Executive editor Mare Koit
Layout and cover Urmas Raidma
Printed in Folger Art

CONTENTS

ECONOMIC FORECAST FOR 2012–2014

The Eesti Pank forecast is produced jointly by experts from the central bank's Economics and Research Department and Financial Stability Department. The forecast is based on the Macro Model of the Estonian Economy, devised and regularly updated by Eesti Pank.

The forecast's external assumptions are based on information available as at 21.11.2012, and the Estonian economic indicators on data available as at 14.11.2012. The forecast is also published as the central bank's publication Estonian Economy and Monetary Policy No. 2/2012.

SUMMARY

Economic growth in Estonia has slowed as expected in 2012, but it has remained faster than the average for the euro area. The sovereign debt crisis in the euro area and its impact have not eased as quickly as had been expected, and so the external environment is not yet able to support export-led growth. Estonian economic growth has exceeded that of the other euro area countries and is mainly supported by domestic demand, growth in which is still sluggish, largely due to the low base level during the exit from the crisis period.

Strong domestic demand has so far been supported by investment in fixed assets above all. Investment activity has been boosted by businesses needing to increase their production capacity and by favourable financing conditions along with low interest rates. Another major contributor to investment growth has been the projects financed by the government from the sales of CO2 emission allowances.

The interest environment will continue to be favourable throughout the forecast horizon and this will act as a spur to the weak economic activity in the euro area. The high capitalisation of the Estonian banking sector and the rapid expansion in deposits mean there will be no limit on the supply of loans. Bank lending activity will become more cautious during the forecast period due to the conservative lending policies followed by parent banks and the uncertainty caused by the external environment. With such historically low interest rates, it is important for the sustainability of growth that projects financed by loans be directed towards increasing productivity in areas of higher value added. Favourable financing conditions and the creation of new production capacity could help Estonia overtake some competitors in external markets as demand starts to rise in the new business cycle, as investments in fixed assets are at a very low level in most euro area countries and this will restrict any sharp expansion of production volume there.

A fall in unemployment and a rise in employment in the first half of 2012 increased household confidence, though private consumption growth fell somewhat in spite of this. Confidence has lowered in the second half of the year, though strong growth in gross wages has supported private consumption. Growth in real disposable household income and in private consumption will suffer a temporary blow in the first quarter of 2013 when electricity prices rise.

In an uncertain external environment, continued strong domestic demand has delivered rapid economic growth, dampening the spillover from the European sovereign debt crisis. However, there are hidden risks within this. As was highlighted in the previous forecast, economic growth driven by domestic demand could easily lead to imbalances. One possible sign of imbalance is wage pressure, which has already increased during 2012 and overtaken productivity growth. It is important for the maintenance of Estonia's competitiveness that wage rises and productivity growth come into balance. Although companies will be able to avoid the pass-through of wage pressures into prices for a while by lowering profits, this is not sustainable in the long term. Sustainable economic growth will only be

achieved when the growth rate of real wages matches that of productivity.

The previous forecast assumed that external demand growth would accelerate in the second half of 2012. This did not in fact happen, and the global economic environment remains as unfavourable as ever. Estonian exports have continued to grow at a relatively rapid pace, as their main destinations of Finland, Sweden, Latvia, Lithuania and Russia have been weakly linked to the epicentre of the crisis. Although Estonia's main export partners are not part of the euro area, their further growth will be influenced greatly by ongoing developments in the euro area debt crisis due to their strong economic ties.

Several important steps have been taken in 2012 to lower risks in the euro area and restore confidence in the markets. One of these was the decision by the European Council to establish joint banking supervision and to use the European Stability Mechanism (ESM) to capitalise banks that have got into difficulties. Central banks of the euro area and the European Central Bank (ECB) also worked to provide stability, and the ECB started a programme of Outright Monetary Transactions (OMTs), which are a new monetary instrument for purchasing government bonds. A full exit from the crisis will require these steps to be backed up by structural reforms in the countries with high debt levels and by those countries fulfilling the agreed budget plans.

The baseline scenario for the economic forecast for Estonia rests on the assumption that the sovereign debt crisis in the euro area will not deepen and that the steps taken to resolve the crisis will support recovery in the euro area economy from the middle of 2013. A new growth cycle in private consumption and investment will need faster growth in exports and export revenue. The baseline scenario foresees economic growth in Estonia accelerating in the first half of 2013 and reaching an equilibrium rate in 2014.

By the end of 2012 employment had risen considerably from its low in early 2010 and was reaching the levels seen before the boom. The growth in employment is likely to slow in future, but will still continue in a moderate fashion together with the increase in economic activity. Unemployment will fall at the same time, but at a slower rate than before and the unemployment rate is forecast to remain under 10%. For unemployment to continue decreasing in future, it is necessary for the labour market to become more efficient, which can be achieved through active labour market measures, which should be directed towards risk groups and towards reducing structural unemployment[1].

Inflation was slower in 2012 than in the previous year, though it was still faster than was expected in the spring forecast, mainly because energy prices rose more than expected and food commodity prices increased by surprising amounts. The trend in inflation is downwards in future, though wage pressure and higher-than-expected oil prices could slow the descent. Higher energy costs, especially the rise in electricity prices, will affect inflation and the Estonian economy as a whole in 2013. The effect on the economy could be relatively widespread as the Estonian figure for energy intensity is among the highest in Europe. The impact of higher electricity prices is discussed in Box 4.

The largest risks to the forecast come from wage pressures and the speed of recovery of the external environment. If these risks were to be materialised it would lead to a fall in economic activity. Slower recovery in external demand would harm the outlook for the Estonian economy immediately, and excessively high wage growth would have a lagged negative impact on the economy. If productivity growth is unable to keep up with wage growth, it would reduce the price

1 Mismatch between the skills of workers and the geographical locations of workers and employers, and the needs of the labour market.

competitiveness of Estonia's exports in external markets that have anyway proven to be weaker than expected.

If wage costs rise faster than productivity and react slowly to changes in economic conjuncture, it may amplify the reduction in employment and increase in unemployment over the business cycle. This could result in greater volatility in the rate of economic growth, which was also observed during the last crisis. High volatility in economic growth indicators will increase uncertainty for market participants and could inhibit long-term growth. For this reason it is important to focus in future on the economic policy options that could reduce volatility in growth.

The forecast suggests that that the government budget will be close to nominal balance by 2014. Before this, structural balance adjusted for the business cycle and one-off effects will have been achieved in the budget. Estonia's sovereign debt at the end of the forecast horizon will be higher than 10% of GDP, mainly due to aid given through the European Financial Stability Fund and an increase in the share capital of Eesti Energia. Despite the increase in debt, public finances will remain strong and reliable.

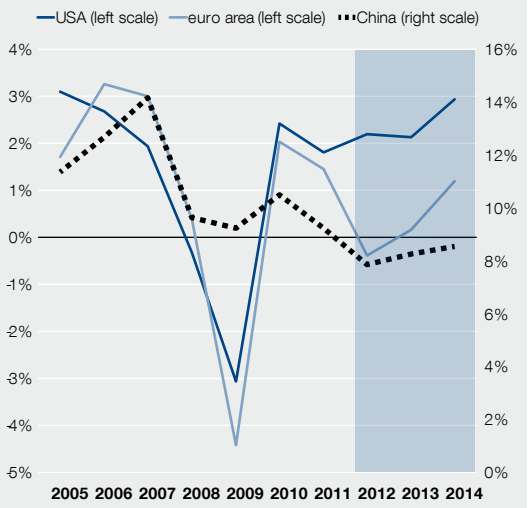
The baseline scenario of the economic forecast is supplemented by four boxes of background information. The first box covers developments in euro area monetary policy; the second looks at the results of the Population and Housing Census 2011 against data from the Estonian Labour Force Survey; the third box addresses wages and gives an international comparison of unit labour costs and an analysis by business sector; and the fourth box assesses the impact of the rise in electricity prices on price levels in Estonia and on the real economy.

THE EXTERNAL ENVIRONMENT

Growth in the external environment has slowed somewhat since the previous Eesti Pank forecast was prepared. The spring forecast rested on the assumption that the external economic environment would begin to recover in the second half of 2012, but in reality that recovery has been delayed. Some growth in external demand is to be expected in the last quarters of 2012 and at the start of 2013, but the rate of growth will be well below the average. After that, growth should speed up steadily. Demand in Estonia's exports markets is expected to grow by 3.2% in 2013 and by 5.6% in 2014.

Recovery in Estonia's external demand will be affected a great deal by events in the euro area because although exports to the euro area make up only about one third of Estonia's total exports, events in the euro area also have an impact on our main non-euro area export destinations like Sweden and Russia. For this reason, the impact of the euro area on Estonia's exports is larger than might be inferred from the structure of Estonian exports. Economic growth in Europe in 2012 was sluggish and will remain weak at the start of the forecast period (see Figure 1). Heavily-indebted countries still have a lot of reforms in front of them if they are to return to a path of sustainable growth. The reforms already undertaken have improved the competitiveness of struggling euro area countries and give hope that growth in the euro area will pick up steadily. Growth slowed in the second half of 2012 in Finland, Sweden and Russia, Estonia's main foreign trade partners. The slowdown in growth in Finland and Sweden was a result of weak confidence and lower external demand caused by the debt crisis in the euro area. Domestic demand has so far supported growth in both countries, but higher unemployment has started to exert a braking effect on demand growth. Growth in Nordic countries has also been affected by companies reducing production in their home countries and instead moving it to neighbouring countries with lower labour costs such as Estonia and Russia. For this reason, lower growth in Nordic countries does not necessarily have to imply a similar slowdown in Estonian growth. Growth has also remained rapid in Latvia and Lithuania despite the unfavourable external environment.

Figure 1. Economic growth in the euro area, the USA and China



Source: IMF World Economic Outlook

Slow growth in the external economy can no longer be attributed solely to the euro area debt crisis as growth has slowed around the world, even in countries whose economies had been growing strongly until now. There are various external factors that point to the threat of slower growth in future, one of which is the efforts to shrink the budget deficits that swelled during the crisis and that must be brought under control if the growth of sovereign debt is to be limited. There are also countries where growth was quite fast in the intervening years and strong fiscal stimulus for the economy was no longer justified there. The reduction of fiscal support for the economies of developed countries is transmitted

through trading relationships to countries with rapidly growing economies.

The USA will also have to bring its budget back towards balance, and the impact of this on the economy is difficult to predict. Tax rises and spending cuts are due to come in at the start of 2013, and their combined effect could lead to a fall in GDP. The USA is getting closer to the so-called fiscal cliff each day, and there is only a little time left to avoid it. The current forecast assumes that the US government will manage to avoid a sharp fiscal consolidation and partially succeed in avoiding the fiscal cliff.

The main policy that will increase economic activity in the forecast period is likely to be monetary policy. Central banks have taken steps to ensure the better functioning of the financial system and have lowered interest rates. Interest rates are lower than they were when the previous forecast was prepared and the current forecast assumes that the three-month EURIBOR will be 0.2% in 2013 and 0.3% in 2014 on average. The monetary policy environment in the euro area is described in more detail in Box 1.

In future, political instability is likely to have more of an impact on the word economy than before. In the next few years cuts in fiscal support and ensuring the sustainability of sovereign debt will have major impacts on economies and will call for political compromise. Several large countries, including China, have held elections or changed their government in the last year. Policy can be generally expected to remain the same in developed countries, but it is harder to predict the economic impact of the change of government in China. On top of the long-standing problems in the Middle East, political rivalry has sharpened between two large Asian states, China and Japan, and this could also have a restrictive effect on growth.

In China, growth has slowed during the last year due to fiscal measures that have been taken to curb a residential real estate boom and to slow the growth in domestic demand. The slowdown in economic growth makes it unlikely that additional restrictions to growth will be applied at the start of the forecast period. However, it is possible that the change of government in March 2013 will lead to changes in economic policy. In the longer term reforms are needed and they will help the economy to grow, but any reforms undertaken within the forecast horizon could instead slow growth down in the short run.

Stimulation of economies and the growth of credit before the recession have inflated real estate bubbles in several parts of the world, and growth could be damaged if they burst. Construction activity has helped to alleviate the drop in economic activity, but underused real estate is more an indicator of inefficient use of capital than of an increase in wealth. Similar problems can be found in developed countries. Although the Estonian real estate bubble burst during the economic crisis, problems in the real estate sector in the Nordic countries could still pose a danger to us. For instance, real estate prices in Sweden have grown twice as quickly as wages in the past decade, but the stock of unsold properties is falling there and it seems that the Swedish real estate sector is adjusting and the imbalance is shrinking.

Volatile economic development around the globe could cause a rise in protectionism and restrict free trade, which is also hinted at by the slowdown in the growth in world trade. In difficult economic circumstances, some limits may be accepted that seem to improve competitiveness but in the long term this can be dangerous because the efficient use of production inputs requires trade to flow freely.

Environmental catastrophes and the nuclear disaster in Japan are having an ever-greater impact on global energy policies. Greater awareness of the dangers posed by nuclear energy

has made the world's leading countries consider abandoning nuclear power, but this can in turn put pressure on the prices of other sources of energy. Equally, a reduction in the use of nuclear power and the consequent energy shortages could restrict industrial production in some countries or change international trading patterns. The most affected by this among large industrial countries are Japan and Germany.

Table 1. External assumptions in the forecast

					spring forecast 2012		
	2011	**2012**	**2013**	**2014**	**2012**	**2013**	**2014**
Foreign demand growth (%)	9.0	2.5	3.2	5.6	3.7	5.6	6.0
Oil price (USD/barrel)	111.0	111.7	105.0	100.5	114.6	107.9	102.0
Interest rate (3-month EURIBOR, %)	1.4	0.6	0.2	0.3	0.8	0.7	0.9
USD/EUR exchange rate	1.39	1.28	1.28	1.28	1.30	1.30	1.30

Sources: Reuters, Eesti Pank

Box 1. The monetary policy environment in the euro area

In the second half of 2012 the monetary policy interest rates of the euro area remained low. From December 2011 until July of this year, the key interest rate in the euro area remained at 1%. As growth remained weak in the euro area from the start of the year and slowed further (0.2%, quarter-on-quarter) in the second quarter, the Governing Council of the ECB decided at its meeting of 5 July to lower the key interest rates by 25 basis points This meant that in the second half of 2012 the interest rate on the main refinancing operations of the Eurosystem was 0.75%, the interest rate on the marginal lending facility was 1.50%, and the interest rate on the deposit facility was 0.00%. This is the lowest interest rate level ever in the history of the EMU. Inflation remained slightly above 2% though, under the influence of high global energy prices and rises in indirect taxes and excise in the euro area as part of the policy of consolidation.

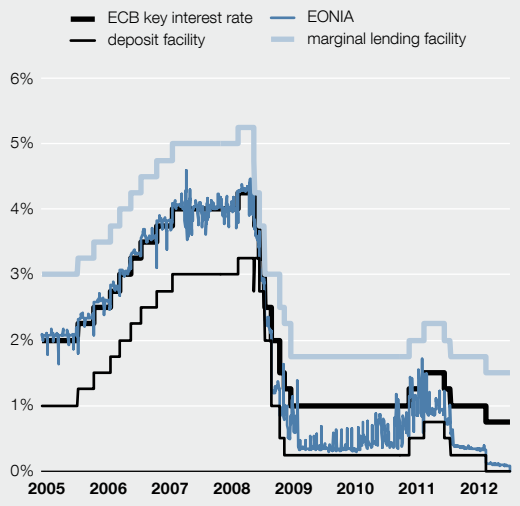
The rate of growth of the money supply started to pick up towards the end of the year. The broad monetary aggregate M3 grew at an annual rate of only 2.6% in September and 2.9% in August, but it sped up to 3.9% in October. The intermediate slowdown in growth was in part a reflection of the base effect, but it was also a consequence of economic agents faced with the current high uncertainty and low interest rates preferring to buy more liquid instruments like deposits that are included in the narrow aggregate M1. As a result the growth in the money supply was mainly driven by M1, which saw its annual growth rate reach 5.0% in September and accelerate to 6.4% in October. The outflow of some funds from M1 in September mainly reflected a partial recovery of confidence in financial markets, which led to a reduction of liquidity buffers and the withdrawal of cash from deposits. On the M3 counterpart side, growth in the money supply came mainly from the purchase of government bonds by the financial sector. Lending to the private sector has remained at a historically low level. Annual loan growth turned negative in August, slowing to –0.2 %[2] and in September and October it stood at –0.4%. There were major

2 Adjusted for loan sales and securitisation.

differences between the developments in different countries within the euro area in this, and the low loan demand was caused by uncertainty and weak economic activity.

The euro area itself has had no experience before now of operating monetary policy with extremely low or negative interest rates, but the current growth in M1 fits in with the empirical data from Japan and the USA[3], where interest rates have remained very low over a long period. In such circumstances there is generally a preference for overnight deposits, other short-term deposits and cash. This is because money transfers into M1 instruments also reflect consideration of the opportunity costs. The preferred M1 component in the euro area has so far been overnight deposits rather than cash. Various research has shown that opportunity costs[4] have not fallen far enough in the euro area to slow M1 growth.

Figure a. Policy rates and the EONIA



Sources: European Central Bank, Reuters

In the second half of 2012, the Eurosystem has continued to expand the set of non-standard monetary policy measures it uses to help make the functioning of the transmission channels in the euro area more efficient. As part of this, the Governing Council decided at its meeting of 2 August to announce a programme of Outright Monetary Transactions, or OMTs, which will see the Eurosystem, buy short-term bonds from those states of the euro area who have accepted a programme of the European Financial Stability Fund / European Stability Mechanism (EFSF / ESM). Such programmes might be full EFSF / ESM macroeconomic adjustment programmes or the Enhanced Conditions Credit Line programme. The Governing Council will consider performing such transactions only if they support the conduct of monetary policy and all the conditions[5] of the programme are met. OMTs will be ended when they have achieved their aim or if the macroeconomic adjustment programme or preventative programme is not being followed. The IMF may also be asked to help set the specific conditions for each state and monitor the fulfilment of the programme. At the time of preparation of this forecast, no transaction had been made under the Outright Monetary Transactions programme.

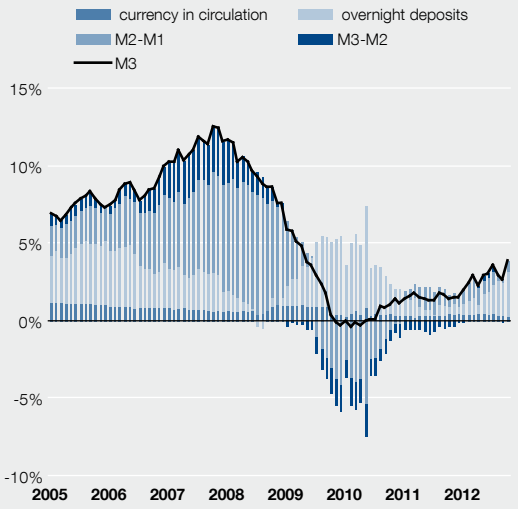
3 Mulligan, C. and Sala-i-Martin, X., "Extensive margins and the demand for money at low interest rates", Journal of Political Economy, Vol. 108 (5), October 2000, pp 961-991; Nagayasu, J., "A re-examination of the Japanese money demand function and structural shifts", Journal of Policy Modeling, Vol. 25 (4), June 2003, pp 359-375; and Nakashima, K., "An extremely-low interest- rate policy and the shape of the Japanese money demand function", Macroeconomic Dynamics, Vol. 13 (5), November 2009, pp 553-579.

4 ECB Monthly Bulletin, October 2012.

5 See: http://www.ecb.europa.eu/press/pr/date/2012/html/pr120906_1.en.html.

The central bank influences short-term interest rates in the money markets[6] through monetary policy interest rates and long-term interest rates depend on the expectations for short-term rates, so it is important to follow carefully how rates move in the money markets. Money market rates in the euro area have continued to fall since the spring and at the end of November this year the three-month EURIBOR stood at 0.188%, the six-month EURIBOR at 0.347% and the twelve-month EURIBOR at 0.578%, having fallen by 48, 60 and 65 basis points respectively since the start of May. EONIA, the overnight interest rate, has in recent months remained around 0.07–0.08%. Low interest rates in the money markets obviously lower the interest burden for local borrowers, but at the same time the deposit interest rates in banks have fallen. This may in future lead economic agents to search for higher yielding investments or divert their funds instead towards consumption.

Figure b. Euro area annual money growth



Source: European Central Bank

6 Interest rates for instruments with a maturity of up to one year.

BASELINE FORECAST SCENARIO

Economic activity

In 2011 the economy grew by 8.3% on the back of exporting industries. This stemmed partly from the redeployment of resources that had been left underutilised during the crisis period, and partly from the favourable economic conditions in external markets. Although growth was strong in 2011 as a whole, it started to slow in early autumn because of the sovereign debt crisis in the euro area. Since the latest downturn in 2008–2009, growth has been on a more sustainable basis than it was during the pre-crisis years. This is why the weakening in the external environment has not led to as sharp a drop in domestic demand as it did in 2008.

In the first half of 2012 the economy was mainly supported by domestic demand and although exports continued to increase on an annual basis, it was much more in products with lower value added. In consequence, exports increased imports, but the rise in local value added was more modest. This is also indicated by the difference in the dynamics of exports of goods and the index of industrial exports sales, as industrial exports fell while exports of goods rose.

Growth was below its potential rate in both the first and second quarters of 2012, which is reflected in the decline in the capacity utilisation during that period. However, the rise in investment and employment shows that companies considered the slowdown in growth to be a temporary phenomenon, and they increased

their production capacity in expectation of future growth. In the third quarter growth was relatively fast again, with the flash estimate from Statistics Estonia putting it at 1.7% quarter-on-quarter.

At the start of the forecast period, the main factor holding back growth in Estonia will be the weak external environment, and the actual level of production will remain below its potential, so the output gap will be negative. However, this gap will not be as large as immediately after the crisis, meaning that it will not be possible to achieve as fast a rate of growth as in 2011 by employing unused resources. Some industrial companies are already finding that a shortage of labour is the main factor restricting production and the ageing of the population and the fall in the working age population will exacerbate this problem in the future. A shortage of resources, including labour, is a common occurrence in normal economic circumstances, and growth will be built on the development of the current workforce and technology and investment in modern machinery.

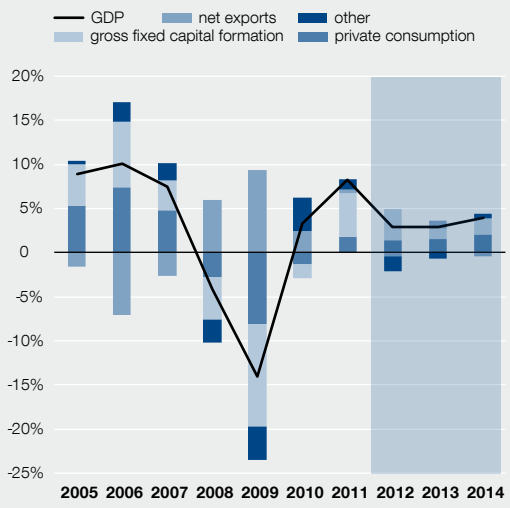
Although domestic demand has underpinned growth for the last year, a small open economy cannot be driven by domestic demand alone in the long term. Export makes a significant proportion of the Estonia's value added and output growth driven by domestic demand alone would mean stagnation for a large part of the economy. Exports and imports are often combined as net exports in analysis of the factors affecting economic growth. As imports depend on both the intermediate consumption of exporting industries and domestic final consumption, this treatment underestimates the importance of exports for growth.

Table 2. Economic forecast by key indicators*

					Difference from previous forecast		
	2011	**2012**	**2013**	**2014**	**2012**	**2013**	**2014**
Nominal GDP (EUR bn)	15.95	17.01	18.17	19.50	0.0	0.1	0.1
GDP, volume change (%)	8.3	2.9	3.0	4.0	0.3	-0.6	-0.1
HICP, change (%)	5.1	4.3	3.6	2.4	0.4	0.4	-0.3
GDP deflator, change (%)	2.9	3.7	3.8	3.2	-0.3	1.2	0.3
Current account (% of GDP)	2.1	-1.1	-2.1	-2.5	1.5	-1.8	-2.1
Private consumption expenditures, volume change (%)	3.5	2.8	3.0	4.1	-1.4	-0.1	0.4
Government consumption expenditures, volume change (%)	1.4	2.2	1.2	2.0	-0.2	0.0	0.3
Fixed capital formation, volume change (%)	25.7	16.3	5.0	7.6	0.7	3.8	2.0
Exports, volume change (%)	23.4	6.3	3.7	5.4	2.4	-2.7	-1.2
Imports, volume change (%)	25.0	7.0	2.9	6.2	-0.9	-1.6	-0.3
Unemployment rate (%)	12.5	10.2	9.4	8.9	-0.3	-0.7	-0.1
Domestic employment, change (%)	7.0	2.4	0.5	0.2	0.4	0.2	-0.7
Productivity per employee, change (%)	1.2	0.4	2.5	3.7	-0.9	-0.5	0.5
Compensation per employee, change (%)	0.8	5.6	5.8	6.8	-0.6	-0.1	0.6
Real compensation per employee, change (%)	-4.0	2.1	2.3	4.3	-0.3	-0.4	1.0
Private sector debt, outstanding amount change (%)	-4.3	1.5	3.2	5.0	2.3	1.2	0.6
Gross foreign debt (% of GDP)	97.2	100.9	97.2	93.7	2.3	2.1	2.7
Budget balance (% of GDP)	1.1	-1.0	-0.5	-0.1	0.5	0.0	-0.1

* GDP and its components are chain-linked
Sources: Statistics Estonia, Eesti Pank

Figure 2. Economic growth (by expenditure approach)



Sources: Statistics Estonia, Eesti Pank

In 2013 growth is forecast to continue at a similar rate to that of 2012. The main factor pushing growth will be the steady improvement in the external environment, which will lead to growth in exports with higher value added. Domestic demand will be slower in 2013, especially because of slower growth in investments (see Figure 2), but it is not impossible that if the external environment develops more slowly, growth in 2013 will be lower than it was in 2012. As installed capacity could permit growth in 2012 and 2013 at a faster rate than demand can support, the GDP gap in those years will be negative. However, growth in 2014 may temporarily exceed the potential rate as the external environment improves.

Domestic demand

Private consumption

When the European sovereign debt crisis widened in the middle of 2011, Estonian consumer confidence fell sharply and their recent experience of economic crisis made people fear they might lose their jobs. During the autumn it became clear that the direct impact of the debt crisis on Estonia's economy was milder than expected and that trends in the labour market remained positive. Average wages grew in parallel with the number of people employed, and so did the purchasing power of consumers, so the change in attitudes proved short-lived and consumer confidence began to pick up again in November 2011. Private consumption growth slowed however, and the post-crisis peak of growth was in the second quarter of 2011, when quarter-on-quarter growth reached 1.4%.

The slight slowing of consumption growth in the second half of 2011 brought consumption and disposable income growth better into line. In consequence, the household savings balance grew by 6.4% over the year, and household savings reached 5.5% of disposable income.

In the first quarter of 2012, private consumption grew by 4.1% year-on-year and 1.9% quarter-on-quarter. As in 2010 and 2011, private consumption grew most through purchases of durable goods, particularly vehicles. Registrations of new cars increased throughout summer and autumn. Car sales were boosted because many of the leasing contracts signed in the record years for car sales in 2007–2008 were coming to an end and car leasing was also encouraged by the low interest rates. Sales of semi-durable goods such as clothes, textiles and books have also picked up, pushing up sales in large retail chains.

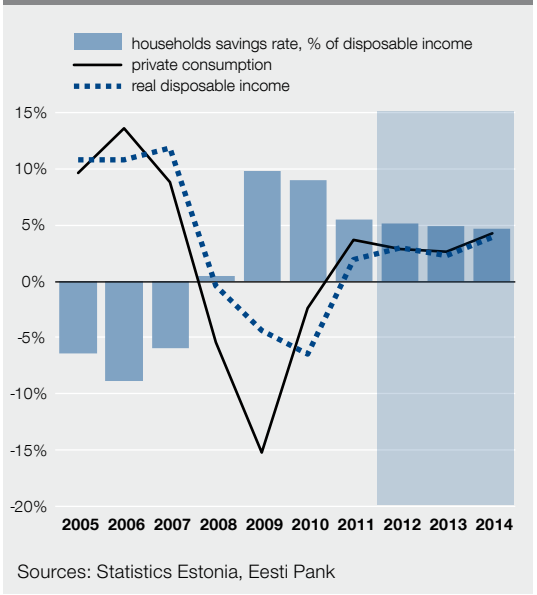
Retail sales volumes also grew strongly in the third quarter of 2012, by around 8% year-on-year, and suggest that private consumption will continue to grow. This forecast sees that private consumption growth will be 2.8% in 2012, which is lower than was forecast in the spring.

Consumption growth in the first quarter of 2013 will be affected by the rise in electricity prices, which will raise housing costs for house-

holds and leave them with less money for other consumption. The rise in electricity prices will particularly affect the consumption of households with lower incomes, whose fixed costs take a higher share of total spending. Consumption is forecast to rise by 3.0% during 2013. Further increases in economic activity will lead to faster growth in 2014 of 4.1 % (see Figure 3).

When consumption dropped sharply in the middle of 2008, the saving rate turned positive as consumption stopped running ahead of income, as it had for years. The difference between disposable income and consumption has declined in recent years, as saving due to cautiousness has lessened. This forecast expects that private consumption will increase at a similar speed to disposable income, and the savings rate will stay around 5% over the forecast horizon.

Figure 3. Real growth of private consumption



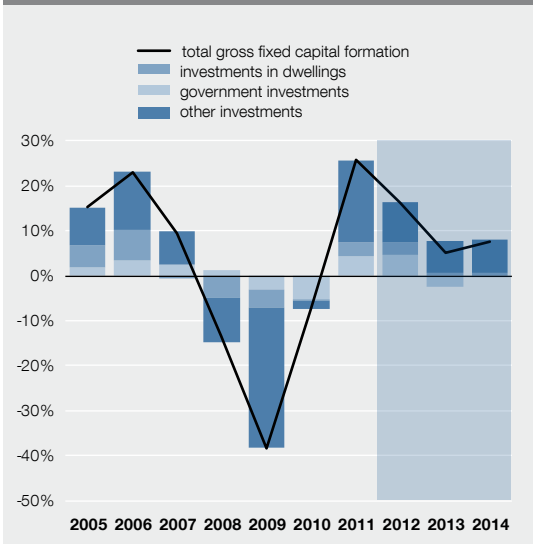
Sources: Statistics Estonia, Eesti Pank

Gross fixed capital formation

Gross fixed capital formation started to increase in Estonia later than value added. While GDP growth reached 3.3% in 2010, the chain-linked value of investment in fixed assets fell by 7.4%. The general government sector was following a policy of budget consolidation, and the private sector had not regained its confidence regarding the future. In contrast gross fixed capital formation grew by more than 25% in 2011, giving the largest contribution to domestic demand growth.

Since 2010 the value of Estonian production has increased by one third and while increases in production in 2010 drew on re-utilisation of existing resources, gross fixed capital formation of companies grew by 29.2% in 2011 (see Figure 4). In the first and second quarters of 2012 capital formation growth slowed a little by 11.1% and 19.8% year on year, respectively. Data for capital goods imports in summer and autumn indicate that that investment growth continued in the second half of the year and so corporate gross fixed capital formation is forecast to increase by 14.0% in total in 2012.

Figure 4. Real growth of gross fixed capital formation



Sources: Statistics Estonia, Eesti Pank

Despite its rapid growth, the volume of investment in the corporate sector is low and is comparable to its 2005 level. The weak outlook for the future will limit the growth rate and even with low interest rates, borrowed capital accounts for a small part of investment. The forecast sees gross fixed capital formation in the corporate sector growing at about 11% a year during the forecast period.

Government sector investments in 2011 and 2012 saw extraordinary growth rates. Investment projects using EU funds and the revenue from sales of AAUs[7]boosted the gross fixed capital formation in the government sector by 21.3% in 2011 and the growth rate is expected to be similar in 2012. Such levels of investment are not expected in 2013 and 2014, even though the deadlines for some projects have been extended.

The housing market picked up in 2011 and real estate prices rose by around 10% according to Land Board data. Despite the rapid rise in prices, gross fixed capital formation in dwellings rose by 19%. The growth continued in the first half of 2012 but at a more moderate speed and it is likely to slow further in the second half leaving an annual rate forecast at 16.8%. Gross fixed capital formation in dwellings will grow more slowly in future, reaching about the same growth rate as disposable income of households.

Gross fixed capital formation will grow faster than GDP in Estonia in the forecast period, increasing by 5.0% in 2013 and 7.6% in 2014. Gross fixed capital formation as a share of GDP has grown to around 24% and will increase further in future. The growth is forecast to come mainly from the corporate sector as investments by the government sector fall in the next few years. Moderate growth will continue in the household sector, where the annual level of housing investment will reach pre-boom levels by the end of the forecast horizon. If the risks in the external environment do not materialise, the investment climate in Estonia will remain favourable.

7 AAU – Assigned Amount Unit, CO2 quota trading unit.

Change in inventories

Changes in inventories made a significant contribution to real GDP growth in 2011, reaching 2.1 percentage points. Inventories were mostly increased by industrial companies, which bought raw materials and other important inputs in anticipation of increased production volumes. In 2012 the structure of economic growth changed and the industrial sector started to be replaced as the driver of growth by companies targeting the domestic market. As a result, inventories of industrial production shrank while those of goods bought for resale grew. In the first two quarters of 2012 the change in inventories had a negative impact on GDP growth and inventories fell as a ratio to GDP. Inventory levels will increase in the next few years together in line with nominal GDP, and the ratio to GDP will remain stable.

External balance and competitiveness

In 2012 economic growth slowed mainly in response to the slowdown in the growth of external demand. Exports of goods reacted to this immediately, but domestic demand only with a lag and to a lesser extent. As the export of goods slowed more sharply than imports, the trade balance worsened and the current account surplus turned into deficit once again.

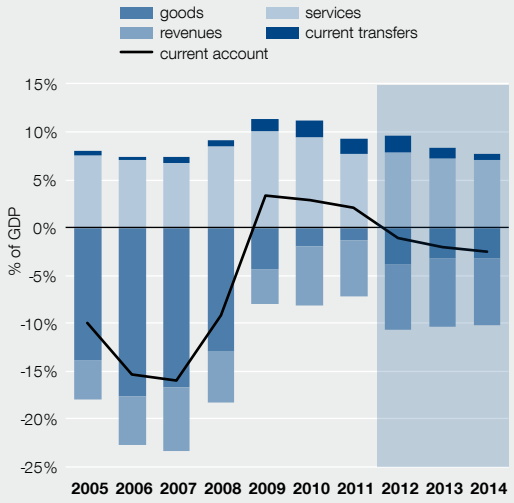
The increased trade deficit was balanced to an extent by the growth in the surplus from services. At the same time, the outflows of investment income from the increased profits earned by foreign-owned companies rose, meaning the current account ended up in deficit. The current account deficit is forecast to increase somewhat during the forecast period and will reach 2.5% of GDP in 2014 (see Figure 5).

Estonian export growth was inhibited in 2012 by the uncertainty in external markets. The factors

that had the strongest negative impact were the shrinking economies in many countries in the euro area; the volatility of demand for many goods, including electronics; and trade conditions that turned out to be worse than expected. Exports were aided by increased production capacity utilisation, the positive image of Estonian economic competitiveness, and the fall in unit labour costs during the crisis. Even though the rate of growth slowed, Estonian exports of goods increased faster overall than the demand for imports in trading partner countries, meaning that Estonia gained market share as a result. Market share grew mainly owing to exports to countries outside the euro area, particularly Russia, Latvia and Sweden. Nevertheless, exports grew at half the rate of imports in the first nine months of 2012, with exports 4% higher than in 2011 and imports 8% higher. This is partly explained by slightly worsened trade terms as prices of imports rose by more than those of exports during this period. The forecast assumes that growth in external demand will recover steadily, after which Estonian exports of goods will grow at a similar speed to external demand. This is quite a conservative view because it does not rely on Estonia's market share continuing to grow in external markets as it has done until now. Trading conditions should become more favourable for Estonia in the next few years, as prices for exports will rise faster than those for imports.

The previous forecast considered that there was a threat to services from the tougher competition among Baltic Sea ports, as this would lower transport services exports, and in the first half of 2012 the surplus from transport services did indeed shrink, especially for rail transport, though this was balanced by better results for other service types. In total, the net-exports and imports of services actually increased. In the first half year the fastest growth in year-on-year terms was in the export of computer and IT services. Two thirds of exports went to countries in the European Union, though the export

Figure 5. Current account



Sources: Statistics Estonia, Eesti Pank

of services in that direction grew at a relatively modest rate, reaching only 5% year-on-year in the second quarter of 2012. Exports of services to countries of the CIS, mainly Russia, grew faster, reaching 14% over the same period. Half of the services exported to Russia were transport services. Services of exports to other countries, including the USA, grew by even more with the main services sold being travel services and computer and IT services. The forecast expects that exports of services will continue to grow at a similar speed to GDP and will continue to show a relatively large surplus.

In the first half of 2012 the net outflow of income increased. Of the two main components of income, labour income saw a net inflow, but the accounted net outflow from investment income was an estimated nine times higher. The net income from labour in the second quarter was less than a year earlier, because some workers who had spent a year in the country where they were working abroad gained residency of that country and their remittances to their home

country became classified as current transfers in the country's balance of payments. In contrast the accounted net outflow of investment income grew twice as fast as nominal GDP in the same period. Income from investments abroad fell by more than income from investments in Estonia. As profits recover, the outflow of investment income will grow somewhat faster in the forecast horizon than nominal GDP does, and net outflows of income will increase slightly.

The current transfers balance was positive and the surplus on this account grew in 2012 due to both inputs from structural funds and remittances from workers earning money abroad. The surplus on the capital account was driven by capital transfers to Estonia, mainly in the form of European Union subsidies for various infrastructure development projects in both the general government sector and other sectors. The amounts received from the European Union structural funds will fall in the next few years, and so the surplus of current transfers in the Estonian balance of payments will also shrink in future.

At the end of the second quarter of 2012, gross external debt, or the total external debt of all the economic sectors in the country, was equal to 58% of foreign investment in Estonia. The largest share of gross external debt was the 42% accounted for by the debt liabilities of credit institutions. The general government sector's share in gross external debt increased. Net external debt, or the difference between foreign assets and liabilities fell in the second quarter to 3% of the GDP of the preceding four quarters. All sectors contributed to the fall in net external debt, especially the general government sector and the central bank, both of whom increased their surplus of foreign assets. The debt liabilities of credit institutions and other sectors were larger than their debt assets. The absolute amount of external debt will rise during the forecast horizon, but it will continue to fall as a ratio to GDP.

Labour market

At the start of 2012 the labour market saw a slowing of the rise in employment and wages, though not to the same extent as the slowdown in GDP growth. Labour costs grew at a faster rate than the economy, and this raised the labour share. This forecast sees this development as a temporary phenomenon that is due to the adjustment of the labour market, which takes time, and the recovery of economic growth.

Employment growth in 2012 and 2013 is now predicted to be quicker than was suggested by the forecast of June 2012, mainly because of the data from the second and third quarters of this year. Employment growth will, however, be slower at the end of the forecast horizon. The unemployment rate will fall more quickly as employment rises, and throughout the forecast period it will be below its natural rate. The recovery of productivity is slower than was predicted in spring, but it will accelerate at the end of the forecast horizon.

Wage growth slowed in the second quarter more sharply than expected, and so is forecast to be slower in the second half of 2012 than was predicted in the previous forecast. In 2013 wage growth will be affected by pay rises in health and education agreed in collective negotiations and gains in productivity.

Employment and productivity

Employment growth in Estonia-based production units slowed in the first half of 2012 from the 7% of 2011 to 3.2% in the first quarter and 3.1% in the second. Quarterly growth in seasonally adjusted employment recovered in the first half of 2012 after a one-off drop at the end of 2011, though it was still slower than a year earlier.

The fall in external demand growth had the strongest impact on manufacturing, where added value fell quarter-on-quarter in both the

fourth quarter of 2011 and the first quarter of 2012. Employment responded to this with a lagged quarterly decrease of 5.3% in the first quarter of 2012 and 8.6% in the second quarter. As a result, productivity started to grow again at the start of 2012. In the third quarter of 2012, quarterly growth in value added from manufacturing probably accelerated as exports received an additional boost. At the same time employment in manufacturing also increased. The industrial survey of the Estonian Institute of Economic Research points to a fall in the numbers employed in future and only 12% of the companies interviewed in the third quarter gave labour shortages as a factor inhibiting production. This means that employment in manufacturing can be expected to remain stable in the next few quarters and to return to moderate growth in the longer term when foreign demand picks up.

Employment has returned to its start-of-the-boom levels in construction. Seasonally adjusted figures for employment reached almost 50,000 in the second half of 2011, though they have fallen in the first two quarters of 2012. Total employment growth in construction was positive in the third quarter, though part of that was due to increased commuting, while value added also rose, meaning that productivity growth was also strong in construction. Seasonally adjusted data from the construction survey was biased in September towards those companies that were expecting employment to fall, and in October slightly towards those that were expecting it to rise. Taken together with the end of construction projects financed by the sales revenues from emissions allowances, this leads to the forecast that the number employed in construction will remain stable. In the first half of 2012 the number of Estonian residents working abroad in construction fell, though one-fifth of employment in construction was still abroad despite this.

The fall in employment in manufacturing in the first half of 2012 was balanced by increased

Figure 6. Employment and productivity

Sources: Statistics Estonia, Eesti Pank

employment in other areas. Employment in the public sector, covering public administration, health and education, has grown moderately since the beginning of 2011. As wages will grow faster than before, there will be less room for any expansion of employment in the public sector in the next few years at a time of government budget consolidation. The planned reforms in education and health are in fact likely to lead to a reduction in employment in those areas in the longer term.

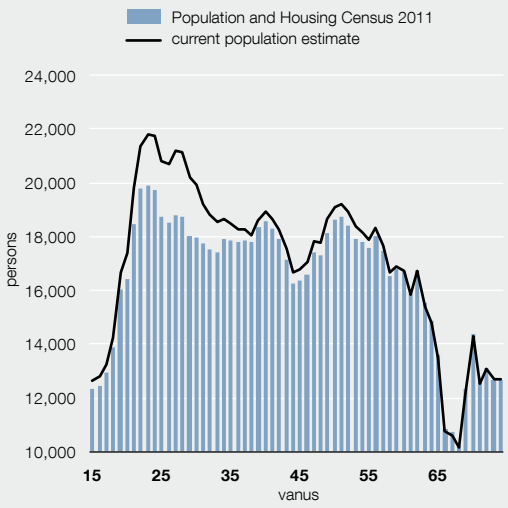
This forecast predicts that the rise in employment in Estonia will slow in the coming quarters and the number employed will remain at about the same level for the rest of the forecast horizon (see Figure 6). Future growth in employment will be inhibited by a slowdown in economic growth, a fall in available labour resources, and structural unemployment. Productivity growth will recover at the same time to 3% in 2013 and 3.8% in 2014. The main basis for this in the long term will be development in production technology and human capital.

Box 2. Implications of the results of the Population and Housing Census 2011 for estimates of the size of the labour force and the participation rate.

This box assesses how the preliminary results of the census affect the estimates of the fundamental indicators from the labour market such as the size of the labour force and the participation rate. It also looks at the impact of the new data on a simplified forecast for these indicators for 2013–2027.

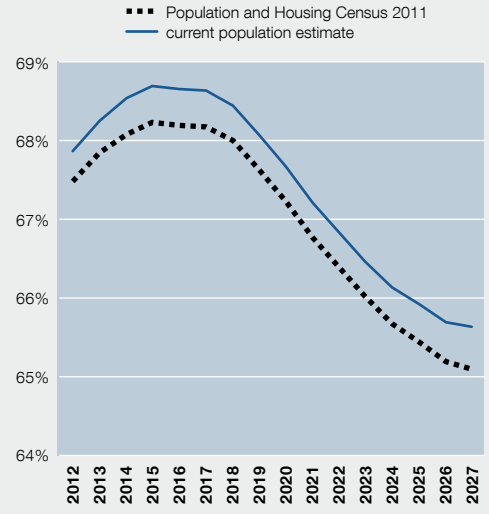
The final results of the Population and Housing Census 2011 (REL2011) will be published by Statistics Estonia in 2012–2013, though it may take longer for the data to be consolidated with those of the Estonian Labour Force Survey. For this reason this forecast uses figures from the current official population estimates. These figures will continue to be used until the updated statistics using the REL2011 data are released. However, preliminary results from REL2011 show that the working age population aged 15–74 is around 3.5% smaller than the current figures unadjusted for migration[8] indicate, which means that all labour market stock indicators, such as the number of employed and unemployed should equally be around 3–4% lower. Errors in ratios like the participation rate and the unemployment rate should be smaller, however. The exact annual distribution of migrants of working age is not known, but it is highly probable that the largest flows happened in the last six to eight years after member states of the European Union opened their labour markets to Estonian residents. This would suggest then that the rate of employment growth in recent years has actually been somewhat slower and the

Figure c. Working age population by age



Sources: Statistics Estonia, Eesti Pank

Figure d. Labour force participation rate



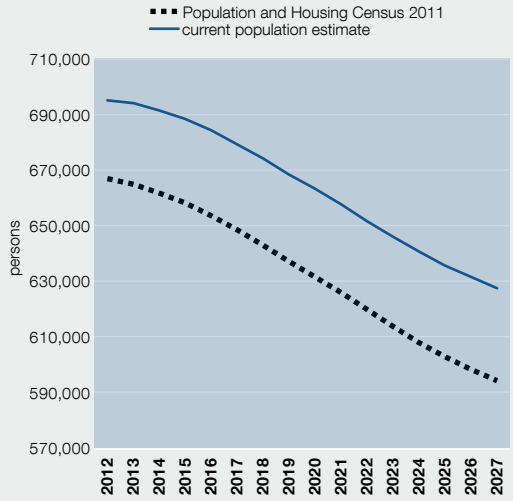
Sources: Statistics Estonia, Eesti Pank

8 Adjusted for the estimate for migration, this difference would be around 1.7%.

rise in productivity somewhat faster than is shown by the estimates currently in use.

Although the preliminary results of the REL2011 census reveal that the total Estonian working-age population aged 15–74 was 3.5% smaller than the current official figures show, the situation is very different for different age groups (see Figure c). The difference between the REL2011 figures and the current figures is more than 5% for people aged 20–33, and within that group the difference was more than 10% for people aged 25–30. This would then imply a different age structure for the working-age population with 1.5 pp fewer in the 20–33 age group, and 0.8 pp more in the 60–74 age group.

Figure e. Labour force



Sources: Statistics Estonia,Eesti Pank

Rises and falls in the overall figures for labour force participation rates are highly affected by changes in the age structure of the working age population, as participation is dependent on age. The 15–19 age group, for example, is mostly inactive due to studies, the labour force participation picks up rapidly in the 19–25 age group, and then from age 50 there is a decline in activity due to retirement, health problems or other issues. For this reason, changes in the age structure of the working-age population can impact the rates of participation in the labour force. In the next few years the impact on the overall figure for labour force participation of the difference between the REL2011 figures for working-age population and the official figures currently in use is expected to be around 0.4 pp (see Figure d). Both forecasts have assumed that the participation rates by age and sex will remain the same as the average for 2011 and the first half of 2012.

The preliminary results from REL2011 also affect the forecast for the total number of participants in the labour market. Even if the labour force participation and non-participation rates by age group are left unchanged, it can be calculated how much the different population age structures in REL 2011 and the current figures will affect the labour force (see Figure e). This forecast is clearly a simplification and does not take account of the impact of future migration flows nor the effects of policy changes such as the raising of the retirement age from 2016, but even such a simplified presentation makes it clear that the shrinking of the labour force in the coming years will be faster than current figures suggest. Whereas it was earlier thought that the labour force[9] in Estonia would shrink by 1000 people in 2013 and 2400 in 2014, the preliminary figures from REL2011 suggest a sharper fall of 1900 and 3000 people respectively from the number for the previous year.

9 The labour force includes both people in work and the unemployed.

Unemployment

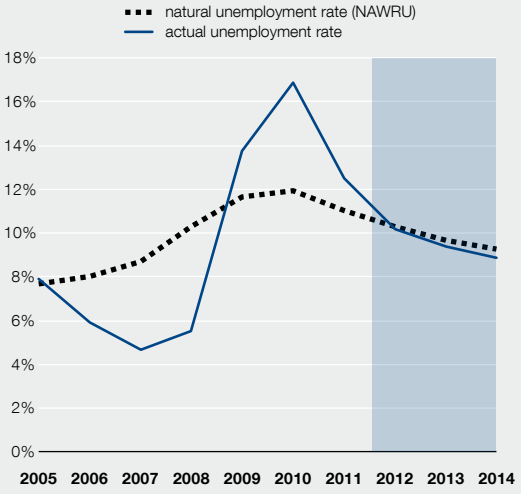
As the labour force participation rate remained high at the start of 2012, unemployment fell at about the same speed that employment grew. In the third quarter of 2012, the unemployment rate was 9.7%, with both short and long-term unemployment falling. The number of discouraged fell to 6900 in the third quarter, which was 11.5% fewer than a year earlier. This forecast expects the labour force participation rate to climb to 69% by the end of the forecast period, particularly as a consequence of changes in the age structure of the working age population.

Eesti Pank' assessment puts the natural rate of unemployment at the end of 2012 at around 10%. An actual unemployment rate below this can lead to pressure on wages due to labour shortages. Seasonally adjusted unemployment will fall in the near term below the natural rate, though the confidence bounds for this assessment are quite wide. The unemployment rate is expected to continue falling during the forecast period, reaching 9.4% in 2013 and 8.9% in 2014. The natural rate of unemployment will fall at the same time, though it will still remain a little higher than actual unemployment in both years (see Figure 7). Wage pressures could be eased by a faster fall in the natural rate of unemployment, or structural unemployment. This will require active labour market policies to be more efficient at bringing the qualifications and skills of the unemployed closer to the requirements of the labour market.

Wages and labour costs

Unlike employment, average wage growth reacted moderately to the slowing of growth. The annual rise in the average wage fell from 6.6% in the fourth quarter of 2011 to 6.4% in the first quarter of 2012, and to 5% in the second. The deceleration in wage growth may be only temporary, as wage data from the Tax and Customs Board for the third quarter show that wage growth has started to speed up again.

Figure 7. Unemployment and the NAWRU



Sources: Statistics Estonia,Eesti Pank

Wage growth in manufacturing, which was hit most of all by weak foreign demand, adjusted less this year than the average. Wages in manufacturing grew by 8.8% in the first quarter of 2012 and 8% in the second, beating he average wage growth in the economy as a whole by around three percentage points.

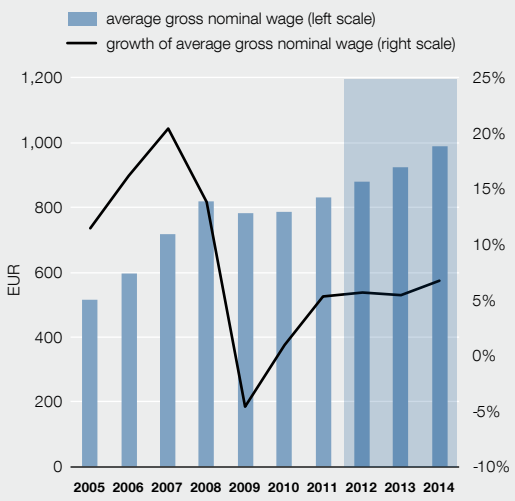
Annual wage growth in construction accelerated from 6.7% in the second half of 2011 to 12.6% in the first half of 2012. Demand for labour in construction has been supported this year by insulation projects and the steadily recovering real estate market. In addition, Estonian construction companies have also been forced to compete for labour with the Nordic countries, where wages are much higher. However, the construction projects funded by revenue from the sale of emissions allowances will finish at the end of 2012, which should reduce demand for labour in construction and so ease wage pressures.

As wage growth slowed more sharply than expected in the second quarter of 2012 and,

according to preliminary figures, also in the third, the forecasts for wage growth for 2012–2013 have also fallen. Wage growth will pick up in 2014 together with the recovery in economic activity (see Figure 8).

In autumn 2012 Statistics Estonia revised the figures for the GDP of recent years, and this brought a retrospective change to the assessment of unit labour costs. New data show that real unit labour costs fell throughout 2011. In the first half year 2012, in contrast, productivity fell and real unit labour costs rose noticeably, by 1.3% in the first quarter and 3.5% in the second. In the baseline scenario, the gap between wages and productivity will narrow as companies bring their labour costs into line with productivity. The total economy's unit labour cost is often used for analysing changes in the competitiveness of an economy, though it should be borne in mind that changes to the sectoral structure of an economy can affect this figure significantly. This is analysed in more detail in Box 3.

Figure 8. Wage growth



Sources: Statistics Estonia, Eesti Pank

Box 3. Growth in unit labour cost, productivity and wage by sector; international comparison

Nominal unit labour cost measures the labour cost of producing one unit of real value added and real unit labour cost measures the labour cost needed to create one unit of nominal value added. Total value added is a sum of labour compensation, depreciation and profit. If the latter two components are referred to as business income, then the real unit labour cost denotes the labour share in value added. If the real unit labour cost rises, the profit margin falls. Given that capital is a relatively mobile production input, falls in the income of capital can only be short-term. In the longer term pressure to restore profitability through increasing the price of the product will rise, which may in turn damage international competitiveness. Changes in the nominal unit labour cost come not only from changes in real unit labour costs but also from rises in prices (in the GDP deflator), meaning they do not only measure inflationary pressures but also reflect price rises that have already happened.

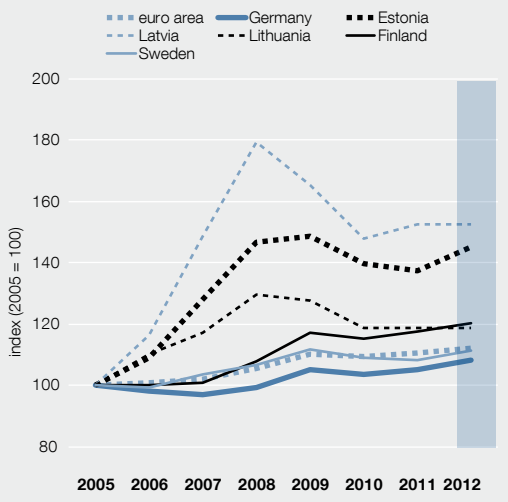
Unit labour costs in an economy cannot be compared internationally because they depend on the structure of the economy, labour and capital intensity, and even the level of risk in a country. The more narrowly sectors or industries are considered, the less the unit labour costs should be distorted by structural changes in the economy. The base indexes and changes in them for the unit labour costs of different countries often are compared, however, to give a picture

of changes in competitiveness over time. Figure f shows the nominal unit labour cost indexes for Estonia's main trading partners and the euro area as a whole. The much sharper rise in the index in the Baltic states than in the euro area is mainly a reflection of price convergence and of inflation and acceleration in labour costs growth during the boom, which was followed by a sharp readjustment during the crisis.

Real unit labour costs show the relation between compensation per employee and nominal GDP per person employed. This shows the share of labour in value added. Figure g shows that the real unit labour cost in Estonia was 6–7% higher in the second half of 2012 than in 2005. In 2005 total wages per employee accounted for 54% of the added value per employee, but in the second quarter of 2012 this had risen to 60%. In contrast, the same indicator for Latvia and Lithuania was lower than in 2005, so assuming that there have not been major changes in the structure of the economy, Estonia has lost competitiveness to Latvia and Lithuania from where it was in 2005. Wage growth in Estonia has outstripped productivity growth again during the past year, meaning that the ability to compete on price continues to fall.

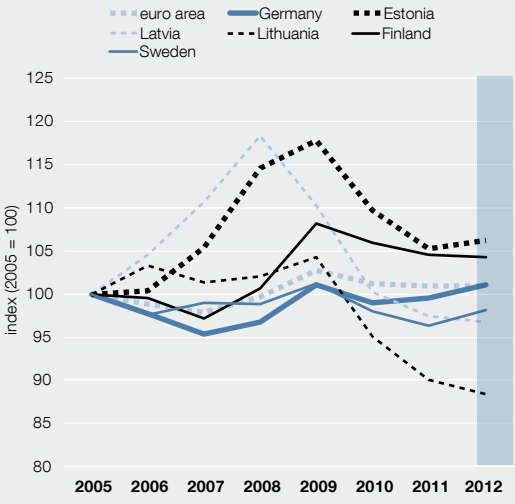
The index for the total economy's unit labour costs is like a price index that depends on the unit labour costs in each field of activity and their share in the value added in the economy. This means that the indicator depends not only on changes in unit labour costs, but also on changes in the sectoral structure of the economy, so it could for example rise if there is an increase in the share of added value coming from a labour-intensive sector. To see more clearly

Figure f. Nominal unit labour cost index



Source: Eurostat

Figure g. Real unit labour cost index

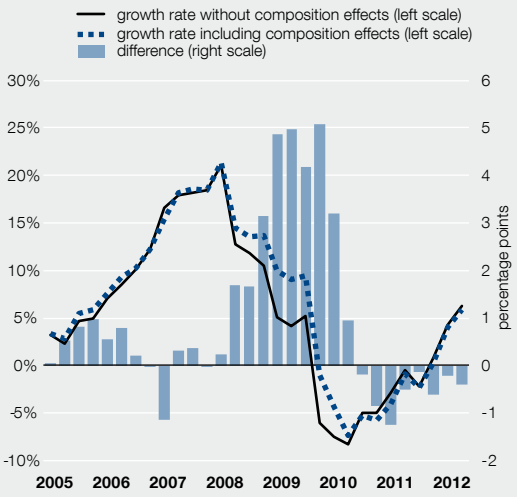


Source: Eurostat

the change in competitiveness, it would be better to look into the dynamics of an index with a stable structure. Figure h shows the nominal growth in the unit labour cost index with a changing and a fixed structure. The fixed structure growth rates are chain linked and they show how much it would have cost to produce one unit of real value added with the structure of the same quarter a year ago. The different growth rates during the crisis period are caused because the share of total added value from sectors with rapidly rising unit labour costs fell. In times of more stable economic growth the sectoral structure of the economy does not affect unit labour costs very much, because structural changes are quite minimal and generally cancel each other out.

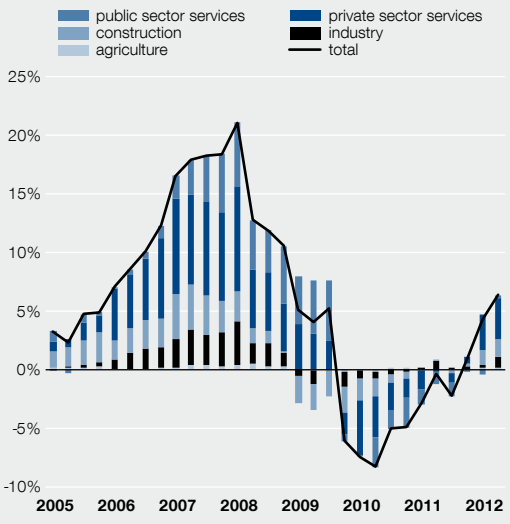
The contributions of different sectors to the rise in unit labour costs are shown in Figure i. In order to see the pure rise in costs more clearly, the fixed structure index

Figure h. Annual growth of nominal unit labour cost index, chain-linked composition



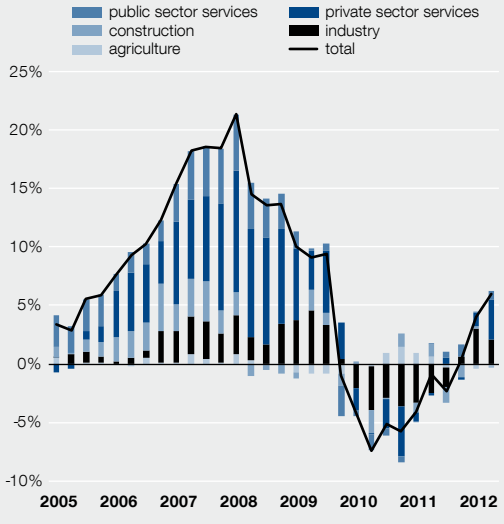
Sources: Statistics Estonia, Eesti Pank

Figure i-1. Annual growth of nominal unit labour cost index, including composition effects



Sources: Statistics Estonia, Eesti Pank

Figure i-2. Annual growth of nominal unit labour cost index, without composition effects



Sources: Statistics Estonia, Eesti Pank

should be used. On the aggregate level it behaves similarly to the conventional index with a changing structure. As expected the largest contribution to growth in unit labour costs before the crisis came from industries in the non-tradable sector, which is also consistent with the Balassa-Samuelson effect. In the past half year the growth in unit labour costs has come from the manufacturing sector and the service industries in the private sector. It is interesting to note that the growth in unit labour costs in the manufacturing sector is balanced by the decline in that sector's share of value added. In contrast, the unit labour costs of the construction industry have grown less, but the recovery of the industry has increased its share of value added. The contribution of construction in an index with a changing structure is much higher than it is in an index with a fixed structure (see Figures i-1 and i-2).

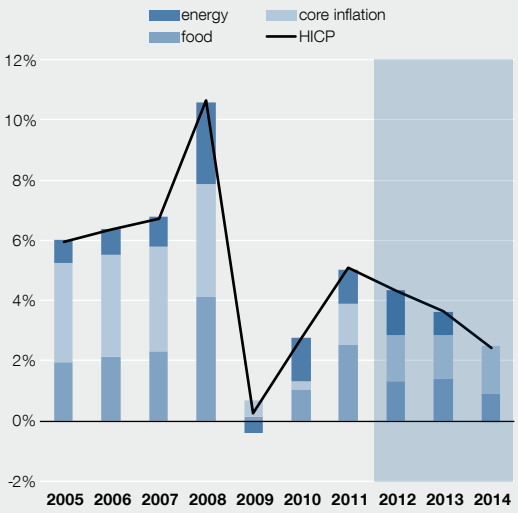
Inflation

Inflation[10] in Estonia accelerated in 2011 to 5.1%, though the forecast predicts that it will slow this year to 4.3%. The main factors causing the increase in prices were the rises in energy and food prices. The sharp rise in motor fuel prices started in the first half of 2009 and was caused by the rising price of crude oil on world markets, and also by the weaker euro exchange rate. Food prices then rose in 2011, increasing by as much as 9%. Core inflation has been relatively low in recent years with the exception of some groups of services that are used in the calculation of core inflation. At the start of 2012, external price pressures weakened and inflation began to slow. In the third quarter it dropped to 4.1%, but then accelerated again. The faster price growth in the fourth quarter was again driven mainly by food prices.

The inflation forecasts for 2012, 2013 and 2014 are 4.3%, 3.6% and 2.4% respectively (see Figure 9). Inflation will probably be close to 4% in the fourth quarter of this year, but from January 2013 a new factor causing price pressure will be the opening of the electricity market. The rise in electricity prices may accelerate inflation in the first quarter up to 4.5%.

External factors that feed into the inflation forecast are the market expectations of crude oil prices, food and imported manufactured goods. The forecast assumes that the average oil price in 2013 will be 105 US dollars a barrel and the euro exchange rate will remain stable. The food price projection has changed the most from the spring forecast. This is due to the recent rise in food commodity prices on world markets, which are now steadily being passed through to consumer prices.

Figure 9. Growth of the HICP



Sources: Statistics Estonia, Eesti Pank

10 The harmonised index of consumer prices is used throughout this text.

Since the exit from the crisis, company mark-ups have recovered rapidly, by 7.3% in 2010 and by 3.2% in 2011. The trend this year has been reversed because productivity growth stopped temporarily while labour costs have continued to grow quickly. Companies probably cannot pass the increasing cost into prices at its full extent and so profit margins are to be squeezed. However, given that profits grew rapidly in the past two years, this is not a problem for the economy. The forecast sees subdued growth of profit margins in both 2013 and 2014 (see Figure 10).

Forecast inflation risks are considered to be broadly in balance. The main risk to the forecast is related to volatile commodity prices, especially energy prices, but also to possible sharp changes in exchange rates.

Figure 10. Growth of the GDP deflator

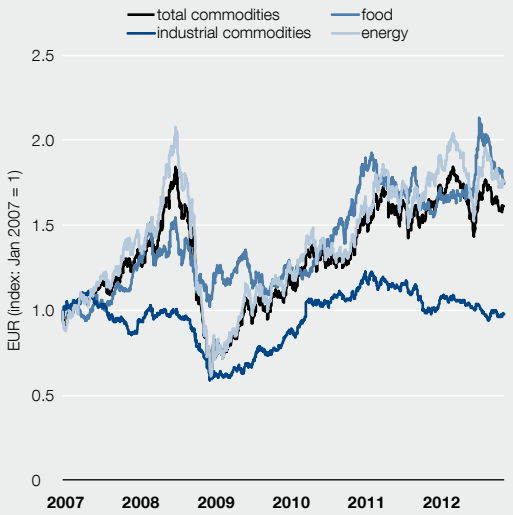
Sources: Statistics Estonia, Eesti Pank

Food

Of the consumer price inflation components, the food price forecast has been revised upwards the most for 2013. The largest difference from the spring forecast came in unprocessed food prices. Fruit and vegetable prices started rising in summer from a low base and growth accelerated to near to 10% year-on-year.

The price level of global food commodities fell in the first half of 2012, but this changed in the summer (see Figure 11). Following bad weather, prices for cereals rose sharply in August followed by prices for edible oils in September. This pushed total food commodity prices up by about 8% from the start of this year. This hike in commodity prices passes into Estonian consumer prices with a lag. Agricultural producers have signalled that meat products may continue to rise in price as production costs have increased due to the higher price of cereals.

Figure 11. World market commodity price indices



Source: Hamburg Institute of International Economics

Energy

In the past three years the price of energy for consumers has risen by more than 25%. The main factor that will bring additional inflationary pres-

sures at the start of 2013 is the rise in the price of electricity. In January the price of electricity for residential consumers and small businesses will rise by around 20%. The direct and indirect effects of the rise in electricity prices on consumer prices could be up to one percentage point (see Box 4).

Core inflation

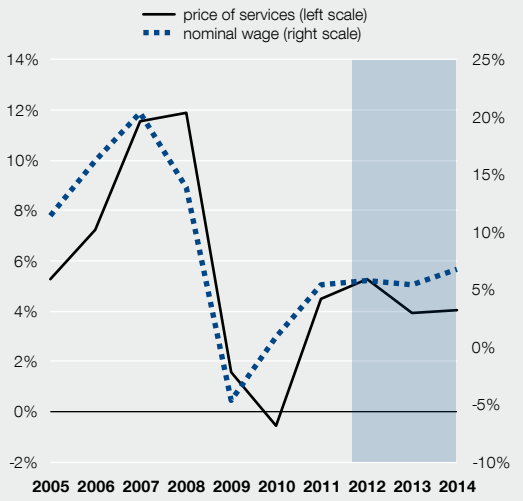
Core inflation covers the inflation in the prices of services and non-energy industrial goods and is largely dependent on domestic factors. In the past two years, core inflation has remained relatively low. Inflation in manufactured goods was held back by low consumption and services inflation by cheapening communication services. Services inflation has so far been narrow-based, with price pressures coming mainly from rent, accommodation and cafes and restaurants. The reason rents rose was that the real estate market was exiting a low period, while prices for accommodation services were boosted by the record number of tourists to Estonia.

The forecast for core inflation has not been changed much since the spring forecast. Core inflation will accelerate throughout the forecast horizon, as services become more expensive (see Figure 12). This will mainly be driven by wage growth and the lagged adjustment of labour costs.

Administrative measures

There is new information available about administrative measures that was not available for the spring forecast. At the start of 2012, alcohol excise duty rose by 5% and tobacco excise duty by 10%. After stocks were depleted, prices for tobacco products rose by around 8%. The government has decided to raise alcohol duty by 5% each year from 2013 to 2016. The impact of higher administrative inflation could be reduced for one third of consumers by the change to free public transport in Tallinn from 2013.

Figure 12. Services inflation and annual wage growth



Sources: Statistics Estonia, Eesti Pank

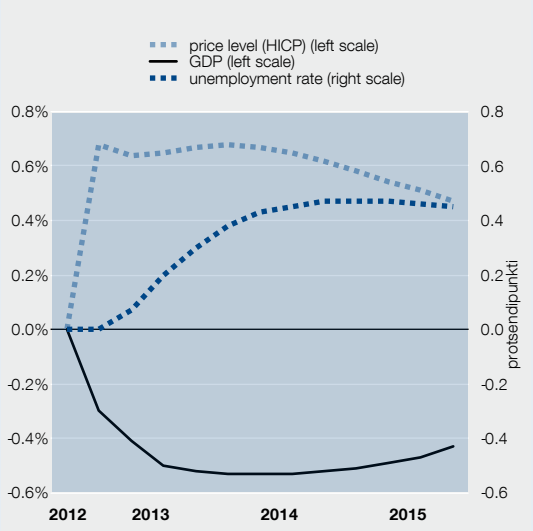
Box 4. The effect of electricity price growth on inflation in 2013

In January 2013 the electricity market will open to foreign competition and at the same time the number of free CO2 allowances given to Eesti Energia will be reduced. As a result, the electricity price will rise for residential consumers and small businesses by around 20%. Because electricity prices will now depend on market conditions, the consumer price index will become more volatile.

Since 2007, electricity has become 46% more expensive, though this is less than other sources of energy. Consumer prices for energy have risen by 78%, with the highest rise of 116% coming for thermal energy. The main causes were the increase in prices of crude oil and imported

natural gas, but tax rises also contributed. The price of electricity, including taxes, for residential consumers in Estonia in the first half of 2012 was lower than that in all other European Union countries except Bulgaria and Romania. When adjusted for purchasing power parity, taking account of differences in income levels, the electricity price for Estonia's consumers was the fifth-cheapest in the European Union. The level of indirect taxes in the consumer price of electricity in Estonia is similar to the euro area average at about 26%.

Figure j. Impact of the electricity price increase on selected macroeconomic indicators



Source: Eesti Pank

When the electricity market opens at the start of 2013 competition will remain relatively weak, as the technical means for importing electricity from the Nordic region still leave something to be desired. Because of the restricted competition, it is important that the state make the functioning of the electricity market more efficient, and as the sole owner of Eesti Energia, the state should ensure that the company does not use its market position to raise prices excessively.

The recent report "Alternatives for electricity production"[11] by the National Audit Office finds that in the long term, Estonian households will not have cheap options for consuming electricity. The need to invest in oil shale energy is high and increased protection of the natural environment is unavoidable, and for these reasons the main arguments in favour of oil shale production in future will be its support for national energy independence and the jobs it provides in eastern Estonia.

The economic effects of electricity price rises

The core macro model of Eesti Pank has been used to assess the effect of the rise in electricity prices. The price shock has been introduced through two variables, the value added deflator for local production prices, and the household energy price. The value added from electricity production is expected to rise by as much as the electricity price does. It is expected that wages in the energy sector will not rise in reaction to the extra income generated by more expensive electricity. If electricity producers start to buy CO2 allowances from the state, this will increase state revenues, and these will also be boosted by profit from the state-owned electricity producer. These revenues are not considered in the calculation of the shock.

An increase of 20% in electricity prices will lift the energy costs for households and the rise in the GDP deflator will raise the prices of other products. Under the joint impact of these factors

11See http://www.riigikontroll.ee/DesktopModules/DigiDetail/FileDownloader.aspx?FileId=12023&AuditId=2264 .

inflation will accelerate by 0.7% at first (see Figure j). No increase in wage pressure is expected in response to higher prices. The rise in prices will mean that real income declines and this will lead to a drop in consumption. Higher production costs will, at the same time, damage the competitiveness of businesses and will weaken exports at first.

Lower domestic production and higher unemployment will dampen the pressure on prices and wages and so domestic prices will rise more slowly, partly offsetting the rise in the electricity price. The impact of higher electricity prices will decline over time and by the end of 2015 consumer prices will be 0.4%–0.5% higher following the shock than they would have been had there been no shock.

The declining impact of the shock will lead to a steady improvement in competitiveness, following which exports will start to grow more quickly. Lower domestic demand will lead companies to search for opportunities to sell their production abroad. By the end of 2015 exports could be higher due to the shock, but domestic production would still be lower. By the end of 2015, GDP will be around 0.5% lower in consequence of the increase in the electricity price.

General government

General government revenue

As of 2012 the fiscal balance is no longer getting support from the temporary revenue measures taken during the crisis such as the re-direction of social tax revenues from the second pillar of funded pensions or the large inflows from the sale of CO2 emission allowances.[12]

This forecast expects general government revenues to grow by 6% in 2012, with tax revenues rising by 7.3%. The rapid rise in tax revenues stems from the positive trends in the labour market as both employment and average wages continued growing throughout the first half of 2012 and into the second. As a result, income tax revenues and social tax contributions have increased, while the increased purchasing power has also given a boost to indirect taxes.

The forecast tax base for 2012–2014 is very close to what was expected in the spring projection. A slight decline in tax revenues can be detected in the structure of GDP and the planned shift in the tax burden from labour to consumption is under way, with unemployment insurance contributions to be reduced in 2013 while excise duty continues to rise on tobacco and alcohol.

In total a certain slowing of the growth in tax revenues is to be expected in the next few years, mostly in response to the stabilisation of the labour market. The rapid increase in employment and wages that characterised the exit from the crisis will slow down, and the increase in revenues from income taxes and consumption taxes will slow down together with it.

Tax revenues will increase as a share of total revenues during the forecast period as the tax base increases while the growth in non-tax revenues will remain poor. This will be caused by the reduction in revenues from the sale of CO2 emission units and by the end of the EU structural funds programme period in 2013. Despite that, the proportion of non-tax revenues will remain high in comparison to the other countries in the euro area at around 6% of GDP.

The Estonian tax burden is one of the lowest in the euro area and is forecast to be about 33% of GDP this year and to fall to 32% in the coming years.

12 As used in the trading system based on the Kyoto Protocol.

General government expenditure

The strategy of consolidation assumes that expenditures will rise more slowly than tax revenues. General government expenditure rose by around 5% in 2011, which is substantially slower than tax revenue. In 2012 growth in expenditures sped up temporarily, mainly due to the capital expenditures financed with the revenues from the earlier sales of emission allowances. This will make the growth rate of investment volatile over the next few years. General government investment as a ratio to GDP will be higher than the European Union average throughout the forecast horizon even though investment levels will be lower than in the peak year of 2012. Current expenditure will remain stable throughout the forecast period (see Figure 13).

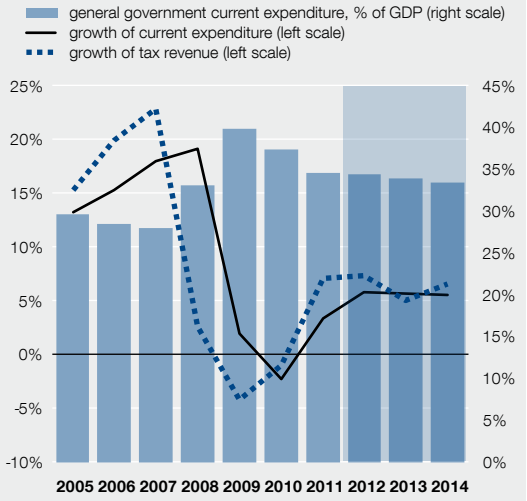
In Estonia, like in other developed countries, social costs are the largest part of general government expenditure. In 2011 pension and other social transfers made up 35% of total government expenditure and in 2012 pension indexing was restored, so pensions should increase by around 4% in the forecast horizon. At the same time, transfers to the unemployed will be lower as the unemployment rate falls.

In the last couple of years, wage pressure has grown in the general government sector and dissatisfaction with wages has been expressed by people from several areas. In the last decade wage costs in the general government sector have been 7–8% of GDP, which is very close to the euro area average and wage costs are high rather than low, given the average tax burden in Estonia. This suggests that more attention should be focused on general government spending priorities.

Fiscal balance and debt

Estonia's general government fiscal position remains outstanding in the European context. Estonia was the only euro area country to post a budget surplus at the end of 2011 while the general government debt has remained low as a ratio to GDP.

Figure 13. General government current expenditure



Sources: Statistics Estonia, Eesti Pank

The government's budget strategy for 2013–2016 was updated in the spring and set the target of restoring the nominal budget surplus in 2014 and achieving a structural surplus of 1% in 2016[13]. These targets were used by the government in drafting the budget for 2013. The Eesti Pank spring projection showed that if there was sufficient political will, economic growth would allow the consolidated budget to be balanced in 2013. The autumn forecast maintains this position.

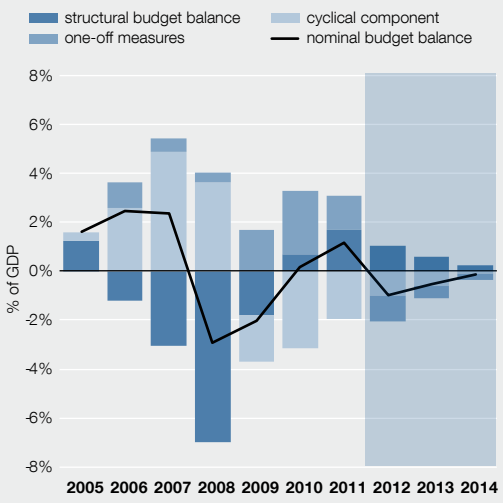
The Eesti Pank autumn forecast expects a budget deficit of 1% of GDP for 2012. The budget position weakened mainly due to investments that were financed by the revenues from the sales of CO2 emission units in previous years, but it will strengthen from now on and be almost in balance by the end of the forecast horizon. The general government's structural position

13 The structural surplus or deficit shows the balance of the budget without the effects of the business cycle or one-off factors.

reached surplus in 2010 and should maintain it until the end of the forecast horizon, although it will decrease each year (see Figure 14). It is to be hoped that this will not weaken the government's resolution to move towards nominal balance.

In the middle of 2012 Estonia's general government sector was still a net lender, so the debt increase was not directly generated by the size of the deficit but by financing operations, including the guarantees given to the European Financial Stability Fund. The debt to GDP ratio remains very low in comparison to that of other European countries, and is not expected to exceed 11% in the forecast period.

Figure 14. Fiscal stance



Sources: Statistics Estonia, Eesti Pank

Banking sector and financing of the economy

Loan supply

The sovereign debt crisis in the euro area continues to create major uncertainty in the international financial environment and the weakened macroeconomic environment threatens the profitability of European banks and the quality of their assets. The financing risks to the Estonian economy have been partially alleviated by the high capitalisation and liquidity of the parent banks in the Nordic countries and by reliable economic and fiscal policies in those countries. This has meant that the parent banks have had no significant problems with market-based funding. The parent banks do, however, remain vulnerable to possible unfavourable events as their needs for market-based financing are still high and if macroeconomic developments are more negative than expected, then the profitability of the parent banks and the quality of their assets could drop rapidly.

The loan supply in Estonia has also been supported by a relatively high growth rate in deposits, which reached close to 9% at the end of the third quarter of 2012. Deposits from the real sector are more stable than money obtained from financial markets, and their share in the financing of Estonia's banks rose at the end of October to a record 72%. At the same time the loan to deposit ratio fell to 112%.

EURIBOR has fallen even further than was expected in spring, and this means that the loan interest rates have also fallen for businesses and households. Competition in the banking market has dropped off to an extent this year, due to the uncertainty stemming from the sovereign debt crisis in the euro area and the more conservative lending policies adopted by the parent banking groups. This has then allowed the banks to raise their lending margins in order to maintain their profitability in an environment of very low interest rates.

The forecast assumes that EURIBOR will fall even further at the end of 2012 and in the first half of 2013, and will start to rise after that, though it will still remain at a historically very low level at the end of the forecast horizon (see Figure 15). Interest margins will continue to climb quietly

at the end of 2012, but will then start to decline again gradually in the second half of the forecast period due to the decreasing uncertainty.

Demand for credit

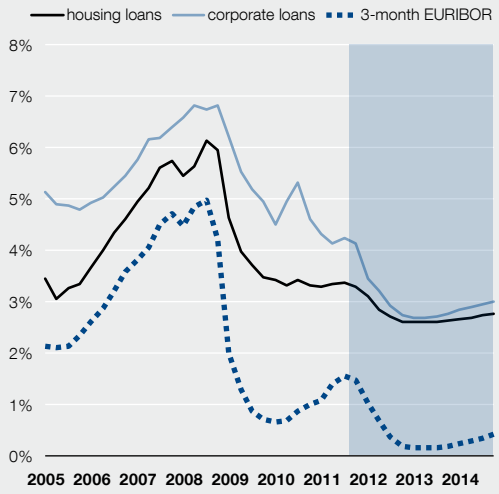
The credit market has recovered somewhat quicker than was forecast in spring. Loans to companies in the real sector were up almost 25% on a year earlier in the third quarter of 2012 and although this rise was largely based on short-term loans that were needed for financing growth in business activity, growth in long-term loans also accelerated in 2012. Long-term loans grew particularly through loans to companies in real estate, infrastructure and logistics while the turnover of loans to manufacturing also increased in the second half of the year.

The growth in loan turnover will slow somewhat from here on as the reference base becomes higher. The forecast expects that the turnover of loans to companies will grow in both 2013 and 2014 by around 13%. This is higher than nominal GDP growth, but a little lower than the growth in corporate investment, as companies will partly finance investment from the increased financial resources and own funds they have built up in recent years, and also partly from loans taken from abroad.

In 2012 the trend has continued for companies to finance their activities and their investments ever more with foreign loans. Loans taken directly from abroad or through parent companies increased in the second quarter by 14.5% year-on-year and accounted for almost one third of total corporate debt.

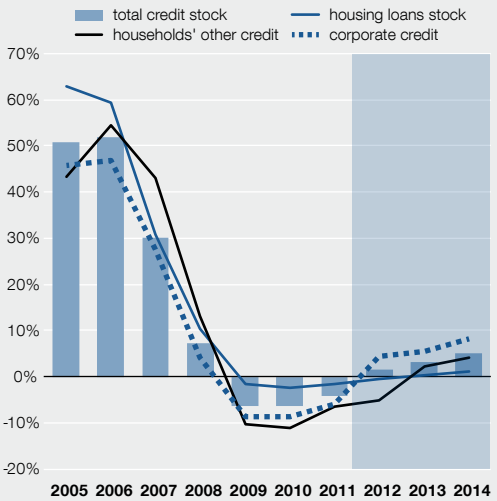
Household borrowing has been stronger than was forecast in spring and has been supported by rising incomes; recovery in the real estate market; and consumer confidence, which has been relatively strong in historical terms. The turnover in housing loans to households increased year-on-year by 23% in the second quarter of

Figure 15. Lending rates



Sources: Eesti Pank, European Central Bank

Figure 16. Credit stock growth



Source: Eesti Pank

2012 and by 12% in the third quarter. The median price per square metre for apartments sold in the third quarter rose by more than 10%. This relatively fast growth came partly from a change in the structure of real estate transactions as better quality and more expensive properties were sold. The rise in prices is expected to slow down again in the coming years. The risk of acceleration in real estate prices cannot, however, be ruled out, as the relatively rapid growth up to now could promote interest in real estate among investors at a time when the number of properties on sale has declined and new real estate development projects will take time to be completed.

The moderate growth in other loans to households of 2.6% year-on-year in the third quarter of 2012 reflects the inherent conservative nature of households. The forecast sees that the rate of other loans to households will grow to some extent under the influence of an improved economic outlook and lower uncertainty, but it will still remain lower than it was during the boom years.

As a large part of the loan turnover comes from the refinancing of earlier loans and the loan portfolio is shrunk by write-offs of non-performing loans as well as by depreciation, the loan stock has grown much less quickly than loan turnover. Even so, the loan stock of the real sector has started to grow gradually since April 2012. At the end of the third quarter it was 0.8% larger than a year earlier. In the next few years the loan stock will grow by 4–5%, which will mainly be due to the increased volume of loans held by companies (see Figure 16).

FORECAST RISKS

The main threats to Estonian economic growth have not changed since the previous forecast; the highest uncertainties are related to the external environment and the recovery in the euro area. The forecast baseline scenario assumes that the euro area economy will start to grow again in the first half of 2013 and that growth will accelerate in the main destination countries for Estonia's exports in the first quarter of 2013.

If structural reforms are not as successful as expected or if fiscal consolidation plans are followed less stringently than prescribed, then the recovery of growth in the euro area could be delayed. So far Estonian companies have managed to make use of their beneficial geographic location and export to countries that have been affected less by the crisis in the euro area. If the crisis lasts longer, then there may be a fall in growth prospects in those countries which have remained strong so far and economic growth in Estonia could be weaker because demand for exports is lower.

The size of the impact of lower than projected external demand on the Estonian economy is considered in the risk scenario, in which the recovery of growth in Estonia's export partners is delayed by half a year. In this case, external demand would grow by 0.8 percentage points less in 2013 and one percentage point less in 2014 than is assumed in the baseline scenario. Simulation of the risk scenario with the Eesti Pank macro-model suggest that a slower recovery in foreign markets would have a major impact on the Estonian economy. The growth rate for Estonian exports would be more than 0.9 percentage points slower in the forecast horizon and Estonian economic growth would be 0.7 points slower in 2013 and 0.6 points slower in 2014 (see Figure 17).

Another indicator of a possible worsening of the outlook for the Estonian economy is the increased wage pressure in the labour market. In the first half of 2012 wages grew faster than labour productivity and wage growth still has not adjusted to the slowdown in GDP and productivity growth that started in the second half of 2011. If the adjustment is delayed or is only partial, the

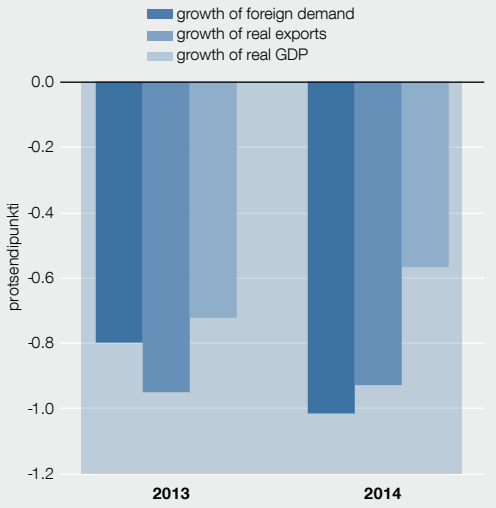
excessively fast wage growth will pass through to prices, and this will then threaten price stability. In this case Estonia's export competitiveness and potential growth would also suffer.

It is quite likely that this risk will materialise as negotiations in 2012 led to decisions to raise wages in several parts of the public sector. These wage rises will be enacted at the beginning of 2013 and will affect the rise in the average wage. Achieving wage growth through strike action, as health workers did, shows there is strong pressure for pay to be raised in one area, but it can also send a signal to workers in other areas. Further pressure for wage rises could lead to labour shortages, as can already be seen to some extent in the construction sector and in IT despite the relatively high level of unemployment.

The harmful effects of excessive wage pressure on economic growth can be illustrated in a scenario where labour costs grow as a ratio of GDP by around 1.5 percentage points from the baseline scenario for 2013. That is around half the rate of growth seen during the boom. The harmful effect of the risk scenario on economic growth appears with a lag, for which reason the forecast is extended by four years. The simulation of the risk scenario by the Eesti Pank macromodel confirms that if the average nominal wage growth departs from labour productivity growth, the nominal payroll per employee will rise at first but the resulting difference starts to shrink sharply in the third year and turns negative over time (see Figure 18).

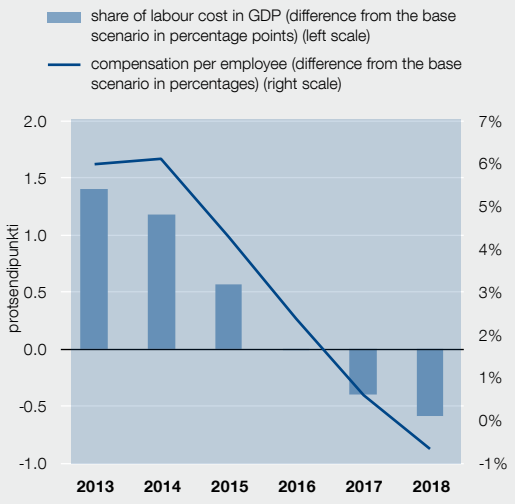
Higher wage costs are passed steadily into production prices and in this way the GDP deflator rises by about two-thirds of the wage increase. The rise in production costs leads to a fall in price competitiveness which will reduce exports from their levels in the baseline scenario, and the contribution of exports to the growth of the economy will be subdued. At first the smaller share of GDP provided by exports will temporarily

Figure 17. Impact of the external demand risk scenario on the growth rates of exports and GDP, difference from the base scenario in percentage points



Source: Eesti Pank

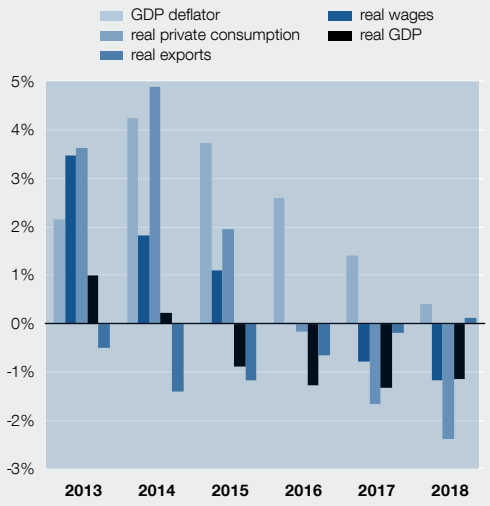
Figure 18. Change in labour cost according to the wage risk scenario



Source: Eesti Pank

be offset by higher income and private consumption, but not permanently. In the third year after the appearance of the wage pressure, GDP is smaller than in the baseline scenario and a year later the same applies to private consumption (see Figure 19). Although a departure of wage growth from fundamental indicators would lead to a better outlook than in the baseline scenario for the next two years, in the long run it would have an inhibiting effect on economic growth and would amplify the business cycle.

Figure 19. Impact of the wage risk scenario on selected economic indicators (difference from the base scenario levels in percentages)



Source: Eesti Pank