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

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Executive editor Kadri Põdra
Design Vincent OÜ
Layout and cover Urmas Raidma
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ECONOMIC FORECAST 2009–2011

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SUMMARY

This forecast is based on information available as at 2 October 2009 and will be published also in the central bank's publication Estonian Economy and Monetary Policy No 2/2009.

The Estonian economy is undergoing a rapid period of change. Estonia's external demand suffered a serious setback due to the global economic crisis, and this, in conjunction with domestic imbalances that emerged during the years of rapid growth, brought along a profound downturn. The volume of the Estonian economy has contracted by nearly 20% compared to its peak and the worst of the recession is over by now. The economy will start to stabilise, but sustained recovery is going to take time.

The resumption of economic activity will be led by the exporting sector and it is going to be uneven across sectors. Thus, the revival of external demand is of vital importance to the Estonian economy. The adoption of the euro is a significant economic policy step to support the economy in several ways. Postponement of the changeover would exert a drag on the recovery of growth.

The prices of goods open to external competition have been faster in reacting to the economic downturn. As a result, the cost of the consumer basket is decreasing. This trend was left unaffected by the raising of the VAT in mid-2009. Monopoly services, such as water supply, sewerage, and public transport, on the other hand, have not started to cheapen. The price level in Estonia will change by just a couple of percentage points in the next years. Domestic factors will contribute to a decline in prices, whereas it will be offset by the raising of tobacco and alcohol excise taxes and growing energy prices. Compared to the EU average, the relative price level in Estonia will decline less in the period of economic contraction than the relative income level.

The severest financial and economic crisis in recent history will have a distinct impact on the development of the global economy. The large scope of the crisis is reflected in the fact that the global economy as a whole is experiencing a downturn this year. Compared to the spring 2009, financial stress in the world has markedly alleviated, but risks related to it have by far not yet withdrawn. However, several forward-looking indicators suggest the steepest recession has already bottomed out. Hopes of a recovery have even caused some upward revision of growth forecasts. At the same time, the crisis period has put an additional strain on the government budgets of most of the countries, which means they will have to economise more in the years to come. Soon it will also be necessary to start pulling back economic stimulus measures. The materialisation of the risks accompanying the listed factors may reduce external demand in the next years.

Although several confidence indicators reflecting economic activity in Estonia have already bottomed out, they have not yet reached levels confirming a definite turn for the better. A precipitous contraction in domestic and external demand has notably reduced corporate profits and to some extent also the wages of employees. Thus, economic activity will be affected by the adjustment to lower incomes. The faster the economic adjustment process is, the more people's confidence in the future will grow. Realignments are still in the pipeline in several sectors, so their impact on economic activity is yet to manifest. Budgets are very tight due to extensive realignments, increasing the vulnerability of enterprises and households. Therefore, there is not enough economic impetus to give rise to a new growth cycle. Serious cutbacks on spending have markedly diminished the dependence of Estonia's economy on foreign capital flows, owing to which the country's current account is in surplus and external debt is decreasing.

The Estonian labour market started to experience more drastic changes around the turn of the year, when first signs of the depth of the current slump appeared. The steep downturn in output and accompanying expenditure cuts strongly reduced labour force demand. However, people's unprecedented pessimism about the near-term outlook started dwindling in summer. Nevertheless, employment will continue declining in the final months of 2009 and also in 2010, but at a considerably slower pace than in the first half of this year. A pickup in the creation of new jobs is likely to start next year.

Based on the autumn forecast, the general government's final consumption (in value terms) will decline both in the second half of this and in the next year. The government has materially consolidated the state budget which had grown rapidly during the years of the economic upswing. The actions taken have mostly curtailed costs but to some extent also increased revenues. However, the budgetary position has also been improved by several measures of temporary effect, thus the need to review the expenditure level and income base prevails. Estonia's small fiscal deficit and low public debt serve as a competitive advantage in the light of rapidly growing public debt in other countries.

Uncertainties regarding further economic developments and future loan losses have not yet shown any signs of abatement, although confidence has already passed its low point. This puts brakes on the revival of the credit market, irrespective of the large capital buffers of the banks operating in Estonia. The more complicated economic situation has added difficulties to enterprises and households in servicing their debt burden. Exceeding their borrowing capacity in the rapid boom years followed by sharply shrinking sales revenues is currently binding the companies. Thus, credit market activity is currently characterised by low demand and enterprises will have to rely more on internal funds while financing their further growth. These are the factors inhibiting the economic growth potential in the next years.

Excessive optimism, which captured economic agents in the years of rapid growth, has been replaced by caution, sometimes even by undue apprehension. This is why a lot of extraordinary economic measures have been applied. Capacity utilisation is at a very low level and the number of the underemployed is higher than ever before, spending is being postponed and investment decisions are frozen. Uncertainty about the temporary and permanent components in these measures is extremely high. The mentioned circumstances may have a considerable impact on the next years' economic developments.

In respect of the external environment, the autumn economic forecast of Eesti Pank relies, as usual, on consensus forecasts. These have become more and more optimistic in recent months. Consequently, the external environment may offer some good news in the near future, but threats related to decreasing macroeconomic stimuli slightly further ahead should not be overlooked. The years of crisis have put a heavy strain on the budgets of several countries, which translates into the need to economise more in the years to come. However, the state of the economy in Estonia will be determined not only by external demand, but also by foreign investors' expectations regarding our economic progress and by the credibility of our economic policy.

EXTERNAL ENVIRONMENT

The severest financial and economic crisis in recent history will no doubt have a deep impact on the development of the global economy. The large scope of the crisis is reflected in the fact that the world economy is in recession this year. The crisis, which originated from the financial sector, passed through to other segments of the economy. Decreasing demand in major economies along with financing difficulties dealt a blow to external

trade. This, in turn, caused a very sharp contraction in production and a decline in employment.

Both governments and central banks have actively intervened to contain and alleviate the crisis. The central banks of several countries have lowered monetary policy rates to record-low levels and provided money and capital markets with ample additional funds. In addition, a series of steps have been taken to reinforce financial stability. Governments have also taken measures to support the economy, in the form of both specific aid programmes and a loosening of fiscal policy.

Several signs give reason to believe the steepest downturn has been left behind (see Figures 1 and 2). The credit market has stabilised, and consumer confidence as well as forward-looking indicators for industry are recovering from the shock. The stocks of the industrial and trading sector have decreased to a level allowing to expect a pick-up in production in the second half of 2009. The most positive developments are taking place in Asian countries, where production and trade demonstrate robust growth. Moreover, the recent economic data of the leading industrial countries show the downswing is coming to a halt and turning into growth.

Since indicators are becoming more positive, growth outlooks for the second half of 2009 and for 2010 have already been revised slightly upwards. For instance, the International Monetary Fund recently raised its forecast for 2010 global growth from 2.5% to 3.1%. Price rises are very subdued in the current global economic situation and several countries are even experiencing price declines. At the same time, extensive stimulus programmes have markedly increased inflationary risks.

Looking beyond the next months' developments, the questions are whether the ongoing improvement reflects the real strength of the economy or just the impact of stimulus packages and how long it will take for the global economy to bounce back to its pre-crisis level. Our forecast rests on the assumption that two-thirds of the contraction in external demand during the crisis will be offset by 2011. Thus the 15% downturn recorded at the end of 2008 will be followed by an upswing of 12% in the course of more than two years starting from autumn 2009. Although economic results

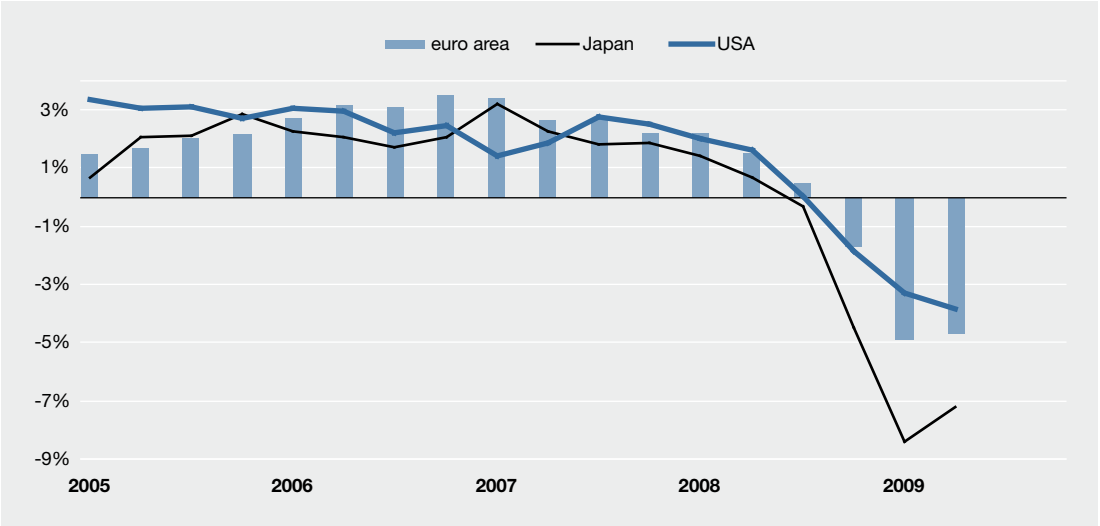

Figure 1. Annual GDP growth

Source: Ecowin

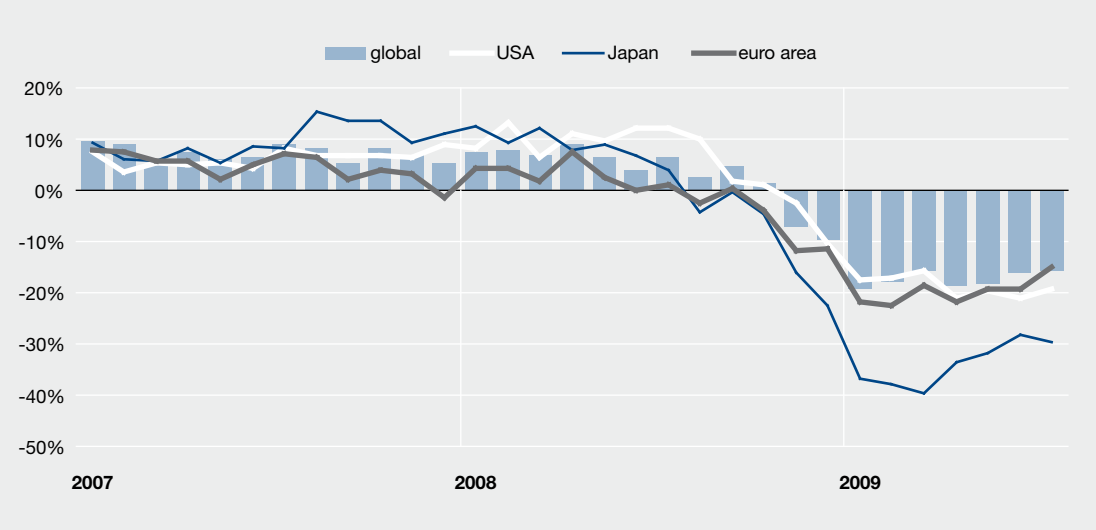

Figure 2. Real export growth

Source: CPB

in the second half of this and at the start of the next year may turn out to be better than anticipated at the peak of pessimism, there are several potential obstacles on the road to sustained and rapid economic growth. These are primarily related to the economic and financial sector support measures currently in play. Unprecedentedly sizable and large-scale state stimulus packages have helped avoid even steeper global recession, but their downside is the very rapid increase in the countries' fiscal deficits and debt burdens. Thus, the price to be paid for the current strengthening of economic confidence lies in either cuts in future national budgets or growing tax burdens. Although current assessments show that interest rates will stay at low levels for some more time, the discontinuation of fiscal stimulus packages and focusing on fiscal balance and on curbing the debt burden actually translate into reducing economic policy support.

Consequently, the main question is whether the global economy is strong enough to continue its expansion also without help from governments. Despite the near-term outlook being optimistic, there is the threat that the initial speedy recovery will be followed by a period of relatively slow growth and the volume of the economy will remain below pre-crisis levels for several years. In addition, it is obvious recuperation from the recession will not be as simultaneous across countries as the setout of the crisis.

Owing to close monetary and economic integration, economic developments in Estonia will be mostly dependent on Europe, especially on the Nordic countries. The latter have also undergone a profound downswing, but their economic policy has reacted swiftly and their outlooks for 2010 have been revised slightly upwards compared to assessments made at the start of the summer. In order for export demand to resume in Estonia, demand should increase in the Nordic countries' export markets. Since our southern neighbours have experienced a more profound recession than expected, they will not be of much support to Estonia's foreign demand in the near future. The chief preconditions for the revival of growth are reliable economic policy and flexible economy.

Assumptions regarding interest rates in this forecast rest on the consensus forecast. According to

that, we have assumed that the six-month Euribor will not change much in the next year, but it will increase by a few tenths of a per cent in 2011. Food prices are also not expected to change this year, but they will rise by some 2% in both 2010 and 2011. The US dollar exchange rate should remain at around the level recorded in the third quarter of this year over the same period on average.

BASE FORECAST SCENARIO

Economic growth

Estonia lapsed into recession in 2008 and the volume of the economy is down about a fifth from the peak of 2007. The volume of the economy contracted by a tenth in the first half of 2009, and taking into account the downturn of the second half of 2008, the volume of GDP has shrunk by some 16%. The downturn was primarily caused by a decline in external demand due to the global crisis, and by domestic imbalances that emerged in the previous rapid growth years.

In the spring forecast we expected the economic cycle to turn[1] in the second half of 2009, and according to the base scenario of the autumn forecast, it is likely to occur towards the end of the year. The several-year-long period when output per employee was decreasing is expected to come to an end at around the same time. All in all, 2009 is a year of sharp income declines, 2010 will see stabilisation, and growth will resume not earlier than in 2011 (see Figure 3).

The assumption of the revival of external demand plays a substantial role here. The adoption of the euro is also of crucial importance, since it will support economic expansion via various channels, the most relevant of them being the revival of investment activity. This economic policy step will contribute to the pick-up in growth primarily in 2011, but will have only limited impact in 2010.

Even though several confidence indicators ref-lect that the decline in economic activity in Estonia has already bottomed out, they have not yet reached levels translating into a definite turn for the better (see Figure 4).

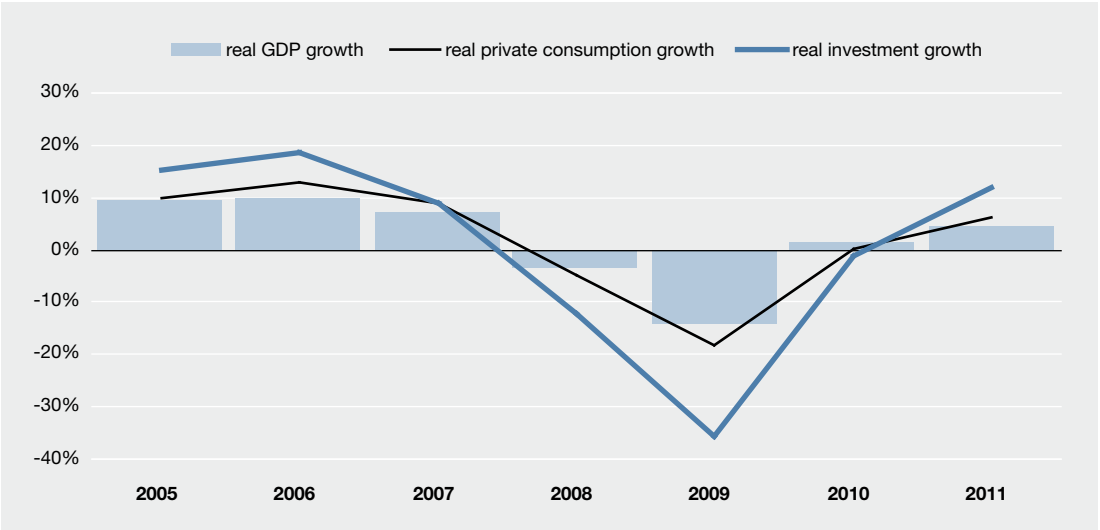

Figure 3. Real GDP growth

Sources: Statistics Estonia, Eesti Pank

[1] By turning we mean the resumption of quarterly growth.

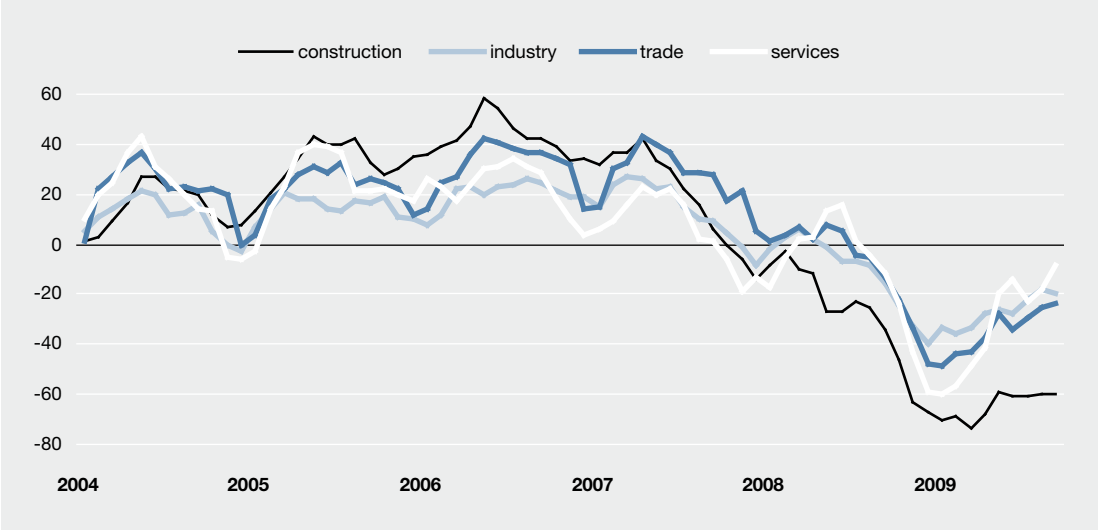

Figure 4. Confidence indicators

Source: Estonian Institute of Economic Research

However, these indicators suggest that the economic outlook will no longer deteriorate, at least not considerably. Irrespective of the first signs of a recovery, consumers continue to be uncertain and cautious in their consumption decisions. As a result, insufficient demand is the main factor preventing economic activity from picking up. Nevertheless, the current situation and outlook differ across fields of activity. The level of industrial capacity utilisation has stopped falling and stands below 60%, whereas the indicator was above 80% in the years of rapid growth. In addition, the share of manufacturing companies declaring the need to cut jobs in the next months is declining and the outlook for receiving new export orders is on the mend. At the same time, the amount of enterprises still intending to cut their workforce is growing in the sectors that are more domestic demand oriented, such as services, retail trade and construction. Unfinished construction objects and concluded contracts provide the construction sector with work for only slightly longer than two months, which is reflected by the historic lows of this confidence indicator. Thus, it can be concluded that pessimism in the economy has somewhat alleviated, but it is likely not all enterprises have been equally successful in the post-shock adjustment process. The more restructuring progresses, the more gains in economic confidence it will bring.

Estonia has plenty of underutilised capacity as a result of the negative demand shock. Earlier capital investments would thus enable rapid economic growth in a rather short time. Current estimates show the GDP gap is very wide, but it will shrink notably over the forecast horizon due to the reorganisation and bankruptcies of companies. Box 1 (p. 32) provides a more thorough overview of potential economic growth. In order to reduce underutilised capacity, enterprises are willing to sell their products at close to or even below break-even in order to at least partly cover their fixed costs. For this reason and also because of the decline in wages, the GDP deflator is expected to fall in 2010.

Consumer confidence must continue to improve in both Estonia and abroad to ensure sustainable growth. The resumption of economic activity will be led by the exporting sector, but it is going to be uneven across sectors. The sectors that used more financial leverage in the rapid growth years

will have to endure a more protracted trough. This concerns most of all sectors where sales volumes have to be larger than expected in business plans in order to service the debt burden (real estate related activity, services). Although deleveraging is necessary, it will limit new business projects of companies, thus constraining economic growth. Near-term economic developments are also strongly impacted by the banking sector's ability to provide the necessary financing. In order to lead the economy to a sustainable growth path, the exporting sector will need a strong loan support when external demand recovers.

A lot of resources were channelled to domestic demand related fields of activity in the years of rapid economic expansion, weakening the long-term growth potential. These resources are becoming available again in the current downswing, helping to realign the supply structure with demand. When economic activity resumes, underemployment will decrease to start with. In more distant future, the most of jobs will be created by the sectors servicing external demand.

The majority of the Estonian economy is closely integrated in the supply chain of the companies of our most relevant trading partners (Finland and Sweden), and a considerable share of Estonia's external trade is intra-industry trade (see Box 2 p. 34). Thus, the competitiveness of our external trade is largely dependent on the ability of these countries to compete in external markets. Looking further ahead, Estonia has several competitive edges compared with Finland and Sweden. These are mostly based on the lower wage and price level and enable Estonia to expand faster once the recession is over. The adoption of the euro will speed up this process. The supply structure should become more technology and knowledge intensive to ensure growth and bring the income level into line with that of advanced European economies.

Table 1. Economic forecast by key indicators

	2005	2006	2007	2008	2009	2010	2011	Difference from previous forecast 2009	2010	2011
GDP (EEK bn)	175.0	207.0	244.5	251.5	214.0	211.8	224.2	0.1	8.0	10.3
Real GDP growth (%)	9.4	10.0	7.2	-3.6	-14.2	1.4	4.7	-1.9	1.2	-0.1
HICP (%)	4.1	4.4	6.7	10.6	0.1	-0.4	1.7	0.5	2.5	2.5
GDP deflator (%)	5.5	7.6	10.2	6.7	-0.8	-2.4	1.1	2.3	1.0	-0.7
Current account (% of GDP)	-10.0	-16.9	-17.8	-9.4	6.3	0.4	-5.3	3.6	2.2	-0.4
Current account plus capital account balance (% of GDP)	-9.2	-14.8	-16.7	-7.5	8.4	3.4	-2.3	3.6	1.3	-1.1
Real private consumption growth (% of GDP)	9.9	13.0	9.1	-4.8	-18.2	0.1	6.1	-8.7	1.8	1.4
Real government consumption growth (%)	-0.2	3.5	3.7	4.1	-5.1	-1.3	-1.1	3.9	3.0	-5.1
Real investment growth (%)	15.4	18.5	9.0	-12.1	-35.6	-1.1	11.8	-6.1	-11.5	1.9
Real export growth (%)	18.6	14.0	0.0	-0.7	-12.0	5.2	10.3	15.6	-9.6	-7.9
Real import growth (%)	17.5	22.9	4.7	-8.7	-28.0	8.3	17.8	6.3	-10.2	-1.6
Unemployment (%)	7.9	5.9	4.7	5.5	14.5	16.6	14.3	1.7	2.9	1.9
Employment growth (%)	2.0	6.4	1.4	0.2	-10.1	-3.3	2.3	-4.9	-1.3	2.2
GDP growth per full-time employee (%)	9.4	5.6	7.1	-4.6	-13.6	2.4	5.1	-3.0	-2.0	-0.6
Real wage growth (%)	7.5	10.4	12.0	4.3	-4.3	-4.1	0.5	0.4	-0.9	-3.2
Average gross wage growth (%)	11.4	16.2	20.4	13.8	-4.7	-4.4	2.0	0.5	1.3	-0.9
Nominal money supply growth (%)	42.0	28.2	13.4	5.5	-0.9	1.9	2.6	7.6	4.1	-1.0
Nominal credit growth (%)	50.4	51.6	30.2	7.3	-6.3	-0.1	3.1	1.2	0.4	-1.8
External debt (% of GDP)	85.4	96.8	109.8	118.5	127.2	129.3	108.8	-6.2	-12.8	-15.1
Budget balance (% of GDP)	1.6	2.3	2.6	-2.8	-3.0	-2.8	-1.5	0.0	0.1	1.1

Sources: Statistics Estonia, Eurostat, Eesti Pank

Domestic demand

Due to earlier years' low level of domestic saving, a sharp slowdown in capital inflow and high uncertainty forced households and enterprises to respond to the income decline of the second half of 2008 by a sharp cut in their expenditure. The process has gained momentum this year with the year-on-year shrinkage in domestic demand amounting to nearly 30% in the second quarter of 2009. The contraction was still below 5% at the start of 2008, but dipped to 20% by the end of the year (see Figure 5).

The termination of the credit-driven growth period plays a significant role in the downswing of domestic demand. Credit volume growth accounted for nearly a third of the domestic demand volume in the years of rapid expansion, but the tide has turned and more loans will be paid back than issued both this and the next year. On the other hand, the sharp collapse in export income as from end-2008 is also affecting our small and open economy.

Curbing expenditure had not yet been finished by mid-2009. Several factors show that some adjustment in domestic demand is still ahead. For instance, the government has adopted the second supplementary budget, which prescribes cuts in public sector expenditure in the second half of the year. In addition, unemployment insurance payments will terminate from mid-2009 to mid-2010 for a total of 35–45 thousand people – a development which may bring along an additional decline in household spending.

Private consumption

Households have adopted a strict savings regime compared to a couple of years ago. The current consumption volume is therefore nearly a quarter down from its peak. The decline amounted to 20% in the second quarter relative to the same period a year ago. Inflation exceeded 10% in 2008, contributing, along with growing expenses, to the uncertainty of households. Confidence suffered an additional setback at the end of 2008 by the fear of rising unemployment resulting from the global crisis, compelling households to be very cautious in their consumption expenditure. The turnover of

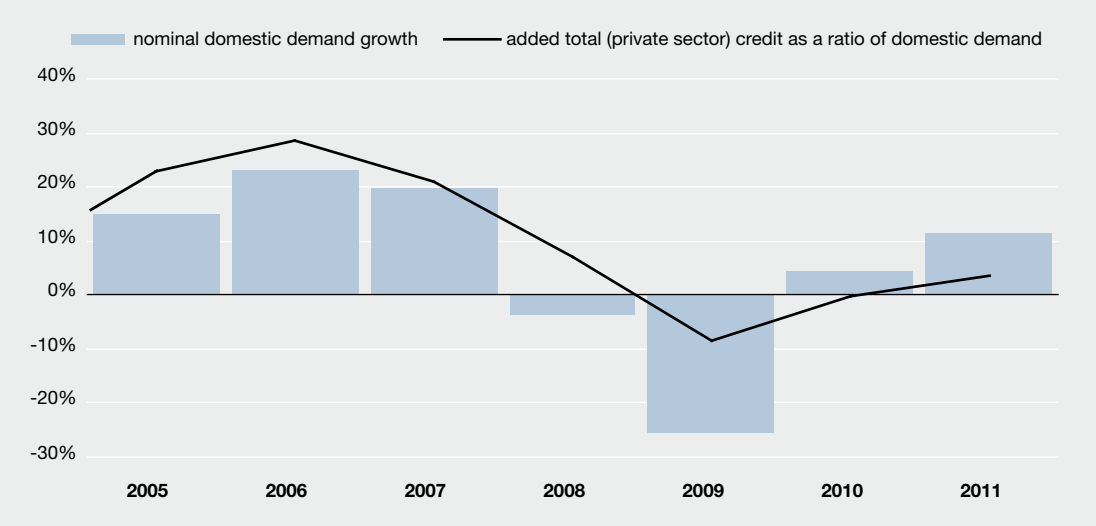

Figure 5. Domestic demand

Source: Statistics Estonia, Eesti Pank

consumer credit has subsided by slightly less than 50% compared to its earlier highs.

Although the disposable income of households increased by almost a tenth in value terms in 2008, the level of real income remained unchanged on 2007. This year's disposable income will be some 15% smaller on the previous year in both value and volume terms. This is chiefly caused by a decrease in jobs, and to a smaller extent, by the reduction of wages. The average pension, on the other hand, is even higher than a year ago, but this will not be able to compensate for the shrinkage in other disposable income components. The rise in the unemployment insurance tax rate as from June and August 2009 decreased, *ceteris paribus*, the disposable income of employees by 2.2%. This was counterbalanced by the suspension of second-pillar pension contributions, which added an estimated 2% to the wage income. The rise in the unemployment tax rate, which was based on the solidarity principle, diminished the income of the employed, distributing it to people that had lost their job. The suspension of the second-pillar pension contributions provided people with the possibility to increase their current consumption on account of future consumption. The decline in disposable income will be less extensive in 2010, amounting to some 2%. The main factors paving way for the reduction are the decline in wages and contracting employment, but social benefits will be paid out in the amount comparable to this year.

Household confidence started to gain strength in summer, irrespective of the shrinkage in income. It is sure to start backing up the revival of private consumption far before reduction in disposable income ends. The faster the economic adjustment process takes place, the more people's confidence in the future will grow. It is likely that first of all, precautionary savings will start to dwindle. The adoption of the euro will stimulate the growth of consumption expenditure mostly through improved economic confidence. There is considerable room for growth as regards the consumption of various durable goods, which has hit a low for the time being. However, the contribution of durable goods to growth will remain modest in near future.

Private consumption will contract by nearly 18% in 2009. The contraction will come to a halt in 2010, and growth will resume not before 2011 (see Figure 6).

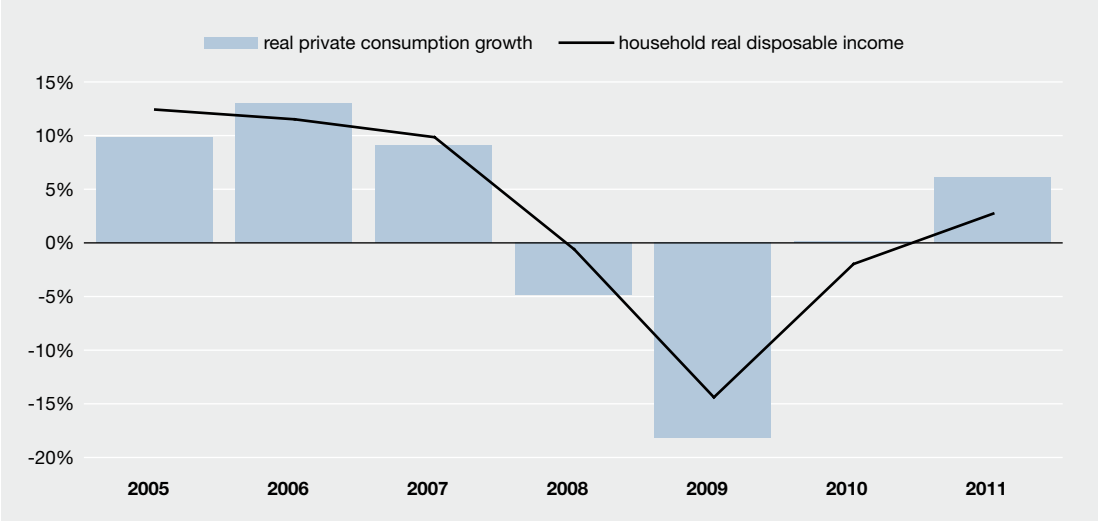

Figure 6. Growth in real private consumption and household real disposable income

Sources: Statistics Estonia, Eesti Pank

Investment

Shrinkage in investment as a response to the deteriorating economic situation has been accelerating since mid-2008 (see Figure 7). According to short-term financial statistics on enterprises, companies' second-quarter investment amounted to 5.4 billion kroons, which is almost a third less on the first quarter and some 50% less relative to the investment volumes of the rapid expansion years.

Investment in national accounts terms subsided slightly less in the second quarter, amounting to 40% year-on-year. The share of investment in GDP has shrunk to nearly 20%, being still higher than in many advanced economies. Moreover, government investment has soared to account for 5% of GDP.

In the second quarter of this year, expenditure on fixed capital in enterprises has dipped the most in respect of the acquisition of machinery and equipment and of the construction and renovation of buildings and facilities, which is in line with the excessive capacity underutilisation (see Figure 8). At the same time, increasing expenditure on buying land shows that companies have expanded the share of land in their asset portfolios. The investment made right now is mostly related to the maintenance and rearranging of the existing machinery pools.

In the case of a large production capacity surplus, investment will not play a key role in the first stage of helping the economy back to the growth track. Enterprises are currently lacking both economic and financial impetus to launch a new, capital investment based growth cycle. However, in order to ensure sustainable economic expansion, capital base reinforcement will become inevitable in the next years.

In order to ease the recent years' very high financial leveraging, enterprises will have to rely more on internal funds while financing their further growth. However, the ratio of short-term financial liabilities to sales revenue has notably increased, which means that relatively more funds need to be spent to meet obligations. This leaves less available resources for both replacement and new investment, keeping the growth potential at a low level in the next years.

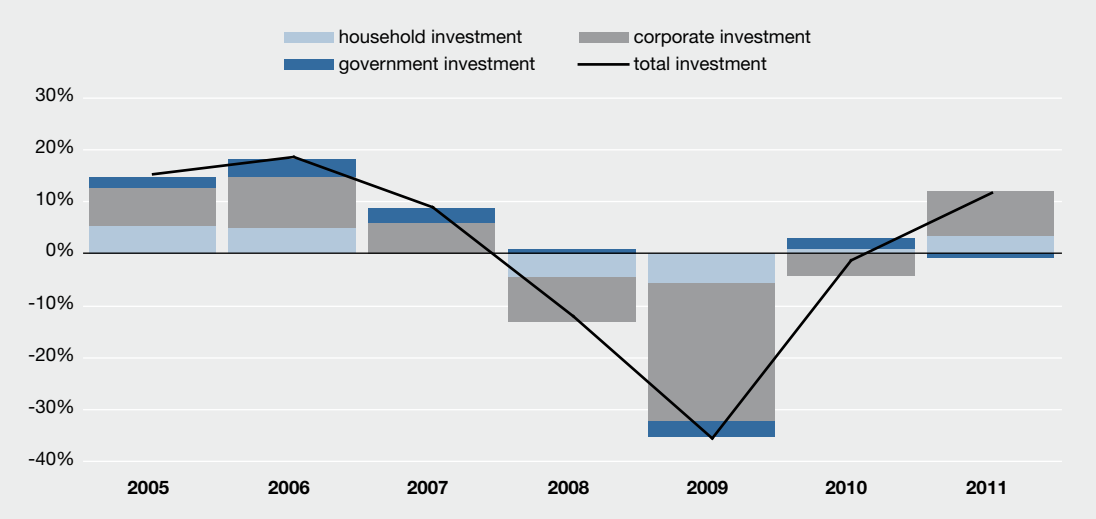

Figure 7. Nominal growth and structure of investment

Sources: Statistics Estonia, Eesti Pank

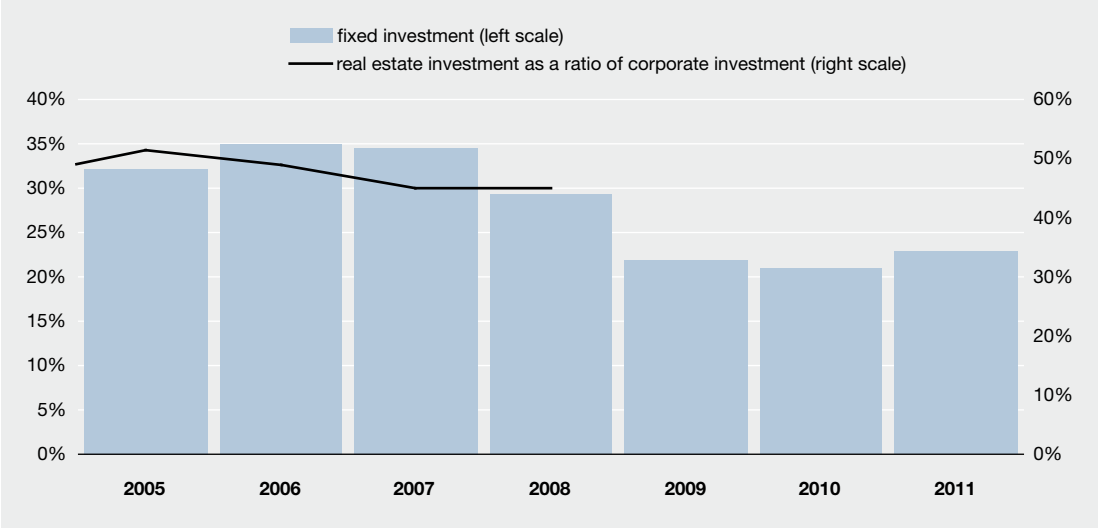

Figure 8. Investment as a ratio of GDP

Sources: Statistics Estonia, Eesti Pank

The adoption of the euro, on the other hand, will support investment activity and thus also the economic growth potential, since loan margins will drop and expectations will improve. The inflow of foreign direct investment will also step up. Asset prices are very likely to be the first to react to the changeover decision and the real estate market is expected to enliven.

Stocks

The volume of stocks in the Estonian economy reached its peak in the middle of 2008, when its value amounted to 75 billion kroons according to corporate statistics. By mid-2009, stocks had shrunk by nearly a quarter, i.e., by 20 billion kroons. Looking at sales volumes, the ratio of stocks to the sales turnover has decreased year-on-year, but stands nevertheless much higher than in pre-boom years. In the period of 2001–2006, the ratio of stocks to the sales turnover accounted for an average of 34% as opposed to 41% in the second quarter of this year. The stocks of retail and wholesale trade make up nearly a half of the total stocks, a quarter belongs to the manufacturing sector and slightly more than 10% to construction and real estate activities. Compared to pre-boom years, the ratio of stocks to sales revenue is dramatically larger in the field of real estate activities.

If stocks continue to shrink at the current speed, it may take a couple of quarters until they reach the pre-boom level. Alcohol and tobacco stocks are likely to be accumulated already towards the end of this year, because excise duties on these products will increase at the start of 2010. In our spring forecast we expected stocks to continue decreasing also in 2011. The autumn forecast shows that stocks will again start to contribute to growth in 2010, though not very substantially.

External balance and external debt

Current account deficit has been for years one of the indicators for Estonia's economic vulnerability. This was caused by high investment activity accompanied by overly optimistic future expectations. The global crisis, which crippled the world economy last autumn, and the ensuing drop in investment in Estonia have markedly narrowed the country's current account deficit. As a result, there is less need to include foreign capital.

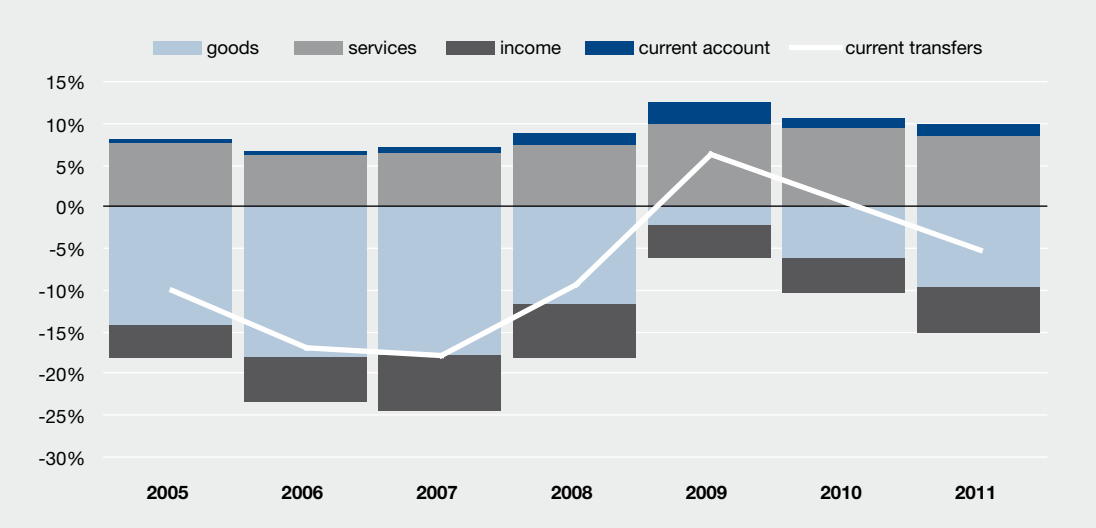

Figure 9. Current account components (% of GDP)

Source: Eesti Pank

The deficit has turned into a surplus within the first two quarters of 2009, and it amounted to 4.9% of GDP already in the second quarter (see Figure 9).

When the crisis hit, the excessive optimism of economic agents was replaced by wariness and sometimes even by undue apprehension. The sharp drop in investment and consumption was immediately reflected in external balance indicators. The current account surplus can be interpreted in two ways: first of all, the positive impact is that the vulnerability of the economy will diminish, and this is especially important in a crisis situation, when regular external financing may be hindered. But second of all, the rapidly improved current account refers to fundamental changes in behaviour. Households and enterprises no longer dare to borrow as much and foreign investors are not in a hurry to compensate for it by direct investment, either. If such risk aversion will not change in the future, it may hinder the restoration of investment activity.

A more detailed current account analysis shows that the goods and services account plays an important role in the current account improvement. The goods and services account has posted surpluses since the start of the year and one of the reasons has been the more rapid decline in imports compared to exports. This means domestic demand in Estonia contracted even more than external demand. This is mainly reflected in a decrease in the goods account deficit. Since domestic demand is not expected to revive any time soon, the low in retail trade caused by domestic demand as a result of high uncertainty will persist also in the coming years. The behaviour of consumers is mostly determined by developments in the labour market, where rapidly decreasing employment and shrinking wages have brought along a drop in disposable income and a rise in uncertainty. This was somewhat alleviated by declining consumer prices and by first signs of a recovery in some countries, but the impact of the positive developments is still weak. Speaking about the near future, with economic and labour market indicators stabilising, the current account surplus will decrease in 2010 and turn into a deficit in 2011.

Estonia's exports underwent the steepest contraction at end-2008. Export volumes have been

largely at the same level since January 2009. Transit goods (mineral fuels, means of transport and machinery and equipment) have experienced the biggest shrinkage. Mineral fuels account for a large part of exports. Their share in total exports has been around 15–20% on average. The share was even as large as 27% in June, when fuel exports hiked month-on-month. A lot of it can be referred to as re-exports. The trade in mineral fuels is strongly affected by oil price fluctuations in the global market.

Excluding mineral fuels, the year-on-year contraction in exports has been about 25–30% over the past half a year. News is slightly more positive as regards core exports[1], where indicators for the summer months refer to a less pronounced fall. This is mostly the result of the improvement in electricity, metal products, food, and paper products exports in June and July.

It is difficult to provide an assessment to competitiveness in the financial crisis. Companies' assessment of their own competitiveness in external markets dropped the most at the start e year, when the biggest changes had just taken place, but pessimism had not yet started to withdraw. The beginning of 2009 was the first time since 2002 when enterprises' aggregate assessment of their competitiveness in the EU markets was negative. Manufacturing companies have observed first signs of an improvement only in the third quarter of this year. This does not directly refer to strengthening competitiveness, but shows that pessimism is abating. Events in the world economy have affected also exchange rates and lowered export prices. This may have a favourable impact on Estonia's competitiveness, since export demand is on the increase.

Another factor that has been widening the current account deficit is the income account. The past year's developments in money and capital markets and their pass-through to the real economy have nevertheless also lowered income. According to Eesti Pank's forecast, income will decrease by nearly twice, mainly due to the declining productivity of direct investment made in Estonia. Return on investment is anticipated to resume growth only in 2011, when the entire economy will have reached a certain level of adjustment and direct investment in Estonia will have started to increase. The crisis has affected also the neighbouring countries where Estonians have found employment in recent years, thus the labour income account balance has decreased. Real estate sector activity has subsided in both Finland and Sweden and they have started to prefer domestic labour force to foreign one. The labour income account is expected to resume growth not earlier than in 2011.

1.7 billion kroons have entered the Estonian economy this year in the form of current transfers. This is considerably more than in 2008. The growth is primarily related to larger-than-anticipated external financing income and expenditure. In addition, the deadline for using the previous financing perspective's external grants from the EU budget is about to end, which has brought about more active usage of these resources. Although the surplus of the current transfers account will contract in the next two years, the capital account, which also records external grants from the EU budget, will increase. This is because of different principles of allocating structural funds.

Weakening consumption and curtailed investment is easing the pace of external debt growth, which has turned into a decline in 2009. This is mostly related to decreasing loan stocks of credit institutions and intra-group direct investment due to depreciation of loans and a drop in credit demand. The share of the government sector in external debt is expected to increase in the next years

[2] Exports containing more than 50% of value added.

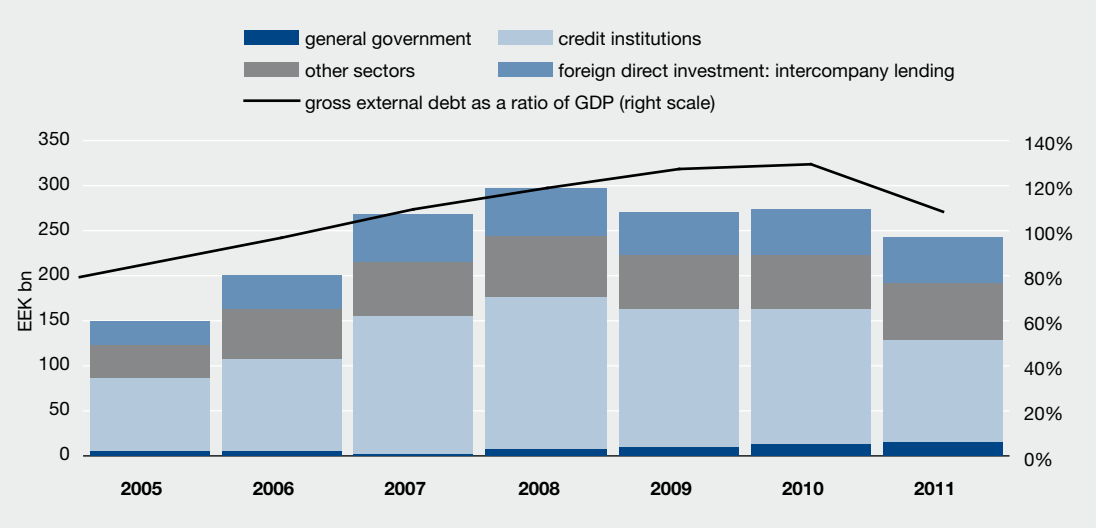

Figure 10. External debt components

Source: Eesti Pank

because of the planned loan from the European Investment Bank, but the share of the general government debt in the total external debt is just 4–5% (see Figure 10). When Estonia accedes to the euro area, the external debt of the banks operating in Estonia will decrease owing to the lowering of the reserve requirement.

Labour market

The global financial crisis has created the need for labour market adjustment in most of the countries. The labour market plays one of the key roles in the process of adjusting to the changed economic environment also in the case of a fixed exchange rate system. In a recession this generally means increasing unemployment and decreasing wages, although the labour market actually reacts via several channels. More vigorous changes in the Estonian labour market emerged around the turn of the year, when first signs of the depth of the current shock appeared.

Employment

The steep downturn in output and accompanying expenditure cuts have strongly reduced labour force demand. Compared to the peak recorded in the second half of 2008, the number of jobs has dropped by nearly 80 thousand, i.e., by 12%. In order to curb costs, many companies have implemented more flexible forms of work, such as layoffs and part-time employment, as an extraordinary measure. The most extensive changes have taken place in construction, which has suffered a major setback, and manufacturing, where second-quarter employment was down by 35.3% and 21.3%, respectively, year-on-year. In addition, working hours per employee in these sectors decreased by 5.2% and 6.5%, respectively, over the same period, whereas the number of working hours in the economy as a whole was 4% lower.

However, people's unprecedented pessimism in the near-future outlooks started dwindling in summer. Nevertheless, employment will continue declining in the final months of 2009 and also in 2010, but at a considerably slower pace than in the first half of this year. According to the forecast, the number of the employed will amount to 570–575 thousand by end-2009. Large oversupply and high debt burden in both construction and real estate development do not give hope

of a rapid recovery of construction volumes. The same stands for demand for the goods of the services and the trading sector. Thus, employment will in future decrease mostly on account of these sectors. The situation is somewhat different in manufacturing – since confidence is improving in external markets, output is growing in Estonia as well, bringing along a decline in underemployment to start with, followed by an increase in the number of the employed. A pickup in the creation of new jobs is likely to start next year. According to the autumn forecast, if external demand resumes, the number of the employed may rise by 10–15 thousand by end-2011.

Considering the current market situation, employment is shaped chiefly by supply-side factors. Demographic trends will also start affecting labour supply in the next years, since more people will retire than enter the labour market from amongst the young. The number of those of working age will drop especially fast in the age group of 15–24-year-olds. The recent years' vast number of graduates has already entered the labour market.

Unemployment

Unemployment has hiked notably as a result of diminishing labour demand and the number of new jobs has also sharply decreased. The number of vacancies intermediated by the Labour Market Board is several times lower compared to the years of rapid growth (see Figure 11). Whereas employment in Estonia was above and unemployment below the EU average even in mid-2008, the unemployment rate started increasing rapidly once the country entered the downward cycle and doubled from 4% in the middle of last year to 7.6% by end-2008. The robust decline in jobs continued in the first months of 2009 and peaked in March, when 12 thousand newly unemployed were registered. Unemployment doubled again in the second quarter relative to half a year ago, amounting to 92 thousand, i.e., to 13.5%. At the same time, a part of the discouraged has probably returned to the labour market and contrary to expectations, people that have lost their job have not joined the group of the economically inactive. In the spring forecast we considered it possible that those of the inactive (the young and older people) who had entered the labour market in the rapid growth years would stop looking for

Figure 11. Employment and unemployment

Sources: Statistics Estonia, Eesti Pank

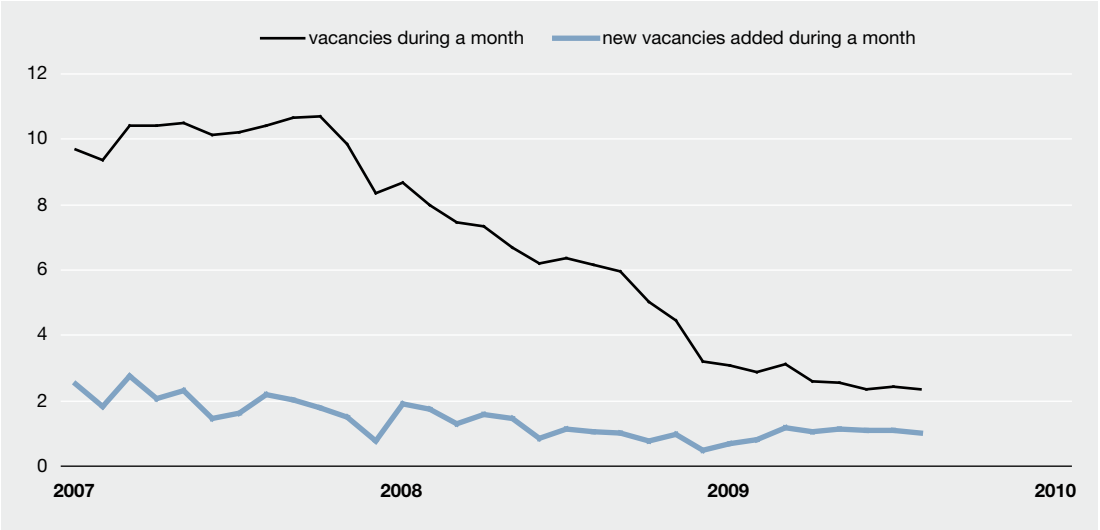

Figure 12. Vacancies

Source: Unemployment Insurance Fund

work and become inactive again. But the contrary has happened – people have actively started to register for unemployment to receive more social guarantees, participate in retraining and apply for various benefits.

Unemployment growth inhibited at the onset of the third quarter, because the summer season temporarily boosted labour force demand. On the other hand, amendments to the Labour Contracts Act entered into force in July, providing employers with the incentive to delay the dismissal of employees in spring. As a result, registration for unemployment slowed in July and August, but picked up again in September.

Unemployment will continue to increase somewhat in 2010 and amount to approximately 17%, but the growth rate will be much slower than this year (see Figure 12). The unemployment level will remain high in the next years and as a result, mostly the young and the retired may become economically inactive. Migration may also affect unemployment, even though finding a job abroad is no longer as easy as before. If the economic growth of our main trading partners recovers, it is possible migration to these countries will substantially hike up.

Wages and labour costs

The average monthly wages stated to decline somewhat later than employment and has now reached 6–8% year-on-year. Wage growth slowed sharply at the end of 2008, since poor economic results constrained markedly bonuses. By now, many companies have downsized not only bonuses but also basic wages. However, the decrease in the average hourly wages has been notably smaller than in the average monthly wages. Since enterprises have been using temporary layoffs and vacations with partial pay, the share of the remuneration for the time worked has dropped in the average monthly wages and the slight increase in the pay for the time not worked has been unable to offset the decline.

The rapid wage growth of recent years has, in addition to the strong demand shock, been an additional factor behind the current robust curtailment of labour costs. Whereas the share of labour costs accounted for some 11% of com-

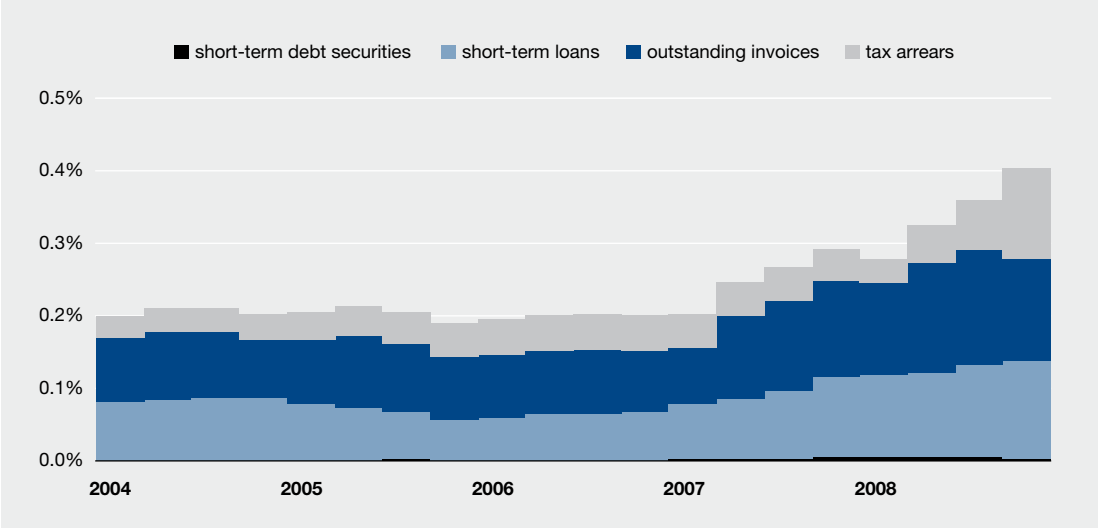

Figure 13. Short-term financial liabilities of companies as a ratio of four-quarter sales revenue

Source: Eesti Pank

panies' sales revenue in the pre-boom years, the indicator has climbed to 13% in recent years. At the same time, the financial account shows the short-term liabilities of enterprises as a ratio to sales revenue stand at approximately 35%. This indicator has surged over the past year to concern almost the entire wage fund. Consequently, the meeting of liabilities may continue to exert downward pressure on wages. Even though companies have drastically cut their labour costs, the share of labour costs in the sales revenue has not decreased (see Figure 13).

Wage pressures arising from the large number of the unemployed is another issue. Compared to the employed, many unemployed people would be willing to do the same work for considerably lower pay. Eesti Pank's survey shows, however, that companies do not make very active use of the possibility to hire new employees for smaller wages. According to the autumn forecast, nominal wages should decrease by an average of about 5%, and the decline will be replaced by stabilisation in 2011 (see Figure 14).

Prices

Estonia's price level is for the most part affected by foreign prices, but domestic factors also play a considerable role here. The price level increased by more than 10% in 2008, but the rise came to a halt in the first half of this year and prices have been falling year-on-year since May. The main driver behind the recent price decline has been the cheapening of food and energy in the global market. Since the local manufacturing sector is a price taker in foreign markets, it has followed a downward trend. As a result, the goods export deflator dipped by 13.1% in the first half-year. The consumer basket was 1% cheaper in the third quarter than a year ago.

But prices that are more affected by administrative measures are characterised by extensive downward rigidity. Most of monopoly goods and services, such as water supply, sewage, public transport, etc., have so far not cheapened. The third quarter of this year started with a rise in VAT. The VAT rate increased from 18% to 20% in July.

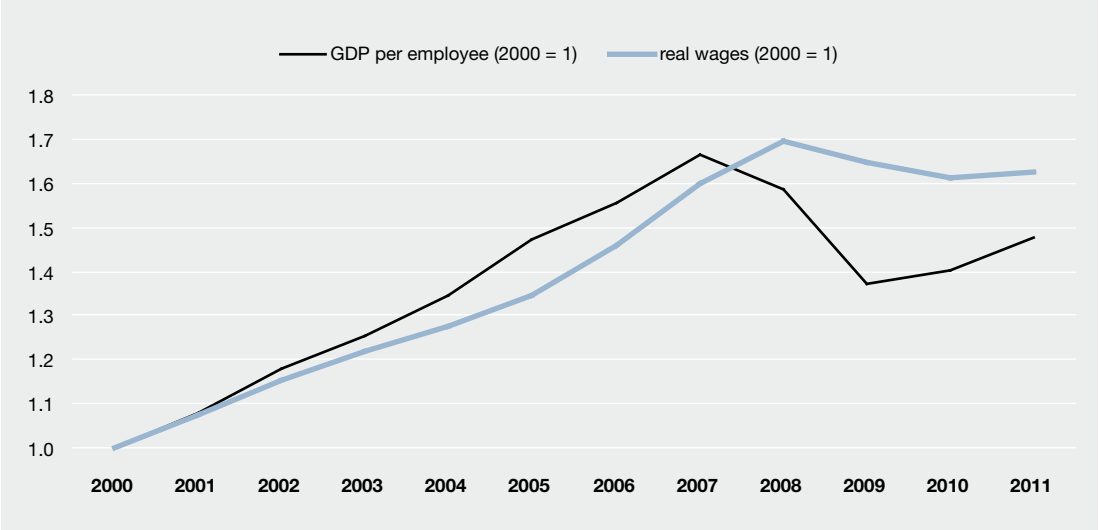

Figure 14. Real wages and productivity

Sources: Statistics Estonia, Eesti Pank

Companies passed a half of it through to consumer prices in the same month.

In the first part of the forecast horizon, price decreases will be caused mainly by domestic factors, because the GDP volume will stay far below the potential level that could be reached in the case of full employment. The downward pressure on prices will be largely dependent on whether the available production resources are utilised or not. Compared to the EU average, the relative price level in Estonia will decline less in the period of economic contraction than the relative income level.

The annual consumer price growth will fluctuate a lot in the next years. Prices are likely to fall until the end of 2009, but the annual consumer price inflation will revert to positive in the first half of the next year, when the price rise of energy and new tax increases will be the main drivers behind inflation. Domestic factors will start dominating in the second half of the year and the cost of the consumer basket will drop by 0.4% as the annual average. The high volatility of oil prices, which depend to a great extent on global economic developments, constitutes the main risk to the inflation forecast. The impact of large stocks and excess capacity on prices is also a threat. Estonia is still set to meet the Maastricht inflation criterion either in October or November 2009.

Price expectations

The price decline expectations of companies have been gradually alleviating since the start of the year, but they have started to emerge again in recent months. According to the survey of the Estonian Institute of Economic Research, the price expectations balance of the Estonian manufacturing companies dropped to –8% by September. This shows that the share of companies anticipating a decline in prices outstrips the number of enterprises expecting prices to pick up. The balance amounted to –30% in the first quarter. It is likely the prices of services are yet to experience a faster adjustment, as the September balance stood at –23%. The price expectations of retailers underwent a one-off jump in July as a result of the rise in VAT and stabilised then at a level close to zero.

Administrative factors

At the start of the summer the government decided to raise tax rates, which caused a one-off increase in the cost of the consumer basket but did not affect the longer-term price decline trend. The consumer basket was 0.9% more expensive in July. This was primarily caused by the rise in the VAT rate from 18% to 20%. The impact of the larger VAT on price advances could be observed also in August, but to a lesser extent. Since not all companies adjusted their prices, the distributional effects of the tax rate increase on consumers and enterprises were almost equal. The government also increased the fuel excise duty, so motor fuel prices grew by some 6%. Tax hikes in total will raise the price level by up to 0.5–0.8 pp this year and by more than 1 pp next year, when additional excise duty rises take effect.

Food, alcohol, and tobacco

The global-market prices of raw food dropped by the start of this year, reaching a level comparable to the first half of 2007. Thereafter they went up by nearly 15%. Sugar prices rose the most (91%), but the price advance was smaller for EU consumers. The cost of processed food in the forecast horizon will be strongly determined by cereal prices, which stand at a very low level according to the derivatives market. Data from the first eight months of the year show that dairy products continued to cheapen month-on-month in both Estonia and the EU. The buying-in prices of crude milk in the single market have decreased by almost 30% on August 2008. The price level of several other food groups (e.g., meat products) has not changed much in the EU over the year.

In Estonia, food cheapened by an average of 2.7% within the first eight months of 2009. The cost of alcohol and tobacco products, on the other hand, increased by 8.3% over the same period, continuing to reflect the impact of the rise in excise duties in July last year. The month-on-month changes in consumer prices do not yet refer to a halt in the cheapening of processed food. Further price fluctuations of unprocessed food will mainly depend on global-market trends, since the majority of fruit and vegetables are imported.

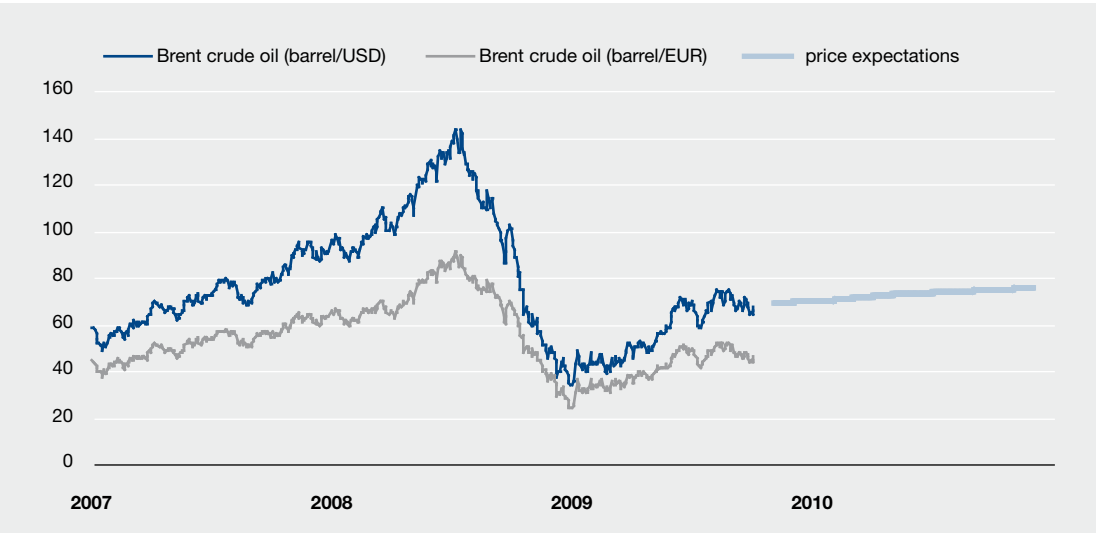

Figure 15. Price of crude oil and markets' price expectations at the beginning of October 2009

Source: Reuters

***Motor fuel*[3]**

The price of motor fuel has risen by 30% over 2009. A third of the price hike was caused by an increase in indirect taxes. In July, the price of motor fuel grew by about one kroon, and this included also the rise in VAT. The base scenario of the autumn forecast expects the price of oil to shoot up to 74 dollars per barrel by the start of 2010. The price rise of fuel oil in the global market will pass through to the prices of other energy carriers, including thermal energy, in Estonia after a six-month time lag (see Figure 15).

Household energy

This consumer basket component includes electricity consumed by households, thermal energy, natural gas, fuel oil and solid fuel (see Figure 16). Thermal energy cheapened by 19.3% in the first half of 2009, mainly owing to the price decline of imported natural gas. Based on the pricing formula used so far, the price drop should have been even deeper, since the cost of imported natural gas depended on the average price of fuel oil in the global market. But now the old gas pricing formula has been replaced by a method based on return on assets. This method accounts also for the volume of necessary investment, but makes it more difficult to forecast thermal energy price fluctuations.

We have assumed in the autumn forecast that compared to spring, the cost of thermal energy produced from natural gas will go up by 8–9% by end-2009 due to the price rise of oil and fuel oil in the global markets. Part of it is because of the rise in VAT. The US dollar depreciated in the first half-year, making it more beneficial to import natural gas, but this may change in the years to come.

Core inflation

The domestic price component is on a downward trend as a result of the very weak demand environment and excess capacity (see Figure 17). Like in the boom years, the price level is in the forecast period impacted by the Balassa-Samuelson effect[4], but in the opposite direction. The current recession has caused tradable sector productivity and thus also income to diminish, which will bring along, with a lag, a price decline in the non-tradable sector, primarily in the prices

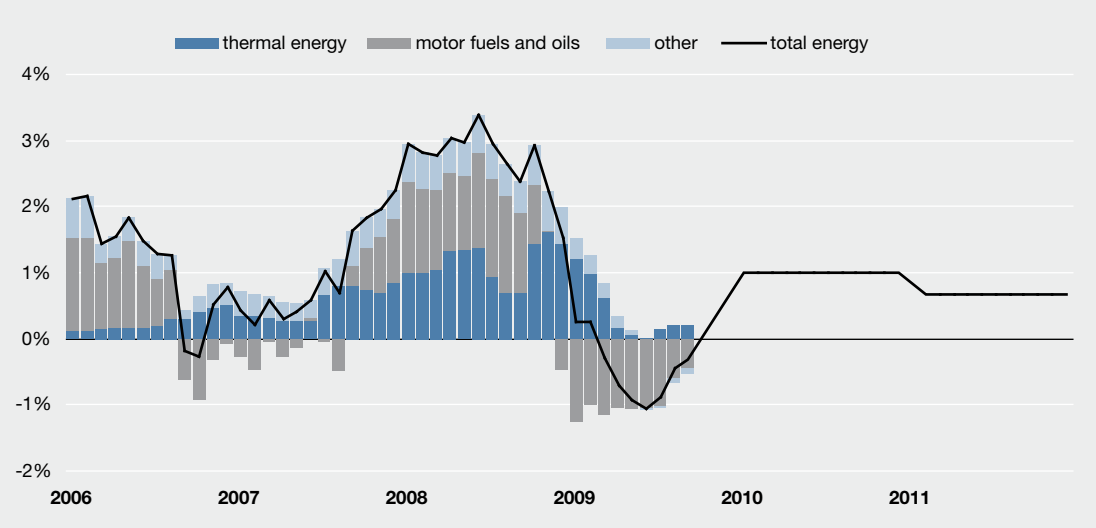

Figure 16. Energy price components

Sources: Statistics Estonia, Eesti Pank

[3] The price setting (a)symmetries of motor fuels are further discussed in Box 3 (p. 36).
[4] The prices of goods closed to foreign competition grow faster than the prices of goods open to competition. The difference in inflation has been caused by differences in productivity growth in the respective sectors.

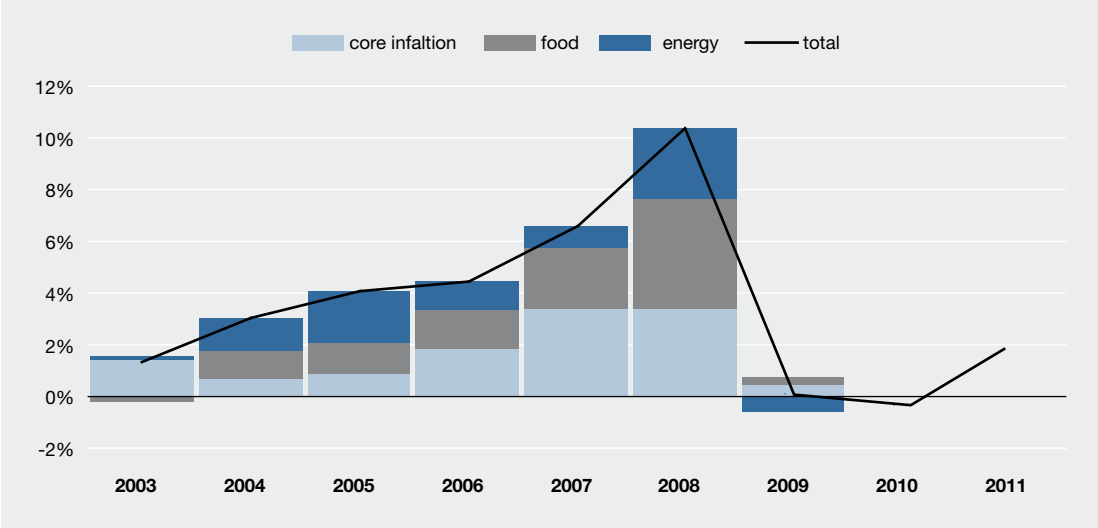

Figure 17. Inflation components and forecast

Sources: Statistics Estonia, Eesti Pank

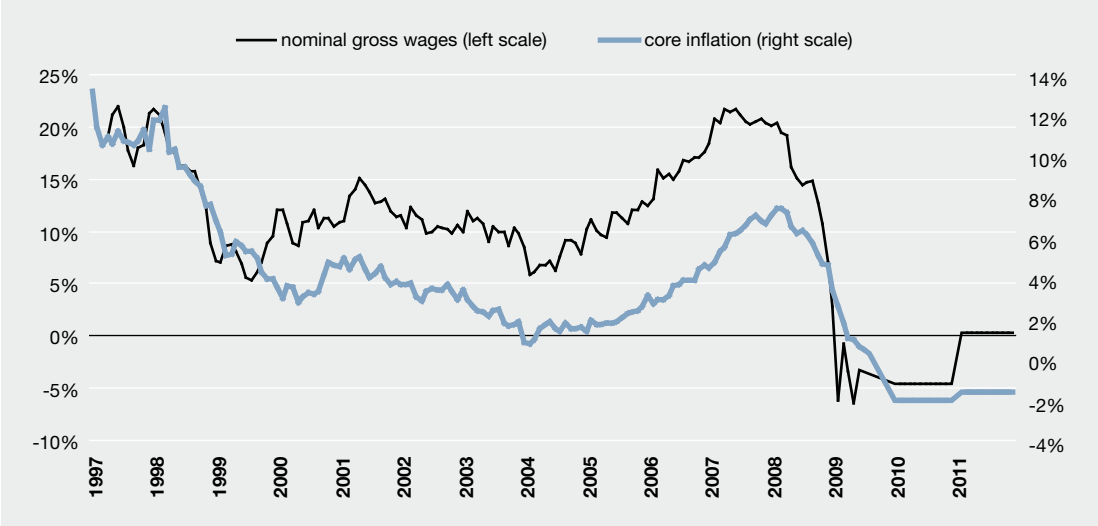

Figure 18. Annual growth in core inflation and gross wages

Sources: Statistics Estonia; Eesti Pank forecast

of services. Goods markets are open to foreign competition, so price changes are faster there, whereas the pass-through of shrinking income to services prices will take longer due to less intensive competitive pressures.

Adjustment to recession in the services sector has taken place primarily through decreasing employment and nominal wages (see Figure 18). Leaving aside rents, the year-on-year price increase of services amounted to as much as 2.6% in August. Rents, which have dropped by some 32% from the peaks recorded during the boom, have so far been one of the fastest-cheapening components, but the rapid fall is stopping now. Contrary to the general trend, several admin-

istratively regulated services became more expensive in summer, posting a year-on-year price hike of 31% by August. As to private services, the price of banking services has also gone up.

The price level of manufactured goods has roughly fallen into line with external markets. Vehicles cheapened very rapidly, by an average of 7.1%, in the first half of the year. Changes in NEER also contributed to the lowering prices of imported goods. It has reduced Estonia's price advantages in exports, but enables to import more favourably priced technology from non-euro-area countries.

General government

When the budget for 2009 was being prepared, the financial crisis had not yet started to affect the global trade. Like in previous years, the 2009 budget expected GDP to increase, so the budget was also supposed to be 9% larger. Unfortunately it appeared at the start of the year that the volume of the economy will be considerably smaller on 2008. The government started already at the beginning of the year consolidation measures to bring expenditure, which had soared during the rapid expansion years, to a sustainable level, to avoid potential problems with financing a deficit and to meet the Maastricht budget criterion. By now, two supplementary budgets have been approved by the parliament. The measures taken have mostly reduced expenditure but to some extent also increased tax income.

In addition, the government has improved the budget position by several temporary measures. For instance, such measures include more active inclusion of dividends and real estate sales. Moreover, the government suspended its payments into the second pension pillar and gave households the possibility to opt out as well.

As a result of various measures, the public-sector fiscal position has been improved by 17 billion kroons, i.e., 8% of the expected GDP.

General government expenditure

Based on the autumn forecast, the general government's final consumption will decline both this and the next year. However, the general government expenditure to GDP will soar from the previous year's 40% to nearly 45% in 2009. This has several reasons. First of all, the hike in expenditure in 2009 was partly related to the more active use of grants from the EU budget. If this component had remained unchanged, the level of expenditure would have amounted to approximately 43% of GDP. Owing to the more extensive use of EU structural funds, the general government's investment volume will not decrease much over the entire forecast horizon. Second of all, larger payouts of pensions and parental and unemployment insurance benefits act as automatic stabilisers in the economy. In other words, the level and share of transfers to households will increase. Third of all, the drop in the GDP volume always translates into an increase in the ratio of expenditure to GDP.

Right now not a lot is known about economic policy related preferences in the final year of the forecast period. Therefore, it is assumed that the general government's 2011 final consumption and investment will remain at the level of 2010 and unemployment related costs will shrink a little. To sum up, the ratio of expenditure to GDP in 2011 will form approximately 42% of GDP.

General government revenue

The tax burden will grow both this and next year, amounting to 35% of GDP. The last year's tax burden indicator was 3 pp lower. The government applied a higher VAT rate as from July 2009, raised the fuel excise duty, and also the unemployment insurance tax rate.

The autumn forecast expects the current tax rates to persist during the entire forecast period, except for the tobacco excise duty, which will increase at the start of both 2010 and 2011, and the alcohol excise duty, which will rise at the beginning of the next year. In addition, payments into the sec-

ond pension pillar, where citizens allot 1% of their income with the government adding 2% to it, will be restored in 2011.

A co-development in the recession has been that companies' tax arrears have surged. The forecast expects this tendency to continue at easing pace until the second part of 2010. In the case of some enterprises an increase in tax arrears may represent a moral risk, since it is possible they have decided to let their tax arrears grow instead of taking a loan to alleviate financial troubles. Such a change in behaviour means there will be a lag between the origination of tax liability and the receipt of tax revenue, so some of the planned revenue on taxes will only be received at the end of the forecast period in 2011.

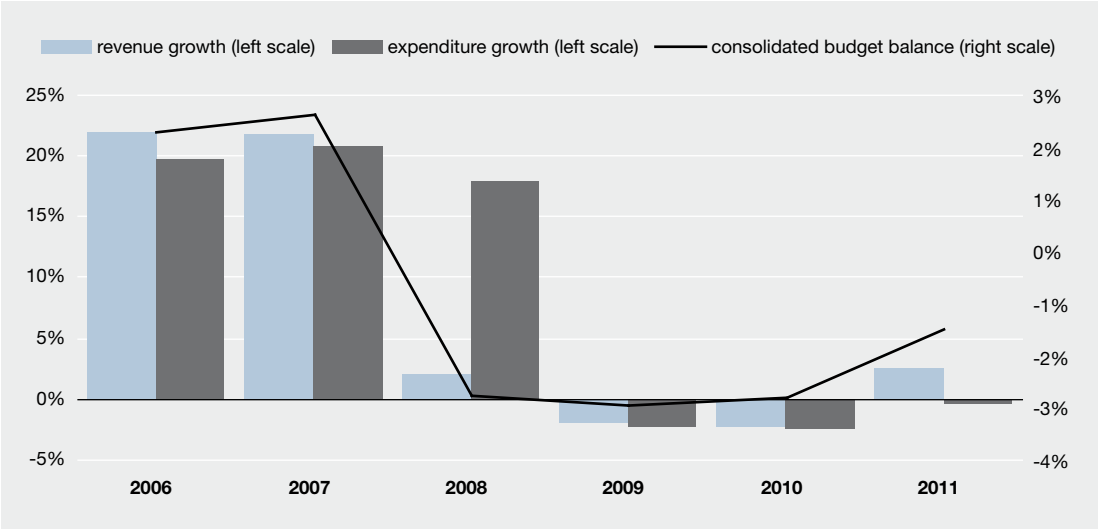

Figure 19. Budget balance (% of GDP)

Sources: Statistics Estonia, Eesti Pank

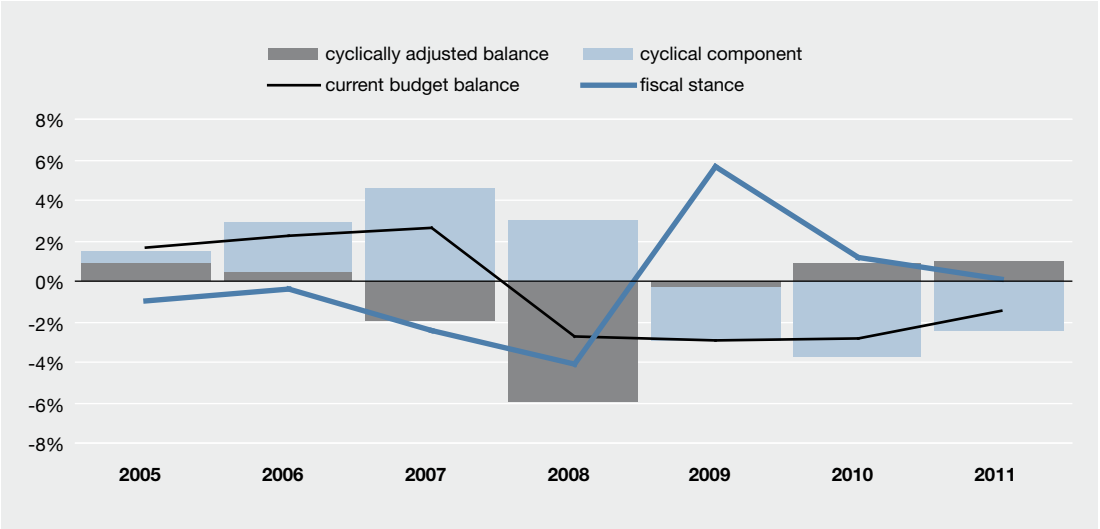

Figure 20. Fiscal stance

Sources: Statistics Estonia, Eesti Pank

Fiscal balance and debt

According to the autumn forecast of Eesti Pank, fiscal deficit will constitute 3% this year and 2.8% next year. The government's recent forecast also agrees that the consolidated budget deficit will be below 3% of GDP. The government must maintain the readiness for further budget consolidation, should the need arise. The reserves accumulated earlier will not suffice to finance the deficit and the general government's debt burden will rise to nearly 10% of GDP by 2011, which is still a good result in international comparison.

The rapid fiscal loosening characteristic of the boom period was this year replaced by a very fast tightening. Whereas the fiscal position loosened by 4.1% in 2008, the development will this year be replaced by a tightening in the same extent, and it will partly pass through to the next year as well. The budget taking into account the state of the economy, i.e., the cyclically adjusted budget will lead to a moderate surplus in 2010 (see Figures 19 and 20).

Banking sector

The situation in the global money and capital markets has stabilised compared to the time the spring forecast was being prepared. Various countries' financial support schemes for the banking sector have notably reduced banks' liquidity constraints, and this has brought along a significant decrease in interest rates in the money market. However, prudence arising from uncertainty in economic developments is still evident in the developments of the credit market. The unpredictability of future loan losses forces financial institutions to preserve or even improve their capitalisation on the group level. This may reduce the activity of banks in the credit market and thus harm the resumption potential of the real economy.

The global financial crisis, which intensified in the second half of 2008, shaped events in the Estonian banking market mostly via second-round effects. The deterioration of the external demand environment and the price hike of loan capital played the main role here. External and domestic demand, which had both markedly worsened in 2008, contributed to the decrease in banks' loan portfolio (see Figures 21-22).

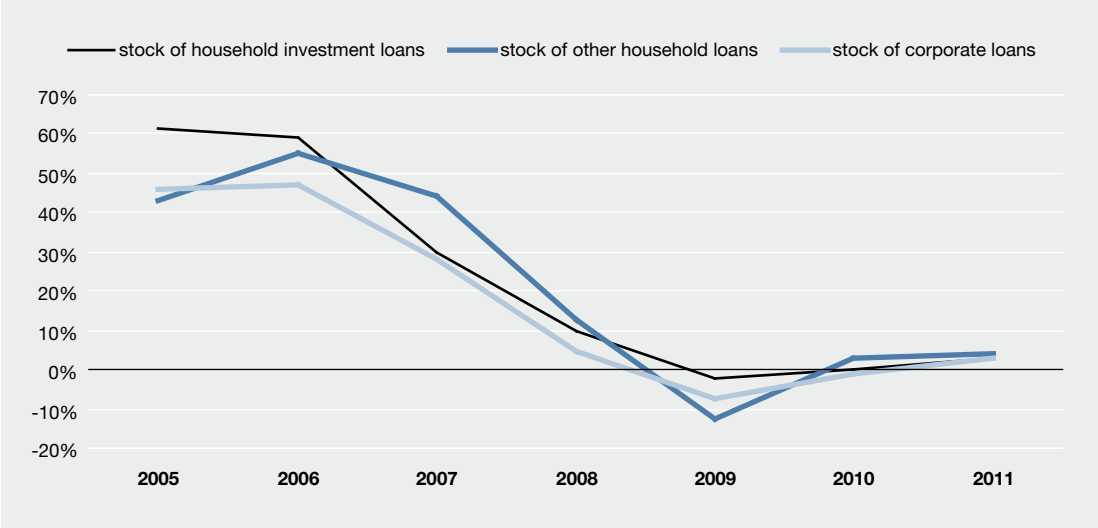

Figure 21. Changes in loan stock

Source: Eesti Pank

Figure 22. Corporate sector indebtedness (loans-to-GDP ratio in different sectors)

Source: Eesti Pank

The complicated economic situation has aggravated the real sector's difficulty in loan servicing. As a result, banks have raised provisions for loan losses to cover their risks. The capitalisation of banks has nevertheless remained high, so the impact of supply-side factors curbing credit growth will be relatively modest in the next quarters. Consequently, low demand is one of the factors determining the activity of the credit market. Demand is reliant on the price of credit, which depends heavily on the interest margins prescribed by banks. The adoption of the single currency in Estonia will definitely affect also interest margins, which will fall compared to the current margin levels after joining the euro area. The current interest margin level is very beneficial for banks in supplying credit, since it is markedly higher than previous years' average. Considering that in Estonia the loan interest margin is, as a rule, fixed until the maturity of the loan, banks have a good possibility of boosting interest income on account of new loans.

Consumer credit

Households have been fast to change their consumption habits in the course of adjusting to the new economic conditions. This means they have also reduced the inclusion of loan resources to finance them. The main reasons behind the lower volume of consumer credit are declining incomes, growing unemployment and the postponement of planned expenditure.

Consumer credit will resume faster than other loans once the economy recovers and starts expanding again. Demand for consumer credit will recover upon the restoration of higher confidence, which in turn depends on the reversal of the current trends in wages and unemployment. Another very important factor in the revival of confidence is Estonia's accession to the euro area. Thus the postponement of expenditure, which started in 2008, will come to an end next year, bringing along an increase in consumer credit.

Housing loans

Housing market developments are mostly dependent on two factors: the annual depreciation of housing loans and price changes in the real estate market. Since the average duration of housing loans is approximately 25 years, the volume of housing loans paid back in a year is relatively small. Thus, the depreciation of housing loans does not

reduce the loan portfolio volume to a considerable extent. Another significant factor is that the real estate price level has become more affordable. The real-estate affordability ratio[5] reached its lowest level of the past six months in the second quarter of 2009, plummeting to 0.85 from 2 recorded at the peak of the property boom.

Favourable real estate prices are sure to have a positive impact on credit demand, but in order for earlier credit turnovers to materialise, the amount of real estate transactions must increase significantly. On the other hand, since property prices are more affordable, it is possible to acquire real estate also without bank loans, which means the impact of the property market revival on credit volume growth may be weaker than expected.

Corporate credit

The dynamics of corporate indebtedness indicators in Estonia have shown no signs of a shrinkage over the past year. The volume of corporate credit has contracted less in 2009 than anticipated in our spring forecast. Since the indebtedness indicators for some sectors of the economy need to undergo corrections, it will take place over a more protracted period than anticipated. Thus, compared to earlier times, the positive developments in the real economy will have a smaller impact on the corporate credit volume.

In addition, excess capacity accumulated in the years of rapid growth has also contributed to lower corporate credit demand. It is possible to use the underutilised resources (e.g., production and storage buildings, machinery and equipment) in new fields of activity also with lower investments, if well-considered actions are taken. The volume of corporate credit turnover will recover more slowly than the volume of household credit turnover and it will remain below nominal GDP growth over the entire forecast period.

RISK SCENARIOS

Periods of recession and extensive restructuring inevitably increase economic vulnerability. The need for adjustment normally puts a strong squeeze on the budgets of all economic agents, whereas the implementation of structural changes leading to higher income takes time. In such an environment, additional expenditures induced by extra shocks may force both companies and households to further revise their planned course of action. Similarly to recent forecasts, the autumn forecast states that substantial risks continue to stem from developments in both the domestic and the external environment.

One of the key questions of the forecast is the assessment of the need for and progress of realignment in Estonia. The rapid contraction in domestic and external demand has notably decreased corporate earnings, but further changes in economic activity are now determined by second-round effects, i.e., adjusting to lower income. There are several segments, where realignment has not yet come to an end, so its final impact will appear in the near future.

As regards domestic factors, the key issues are the recovery of consumer and manufacturer confidence, as well as the way improving expectations are going to affect decision-making in the real economy and to which extent the banking sector is going to support the changes. There is high uncertainty regarding the adjustment of consumers to the expected lower income flows.

Behavioural changes deriving from the political cycle may also become a factor of critical importance. In addition to this year's local government elections, parliamentary elections will be held in 2011. The revision of banks' lending policies and an additional increase in loan margins may affect the course of the economy in a significant way.

[5] The ratio of average gross wages to average square metre price (calculated on the basis of average gross wages and the square metre price of an average apartment in Tallinn).

Different from earlier years there is a considerable quantity of underutilised capacity and human resources in the economy, which exerts a pressure on the price of these resources. At the same time, there still persists the risk that deflationary expectations could postpone consumption in some fields of activity.

Risks related to global economic recovery represent the second key question of the forecast. Estonia's external demand is, first and foremost, dependent on the economic developments and international competitiveness of our main trading partners, as well as on the sentiment of global consumers. The global financial crisis has dealt a strong blow to Finland, Sweden, Latvia and Lithuania, which are Estonia's important trading partners, and where further developments are also determined by the speed at which demand for the goods they produce for the international market recovers. Estonia's role in the international supply chain is to provide mostly intermediate goods for final goods assembled elsewhere, so the share of final goods in our exports is relatively small. Our main competitors in this field are Central and Eastern European countries, and probably also the Asian region.

Near-term risks to external demand are largely dependent on the economic policy stimulus and on the measures taken to reduce it. The crisis years have put a heavy strain on the budgets of several countries, which translates into the need to either economise more or to raise taxes in the years to come. The risks discussed would nothing but weaken foreign demand.

However, the state of the Estonian economy depends not only on external demand but also on how credible and attractive are our economic developments and economic policy in the eyes of foreign investors. This affects the supply and price of foreign capital, the lending policy of banks, and also sovereign ratings. The adoption of the euro will enhance the credibility of the Estonian economy. Robust fiscal expenditure cuts distinguish Estonia from very many other countries. Estonia's small fiscal deficit and low public debt serve as a competitive advantage in the light of rapidly growing public debt in other countries.

Risk scenario 1:
Larger-scale domestic demand corrections

Several economic indicators refer to a possible continuation of the extensive contraction in domestic demand, since part of the adjustment process is still ahead. This would translate into a possibility of recession also in 2010 (see Figure 23).

One of the key indicators characterising the process of economic adjustment is the change in the number of the employed. The latter had declined by nearly 12% year-on-year as at the third quarter. Unemployment growth slowed at the start of the summer owing to both seasonal factors and amendments to the Labour Contracts Act. It was more expedient for companies to postpone the dismissal of employees until the amendments came into force, so unemployment is temporarily picking up speed in autumn.

Whereas the share of manufacturing companies declaring the need to cut jobs in the next months is declining, this does not apply to several domestic demand oriented sectors. This means that part of employment corrections might still be ahead. A total of 435 thousand people were employed in retail and wholesale trade, service and construction as at the second quarter, which is 32 thousand less year-on-year. A decline of one per cent in employment in these sectors will increase the level of unemployment by 0.6–0.7 pp, provided that all the people who lose their job will start looking for a new one. If the improving confidence of the employed fails to compensate for the decrease in consumption accompanying increasing unemployment, weak domestic demand may

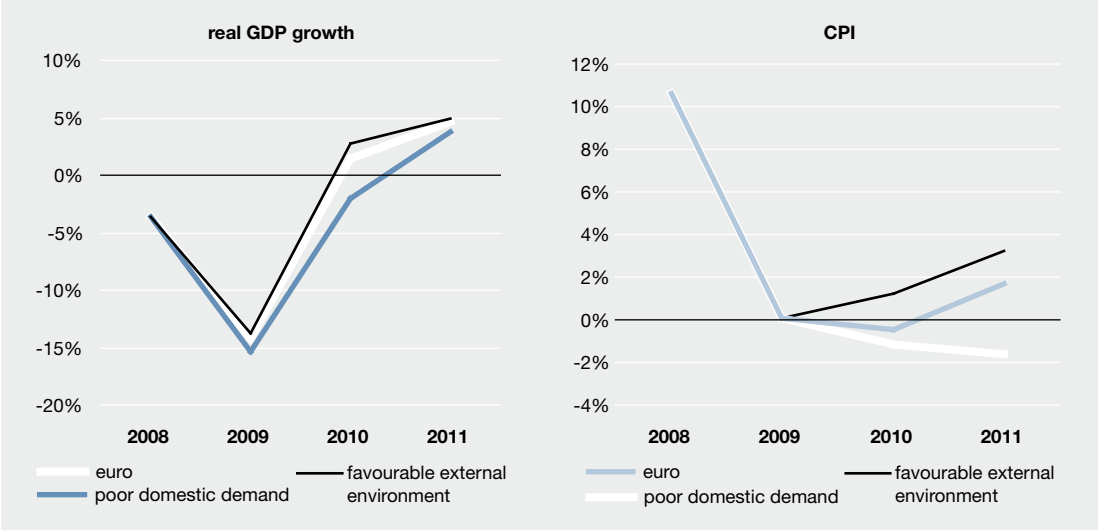

Figure 23. Scenarios for real GDP growth and CPI

Sources: Statistics Estonia, Eesti Pank

cause the volume of the economy to contract further in 2010 as well. According to the first risk scenario, Estonia will not meet the Maastricht budget criterion and the adoption of the euro will be postponed.

Risk scenario 2:
Faster recovery of external demand

Many indicators for foreign trade activity refer to a marked improvement of the near-term outlook, even though risks regarding more distant future are far from having abated. As a result, the next year's economic development outlooks have been started to be revised upwards. Consensus forecasts have improved in the case of Finland and Sweden. The second risk scenario expects this trend to continue, bringing along a somewhat faster recovery in the Estonian economy in 2010 and 2011. There is nevertheless a high risk that external demand will slow again in a more distant future, when the economic policy stimulus is going to be reduced.

BOX 1. ESTONIA'S POTENTIAL ECONOMIC GROWTH AND THE GDP GAP

Relationship between economic growth and the income level

When long-term forecasts are prepared, one often relies on the empirical phenomenon that lower income levels are accompanied by faster economic growth. This implies that the economic growth and level of income of countries having equal production factors should level off in the course of time. Based on the previous logic, Figure 24 presents the relationship between the average growth rate and initial income level in the EU countries (excluding Ireland and Luxembourg) in 1996–2008.

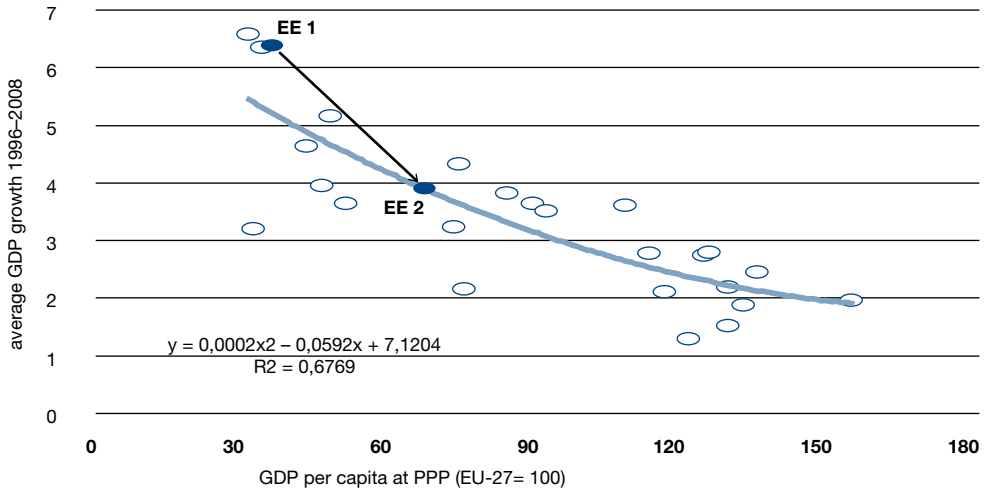

Figure 24. Growth rate and income level in EU-27

Sources: Statistics Estonia, Eesti Pank

x = per capita GDP in terms of purchasing power parity (EU-27 = 100)
y = average GDP growth in 1996–2008
R2 = level of description of the regression equation, i.e., the determination coefficient, which shows the equation is the better the closer it is to 1
EE1 = Estonia's average economic growth in 1996–2008
EE2 = Estonia's average expected economic growth over the next ten years

The trend line passing through the points denoting countries shows that differences in the income level account for a considerable share (nearly 70%) of growth variability. Based on the assumption that growth in Estonia follows the same trend, the country's average expected economic growth over the next decade will be 4% a year (in 2008, the relative per capita income level was 67% of the EU-27 average). At this point, it should be noted that the example is extremely simplifying and actual growth may turn out to be substantially different across years.

As an alternative, the long-term growth potential of the Estonian economy can also be derived from the growth of our neighbouring economies. Box 2 of the autumn forecast says that Estonia's exports have grown very closely in line with the exports of our Nordic neighbours. Thus, after the withdrawal

of the economic slump, growth in Estonia could be in the same magnitude as in the Nordic countries. But since we have several cost advantages, we will be able to expand somewhat faster. However, the impact of the more favourable position will wane in time. The 2009 September Consensus Forecast expects Finland's and Sweden's average growth to be 2.5% and 2.4%, respectively, in 2011–2013. If our cost advantages provide 1-2% extra growth, Estonia's economy will be able to expand 3.5–4.5% a year.

POTENTIAL ECONOMIC GROWTH – MACRO MODEL BASED SOLUTION

Eesti Pank's forecasts are prepared using the macro-econometric model EMMA[6], where the supply side relies on a Cobb-Douglas type of production function (see Equation 1). This equation forms the basis in the macro model for deriving equations for several other indicators.

Potential GDP (Y*) is determined as a combination of three production factors – capital, labour and production technology. The quantity of physical production capital in the economy (K) depends on the depreciation rate (δ) and on the investment (I) increasing the capital stock (I). The contribution of labour at the full employment level (N) is calculated on the basis of labour force (L) and the non-accelerating inflation rate of unemployment[7] (u*). The level of production technology (A) grows in time at an exogeneously specified rate (g). Thus, the equation system describing the supply side of the economy is as follows:

$$(1)\ Y_t^* = K_t^{\alpha}\left(N_t A_t\right)^{1-\alpha} \quad (2)\ K_t = (1-\delta)K_{t-1} + I_{t-1} \quad (3)\ N_t = \left(1-u_t^*\right)L_t$$
$$(4)\ A_t = (1+g)A_{t-1} + \varepsilon_t \quad \alpha = 0.5 \quad \delta = 0.012 \quad g = 0.005$$

For the purpose of preparing a longer-term potential GDP forecast, the current economic slump has brought along the need to apply expert judgement on the capital stock and technology. As a result, potential GDP will decline by approximately a tenth on its peak at end-2007. The application of expert judgement can be justified on the basis that some of the investment goods acquired during the boom years have become idle, given the new demand structure, and thus part of the potential is eroded. The estimated decrease of 10% is in line with the research published in the European Economy Occasional Papers[8], where it was stated that potential GDP in the EU-8 countries[9] will drop by almost 6% as a result of the latest financial crisis. Since recession has been deeper in Estonia, it is likely the fall in our potential growth will be above the EU-8 average.

The model forecast until 2015 shows that the growth of potential GDP will recover fully in 2013-2014 at some 5% level. The relatively long resumption period may be interpreted as bringing the capital stock into line with a production structure enabling long-term growth. This is a time-consuming process lasting beyond the recovery in investment (see Figure 25). Actual growth will exceed potential GDP growth in the post-crisis years, so the negative GDP gap will decline in the course of time. Actual GDP growth will be equal to potential GDP growth by 2015. This result is broadly in line with the calculation described above, which is based on the relative income level. According to the model solution, the results would

[6] EMMA – Macro Model of the Estonian Economy.
[7] NAIRU (Non Accelerating Inflation Rate of Unemployment).
[8] European Economy Occasional Papers 49 (June 2009).
[9] Bulgaria, the Czech Republic, Estonia, Latvia, Lithuania, Hungary, Poland and Romania.

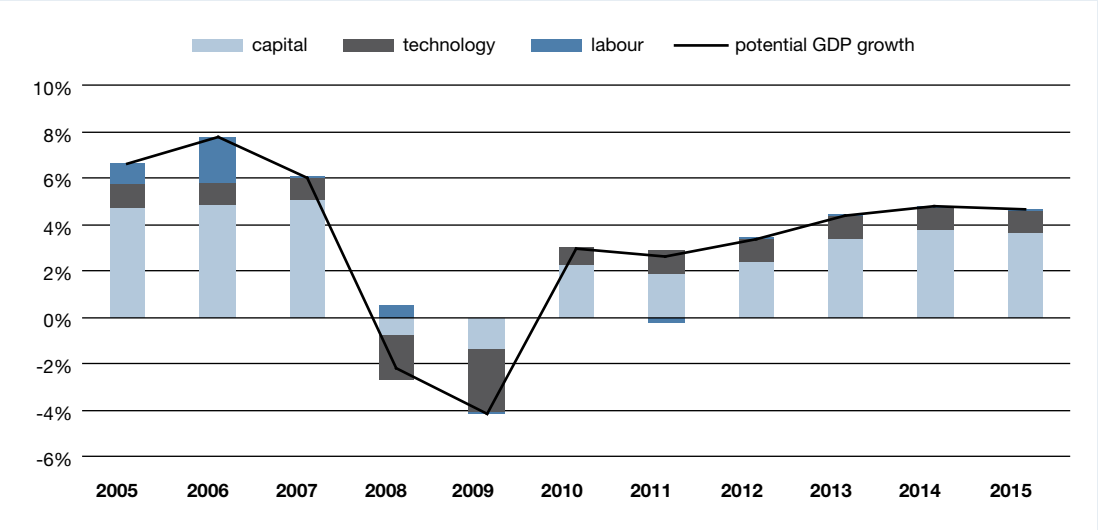

Figure 25. Structure of potential GDP

Sources: Statistics Estonia, Eesti Pank

be similar in terms of the actual growth rate also without the expert judgement of the capital stock and technology level, but closing the negative GDP gap would in this case take a lot more time.

BOX 2. INTRA-INDUSTRY TRADE IN ESTONIA COMPARED WITH THE MAIN TRADING PARTNERS

The following analysis treats the export structure similarities of Estonia's main trading partners across intra-industry trade. The objective of the analysis was driven by the fact that Estonia's exports (in euro) have been in line with changes in Finland's and Sweden's exports for quite a long time. The decline in export turnover in Estonia as from end-2008 has been in the same magnitude as in Finland and Sweden. This means that Estonia's competitiveness has not weakened compared to our Nordic neighbours. Rather, it has been a demand shock hitting the export industry of the Nordic countries, which has passed through to the Estonian exports via the supply chain.

This, in turn, refers to the possibility that the exports of Estonia, Finland and Sweden consist of goods traded between countries in both directions, i.e., that they represent intra-industry trade. If this is the case, the same or similar products are represented in both the exports and imports of the country. It is emphasised for intra-industry trade that it is usually accompanied by a higher technology transfer than in the case of inter-industry trade.[10] Intra-industry trade is more common between developed countries.[11] Lower-income countries are characterised by deeper specialisation, which decreases the scope of technology transfers via trade, since trading there tends to be inter-industry rather than intra-industry.[12] Meagre intra-industry trade refers to a high specialisation level of the country. The dominat-

[10] See, for example, Hakura, D., Jaumotte, F. (1999). The Role of Inter- and Intraindustry Trade in Technology Diffusion. IMF Working Papers 99/58, International Monetary Fund.
[11] See, for example, Grubel, H.G., Lloyd, J.P. (1975). Intra-Industry Trade: The Theory and Management of International Trade in Differentiated Products. Mcmillan, London.
[12] Balassa, B. (1986). Intra-industry Trade among Exporters of Manufactured Goods in D. Greenaway and P.Tharakan eds. Imperfect Competition and International Trade, Brighton.

ing role of single industries in foreign trade increases the country's vulnerability to asymmetric shocks. The development of trade between Estonia and Finland and Sweden refers to the large share of the outsourcing sector, which characterises Estonia's role in the industry supply chain of the Nordic countries. The following is a study of the scope to which countries resemble each other as regards the intensity of intra-industry trade.

Intra-industry trade is assessed using the Grubel and Lloyd index (GL index)[13]. The index measures the extent to which export (X) and import (M) turnovers overlap across groups of goods.

$$GL_i = 1 - \frac{|X_i - M_i|}{(X_i + M_i)}$$

The index is calculated by a group of goods (i). The nearer the index value to one, the deeper intra-industry trade we are dealing with. The aggregation level of the foreign trade statistics used affects the value of the GL index. The more aggregated indicators are used, the higher will be the index value and the larger will be the threat that the share of intra-industry trade is overestimated. But errors are likely to occur also in interpreting an index calculated at a more detailed aggregation level: similar goods are treated as different due to dissimilar commodity codes, which will cause the index to underestimate intra-industry trade. The following analysis uses the four-digit classification of the HS nomenclature[14] for external trade (see Figure 26). Figure 26 shows that intra-industry trade has intensified in all the countries under review. It is somewhat smaller in Finland, which refers to the possibility that the country's economy might be more specialised in certain products.

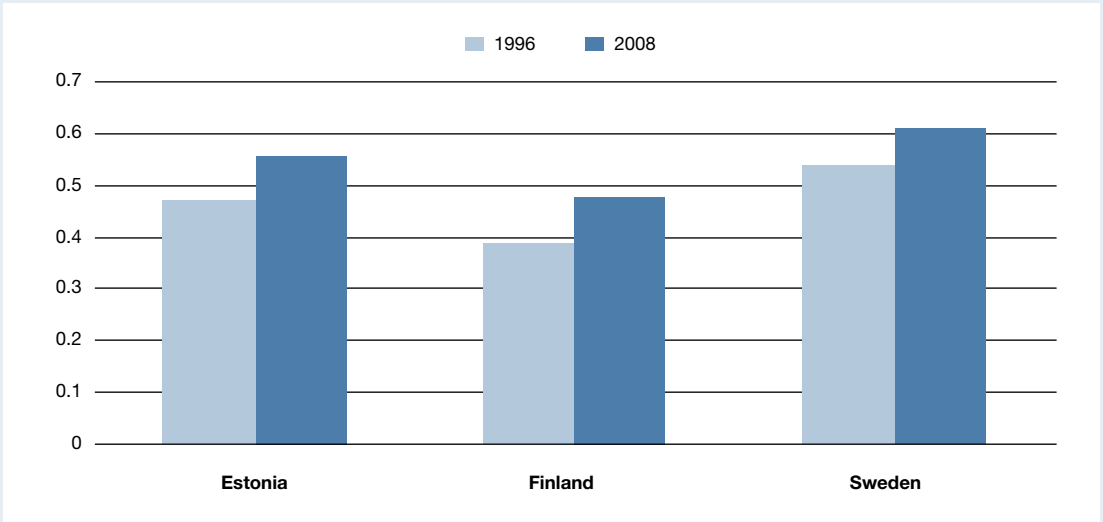

Figure 26. Intra-industry trade as measured by GL index

[13] Grubel, H. G, Lloyd, P. J. (1975) Intra-Industry Trade. London: Macmillan.
[14] The HS nomenclature is a unified classification for external trade statistics, where each product is assigned a unique code. As a rule, similar goods can be classified according to their codes.

Goods can also be classified according to the resource-intensity of their production. Based on this indicator, there are four groups of goods: resource intensive, labour intensive, capital intensive and knowledge intensive. The values of the GL index based on the above classification are presented in Figure 27.

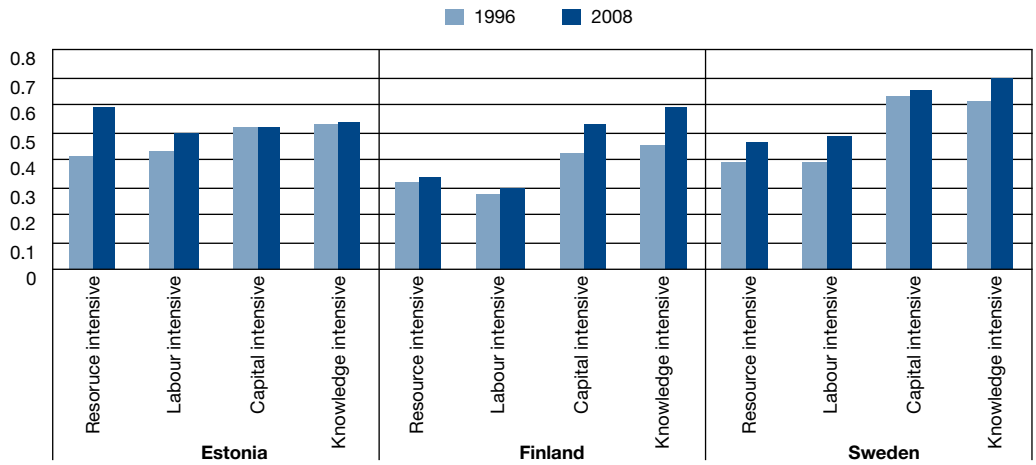

Figure 27. GL index as measured by the knowledge intensity of trade

In the case of Estonia, the intra-industry trade of resource intensive goods is of the largest share and it has also grown more intensely. The intra-industry trade of capital and knowledge intensive goods is not as strong. But growth in Finland and Sweden has taken place mostly owing to such goods. Compared to our Nordic neighbours, Estonia is more successful in the resource and labour intensive goods segment of intra-industry trade. However, we have been less able to make use of the possibilities accompanying intra-industry trade as regards capital and knowledge intensive trade. More broad-based trade in capital and research intensive goods could provide ampler opportunities for technology transfers and contribute to the growth of competitiveness. The larger share of labour and resource intensive goods in Estonia is a proof of possible competitive advantages related to prices and wages.

BOX 3. ASYMMETRIES IN PRICE SETTING OF MOTOR FUELS

Compared to the average of 2005, the price level of motor fuels sold in Estonia has risen by 25%. The global market price of crude oil, which was very volatile during the past two years, has been the main factor affecting the price of fuel in Estonia. Compared to 2007, the cost of oil in euro went up by an average of 23% in 2008 and then dropped in the first half of 2009, cheapening by 32% on the average of 2008.

Nearly a third of the price hike of oil relative to 2005 was caused by growing indirect taxes. Looking at the current price level, the share of the excise duty and VAT make up 56% of the cost of petrol. The more the price of motor fuels decreases, the larger will be the share of indirect taxes in it.

The third factor contributing to the petrol price level is the strength of competitiveness in the motor fuel retail market. According to petrol retailers, the retail price of motor fuels changes only when a more expensive/cheaper product is put on sale in service stations.[15] The functioning of the market was called in question in the second half of 2008, when motor fuel mark-ups doubled (see Figure 28). This was the reason for the search for asymmetries in companies' price setting with the help of statistical methods. We tested the hypothesis that petrol station chains raise the price of petrol faster/more in periods of rising oil prices than they reduce it in times of declining oil prices.

If we compare the price of petrol of one litre of E95 in Dutch ports and in Estonia's petrol stations over the period from 1 January 2005 to 15 June 2009[16], it can be seen the largest price discrepancy emerged in the second half of 2008, when mark-ups on motor fuel doubled. Petrol stations are not very willing to lower prices and motor fuel price changes in Estonia take often place a week or two later compared to the global market. This is proved by almost unchanged high prices and sizable increases in mark-ups in Estonia at the start of price decline periods in the European market. The persistent E95 price level in Estonia characterises not only the onset of cheapening periods – petrol stations have also overlooked some smaller price rises in the global market.

Weekly statistics on price fluctuations allows to conclude that the price of petrol in Estonia's filling stations does not usually change, when the previous week's global market price movements on the absolute scale remain below ±4%. Even larger than 4% changes are sometimes ignored by the Estonian petrol retailers, but those are rapidly offset in a couple of weeks (see, for example, mid-2007 in Figure 28).

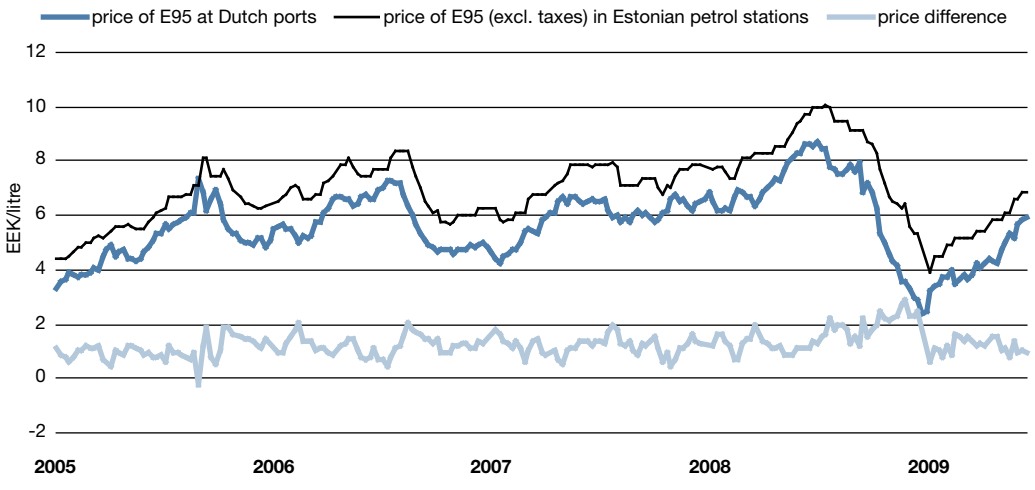

Figure 28. Price of petrol E95 in Estonian petrol stations and Dutch ports and price difference

Sources: Reuters, European Commission (Oil Bulletin)

[15] Kütuseleht (November 2008). Statoil, http://www.statoil.ee/public/Statoili_K_tuseleht.pdf.
[16] The global price level was determined on the basis of E95 price statistics in Dutch ports (Amsterdam, Rotterdam, Antwerpen). Data on the prices of E95 in Estonia are from the European Commission's publication The Oil Bulletin.

The second method for studying motor fuel price setting asymmetries was regression analysis. First we used the Pagan-Harding algorithm[17] to divide historical motor fuel price observations into growth and decline regimes. Then we estimated a linear regression model on both sub-samples. When fuel price in Estonia is artificially held up at a time when the price level is already on the fall in Europe, the model estimated on the price decline sub-sample should include longer statistically significant lags than the model estimated on the alternate sub-sample. In other words, in that case, a change in fuel prices in Estonia should be best described by price fluctuations that took place in Europe some 3–4 weeks ago or even earlier.

The regression analysis did not confirm the presence of systematic price asymmetries, but we did find some manifestations. In the case of several specifications, longer lags were statistically significant in the downward period regression model. We reached similar results when we grouped historical data on the basis of the direction of the short-term (previous week) price changes, but this did not prove the existence of systematic asymmetries in price setting either.

[17] Pagan, A., Harding, D. (2002). Dissecting the cycle: a methodological investigation. Journal of Monetary Economics, 49.