

Eesti Pank



LABOUR MARKET REVIEW

1/2015

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 2014

The long-awaited acceleration in economic growth materialised in the second half of 2014, but unfortunately not through any sharp rise in labour productivity. Growth accelerated mainly as additional labour was employed, even as companies invested less in fixed assets.

The slowdown in the growth in labour costs in the first half of the year did not continue in the second half and although the average wage grew notably more slowly in 2014 than in 2013, seasonally adjusted quarterly wage growth accelerated in the second half of the year. Employment growth surged in the same way at the same time. Labour costs increased as a share of GDP by two percentage points over the year, from 46.5% to 48.5%. Nominal unit labour costs have risen by 17.5% in the last three years, which is almost twice the 9% level where the alert mechanism of the European Commission's assessment is triggered. This means that the Commission may start an in-depth investigation into the causes of this to see whether imbalances are appearing in the economy or if there is a risk of this. The increase in the labour share of value added reduces the competitiveness of exporting companies as they are forced to raise prices. If competition prevents them from doing that, they may not have enough capital from their low profitability to continue production in Estonia. The European Commission looks at excessive growth in unit labour costs to establish whether competitiveness really has started to decline.

If labour is not to increase its share of value added further, the growth in labour costs will need to be the same as the growth of the economy, but the ability of companies to restrict rises in labour costs through lower wage growth is limited by several labour factors. Firstly, the labour supply is shrinking because of demographic changes and it is very unlikely that those changes will be reversed in the next decade. Few highly-qualified young people will enter the labour market as the age groups with smaller cohorts finish higher education. Secondly, the share of the working age population that was employed climbed higher in the second half of 2014 than it was at the peak of the economic boom, meaning that the position of employees in wage negotiations was stronger. Thirdly, Estonian employers are still having to compete in the labour market with foreign employers. Very low unemployment, a decline in the number of available workers for each vacancy, and higher wage expectations among the unemployed are all indicators that the problem of labour shortages has worsened.

The increase in labour costs has reduced corporate profits, but despite that, there was no sign that economic difficulties had increased for companies in the second half of 2014 or in early 2015. There was no rise in redundancy payments, nor in the number receiving compensation because their employer had gone bankrupt, nor in the number of unemployed who had lost their job through redundancy or through their employer closing down. The surveys of sentiment for the Estonian Institute of Economic Research show however that households became a bit more pessimistic about unemployment in 2014 and the first quarter of 2015. Although the rapid rise in unit labour costs suggests imbalances have grown, companies are probably able to survive this because of the expectations of a recovery in external demand and because the financing conditions remain favourable. The ability to increase labour costs at the expense of profits will inevitably be reduced in the longer term. The key question is whether value added can be created with a smaller labour force than before but through increased human capital.

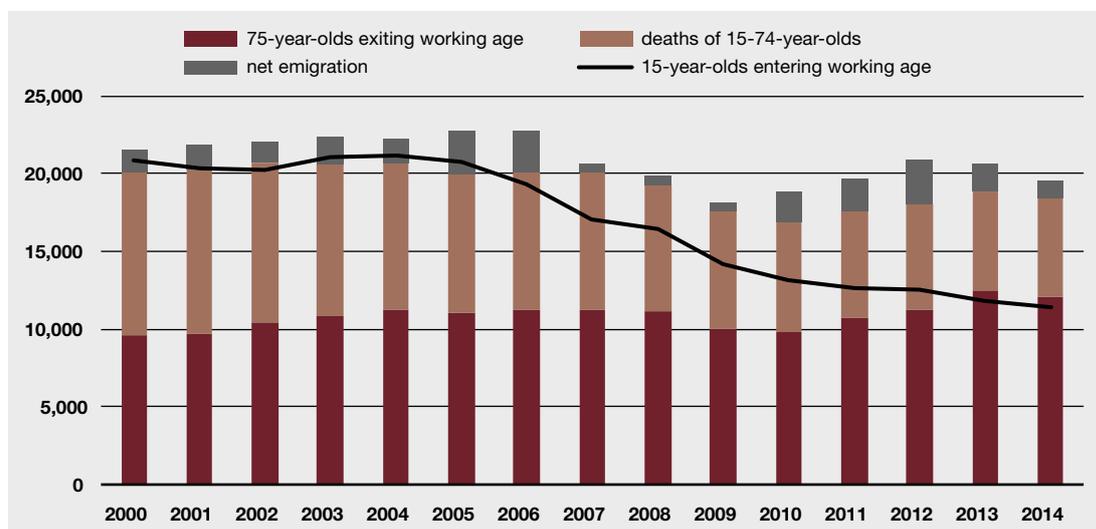
LABOUR SUPPLY AND DEMAND

The working age population

The initial estimate by Statistics Estonia shows that on 1 January 2015 there were 1,312,300 permanent residents in Estonia, which is 3600 or 0.3% fewer than a year earlier. The population declined by 1700 because of emigration and by 1900 because of natural population changes. At the time of writing of this review, Statistics Estonia had not yet published its population estimates by age group, but Eesti Pank's calculations show there were around 983,000 people of working age, which is 0.8% fewer than a year earlier. This means that the decline in the working age population slowed in 2014, as it was 0.9% in 2013.

The working age population mostly declined because the birth cohorts reaching working age are becoming smaller and smaller (see Figure 1). The birth rate rose from around 20,000 a year in the 1980s to some 25,000 at the beginning of the 1990s, which is why there are a lot of people aged 24-30 in the Estonian labour market at present. From 1992 the number of births began to fall rapidly, and by the end of the 1990s it had fallen by around half, hitting a low point of around 12,000 a year in 1998–2000. After this the birth rate began to rise again because some births had only been postponed, and because the system of parental benefits was introduced. The smallest birth cohorts are now aged 15–19 and are mostly in secondary school, and so from next year the number of young people reaching working age will start to increase.

Figure 1. Demographic events and processes affecting changes in the working age population



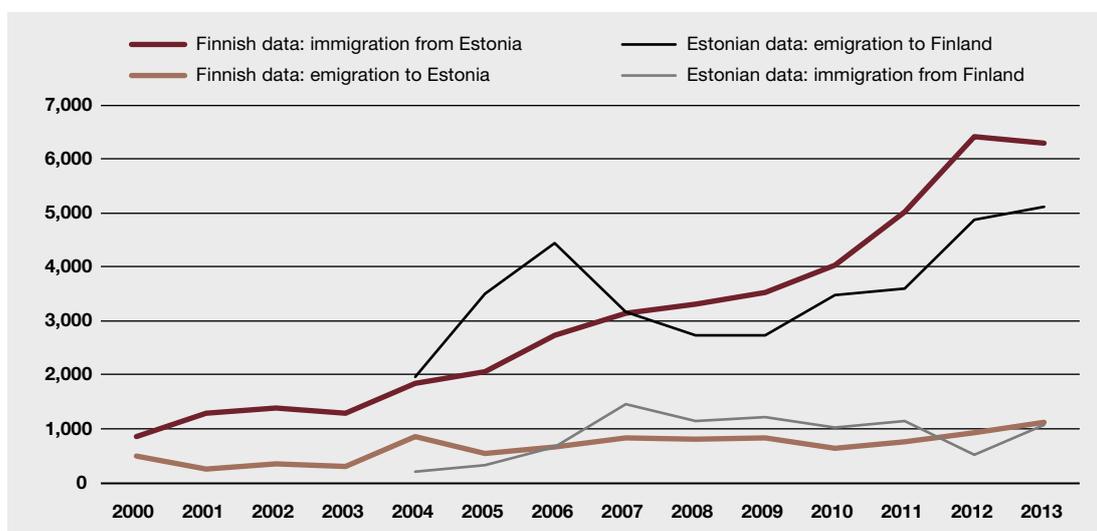
Sources: Statistics Estonia, Eesti Pank calculations

For the working age population to remain stable, the number reaching working age needs to equal the number exiting it. At the turn of the century there were around 10,000 more 15-year-olds entering the labour market than there were 75-year-olds leaving it, but now there are around 700 fewer. The decline in the working age population has been offset by a fall in the mortality rate, but this fall has been smaller than that in the birth rate in the 1990s.

The size of the working age population is not only affected by natural population processes, but also by migration, and in 2014 the net migration balance improved for the second year in a row,

but still saw emigration exceed immigration by 1700 people. Initial estimates from Statistics Estonia show immigration fell by 1198 people and emigration by 2140. Assuming that the age structure of migrants remained the same, net emigration among residents aged 15-74 was around 1200, though the actual negative migration balance may have been larger than this due to unregistered emigration. A comparison of the migration data of the Finnish statistics office with data for registered Estonian migration shows that the Finnish data put the negative migration balance between Estonia and Finland at around 1000 people more per year in 2008–2013 (see Figure 2).

Figure 2. Data from Estonian and Finnish statistical offices for migration between Estonia and Finland



Population census data from 2011 collected by the European Commission for 32 European countries¹ show that there were some 60,000 Estonian citizens resident in those countries, with about half of them in Finland. Of those Estonian citizens, 41,688, or about two thirds, had moved to those countries between the last two censuses. This still underestimates the number who had emigrated from Estonia between the two censuses because some of them may have taken the citizenship of the country they moved to. Finland for example granted citizenship to 3700 Estonian citizens between 2000 and 2011. Neither do the data show emigrants from Estonia who did not have any citizenship, nor citizens of other countries. The Finnish statistics office finds that there were 44,774 Estonian citizens living in Finland by the end of 2013, which is around 15,700 more than the census data from 2011 indicated².

A large majority of more than three quarters of the Estonian citizens living in other European countries were in the younger working age bracket of 15-49, an age group that has made up only 45–50% of all Estonian residents over the past decade. This difference is not surprising, as it is people aged 20–30 who are most likely to migrate. Even though the share of emigrants who are of prime working age is very large, the employment rate for this group is not particularly high in many countries (see Table 1).

¹ EU member states and Iceland, Liechtenstein, Norway, and Switzerland.

² Database of the Finnish statistics office: [Nationality according to age and sex by region 1990-2013](#)

Table 1. Number of Estonian citizens in other European countries in 2011

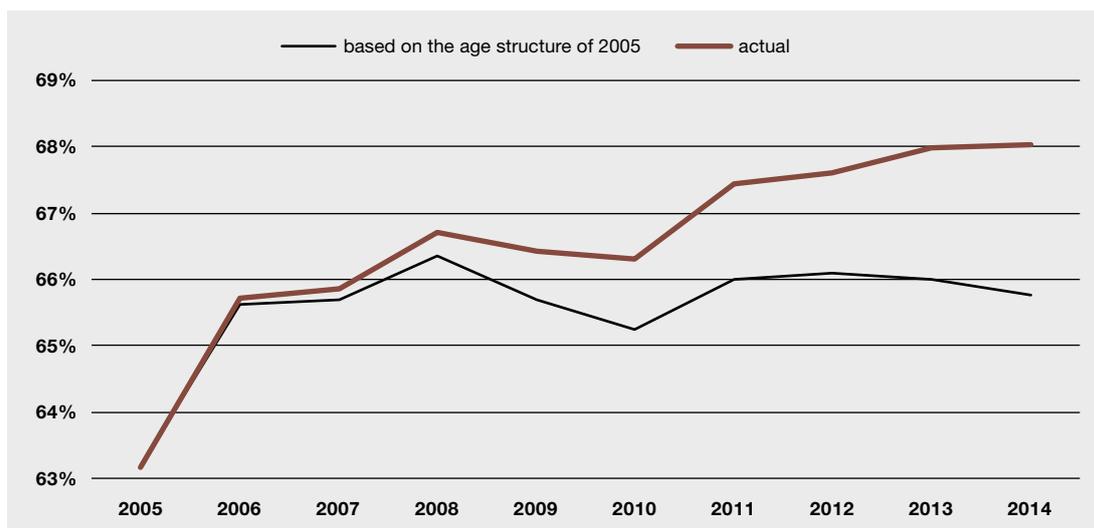
	Estonian citizens total		Arrived in the country after the year 2000		
	Total	Aged 15-49	Total	Aged 15-49	Employed
Finland	29,080	64%	19,642		56%
United Kingdom	8,595	78%	7,500	85%	69%
Norway	3,512	82%	3,329	84%	64%
Sweden	3,806	75%	3,221		42%
Germany	4,590	75%	2,410		53%
Ireland	2,560	77%	1,403	83%	59%
Belgium	819	73%	758	78%	28%
Spain	760	64%	705		32%
Italy	905	85%	702		45%
France	507	80%	342	86%	39%
Other	3,795		1,676		
Total	58,929		41,688		

Source: European Commission CensusHub

Participation in the labour force and inactivity

The labour force participation rate was 0.8 percentage points higher in the second half of 2014 than a year earlier at 68.5%. Although the working age population shrank by some 9100 people during the year, there was a fall of only 1300 in the size of the labour force, which is those who are active in the labour market, either working or searching for work. In 2014 as a whole the participation was the same as it had been in 2013 at 68% (see Figure 3).

Figure 3. Labour force participation rate



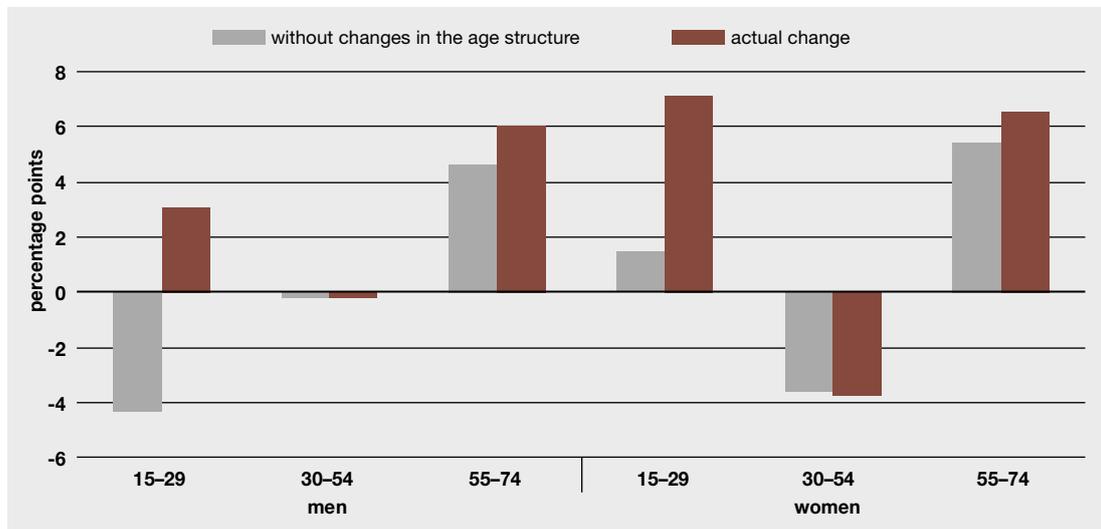
Sources: Statistics Estonia, Eesti Pank calculations

Over the longer term the labour force participation rate has risen substantially, and the rise has been boosted since 2006 by changes in the age structure of the working age population. Figure 3 compares the actual labour force participation rate with the rate that would have been achieved had the

age and sex structure of the population not changed after 2005. All of the rise of just over two percentage points since 2006 has come about because of an increase in the share of those in the 25-49 age group, which has a high participation rate. The ageing of the population will start to reduce the labour force participation rate from this year.

Although the participation rate adjusted for changes in the age structure has been stable since 2006, the changes within the age groups have still been significant. Figure 4 illustrates how the activity of people of both younger and prime working age has declined slightly since 2006, but this fall has been counterbalanced by a notable rise in the participation rate for the older age group, which has gone up by almost five percentage points for men and by more than six for women.

Figure 4. Changes in the labour force participation rate by age group from 2006



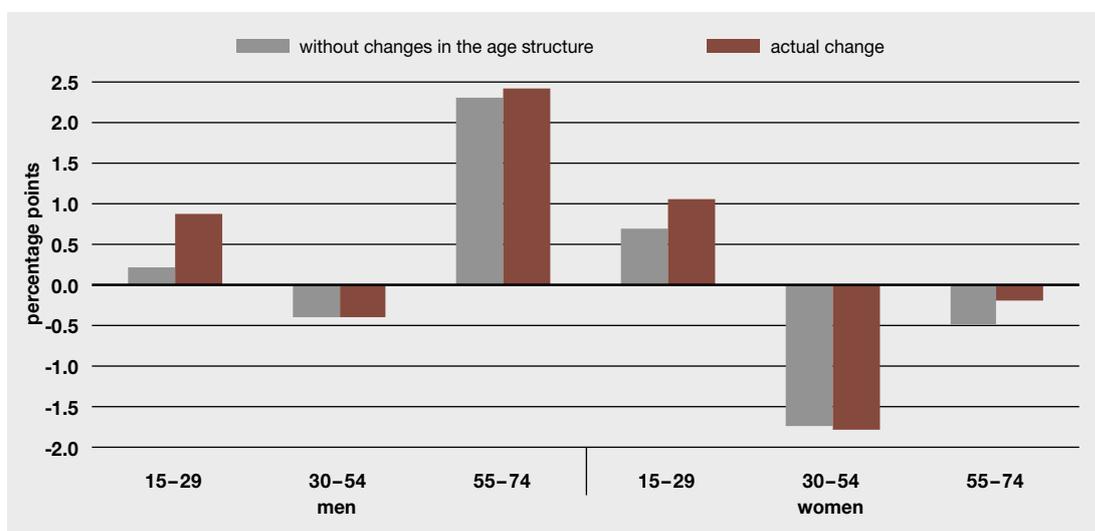
Sources: Statistics Estonia, Eesti Pank calculations

Developments in 2014 indicate that the participation rate for Estonians increased by 1.3 percentage points to 68.9%, while the rate for non-Estonians fell by 2.7 percentage points to 66.1%. The participation rate for non-Estonians fell because of a drop of 5.7 percentage points in the participation rate for women.

The participation rate for young people aged 15-24 was 38.5% in the second half of 2014, which was slightly lower than a year earlier. The proportion of 15-19-year olds in this age group shrank continuously until 2013 as the small birth cohorts of the 1990s entered the group. The impact of the changes in the age structure will start to reduce the participation rate for the young only from 2014, as the share of those aged 15-19 started to increase again (see Figure 5).

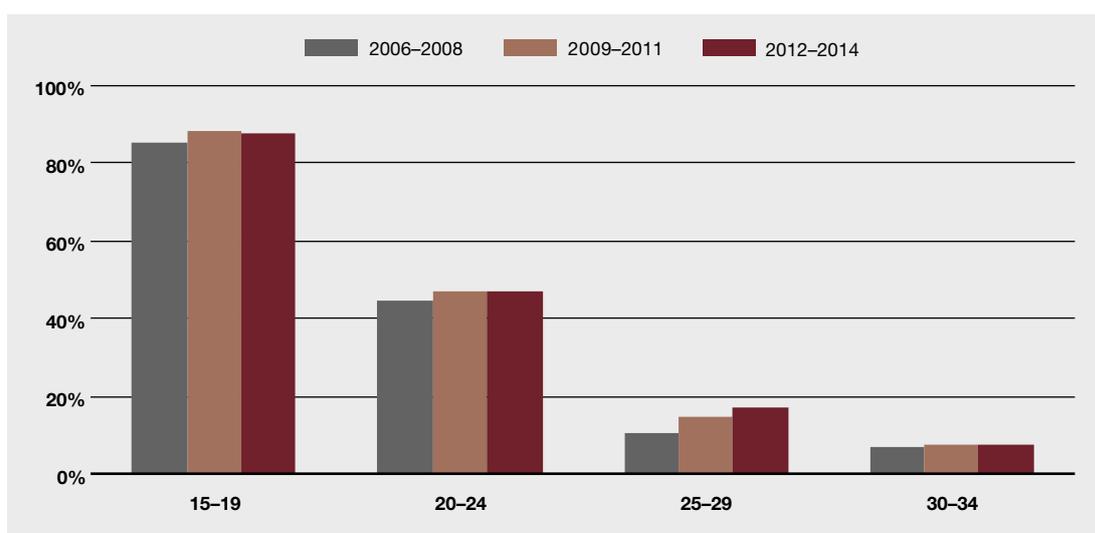
The main reason that the young are not active in the labour market is that they are studying and as the number of young people fell in 2014, there was a fall of 3.5% in the number who were inactive because of studies. This fall has started to slow however because the young age group now contains the smallest age cohorts, but the probability of studying has not notably changed over the years (see Figure 6). In fact, the share of residents aged 25-29 who are in education has increased.

Figure 5. Changes in the labour force participation rate by age group in 2014



Sources: Statistics Estonia, Eesti Pank calculations

Figure 6. Share of residents in education by age group



Sources: Statistics Estonia, Eesti Pank calculations

The Ministry of Education publishes various detailed data about education in its HaridusSilm database. The number of students accepted by higher education institutions has fallen by 30% since 2008 and the total number of students is dropping. The subjects that have seen the biggest falls are business, law and social sciences, where numbers are down 40%. The largest fall in the number of students in the 2009/10 academic year from the previous year was among students who pay for tuition, probably because of the recession. The data show that there has actually been a drop in recent years in the proportion of students in higher education in each age group, which indicates that the probability of studying in higher education has diminished. The picture may be distorted to some extent by the increasing popularity of studies abroad, but unfortunately there are no data on this. The recent higher education reform came into force from the academic year 2013/14, under which no new full-time students have to pay for their studies and the intake of students is decided more by

supply and demand rather than centrally by the state. In 2013/14, 10% fewer students were accepted to higher education institutions than in the previous year, with the number of new students in professional higher education falling by 22% and the number taking integrated undergraduate and master's studies down 13%.

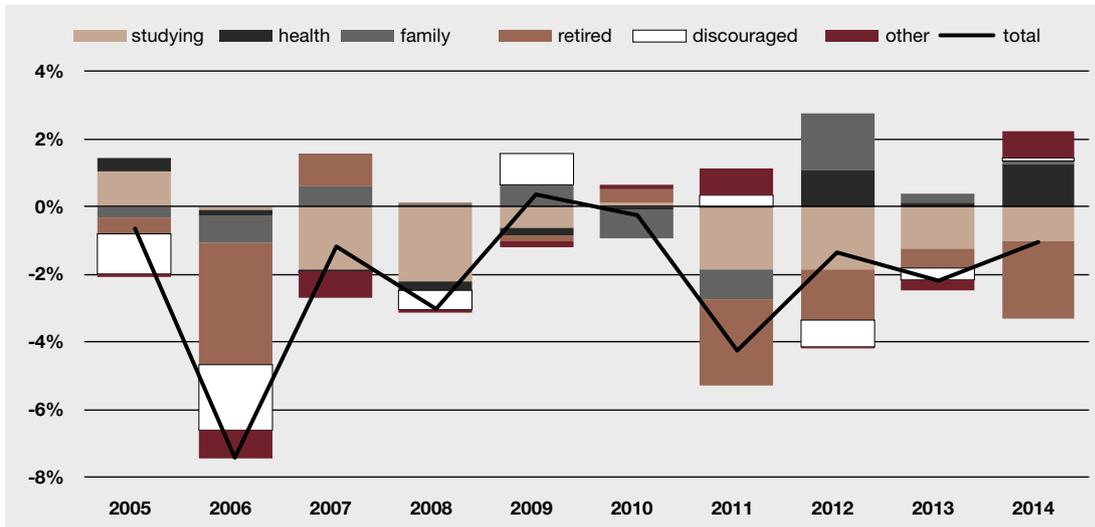
The participation rate for people in their prime working years of 25–49 was 87.3% in the second half of 2014, which was 0.8 percentage point lower than a year earlier. The cause of this slight fall was the drop of 2.5 percentage points in the participation rate of women to 81%. The participation rate for men of prime working age was about 10 percentage points higher than that for women. This is about the same as the 11.8% share of women in this age group who were inactive because they were pregnant or caring for children or other family members in 2014. This is higher than the European Union average, which was 7.8% in 2011–2013. There was one woman inactive for these reasons in Estonia for every 2.9 children aged under five, whereas on average in the European Union there was one woman for every 3.9 such children. Women in the Nordic countries are out of the labour market because of children and family notably less often, as only 7.8% of the age group were affected in Finland and 2.4% in Sweden and Norway. This is mainly because of the way the system for parental leave is designed, as it encourages women in Estonia to be completely out of the labour market for the first eighteen months of their child's life, and because of the availability of childcare for children under three.

Chief among other reasons for inactivity was illness and injury, which kept 3.3% of residents in their prime working years out of the labour market in 2014, a figure that is quite similar to the European average of 2.8% for 2011–2013. Differences between countries are very large within this average though, and the figure ranges from 0.7% in the Czech Republic to 6% in Denmark. Responses to the labour force survey show the actual behaviour of people is affected by the design of the social security system, and the figure for Estonia may be changed significantly by the working capacity reform that will apply from 2016, because some of those who are inactive for health reasons will probably fall into the category of job-seekers under the new system.

The participation rate for the older members of the working age population, aged 50–74, has been rising for a long time and climbed to 58% in the second half of 2014. For the year as a whole the participation rate for men was some 0.5 percentage point higher than in 2013, and the rate for women was slightly below its 2013 level. The share of those who were out of the labour market through retirement continued to fall, and was down from the 47% of the older population in 2000 to 29% in 2014. In contrast to the younger age groups, the activity of people in the older age group has been affected by changes in behaviour rather than in the age structure. This is partly because the retirement age for women is rising until 2016, and probably partly because improved health and longer life expectancy have raised the labour force participation rate. Retirement alone does not determine the age at which people leave the labour market. The rise in the participation rate has been restrained to an extent by the more frequent occurrence of absence from the labour market due to illness or injury, as the number inactive for these reasons rose 7.6% among the older age group in 2014. An increase in inactivity for health reasons is to be expected when the retirement age is raised, as it is quite difficult to separate those two reasons for inactivity (see Figure 7).

The number of discouraged who have given hope of finding a job has been falling since the second half of 2011, but it rose in the second half of 2014 and was up 2% over the whole year. There are more people with a low level of education in this group than among the long-term unemployed.

Figure 7. Contribution of different reasons for inactivity to annual growth in the number inactive

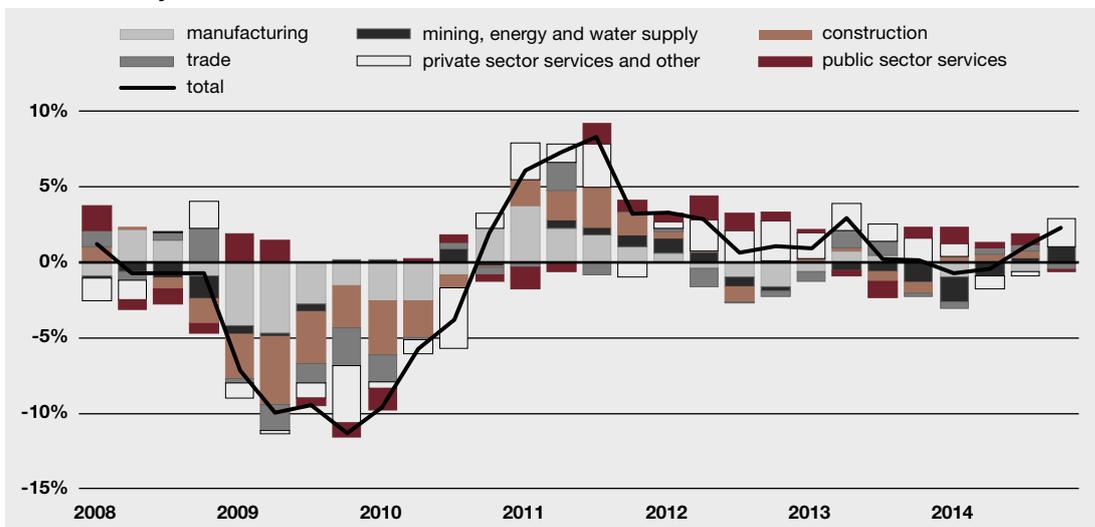


Source: Statistics Estonia

Employment

The fall of 0.5% in employment in the first half of 2014 was only temporary according to the Estonian labour force survey, as growth in employment accelerated in the second half of 2014 to 1.7% over the year. Employment increased most in the second half of the year in sectors supporting the service industry (see Figure 8). In 2014 as a whole employment grew by 0.5%, which was slightly less than in 2013, and the recovery in growth in the second half of the year was largely unexpected. As labour costs have been rising faster than productivity for a long time, corporate profits have shrunk quite quickly according to the statistics for the national accounts, and they were down 8% in 2014. Such circumstances generally put companies under a lot of pressure to make production more efficient and reduce the growth in labour costs, either by hiring fewer workers or by shedding some employees.

Figure 8. Contribution of sectors to growth in total employment according to the labour force survey



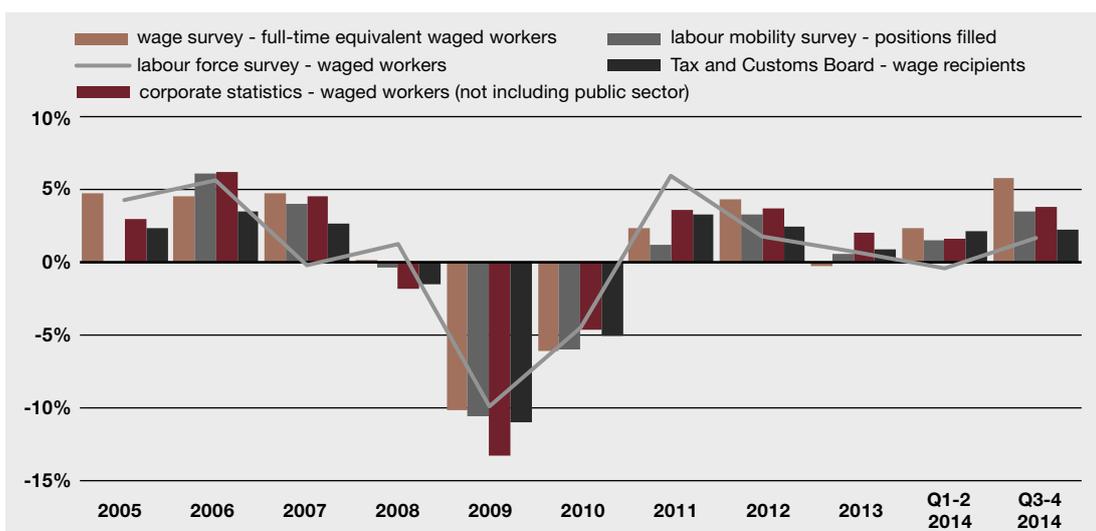
Source: Statistics Estonia

As the number of people of working age fell by 0.9% in 2014, the employment rate, showing the share of people with a job, rose by 0.5 percentage point to 63.8%. The seasonally adjusted employment rate in the second half of 2014 was higher than the peak it reached during the economic boom in 2008. Although employment should principally reflect demand in the labour market, as the supply is the entire labour force, it can still be said that the rise in employment has been aided by the change in the age structure of the working age population, which has led to an increase in labour force participation. In addition to the unemployed finding work, people often move from inactivity straight into employment, and so the employment rate shows the amount of slack in the labour market and clearly indicates that there has been a reduction in labour resources.

Employment in companies and institutions operating on the territory of Estonia increased in the second half of 2014 by 2.3%, which was even faster than total employment growth. The main reason for the rapid growth was that the number of Estonian residents working abroad fell. The incentive to look for work abroad has probably been reduced by strong growth in wages and the availability of better work in Estonia, while Finland, the main destination for pendulum migrants travelling backwards and forwards between Estonia and the country of work, has been in recession recently.

In 2014 the Tax and Customs Board tightened its checks on the declaration of labour costs, and from 1 July Estonian employers had to register everyone working for them from the very first day of work. It also became necessary from December to declare all sales and purchase transactions of over 1000 euros in value. More stringent reporting requirements will also make it harder to generate an undeclared cash flow, from which undeclared wages can be paid. As the labour force survey interviews people about their place of work whether or not they have an official contract, the changes made by the Tax and Customs Board should not affect the employment estimates of the labour force survey, but they may affect employment estimates based on company reports or surveys. Figure 9 shows that annual employment growth accelerated in the second half of 2014

Figure 9. Annual growth in employment from various data sources



Sources: Statistics Estonia, Tax and Customs Board

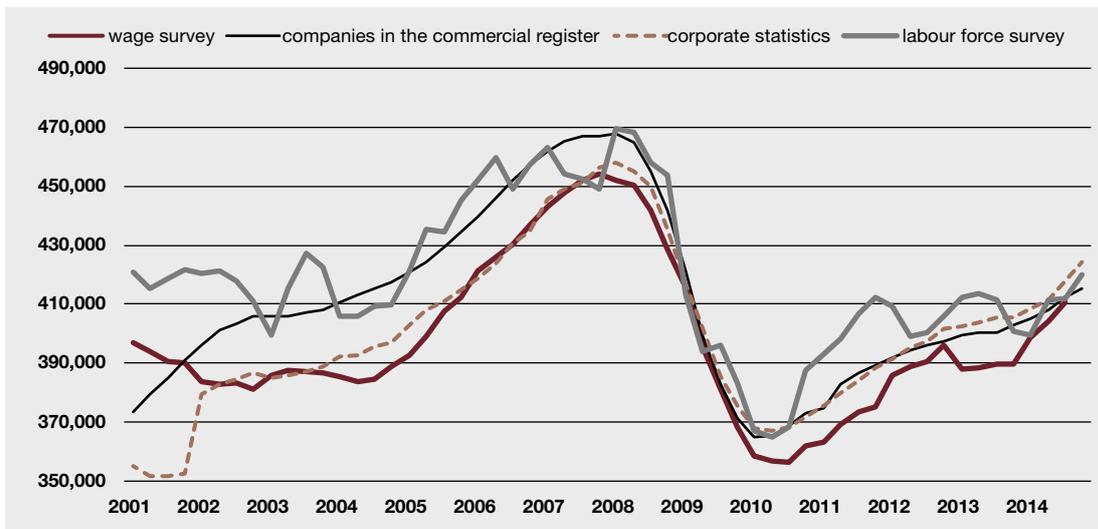
in almost all surveys. The wage survey stands out among the others as it shows growth in full-time equivalent employment of 5.8% in the second half of the year, which is faster than the fastest growth seen in 2006–2007. The largest contributor to growth in the third quarter was wholesale and retail trade, where there were 8000 more jobs than a year earlier. Accommodation and catering stood out particularly for the high speed of its growth as the number of waged employees increased by 16.5% in the second half of the year.

Full-time equivalent employment in the wage survey may have been affected by a change in the hours worked per employee. When employment is growing, it is to be expected that the intensity of work will also increase, as was shown by the labour force survey data for 2014. The number of part-time workers had fallen by the end of 2014 for seven consecutive quarters and the number of underemployed has fallen almost continuously since 2010. In 2014, 9.6% of all the employed were working part-time in their main job. Women work part-time more often than men, with 12.8% of women and 6.5% of men doing so, and the young and the over-50s work part-time more than those in the middle.

The survey of vacant positions and labour mobility indicates that there were 3.4% more filled positions in the second half of 2014 than a year earlier. This survey also showed that employment grew faster in the second half of the year than in the first, when it was 1.5%. Employment grew fastest in accommodation and catering at 12.8% and in jobs in science and technology, where growth was 12.5%. The largest contributor to growth in employment was wholesale and retail trade, where there were some 5000 more filled positions. It is not possible to say by sector whether growth in the number of positions filled accelerated only because of the surge in the second half of 2014, as employment in trade for example had already been rising for a long time according to this survey.

Data from the Tax and Customs Board show an average of around 523,000 a month receiving wages in the second half of 2014, which was 2.2% more than at the same point in 2013. Seasonally adjusted figures for those receiving wages reveal a clear spurt in growth in their numbers in the third quarter, and a slowdown in the fourth quarter (see Figure 10). The growth in the number

Figure 10. Private sector employment from various data sources (seasonally adjusted)



Sources: Statistics Estonia, Eesti Pank calculations

receiving wages came entirely from employment in companies registered in the commercial register, while registered employment at state institutions fell at the same time. Data from the Tax and Customs Board³ show that some 9000 employees who had not received any declared wage in the previous twelve months had been added to the employment register by December 2014. It cannot be concluded for certain from this figure that this is the exact number who moved from the shadow economy to receive declared wages as it also includes the young who were first entering the labour market and people who had been inactive or out of work for a long time for other reasons.

Manufacturing, where more than 5000 companies employ some 100,000 workers, was affected less than the average by the changes made by the Tax and Customs Board. The labour force survey shows that employment in manufacturing fell by 1.7% in the second half of the year but the reduction in employment was smaller than that in the first half of the year. Other surveys show employment in manufacturing increasing however, as the wage survey put growth in full-time equivalent employment at 4.1% in the third quarter, statistics for vacant positions and labour mobility put the growth at 1.7% in the second half of the year, and corporate statistics show it at 1.8%. The pressure to raise productivity and limit labour costs should be high in manufacturing because real unit labour costs rose by 8% in 2014 and profitability fell.

In contrast to the situation in manufacturing, the reduction in the shadow economy had a clear impact on employment in construction. The labour force survey showed that employment in Estonian resident production units started to increase in the second half of the year after falling for a long time, with annual growth reaching 3.7%. Surveys using corporate data found growth accelerating even more, as the wage survey found it increasing from 3.9% in the first half of the year to 7.2% in the third quarter, and the labour mobility survey found a change from zero in the first half of the year to 2.9% in the second half. Unlike other sources however, the data from the corporate statistics indicate that employment actually fell in the second half of the year by around 3%.

Unemployment

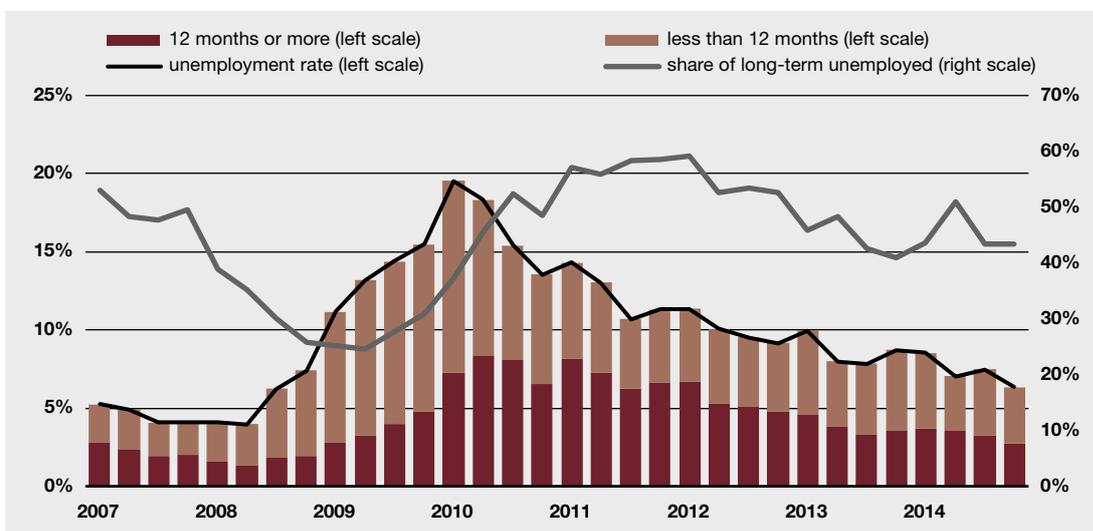
Unemployment fell throughout 2014 and the unemployment rate stood at 6.3% in the final quarter. The labour force survey estimates the number of unemployed fell by 16% on average during the second half of the year, and some 47,000 people were without work. The unemployment rate in Estonia was lower than the 11.6% in the European Union and than the rate in Finland, which has been rising for a long time and climbed to 8.5% at the end of the year.

In the first half of 2014 there was an increase in the share of the long-term unemployed and the duration of unemployment increased, but in the second half of the year these figures improved (see Figure 11). The long-term unemployed who have been looking for work for at least twelve months accounted for 43.4% of the unemployed in the second half of the year. Statistics for registered unemployment with Töötukassa, the unemployment insurance fund, also show that the share of the unemployed who had been registered for over a year has fallen steadily. As unemployment has fallen, there has been a fall in the structural unemployment rate at the same time.

The unemployment rate for people aged 15-24 fell by five percentage points in the second half of 2014 to 12.8% (see Figure 12). Youth unemployment fell faster last year than unemployment for

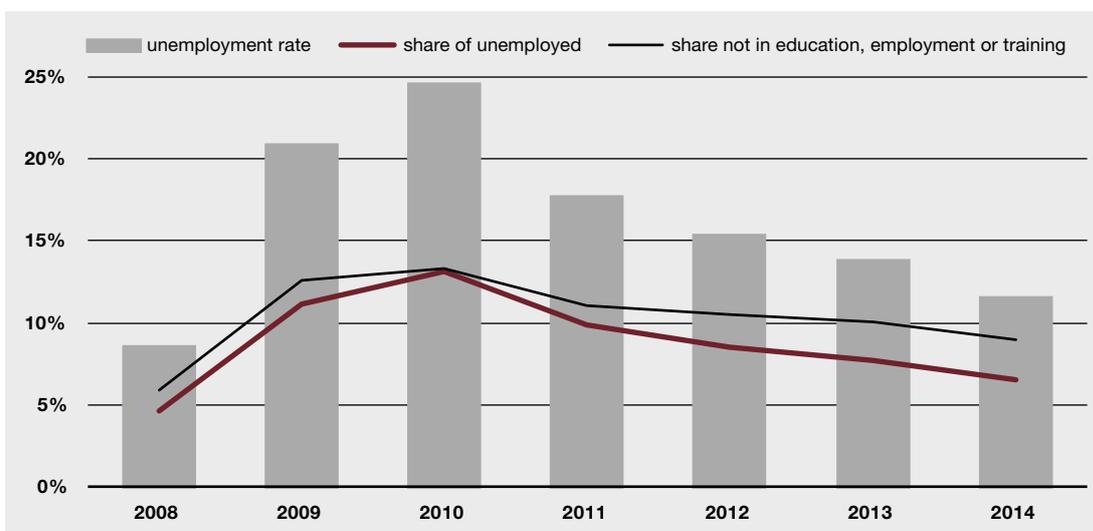
³ Tax and Customs Board press release: [The employment register has brought the state revenues of 1.4 million euros in its first two months](#), 30.09.2014 (Estonian only)

Figure 11. Rate and duration of unemployment



Source: Statistics Estonia

Figure 12. Indicators of youth unemployment (residents aged 15–29)



Sources: Statistics Estonia, Eesti Pank calculations

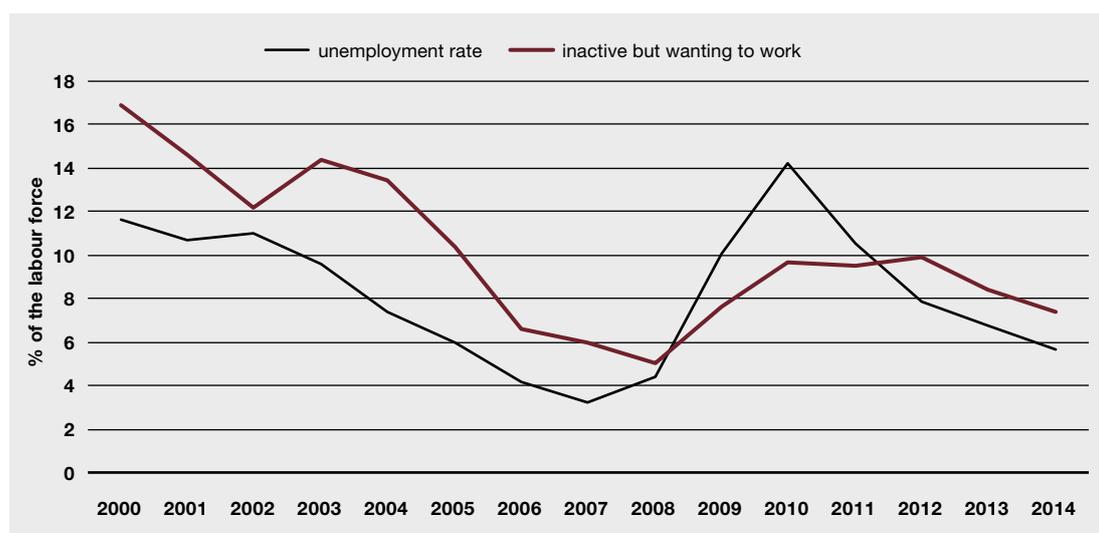
those in their prime working years, though estimates of the youth unemployment rate vary quite a lot. Partly this is because the labour force participation rate of this age group is low and so the probability of unemployment is quite small, and partly it is because the sample of the youngest age group in the labour force survey is quite small. The youth unemployment rate in Estonia is generally lower than the average rate in the European Union, which was 21.6% in the fourth quarter, while it was 51% in Spain and 51.8% in Greece, both of which were suffering from the debt crisis. However, if the young unemployed are taken not as a share of those who are active in the labour market, but as a share of all the residents of that age, the unemployment rate in the third quarter was 5.4% in Estonia, 9.2% for the European Union on average, 19.4% in Spain and 14.2% in Greece.

At around one third, a large share of the unemployed young are studying full time. People in this category are less at risk than the NEETs, who are Not in Education, Employment or Training. Among the NEETs are the unemployed who do not participate in active labour market services, and the inactive who are not studying. They also include young women who are inactive because they are caring for children if they had not worked before having a child. The share of NEETs in the 15–29 age group has fallen in recent years because the unemployment rate has fallen.

The unemployment rate among residents in the 25–49 age group was 7.2% in the second half of 2014, which was 0.5 percentage point down on a year earlier. Unemployment was 6.9% among men, which was almost one percentage point lower than the rate of 7.7% for women.

In the older working age group aged 50–74, the unemployment rate is generally lower than that for residents in their prime working years as members of that group often do not fully meet all the criteria for unemployment, mostly because they are not actively looking for work. As such, figures showing a broader definition of unemployment should be considered for this age group alongside the usual unemployment rate. The inactive who would like to work but are not actively looking for work outnumber those in this age group who are unemployed (see Figure 13).

Figure 13. Unemployment indicators for residents aged 50–74



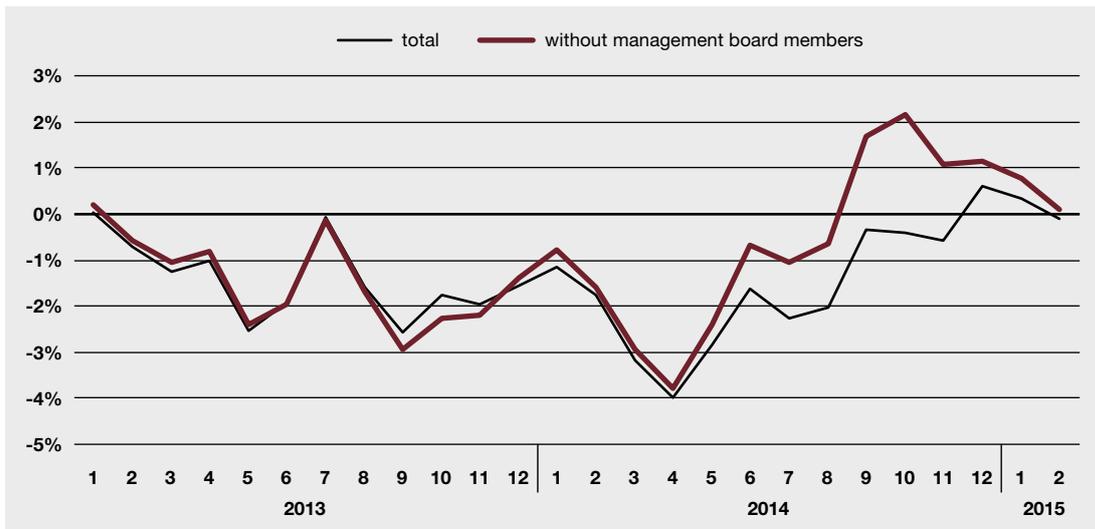
Source: Statistics Estonia

The unemployment rate for non-Estonians of 9.4% was much higher than the 5.9% recorded for Estonians in the second half of 2014, but the rate for non-Estonians fell by around three percentage points more than that of Estonians over the year. The unemployment rate in Ida-Virumaa fell faster than those in other Estonian regions, and dropped to 11.5% in the second half of the year.

The dynamics of registered unemployment in the second half of 2014 were different from those of unemployment reported in the labour force survey. Registered unemployment also fell over the year, by an average of 21.4%, but unlike total unemployment it started to increase in number month on month at the end of the year. Töötukassa paid benefits to an average of around 26,000 people each month and at the end of the year 4.4% of the labour force was unemployed. The counties where the registered unemployed made up the largest share of the labour force were Ida-Virumaa, where 8.7% of the labour force were registered as unemployed, and Valgamaa, where 8.4% were.

People who are on the management board of a company have no longer been able to register as unemployed or to apply for unemployment benefit for the loss of wage income since May 2014. The number of such people among the registered unemployed started to fall from May and at the end of November Töötukassa deleted the last 500 of them from the register. The change in the law may have affected behaviour in two ways. If membership of the management board is more important to the unemployed person than the unemployment benefits forgone, then that person is likely to remain unregistered. As some of those who have lost their paid work will be ineligible for insurance benefits, fewer will have registered as unemployed and so the registered unemployment rate is lower. However, those whose main activity was paid work, and for whom the membership of the board was not important, can step down, possibly temporarily, from the board or liquidate the company entirely, in which case the change to the law has no effect on registration as unemployed. Unfortunately there are no data on how many people have relinquished their unemployment registration or their position on a management board after the law was changed, so it is not possible to say how far the change was responsible for the fall in registered unemployment. Figure 14 shows unemployment with the two extreme behaviours by management board members, though the actual situation is likely to be somewhere between those two extremes.

Figure 14. Monthly change in registered unemployment (seasonally adjusted)



Sources: Töötukassa, Eesti Pank calculations

The labour force survey asked about contact with Töötukassa and registration as unemployed. Active contact with Töötukassa declined in 2014 to 48% from 52% the previous year. The services offered by Töötukassa were more likely to be used by women, non-Estonians and people in their prime working years. A quarter of respondents said they did not contact Töötukassa in 2014 because there was no suitable work on offer, a little less than a third said that they did not have the right to get monetary unemployment benefits, and slightly under another third said they did not need the services as they could cope on their own. Data from Töötukassa show that 28% of the newly unemployed qualified for unemployment benefit and 30% for unemployment insurance, as did 21% and 27% respectively of all the registered unemployed.

The seasonally adjusted monthly growth in registered unemployment continued in the first quarter of 2015 and so the rise in the number registered as unemployed cannot be fully explained by

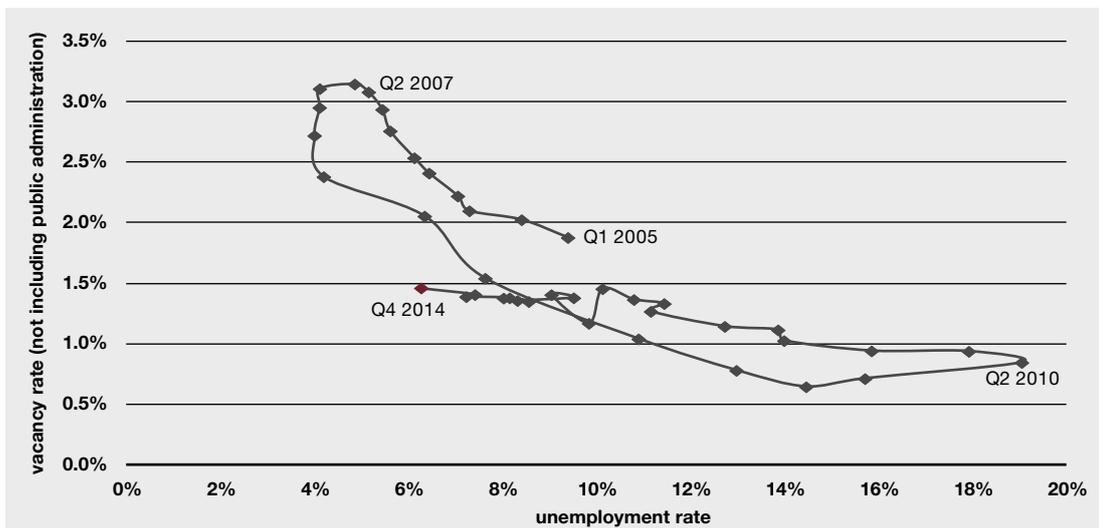
the usual monthly fluctuations. However, redundancy benefits have not been paid out more than usually and neither has the number unemployed because of the bankruptcy of their employer increased. The consumer sentiment survey of the Estonian Institute of Economic Research indicates that households were more pessimistic in the first quarter of 2015 about how the labour market would develop than they were a year earlier. Expectations might have been affected by newspaper reports of upcoming redundancies at VKG, a chemicals company, and in agriculture.

Vacancies

The survey of vacant positions and labour mobility indicates that the number of positions vacant increased by 6% in the second half of 2014 to average 7910. The vacancy rate, which is the number of vacancies as a ratio to the total number of filled and unfilled jobs, was 1.5% at the same time, which is 0.1 percentage point higher than a year earlier. The largest number of vacancies was in manufacturing and trade as the number of unfilled jobs in manufacturing fell by 7.1% over the year and the vacancy rate fell from 1.6% to 1.4% but the number of vacant positions in trade continued to grow. The vacancy rate was only higher than the national average last year in Harjuma and Tallinn.

The match between jobs and available labour is shown by the Beveridge curve, which shows the vacancy rate relative to unemployment, and the fall in the unemployment rate shifted that curve to the left in 2014. However, the vacancy rate has barely changed at all in the past two years though the number of unemployed people, representing available labour resources, per vacant job fell during 2014 (see Figure 15).

Figure 15. Beveridge curve (seasonally adjusted)



Sources: Statistics Estonia, Eesti Pank calculations

WAGES AND LABOUR COSTS

Average wages

Average gross monthly wages were 977 euros in the third quarter of 2014 and 1039 in the fourth. The annual growth in average gross wages slowed further in the second half of 2014, declining from the 6.1% in the first half to 5.2%, while the growth in average gross wages for the whole year slowed from 7.8% in 2013 to around 5.6%. Although the slower growth in wages was a step in the direction of better balance as economic activity picked up slightly, it was not enough to stop the erosion of profits. To observe the short-term changes in wages it is worth looking at quarterly growth rather than annual growth, remembering that seasonal factors can have an impact. The quarterly growth in average wages was faster in the second half of 2014 than in the first half, meaning that the slowdown in wage growth in fact only lasted for a fairly short time. If quarterly wage growth continues in 2015 at the same speed, there will be an acceleration in annual wage growth at the same time.

The growth in average wages in the second half of 2014 may have been affected by the requirement for companies to register all their employees, which came into force from 1 July. Wages are now being declared for more people, as those who previously received unofficial wages are included, but it has not led to companies declaring more wages per worker. The Tax and Customs Board found that the number of people receiving an official income increased by 9000 between July and December, and the average wage of these people was close to the minimum wage⁴. If the number of workers earning the minimum wage increases as a share of all waged workers, the effect on the average wage is negative, so the annual growth in average wages is smaller than it would have been without the new obligation to register workers.

Real wages grew faster in 2014 because consumer prices fell. The consumption capacity of employees on the average wage increased as a result more than it did in 2013. The real wage adjusted for changes in the consumer price index increased by 5.8% in both the first and second halves of 2014 (see Figure 16).

Figure 16. Annual growth in average gross monthly wages, real wages and GDP at constant prices



Source: Statistics Estonia

⁴ Tax and Customs Board press release: [A further 9000 new tax payers have been added to the employment register](#), 12.12.2014 (Estonian only)

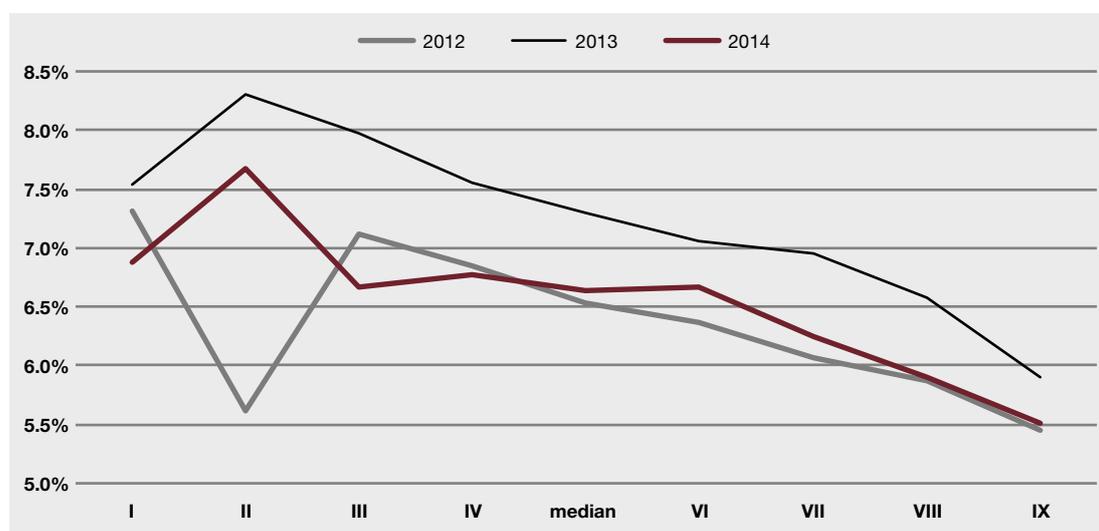
Average net wages, which is the money actually paid to the employee after taxes, rose 0.5 percentage point more slowly than average gross wages according to data from the first three quarters of the year. Net wages rose less because the effective income tax rate rose together with wages. Although Estonia has a flat rate of income tax, it still has a progressive element because of the basic tax exemption, so as wages rise, the share of gross wages that is subject to income tax increases. Net wages will grow faster in 2015 and the tax wedge for labour will be reduced as the basic exemption rate is raised from 144 euros to 154 euros a month and income tax is lowered from 21% to 20%. A worker earning the average wage will see an increase in the take-home wage of 1.1% because of these changes. For jobs where the employer and employee agree on a net wage, this will reduce costs to the employer and help to slow the growth in labour costs.

The jobs that saw gross monthly wages rise faster than the average in 2014 were in the services sector, such as finance and insurance, where wages rose by 9.7%, and real estate, where they were up 7.3%, and in the public sector, where wages in public administration rose by 7.9%, those in education rose 7.4% and wages in healthcare were up 8.6%. Wages in manufacturing rose by 5.5%, which is close to the average across sectors, while wage rises were below the average in construction and in information and communication, where wages have risen rapidly for a long time. The average wage was highest in the financial sector at almost 1.7 times the national average, and the lowest was in accommodation and catering, where it was 61% of the national average. The wage survey found that the number of employees in accommodation and catering increased by more than 10% in the first three quarters of 2014, which might explain the relatively slow growth in the average wage of the industry, if the number of employees grew mainly because of those who were earlier working unofficially and whose declared wage was close to the minimum wage.

The rise in the average wage calculated from quarterly data slowed most in companies with foreign ownership, where it fell from 6.1% in 2013 to 3.6%. The average wage in Estonian private companies and in the public sector rose by over 7%, with growth slowing very slightly in public sector jobs but accelerating in Estonian-owned private companies.

Data from the Tax and Customs Board show wage growth to have been fastest at the lower end of the wage distribution (see Figure 17). This was affected by a rise in the minimum wage, which rose

Figure 17. Annual growth in the average wage paid out by deciles



Sources: Tax and Customs Board, Eesti Pank calculations

almost twice as fast as the average wage, as had been agreed between employer representatives and trade unions. The minimum wage rose by 9.9% in 2015, almost as much as in 2014, to 390 euros a month. Wages also rose faster than the average in the middle of the wage distribution, and they rose more slowly in the highest quarter of it, meaning that the relative dispersion of the wage distribution again narrowed.

Beyond the dynamics of average wages dynamics, it is also worth noting how broadly based wage increases were. Information on this can be found from the labour force survey, which asks waged workers whether the last wage they received was larger, smaller or the same as the wage before it. The results indicate that a slightly larger share of employees received a wage rise in 2014 than did so the previous year, with an average of 3.6% of employees getting a wage rise in a month. Wage rises are most common in the first quarter and the frequency of wage rises by income quartiles was higher in the middle, for the second and third quartiles.

Box. Changes to wages stemming from work abroad in 2009–2014

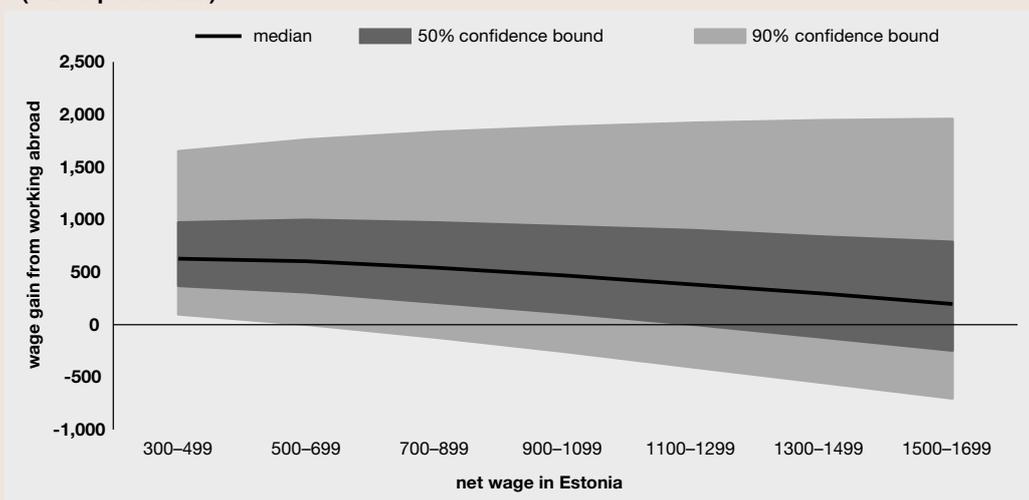
After the economic crisis there are some 22,000 people living in Estonia but working abroad, of whom 66% work in construction and a large proportion in Finland. This box analyses how much the wage of Estonians working abroad since the crisis differs from the wages earned in Estonia. Data from the Estonian labour force survey were used to calculate the wage premium for working abroad from a sample of those who did so.

The median difference between the last wage earned in Estonian and the last wage earned abroad for those respondents who were covered by data on wages earned in Estonia and elsewhere was 400 euros. However, this calculation is based on a small sample and may underestimate the actual wage gain from work abroad, because an immediate change in wages is likely to reflect the wage abroad of a new employee. To get around this, an estimated wage was arrived at for each worker, using wage equations. Simulations were used for calculating the wage premium that showed that the median change in wages stemming from work abroad was 600 euros in the period. This means that half of those who went abroad saw their wage increase by less than 600 euros from what they would have earned for the same work in Estonia.

Figure B.1 illustrates how the wage gain over work in Estonia in all wage groups was less than 1000 euros a month for 75% of people. Some of those who had gone abroad could also have found better-paid work in Estonia, and so their wage gain from working abroad would have been smaller.

The wage gain for those on low wages who went abroad to work was relatively large (see Figure B.1). One reason for this is that the distribution of income in the Nordic countries is narrower than it is in Estonia and so the wage premium for those in the higher reaches of the wage distribution is smaller than it is in Estonia. Moving abroad to work often implies a reduction in professional status, as the skills gained in the Estonian labour market are not always directly useful abroad. This can be seen in the 10% of those working abroad who had held leading positions at work in Estonia, as only a small proportion of them worked abroad as managers.

Figure B.1. Wage gain of people going abroad from Estonia to work in 2009–2014 (euros per month)



Sources: Statistics Estonia, Eesti Pank calculations

The figure shows that the median wage gain for higher-paid employees who move abroad was relatively small. Only a small share of people with such high wages go abroad to work, and so the sample is small and the confidence bounds wide. Sample selection probably also plays a role here as those with high wages go abroad to work in permanent positions, such as officials at the European Union, and they are not covered by the data in the labour force survey.

Methodology and data

The calculation used data for 2009–2014 from the Estonian labour force survey. The survey interviews each household up to four times, making it possible to observe changes in jobs and wages over time. During the years covered here, the survey interviewed 796 people who had worked abroad, and the 179 who had worked both in Estonia and abroad during the years of the survey were observed more closely. Their weighting in the sample suggests that there is an average of around 6400 such people each year. Observation of those who have worked both in Estonia and abroad permits changes in jobs to be taken into account, which would not be possible using only observation of people working in Estonia or of those working abroad. A majority of those who went abroad to work had a lower employment status there than they had had in Estonia.

Wage comparisons between those working in Estonia and those working abroad were calculated for all the years 2009–2014 using the sample in the survey, with hours of work, job location, type of job, profession, and the employee’s age, education, citizenship, marital status and gender used as control factors. The estimated wage for full-time work in a job in Estonia and in a job abroad was calculated using wage equations for everyone who had worked in both places and the standard error for the wage estimates was also calculated, reflecting the uncertainty of the coefficients in the equations.

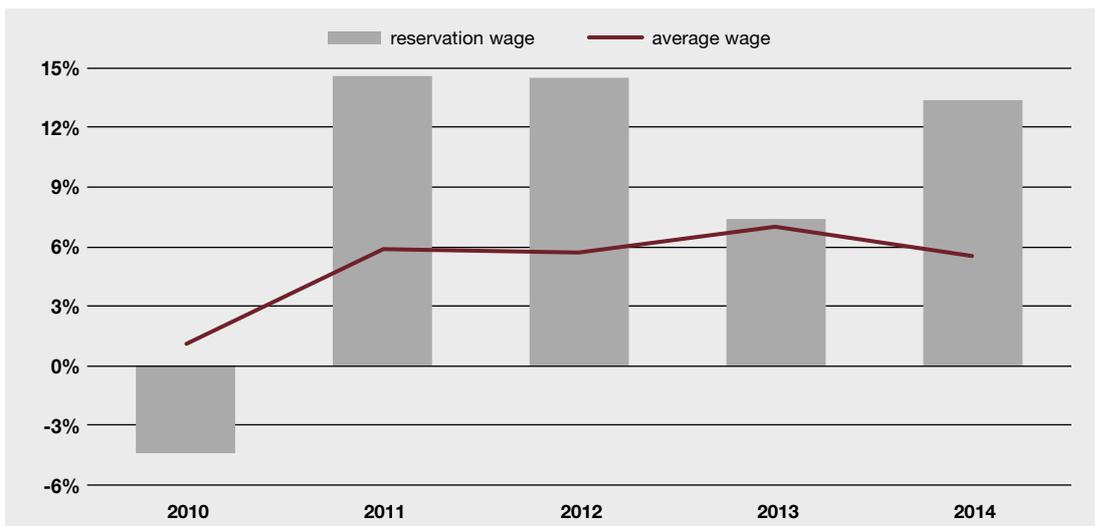
The error terms for the wage equations for estimating wages of those working in Estonia and of those working abroad are correlated. One thing the error term in the equation reflects is how much wages may have been affected by unobserved factors such as a good attitude to work, reliability or negotiating skills. A positive correlation between the error terms indicates that the unobserved factors that have a positive effect on wages in Estonia also have a positive effect abroad.

The possible wages in Estonia and abroad for those going abroad to work were calculated with the resampling approach using the wages predicted by the equations and their standard errors, the weightings of the sample, and the correlation coefficient of the error terms in the equations for wages abroad and in Estonia.

Reservation wage of the unemployed

The reservation wage is the minimum amount for which an unemployed person is prepared to go to work. The wage expectations of unemployed people looking for full-time work were 13% higher in 2014 than in 2013. As the unemployed are a lot less numerous than wage earners, the average reservation wage is calculated from a relatively small sample. Furthermore, the factors that affect the reservation wage of the sample used in the survey can vary a lot during the year because many people enter and exit unemployment. This means the reservation wage may also be higher because the people looking for work this year are not the same as those doing so last year (see Figure 18). The reservation wage for women is lower than that for men and rises, as may be expected, with the level of education.

Figure 18. Growth in the reservation wage of the unemployed and in the average wage

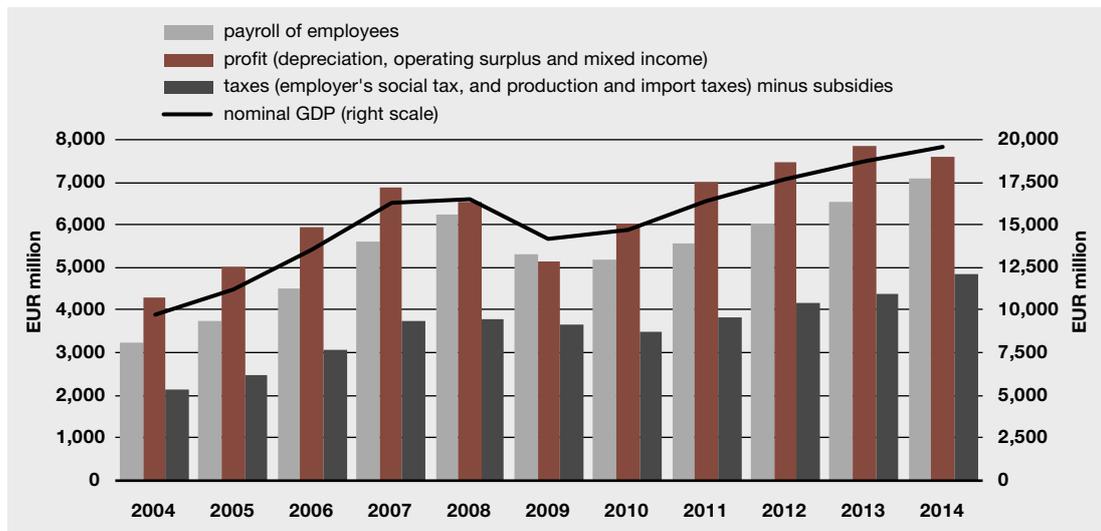


Sources: Statistics Estonia, Eesti Pank calculations

Unit Labour Cost

GDP increased by a nominal 4.2% in 2014 but the payroll increased by a notably faster 8.5% at the same time, and net tax payments, which is taxes minus subsidies, increased by an even faster 11.1%. As the profit left to companies, which here is the operating surplus and mixed income and consumption of fixed capital, shrank by 3.3% in 2014, labour costs grew as a share of GDP in Estonia mainly at the expense of corporate profits. This meant that last year was less favourable for companies than it was for employees or for the state budget (see Figure 19).

Figure 19. Nominal GDP using the income approach



Source: Statistics Estonia

Despite the reduction in profits, there was still no sign at the end of 2014 or in the first months of 2015 that difficulties for companies had actually increased. Data from Töötukassa do not show any rise in redundancy benefits from the start of 2014, nor in the number of unemployed who were made redundant from their previous job. This means that despite the growth in labour costs, companies have not yet reached the point where the reduction in returns to capital caused by higher labour costs makes it no longer worth continuing in business. In the long term Estonia is competing with other countries for investment and labour costs rising faster than productivity will reduce its attractiveness as a destination. Over the short term, rapidly rising unit labour costs reduce the export competitiveness of a country, all else being equal.

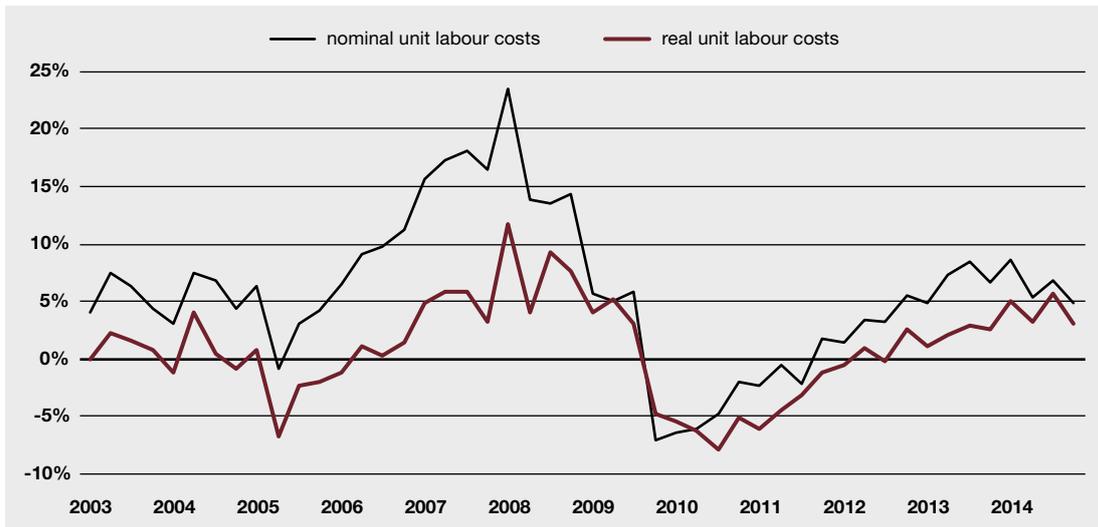
When the average wage of employees rises faster than productivity does, labour costs increase as a share of GDP. Real labour productivity per person employed increased by 1.3% in 2014, but increased by 1.7% per hour worked as the number of hours worked per employee fell by 0.4% (see Figure 20). The number of hours worked per employee has fallen for three years in a row now, meaning that the figure for productivity per employee gives a more negative picture throughout that period.

Nominal unit labour costs can be calculated as a ratio of the payroll costs per employee to the real productivity per position of employment, and accelerating growth in this figure indicates that there are inflation pressures stemming from the labour market. Nominal unit labour costs rose by 6.4%

in 2014, which was only slightly less than the 6.8% seen in 2013. Growth in nominal unit labour costs is one of the eleven indicators used by the macroeconomic imbalance alert mechanism that was set up by the European Commission after the financial crisis of 2008 to give early warning of imbalances in the economy of the European Union. The upper limit on three-year growth in nominal unit labour costs for countries in the euro area is 9%, and faster growth may indicate imbalance. The figure for Estonia in 2015 was 17.5%. The rapid rise in unit labour costs will probably trigger an in-depth analysis of what is behind it.

Real unit labour costs show the relation between the wages paid per employee and nominal productivity. In simple terms this shows how much of GDP the payroll accounts for, or labour costs as a share of GDP. Real unit labour costs rose by 4.2% in 2014, which was two percentage points more than in 2013, and they have increased by 9.1% since 2004. As a result, labour costs have increased as a share of the price of end-products (see Figure 21).

Figure 21. Annual growth in unit labour costs

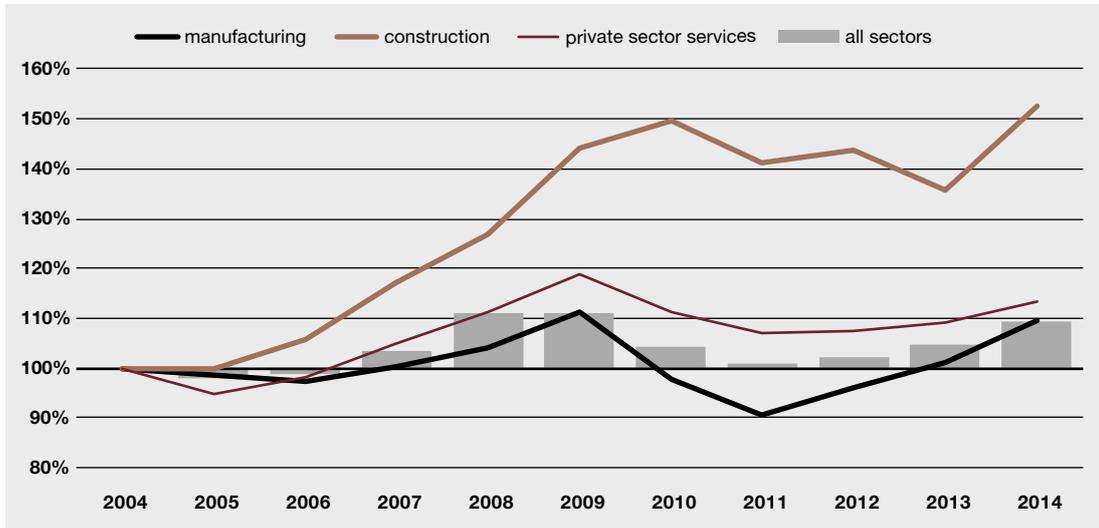


Source: Statistics Estonia

Growth in real unit labour costs varied between different sectors. In the longer perspective the biggest changes have been in construction, where rapidly rising labour costs and falling orders have led real unit labour costs to rise fast and profits to fall. Real unit labour costs in construction have risen by 150% in the past decade, rising 12.3% in the last year alone. The figure passed its previous peak from 2010 by around two percentage points in 2014 (see Figure 22).

In manufacturing too, which is the sector most exposed to foreign competition, wage costs have grown faster than value added in recent years. Wage costs as a share of unit production price were six percentage points higher in 2014 than a decade earlier and growth in real unit labour costs in manufacturing accelerated to 8% last year. The rapid growth significantly reduced the competitive advantage gained after the crisis. The changes in private sector service companies have not been as large, as labour costs have increased by 13.5% more than nominal productivity over ten years, rising by 4% last year.

Figure 22. Index of real unit labour costs, 2004=100%



Source: Statistics Estonia