Eesti Pank

LABOUR MARKET REVIEW

1/2014

The labour market review by experts from Eesti Pank covers developments in the supply, demand and prices of labour in Estonia. The central bank observes the labour market for two reasons. Firstly, labour is an important production input, as a change in the supply or activity of labour can directly affect potential growth. Secondly, events in the labour market can have a major impact on inflation. Given the orientation of the euro area monetary policy towards price stability, and the openness of the Estonian economy, the economy can adjust to changes principally through the prices and volumes of production inputs. For this reason it is important for the labour market to be flexible and for wage rises to correspond to productivity growth, as otherwise the increase in production costs could lead to excessive inflation.

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KEY DEVELOPMENTS IN THE SECOND HALF OF 2013

The trends in the second half of 2013 were rather contradictory for the Estonian economy. Economic growth was weak, but the weakness came mainly from certain individual industries. In Finland, the most important target destination for Estonian exports, there was negative economic growth that affected a lot of Estonian exporters. Although there was greater confidence in the recovery of the euro area, external demand was weak. The adjustment to an environment of weak demand was also reflected in the labour market, as employment in the second half of the year was at about the level of a year earlier and unemployment rose at the end of the year.

Despite the weak economic growth however, wages grew rapidly in Estonia in the second half of 2013. The wage growth was mainly driven by the public sector, but there was no substantial slowdown in the rise in labour costs in companies in the private sector. Labour costs rose throughout the year distinctly faster than productivity. This is permissible in the short term, but not in the long term, unless there are changes in the structure of the economy. A short-term rise in unit labour costs when there is an unforeseen fall in output is quite normal. If demand recovers, then it may be possible to grow out of the imbalance so that productivity grows faster than wages for some time. Recent political events have unfortunately reduced the likelihood of companies successfully increasing output with support from external demand. This means that the rise in labour costs will soon slow, and the risk that this will happen more sharply than previously forecast has increased. Labour costs can be adjusted through two channels, employment or wages. For the economy as a whole it is better if jobs are preserved, which requires a larger correction in wages.

Wage pressures came from several sources last year. Wages in the public sector started to rise after the crisis a bit later than those in the private sector, and so there was a feeling there that people were being left behind by rising incomes. However, the state should not become the driver of wage growth. This is partly because it would make wage adjustment in the private sector, which is competing for the same supply of labour, harder, and partly because it would mean the state had more obligations that are difficult to escape, and this could threaten the balance of the state budget. For this reason it is important that public sector wage costs react quickly to adjustments in the labour costs of the private sector. The annual growth in unit labour costs approached 9% in the second half of 2013, implying a serious need for a correction. This growth also touches the three-year maximum growth rate set in the European Commission's system of indicators that gives warning of imbalances, drawing on the long experience of many countries.

The second main source of wage pressures was again the shortage of qualified labour and the strengthening of the position of employees in wage negotiations, which is backed in some cases by the option of going to work abroad. The labour supply will be a long-term problem, and the new population forecast by Statistics Estonia suggests that it could be even worse than previously predicted. If the rate of participation in the labour force remains unchanged, then it can be expected that by 2040 the labour force will shrink by one fifth. This will make it even more important for the social security system to be designed to encourage people to participate in the labour market, so that social benefits are not reduced by the same amount that an additional earned income brings in to the family budget. This principle should be used for reassessing those benefits where not working is a condition for receiving the benefit, such as an early retirement pension, or where the marginal tax rates are very high, as with income support.

Behind the shortage of labour and any reduction in it stands the high structural unemployment in Estonia. Reducing structural unemployment and raising the competitiveness of the long-term unemployed in the labour market will ease social problems, and it will also provide a way of increasing employment despite the unfavourable demographic situation. The risk of unemployment has so far been notably above average for young people and residents of Ida-Virumaa and is increased by low levels of education and by a lack of Estonian language skills. Statistics also show that unemployment is higher among non-Estonians. Although the budget for active labour market measures for each unemployed person has increased in recent years, the spending on such measures is generally still low in international comparison. The obstacles for risk groups in the labour market are often related to problems whose solutions will require not only active labour market measures, but also support from regional, education and population policies.

LABOUR SUPPLY AND DEMAND

The working age population

In January this year, Statistics Estonia revised the time series for the Estonian population from 2000 to 2013. The revisions were made to bring the population statistics into line with the results of the census of 2011. The initial results from the census indicate that the population in January 2012 was 3.4% smaller than the headline indicator then in use. The final estimate turned out only 1.1% smaller than the unrevised headline, thanks to the correction of the under-coverage error. The population figure for 2000 was also corrected for under-coverage of the previous census. The result was that emigration meant that the population shrank faster in between the two censuses than earlier estimates had expected.

In its revisions Statistics Estonia also corrected the migration balance for 2012 and this then affected the population figure for 1 January 2013. The revised estimate found the Estonian population was smaller in 2012 by 0.3%, or 3682 people, because of emigration, which is about half as much as the initial estimate found. The change in the Statistics Estonia data was due to people who had emigrated earlier but registered their change of address later. With natural changes, this meant that the population shrank by 0.4% in 2012.

The initial estimate by Statistics Estonia shows that on 1 January 2014 there were 1,311,870 permanent residents in Estonia, which is 0.6% fewer than a year earlier. The main cause of the decline in population numbers is the increase in the negative migration balance, which increased from 3682 people in 2012 to 6661 in 2013. This is only a preliminary estimate and it may be corrected later. At the time of writing, the population estimates by age group had not been published, but Eesti Pank calculations put the working age population at around 988,000[1], which is 1.2% lower than a year before. This means that the decline in the working age population accelerated in 2013, as it was 1% in 2012.

As was made clear in the preliminary results of the census, emigration in the past decade has affected the younger part of the population, and women more than men. The regions of Estonia that lost relatively larger numbers of people to emigration in 2004–2012 were Jõgevamaa, Järvamaa, Lääne-Virumaa and Viljandimaa. Internal migration had the strongest compensatory effect for emigration in Harjumaa, Tartumaa, Ida-Virumaa and Valgamaa. It is often considered that the emigration rate for

[1] This estimate assumes that both the migration rate and the birth rate will be the same in terms of age and gender as in 2012.

non-Estonians is higher than that for Estonians, but emigration from Ida-Virumaa as a share of the population does not support this theory.

The main destination for emigration by some distance is Finland, where 77% of all the emigrants in 2012 settled. Estonian citizens returning home made up 58% of immigrants, Russian citizens 17.4%, and citizens of other countries one quarter.

A report for the Ministry of Social Affairs in 2013 looked again at potential migration among Estonian residents [2] and found that the share of people planning to go and work abroad was somewhat lower than in 2010. It was estimated that in 2010 8.5% of the population aged 15-64 was planning to work abroad and had made preparations to do so, but in 2013 only 5.9% were planning to do so, or 52 thousand people. A larger share of those people than before were going to work and stay abroad permanently. Young people were more interested in going to work abroad than older people were, but surprisingly there was no statistically significant difference between Estonians and non-Estonians.

Together with the new population statistics, Statistics Estonia published a population forecast prepared jointly with the University of Tartu and stretching to 2040. The new forecast expects emigration to make the population fall faster than was predicted in the previous long-term forecast. A more detailed comparison of the forecasts and the longer-term prospects of the labour force under the new population forecast are given in Box 1.

Box 1: The new population forecast

Population forecasts are based on assumptions about the three main groups of demographic indicators, the rates for fertility, mortality and migration. The population forecasts by Statistics Estonia published in 2006 (updated in 2010) and in 2014 each contain two possible scenarios. Both scenarios use the same assumptions for the mortality and fertility rates and the difference between them comes from the forecast for migration. The first scenario is more pessimistic in both cases and foresees a faster decline in population numbers than the second scenario.

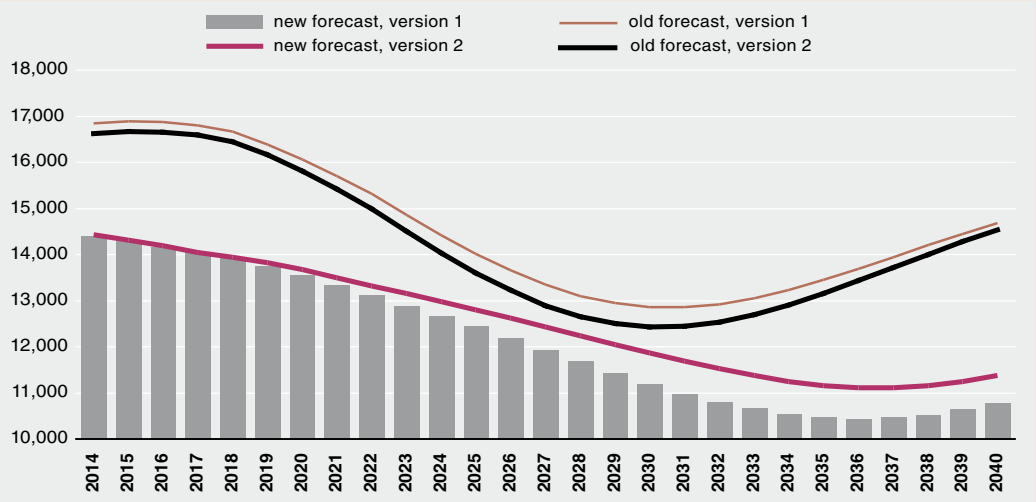
It is not easy to make a direct comparison of the assumptions made about the fertility rate as the earlier forecast uses a forecast period that runs up to 2050 and the recent one runs up to 2040, but relatively little has changed between them. The first forecast assumes that the total fertility rate will rise to two by 2050, and the second assumes that it will reach 1.8 by 2040.

The reasoning behind the assumption of a rise in the fertility rate is that it fell a long way in the 1990s as many potential mothers delayed having children, but it is steadily recovering as the rate has risen for women over 25. The number of children born is affected by the emigration of women of child-bearing age, and a rise in the fertility rate will not be able to offset this at hardly any point in the forecast period (see Figure 1B.1).

It is assumed that the mortality rates for both men and women will fall throughout the whole period and by the end of the period life expectancy will reach 83.7 years for women and 78.2 years for men. Life expectancy at birth for men in 2012 was 71.09 years and for women it was 81.12,

[2] http://www.sm.ee/fileadmin/meedia/Dokumendid/Toovaldkond/uuringud/Eesti_valjarandepotentsiaal_2013.pdf

Figure 1B.1. Number of births according to the population forecasts of 2006 and 2014



Source: Statistics Estonia

so the greater rise in life expectancy is for men. In comparison, the life expectancy for men in Finland was 77.7 years in 2012 and for women it was 83.7, and in Sweden it was even higher at 79.9 for men and 83.6 for women.

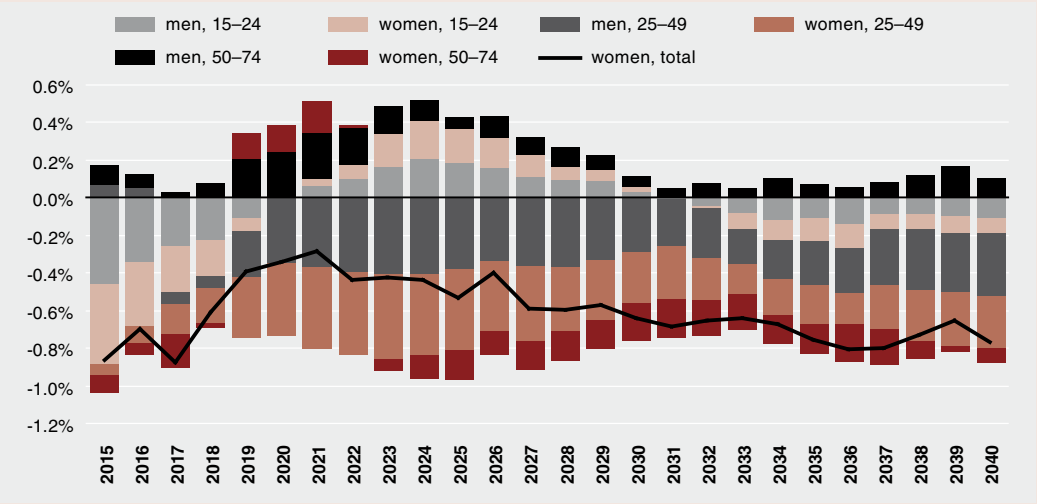
The hardest prediction to make in a population forecast is undoubtedly the migration projection, and this is where the largest change was between the old forecast and the new one. The pessimistic scenario in the earlier forecast assumed that immigration and emigration would balance each other out over the whole period, but the new forecast expects that the migration balance will continue the registered and unregistered trends of the last 12 years and decline somewhat during the period[3].

The working age population, aged 15-74, will shrink slightly faster than the population as a whole, and the new more pessimistic scenario predicts it will be almost 15% below its 2014 level by the end of the forecast period. The decline was put at 8% in the more pessimistic scenario in 2006, which shows how much the forecast has changed. Annual growth rates will fall most sharply at the beginning of the period in 2015-2017 when a large share of the younger part of the working age population will be made up of the generation born in the years of low birth rates in the 1990s. From 2021 the 15-24 age group will make a positive contribution to growth in the working age population through both higher birth rates after the year 2000 and lower migration (see Figure 1B.2). The positive contribution of the younger age groups declines in the final third of the forecast period when the labour market sees the arrival of the children of mothers who were in the generation most prone to emigration after Estonia joined the European Union.

The labour force participation rate, or the share of people in the working age population who are actually working or actively looking for work, is affected by the age and sex distribution of the working age population among other things. Although the lower bound of the working age is set at 15, in reality in the past decade 85-91% of people aged 15-19 have not been active in

[3] Statistics Estonia Table PO089: POPULATION PROJECTION BY AGE AND SEX (BASED ON THE POPULATION FIGURE AS AT 1 JANUARY 2012), definitions and methodology.

Figure 1B.2. Contributions of different age groups to annual growth in the working-age population, using new population forecast version 1

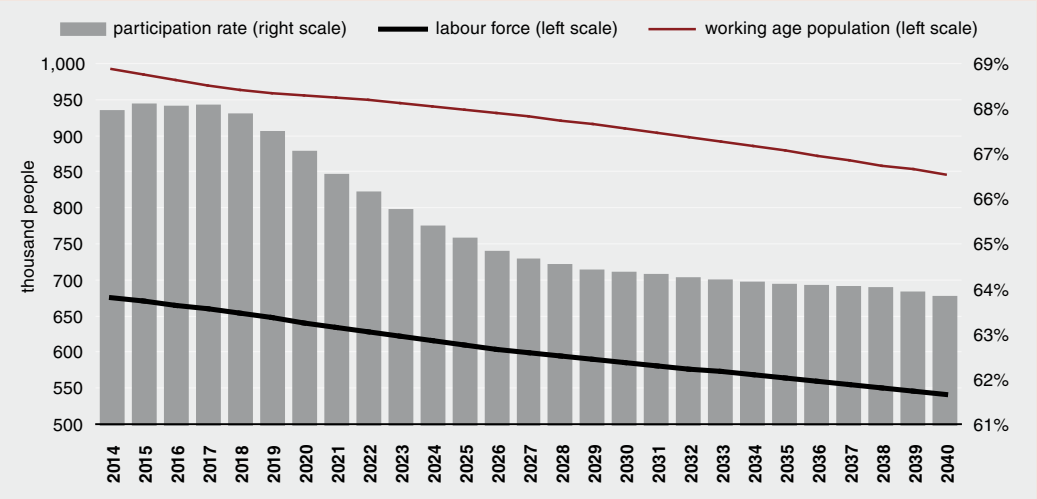


Sources: Statistics Estonia; Eesti Pank calculations

the labour market because they are studying. The labour force participation rate rises with age and stays at the highest level for people aged around 25-50. Women of child-bearing age have a lower participation rate than men of the same age as having children and bringing them up tends to take women out of the labour force more than men. Active participation starts to decline from the age of 50, as inactivity increases firstly for health reasons and later because of retirement. As the structure of the working age population has changed significantly in the new population forecast, it is interesting to see how the labour force will develop under the assumption that the participation rates by age and sex remain the same.

With the number of people of working age forecast to fall by around 15%, the labour force would decline somewhat faster if the participation rate were to remain the same, and would be down by 20% (see Figure 1B.3). This would mainly be because of an increase in the proportion of the

Figure 1B.3. Working age population and labour force under the new population forecast and the labour force participation rate



Sources: Statistics Estonia; Eesti Pank calculations

working age population who are over 50. Using the optimistic assumption that unemployment will be 5% throughout the whole period 2014-2040, there will be 1.4 people employed for every inactive person over 50, rather than the current 2.1 people employed. This ratio will worsen more quickly in the first half of the forecast period. This is of course a pessimistic scenario as a higher retirement age and other possible political measures are highly likely to increase the activity of older members of the working age population. A decline in the labour force will increase the need for political measures to be taken to raise the participation rate and for the social security system to support participation in the labour force and employment.

Participation in the labour force and inactivity

The labour force participation rate remained high throughout 2013 and reached 68.4% in the second half of the year. When the labour market statistics were revised, the estimate of the participation rate for 2012 was reduced by 0.3 percentage point, and that for 2013 was raised by 0.1 point. As Box 1 shows, the labour force participation rate is currently held up by the high share of people aged 25-49 in the working age population. In some years time the ageing of society will have a negative impact on the rate.

The participation rate for young people aged 15-24 reached 39.7% in the second half of 2013. The participation rate for young people has been relatively unchanged for a long time, but this has been due to a steady rise in the participation rate of young women and a small fall in the participation rate of young men. The rising participation rate for young women can largely be explained by a fall in the share of the group who are aged 15-19. The recalculation of the weights for the labour force survey affected the calculations of the participation rates for the young more than it did for any other age group. The 2013 estimate for the 15-24 age group was 1.6 percentage points lower than the earlier one. The higher education reform that came in from autumn 2013 did not have a noticeable impact on the labour force participation of the young, though it requires students to complete 75% of their course in order to qualify for free education, and should push the young to devote themselves fully to their studies more than before.

The participation rate for people in their prime working years of 25-49 was 87.4% in the second half of 2013, which was 0.9 percentage point lower than a year earlier. The cause of this slight fall was the drop of 1.8 percentage points in the participation rate of women, which was mainly the result of an increase in the number of women who were inactive due to maternity leave. Female participation in the labour force increased during the crisis, probably due to the need to ensure family incomes when the risk of unemployment for men was substantially higher than before. The fall in the female participation rate during the recovery probably reflects the reversal of this trend.

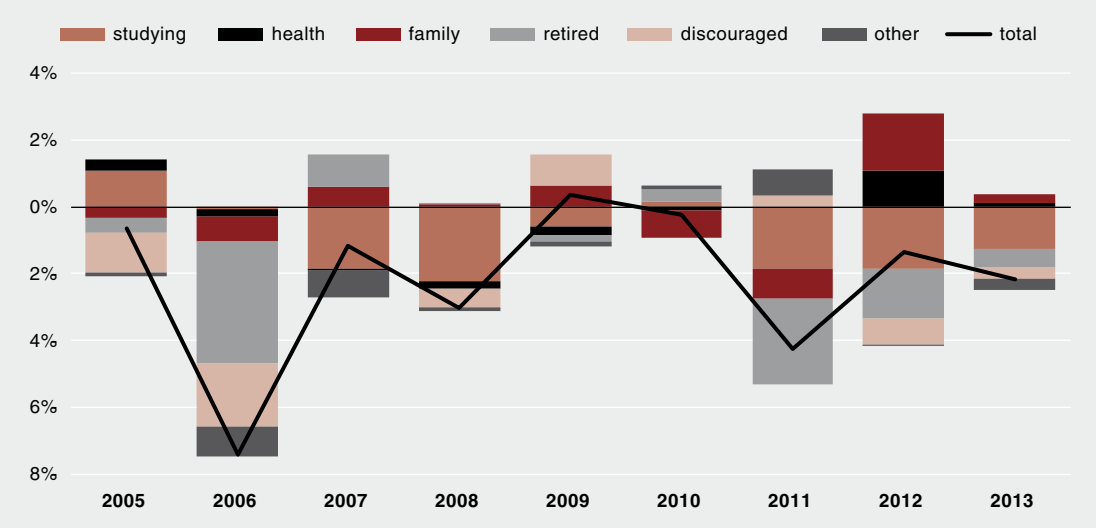
The participation rate for the older members of the working age population, aged 50-74, continued to rise in 2013 for both men and women. The male rate was probably raised by the recovery in the economy after the crisis, and the noticeably smaller risk of redundancy. The main driver of the long-term rise in the female participation rate is probably the rise in the pension age, which has raised the average age of exit from the labour market.

Discouragement has declined as a cause of inactivity over the longer term. There were 5150 discouraged people in the second half of 2013, which is 27% fewer than a year earlier. People

probably feel that there are more chances of finding a job both in Estonia and abroad, and health insurance and better labour market services are encouraging job-seekers to keep looking.

Although the decline in the number of young people has also reduced the number of students (see Figure 1), the probability of inactivity due to studies has not greatly changed. Inactivity in relation to children has however increased somewhat.

Figure 1. Contribution of different reasons for inactivity to annual growth in the number inactive



Source: Statistics Estonia

Increased participation by older people in recent years has reduced the number of those inactive because they are of retirement age. This trend will probably be amplified from 2016 when retirement ages start to rise for both men and women. Although the increasing tendency for older people to take an incapacity pension is worrying, the share of those aged 45-65 who are inactive for health reasons remained between 9 and 11% in 2006-2013 according to the labour force survey. The Ministry of Social Affairs is planning a reform of incapacity benefit and circulated a draft law at the start of 2014, the aim being to bring people with reduced capacity for work back into the labour market. However, no effect on the labour market should be expected in the next few years as the initial plan foresees a long transition period for the implementation of the reform.

Data from the Social Insurance Board show that 17% of new retirements in 2013 were people taking early retirement. This share increased significantly as labour market conditions worsened during the crisis, rising to 25% in 2009. It is not permitted for people who have taken early retirement to receive any wage income, which has an effect similar to a tax wedge where the extra income earned as wages is reduced by both taxes and the pension. This means that it is not economically rational for someone on such a pension to take low-paid or part-time work, and the decision to take early retirement during the crisis now prevents those who took it from benefitting from improved labour market conditions until they reach retirement age.

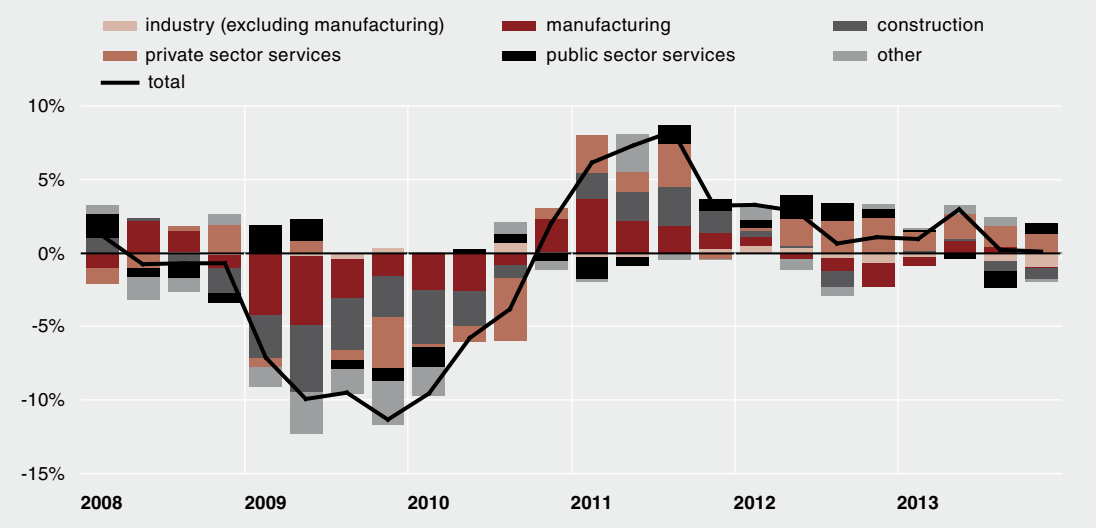
Employment

Annual growth in employment using the revised data was 0.2% in the second half of 2013 and 1.9% in the first half year, revised downwards by 0.5 percentage point from the initial estimate. Although the number of people in employment was practically the same in the second half year as it was a year earlier, the employment rate rose from 61.4% to 62.1% as the working age population shrank. The employment rate probably gives a better picture of the state of the labour market at a time when the population is changing than the growth rate of employment does. The seasonally adjusted employment rate at the end of 2013 was 1.3 percentage points below its pre-crisis peak. Given the stuttering economic growth, the weak economic environment in our main trading partners and the markedly higher labour costs for each unit of production, the adjustment that has come through the slowdown in employment growth in Estonia looks moderate.

The number of Estonian residents working abroad fell in the second half of 2013 by 5.9%. The labour force survey estimate of pendulum migrants who travel back and forth has not changed much since 2012. At 70%, a clear majority of these people worked in Finland, with construction proving the most popular field of work. Pendulum migration can decline because of either permanent emigration or the termination of the employment relationship. Unfortunately there has not yet been any research into the likelihood of pendulum migration between Estonia and a foreign country turning into permanent emigration. The growth in pendulum migration is likely to be hindered by the weak economies in the Nordic countries, and also by rapid wage growth and increased job opportunities in Estonia. As the number of people working abroad fell, the growth in employment in resident production units was somewhat faster than total employment growth and reached 0.3% in the second half of the year. The sector that contributed most to the growth in employment was services, according to the labour force survey, while construction and non-manufacturing industry had a negative impact (see Figure 2).

As there can be quite large margins for error in the quarterly and sectoral comparisons of the labour force survey, their findings should be confirmed from other sources like the enterprise statistics, wage

Figure 2. Contribution of sectors to growth in total employment according to the labour force survey

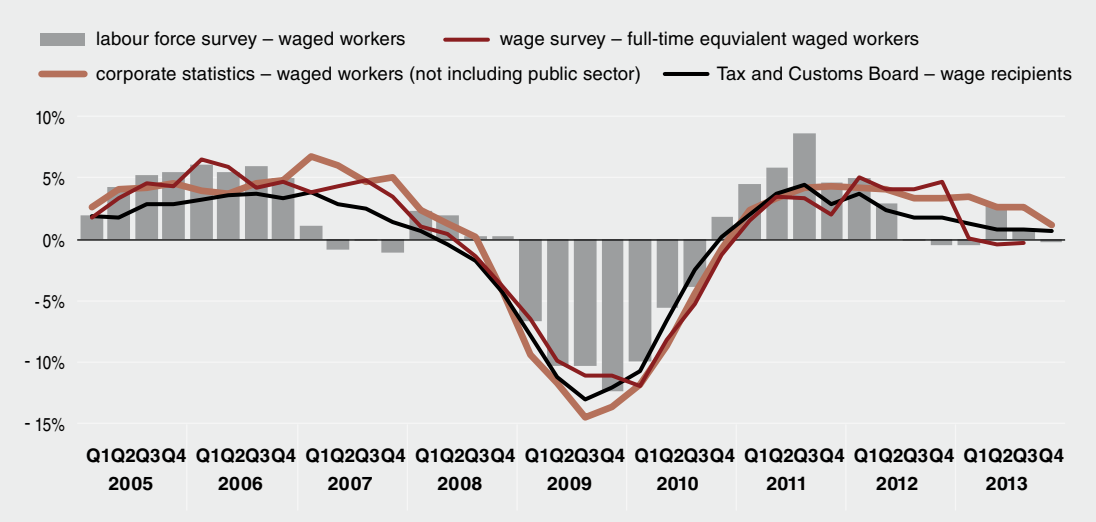


Source: Statistics Estonia

survey data, and data on wage recipients from the Tax and Customs Board. Here it should be remembered that other surveys differ from the labour force survey not only in their methods but also in their content. Unlike the labour force survey, the accounting data from companies and statistics based on those data do not reflect unofficial employment or the shadow economy. So if the Tax Board succeeds in reducing the share of employment that is in the shadow economy, this will be reflected as faster growth in official employment. Another difference comes from people having multiple jobs, as those people are counted once in the labour force survey and multiple times in the company statistics. Furthermore the growth in full-time equivalent employment in the wage survey can differ from the results of the labour force survey and the enterprise statistics because of changes in working hours, as a fall in hours worked per employee would reduce full-time equivalent employment.

The highest estimate of employment growth in 2013 came from the enterprise statistics, which do not cover public sector employment. The growth in full-time equivalent employment was found by the wage survey to have slowed sharply at the start of 2013 from the 5% of the previous year almost to negative territory (see Figure 3). The most comprehensive coverage of all the employees in Estonia probably comes from the database of the Tax and Customs Board. This shows that the growth in the number of wage recipients has slowed steadily since the start of 2012 and the number of people receiving wages grew by 0.9% during the whole of 2013. The growth was affected by the increase of 1.5% in the number of people receiving wages from companies listed in the commercial register, and by a reduction of 1.8% in the number receiving wages from government institutions. The reduction in the number of wage recipients in the public sector and the growth in numbers in the private sector both slowed in the second half of the year.

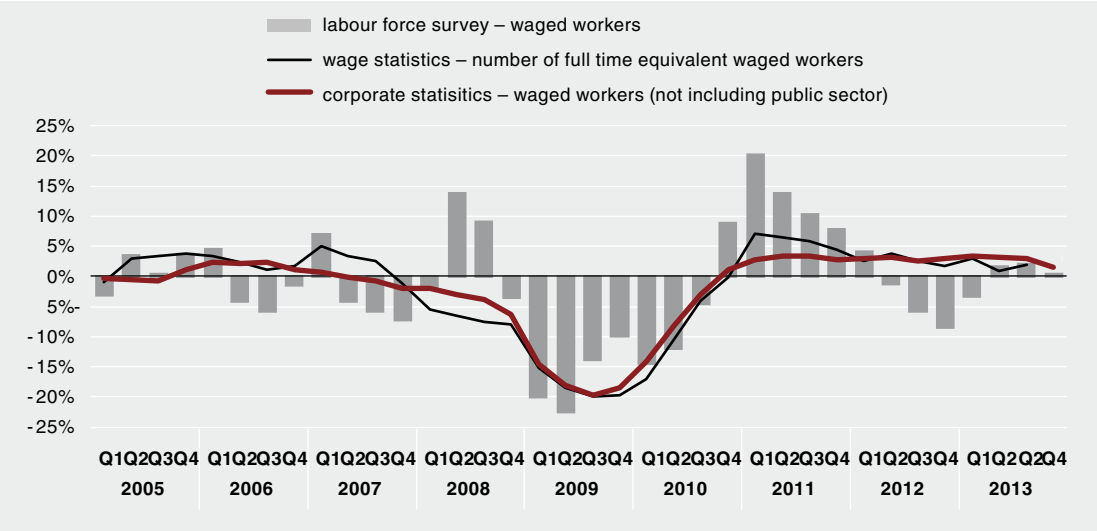
Figure 3. Annual growth in employment from various data sources



Sources: Statistics Estonia, Tax and Customs Board

Employment in manufacturing grew in the second half of the year by 1.2% according to the labour force survey, and by 0.8% for the year as a whole. Statistics for vacant positions and movement of labour indicate that 0.8% more people were employed in manufacturing in the second half of the year than a year earlier. The wage survey shows that full-time equivalent employment in manufacturing grew by 1.8% in the third quarter, but in the longer view the growth has slowed constantly. Corporate statistics show that employment in manufacturing increased by 2.3% in the second half of the year (see Figure 4).

Figure 4. Annual growth in employment in manufacturing shown in various sources



Source: Statistics Estonia

Taking all these assessments together, it can be said that the trend in employment in manufacturing is still one of growth. Growth in value added in manufacturing exceeded growth in employment numbers in the second half of 2013, meaning that productivity was up. Companies could see short-term difficulties as temporary, which was confirmed by a strong recovery in value added in the last quarter of the year. Data from the barometer survey show that the expectations of manufacturing companies about employment in the near term were slightly higher in the first quarter of 2014 than in the previous quarter, though this has not changed much since the start of 2012.

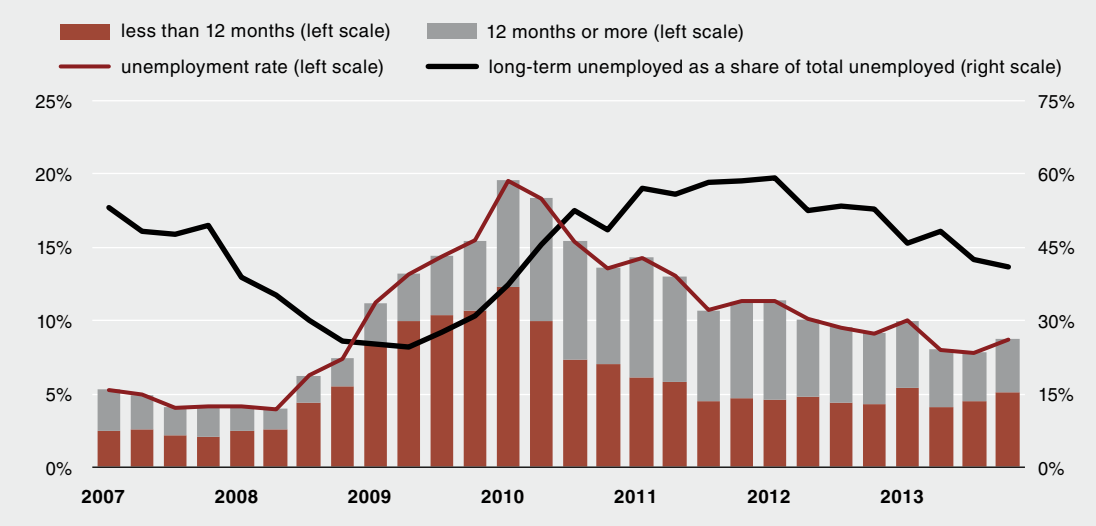
The construction industry was significantly affected last year by the reduction in investment from the public sector, which led the real value added of the construction industry to fall by 5.6%. Labour force survey data show domestic employment in construction falling by 4.3% in the second half of 2013, though it remained at the level of 2012 for the year as a whole. The wage survey joined the labour force survey in indicating a reduction in employment, showing that full-time equivalent employment in construction fell by an average of 5% across the first three quarters of 2013. However corporate statistics do not back this up, giving a figure of 0.3%. As the Tax and Customs Board has tightened its controls on construction companies, these assessments may also reflect the legalisation of employment in corporate accounts. The results of the barometer survey for construction companies at the end of 2013 and the beginning of 2014 show rather an increase in pessimism.

Unemployment

As the growth in employment slowed in the second half of 2013, the fall in unemployment also ceased. The unemployment rate stood at 7.8% in the third quarter and 8.7% in the fourth. The number of unemployed increased in the fourth quarter in quarterly terms because of a rise in short-term unemployment. Unemployment was lower than in 2012, with the annual average rate falling from 10% to 8.6%. The unemployment rate has fallen below the euro area average, and in the first three quarters of 2013 it was 3.2 percentage points lower than the euro area rate of 12.1%.

The duration of unemployment has fallen considerably in the past two years. In the first quarter of 2012 the long-term unemployed made up around 60% of all the unemployed, but by the fourth quarter of 2013 this had fallen to close to 40% (see Figure 5).

Figure 5. Unemployment rate and duration



Source: Statistics Estonia

The age group that saw the biggest fall in unemployment was the young, whose unemployment rate fell from 20.8% in 2012 to 18.7% in 2013. The unemployment rate for the group aged 15-24 remains around two and a half times that of the rest of the working age population. It is not surprising that average unemployment is higher amongst the young, as they are only entering the labour market and are looking for their first job. The average duration of unemployment for the young is less than for those aged 25 and over, and 54% of the young unemployed had been looking for work for less than half a year, while 42% of the other unemployed were in that position. Their lack of work experience clearly makes it harder for young people to find work, and around one-fifth of the young unemployed were studying at the same time in 2013.

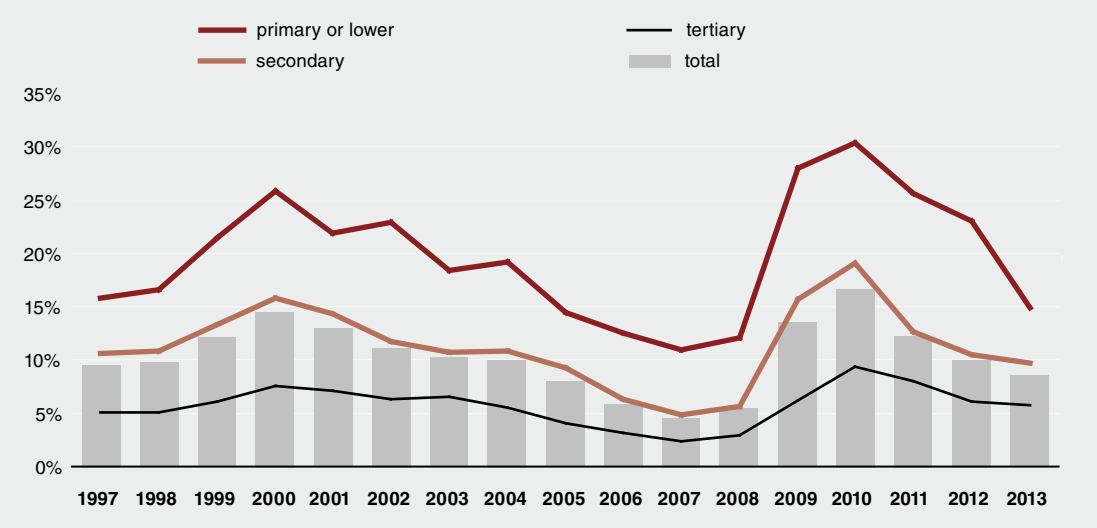
In the middle age group, those aged 25-49 saw the unemployment rate fall by 1.3 percentage points over the year, with the rate for men falling somewhat further than that for women. Over 95% of this age group already had experience of work and slightly more than half of them had lost their previous job for reasons related to their employer, such as bankruptcy of the company, dismissal or redundancy. The duration of unemployment for this group fell slightly, so whereas in 2012 35% of the unemployed of this age had been looking for a job for less than six months, in 2013 this applied to 42%.

Non-Estonians saw a faster fall in their unemployment rate as it dropped from 15% in 2012 to 12.4% in 2013, while among Estonians the rate was 6.8%. The difference in these unemployment rates is partly due to problems in the regional labour market in Ida-Virumaa, where non-Estonians are a large part of the population. The unemployment risk for Ida-Virumaa residents increases sharply if they are not able to speak Estonian, while there is no difference in unemployment for non-Estonians who can speak Estonian and for Estonians. In Harjumaa the unemployment rate is higher among non-Estonians who can speak Estonian than among Estonians, and this is not the result of differences in education levels. The higher unemployment among non-Estonians can

partly be explained by their higher participation in the labour market, as there is no great difference in the employment rates by nationality for younger and older people. There is however some difference in the structure of employment by sector, with a large share of Estonians working in the stable public sector while non-Estonians worked more in manufacturing and transport. These differences did shrink in 2013 though.

One seemingly surprising development is the increase in the share of the unemployed who have completed higher education, which can be seen both in registered unemployment and in the labour force survey data. The main cause of this is a fall in unemployment among those who have not completed higher education from the high levels during the crisis following a strong recovery in demand for labour particularly in the sectors that had suffered more such as manufacturing and construction. Graduate unemployment has been much less volatile and the unemployment rate for graduates fell more slowly than the average in 2013 (see Figure 6).

Figure 6. Unemployment rate by level of education



Source: Statistics Estonia

Part of the reason why graduate unemployment is more stable is that around 40% of graduates work in the public sector where their employer is owned by the state or local government, which includes jobs in health, education and public administration. A smaller share of employed non-graduates works in the public sector, and in 2013 only 15% of them worked there. Employment is much more volatile over the economic cycle in the private sector than in the public sector, so the unemployment rate for those who have not completed higher education moves up and down more.

Registered unemployment has fallen in the longer perspective in a similar way to total unemployment, though in the second half of 2013 seasonally adjusted registered unemployment did not rise. Sectors that saw the number of registered unemployed fall by more than the average over the year were medicine, trade and manufacturing. Regions that saw average annual registered unemployment fall by around one fifth were Lääne-Virumaa, Pärnumaa and Raplamaa, while Ida-Virumaa, where the registered unemployment rate was highest at 10.5%, saw an above-average fall of 17% in the number registered as unemployed. South Estonia stands out for its high unemployment rate, particularly Valgamaa, where the rate reached 10%.

Data from the labour force survey suggest that around half of the unemployed contacted Töötukassa, the unemployment insurance fund, in 2011-2013, with 55% of the unemployed doing so in 2013. Women have proved more likely to do so than men, and people in Ida-Virumaa somewhat more likely to do so than people elsewhere in Estonia. Labour market policies need the unemployed to be motivated to register themselves, as they cannot be offered any labour market services otherwise. The main reason why the unemployed did not contact Töötukassa in 2013 was that they did not feel the need and could manage on their own in 34.5% of cases; that Töötukassa did not have any suitable jobs in 29% of cases; or that they did not have any right to receive unemployment benefits in 25.5% of cases. The proportion of all the unemployed who receive benefits is indeed rather small, at around one quarter of the unemployed aged 16-63 who were not studying, according to the labour force survey. Statistics from Töötukassa show that some 29% of the newly registered unemployed have the right to receive unemployment insurance, and another 30% have the right to unemployment benefits.

The expectations of households for unemployment remained optimistic in the second half of 2013 and in the beginning of 2014 according to the consumer barometer surveys of the Estonian Institute of Economic Research. The share of respondents who expect to see unemployment rise is slightly higher than the share who expect it to fall.

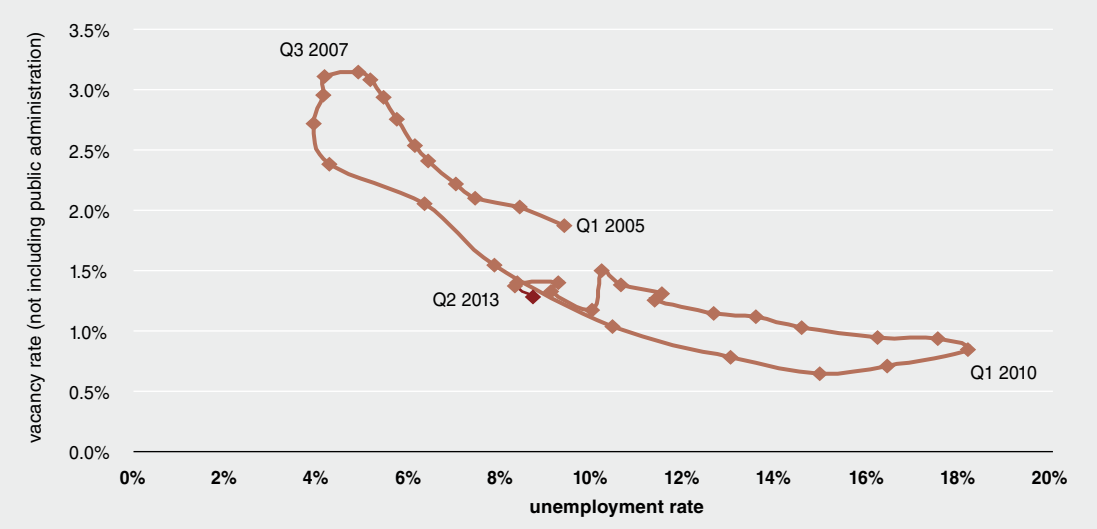
There was a fall in 2013 similar to that in unemployment in the number of people who are not counted as unemployed under the stricter definition but are still more strongly connected to the labour market than other inactive people are. The biggest such group is inactive job-seekers, who would be prepared to go to work within two weeks and would like to work, but are not actively searching for a job. Although they declined as a share of the labour force by one percentage point to 5.1%, their presence was significant, given a rate of unemployment of 8.6%. The discouraged, who have given up hope of finding a job, within this group fell in number by 13% in 2013. Those inactive because they were of retirement age made up 1.4% of the labour force, and those who were inactive for health reasons made up 1.2%. These are people who would like to work and would be prepared to accept a suitable job offer. The return to the labour market of these people is supported by changes planned by Töötukassa that would see labour market services provided in future to people of retirement age and would increase job search support for people who receive a pension for incapacity for work.

Another additional reserve of labour is found among those who work part-time and would like to do more. The number of part-time workers fell in the second half of 2013 by 7.5% and the number of underemployed fell to 7100, which was 22.5% fewer than in 2012. A somewhat looser definition of underemployment could apply to some 23,000 people who worked less because of a shortage of orders and other problems related to their employer and who had not found full-time employment.

Vacancies

The job vacancy rate stood at 1.6% in the third quarter and 1.2% in the fourth. This means the vacancy rate fell in the second half of 2013, even when seasonally adjusted. Sectors where the vacancy rate has been rising for a long time are manufacturing and trade, while it has fallen in construction. The match between jobs and available labour is shown by the Beveridge curve, which shows the vacancy rate relative to unemployment. Developments in recent quarters have not shifted the curve (see Figure 7).

Figure 7. Beveridge curve (Q1 2005–Q4 2013)



Sources: Statistics Estonia, Eesti Pank calculations

Wages and labour costs

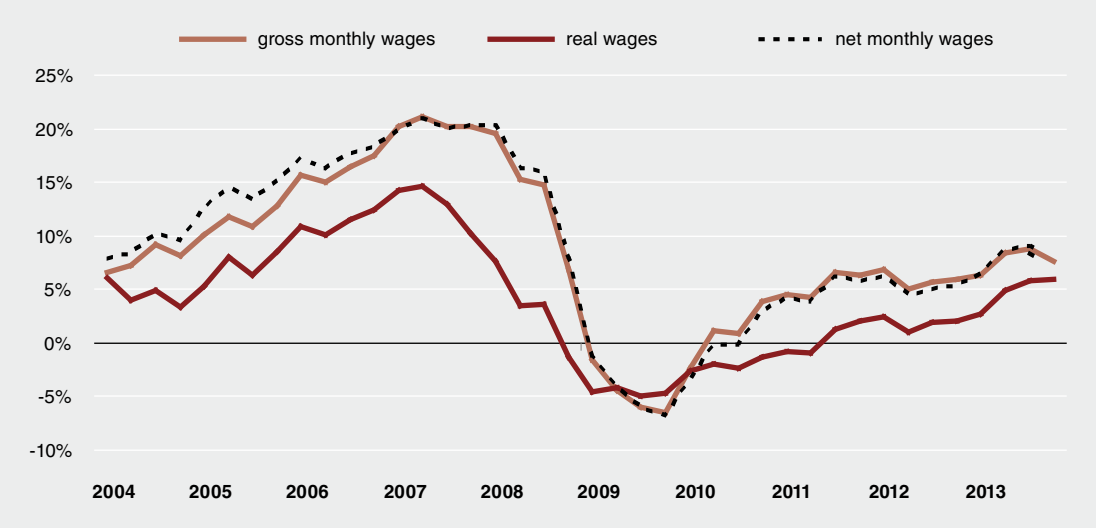
The slowdown in economic growth was mainly reflected in the labour market in employment, where the growth rate fell to close to zero in the second half of 2013. At the same time though, the growth in average wages was relatively uniform and was even accelerating. The acceleration in the growth of wages in the second half of 2013 stood in direct contrast to the deceleration in economic activity. While annual GDP growth at current prices slowed by 0.7 percentage point from the first half year to 5.5%, the annual growth in payments to employees accelerated by 2 percentage points to 9.5%.

The growth in average gross wages showed the first signs of slowing in the last quarter of 2013, declining from the 8.8% of the third quarter to 7.6%. As labour costs have risen significantly faster than the output per employee for several quarters, the deceleration in wage growth in the fourth quarter may indicate that a correction is starting. However, a reduction in the impact of the bonus components and payments for time not worked was responsible for the slowing of growth in monthly wages. Growth in the average gross hourly wage, which covers only compensation for working-time, continued to accelerate, from 7.1% in the third quarter to 8.3%. The payroll again increased as a share of GDP in the fourth quarter, but at a slightly slower rate. For it to adjust to slower economic growth, the growth rate needs to come down considerably further.

Real wage growth, which takes account of the fall in purchasing power caused by consumer price inflation, accelerated in the second half of 2013. In the first half of the year real wages grew at an average of 3.8% in yearly terms, but in the third quarter the growth rate had accelerated to 5.8% and in the fourth it reached 6% (see Figure 8). Average real wages have increased for ten consecutive quarters and for 2013 as a whole they were 0.3% higher than the peak reached in 2008 before the crisis.

Average net wages grew 0.2 percentage point faster than average gross wages in the second half of 2013. The reason for this was that the unemployment insurance contribution rate was reduced,

Figure 8. Annual growth in average monthly wages



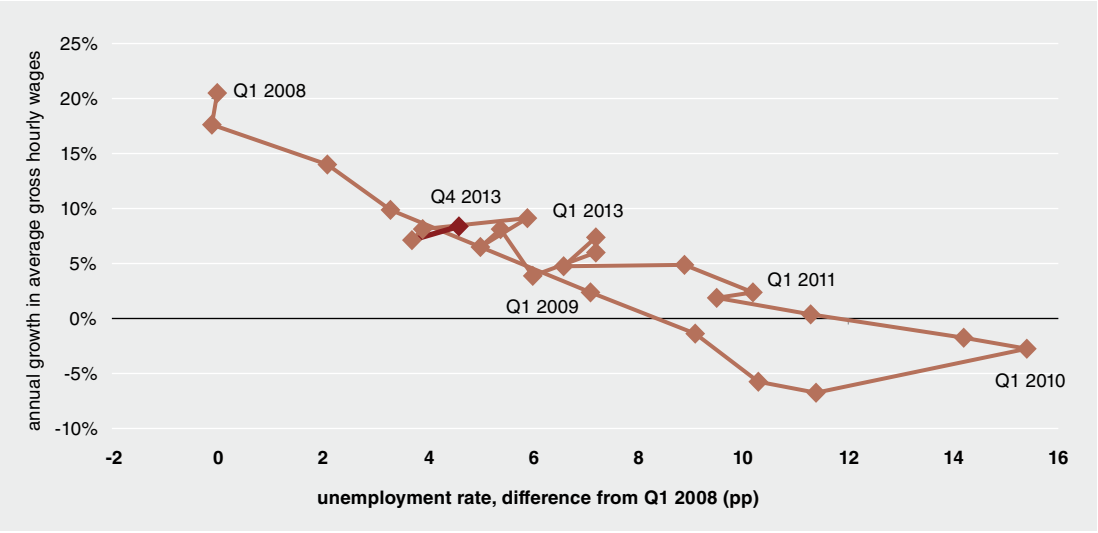
Source: Statistics Estonia

and this had a stronger impact during the period than the rise in the effective income tax rate that accompanied the rapid rise in wages. The unemployment insurance rate fell in 2013 from 2.8% to 2% for employees, which corresponded to an increase in take-home pay of 6.5-7.9 euros per month for someone earning the average wage. As the unemployment insurance rate was cut at the start of 2013, it would have meant that net wages would grow by more than gross wages by up to one percentage point, all other things being equal. However, the gap between the growth rates for net and gross wages was reduced by a rise in the effective income tax rate. The effective income tax rate is lower for those on the lowest wages because of the tax-free minimum income level, but it rises as wages increase.

Changes in the average hourly wage depend not only on productivity and consumer prices, but also on the unemployment rate. The European Central Bank calculates that a rise of one percentage point in the unemployment rate in 14 euro area countries lowered average hourly wage growth by 0.43-0.47 percentage point, according to data from the first quarter of 1995 to the first quarter of 2013. Wages reacted asymmetrically to changes in the unemployment rate, reacting less to increases in unemployment, including during the recent economic crisis, than to falls. The figures for the Estonian labour market in 2013 moved in the opposite direction to the averages for the euro area and for the OECD. Average wage growth continued to slow in both the euro area and the OECD, which is in line with increasing unemployment. In contrast, the unemployment rate in Estonia has dropped distinctly during the past three years, and so its restraining effect on wage rises has been reduced (see Figure 9).

The acceleration in the growth of wages in the second half of 2013 was relatively broadly based across industries. Average monthly wages grew faster in the sectors of information and communication; water supply and waste handling; education; public administration and defence; and health. Growth in average monthly wages in manufacturing was 0.5 percentage point higher than in the first half of the year at 7.8%. However wage growth slowed or went into reverse in construction, real estate activities and some other service sectors where value added grew more slowly than the average or declined.

Figure 9. Annual growth in average gross hourly wages and unemployment rate, difference from Q1 2008

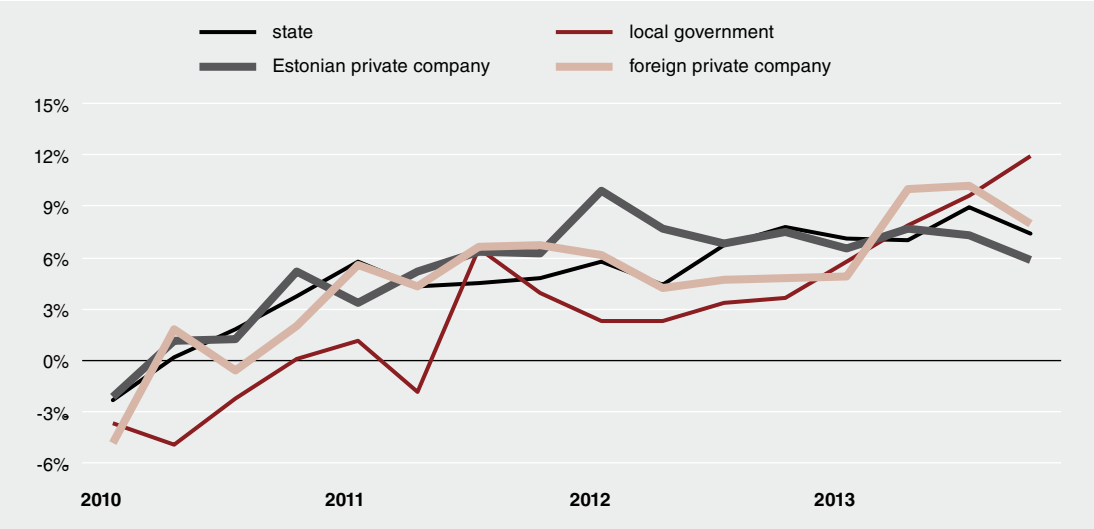


Sources: Statistics Estonia; Eesti Pank calculations

Wage growth in 2013 was fastest in entities owned by local government, where growth reached 12% in the fourth quarter (see Figure 10). This is probably largely because of the new wage agreements for health and education that came into force during the year. Wage growth in private companies with foreign owners was faster than in Estonian-owned companies, which had the lowest wage growth at 6.6%.

The wage rises of 2013 will also affect the annual growth of average gross wages in 2014 as several wage agreements came into force during the year. Wage rises in the segment with the lowest income are affected by the agreement to raise the minimum wage, under which the minimum monthly wage rose by 10.9% in 2014 to 355 euros and will rise in 2015 by a further 9.9% to 390 euros.

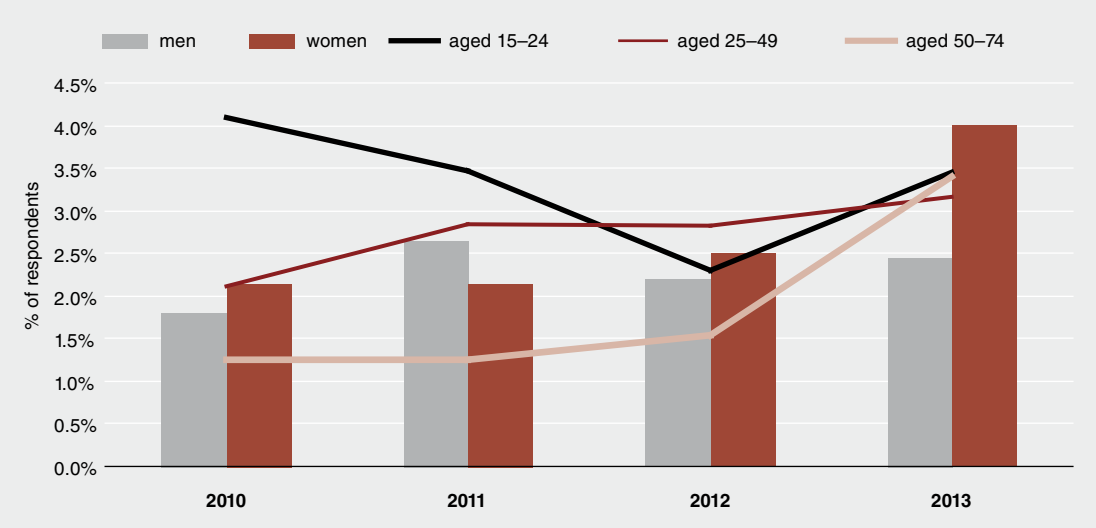
Figure 10. Growth in average gross monthly wages by ownership type of employer



Source: Statistics Estonia

Since 2010 the labour force survey has asked about differences between the wage for the previous month and that for the month before. This makes it possible to observe the characteristics and jobs of employees who had the highest probability of seeing their wages rise in a month, and how that probability changed. The probability of a rise in wages increased sharply during 2013 for people employed by local government administrations, and this is in line with the statistics on average wages. The chances of a monthly wage rise were higher for respondents in higher quintiles for wages, in contrast to 2012 when wages rose more often for those in the lower quintiles. The same case applied for education levels, where wage rises were more common for people with more education, while the probability of a rise in wages increased at the same speed for those who had completed higher education and those who had finished secondary education. The share of people receiving a wage rise increased among older workers and among the young, and it increased more for women than for men (see Figure 11).

Figure 11. Employees who received a pay rise in the previous month



Sources: Statistics Estonia

That women were more likely than men to receive a wage rise is certainly due in large part to the rises in wages from local government administration, particularly education and healthcare. It is to be hoped that this helped reduce the gender pay gap, for which statistics often place Estonia in a leading position in Europe. Box 2 uses the detailed database of the wage survey to look more closely at how much of the gender pay gap comes from structural differences caused by men and women working in different jobs, and at how large the average pay gap is for men and women doing similar jobs.

Box 2: Differences in salaries of men and women with similar jobs

This box looks at how much of the gender pay gap can be explained by women having jobs where wages are lower and how much is because men and women doing similar jobs get paid different wages. It does not consider discrimination in any form because the analysis does not look at the reasons behind the gender pay gap, only at the statistics.

The analysis shows that nearly 13 percentage points of the pay gap comes from men earning more than women for similar work. This assessment is skewed towards pay gaps in jobs with

higher wages because of the nature of pay distribution. Women earn on average 12% less than men working in similar positions. Any interpretation of these results should consider that although a lot of jobs are covered in this analysis, the data do not capture all of the heterogeneity between jobs and so the pay gap for people working in similar positions may be smaller.

The analysis uses data from the Estonian wage survey of 2010, which are aggregated by occupation. The survey is the most comprehensive of all the similar surveys of wages in Estonia. The analysis uses aggregated data rather than micro-data, but the number of data points is quite large as the survey covers more than 400 occupations.

The gap in pay between men and women does not favour men in every occupation and in jobs that require a lot of communication like education or service jobs, women earn more than men. The pay gap favours men in jobs that need physical strength more and that are harmful to health.

The aim here is to compare the wages of men and women doing similar jobs, but there is a problem with the data used in that many occupations are mostly filled by one or other of the sexes. The survey of the structure of wages from 2010 did not find a single female miner in Estonia for example, nor a single male midwife with medium-level qualifications. Occupations like these were excluded from the comparison. As there were only a few observations for some occupations, the average hourly wage and the number of workers are given for only one sex along with the average wage for the occupation as a whole and the number of workers. From these data it is possible to calculate the average number of workers of the other sex and their wage for that job. Data that were usable in the analysis cover 96% of the occupations of female wage-earners and 89% of the occupations of male wage-earners.

We can express the average male wage as the average male wage for an occupation

$$(1)\ W_m = \sum_{j=1}^{T} q_j^m w_{m,j},$$

where W_m is the average male wage, q_j^m is the share of men working in the j-th occupation among all men, $w_{m,j}$ is the average male wage in the j-th occupation and T is the total number of occupations.

The average female wage can be calculated in a similar way

$$(2)\ W_n = \sum_{j=1}^{T} q_j^n w_{n,j}.$$

We can define the pay gap ε as the difference between the wages of women and men divided by the average male wage

$$(3)\ \varepsilon = \frac{W_n - W_m}{W_m}.$$

If the average wages of men and women are used in the formula for the pay gap, then we can rewrite the pay gap formula as

$$(4)\ \varepsilon = \frac{\sum_{j=1}^{T} q_j^n w_{n,j} - \sum_{j=1}^{T} q_j^m w_{m,j}}{W_m} = \frac{\sum_{j=1}^{T} \left(q_j^n w_{n,j} - q_j^m w_{m,j}\right)}{W_m}.$$

Taking $\frac{q_j^n w_{m,j}}{2} + \frac{q_j^m w_{n,j}}{2}$, we can re-express it in the form

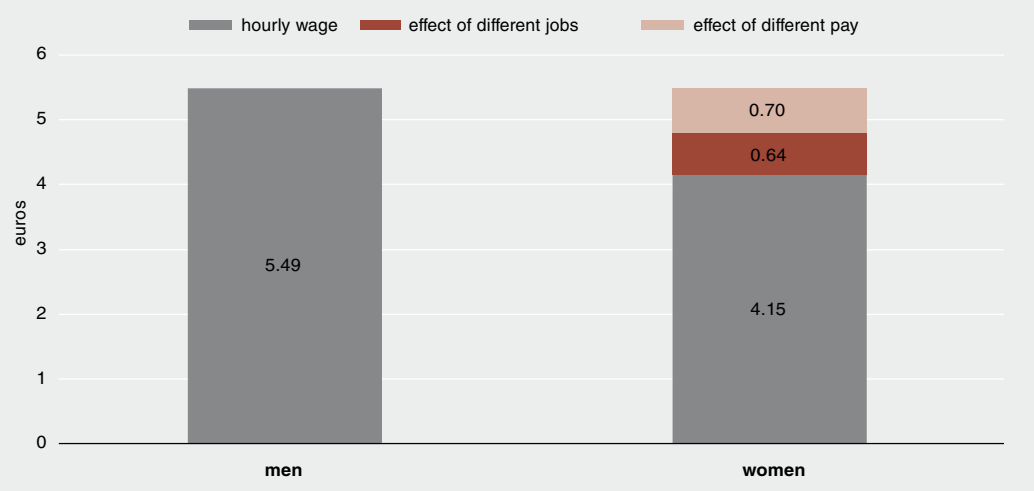
$$(5) \quad \underbrace{\varepsilon}_{wage\ gap} = \underbrace{\frac{\sum_{j=1}^{T} \frac{w_{n,j}+w_{m,j}}{2}\left(q_j^n - q_j^m\right)}{W_m}}_{effect\ of\ structural\ difference} + \underbrace{\frac{\sum_{j=1}^{T} \frac{q_j^m+q_j^n}{2}\left(w_{n,j}-w_{m,j}\right)}{W_m}}_{effect\ of\ pay\ difference}.$$

In a decomposition like this we consider the total pay gap from the structure of average occupations for men and women and we can find the impact on the pay gap of the difference in pay for men and women with the same occupation. On top of this we can find the impact of structural difference, which shows how much of the difference in wages of men and women is because men work in higher-paying positions than women.

The decomposition shows that 11.6 percentage points of the total gender pay gap of 24.4% is due to women working in jobs that pay less than those of men, and 12.8 percentage points due to women receiving lower pay for a similar job. Figure 2B.1 shows the average hourly wage of men and women and the pay gap. The impact of the difference in pay or the difference in pay for people working in similar jobs is in the order of 70 cents per hour in favour of men.

The method used in this decomposition addresses the absolute pay difference in a linear fashion. As the pay distribution is close to a log-normal distribution, a method like this gives a higher weighting to higher-paid occupations. In this way, part of the structural effect may be reflected under the pay difference.

Figure 2B.1. Decomposition of the difference in hourly wages



Sources: Statistics Estonia 2010 Estonian wage survey; Eesti Pank calculations

To solve this problem, wages are usually modelled in logarithmic terms. The effect of the pay difference can alternatively be considered by comparison of the total wage gaps of all occupations

$$(6) \quad \pi = \sum_{j=1}^{T} q_j \varepsilon_j,$$

where π is the average pay gap in the economy that cannot be explained by looking at the occupations, q_j is the weighting used for women, men or the structure of average employment, and ε_j is the difference between the female wage and the male wage for the j-th occupation as a ratio of the male wage.

The results of the calculations based on this formula are shown in Table 2B.1. The solution that is closest to that of the previous decomposition approach is the aggregated result using the average weights, which shows 11.9 percentage points of the gender pay gap coming from women earning less than men for a similar job. Results using different weights were not significantly different. The pay difference for people of different sexes doing the same job was highest for managers.

In this analysis, the jobs were able to explain about half of the gender pay gap. Earlier analyses using detailed data on jobs have found the same. Anspal, Kraut and Rõõm (2010)[4] used data from research into the pay structure in 2006 and also found that the difference between jobs explains nearly half of the gender pay gap. Their estimates of the pay gap that is due to employees' personal attributes such as education, age and length of service are mostly smaller and their estimates of the unexplained gender pay gap are larger. The research also found that these attributes are able to explain only a small part of the pay gap.

Table 2B.1. Gender pay gap resulting from people in similar jobs getting different pay

	Weight		
	average	**men**	**women**
Managers	-16.4%	-17.7%	-14.1%
Top specialists	-9.4%	-14.7%	-7.0%
Technical and mid-level specialists	-12.1%	-14.8%	-10.2%
Officials	-13.5%	-19.2%	-11.8%
Service and sales staff	-14.8%	-13.6%	-15.1%
Agriculture and other skilled labour	12.2%	14.4%	10.8%
Skilled labourers and craftspeople	-11.5%	-11.8%	-10.5%
Plant and machine operators and assemblers	-9.6%	-8.7%	-11.6%
Unskilled labourers	-11.7%	2.2%	-19.5%
Total	**-11.9%**	**-12.1%**	**-11.8%**

Sources: Statistics Estonia 2010 Estonian wage survey; Eesti Pank calculations

[4] Anspal, S., Kraut, L., Rõõm, T. (2010). Sooline palgalõhe Eestis: empiiriline analüüs. Uuringuraport. [The Gender Pay Gap in Estonia: Empirical Analysis. Research report.] CentAR Centre for Applied Research, PRAXIS Centre for Policy Studies, Estonian Ministry of Social Affairs.

Reservation wage of the unemployed

The reservation wage is the minimum amount for which an unemployed person is prepared to accept a job offer. All else being equal, the higher the reservation wage, the lower the chance of finding a job. The wage expectations of the unemployed rise in reaction to changes in the labour market, so that the higher wages in the economy are and the lower the number of people looking for work is, the higher the wage demands of those looking for work and the better the job they expect. Data from the labour force survey show that the level of the reservation wage is affected a great deal by educational background, and that men had a higher reservation wage than women and Estonians a higher one than non-Estonians. The reservation wage also depends directly on the level of support and benefits that have not working as a condition for receipt, like unemployment insurance benefits.

The wage expectations of the unemployed continued to increase in 2013 and at a relatively fast pace. The reservation wage of graduates had earlier increased faster, but in 2013 it rose more slowly than the

average. The difference in the reservation wages of men and women has declined slightly in recent years, and the reservation wage of women was 74-79% of the reservation wage of men in 2013 (see Table 1).

Table 1. Reservation wage of the unemployed and growth in 2013 by education level and gender

	Reservation wage (euros)			Reservation wage growth		
	mem	women	total	men	women	total
Level 1 education: Up to primary and vocational education	629	485	588	10.2%	10.7%	10.6%
Level 2 education: Up to secondary and professional education	734	543	651	11.0%	11.6%	10.7%
Level 3 education: Upper secondary and higher education	870	683	751	-4.7%	6.5%	1.1%

Sources: Statistics Estonia, Eesti Pank calculations

The rise in the reservation wage was steeper for job seekers with less than tertiary education, who also faced a stronger recovery in labour demand, reflected in the stronger fall in the unemployment rate. The wage expectations of the unemployed with lower levels of education were probably affected by a rise in the minimum wage. The rapid rise in the reservation wage probably indicates optimism among the unemployed about their ability to find a job and means that it will be harder for companies to recruit employees who will work for low wages.

Unit Labour Cost

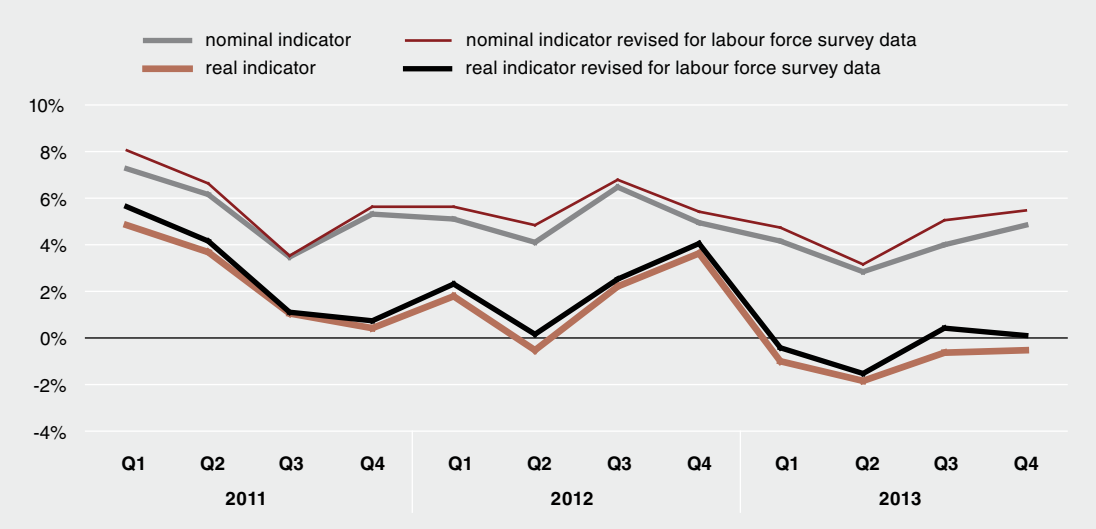
Labour productivity was at about the same level in 2013 as it was in the previous year. Using the unadjusted estimates of employment[5] to calculate labour productivity shows that productivity fell in the first half of the year by 1.5% on average and by 0.5% in the second half of the year. Calculating productivity growth with revised data shows that labour productivity increased by 0.4% in the third quarter and by 0.1% in the fourth. The fall in productivity slowed slightly during the year.

As the growth in compensation paid per employee accelerated in the second half of 2013, unit labour costs grew significantly faster than they did in previous years. Nominal unit labour costs are calculated as a ratio of the payroll costs per employee to the real GDP produced per person employed. Growth in nominal unit labour costs accelerated from 6% in the first half of the year to 8.4% in the second half, meaning that domestic inflationary pressures coming from the labour market have strengthened (see Figure 12).

The real unit labour cost indicator compares the amount that each employee costs in wages and labour productivity per employee at current prices, and it shows how much of the value added is spent on labour compensation and payroll taxes. The growth rate of unit labour costs is defined as positive when labour costs per waged employee grow faster than labour productivity in nominal terms. Real unit labour cost growth accelerated to 3.5% in the second half of 2013 from 2.2% in the first half due to the slowing of economic growth and the surge in wage growth (see Figure 13). The acceleration was not even throughout the year, as it was higher during the first half of the year and peaked in the third quarter but then dropped slightly in the last quarter. The growth is still strong, but the reversal of the trend indicates there may be a deceleration in the future.

[5] Statistics Estonia will adjust the additional figures for GDP during the regular revision in September 2014.

Figure 12. Annual growth in labour productivity



Sources: Statistics Estonia; Eesti Pank calculations

Figure 13. Annual unit labour cost growth

Source: Statistics Estonia

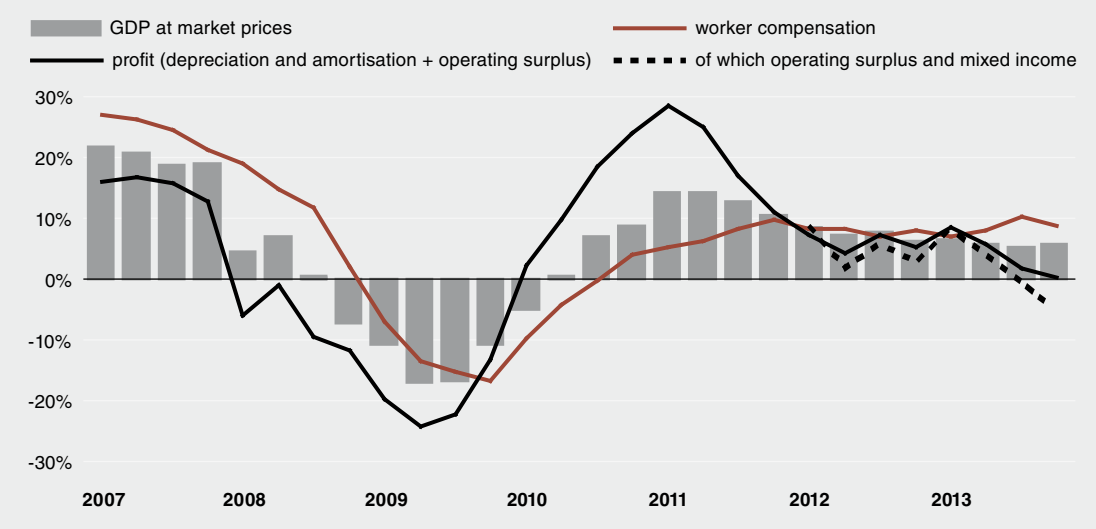
Nominal and real unit labour cost growth varied in different industries and sectors and depended on whether the sector was open to competition from abroad. Manufacturing companies find their ability to pass on higher labour costs into product prices limited, and this is reflected in slower growth in nominal unit labour costs than that in other sectors. Despite its growth, the payroll in manufacturing did not surpass the level seen during the boom as a share of value added.

A contrasting case of production costs being passed on into prices can be found in the other industrial sectors such as mining and electricity generation; supply of gas, steam and conditioned air; and waste handling, all of which are oriented mainly towards the Estonian domestic market. The passing through of labour costs into final prices is possible with these services principally because there is not much

competition from imports and the local market often offers advantages similar to those of a natural monopoly. Labour costs in these sectors also grew faster than production volumes, but as it was possible to pass this on into end prices, profits continued to increase as a share of value added.

Over a longer time span, payroll growth has not exceeded nominal output growth by much, and in the last quarter of 2013 real unit labour costs as a share of GDP were only 3.1 percentage points more than at the end of 2004. The rapid rise in unit labour costs in the past year and a half has however put pressure on prices and reduced the competitiveness of Estonia's exports. In 2013, companies could no longer use their income to finance the faster wage growth through growth in labour productivity and prices. Profits fell relatively quickly as a share of GDP in consequence and in the last quarter of 2013 the nominal growth in the profit component slowed quite sharply (see Figure 14). Macro imbalances in the Estonian economy have increased, meaning that the vulnerability of the economy to any possible shocks is greater than before.

Figure 14. GDP at market prices, worker compensation and annual profit growth



Source: Statistics Estonia

At different stages of the economic cycle the movement of wage growth and economic growth in opposite directions can partly be explained by the inertia of the labour market, which sees unit labour costs adjust to reduced economic activity with a certain lag. If employers believe the pause in economic growth is short-term and they have sufficient buffers, they do not reduce employee numbers or change their wage agreements. In this case, real unit labour cost growth should also be short-lived and should decline again when economic growth picks up. However, there are two risks here. Firstly, if labour cost growth is not cut in difficult times, the wage expectations of employees will be even higher at times of faster growth. Secondly, if there is a delay in the return of economic growth, labour costs will have to be cut more sharply and by a larger amount at one time.