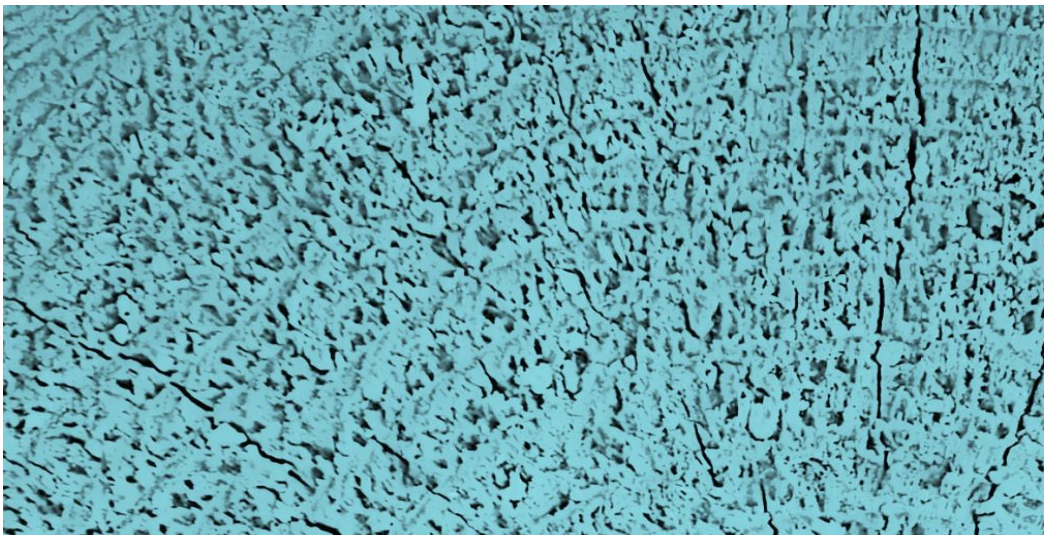
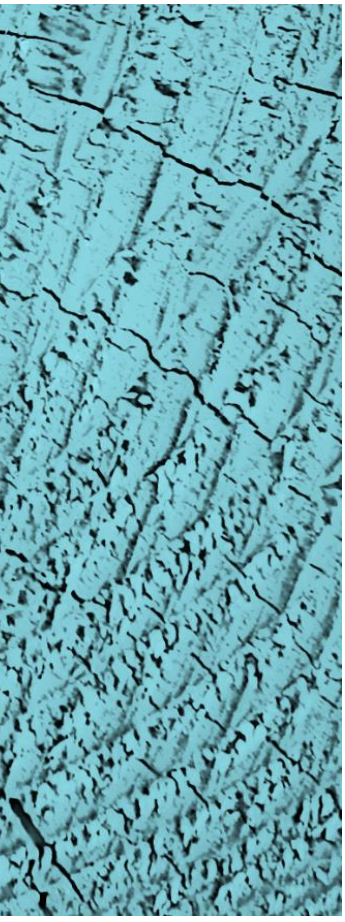
Ministry of Economics
Republic of Latvia





INFORMATIVE REPORT ON MEDIUM AND LONG-TERM LABOUR MARKET FORECASTS

2018

INTRODUCTION

In order to implement action 31.1 of the Government Action Plan: Declaration of the Intended Activities of the Cabinet of Ministers Headed by Māris Kučinskis, as well as Paragraph 24 of the Protocol Decision No 48 of 14 July 2009 and Paragraph 11 of the Protocol Decision No 60 of 8 November 2016 of the Cabinet of Ministers, the Ministry of Economics has prepared the *Informative report on medium and long-term labour market forecasts* (hereinafter – the "Report").

The Report describes the current situation in the labour market and includes medium-term labour market forecasts up to 2025 and long-term labour market forecasts up to 2035, updated by the Ministry of Economics. These labour market forecasts are based on the economic development and demographic scenarios, which were developed by the Ministry of Economics.

Labour market forecasts drafted by the Ministry of Economics are one of the tools that allow an early anticipation of formation of labour market mismatches in the future. They show possible trends in the labour market development and possible risks if the current education system and education supply structure are retained.

Forecasts are only one of the stages in the labour supply adjustment process. They are the quantitative basis for further discussions among employment, education and structural policy makers, social partners, scientists and other stakeholders, in order to prepare and adapt the expected structural changes in the national economy in a timely manner.

The information is outlined in 5 chapters and in the Annex. The Report consists of a characterisation of the economic and labour market trends, description of economic development scenarios, medium-term and long-term labour market forecasts, an overview of implemented education and employment measures, including a description of the system of anticipating changes in the labour market, a summary with recommendations and an annex.

All the statistical information, except for the specifically mentioned cases, has been taken from the database of the Central Statistical Bureau of the Republic of Latvia. The data provided by the Statistical Office of the European Communities (Eurostat), Ministry of Education and Science, State Employment Agency, and the European Centre for the Development of Vocational Training (Cedefop) have also been used in this Report.

ABBREVIATIONS

CEDEFOP	European Centre for the Development of Vocational Training
CSB	Central Statistical Bureau
DOM	dynamic optimisation model
LFS	Labour Force Survey
EC	European Commission
MoE	Ministry of Economics
ERDF	European Regional Development Fund
EC	European Commission
ESF	European Social Fund
GDP	gross domestic product
ICT	information and communication technologies
ISCED	International Standard Classification of Education
ISCO	International Standard Classification of Occupations
IT	information technologies
MoES	Ministry of Education and Science
MoW	Ministry of Welfare
CM	Cabinet of Ministers
NACE	Statistical Classification of Economic Activities in the European Community
SEC	Sectoral expert councils
SEA	State Employment Agency
OECD	Organisation of Economic Cooperation and Development
STEM	Science, technology, engineering and mathematics
ULC	unit labour costs
SRS	State Revenue Service

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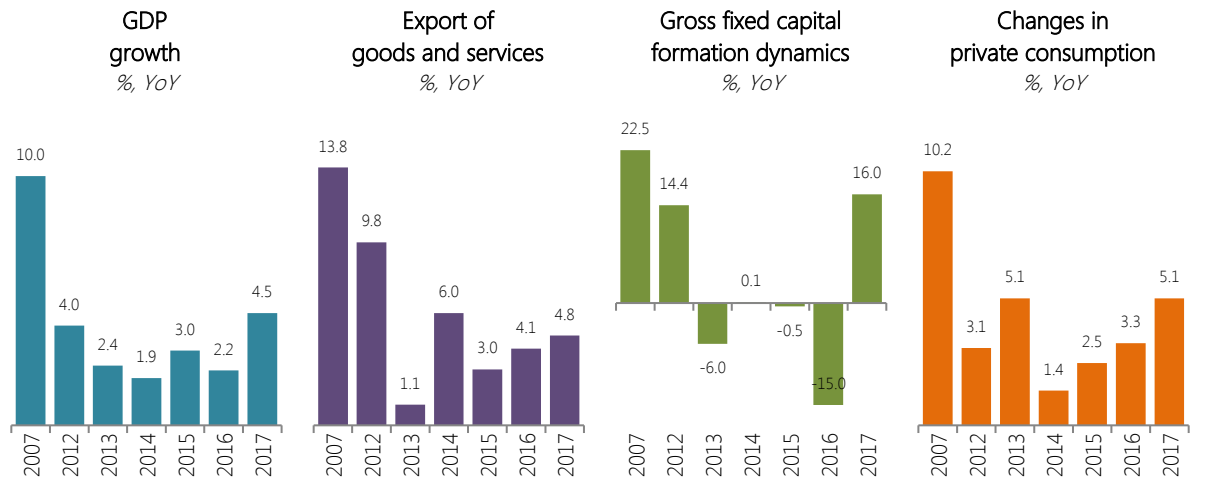
1. ECONOMIC AND LABOUR MARKET DEVELOPMENT

1.1. MACROECONOMIC SITUATION

Stable economic growth has resumed in Latvia, rates of which exceed the EU average. From 2011 to 2017, GDP grew by 3.5% per year on average. In 2017, GDP exceeded the pre-crisis level of 2007 by 0.8%.

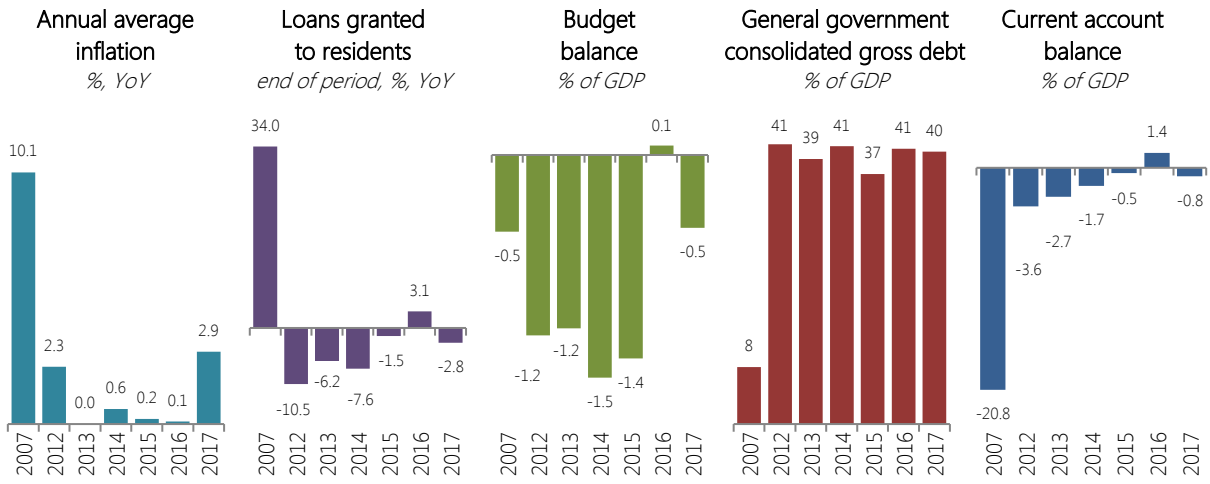
Growth of Latvia in 2017 was considerably faster than in the previous years. In 2017, GDP increased by 4.5%, which was its fastest growth in the last 6 years. The acceleration of growth in 2017 was fostered by the improvement of the situation in the external environment, more intensive absorption of EU Structural Funds and increase in employment and wages. Export, private and public consumption were growing stably in 2017. Export volumes have reached the highest-ever level. Export was positively affected by the increase in external demand. Furthermore, tangible improvements in the labour market and the increase in personal income fostered an increase in private consumption. Public consumption was also growing faster than in the previous years. After the fall in the 2 previous years, in 2017, rapid growth was observed in investments.

Figure 1.1



Distinct macroeconomic imbalances of the "fat" years have been eliminated and risks of economic vulnerability due to internal and external shocks have been reduced in the Latvian economy. At present, macroeconomic stability is retained – small public debt, budget close to balance, balanced balance of payments. Although inflation is growing, this is mainly caused by supply-side factors.

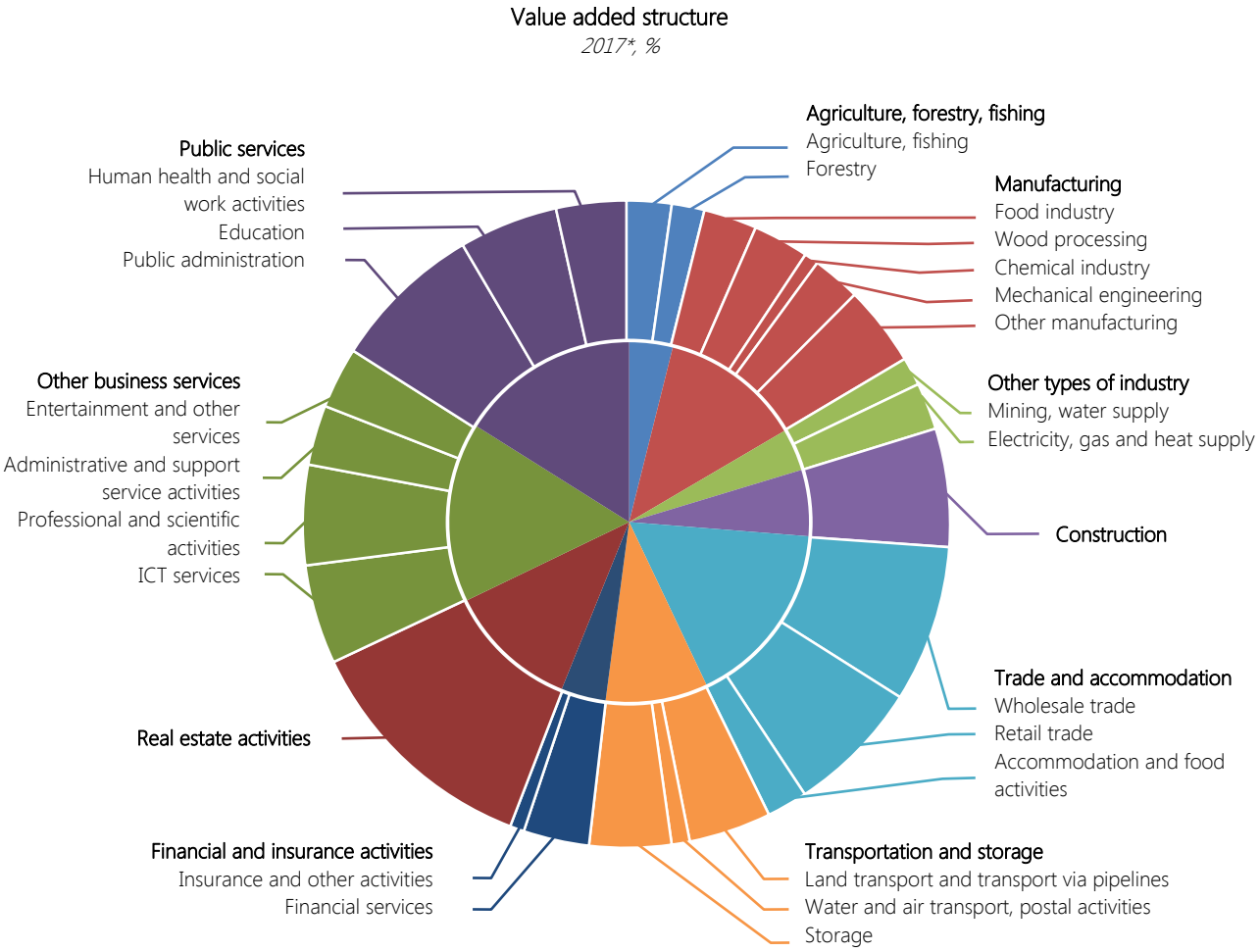
Figure 1.2



1.2. SECTORAL DEVELOPMENT TRENDS

At the time of crisis, as labour costs reduced, competitiveness of Latvian producers improved, which served as a basis for an increase in export volumes and also the development of tradable industries. The structure of the national economy has changed. In 2008, tradable sectors (agriculture, forestry, industry, as well as transport services) accounted for only 26% of total value added, in 2010 the share of these sectors reached 33%, while in 2017 the share of these sectors slightly reduced to 29.5%. The share has reduced in all sectors, with the exception of construction and business services sectors in 2017, compared to 2010. Meanwhile, the share of public services sectors remained unchanged. In 2014-2016 growth continued in all sectors, with the exception of construction, while in 2017 the increase in construction volumes had the biggest effect on growth.

Figure 1.3



* Calculations by the Ministry of Economics

Overall, uneven growth is observed in **agriculture, forestry and fishing**. After the considerable growth in the agricultural sector in 2015, where growth was attributed to record high yield of grain, volumes of the sector reduced in 2016, but in 2017 showed some growth. The crop production sector was affected by bad weather. Forestry was positively affected by growth in wood processing.

Growth in **manufacturing** is attributed to the demand in export markets. As the external environment improved, growth in manufacturing in 2017 was the fastest in the last five years. In 2017, volumes of all manufacturing subsectors grew considerably – manufacture of electronic and optical equipment, chemical and food industry. As prices of producers had resumed their growth, the turnover of the sector grew comparatively rapidly in 2017. Sales in subsectors increased faster showing higher output growth rates. The turnover of exported products grew much faster, while sales of sold products in the domestic market grew more moderately.

Other industries (mining, electricity and gas supply), which had weak indicators in the crisis period before 2014, quickly increased their output volumes in 2015-2017. Peat extraction volumes have been stably growing in the last years in the mining industry. The dynamics in sales volumes in electricity and gas supply sectors is related to weather, as amounts of electricity and heat produced depend on this. Taking into account that weather in the winter months of 2016-2017 was much colder, more electricity and heat energy was consumed.

The development of the **construction sector** is very cyclic and is mainly related to public orders and projects of the EU funds. The construction sector resumed its growth in 2017 after a two-year break. This is, to a large extent, attributable to the initiation and implementation of projects of European Union Structural Funds, which have a positive influence on the sector. In 2017, volumes of construction products increased in the category of buildings and in the category of civil engineering buildings. The fastest growth was observed in the category of civil engineering buildings. The growth in volumes of construction of civil engineering buildings is expected to continue in the next years in view of the implementation of projects of European Union Structural Funds and extensive infrastructure projects.

The volume of services provided in the **trade sector** continues to grow. Trade sector was positively influenced by an increase in private consumption, an increase in wages and improvements in the labour market. The trade sector has been growing stably since 2013. Retail trade turnover increased by 4.3% in 2017. The fastest rise was observed in volumes of retail trade of non-food products, which account for 43% of total retail trade. With the external trade turnover growing, volumes of retail trade are growing as well. Wholesale trade turnover increased significantly in 2017 – by 11.3%.

Transportation and storage sectors increased only by 1% in the period from 2012 to 2017 (to compare, the total Latvian GDP grew by 14.8% in this period). The main reason for the comparatively low growth of the transportation sector is related to the drop in transit freight transport. This is happening not because of worse accessibility of Latvia by railway or through ports, but due to the Russian transport policy and growing competition. Since the end of nineties Russia has been forwarding the goals to develop its own transportation infrastructure to be independent from transit countries. Despite a decrease in transit cargo by railway or through ports, the transportation and storage industry grew by 7.3% in 2017. In 2017, growth in the industry was driven by growing freight transport by road, as well as growing increase of passengers in airports and sea ports. Carriage of passengers increased by 8%, warehousing and support activities for transportation – by 10%, postal and courier activities – by 14%, freight transport – by 2%.

A moderate increase is observed in **sectors of business services**. After the quick growth in 2011-2013, growth rates in sectors of business services have slowed down since 2014. In 2017, volumes of services grew more moderately than in 2016. The growth was mainly determined by growth in other services (professional, scientific and technical services and administrative activities) and in information and communication, while volumes in financial and insurance activities reduced sharply. Fast growth was observed in arts, entertainment and recreation.

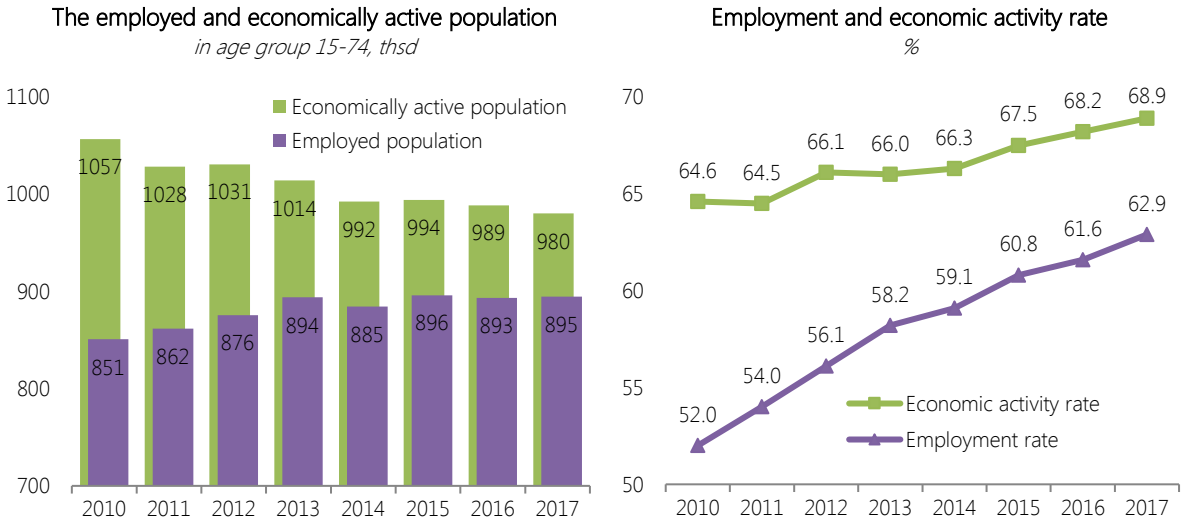
In **sectors of public services** volumes of services provided increase according to the increase in total general public budget expenditure. With the government expenditure increasing, a steady growth has been observed in the public services sectors since 2013. In Q1 2017, the sector showed a considerable increase, the fastest since the beginning of 2012.

1.3. GENERAL OVERVIEW OF EMPLOYMENT AND UNEMPLOYMENT

The situation in the labour market continues to improve – unemployment reduces and the employment level increases. At the same time, the increase in the number of the employed in hindered by demographic trends and regional differences. While labour market trends were mainly driven by supply-side factors in previous years, in 2017, along with the recovery of activities in the construction sector, the pressure of the demand side in the labour market was increasingly felt. Meanwhile, shrinking numbers of labour force were still largely compensated by the increase in the economic activity of the population.

Despite economic growth, labour demand in 2017 showed generally slow growth – the number of occupied posts increased only by 0.9%, but the number of the employed – by 0.2% or 1.9 thousand. More rapid increase in labour demand was observed in the second half of the year, mainly thanks to the increase in construction volumes. In total, 895 thousand people aged 15-74 years were employed in 2017.

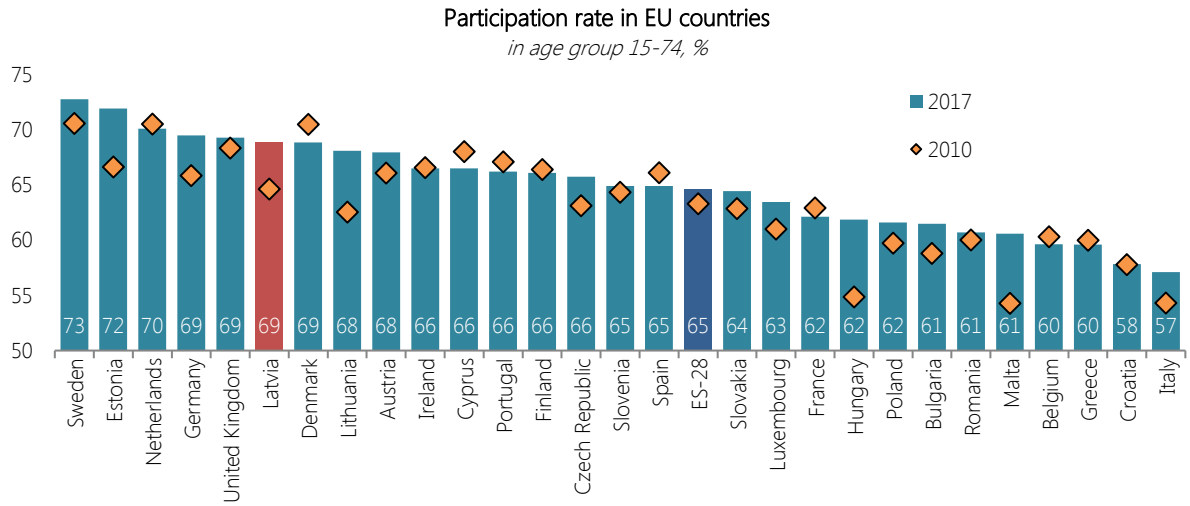
Figure 1.4



The economy has returned to the pre-crisis level and growth was mainly attributed to the increase in productivity and less to the increase in the number of the employed.

The low base effect in the labour market has disappeared and the labour market is close to its saturation point, which, along with the decrease in working age population, limits further increase in employment.

Figure 1.5

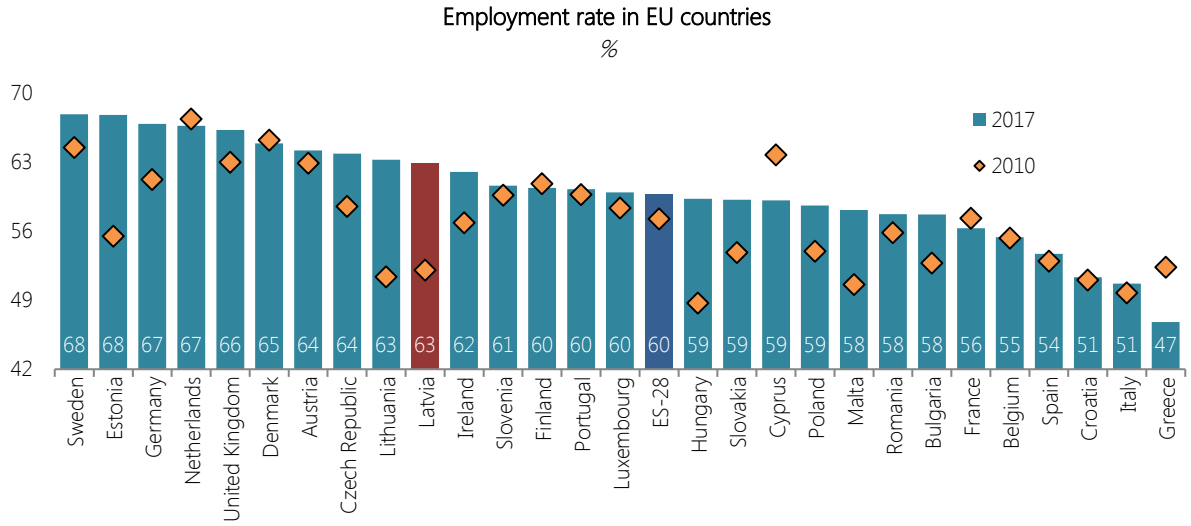


Source: *EUROSTAT*

Although, in absolute terms, the number of the employed is at the pre-crisis level, the proportion of the employed people in the overall population in 2017 was by 0.9 percentage points higher than in 2008 and reached its highest historical mark of 62.9%. The increase in the employment rate in the last years is mainly attributed to relatively quicker drop in the number of working age population compared to the reduction in the number of the employed. In 2017, the population aged 15 to 74 reduced by almost 27 thousand or 1.9% compared to 2016.

The average participation rate in the EU was 64.7% in 2017. The participation rate in Latvia was one of the highest among EU countries, and one of the fastest economic activity increases was observed compared to 2010.

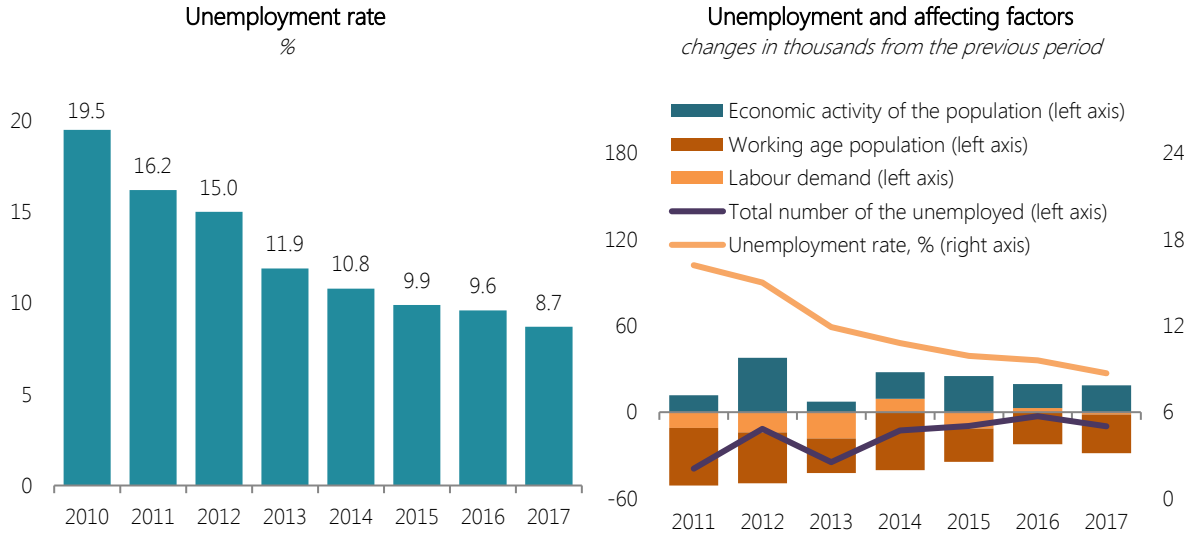
Figure 1.6



Source: *EUROSTAT*

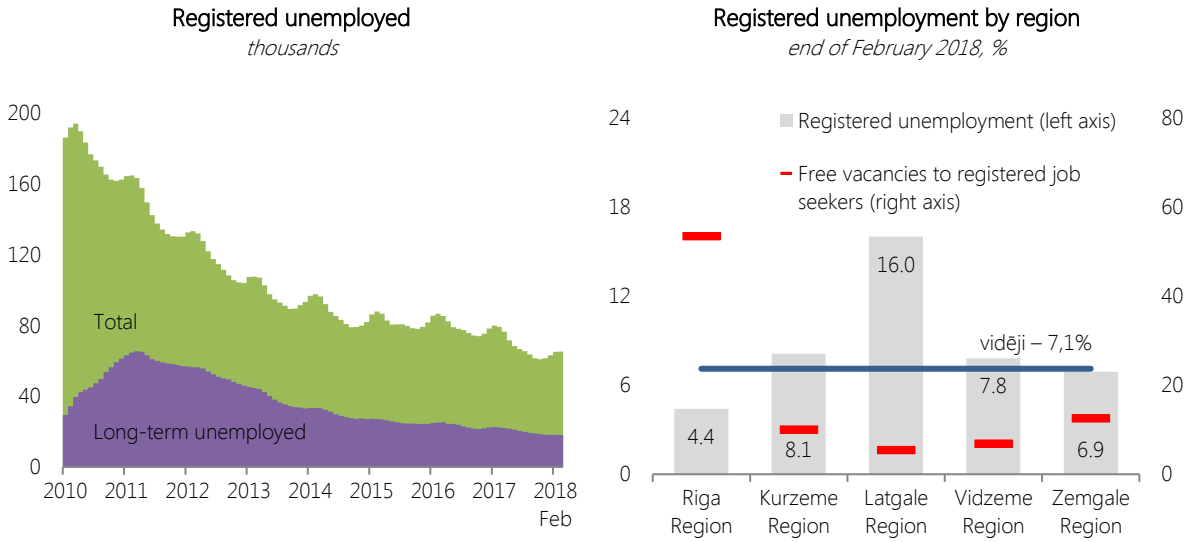
Furthermore, the average employment rate in the EU Member States was 59.7% in 2017. The employment rate in Latvia was higher than the EU average. The employment rate increased most rapidly in all three Baltic countries compared to 2010.

Figure 1.7



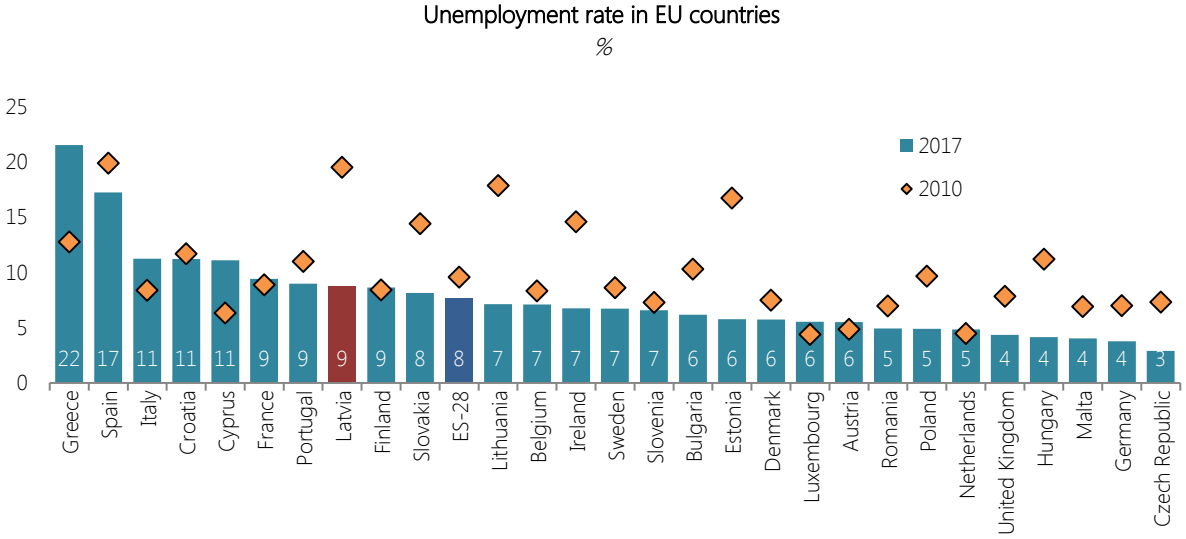
The unemployment rate fell to 8.7% in 2017, which was by 0.9 percentage point less than in 2016 and by 10.8 percentage points less than in 2010. In total, 85.4 thousand persons were job seekers in 2017, which was by 9.9 thousand less than in 2016. Also, the registered unemployment rate continues to gradually decline, which was by 6.8% less than at the end of December 2017. The decline in unemployment is still mainly affected by demographic trends – the absolute reduction in working age population and changes in the age structure of the population.

Figure 1.8



In 2017, the average unemployment rate in the EU Member States was 7.6%. In comparison with 2010, the unemployment rate decreased most rapidly in all the three Baltic countries, however, in 2017 the unemployment rate in Latvia remained higher than the EU average.

Figure 1.9



Source: *EUROSTAT*

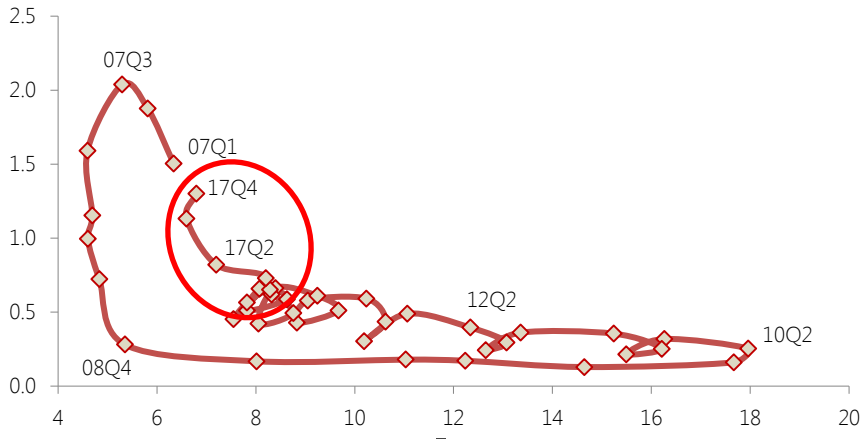
Although the uneven regional distribution of labour resources and vacancies is currently one of the most vivid structural risks of the labour market, however, it is not the only risk. Risks are caused also by the growing share of long-term unemployed – still more than 1/4 of registered job seeker do not work longer than a year. It should be taken into account that high long-term unemployment can cause an increase in structural unemployment, namely, the longer people are unemployed, the higher the risk to lose work skills and abilities. Moreover, there is a risk

that part of the current unemployed might have problems to find a job according to their skills, because they are not what is demanded by the market. Some proof of the formation of structural unemployment can be obtained using the Beveridge curve, which represents the interrelated dynamics of unemployment and free workplaces.

Figure 1.10

Beveridge curve in Latvia

2007-2017, vertical axis – number of free vacancies in thousands; horizontal axis – unemployment rate in %



By reviewing statistical data for 2006-2013, one can see that in the pre-crisis years the Beveridge curve in Latvia shifted to the left – the unemployment rate and the percentage of free workplaces reduced. At the beginning of the recession, the number of free workplaces drastically reduced, while unemployment was growing quite moderately. Whereas, during the crisis – in 2009 and at the beginning of 2010, unemployment grew, but the number of vacancies remained practically unchanged. The unemployment reached its peak in the 2nd quarter of 2010.

An upwards change in the direction of the Beveridge curve can be observed from the 3rd quarter of 2010 to the end of 2016, which shows a change in the economic phase cycle and the improvement of the situation in the labour market. Employment was increasing gradually, and the number of job seekers and inactive persons has reduced. Therefore, the creation of new jobs has restored. The shift on the curve is the same as the drop in the number of jobs during the crisis, which demonstrates a cyclic decline in the unemployment. The decline in the unemployment rate was related to an increase of economic activity. Therefore all the measures related to the facilitation of economic activities and business operations, stimulate a higher demand for labour and expand the employment opportunities.

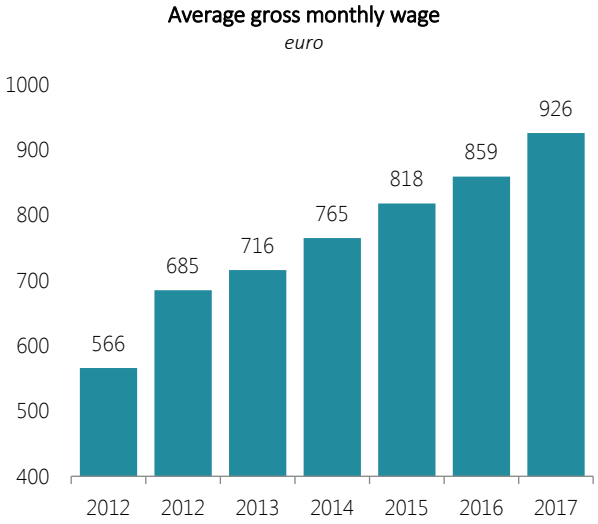
In 2017, structural non-compliances of the labour market became even more distinct hindering a faster decrease in unemployment. The number of vacancies was growing faster than the share of job seekers was reducing in the last year, which is an evidence of indications of structural unemployment and reminds the situation of 2006, when the first distinct labour market overheating signals appeared. The shift of the Beveridge curve to the right is mainly explained by massive regional differences in the Latvian labour market and low labour force mobility.

1.4. WAGES AND PRODUCTIVITY

Wage growth has resumed since the end of 2010. The average gross wage continued to grow rapidly in the last years reaching 926 euro in 2017. Although unemployment remains comparatively high, the most economically active Latvian regions still experience shortage of people, which keeps pressure on wages.

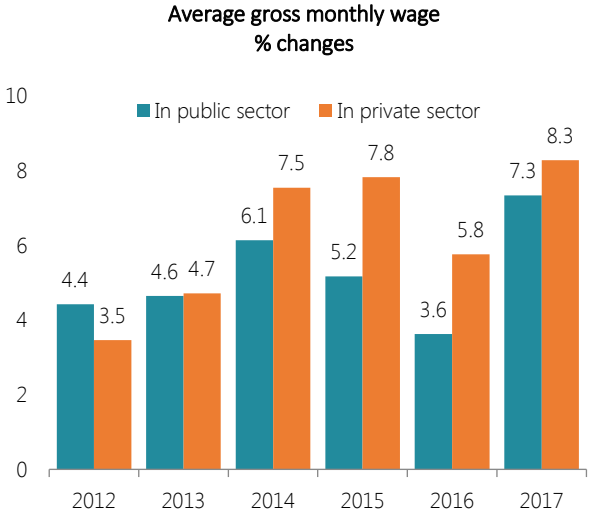
Since 2010, wages have increased in both the private and public sector. In 2017, wages grew more rapidly in the private sector – by 8.3%, whereas in the public sector – by 7.4%. Compared to the pre-crisis level of 2008, the wage has grown by 35.8%.

Figure 1.11



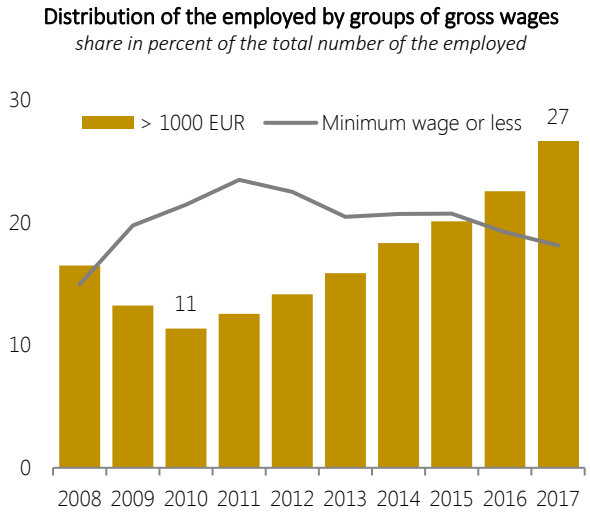
Along with an increase in the nominal wage, real wages are also increasing gradually. In 2013-2016, the increase in real wages became more rapid. This has been primarily driven by the rapid rise in nominal wages, as well as the moderate increase in consumer prices. The real wage grew slower – by 4% in 2017.

Figure 1.12



In recent years the share of people receiving the minimum wage has been reducing and the number of the employed receiving a wage over 1000 euro per month has been growing. The share of the group of people who receive 1000 euro or more was about one fourth of the total number of the employed in 2017.

Figure 1.13

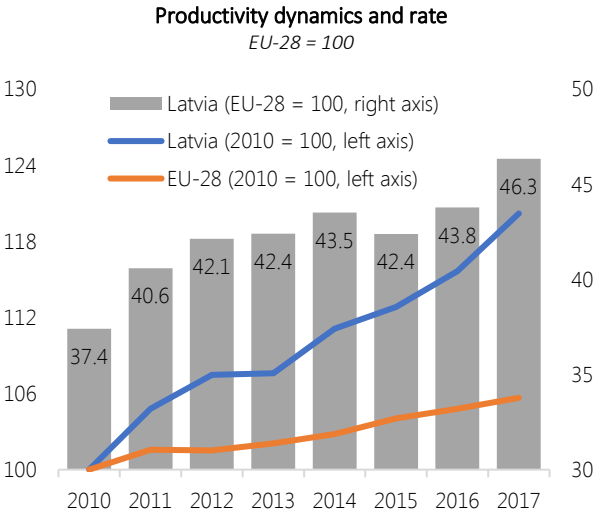


In the last five years (2013-2017) the wage has increased in all main sectors of national economy by 6.2% on average, incl. by 7.8% in 2017. However, their dynamics across sectors varied. A rapid increase in wages was observed in those sectors of services, where the average wage until now was comparatively low – in trade and in the accommodation and food services sectors. In manufacturing the average gross wage has been growing more rapidly, in total, than in the national economy on average. Since 2012, the average gross wage in the sector has grown by 38.5% (by 35.2% in the national economy on average).

Wage is a significant cost competitiveness factor, therefore the rise in wages should be balanced with a rise in productivity. Otherwise, the competitiveness in tradable sectors is lost, which does not result in a stable growth of total income (welfare).

The productivity dynamics in Latvia has been more rapid than the EU average in recent years, which resulted in a reduction of the productivity gap in 2010 by almost 9 percentage points. In 2017, productivity in the Latvian national economy reached 46.3% of the EU average as characterised by the GDP volume per employee.

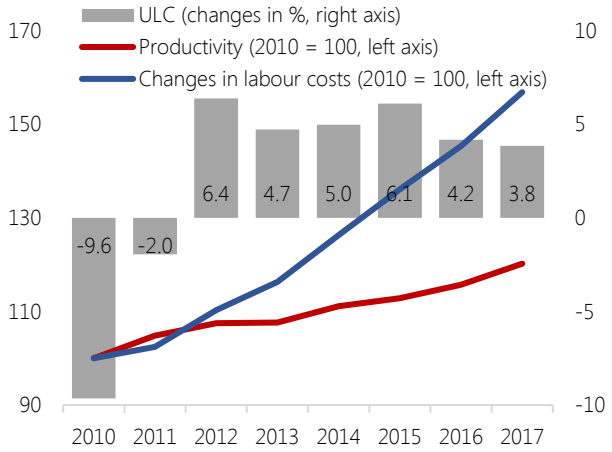
Figure 1.14



Although Latvia is in one of the leading positions by productivity growth rates among the EU Member States, yet wages have been growing faster than productivity, jeopardising competitiveness of Latvian businessmen in the field of costs. The increase in nominal unit labour costs (ULC) also evidences of the growing risks of losses in cost competitiveness.

Figure 1.15

Dynamics of labour costs and productivity



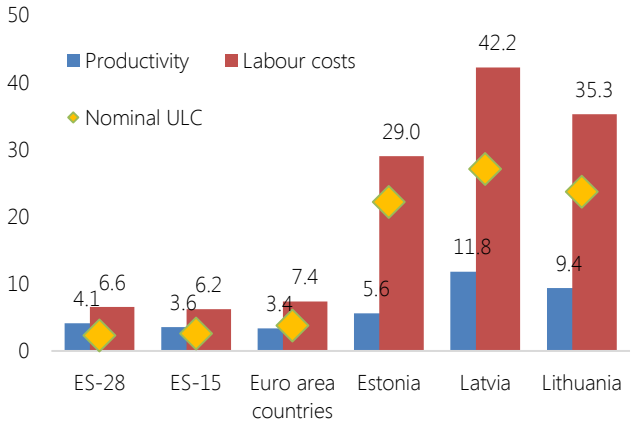
The serious adjustments to product and labour markets, created by the crisis in the period from 2009 to 2011 bridged the gap between the dynamics of productivity and labour costs. A more rapid drop in labour costs in comparison with productivity in 2009 and a rise in productivity in 2010 and 2011 determined a decrease in ULC on average by 7.5% a year, which indicated an improvement in the competitiveness of the Latvian producers.

However, since 2012 labour costs have been growing faster than productivity, which reflects in the increase in nominal ULC. It should be noted that the increase in nominal ULC was faster than the EU average in all the Baltic countries, and was predetermined by a strong increase in wages due to an increase in demand in the labour market and a comparatively moderate increase in labour productivity.

Figure 1.16

Changes in productivity, labour costs and ULC in the Baltic countries and in the EU

2012 = 100



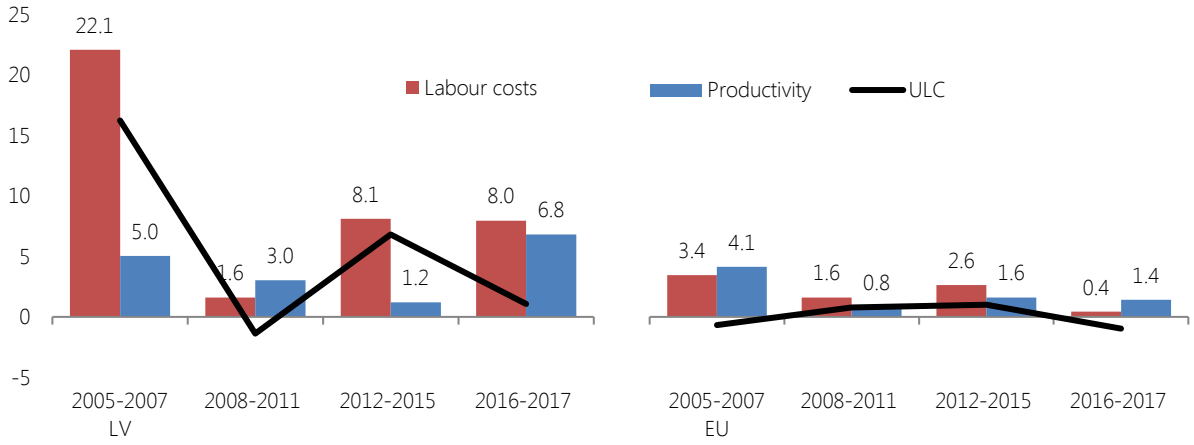
Since 2012 productivity has been growing by 2.3% per year on average, while labour costs have been growing 3 times faster – by 7.3%, and nominal unit labour costs have been growing by almost 5 percent per year. Similar trends are observed in all sectors of the national economy. In manufacturing the gap between productivity and labour costs increase rates is slightly more moderate than in the national economy on average. From 2012 to 2017, productivity in manufacturing increased by 3% per year, but labour costs – by 8% per year. Although in recent years productivity growth rates in Latvian manufacturing have been faster than in EU countries, the dynamics of labour costs still exceed almost twice EU average labour costs and nominal ULC growth rates,

intensifying the risks of losses in cost competitiveness. The competitiveness of Latvian producers is also adversely affected by slower wage increase rates in high income countries of the EU.

Figure 1.17

Labour costs and productivity in manufacturing in Latvia and EU

increase in %, annual average



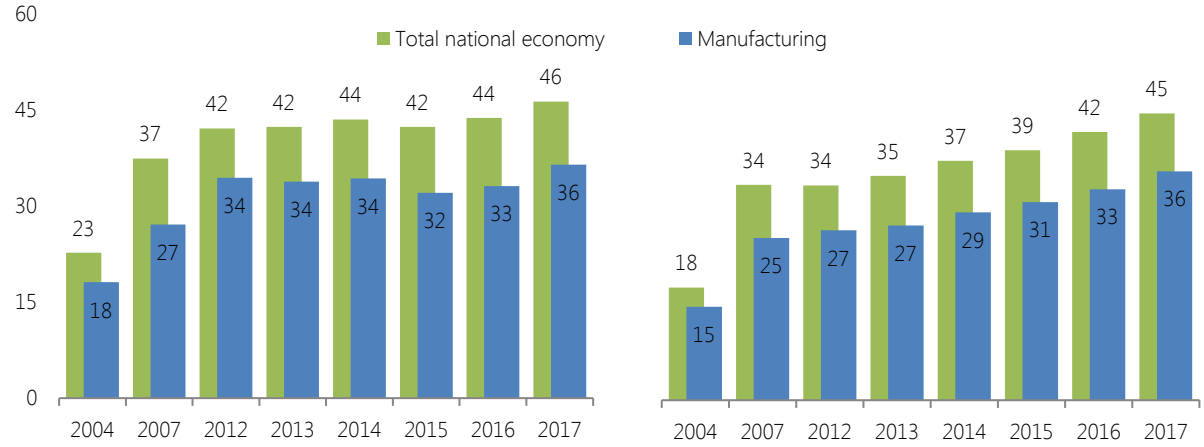
The dynamics of labour costs and productivity show that ULC will continue to grow as economic activity grows. One of the most significant factors increasing the ULC is an increase in wages (wage convergence), which is significantly influenced by the growing competition in the EU labour markets and the low competitiveness of Latvia in the said markets.

Figure 1.18

Convergence of productivity and labour costs with EU average level

Productivity, % of EU-28 average level

Labour costs, % of EU-28 average level



Labour costs in Latvia are one of the lowest in EU Member States. In 2017, labour costs per employed in the economy were 44.7% of the EU average in total, whereas in the manufacturing industry – 35.7%. Since 2012 the cost gap narrowed by almost 11.2 percentage points. However, Latvia's lagging behind in terms of productivity index in the national economy generally reduced by 4.2 percentage points, and only by 2 percentage points in manufacturing. Wage equalisation (convergence) with the EU average level is faster than productivity convergence. In open EU labour markets convergence of wages is an objective process, which has to be taken into account in the future. Therefore, strengthening of Latvia's competitiveness will largely depend on the ability to reduce the productivity gap with the advanced economies.

2. LABOUR DEMAND AND SUPPLY

2.1. CHANGES IN AND STRUCTURE OF THE LABOUR DEMAND

The economic recession and the respective decline in the employment had a severe impact on all sectors. The number of employees was the lowest in 2010. Since 2011, as the economic activities are growing, the number of the employed has risen in all main economic sectors, excluding agriculture and trade. However, their numbers still significantly lag behind the pre-crisis level.

Table 2.1

Number of the employed in economic sectors
thousands

	2009	2010	2011	2012	2013	2014	2015	2016	2017
Total	**908.5**	**850.7**	**861.6**	**875.6**	**893.9**	**884.6**	**896.1**	**893.3**	**894.8**
Agriculture, forestry, fishing	79.5	73.3	76.6	73.3	71.9	66.3	71.1	68.7	61.4
Manufacturing	120.0	112.2	114.4	122.5	125.7	118.8	116.3	123.5	120.9
Other types of industry	28.9	26.4	22.0	20.6	20.6	18.9	23.6	25.7	24.5
Construction	72.3	57.6	60.9	62.3	67.3	73.2	71.9	66.1	63.1
Trade, accommodation	172.7	162.0	161.4	155.7	159.9	161.6	159.3	154.7	161.0
Transportation and storage	79.0	71.4	73.2	75.1	77.3	84.8	85.3	83.3	79.6
Other business services	151.9	153.7	151.2	163.9	167.6	165.3	170.3	173.8	183.7
Public services	204.2	193.7	199.8	202.2	203.6	195.7	198.3	197.5	200.6

* Starting from 2014, labour force survey methodology has changed – quarterly average population residing in households (previously population at the beginning of the year) is used for generalisation of the quarterly data

In 2017, according to the labour force survey data, the number of the employed was 894.8 thousand, which was by 0.2% or 1.5 thousand more than in 2016. The number of the employed grew most rapidly in business services and trade, and reduced in agriculture.

Figure 2.1

Structure of the employed in economic sectors

The largest percentage of the employed in 2017 was in public services sectors (22%), business services (21%), trade and accommodation (18%), as well as manufacturing (13%). Compared to the year 2010, the structure has not changed significantly, the share of the employed has slightly declined in agriculture, trade and public services, but grown in business services and transport, while the percentage of the employed in construction, manufacturing and other industries has not changed in the total number of the employed.

According to the calculations of the Ministry of Economics, in 2017, 381.6 thousands or 43% of all the employed were employed in high qualification occupations. Most (37%) of the employed in high qualification occupations were employed in the public services sectors (state administration, healthcare, education).

Table 2.2

Numbers of the employed in economic sectors by occupational groups

2017, thousands

	Agriculture	Manufacturing	Other types of industry	Construction	Trade, accommodation	Transportation and storage	Other business services	Public services	Total
High qualification occupations, including:	7.1	28.3	9.0	18.6	48.0	20.0	110.5	140.1	381.6
Managers	3.0	9.1	3.3	8.9	20.5	6.7	21.8	18.6	91.9
Professionals	1.6	9.3	2.2	3.7	6.8	3.0	49.7	85.3	161.5
Technicians and Associate Professionals	2.5	10.0	3.5	6.0	20.8	10.3	39.0	36.3	128.2
Medium qualification occupations, including:	42.1	69.0	10.8	35.3	97.3	52.7	51.0	42.5	400.6
General Office Clerks	0.4	5.2	1.1	1.4	9.1	9.1	16.5	4.6	47.3
Services Workers	1.2	1.8	0.3	0.2	71.5	3.6	24.7	31.5	134.8
Skilled Agricultural Workers	29.5	0.6	0.0	0.0	0.0	0.0	1.1	0.1	31.3
Skilled Workers	1.6	42.5	5.0	29.0	13.8	6.0	5.1	3.0	105.8
Plant and Machine Operators	9.4	18.9	4.4	4.8	3.0	33.9	3.5	3.3	81.3
Low qualification occupations	12.2	23.8	4.7	9.2	15.6	6.9	22.2	18.0	112.6
Total	**61.4**	**121.1**	**24.5**	**63.1**	**161.0**	**79.6**	**183.7**	**200.6**	**894.8**

In 2017, 400.6 thousand, which is almost half of all the employed, were employed in medium qualification occupations. One fourth in this occupational group were employed in trade, and 17% in manufacturing. Occupations with low qualification had 112.6 thousand employed persons in 2017, one fifth of which were employed in business services, 36% employed in agriculture, manufacturing and other industrial sectors.

In comparison to 2016, in 2017 high qualification occupations had by 8 thousand more employed (increased by 2.2%). The biggest increase was in construction, and a drop in number in manufacturing. Medium qualification occupations had by 6.7 thousand less employed (drop by 1.7%). The biggest drop was in agriculture, and an increase – in business services. In 2017, low qualification occupations had by 0.2 thousand more employed, compared to 2016. The biggest increase was in manufacturing, and a drop – in construction.

Labour demand has drastically changed under the influence of the crisis, the number of the employed reduced rapidly. When labour costs dropped, competitiveness of the Latvian producers improved.

In manufacturing, growth rates were significantly faster than the total economic growth, and the demand for qualified workers rapidly increased in this sector. In other tradable sectors, such as transportation and services, growth after the crisis restored faster than in other economic sectors and the demand for services workers increased.

Table 2.3

Sectoral employment changes by occupational groups

2017 vs. 2016, thousands

	Agriculture	Manufacturing	Other types of industry	Construction	Trade, accommodation	Transportation and storage	Other business services	Public services	Total
High qualification occupations, including:	-0.5	-4.2	-1.1	2.3	2.7	-0.4	7.3	2.0	8.0
Managers	-0.2	0.7	0.0	0.2	1.9	1.0	2.3	1.6	7.5
Professionals	-0.7	-1.9	-0.1	0.2	1.4	0.1	4.0	-2.5	0.5
Technicians and Associate Professionals	0.4	-3.1	-0.9	1.8	-0.6	-1.4	1.0	2.8	0.0
Medium qualification occupations, including:	-5.8	-1.5	-0.4	-2.6	2.3	-1.6	3.4	-0.5	-6.7
General Office Clerks	0.0	0.7	-0.2	0.7	-3.4	-0.1	2.1	-2.5	-2.8
Services Workers	0.7	0.2	-0.2	0.0	2.3	0.3	2.1	2.2	7.4
Skilled Agricultural Workers	-6.5	-0.1	0.0	0.0	-0.1	-0.1	-0.4	0.1	-7.0
Skilled Workers	0.3	-5.3	-0.4	-2.6	2.8	0.5	-0.7	0.6	-4.7
Plant and Machine Operators	-0.4	2.9	0.5	-0.7	0.6	-2.2	0.3	-0.8	0.2
Low qualification occupations	-0.9	3.2	0.3	-2.7	1.4	-1.7	-0.9	1.7	0.2
Total	**-7.2**	**-2.6**	**-1.2**	**-3.0**	**6.3**	**-3.7**	**9.9**	**3.1**	**1.5**

In comparison to 2010, in 2017 high qualification occupations had by 35.8 thousand more employed (increased by 10.4%). The most extensive increase was observed in business services – by 28.5 thousand, and in public services – by 9.2 thousand. A drop in the number of the employed was by 9.2 thousand in trade, and by 3.7 thousand – in agriculture.

Table 2.4

Sectoral employment changes by occupational groups

2017 vs. 2010, thousands

	Agriculture	Manufacturing	Other types of industry	Construction	Trade, accommodation	Transportation and storage	Other business services	Public services	Total
High qualification occupations, including:	-3.7	2.9	2.7	1.4	-9.2	4.0	28.5	9.2	35.8
Managers	-2.6	-2.6	1.5	0.4	-1.2	1.2	4.7	4.4	5.8
Professionals	-0.9	2.0	-0.3	-1.3	-3.3	0.0	12.1	8.9	17.2
Technicians and Associate Professionals	-0.2	3.6	1.5	2.2	-4.7	2.9	11.7	-4.1	12.9
Medium qualification occupations, including:	-4.5	2.5	-3.8	3.0	4.7	4.1	6.3	1.5	13.8
General Office Clerks	-0.7	0.8	-0.4	0.4	-3.8	-0.4	3.6	-2.4	-2.9
Services Workers	-0.6	-0.2	-0.6	-0.3	5.9	-0.6	4.1	3.3	10.9
Skilled Agricultural Workers	-2.8	-1.1	-0.1	0.0	-0.1	0.0	-1.0	-0.3	-5.3
Skilled Workers	-0.4	5.4	-1.3	3.5	2.5	-0.2	-0.8	0.9	9.5
Plant and Machine Operators	0.1	-2.3	-1.5	-0.5	0.3	5.4	0.4	-0.1	1.6
Low qualification occupations	-3.6	3.3	-0.9	1.1	3.5	0.1	-5.2	-1.0	-2.8
Total	**-11.8**	**8.7**	**-2.0**	**5.5**	**-1.0**	**8.2**	**29.6**	**9.7**	**46.9**

Medium qualification occupations had by 13.8 thousand more employed in 2017 compared to 2010 (increased by 3.6%). The most extensive increase by 6.3 thousand was in business services, and by 4.7 thousand – in trade. A drop in the number of the employed was by 4.5 thousand in agriculture, and by 3.8 thousand – in other industries.

In 2017, low qualification occupations had by 2.8 thousand less employed, compared to 2010. The most extensive decline – by 5.2 thousand was observed in business services and by 3.6 thousand – in agriculture, but the most extensive increase of the employed – by 3.5 thousand was in trade and by 3.3 thousand in manufacturing.

Explanation of notions of the employed population and the number of occupied posts

Employed population

According to the definitions created by the International Labour Organization (ILO), employed population are all those persons, who carried out any work for money or for remuneration in the form of goods or services during the reference week.

Employed population also includes self-employed persons in business, in rural agriculture or professional practice. The persons who are temporarily absent from work during a prenatal and childbearing leave, as well as during a parental leave, shall be considered to be employed, if after the end of the leave the person is guaranteed to return to the previous workplace. The employed also include those persons who work in their rural farmsteads (farms or backyard) to produce products for own consumption or sale.

Information on economic activity of the Latvian population (employment and unemployment) was obtained from the Latvian continuous Labour Force Survey.

In the Latvian Labour Force Survey information about economic activity (including employment) according to the methodology is collected from persons aged 15 to 74. For the international comparability of data part of employment indicators were calculated also for the age group 15-64. Internationally, the age group 15-64 is accepted as working age used for publishing of data by Eurostat and ILO, therefore Latvia also published main indicators characterising economic activity for two age groups: 15-64 and 15-74.

Occupied posts

An occupied post is a job on wage, where an employee is employed. The number of occupied posts includes full-time and part-time workers, whose working hours should be registered in accordance with the Labour Law (including those who have a contractor's agreement, but whose working hours are registered and all taxes are paid by the employer). One person may be employed in several jobs.

Data on occupied posts are obtained from the survey of companies, central government institutions, local governments and their institutions and institutional units. The information is obtained by summarising data of the quarterly statistical review forms prepared by CSB on economic operators, institutions, foundations, associations and funds and administrative data. Administrative data are obtained as a results of CSB's calculations made from the data of the State Revenue Service.

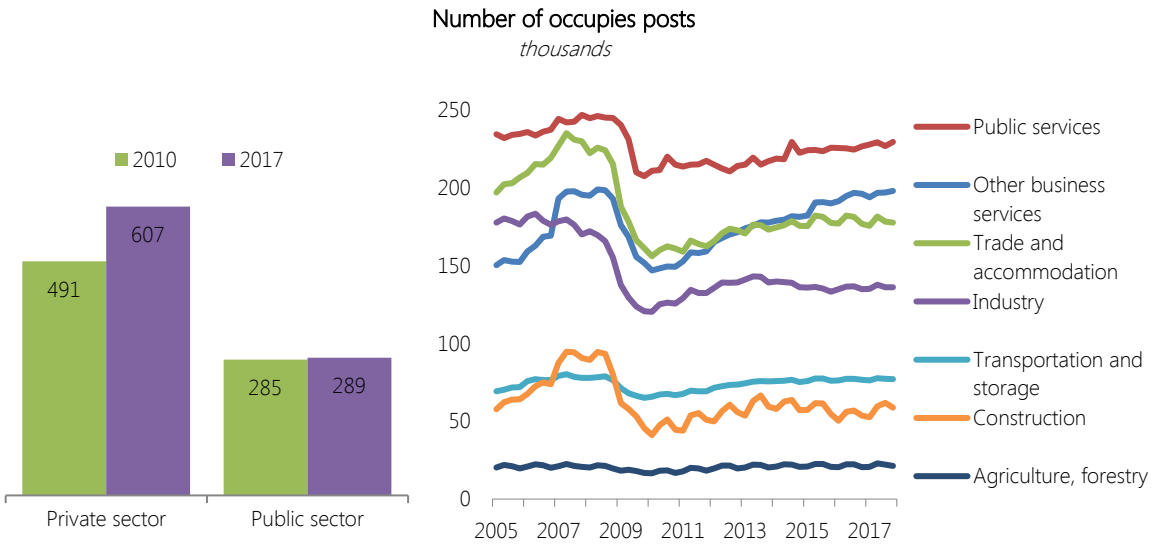
Since 2011 the number of **occupied posts** has also been growing in all main sectors of national economy, however, their numbers still lag behind the pre-crisis level, except agriculture and business services, where the number of occupied posts in 2017 slightly exceeds the level of 2007. In 2017, the number of occupied posts was 895.7 thousand, which was by 1% or 8.4 thousand higher than in 2016 and by 15% higher than in 2010.

The number of jobs in the private sector still continues to grow rapidly. After a 30% decline during the crisis, in the period from 2011 to 2017 the number of jobs in the private sectors increased by 23%.

At the same time, there has been a relatively slow increase in the number of jobs in the public sector, where the number of occupied posts grew only by 1.3% from 2011 to 2017. A more rapid increase in the number of occupied posts in the public sector was observed in 2014, when the number of occupied posts increased by 1.5%, compared to 2013.

In the period from 2011 to 2017, the number of jobs across sectors increased in all sectors within the exception of financial and insurance activities, where the number of jobs reduced by 1.7 thousand or 8%. A more rapid increase in the number of occupied posts was observed in the professional, scientific and technical activities, which increased by 14.5 thousand or 54%. The number of jobs manly increased thanks to the growing labour demand in legal and accounting services and activities of head offices, management consultancy activities.

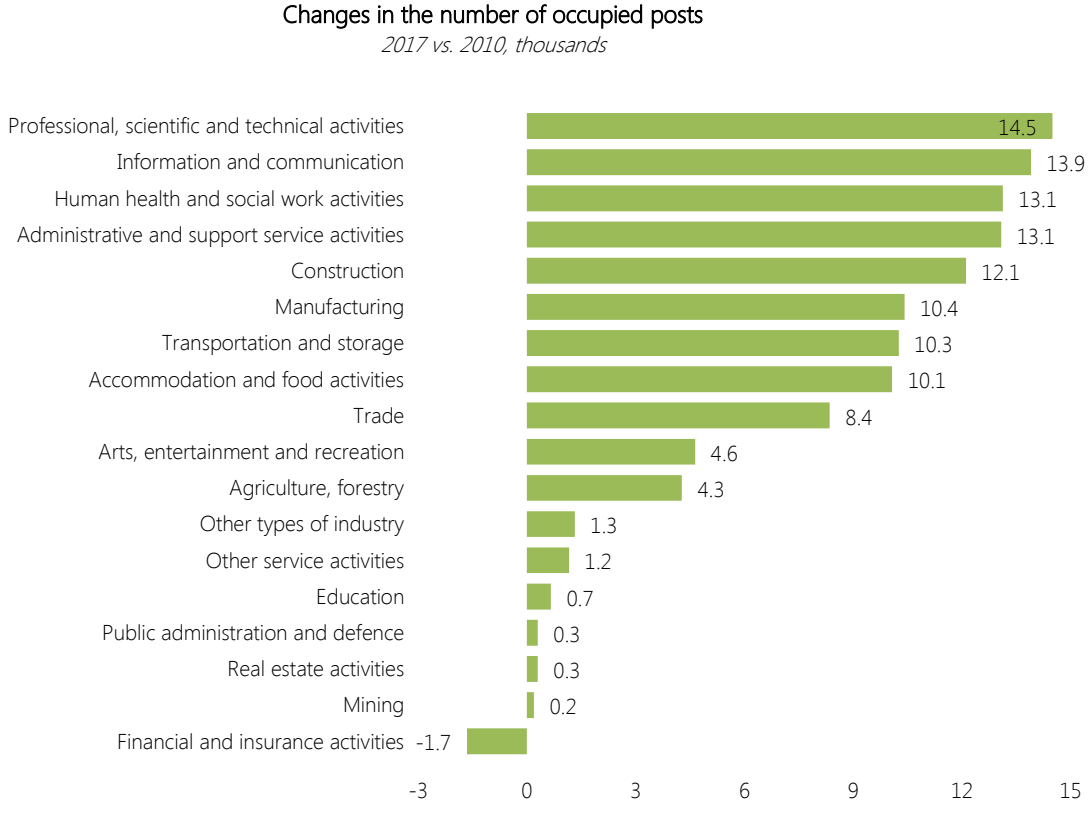
Figure 2.2



A considerable number of occupied posts was observed in information and communication, health, administrative service activities and construction. A more moderate increase was in manufacturing, transportation, accommodation and food service activities and trade. At the same time the lowest increase in labour demand was in mining, public administration and real estate activities.

Although the number of persons employed in agriculture significantly reduced from 2011 to 2017, the number of occupied posts in the sector increased, which is explained by a different data registration system. Occupied posts in agriculture increased due to the increase in jobs on wage, while the number of employees reduced due to the drop in the number of self-employed.

Figure 2.3

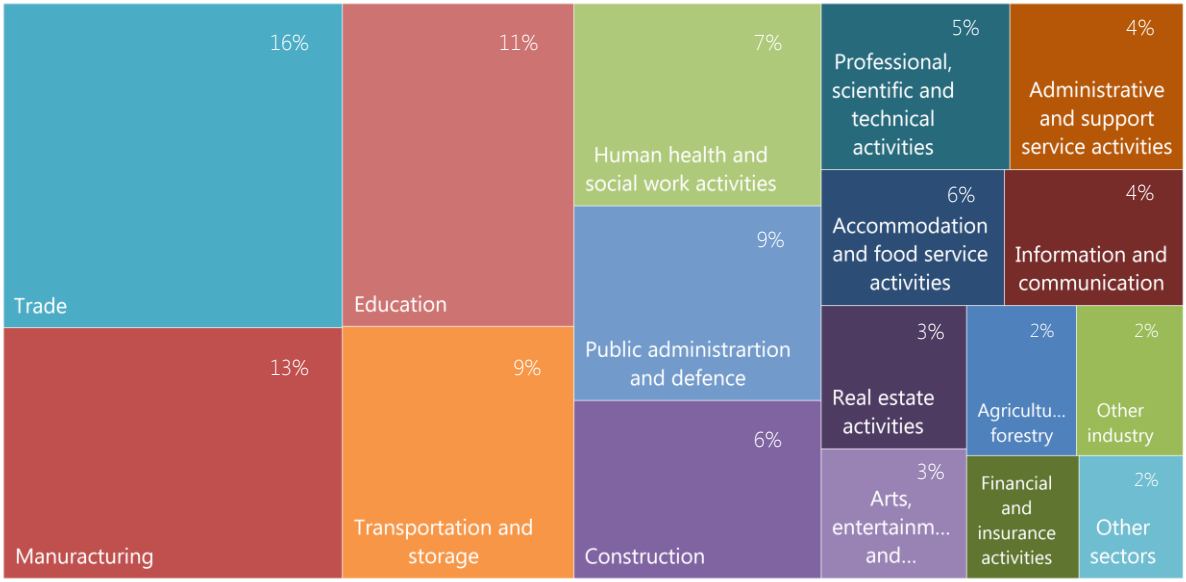


In 2017, almost 2/3 of the increase in the total number of occupied posts was created by two sectors – construction and ICT services. Last year, the number of occupied jobs in the construction sector grew by almost 4 thousand or 7.3%. At the end of 2017, the number of occupied posts in the sector reached 58.7 thousand. The increase in labour demand in construction was largely affected by the increase in the volumes of construction, which has resumed growth after the restoration of flows from EU funds.

Figure 2.4

Occupied posts by sectors

structure in 2017, %



Also, a significant increase in labour demand is observed in ICT services, where the number of occupied posts increased by 1.6 thousand in 2017. The number of jobs manly increased thanks to the growing labour demand in computer programming and information technology service activities. At the same time, a considerable drop in labour demand in 2017 was in retail trade and personal services.

2.2. DEMOGRAPHIC SITUATION AND LABOUR SUPPLY

2.2.1. DEMOGRAPHIC TRENDS

The population numbers in Latvia have been decreasing for a long time, in the period from 2000 to 2018 the decline was 447 thousands. The main reasons are ageing of the society, low birth rates, and emigration of the population. At the beginning of 2018, there were 1934 thousands of people in the country, which is by 16 thousand less than in the previous year.

Birth rates are insufficient to reproduce the existing population, they have been low for a long time. With the increase of the total income level, birth rates have also started to improve from 2005 — both the number of newborns and the birth rate have risen. Due to the economic crisis, the number of newborns reduced in 2009, but in 2012 birth rate started to increase again. Since 2014 the number of newborns has stabilised, however, in 2017 the indicator reduced by 5.2% compared to the previous year.

The death toll has been gradually dropping since 2007. In recent years, since 2014 the indicator has stabilised. The death toll slightly increased in 2017 and was by 0.6% higher than in 2016.

The improvement in the demographic situation is also reflected in the coefficient of natural increase in population, which has generally improved since 2011. Nevertheless, it is still negative: it was -4.1 per 1000 individuals in 2017.

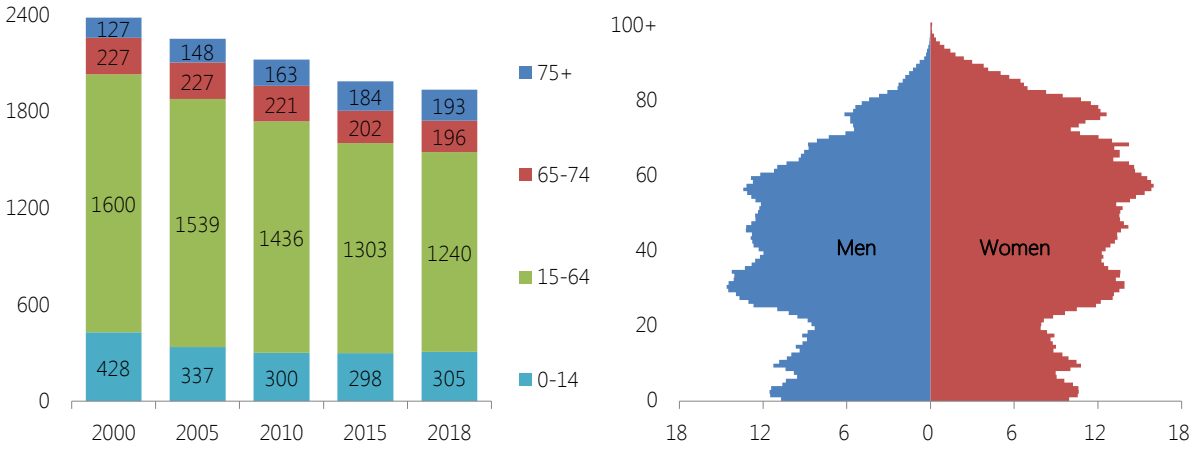
The ageing process of the population is also continuing – the number of people above working age is increasing. As the number of working age people reduces, the proportion of population beyond working age to working age population becomes higher. At the same time, since 2012 the decline in the population below working age has stopped thanks to a small increase in birth rates.

During 2017 the population aged 15 to 74 reduced by 19 thousand and was 1437 thousand in 2018. The decrease in population has mostly affected the following population groups of working age: 20-24 years (by 9.5 thousand or 9.3%), 25-29 years (by 5.4 thousand of 4%) and 50-54 years (by 4 thousand or 2.9%).

Figure 2.5

Age structure of the population

thousands, at the beginning of the year *thousands, at the beginning of 2018*



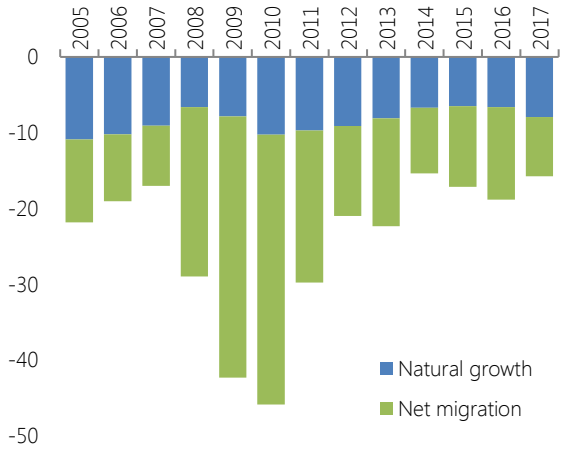
Migration of the population leaves a significant impact on the decrease in population. The negative net migration exceeds the negative natural increase of the population. For this reason the state population shrank by 277 thousand in the period from 2000 to 2018, while the total drop is 447 thousand.

As the economic situation worsened, migration flows to foreign countries increased rapidly. Negative net migration reached its peak in 2009 and 2010.

Figure 2.6

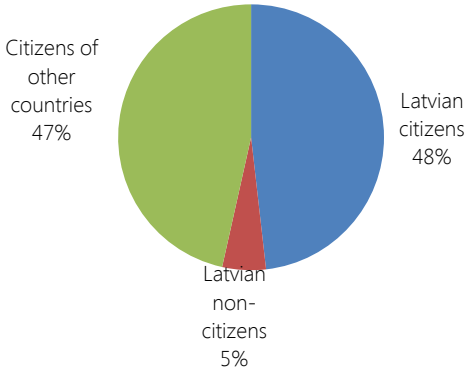
Factors affecting the changes in the number of the population

thousands



Long-term immigrants by citizenship

2017, %



The main reason for leaving the country was searching for job opportunities abroad. Majority of emigrants are people of working age, and people from younger age groups are especially mobile.

Migration rates have been improving from 2011. Negative net migration was improved not only by the reduction in the number of emigrants, but also by the increase in the number of immigrants. However, since 2014 a small drop has been observed in the number of immigrants and the number of emigrants slightly tended to increase. The situation improved in 2017, as the immigrating population increased and the emigrating population decreased. Overall, the population shrank by 7.8 thousand of people due to migration in 2017, which was by 4.4 thousand less compared to 2016.

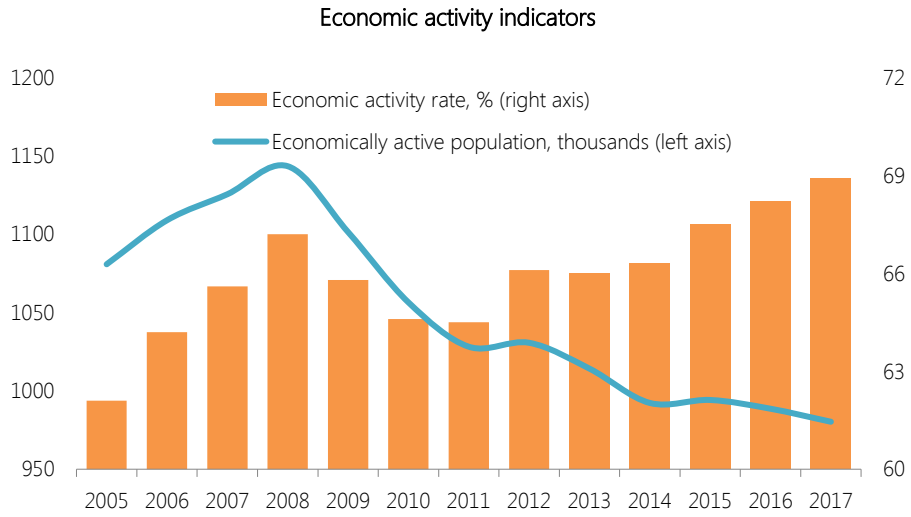
In general, 53% of all long-term immigrants were Latvian population (Latvian citizens and Latvian non-citizens) in 2017.

It should be noted that taking into account the free movement of labour force in the EU, it is not possible to perceive emigration flows completely precisely. Not only Latvia, but also other EU Member States have to deal with the problem of how to provide accurate description of the structure of those people leaving the country to search for job.

2.2.2 Participation of the population in the labour market and the labour supply

Available labour force resources are showed by economically active population, which includes employed population and job seekers.

Figure 2.7



The demographic processes in the country have a direct reflection in labour supply trends. The working age population is shrinking as a result of ageing and emigration, which has adverse effect also on economically active population. Economically active population has been reducing since 2008. In recent years this trend tends to slow down. In the period from 2008 to 2017 this reduction reached 163.1 thousand, and in 2017 economically active population dwindled by 8.3 thousand.

During the crisis in 2010 and 2011 the lowest level of economic activity of the population in recent years was experienced. In the following years, this level has been gradually growing, and in 2015 the pre-crisis rate of 2008 was reached. In 2017, the level of economic activity continued to increase reaching the level of 68.9%.

Figure 2.8

Situation in the labour market in 2017

thousands

Population of working age (ages 15-74) – 1423

Employed	Unemployed	Economically inactive
895	85	443

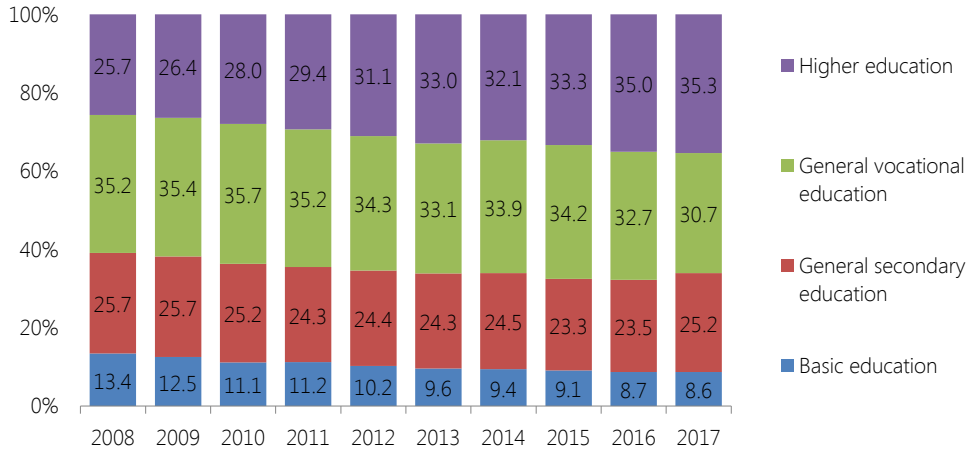
pupils, students	102
pensioners receiving only retirement pension	200
housekeepers	58
disabled, persons incapable of work for a long period of time	51
persons on parental leave	7
other	25

The level of economic activity is relatively stable in almost all age groups, as only insignificant fluctuations have been observed over the last few years. The biggest changes affected the involvement of elderly people in the labour market. The improvement of the economic situation and the increase of the retirement age caused a faster increase in the level of economic activity of the population aged above 60.

Figure 2.9

Breakdown of the economically active population by education level

aged 15-74, %

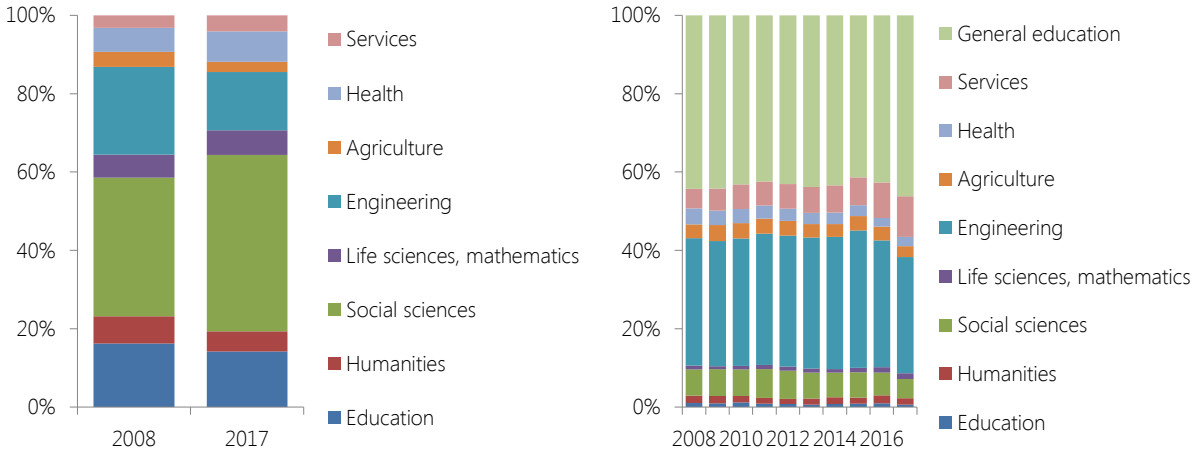


The population is becoming increasingly aware of the importance of the education level in the labour market. The percentage of economically active population with higher education continues to gradually increase, and it was by 9.6 percentage points higher in 2017 than in 2008.

Figure 2.10

Breakdown of the economically active population by academic disciplines

with higher education, % *with secondary education, %*



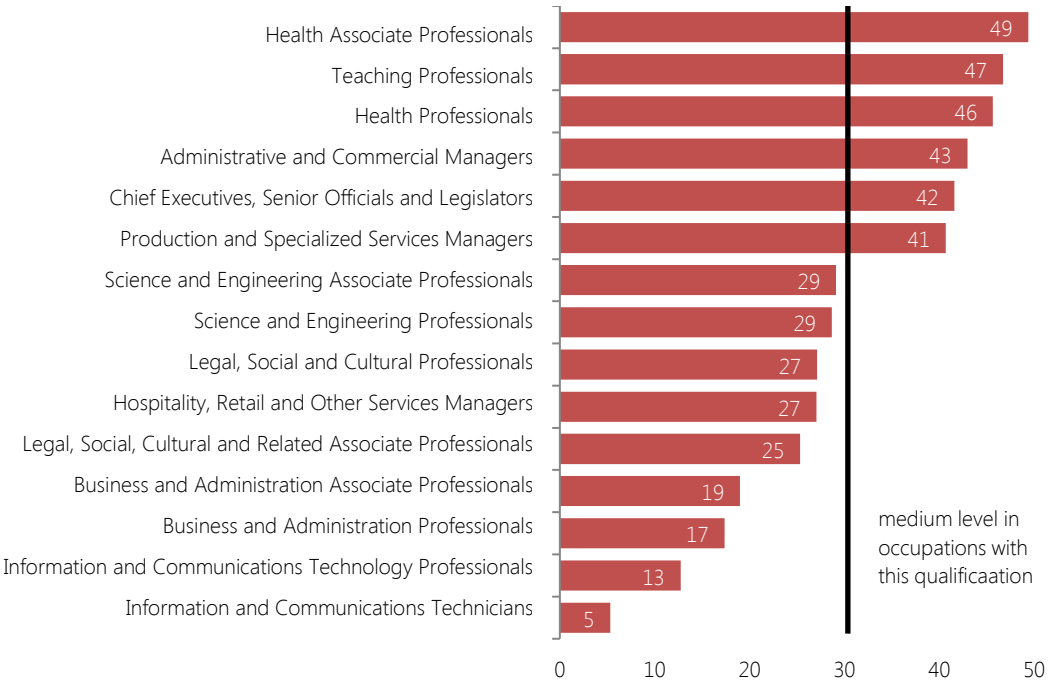
The largest labour supply with higher education is in the field of social sciences, business and law. It was caused by the choice of the students of the previous years, to obtain higher education in this academic discipline. There has been the most remarkable increase of economically active population in this group since 2008. The next largest academic discipline groups of economically active population are engineering, manufacturing and construction, as well as education.

Since 2008, the structure of the economically active population at secondary education level by academic disciplines has been quite stable. A considerable part (more than 2/5) of economically active population have general secondary education. These persons have no speciality in the labour market. The biggest labour supply for vocational secondary education is in engineering, manufacturing and construction. It should be noted that the most rapid increase is observed in services.

Figure 2.11

Percentage of employed population above 50 years in high qualification sub-major groups of occupations

2017, % of the number of the employed in the respective sub-major group



The labour force in Latvia is increasingly ageing in individual sectors and occupational groups, which can cause a drop in the supply in the future. These trends are becoming stronger over the years.

Across sectors the largest share of the employed above 50 is in other industries (especially in the water supply, sewerage, waste management and remediation activities sector) and in public services (especially in the education sector and human health and social work activities sector).

The percentage of the employed above 50 years of age, in high qualification occupations is 31%. The analysis of the structure of the employed by occupational groups evidences that ageing of labour force does not affect occupations with high qualification in the same way. The ageing problems specifically affect health associate professionals and professionals, teaching professionals, as well as the share of older employees in the age structure of production and specialized services managers is higher than the average indicators for occupations with this qualification.

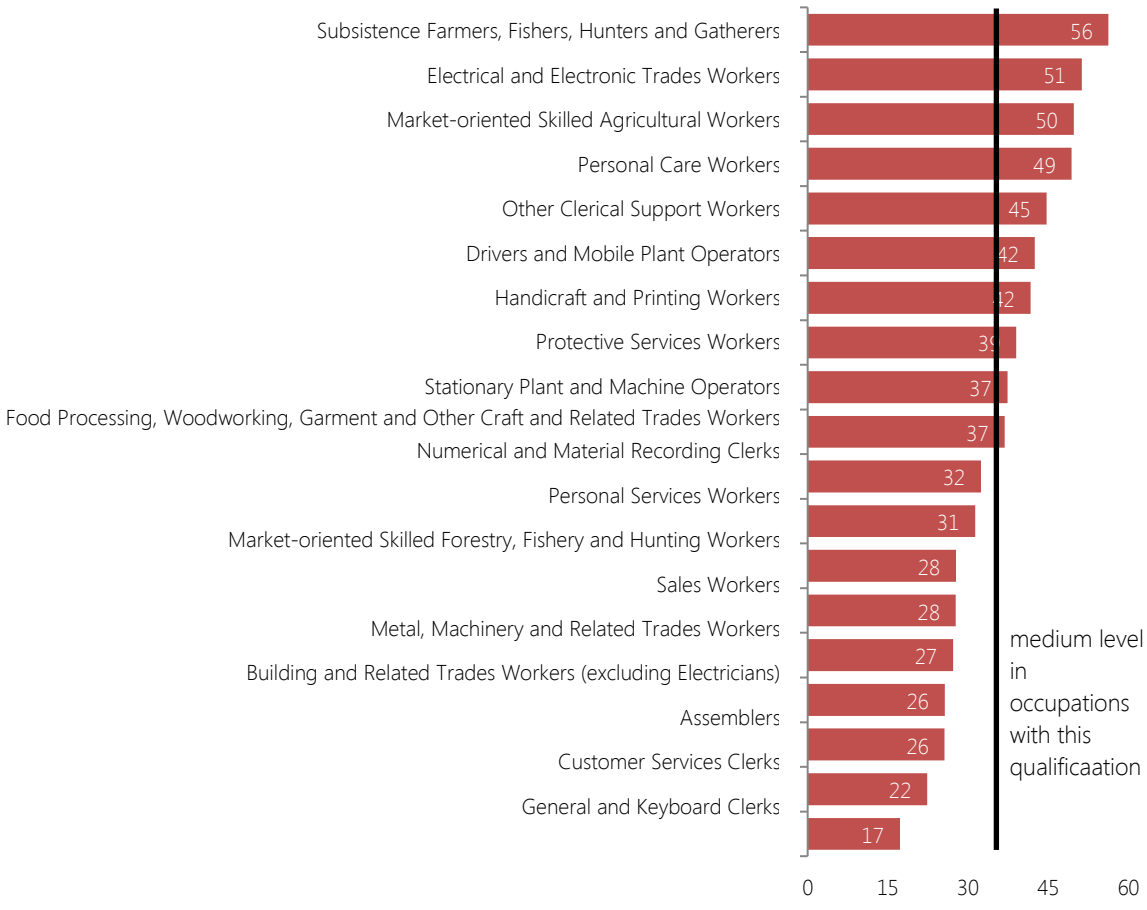
The percentage of the employed above 50 years of age, in medium qualification occupations is 35%. Negative development trends of the labour age structure also affect a range of medium qualification occupation groups. This trend mostly affects electrical and electronic trades workers, market-oriented skilled agricultural workers and personal care workers in health services.

The labour age structure in various occupations is affected by several causes. Young people do not prefer certain orientations of studies/training or choose to work in a different occupation after studies due to different reasons. Low wages is one of the reasons in individual occupations.

Figure 2.12

Percentage of employed population above 50 years in medium qualification sub-major groups of occupations

2017, % of the number of the employed in the respective sub-major group



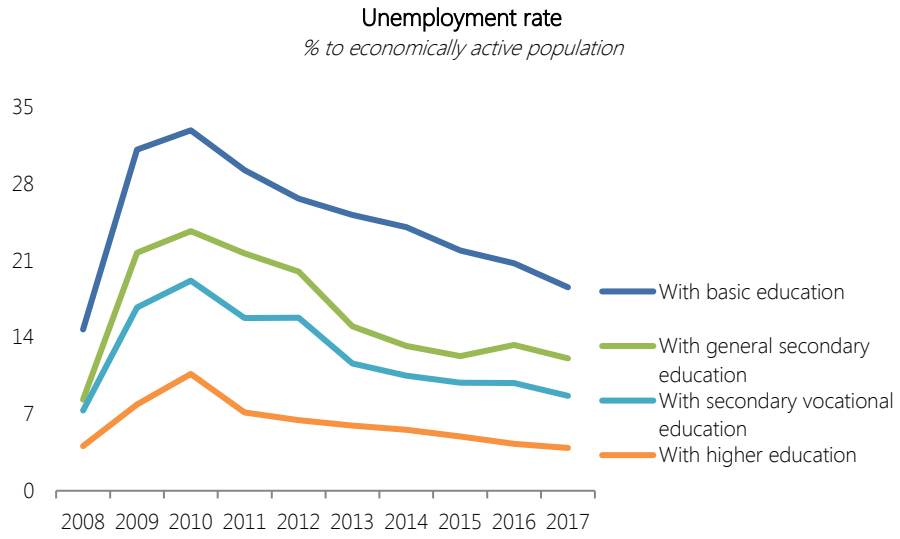
2.3. MATCHING OF LABOUR MARKET DEMAND AND SUPPLY

Unemployment indicators in Latvia have been improving since 2011. In 2017, the unemployment trend continued. The number of job seekers was 85.4 thousand, which was by 9.9 thousand less than in 2016. The unemployment rate reduced to 8.7% of the economically active population.

People with higher education level are less subjected to the risk of unemployment. The unemployment rate among people with higher education was 3.9% in 2017. The lowest unemployment rate among the population with higher education was in life sciences, mathematics and computing and in the health and welfare group. Whereas, the highest unemployment rate was among the population in the humanities and arts group.

The average unemployment rate among the population with secondary education is significantly higher than among the population with higher education – 10.2%. Obtaining of an occupation reduces the unemployment risk. The unemployment rate among the population with vocational secondary education is lower than among the population with general secondary education – 8.6% vs. 12.1%, respectively. It should be noted that in recent year the unemployment rate of the population with vocational secondary education reduced faster than that of the population with general secondary education. In absolute terms, most of the unemployed have general secondary education – almost half of the unemployed with this level of education. Overall, at the level of secondary education, the lowest unemployment rate is in health and welfare and in life sciences, mathematics and computing. Whereas the highest unemployment rate in services.

Figure 2.13

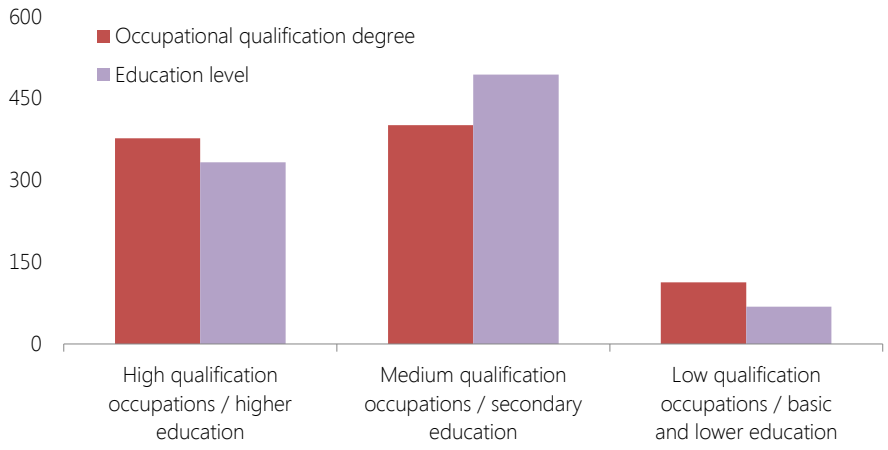


If we characterise the **matching of education of the employed and their occupational qualification**, disproportions are observed in the labour market. Compared to the breakdown of the employed population by education levels and occupational qualification groups, it is visible that the number of the employed with higher education is smaller than the number of the employed in occupations with high qualification, which people with higher education should actually have. At the level of medium qualification we can see that the number of the employed with secondary education exceeds the number of the employees in medium qualification occupations.

Figure 2.14

The employed by level of education and occupational qualification

2017, thousands

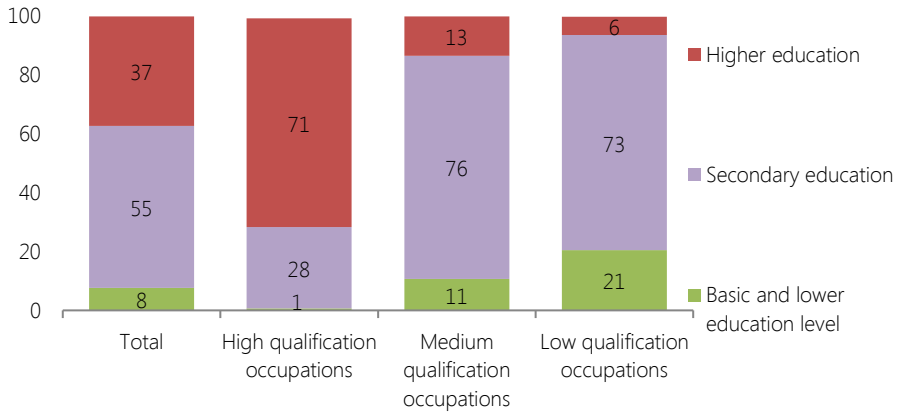


The compliance of the level of education of the employed to the occupation qualification in the medium qualification occupational group is higher than in the high qualification occupational group. It is partially related to the fact that the high qualification occupational group includes managers of all types of institutions and their business units, whose occupation is frequently related to the respective employee's educational qualification.

Figure 2.15

Structure of the employed by levels of education and by occupational qualification

2017, %



2.4. CHANGES IN EDUCATION SUPPLY

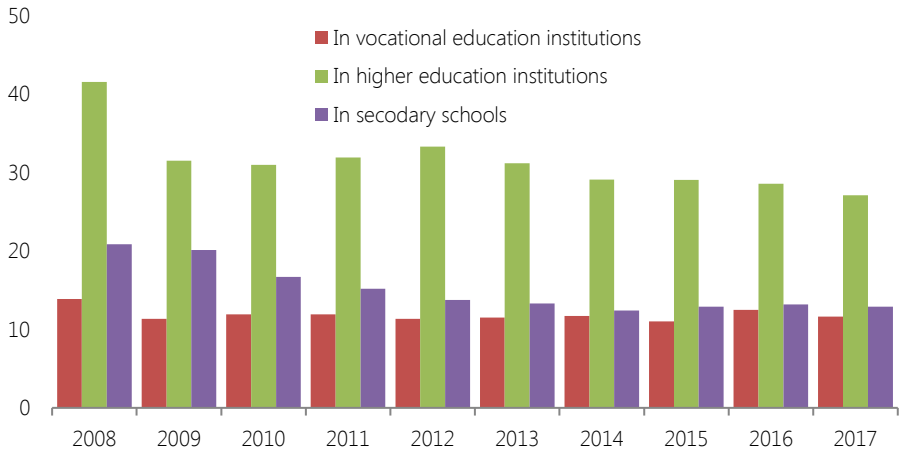
Impact of demographic trends on the number of students

The number of students in general secondary education has been dropping for a long time both at the level of basic school and secondary school. The declining trend is also applicable to the number of students in vocational secondary education. The main reasons are persistently low birth rate and emigration of the population. Over the last years the drop in the number of general and vocational secondary education pupils and students has stopped. This is explained by the improvement of birth rates in the pre-crisis period, which has positively affected the number of students.

Figure 2.16

Students enrolled into education institutions

thousands

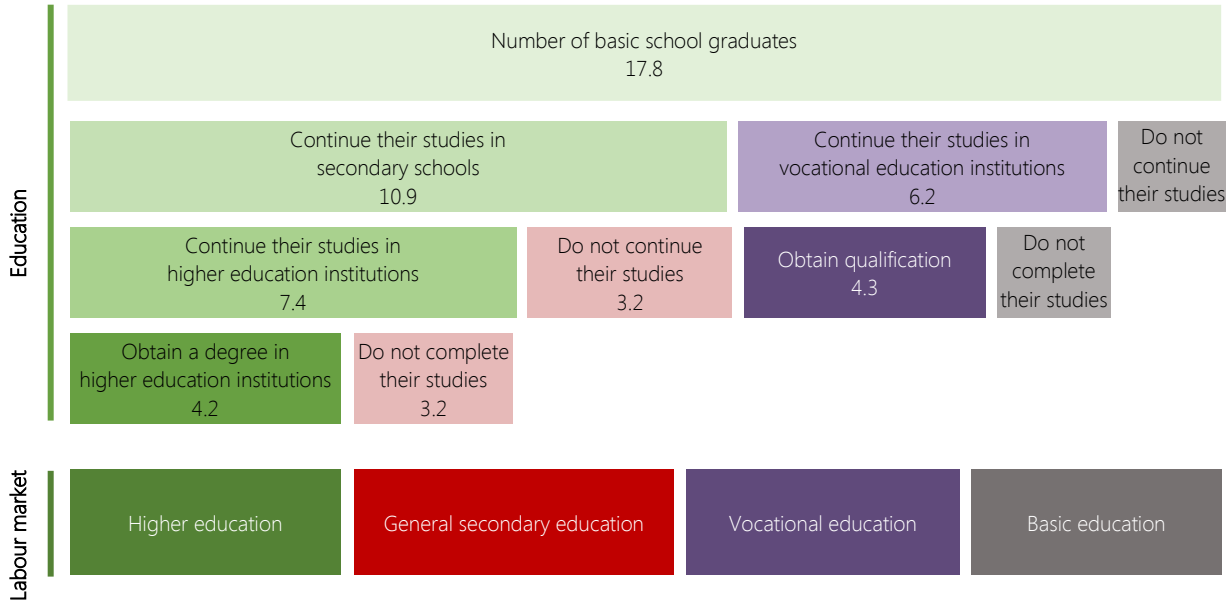


The structure of secondary education depends on the choice of basic school graduates to continue their education. It should be noted that the most significant problem in vocational education is still its low attractiveness level – about 3/5 of young people prefer to continue general education, thus coming to the labour market without a specific speciality or skills. Although basic school graduates have been more focused on vocation education over the last few years, it is still not sufficient to provide the reproduction of medium qualification specialists in the labour market.

Figure 2.17

The education system

thousands, reflected using the structure of education career in academic year 2016/2017



*MoE calculations based on the structure of education career in academic year 2016/2017

Over the last years, the number of students admitted to vocational education institutions has remained approximately the same, which can partly be explained by the fact that the number of persons having previously acquired education, including general secondary education, are continuing their studies at vocational education institutions is increasing.

Figure 2.18

Students continuing their studies in vocational education

% of total graduates

Education policy measures provide for raising the interest of basic school graduates in vocational secondary education in order to balance the number of students continuing education in secondary schools and vocational education institutions. Latvia has set a target for 2020 to ensure that at least 50% of the total number of students acquiring secondary education study at vocational secondary education programmes. In recent years the share of vocation education students has been slightly growing, and in 2016 those were 43.6% of the total number of students at the level of secondary education. In order to achieve this goal it is necessary to continue the measures, which increase interest of young people in obtaining their profession in vocational secondary education institutions.

Structural changes in the education supply

Regarding the proportion of students in life sciences and engineering (life sciences, mathematics, and computing group and engineering, manufacturing and construction group), the target for 2020 is to reach 27% of the total number of graduates. In 2017, graduates of the target group constituted 20.1% of all graduates. This indicator has been stable at about this level for several years. In order to achieve this goal it is necessary to implement targeted measures for the involvement of secondary education students into these academic disciplines more actively.

Additional funding necessary to secure budget-funded study positions in STEM areas*

The increase in the number of budget-funded study positions in STEM areas requires additional targeted funding. The state budget funding per student in Latvia in all areas is one of the lowest in EU and OECD countries. The possibilities to reallocate budget-funded study positions within the scope of existing budget have been exhausted in recent years. Further reallocation would significantly reduce the total number of budget-funded study positions in the country reducing the availability of higher education, because the implementation of study programmes in STEM areas is more resource-intensive than in social sciences and humanities. According to the currently valid financing procedure, the funding allocated to a higher education institution for one budget-funded study position in a Bachelor programme in the area of computer sciences is 2,352 EUR. According to MoES calculations, in order to allocate an additional 1 thousand budget-funded study positions in the area of computer sciences at the Bachelor level, addition funding of 2.4 million would be necessary in the first year, while 3 thousand budget-funded study positions (successively in the third year for the first, second and third year) would require additional funding of 7.1 million EUR. In order to grant additional 3 thousand budget-funded study positions in a 3 years programme, the total additional funding required would be 21,2 million EUR.

Additional funding necessary to secure supply in ICT area

	Budget-funded study positions in the 1st year of studies	Budget-funded study positions in the 2nd year of studies	Budget-funded study positions in the 3rd year of studies
Total number of budget-funded study positions per year, in all years of studies	1,000	2,000	3,000
Costs of one budget-funded study position per year, EUR	2,352	2,352	2,352

* MoE estimates

After the drastic decline in 2009, the total number of students enrolled in higher education institutions and colleges has stabilised. The number of matriculated students has been reducing in recent years, which is explained by demographic and economic reasons. The inflow of foreign students also does not compensate for this decline. At the same time, the number of foreign students, who want to study in Latvia is growing. In 2017, those were more than 1/10 of enrolled students.

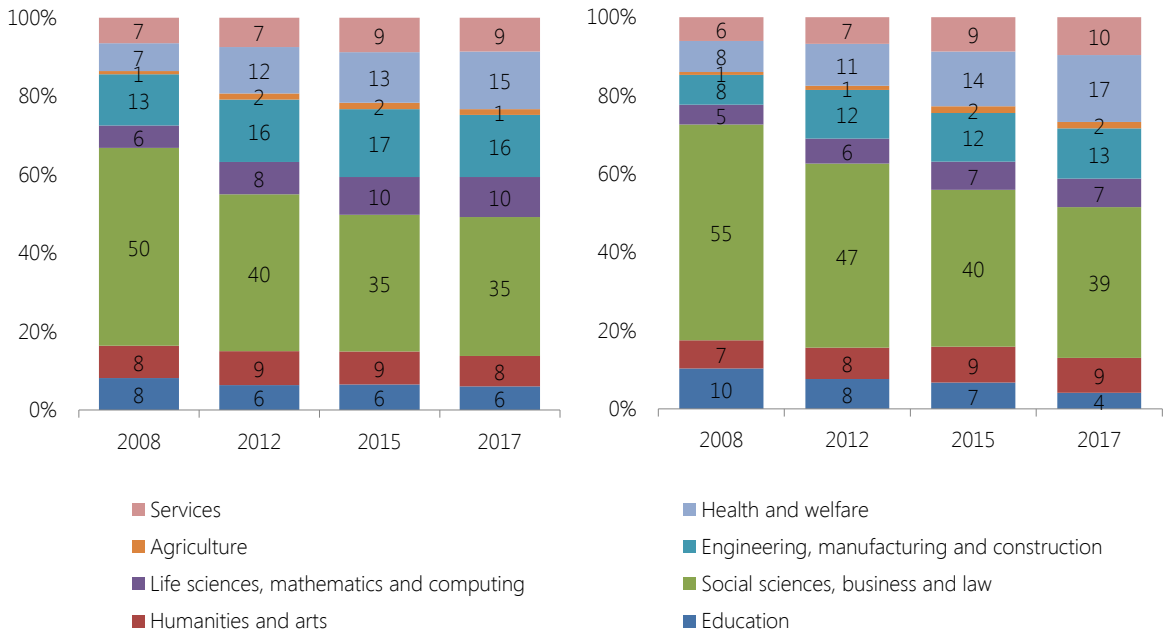
Year 2009 brought significant adjustments to the selection of academic disciplines. As the economic situation worsened, the possibility to study on the state budget means started to become more and more important. The proportion of students, who have started their studies in the academic discipline of social sciences, has significantly reduced.

At the same time, the number of students enrolled into the academic discipline of education has also reduced. Whereas, the number of students enrolled in the academic disciplines of engineering, manufacturing and construction, agriculture, health and welfare has increased.

Figure 2.19

Number of students in higher education institutions and colleges by academic disciplines in the academic year

number of enrolled students, % *number of students, who obtained a degree or a qualification, %*



The structure of enrolled students in recent years has stabilised, and has not significantly changed in 2017. The fact that the number of students enrolled in the academic disciplines of life sciences, mathematics and computing and health and welfare continued to gradually increase should be evaluated positively.

The changes that took place in the education policy in the previous years represent their results after a period of time. The rapid changes in the structure of enrolled students observed in 2009 reflect in the structure of higher education graduates only several years later. Over these years, there has been a significant decline in the share of social sciences graduates, which is a reaction to the changes in the structure of the enrolled students.

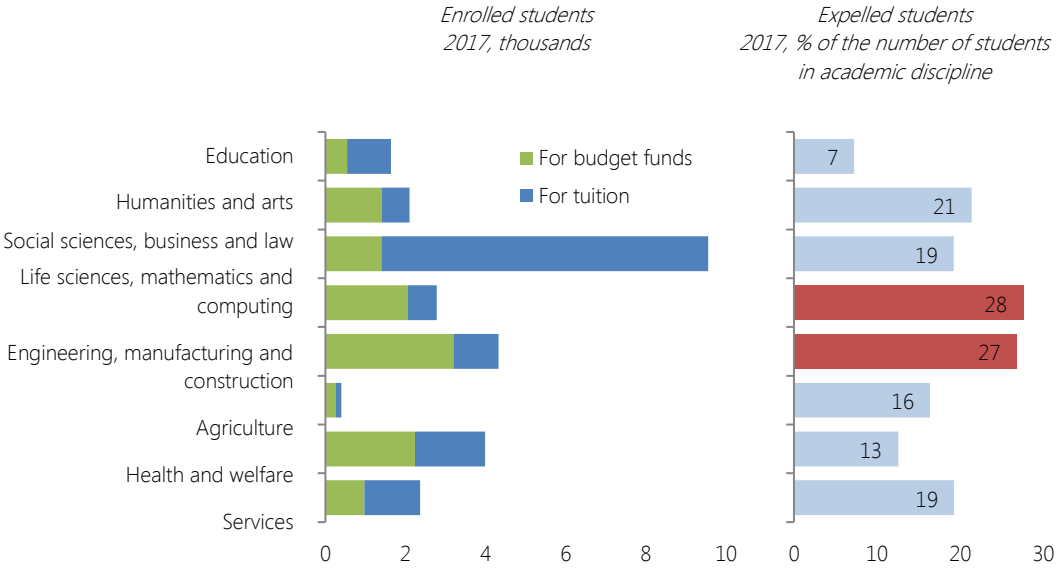
The comparatively small increase in the share of graduates from life sciences, mathematics and computing and engineering, manufacturing and construction disciplines can be explained by the relatively higher level of drop-outs during the studies.

One of objectives of the education policy is to restructure state aid for higher education studies according to the medium-term labour market forecasts. The set task envisages that the proportion of budget places in life sciences and engineering (group of life sciences, mathematics, and computing, as well as group of engineering,

manufacturing and construction) will reach 55% of the total number of budget places by 2020. Therefore, we need to actively implement measures for attracting secondary school graduates to study fields of national importance, as well as reduce drop-outs of students in these disciplines. Additional target funding is also necessary to increase the number state-funded study positions in STEM.

Figure 2.20

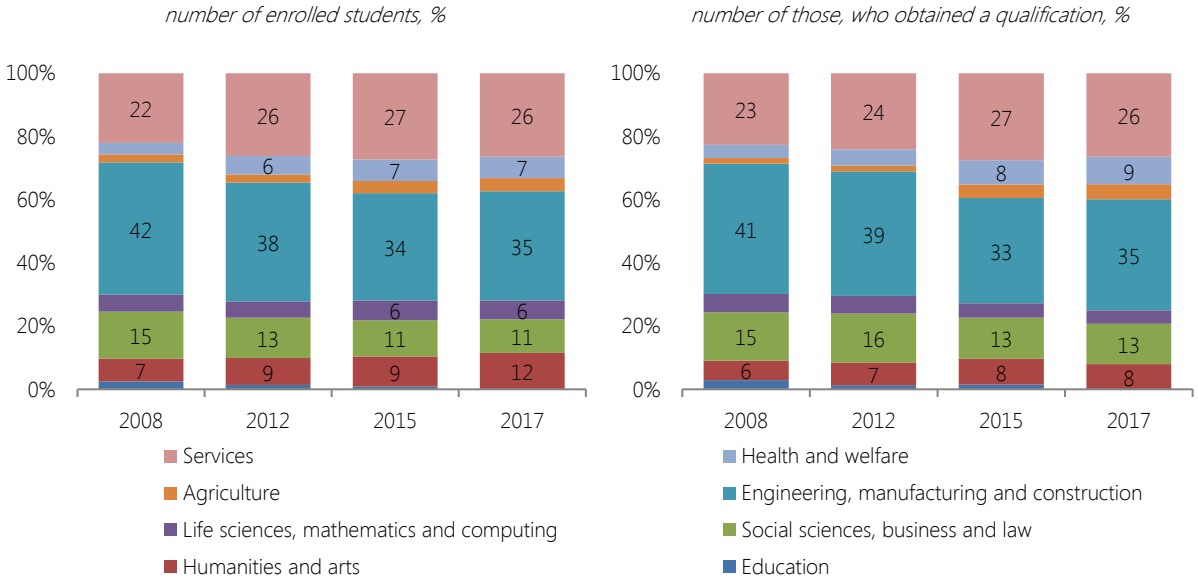
Number of enrolled students and the share of expelled students by academic disciplines



The increase in the number of students enrolled on state budget funds takes place according to the set priority directions for studies. In life sciences and engineering the share of students enrolled for budget funds is growing, and in 2017 those were more than a half of all the students enrolled for budget funds.

Figure 2.21

Number of students in vocational education institutions by academic disciplines



Although, over the last years, the possibility to study on budget funds has become an increasingly popular choice among school graduates, most of young students start studies for their own funds. In 2017, less than half or 43.8% of the total number of students started their studies for state budget funds.

In recent years, the structure of students enrolled to vocational secondary education institutions by academic disciplines has stabilised. Young people most often choose engineering, manufacturing and construction disciplines. This group is the largest in number, however, its share has been declining since 2008. At the same time, the number of students enrolled in the services and humanities and arts academic discipline in this period has increased.

Adult education

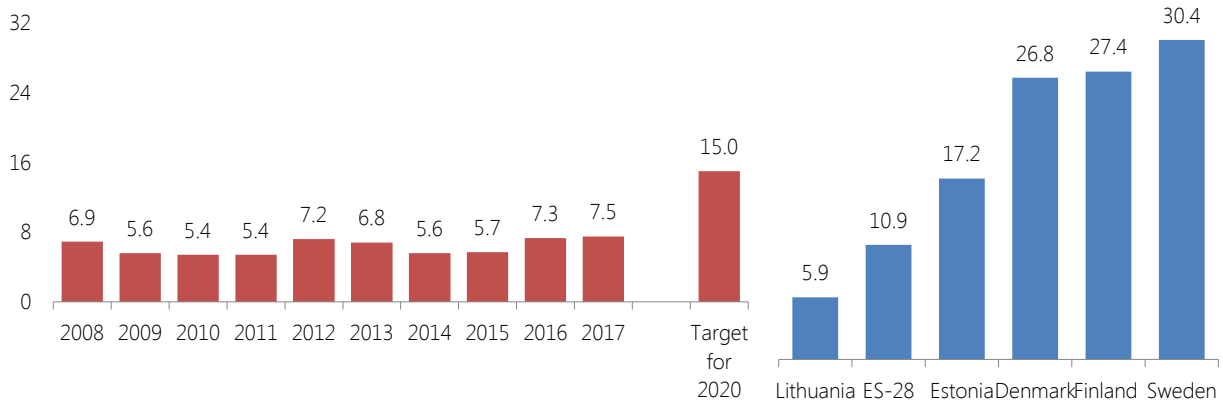
One of the objectives of the education policy is increasing the involvement of adults in education activities. This target envisages that the proportion of people aged 25–64 involved in education activities should be increased up to 15% by 2020. The dynamics of lifelong learning indicators of the last years suggests that education activities for adults should be carried out more purposefully.

The indicators of adults participating in lifelong learning activities[1] have been improving over the last years. In 2017, 7.5% of the population aged 25-64 years were involved in lifelong learning. The indicator has been exceeding the best indicator reached in 2012 over the recent years for two years.

Figure 2.22

Population involvement level into lifelong learning

% of the population in the age group 25–64



Source: *EUROSTAT*

People with higher education choose to participate in adult education activities more actively. 11.5% of people with higher education were involved in adult education activities in 2017. The population with basic education has the lowest involvement, only 3.2% of this population group involved in lifelong learning. The involvement indicators among women are higher than among men. The share of involvement of women was 8.8%, which exceeded the share of involvement of men by 2.8 percentage points.

[1] Data source: Labour Force Survey by the CSB. The indicator has been included in the EU structural indicators and it reflects the participation of adults aged 25–64 in lifelong learning activities.

3. MEDIUM AND LONG-TERM LABOUR MARKET FORECASTS

3.1. METHODOLOGY OF DEVELOPMENT OF LABOUR MARKET FORECASTS BY THE MINISTRY OF ECONOMICS

MoE labour market forecasts

The MoE has been preparing and updating labour market forecasts since 2008. Starting from 2011, long-term forecasts are prepared. The labour market forecasts are based on the scenarios of economic development and demography developed by the MoE; these scenarios are based on the medium and long-term development goals of Latvia, as set in the strategic planning documents: Sustainable Development Strategy of Latvia until 2030, National Development Plan 2014–2020, National Reform Programme of Latvia for the Implementation of the Europe 2020 Strategy.

The preconditions for these forecasts are closely related to the ability of Latvia to implement the set goals and to introduce the required structural reforms, which are aimed at strengthening the growth potential. Therefore, the forecasts should be considered in context with the progress of these reforms and the possible changes in the policy emphasis should be taken into account.

Labour market forecasts are one of the tools that allow for an early anticipation of formation of labour market mismatches in the future and a more efficient distribution of labour resources in the economy. They show possible trends in the labour market development and the possible risks, taking into account the anticipated changes in the education supply structure.

At the same time, it should be noted that forecasts are one of the stages in the labour force supply adjustment process. They are the quantitative basis for further discussions among employment, education and structural policy makers, social partners, scientists and other stakeholders, in order to prepare and adapt the expected structural changes in the national economy in a timely manner.

Labour market forecasting model

The MoE methodology for labour market forecasting arises from the dynamic optimisation model (DOM)[1] that was developed within the ESF project *"Research of long-term forecasting system of the labour market demand and analysis of improvement options"* in 2007. At the same time, while separate elements of the initial DOM remained in the forecasting methodology, the MoE has remarkably changed the model over time. Having implemented the ESF project activity *The improvement of the medium and long-term labour market forecasting instruments* from 2011 until 2013, the MoE, in cooperation with Riga Technical University, has improved the DOM structure and existing forecasting methodology.[2]

For the modelling of labour market, the system dynamic approach is employed. Unlike the initial DOM version, the current labour market forecasting methodology takes into account such essential factors as ageing of labour force and occupational mobility, which are determined by the similarity of skills and competences across occupations. The modelling methodology has also been supplemented with options to simulate and forecast international labour force migration and wages, as well as with the option to analyse the policy impact.

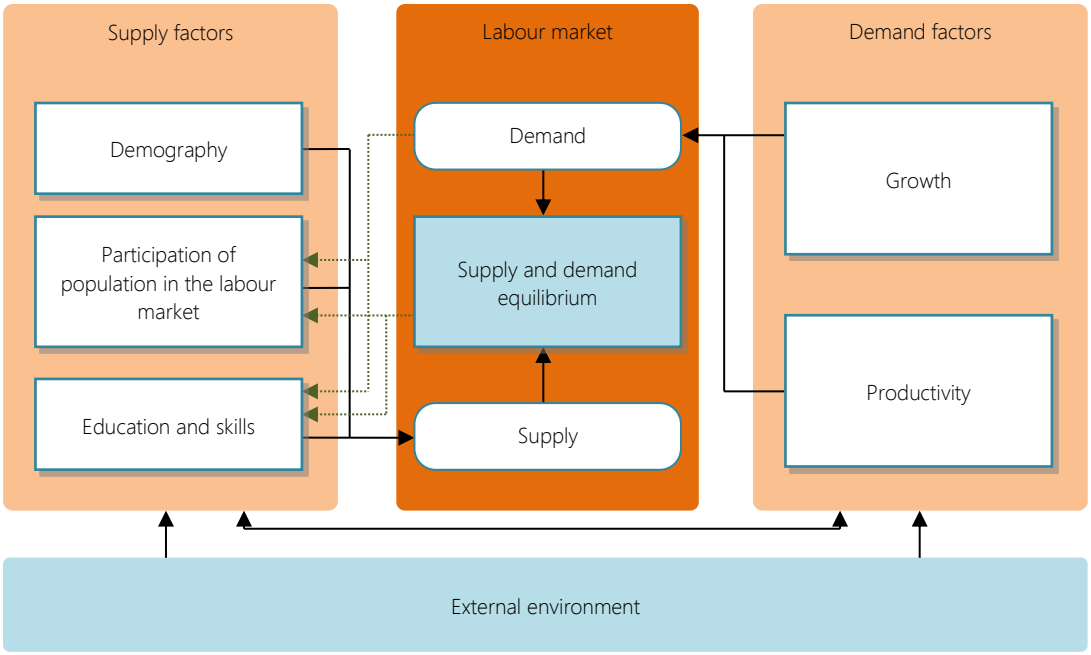
The labour market forecasting model consists of three basic blocks: demand block, supply block, and the labour market block. All of the blocks are interrelated and mutually complementary (see Figure 3.1). The basic principles and inner logic of the model are based on the concept of the labour market general equilibrium, i.e. the labour force demand and supply balances in various labour market segments over a longer period of time.

[1] Examination of the system for long-term forecasts of labour market demand and analysis of its improvement possibilities. MoW of LR: Riga, 2007 – http://www.lm.gov.lv/upload/darba_tirgus/darba_tirgus/petijumi/ilgtermina_prognozesana.pdf

[2] For further information on the labour market forecasting model see the Technical Documentation of the Model for Medium- and Long-term Forecasts and Policy Analysis in the Latvian Labour Market. https://www.em.gov.lv/files/tautsaimniecibas_attistiba/Dokumentacija_Lat.pdf

Figure 3.1

Logical structure of labour market forecasting model



Demand for labour depends on the macroeconomic development scenarios – growth of economic sectors and expected changes in productivity. Demand for occupations arises from the demand of labour in the specific sector and expected changes in the structure of occupations within the sector. But the demand for education depends on the skills/education necessary for the performance of duties of the required occupations.

Labour market supply forecasts arise from:

- detailed demographic forecasts;
- participation level forecasts in different age groups of the population;
- breakdown of the current labour force by age, professional experience (current or previous occupation) and acquired education;
- current education system and education supply (number of students, breakdown of total and state-funded study places by education levels and fields).

At the same time, labour force supply forecasts depend on the general tendency of the labour market towards balance and on the gradual adaptation of supply to demand. Education preferences mainly stem from the ratio of labour market demand to supply, i.e. future students will chose those fields, where the most promising (relatively higher) work opportunities and the highest possible return from individual investments in education are expected at the moment of the decision. The baseline scenario also assumes that the education system and education supply (the distribution of state budget funded study places) do not change significantly during the forecast period. It means that labour force supply forecasts reflect an education-policy-change neutral situation in the labour market until 2035.

It should be noted that these forecasts are based on the example of an ideal labour market, i.e. demand for certain levels and fields of occupations in the labour market, determine the demand for the respective level and field of education. It means that in the future the expansion and replacement labour demand in certain occupations can only be satisfied with a supply of labour force with the qualification (education) necessary for the relevant occupation.

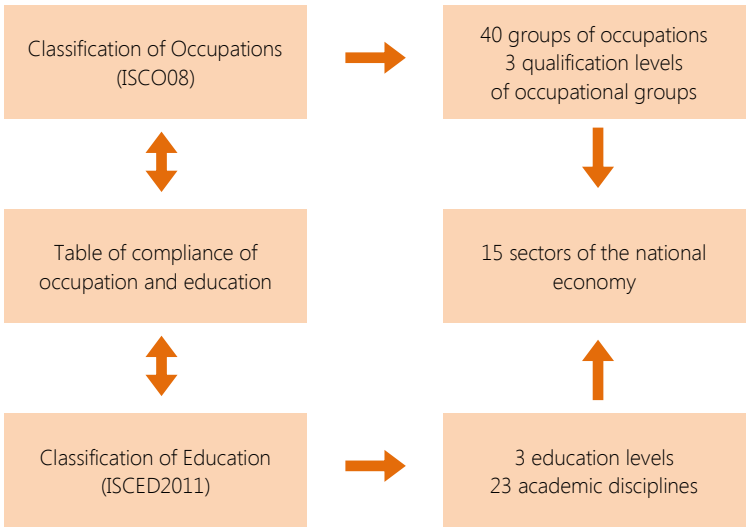
Aggregation of the forecasts

The MoE labour market forecasts are prepared in relation to sectors, groups of occupations, and education. The forecasts are based on the international classification systems adapted to Latvia and are internationally comparable. The forecasts for the sectors are based on the Statistical classification of economic activities in the European Community NACE rev. 2. National economy sectors are aggregated in 8 sectors of national economy.

The aggregation of occupational forecasts is based on the Latvian Classification of Occupations, which, in turn, is based on the International Standard Classification of Occupations (ISCO08). Forecasts of labour force demand and supply are prepared for 40 sub-major groups of the classification of occupations and summarised in three occupation skill levels.

Figure 3.2

Labour market forecasts aggregation system



Occupation forecasts are closely related to the forecasts of labour demand and supply, by the acquired education. The aggregation of education forecasts are based on the Latvian Classification of Education, which is based on the International Standard Classification of Education (ISCED2011). The forecasts for education demand and supply are provided for three education levels (basic, secondary, and higher), by 23 academic disciplines at each education level.

The labour market forecasts by occupations and education are synchronised by using the occupation-education compliance matrix, developed by the MoE in cooperation with the MoES and the MoW in 2011, for the needs of medium and long-term labour market forecasts. The matrix is based on the Latvian Classification of Occupations and on the framework of the International Standard Classification of Occupations (ISCO08), as well as on the assumptions on the occupation skill levels and corresponding education levels.

Information and data sources used in forecasting

In the development of labour market forecasts, mainly the data, included in the national statistics programme and regularly summarised by the CSB, have been used. The Labour Force Survey (LFS) is the most important source of information. The main forecast assumptions about the structure of demand and supply of labour force are based on the LFS.

The MoE's demographic forecasts are based on the information provided by the CSB, in regard to the number and structure of the population at the beginning of 2018, as well as the demographic trends of the last two decades. The long-term assumptions about the fertility and mortality rates arise from the base scenario of the demographic forecast Europop2015, developed by the Statistical Office of the European Communities (Eurostat). The scenarios

of international migration are closely related to the Latvian growth targets and the further development of the situation in the labour market.

Education statistical data is used for the modelling of the education system structure and the entering of labour force in the labour market. The main sources for education statistics are CSB's Report on vocational education institutions (prof-1) and Report on higher education institutions, colleges (1-higher education institution, college).

3.2. GROWTH SCENARIO AND DEMOGRAPHIC PROJECTIONS

3.2.1. TARGET SCENARIO OF ECONOMIC GROWTH

The Ministry of Economics has prepared a target scenario of economic growth and a macroeconomic forecast that matches it[1]. The target scenario has been drafted according to settings of the Latvian structural policy defined in policy documents – Sustainable Development Strategy of Latvia until 2030, National Development Plan of Latvia for 2014-2020, National Reform Programme of Latvia for the Implementation of the Europe 2020 Strategy, National Industrial Policy Guidelines 2013–2020. Basic assumptions of processes determining global economic development are also taken into account.

The main growth driver of the target scenario is income from exports and the extension of export possibilities, the ability to get included into international product chains with higher added value products and to create more qualitative final products. At the same time, it should be taken into account that in the medium term in open labour market conditions the increase in labour costs will remain comparatively fast and competitive advantages of labour force costs will continue to decrease. In the medium and long-term, more rapid development is expected in the sectors, which are able to boost their productivity through overcoming the technological lag, modernisation of production and investments, investments in human capital, research and innovation and other factors of the supply side. The implementation of the target scenario is possible through considerable measures to promote economic competitiveness.

Macroeconomic framework

A comparatively strong economic growth is expected in the years to come. In 2018 and 2019 the increase in investment will be fostered by faster investment of finances from EU funds. The strong increase in private consumption will remain fostered by the increase in wages and growing purchasing power of population. Furthermore, the development of sectors oriented to exports to external markets will be positively affected by favourable situation in the external environment and the increase in demand in main export markets.

In the medium term (until 2025) the target scenario envisaged GDP growth by about 4.5% per year, but the fundamental precondition for this is to support economic competitive advantages by technological factors, manufacturing efficiency and innovation. In the long term (until 2035) annual economic growth rates will become slower and will be within 3%.

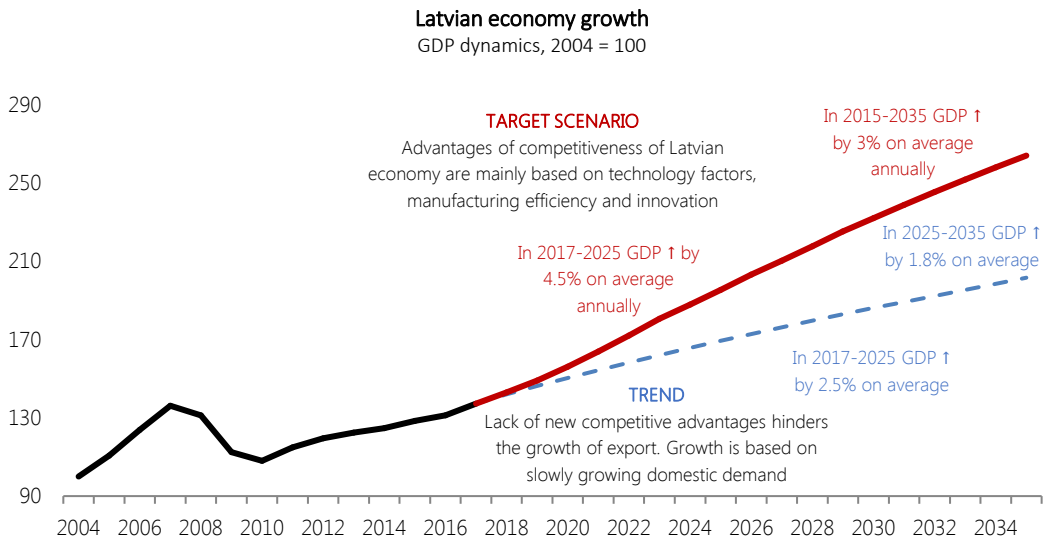
Table 3.1

Target scenario framework
annual average changes, %

	2012-2017	2018-2025	2026-2035
Number of inhabitants	-1.0	-0.6	-0.2
GDP at current prices	4.8	7.0	5.0
GDP at reference prices	3.0	4.5	3.0

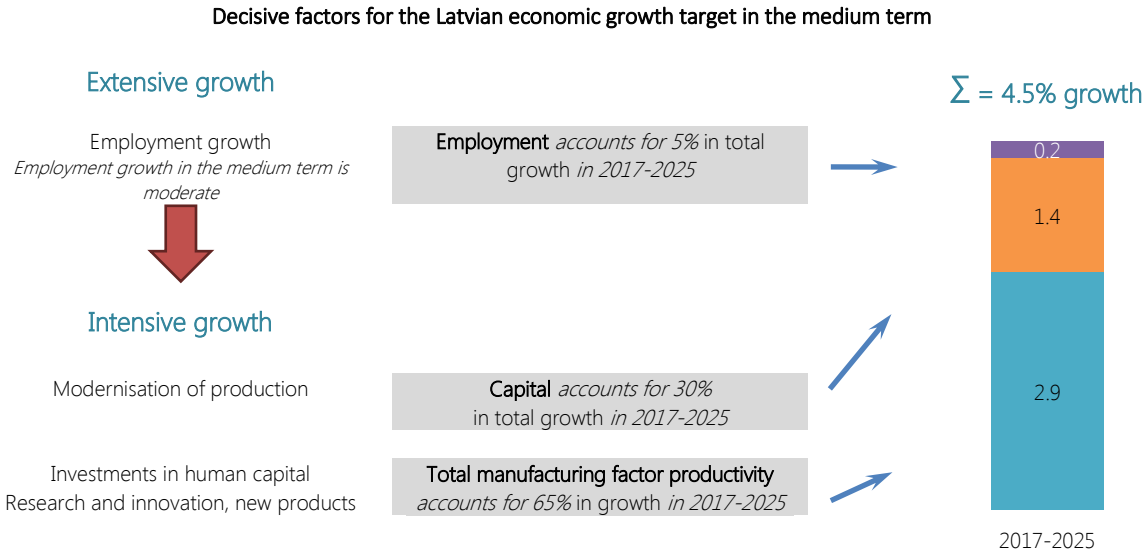
[1] Examination of the system for long-term forecasts of labour market demand and analysis of its improvement possibilities

Figure 3.3



The decisive precondition for faster economic growth is to increase the productivity level. One of the main challenges is to create new competitive advantages, which is related investments in human capital, technologies, innovation and research. The creation of new competitive advantages is an important condition for the extension of export outlet markets and growth in export volumes. Latvia's competitiveness in external and domestic markets will depend on its ability to close the productivity gap with the technologically developed countries. The increase in productivity is based not only on technological novelty, improvement of production process management, but also on reallocation of existing resources to produce products with higher value added, i.e. structural transformation of the national economy.

Figure 3.4



Latvian national economy is closely integrated in international markets. Therefore, the creation of new competitive advantages for Latvia should adapt to global challenges, which change the traditional business model:

– increase of international mobility of production factors and capital. Competition on international goods, labour and capital markets in the global economy intensifies;

- fragmentation of production, countries become specialised in some particular sector or also in a chain of creation of product's added value. Latvia should use the possibility to involve in global supply and production chains, where excellence at all production stages and levels, competence of suppliers and cooperation partners and innovations in related sectors and in different regions are essential in production of the final product. The current low level of innovation performance shows not only the lack of state contributing to the knowledge base and human capital, and aid, but also (and perhaps even more) the low demand of entrepreneurs for innovation;
- rapidly growing new industrial countries with explicitly cheap labour force advantage. Competitiveness of Latvian manufacturers is still largely based on the advantages of cheap labour. However, it has to be taken into account that an increase in labour costs is inevitable in conditions of an open labour market. Thus, Latvia could lose competitiveness in the low-cost segments sooner than acquire advantages in the manufacturing of products with high added value. Furthermore, if such a business model is continued, there is a risk to lose more and more talents;
- for attraction of private investments the biggest requirements are set to the institutional environment and infrastructure. Latvian institutional environment has several shortcomings. The most pronounced ones are the large share of shadow economy and low-quality public services.
- the transformation process is carried out by entrepreneurs – they decide to modernise production or move resources to other sector/region/country. Therefore, a very important factor is to promote motivation of businessmen to change their business model and learn and create new competitive advantages.

Development trends of sectors

The target scenario envisages to keep more rapid growth rates in manufacturing than in the national economy on average in the medium and long term. At the same time, growth will not be so much related to extensive building of material-intensive production volumes, but to the use of newer technological processes, digitalisation (Industry 4.0 concept), optimisation of processes, etc. Faster development due to the above-mentioned factors is expected in high and medium-high technology sectors – chemistry, pharmacy, electronics, etc. Comparatively rapid growth rates are projected also in the largest manufacturing sector – wood processing. The development of sectors with bigger focus on the domestic market (for example, food industry, printing) will be mainly affected by the dynamics in domestic demand. Manufacture of other non-metallic mineral products will be closely related to trends in construction.

One of the fastest growths in main sectors of national economy in the target scenario is projected for information and communication, both in the medium and long term. This is related to the increasingly growing demand for digitalisation of production and services processes, as well as global IT sector development trends.

In the nearest years rapid growth is expected in the construction sector, which will be fostered by the investments of the private sector and investments from EU funds, which have already started. In the target scenario, stable growth in the sector is also expected after 2020, which will be fostered by the implementation of large investment projects (for example, Rail Baltica) and by the need to gradually renew the current housing facilities.

Growth in transportation and storage will be largely fostered by the development of air transport and road transport sectors. At the same time, the dynamics in the transit sector will be slower, underpinned by the need to search for new types if cargo to replace persistently shrinking volumes of petroleum products and hard coal from Russia.

The number of employees in the agricultural sector will continue to reduce. The sector currently employs 6.9% of all the workers aged 15 to 74. In the long term the number of the employed will drop to about 3.3-3.5%, which corresponds to the share of added value of the sector to the national economy.

The development of sectors oriented to domestic demand – trade and other business services – will be closely related to the dynamics in private consumption and the demand created by other sectors of national economy. Public services sectors (public administration and defence, education, health and social work activities) are closely related to demographic trends. In public services sectors the fastest growth in the long term is expected in human health and social work activities due to ageing populations.

Table 3.2

Development trends of sectors

annual average changes, %

	2012-2017	2018-2025	2026-2035
Agriculture, forestry and fishery	4.2	2.5	0.6
Manufacturing	2.7	5.2	3.9
Other types of industry	1.0	4.4	3.0
Construction	2.3	6.9	3.2
Trade	4.2	4.8	3.1
Transportation and storage	1.1	4.0	3.0
Accommodation and food service activities	4.8	4.3	3.1
Information and communication	3.6	5.6	3.8
Financial and insurance activities	0.8	1.3	3.2
Real estate activities	2.0	3.6	2.9
Business services	2.4	5.3	3.8
Public administration	1.5	4.2	2.8
Education	2.3	4.1	2.5
Human health and social work activities	4.5	4.2	2.1
Arts, entertainment and recreation	3.6	5.1	3.2
GDP	**3.0**	**4.5**	**3.0**

The target scenario until 2035 does not envisage any considerable structural changes in sectors of the national economy compared to the current situation. It will remain close to the existing one. Although export is the main growth driver, it does not mean that the share of export sectors will particularly grow. The main reason for this is that the business model has significantly changed in the last years. Any sector requires services of other sectors on a large scale (for example, the company itself cannot directly perform IT services, logistics and transport, other business services, even accounting services and so on). Therefore, growth in any sector creates a relevant increase in other sectors especially in business services. The share of business services sectors might increase by 1 percentage point by 2035. An increase is also expected in the share of IT, construction and industrial sectors in the national economy. At the same time, the share of agriculture, transportation, financial services and public services sectors might slightly reduce.

3.2.2. DEMOGRAPHIC FORECASTS

According to MoE's demographic forecasts, in the medium and long-term, the population of Latvia will continue decreasing, moreover, the number of working age population will fall more rapidly than the total population. The main reason for the decreasing number of the population in both medium and long-term will be ageing, as a result of which the gap between the birth and death rates will continue to extend. At the same time, in the medium term the negative impact of migration on the population dynamics will reduce, but in the long term the number of immigrants may exceed the number of emigrants.

Changes in the number and age structure of the population

Over the last 20 years, the Latvian population has reduced by about 1/5 or almost 500 thousand, to be noted more than half (54%) of the drop was due to the declining number of the population aged 20 to 60. At the same time, the average age of the population has increased by about 5 years from around 37 in 1997 to 42 in 2017, therefore, we not only faced an absolute decline in the population, but also the age structure of the population has changed.

Similar trends are expected to continue in the next years – overall the population might reduce by almost 7% or more than 132 thousand by 2035, while the average age of the population might increase to 45 years. The

reduction of population numbers will be mainly determined by the negative natural increase, which will be affected by the changes in the age structure of the population, caused by the ageing of the society.

Table 3.3

Main indicators of natural population movement

thousands

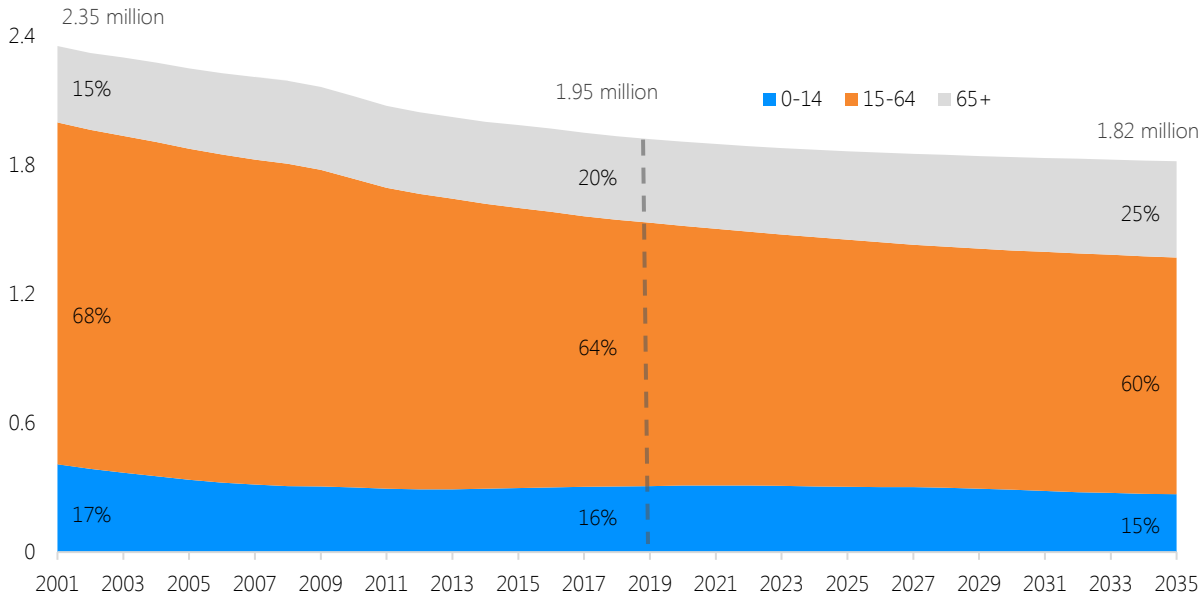
	2017	2025	2035
Population at the beginning of the year	1950.1	1864.0	1818.0
Changes in the population compared to 2017	–	-86.2	-132.1
incl. migration impact	–	-23.0	19.5
incl. natural growth impact	–	-63.2	-151.6

In general, it is estimated that material changes in the age structure of the population will take place until 2035 in favour of higher age cohorts. It is expected that until 2035 the number of the population in the age group 15–64 will reduce by 157.2 thousand or approximately by 12%, and at the same time the number of the population aged above 64 will increase by almost 59.8 thousand or by about 15%. Overall, these trends will determine the reduction of the share of the population aged 15–64 from 64% in 2017 to 60% in 2035, which will have a significant impact on the availability of labour resources in the future.

Figure 3.5

Breakdown of the population by age groups

million and %

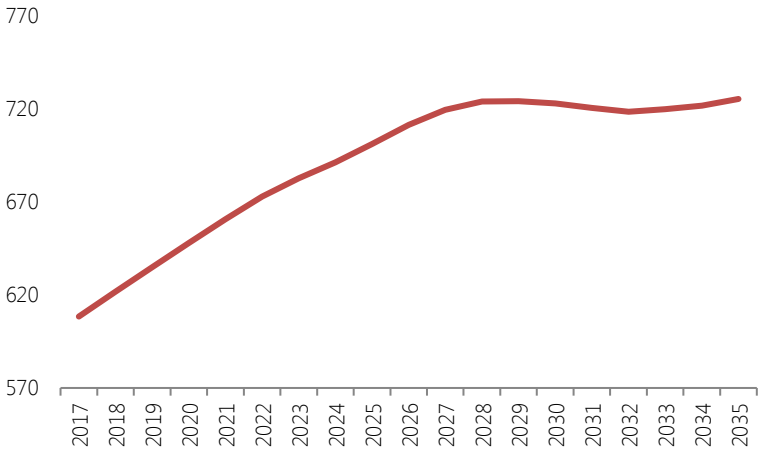


Along with the ageing of the society, the indicators of demographic burden will continue to rise in the future. By 2035, in comparison to 2017, the level of demographic burden is expected to rise by almost 1/5. It means that we will have 726 inhabitants out of working age per 1000 inhabitants of working age in 2035, moreover 65% of them will be aged above 62.

Figure 3.6

The demographic burden

*Number of people under and above working age per 1000 people of working age**



* Working age from 15–62 (remains unchanged in the projected period)

It should be noted that negative demographic trends have considerable impact on the labour market. The unemployment rate has been dropping in Latvia for a long time influenced by negative demographic trends – in 2017 over 4/5 of the unemployment drop was due to demographic processes. As labour force reserves are rapidly depleted employers are facing acute shortage of employees more and more often, especially in economically active Latvian regions. In order to reduce the negative impact of ageing populations on the labour market and social insurance system, measures to increase economic activity of the population are important, as well as obstacles to faster entry of young specialists to the labour market should be reduced. At the same time, in the medium and long term we should continue to focus on equalisation of the negative demographic balance.

Natural growth

Although, in relative terms, the main naturally growing birth and death rates in the years to come will improve, in absolute terms the gap between newborns and deceased continues to increase.

Overall base trends of birth indicators are expected to remain positive in the medium and long term – the total fertility rate might increase by almost 7% compared to 2017 and in 2035 may reach the level, which was observed in Latvia at the beginning of the 1990s. At the same time, it should be taken into account that the number of women in reproductive age (aged 15 to 49) continues to reduce (by almost 14.6% or 62.2 thousand by 2035), therefore, despite the increase in birth rate the number of newborns continues to shrink in absolute terms.

Table 3.4

Main indicators of natural population movement

	Fact	Forecast	
	2017	2025	2035
Number of newborns per 1000 inhabitants	10.7	9.8	9.3
Death rate per 1000 inhabitants	14.7	14.4	13.9
Natural growth per 1000 inhabitants	-4.0	-4.6	-4.6
Total fertility rate	1.699	1.799	1.813
Average life expectancy at birth (years)	74.7*	76.6	78.8

* MoE estimate

For a normal replacement of generations, the total fertility rate no less than 2 is needed. For the first time in Latvia the total fertility rate exceeds the level from almost 30 years ago – at the end of the 1980s.

Some improvements are expected in the death rate as well – death rates will decrease in all age groups until 2035, which will contribute to the reduction of the total number of deaths per 1000 inhabitants. The average life expectancy at birth will also rise from the current 74.7 years to 78.8 years.

International migration of the population

The demographic situation in Latvia is mainly affected by economic migration of the population, since the beginning of 2000 about 2/3 of the declining population was due to persistently negative migration balance. Although, overall improvements in migration trends are observed, about half of the declining population is related to the fact that more inhabitants are leaving the country than entering the country. Stable economic growth and more qualitative and well-paid jobs on the labour market is a considerable precondition for the change in migration flows. To keep the population from leaving to seek for better employment possibilities in other places, as well as create a foundation for contemplations on returning in those, who left earlier, the average wage in Latvia should be at least at the level of minimum wage in main target countries of Latvian migrants – at present, about 1,500 EUR per month.

Table 3.5

Main indicators of international migration of the population

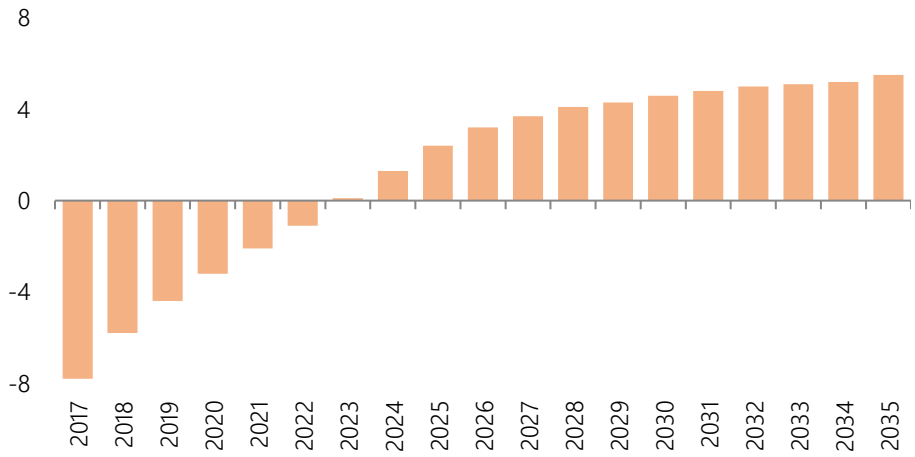
	2017-2025	2026-2035
Emigration, thsd	121.0	84.7
Immigration, thsd	100.4	130.3
Net migration, thsd	**-20.6**	**45.6**

The target scenario of economic growth envisaged that in the following years Latvian GDP per capita will continue to gradually approach the average EU level, which will generally close the income gap with more economically developed EU Member States, and therefore also economic migration stimuli. It is expected that migration flows might equalise starting from the year 2023. In the medium term most of immigrants will still be Latvian nationals. At the same time, as the Latvian market balances with other EU countries, it will become even more attractive for immigrants from other EU countries, as well as for third country nationals. In view of this, it is expected that the composition of immigrants by nationality will change considerably in the long term. It should be noted that in the last 5 years the share of nationals of other countries in the total number of immigrants has almost tripled – from 16.2% in 2012 to 46.5% in 2017.

Figure 3.7

Net international migration of the population

thousands



At the same time it must be noted that despite the decline in economic migration flows in Latvia, along with the increasing globalisation trends (reduction of mobility obstacles in between countries, labour market liberalisation, expansion of information and communication links, etc.), and in context with the geopolitical processes, in the medium and long-term international migration motivated by other factors will generally increase.

In the medium term immigration of labour force will play an important role in securing the development of a balanced labour market, therefore the migration policy should be sound providing support for economic growth in the medium term, on the one hand, and not creating the risks for long-term development, on the other hand. It is important to continue reducing the obstacles for return migration of Latvian nationals, as well as to ensure such labour force immigration policy, which would provide support to sectors with a considerable investment in the economy.

3.3. LABOUR DEMAND AND SUPPLY

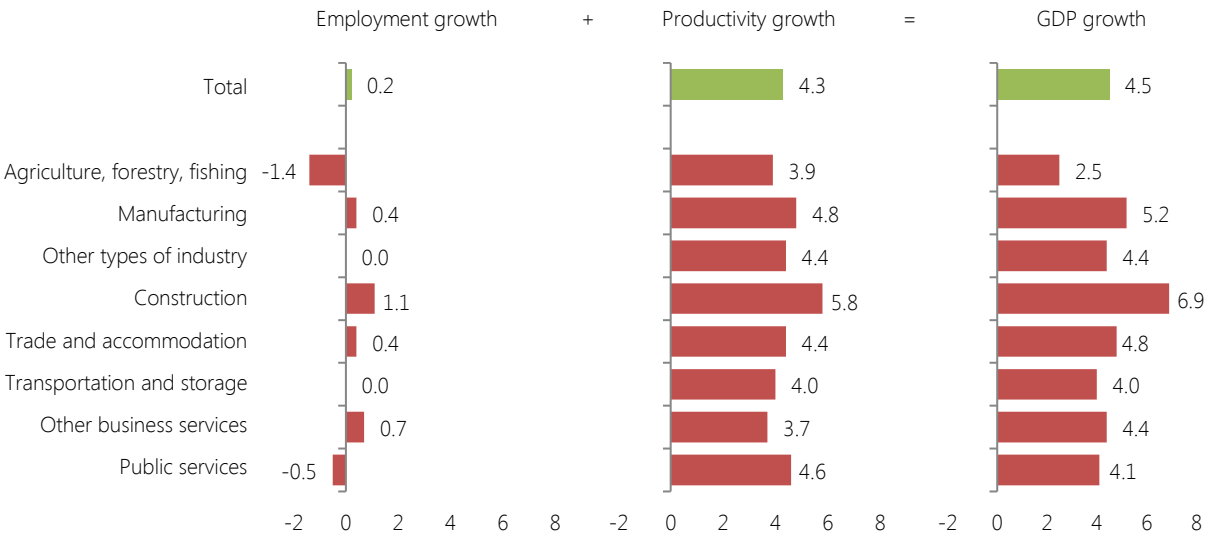
3.3.1. LABOUR DEMAND FORECASTS

Development opportunities for manufacturing sectors, which depend on the capacity to implement structural changes in the sector, are one of the most important issues in the change of the economic paradigm. It is a necessary precondition for strengthening the competitiveness of Latvia in the global markets, simultaneously raising the export profitability. Qualitative improvements of the labour market will play an increasing role in further development providing for a timely response to the main development challenges in the national economy – demography, rising labour costs, as well as mismatches between the skill supply and demand.

Figure 3.8

Changes in GDP, productivity and labour demand

2025 vs. 2017, annual average, %



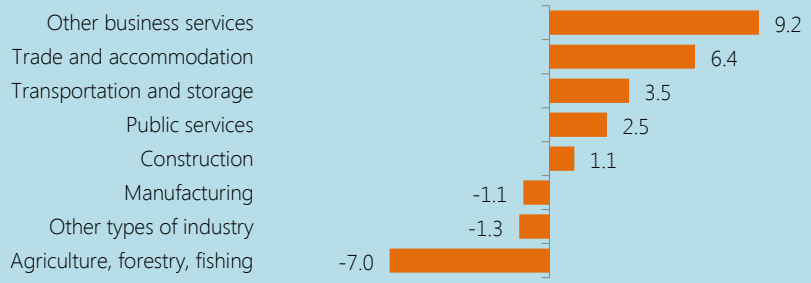
Although the expected growth rate is quite rapid, in the medium term the demand for labour force will remain almost unchanged or will even decline in some sectors, as growth will mainly rely on the increase in productivity. This specifically concerns tradable sectors and mainly the sector of manufacturing, which operates in open products and services markets where competitiveness is a decisive factor. It is expected that in 2025 the demand for labour force across the national economy will exceed the level of 2017 by 1.3%. Consequently, in 2035, in comparison to 2017, labour demand will remain unchanged, which is explained by the decline in the number of the employed from 2026 to 2035. Job opportunities will form only because of replacement demand, when the existing labour force will retire or leave the labour market. Demographic trends and the retirement age are the main factors affecting changes in the number of the population who have left the labour market.

Technology progress will have a considerable impact on employment. The demand for digital skills will increase – it is expected that by 2025 85% of all jobs in EU will require at least basic digital skills. However, Latvia is one of the countries with the highest proportion of the employed (more than 1/5), who have indicated that their job does not require ICT skills. Although employment trends will be largely affected by automatization and robotization, the latest research still evidences that the number of jobs subject to the risk of automatization is much lower than it was thought initially and only less than 5% of current jobs can be fully automated, however in 60% of occupations at least 1/3 of duties can be automated. However, it should be taken into account that unlike in the past, today typical innovation cycles are much faster and automatization/robotization enters into many high qualification occupations.[1]

Skill demand projections in Europe*

The situation in the EU labour market will continue to improve, while the demand for labour force will grow very slowly. As a result of the globalisation and the technological development, shift to service- and knowledge-driven economy will continue, therefore the increase in employment by 2025 will be mainly driven by services sectors, yet due to high replacement demand, there will be job opportunities in all sectors and in all occupations. Specific skills, especially digital skills, will be in demand.

Changes in the employed in the EU by sectors
2025 vs. 2017, %



Source: *Cedefop, Skills forecasts*, 2018

The sharpest increase in the labour demand in the EU expected in sectors of business services, where the number of the employed will grow in real estate activities and in the area of professional, scientific and technical services. In the field of public services the number of the employed will grow most rapidly in human health and social work activities, and will slightly reduce in public administration. An increase in the labour demand is projected also in trade and construction, and a small increase in transportation and storage. It is expected that in 2025 construction will employ 6% of EU labour force. The demand for skills will change in construction as well largely influenced by energy efficient and "green" construction, which uses new materials and designs. The demand for employees with high qualification is expected to double in this sector[2].

The most considerable decline in the number of the employed is expected in the agricultural sector. The number of the employed will also decline in industrial sectors, where the most rapid decline is expected in mining and quarrying. Although a decline in the number of the employed in manufacturing is expected, but the demand will still grow in the sectors related to progressive industry, mainly nanotechnology, material sciences, electronics, ICT and biotechnology. Therefore, the interest of employers to recruit new employees having knowledge in digital technologies, computer technologies, and people with analytical thinking will grow[3]. The European Commission has deemed the specialisation in high technology and knowledge-intensive sectors as one of the key advantages of the EU's competitiveness in the global markets. These changes will also provide that specific skills and knowledge will become more demanded.

New job opportunities will form mainly because of replacement demand, where 9 of each 10 vacancies will form, because the existing labour force retires or leaves the labour market. New job opportunities will mainly open in occupational groups of different technicians and associate professionals (in engineering, IT, health, and other sectors). Technicians and associate professionals, and professionals will be the most demanded occupational groups in the medium term. There will be a comparatively high demand for services and sales workers as well. Although the orientation to services-driven economy will continue, the demand for science, technology, engineering and mathematics (STEM) skills will not decline and these skills will be also required in services sectors, for example, many persons with ICT skills are employed in the financial sector. Technological progress and ICT technologies have not only created new, typically high-skilled jobs (web applications designers, software developers, market research data analytics); they are also expanding possibilities for individuals to undertake more interesting and productive tasks, leaving the more routine activities to the robots[4].

**According to CEDEFOP projections*

[1] Cedefop (2018), Insight into skill shortages and skill mismatch. Learning from Cedefop's European skills and jobs survey. Cedefop Reference series 106

[2] Cedefop (2016), European sectoral trends in the next decade.

[3] European Parliament (2015), Labour market shortages in the European Union. Study for the EMPL Committee

[4] Cedefop (2018), Insight into skill shortages and skill mismatch. Learning from Cedefop's European skills and jobs survey.

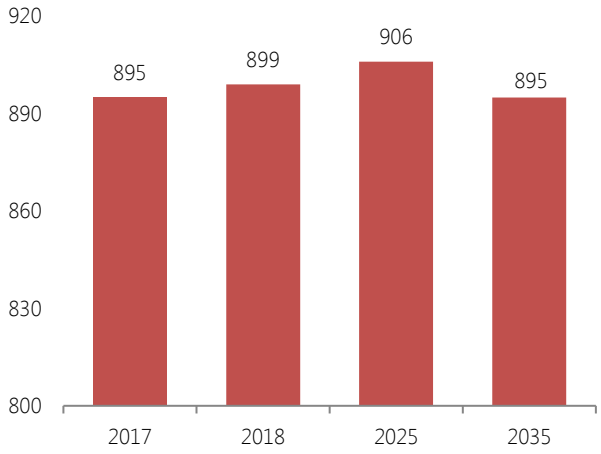
Four sectors will contribute to the increase in labour demand by 2025 – business services, construction, trade and manufacturing. Meanwhile, all these sectors with the exception of trade will grow in the long term.

Manufacturing is one of the most rapidly growing sectors. Whilst the volume of production will rapidly increase, the demand for labour force will also increase. However, in order for this sector to be competitive in the medium and long-term, more than 3/4 of the total increase in the sector have to be ensured by growing productivity – technology transfer in production, development of research, innovation, and rising of employees' qualifications and skills. It is expected that in the long-term the medium and high-technology sectors (such as production of devices, mechanisms, electric and optical devices, etc.) will contribute most to the manufacturing sector, while the contribution of traditional sectors like wood processing and food processing will relatively reduce.

Figure 3.9

Labour demand

employed in the age group 15-74, thousands



The number of the employed in agriculture and forestry will reduce, similarly to EU average. The share of the employed working in this sector in 2025 will be 6% of the total employed (also 6% across the EU). In 2017, agriculture and forestry accounted for 3.9% of total value added. It means that, productivity, which will be of crucial importance for the growth of a sector in the next years, in agriculture and forestry is lower in comparison with other sectors.

Table 3.6

Changes in the labour demand by sectors

thousands

	2016	2017	2025	2035	Difference 2025-2017	Difference 2035-2017
Agriculture, forestry, fishing	69	61	55	52	-7	-10
Manufacturing	124	121	124	126	3	5
Other types of industry	26	24	25	22	0	-2
Construction	66	63	69	68	6	5
Trade and accommodation	155	161	166	144	5	-17
Transportation and storage	83	80	80	79	0	-1
Other business services	173	183	194	219	11	37
Public services	198	201	193	185	-8	-17
Total	**893**	**895**	**906**	**895**	**11**	**0**

In the future, the demand for labour force will also gradually increase in construction. However, it should be taken into account that the number of the employed in construction dropped significantly during the crisis. In the

medium term the development of the construction sector will be largely secured by the increase in intensity of implementation of projects of European Union structural funds and also by private investments. In the long term, the demand for energy efficiency and "green" construction will affect the development.

The sharpest increase in the number of the employed is expected in business services. In 2025, the demand for labour force will exceed the level of 2017 by 6% and will account for 1/5 of all the employed across the national economy, while in the long term the demand will grow by 20% thus constituting 1/4 of the total number of the employed across the national economy. The growth of commercial services sector will mainly be facilitated by the development of other sectors of national economy and the growing demand for outsourced services.

In the medium and in the long term the demand for highly qualified specialists will grow the most. It will be determined by the increase in the demand for labour force in manufacturing and services, and especially in business services. In the long term the sharpest increase in demand is expected in services and in manufacturing, as well as in trade and transportation.

In the medium term demand in the group of medium qualification occupations will be retained at the same level, mainly for craft workers. Although in the medium term demand in the group of medium qualification occupations will reduce, it will still remain high for craft workers. The sharpest increase in demand is expected in manufacturing and construction. At the same time the demand will shrink for agricultural workers and general office clerks. In the long term, the demand for services workers in trade in the group of medium qualification occupations will reduce considerably.

Table 3.7

Changes in the labour demand by occupational groups

%

	Changes compared to 2017		Structure	
	2025	2035	2025	2035
High qualification occupations, including:	7.2	15.1	44.6	48.4
Managers	3.9	5.0	10.4	10.7
Professionals	7.3	16.2	18.8	20.7
Technicians and Associate Professionals	9.4	20.9	15.3	17.1
Medium qualification occupations, including:	0.3	-4.3	44.3	42.8
General Office Clerks	-7.6	-20.0	4.8	4.2
Services Workers	-1.8	-12.1	14.6	13.2
Skilled Agricultural Workers	-14.2	-23.7	3.0	2.7
Skilled Workers	11.9	18.7	13.1	14.0
Plant and Machine Operators	-1.2	-4.5	8.9	8.7
Low qualification occupations	-14.9	-35.6	10.6	8.1
Total	**1.3**	**0.0**	**100**	**100**

The most rapid drop in labour demand will be observed in low qualification occupations. This will be common for all sectors. Taking into account the demographic trends, supply of labour force with an appropriate qualification might substantially decrease in the future, therefore the role of vocational secondary education will only increase.

Table 3.8

Changes in the employed in economic sectors by occupational groups

compared to 2017, thousands

	Agriculture	Manufacturing	Other types of industry	Construction	Trade	Transportation	Other business services	Public services	Total
Year 2025									
High qualification occupations, including:	0.2	2.8	1.0	2.4	5.8	2.4	14.9	-2.8	26.8
Managers	-0.2	0.1	0.0	0.8	2.7	0.4	0.3	-0.7	3.5
Professionals	0.2	1.3	0.2	0.5	1.8	0.4	9.0	-1.8	11.5
Technicians and Associate Professionals	0.3	1.4	0.8	1.0	1.3	1.6	5.6	-0.3	11.8
Medium qualification occupations, including:	-5.2	4.3	0.0	4.4	0.8	-1.1	-0.8	-1.6	0.9
General Office Clerks	0.0	-0.5	-0.1	0.0	-0.2	-0.7	-1.4	-0.8	-3.7
Services Workers	-0.1	-0.1	0.0	0.0	-1.6	0.1	-0.1	-0.5	-2.5
Skilled Agricultural Workers	-4.2	-0.1	0.0	0.0	0.0	0.0	-0.1	0.0	-4.4
Skilled Workers	0.1	3.8	0.3	4.3	2.5	0.7	0.8	0.0	12.5
Plant and Machine Operators	-0.9	1.2	-0.1	0.1	0.1	-1.2	0.1	-0.3	-1.0
Low qualification occupations	-1.6	-3.8	-0.9	-1.1	-1.3	-1.2	-3.1	-3.5	-16.4
Total	**-6.5**	**3.3**	**0.1**	**5.8**	**5.3**	**0.1**	**11.1**	**-7.9**	**11.2**
Year 2035									
High qualification occupations, including:	1.0	5.6	1.1	3.1	2.8	5.2	42.2	-4.0	57.1
Managers	-0.3	0.1	-0.3	0.8	2.6	0.9	1.9	-1.0	4.6
Professionals	0.5	2.7	0.1	0.8	1.9	0.8	23.4	-4.3	25.9
Technicians and Associate Professionals	0.8	2.8	1.3	1.6	-1.7	3.6	16.8	1.3	26.5
Medium qualification occupations, including:	-8.1	8.0	-1.1	5.5	-14.9	-3.1	0.7	-4.3	-17.1
General Office Clerks	0.0	-1.2	-0.4	-0.1	-2.1	-1.6	-2.5	-1.5	-9.5
Services Workers	-0.2	-0.3	-0.1	0.0	-14.5	0.1	0.9	-2.2	-16.2
Skilled Agricultural Workers	-7.0	-0.1	0.0	0.0	0.0	0.0	-0.3	0.0	-7.4
Skilled Workers	0.4	7.4	0.0	6.1	2.1	1.5	2.1	0.0	19.6
Plant and Machine Operators	-1.4	2.3	-0.7	-0.5	-0.4	-3.1	0.5	-0.5	-3.6
Low qualification occupations	-2.6	-9.1	-2.4	-3.5	-5.0	-2.7	-6.3	-8.2	-39.7
Total	**-9.7**	**4.5**	**-2.4**	**5.2**	**-17.0**	**-0.5**	**36.6**	**-16.4**	**0.2**

3.3.2. LABOUR SUPPLY PROJECTIONS

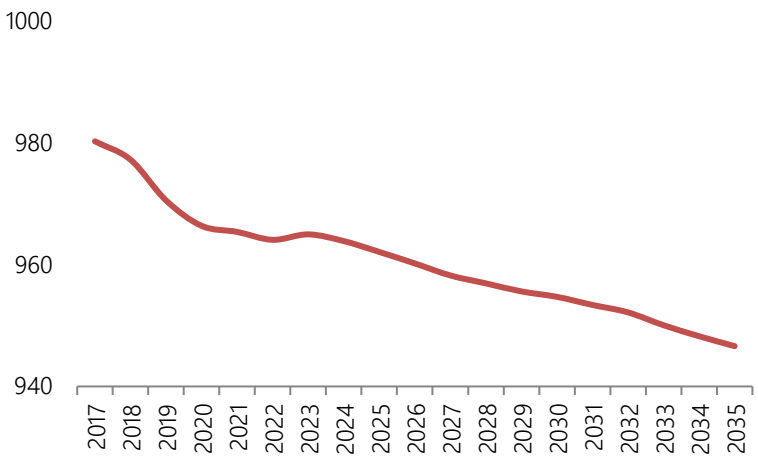
Based on economic growth and demographic scenarios, the MoE has developed labour force (economically active population) supply projections until 2035. It is expected that labour supply will continue decreasing in the medium and long term – by 2035 the number of economically active population will decrease by almost 34 thousand.

This reduction will be largely determined by negative demographic trends – a decline in working age population. The negative impact of base demographic trends on labour supply will be reduced by the increase in economic activity of the population.

Figure 3.10

Labour supply

thousands



The drop in numbers of economically active population might slightly slow down after 2020 underpinned by the increase in economic activities of the population and the reduction of the negative impact of migration on the number of the working age population. Economic growth, improvement of the situation in the labour market, as well as the increasing shortage of labour force will facilitate rising participation of the population in the labour market. An increase in the labour demand in the medium term, in the conditions of a limited availability of labour resources, will open wider possibilities to many groups of inactive population (housekeepers, students, retirement-age people, etc.). An increase in wages will also play an essential role in the promotion of participation of the population.

Table 3.9

Participation of the population in the labour market

% of the total number of the population in the respective age group

	2017	2025	2035
Total	**68.9**	**71.6**	**72.7**
15-24	39.7	42.9	49.2
25-34	88.5	94.5	95.0
35-44	89.9	95.5	95.9
45-54	87.3	93.3	94.0
55-64	67.9	72.9	73.5
65-74	17.6	21.5	28.1

Generally, the economic activity rate could rise by almost 4 percentage points by 2035 compared to 2017 and reach 72.7% in the age group 15–74. The population aged 25–54 will continue to show higher economic activity. Furthermore, the most significant increase in economic activity is expected in the pre-retirement and above-65 age groups, which will be determined by the gradual rise of the retirement age.

Before 2025 the most significant reduction in labour force is expected in the 25-34 age group. It is mainly related to the demographic hole caused by the low birth rates of 1990s entering the respective age cohort. Meanwhile, labour supply will mainly grow in the age group 35-44 affected by demographic changes and increase in economic activity.

Table 3.10

Changes in the economically active population by age groups

thousands

	Economically active population			Changes compared to 2017		Impact of changes in participation level		Impact of changes in demography	
	2017	2025	2035	2025	2035	2025	2035	2025	2035
Total	980.3	962.1	946.6	-18.2	-33.6	77.3	64.0	-95.4	-97.7
15-24	71.2	78.6	98.8	7.4	27.6	12.3	17.8	-5.0	9.8
25-34	237.3	178.8	174.6	-58.5	-62.7	9.4	4.7	-67.9	-67.4
35-44	226.2	249.4	190.1	23.2	-36.1	14.7	5.1	8.4	-41.2
45-54	230.9	227.8	248.9	-3.1	18.0	14.5	9.6	-17.6	8.4
55-64	180.5	180.6	172.4	0.1	-8.1	15.9	7.5	-15.8	-15.6
65-74	34.1	46.9	61.8	12.8	27.7	10.5	19.4	2.3	8.3

Taking into account that economic activity of the population is already close to its potential, further increase in economic activity is limited, therefore the impact of demographic trends on labour supply will still be felt after 2025.

Labour supply by academic disciplines

In the medium and long term labour supply with higher education will continue to increase, while a reduction is expected among economically active population with vocational and general secondary education. Projections also show that **the number of economically active population with basic and lower education will grow** in the medium term. It should be noted that at present every tenth Latvian inhabitant aged 20-64 has a level of education not higher than basic education. About 56% of them (almost 64 thousand) are aged 20 to 39, which makes more than 13% of all the inhabitants of this age. The differences in proportions of the population with basic and lower education level among age groups are mainly explained by a comparatively high number of young people, who did not continue studies after basic education in the second half of 1990s. Drop-out rates in the next education stages also have serious effect on the population flow. Therefore, taking into account the differences in economic activity rates of lower and higher age cohorts, increasingly more of them will enter the labour market in the years to come.

In the future, the same changes will determine a gradual restructuring of the labour force from secondary to higher qualification group. The share of economically active population with higher education will increase by 5 percentage points by 2035, while the share of the population with vocational secondary and general secondary education will reduce by more than 8 percentage points. Thus, by 2035 labour supply with higher education might exceed 40% of total labour supply.

If the current education supply structure remains, the largest increase in labour force **with higher education** is expected in the fields of social sciences, business, and law. Consequently, the increase in the labour supply with the appropriate qualification will account for about 63% of the total labour force increase with higher education in 2035.

At the same time, the decrease in labour supply is expected in individual higher education disciplines, which will be determined by ageing of labour force that will gradually leave the labour market. This will be most evident in education, engineering and agriculture.

At present, about half of economically active population with education in agriculture and education are aged above 50, while the number of graduates in these academic disciplines is insufficient to ensure complete replacement of ageing labour force.

Table 3.11

Labour supply by academic disciplines

	thousands			structure, %			changes in thousands compared to 2017	
	2017	2025	2035	2017	2025	2035	2025	2035
Higher education, including:	346.4	360.8	402.0	35.3	36.7	40.8	14.4	55.6
Education	42.9	38.7	35.2	4.4	4.2	3.8	-4.1	-7.7
Humanities and arts	25.7	27.2	29.8	2.6	2.7	3.1	1.4	4.0
Social sciences, business and law	147.8	160.8	182.6	15.1	16.1	18.6	13.0	34.8
Life sciences, mathematics and computing	24.9	27.0	32.5	2.5	2.7	3.2	2.1	7.6
Engineering, manufacturing and construction	47.8	44.2	48.2	4.9	4.7	4.9	-3.6	0.4
Agriculture	7.8	7.0	6.1	0.8	0.8	0.6	-0.8	-1.7
Health and welfare	22.2	27.4	36.5	2.3	2.6	3.5	5.2	14.3
Services	20.5	22.2	25.1	2.1	2.3	2.5	1.6	4.6
Academic disciplines n.e.c.	6.8	6.3	6.0	0.7	0.7	0.6	-0.4	-0.7
Secondary education, including:	547.9	479.1	440.0	55.9	51.7	47.5	-68.9	-107.9
Vocational education and vocational secondary education:	288.3	236.4	200.0	29.4	24.6	21.1	-51.9	-88.2
Education	3.3	2.1	1.1	0.3	0.3	0.1	-1.2	-2.2
Humanities and arts	8.6	8.1	8.4	0.9	0.8	0.9	-0.4	-0.2
Social sciences, business and law	26.3	20.2	17.2	2.7	2.3	1.9	-6.0	-9.1
Life sciences, mathematics and computing	8.2	7.7	7.8	0.8	0.8	0.8	-0.5	-0.5
Engineering, manufacturing and construction	158.8	126.4	100.6	16.2	14.1	11.4	-32.4	-58.2
Agriculture	14.5	11.6	9.8	1.5	1.3	1.1	-2.9	-4.8
Health and welfare	12.9	10.0	7.1	1.3	1.1	0.8	-2.9	-5.8
Services	55.6	50.2	48.1	5.7	5.3	5.2	-5.4	-7.4
General secondary education	259.7	242.7	240.0	26.5	25.6	25.3	-17.0	-19.7
Basic or lower education	85.9	122.2	104.6	8.8	11.6	11.7	36.3	18.7
Total	**980.3**	**962.1**	**946.6**	**100**	**100**	**100**	**-18.2**	**-33.6**

Distinct labour force ageing trends are also observed among technicians and associate professionals with education in engineering. About 60% of economically active population with higher education in mechanics and metal working are aged above 50. Similar situation is observed among the economically active population having education in food production technologies and products manufacturing, where approximately 56% of the employed are in the pre-retirement age and the majority of them will leave the labour market in the next 10–20 years. At the same time, **the supply of higher education has become more balanced**, therefore after 2025 labour supply with education in engineering and life sciences might stabilise and even grow.

However, **drop-outs of students in STEM disciplines is still a serious problem**, which limits the potential labour force increase in these areas. Every year, about 30% of students of STEM education programmes drop out of studies.

Medium qualification labour supply will keep declining in the medium and long term. A considerable drop is expected among the population with vocational education and vocational secondary education – labour supply will reduce by about 17% or 52 thousand by 2025. A more moderate labour supply reduction is expected in general secondary education – about 17 thousand or 6% by 2025.

Labour supply reduction with vocational secondary education is expected almost in all academic disciplines. At the same time, the most considerable reduction is expected in engineering, manufacturing and construction, which currently account for 55% of total labour supply with vocational education. It should be noted that about 3/5 of economically active population with education in this academic discipline is aged above 45 years, therefore, at least 90 thousand of labour force with relevant qualification will leave the labour market in the next 20 year at a

rate of 4500 technicians and associate professionals per year on average. At the same time, the relevant academic discipline currently has about 2700 graduates per year, therefore, in order to ensure preservation of labour supply with relevant qualification at the current level, at least by 1800 more students would have to graduate in this academic discipline.

This trend confirms that the number of students in vocational education is still insufficient to reduce the negative effect of ageing labour force on labour supply with medium qualification. In order to ensure reproduction of medium qualification labour supply, at least twice more students than today should be enrolled in vocational education.

3.3.3. MATCHING OF THE LABOUR DEMAND TO THE LABOUR SUPPLY

In the medium term, the situation in the labour market will become even more complicated, which, on the one hand, will be determined by growing labour demand (in terms of new jobs and replacement demand), which is necessary to maintain economic growth, and, on the other hand, falling labour supply under the influence of demographic trends. Thus, insufficiency of labour force in difference sectors of national economy will become even more distinct in the next 5 years. Also, the shortage of labour force will be intensified by the mismatch between requested and proposed skills in the labour market, as well as regional imbalances in the labour market.

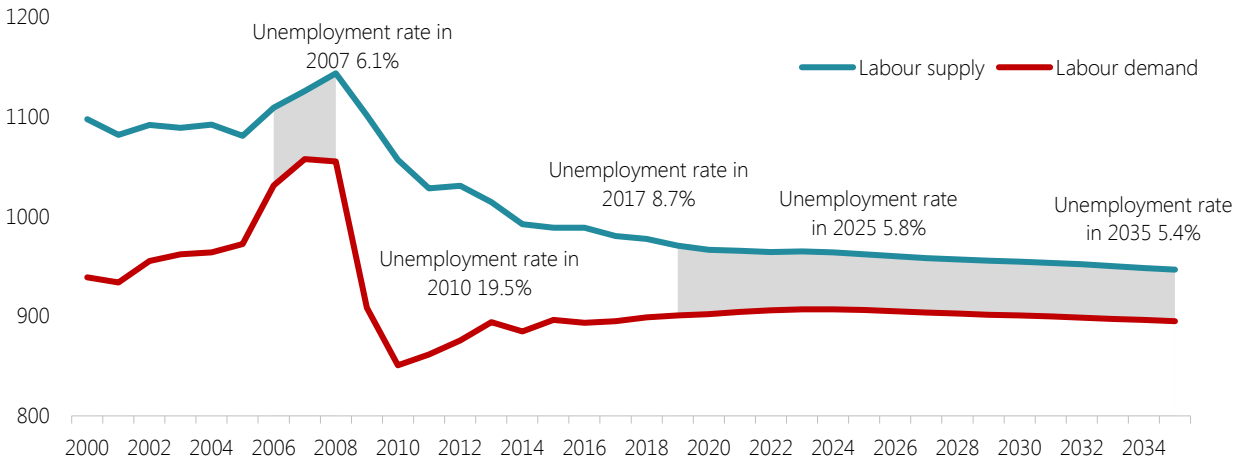
Overall, by 2025 free labour force reserves will reduce to 56 thousand (of current 85 thousand), but by 2035 this difference might reduce to 52 thousand. Overall, the number of job seekers/ unemployment in the medium and long term will be close to the natural level and will mainly consist of frictional and structural unemployment.

Since economic growth in the following years will mainly be based on productivity increase, overall a slow labour demand increase is expected by 2025 – the number of the employed might increase only by 1.3% or 11.2 thousand compared to 2017. At the same time, labour demand might even reduce in the long term, taking into account increasing rates of automatization of different jobs and replacement of labour force with technologies. Therefore, main job opportunities will be created by replacement labour demand – an increase in vacancies due to current employees leaving the labour market (leave the labour market due to retirement, disease or other reasons).

Figure 3.11

Matching of labour demand to labour supply

thousands and %



Unemployment rates are expected to rapidly get close to their natural level in the nearest 5 years. By 2025, unemployment might slide to the level of 5.8%, while the number of job seekers to 56 thousand. After 2025 unemployment indicators will stabilise at 5-6%, while the negative effects of demographic trends on labour supply will still be largely compensated by the increase in economic activity of the population, as well as equalisation of labour force migration flows.

Table 3.12

Forecasts of key indicators of the employment and unemployment rates

in the age group of 15-74

	2017	2025	2035
Population in private households, at the beginning of the year, thousands	1423.4	1343.8	1302.0
Number of the employed population, thousands	894.8	906.0	895.0
changes in the employed population, thousands compared to 2017	–	11.2	0.2
changes in the employed population, % compared to 2017	–	1.3	0.0
Economically active population, thousands	980.3	962.1	946.6
Number of job seekers, thousands	85.4	56.1	51.6
Employment rate, the employed to the total population	62.9	67.4	68.7
Participation level, economically active population to the total population	68.9	71.6	72.7
Unemployment rate, percentage of the unemployed (job seekers) in economically active population	8.7	5.8	5.4

Labour demand and supply imbalances by education levels and fields

By 2035 labour demand will continue shifting towards the demand for specialists with higher education. Similar trends will be observed in supply as well. At the same time, the ratio of labour demand and supply will not be equal in all segments of education.

Overall, high qualification labour demand and supply in the medium and long term will be close to a balance, which means that the possibilities of manoeuvres in terms of attraction of highly qualified labour force will be strictly limited. Also, more evident shortage of specialists with vocational education will be observed. By 2025 the gap between labour demand and supply with vocational education might increase to 31 thousand specialists. Therefore, part of medium qualification jobs might need to attracted labour force without a professional qualification – with general secondary education or basic education, which can generally reduce the total contribution of each individual job to the value added chain.

At the same time, a significant surplus of labour force with general secondary education and basic education is expected. The surplus of labour force with such qualification might exceed 91 thousands by 2025 (35 thousand with general secondary education and 56 thousand with basic education). The surplus of labour force in these groups will be largely predetermined by the drop in labour demand for that qualification – elementary occupations and manual work is increasingly replaced with different technological solutions. It is also expected that labour supply with basic education and lower education level in the medium term will increase, and therefore in 2025 almost half of these people might have problems in finding relevant job and get included in the labour market.

Figure 3.12

Sufficiency of labour force by education levels

supply vs. demand in 2025, % supply vs. demand

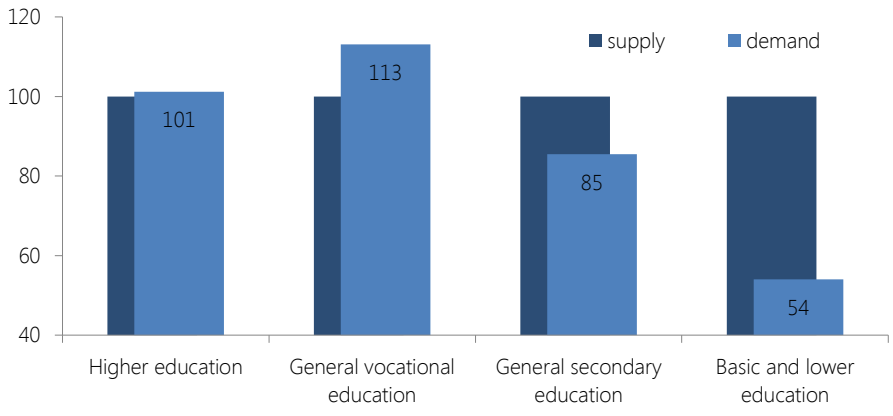


Figure 3.12 cont.

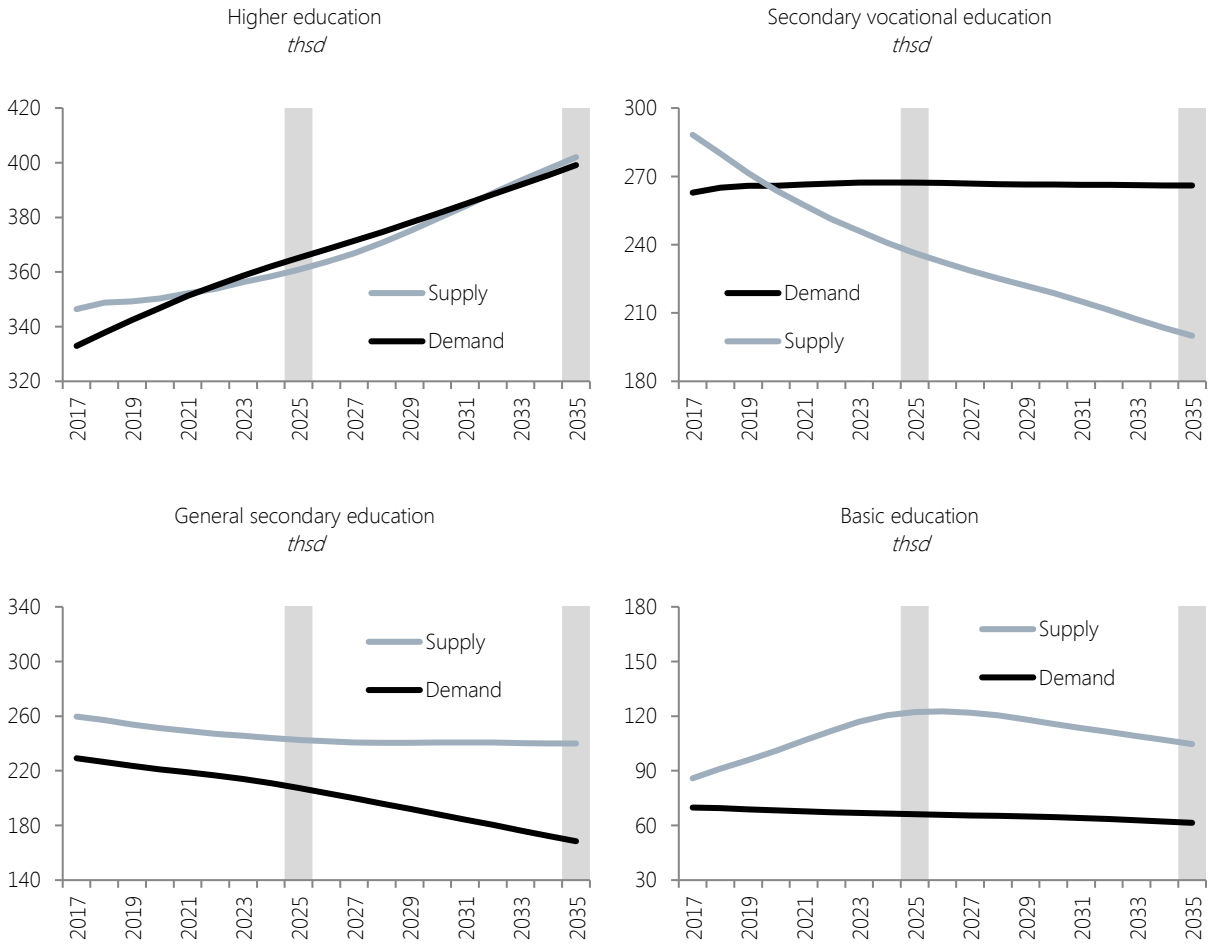
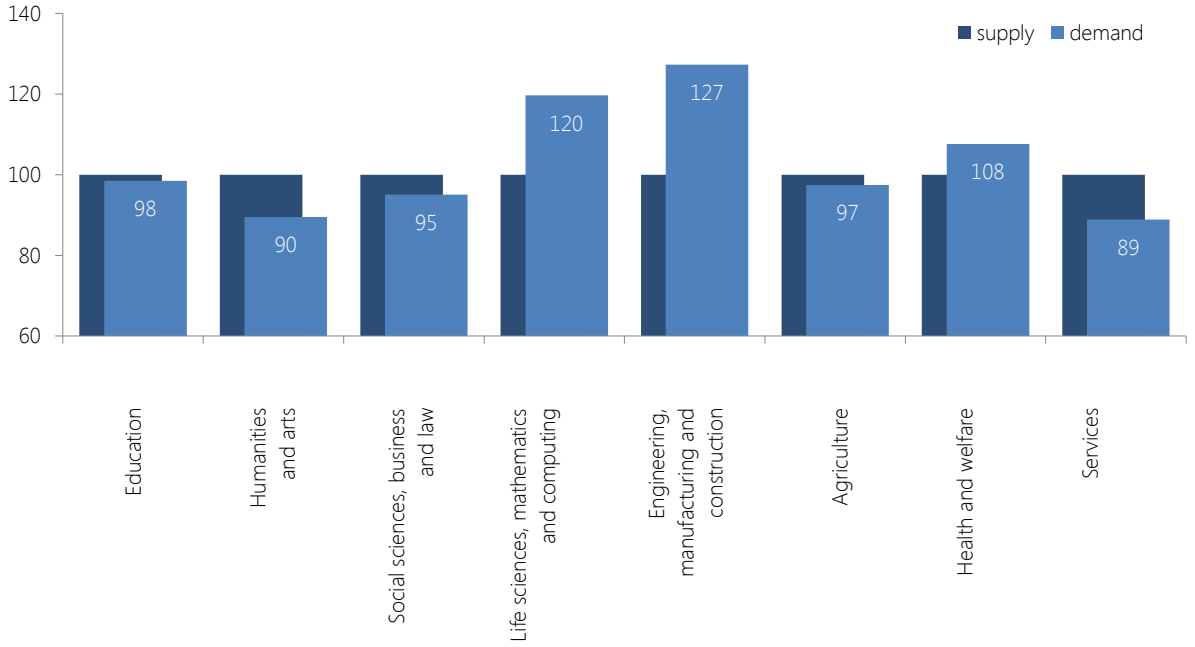


Figure 3.13

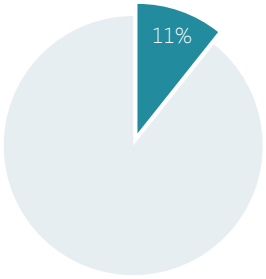
Forecasts of the labour supply and demand with higher education by thematic groups

%, demand vs. supply in 2025

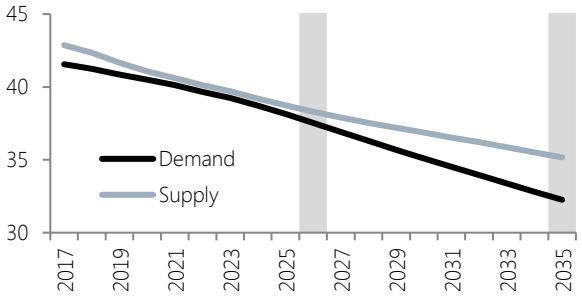


Education

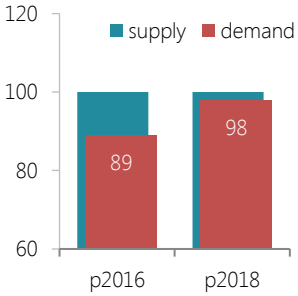
Supply structure
%, in 2025



Dynamics of the supply and demand
thousands

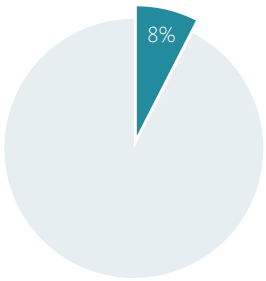


Mismatch
demand vs. supply,
%, in 2025

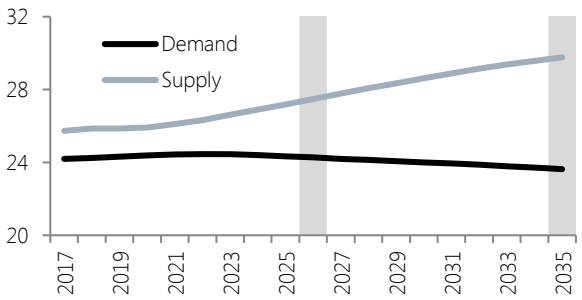


Humanities and arts

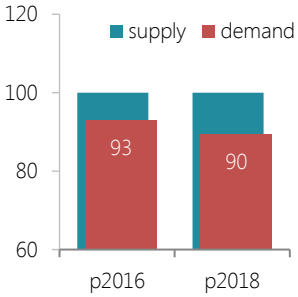
Supply structure
%, in 2025



Dynamics of the supply and demand
thousands

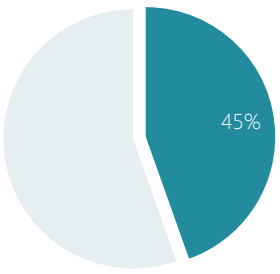


Mismatch
demand vs. supply,
%, in 2025

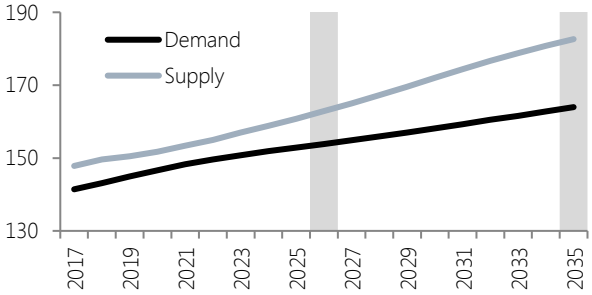


Social sciences, business and law

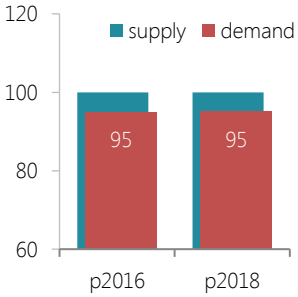
Supply structure
%, in 2025



Dynamics of the supply and demand
thousands

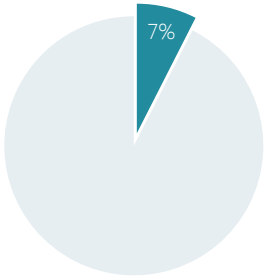


Mismatch
demand vs. supply,
%, in 2025

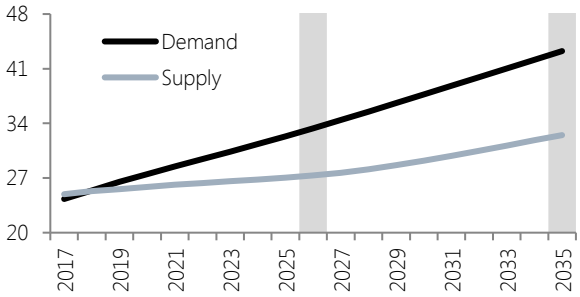


Life sciences, mathematics and computing

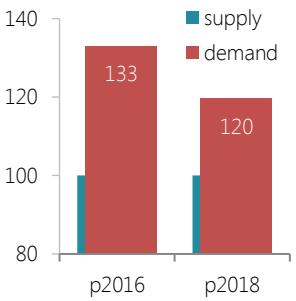
Supply structure
%, in 2025



Dynamics of the supply and demand
thousands

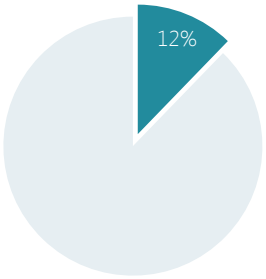


Mismatch
demand vs. supply,
%, in 2025

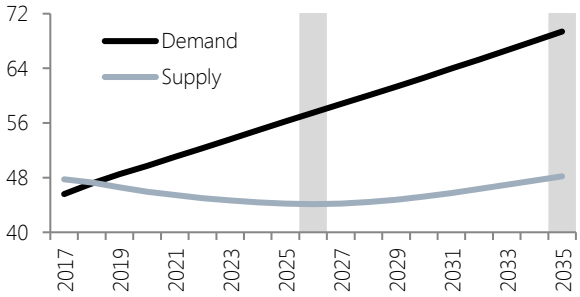


Engineering, manufacturing and construction

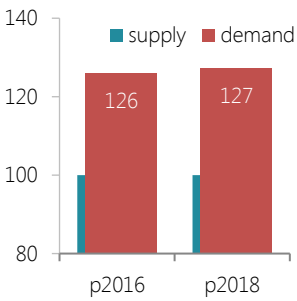
Supply structure
%, in 2025



Dynamics of the supply and demand
thousands

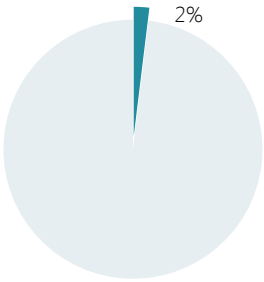


Mismatch
demand vs. supply,
%, in 2025

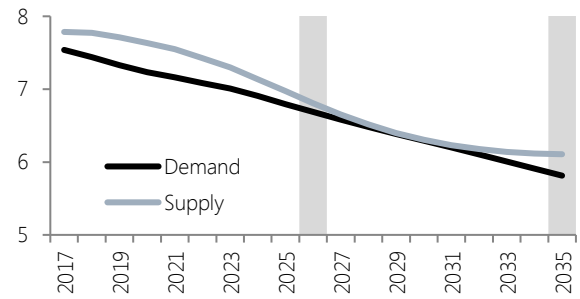


Agriculture

Supply structure
%, in 2025



Dynamics of the supply and demand
thousands



Mismatch
demand vs. supply,
%, in 2025

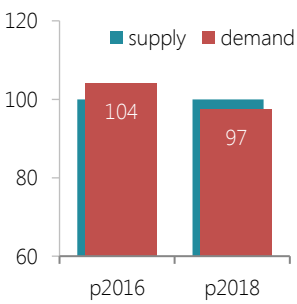
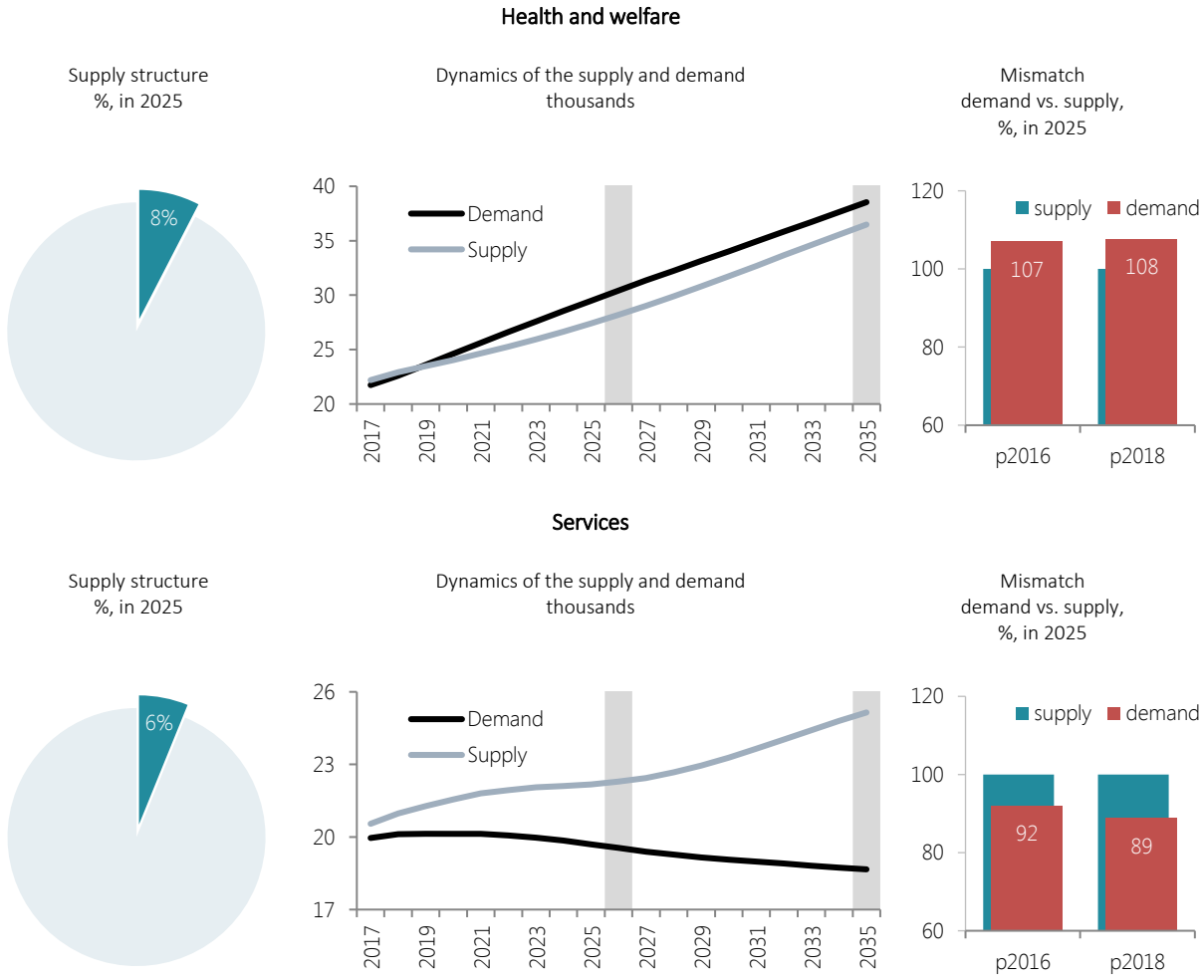


Figure 3.13 cont.



If the structure of supply of higher education remains the same, the most significant shortage of labour force in the **higher education group** is expected among specialists with engineering, life sciences and ICT (STEM) education. By 2025, the shortage of labour force with relevant qualification might exceed 17 thousands, mainly in areas like energy, computing, construction and civil construction, as well as electronics and automation.

Despite the fact that less specialists with STEM education than the labour market will need in the following years are prepared, the situation has still clearly improved compared to MoE labour market forecasts of 2016, when shortage of almost 23 thousand specialists with STEM education was envisaged by 2025. It should be noted that the share of STEM graduates among all the graduates in the period from 2008 to 2017 has increased from 13% to 20%, which has also generally increased the supply of young specialists in the labour market.

Also, as society is ageing and the demand for medical services in the domestic and foreign markets is growing, shortage of human health and social work professionals in the labour market will remain evident. Although the supply of labour force with an appropriate qualification might increase in the future, it will still grow slower than the demand. It should be noted that the total number of graduates in human health and social work activities academic discipline has grown by more than 60% in the last 10 years, part of this increase at the same time was due to the growing flow of foreign students, therefore, the total impact on the supply of health professionals in the labour market is lower than the number of graduates of relevant programmes.

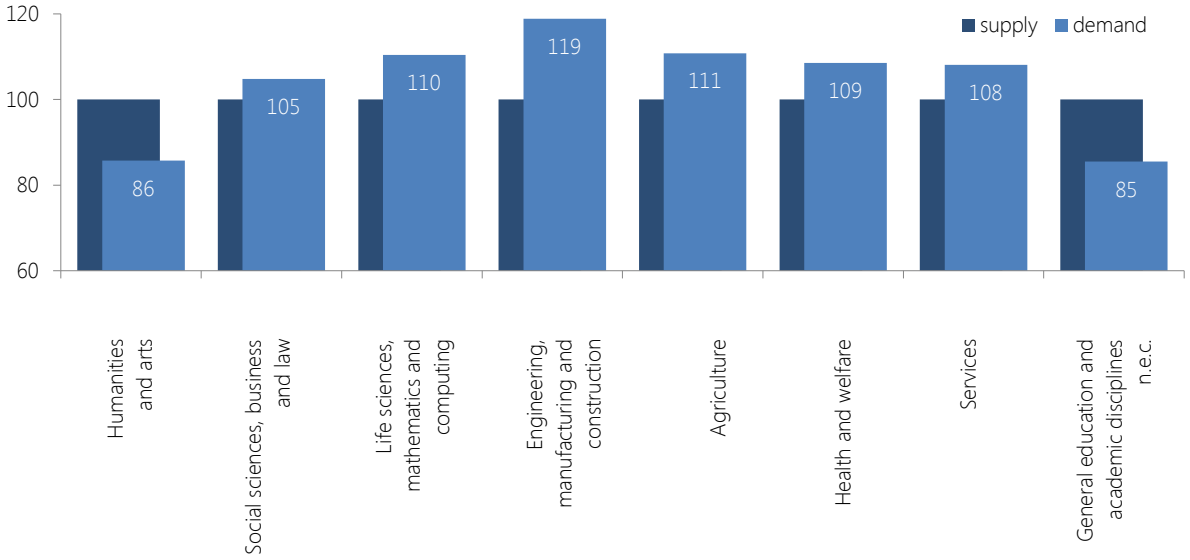
At the same time, in relative terms, the largest surplus of labour force with higher education is projected in humanities and services academic disciplines, where labour force surplus in relative terms has even slightly increased, mainly in the services academic discipline.

In absolute terms, the biggest surplus is still expected in labour force with education in social sciences and business, but despite this it is generally falling. In comparison with previous forecasts, surplus of labour force with education in social sciences has reduced by about 6 thousand specialists in 2025. This is, to a large extent, explained by considerable changes in the structure of preparation of relevant specialists – the share of graduates has dropped by about 16 percentage points since 2008. However, it should be taken into account that these changes in education supply will have a tangible effect on the labour market only in the long term – in 15-20 years, therefore the gap between supply of and demand for specialists with relevant qualification in the following years will continue to grow.

Figure 3.14

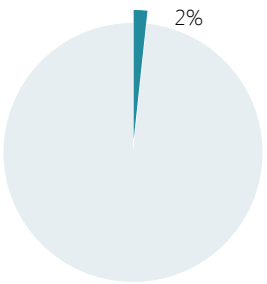
Forecasts of the labour supply and demand with secondary education by thematic groups

%, demand vs. supply in 2025

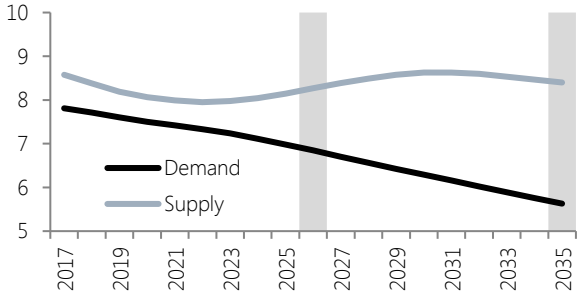


Humanities and arts

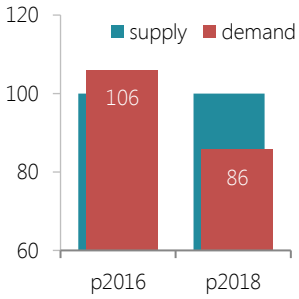
Supply structure
%, in 2025



Dynamics of the supply and demand
thousands

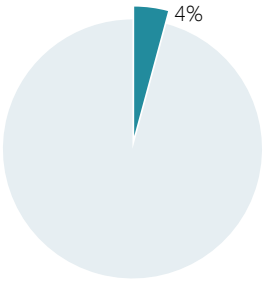


Mismatch
demand vs. supply,
%, in 2025

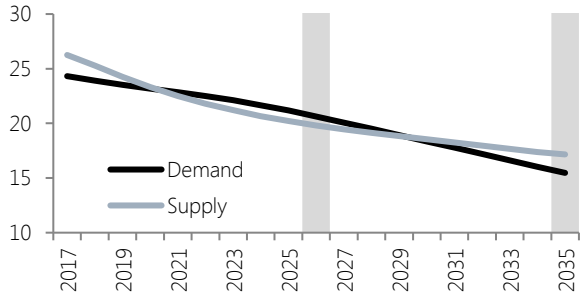


Social sciences, business and law

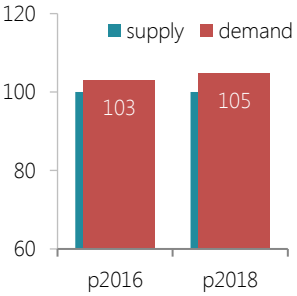
Supply structure
%, in 2025



Dynamics of the supply and demand
thousands

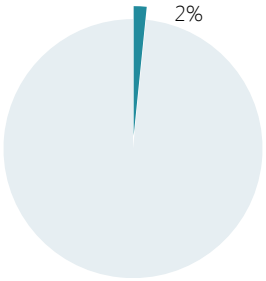


Mismatch
demand vs. supply,
%, in 2025

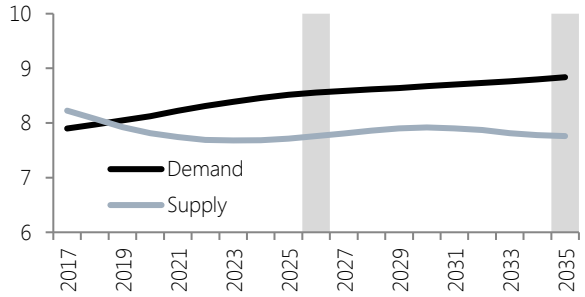


Life sciences, mathematics and computing

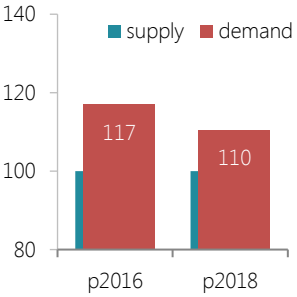
Supply structure
%, in 2025



Dynamics of the supply and demand
thousands

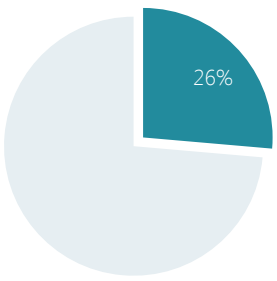


Mismatch
demand vs. supply,
%, in 2025

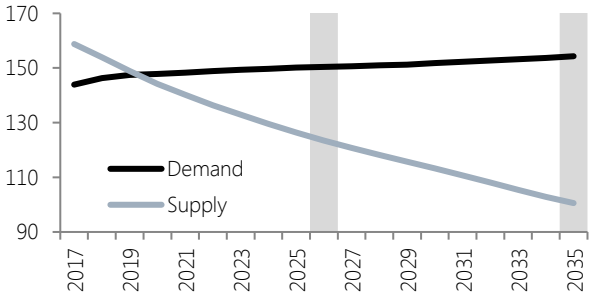


Engineering, manufacturing and construction

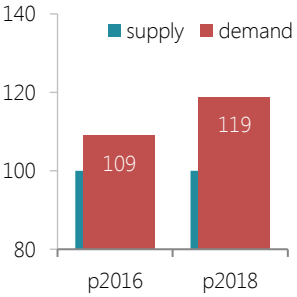
Supply structure
%, in 2025



Dynamics of the supply and demand
thousands

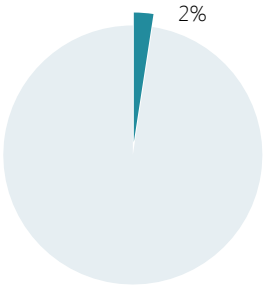


Mismatch
demand vs. supply,
%, in 2025

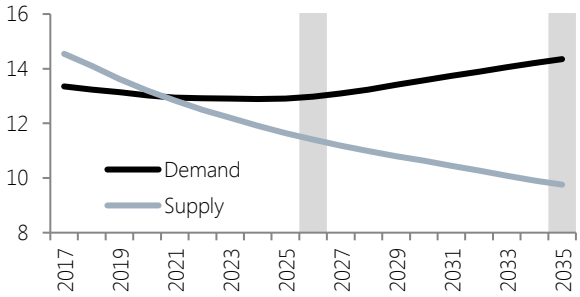


Agriculture

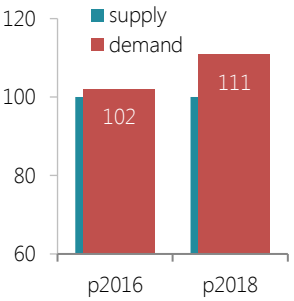
Supply structure
%, in 2025



Dynamics of the supply and demand
thousands

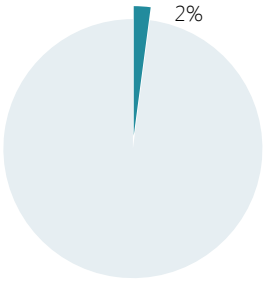


Mismatch
demand vs. supply,
%, in 2025

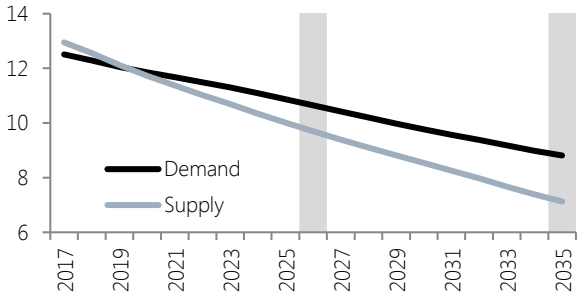


Health and welfare

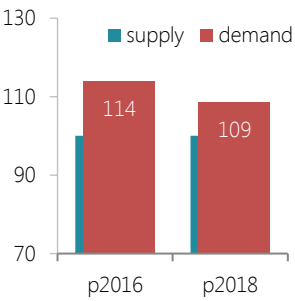
Supply structure
%, in 2025



Dynamics of the supply and demand
thousands

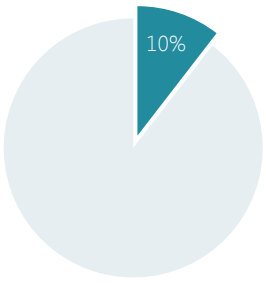


Mismatch
demand vs. supply,
%, in 2025

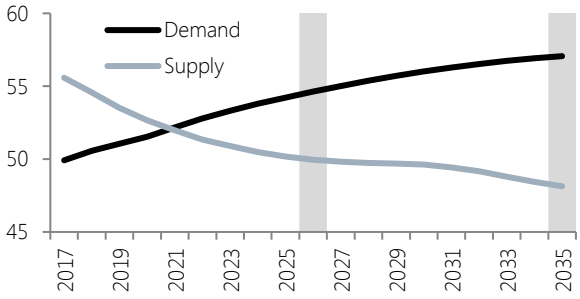


Services

Supply structure
%, in 2025



Dynamics of the supply and demand
thousands



Mismatch
demand vs. supply,
%, in 2025

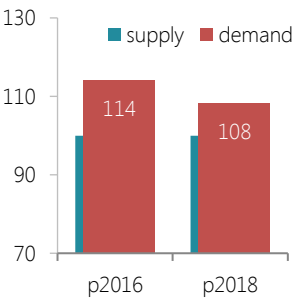


Figure 3.14 cont.

General education and academic disciplines n.e.c.

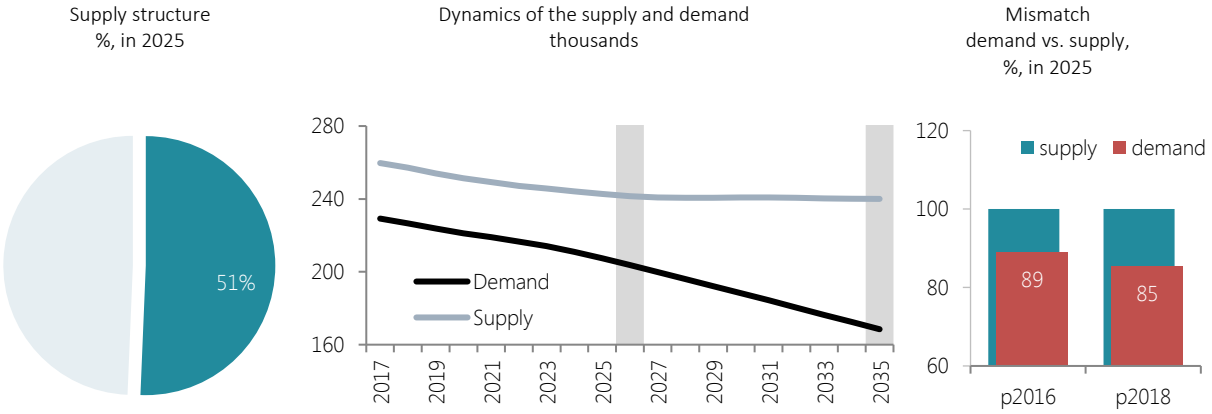


Table 3.13

Labour demand and supply forecasts by education levels and thematic groups

If the current structure of labour force preparation is retained

	2025			2035		
	demand	supply	compliance	demand	supply	compliance
Higher education, including:	365.2	360.8	101.2	399.1	402.0	99.3
Education	38.1	38.7	98.5	32.3	35.2	91.7
Humanities and arts	24.3	27.2	89.5	23.6	29.8	79.4
Social sciences, business and law	152.8	160.8	95.0	164.0	182.6	89.8
Life sciences, mathematics and computing	32.4	27.0	119.6	43.3	32.5	133.1
Engineering, manufacturing and construction	56.2	44.2	127.3	69.4	48.2	144.0
Agriculture	6.8	7.0	97.5	5.8	6.1	95.2
Health and welfare	29.5	27.4	107.6	38.5	36.5	105.6
Services	19.7	22.2	88.8	18.7	25.1	74.2
Secondary education	5.3	6.3	83.5	3.6	6.0	60.0
Vocational secondary education, including:	474.7	479.1	99.1	434.4	440.0	98.7
Education	267.3	236.4	113.1	266.0	200.0	133.0
Humanities and arts	2.5	2.1	115.1	1.5	1.1	135.4
Social sciences, business and law	7.0	8.1	85.8	5.6	8.4	67.0
Life sciences, mathematics and computing	21.2	20.2	104.8	15.5	17.2	90.2
Engineering, manufacturing and construction	8.5	7.7	110.4	8.8	7.8	113.9
Agriculture	150.2	126.4	118.8	154.3	100.6	153.5
Health and welfare	12.9	11.6	110.8	14.4	9.8	147.1
Services	10.9	10.0	108.6	8.8	7.1	123.6
General secondary education	54.2	50.2	108.1	57.1	48.1	118.5
Basic and lower education	207.4	242.7	85.5	168.5	240.0	70.2
Total	**66.2**	**122.2**	**54.2**	**61.5**	**104.6**	**58.8**

Insufficient labour supply with vocational education is expected almost in all academic disciplines. The biggest shortage is expected in engineering, manufacturing and construction – mainly in areas like machine building, mechanics and metal working, food and textiles production technologies and products manufacturing, as well as woodworking technologies and products manufacturing. By 2025 shortage of medium qualification professionals in engineering, manufacturing and construction might increase to about 24 thousand professionals. In relative terms, shortage of specialists with education in engineering and manufacturing has grown compared to the labour market forecasts of 2016, which largely reflects structural changes in the relevant education supply – since 2008 the share of enrolled students and graduates in the relevant academic discipline has dropped by 7 and 6 percentage points, respectively.

The ratio between labour demand and supply has grown also in social sciences, business and law, as well as in agriculture. Similarly to engineering, the share of graduates in social sciences in the previous years reduced as well, while the number of students enrolled to the academic discipline of agriculture is still insufficient to compensate for the drop in the number of agricultural professionals due to ageing of labour force.

At the same time, if forecasts of 2016 estimated shortage of labour force in humanities and arts, then the latest forecasts evidence that this discipline may have a surplus of labour force by 2025. This is, to a large extent, explained by the increase of enrolled students in this academic discipline in recent years – it increased by more than 30% in academic year 2017/18 compared to academic year 2015/16. The comparatively small supply of specialists with the relevant qualification in the labour market should also be taken into account, therefore, also in relative terms the surplus is comparatively large, yet, in absolute terms, those are less than 1.2 thousand specialists.

Labour demand and supply imbalances by occupational groups

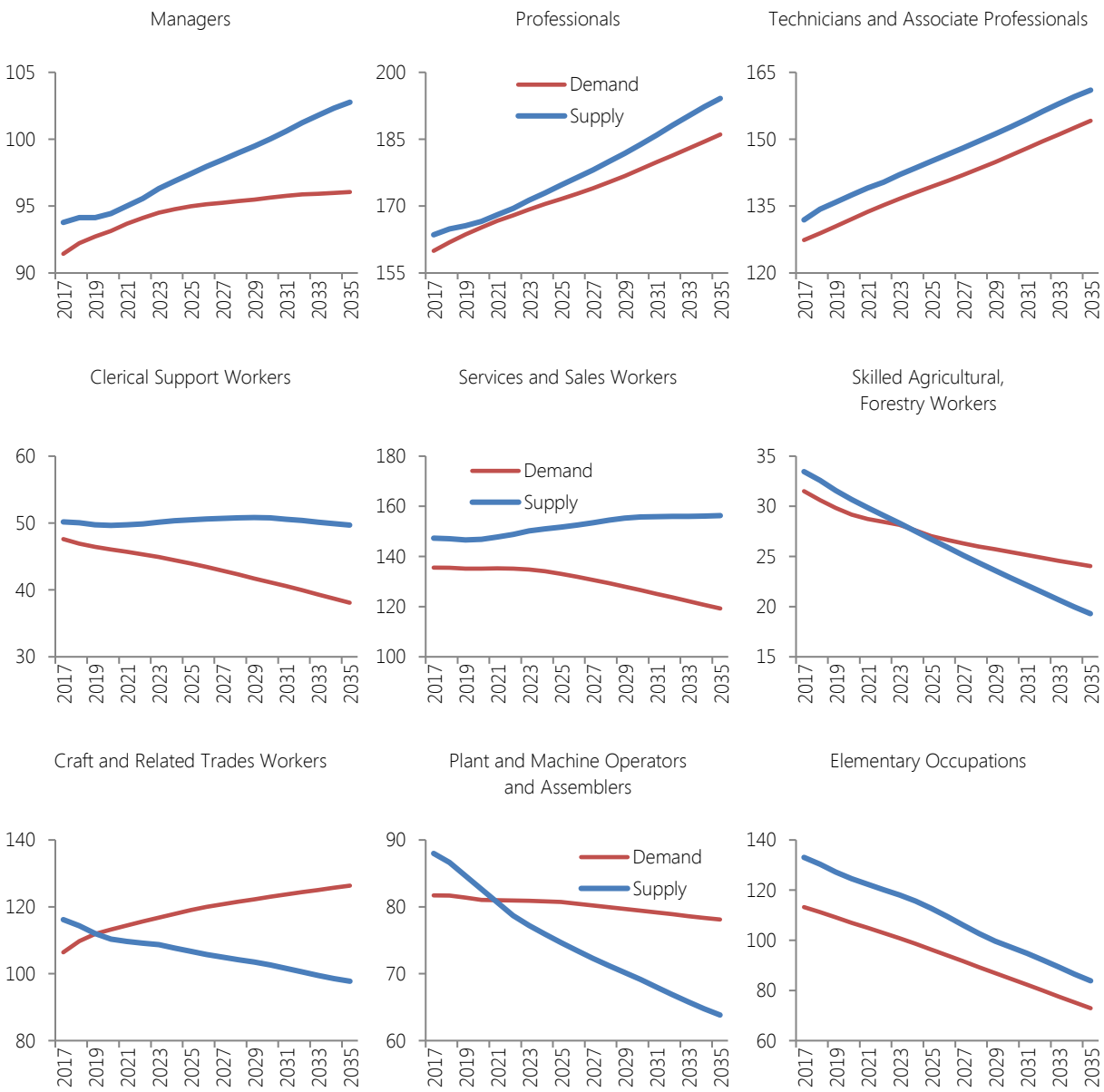
In the medium and long term, there will be shortage of labour force among medium qualification employees in occupations like food processing and woodworking workers, building workers, drivers and mobile plant operators, stationary plant and machine operators, electrical and electronic trades workers. A drop in labour supply is expected in almost all of these specialities in the following years, which, on the one hand, is determined by ageing of labour force and exit of the labour force from the labour market, but, on the other hand, by insufficient supply of vocational education in relevant specialities.

At the same time, the biggest surplus of labour force will be in services and sales occupations, as well as in clerical support occupations, where most of the employed have general secondary education, while the number of job seekers with such education will remain high.

Figure 3.15

Labour supply and demand forecasts by occupational groups

thousands



Both labour demand and supply for **high qualification occupations** will continue to grow in the medium and long term, so the general demand and supply will keep their balance. At the same time, the most distinct shortage of labour force might form in individual high qualification occupations. The most serious shortage of labour force in the medium term might form in occupations of ICT professionals (database and network professionals, software and applications developers and analysts, information and communications technology operations and user support technicians, telecommunications and broadcasting technicians), in science and engineering occupations (mathematicians, actuaries and statisticians, process control technicians, electrotechnology engineers, life science technicians and related associate professionals, architects, planners, surveyors and designers, as well as ship and aircraft controllers and technicians), among health professionals (medical doctors and paramedical practitioners, nursing and midwifery associate professionals, paramedical practitioners), as well as among managers of different levels (ICT, construction, manufacturing, transport services, hospitality and catering services, as well as trade).

Skill demand and supply mismatches in Europe*

Mismatches between skill demand and supply in the EU keep growing. This is confirmed by unemployment, recruitment difficulties, skills ageing and failure to use own potential. Cedefop survey1 has revealed that 29% of EU adults are subject to any qualification non-compliances – they are either overqualified or underqualified for the labour market.

The labour force is becoming more and more educated and its potential is not used – the risk of overqualification. Therefore it will be important to create new knowledge-intensive jobs to fully realize the high level skills, because highly qualified and trained labour force is considered to be one of the most important factors ensuring the competitiveness of Europe. Labour supply with high and medium qualification will exceed the demand, and a surplus will be formed. This will increase imbalance even more.

Part of labour force has lower skills than necessary in the labour market. Labour force with low qualification will drop most rapidly. Labour force with medium qualification will remain almost unchanged and in the medium term will account for most (almost 50%) of the labour force. Although imbalances will form in the low qualification category, it should still be taken into account that people with basic or no education will find it more and more difficult to find a job, because labour force with higher qualifications will force them out of the labour market. According to the Cedefop survey, the share of the employed, who had lower skills than needed, when they started to work, is about 22% in the EU. The Baltic countries have the biggest mismatch here.

The skills supply will be directly affected by demographic changes. Ageing of labour force also has a growing impact on labour force. The life expectancy of the population in the EU is growing and is mainly determined by the improvement of the living standard and the development of medicine. In the medium term, the supply of labour force aged above 55 will reach 1/5 of total labour supply. Taking into account low birth rate, significant changes in the structure of the society, which will affect economy, social security, the health care system, the labour market and many other areas, are already expected.

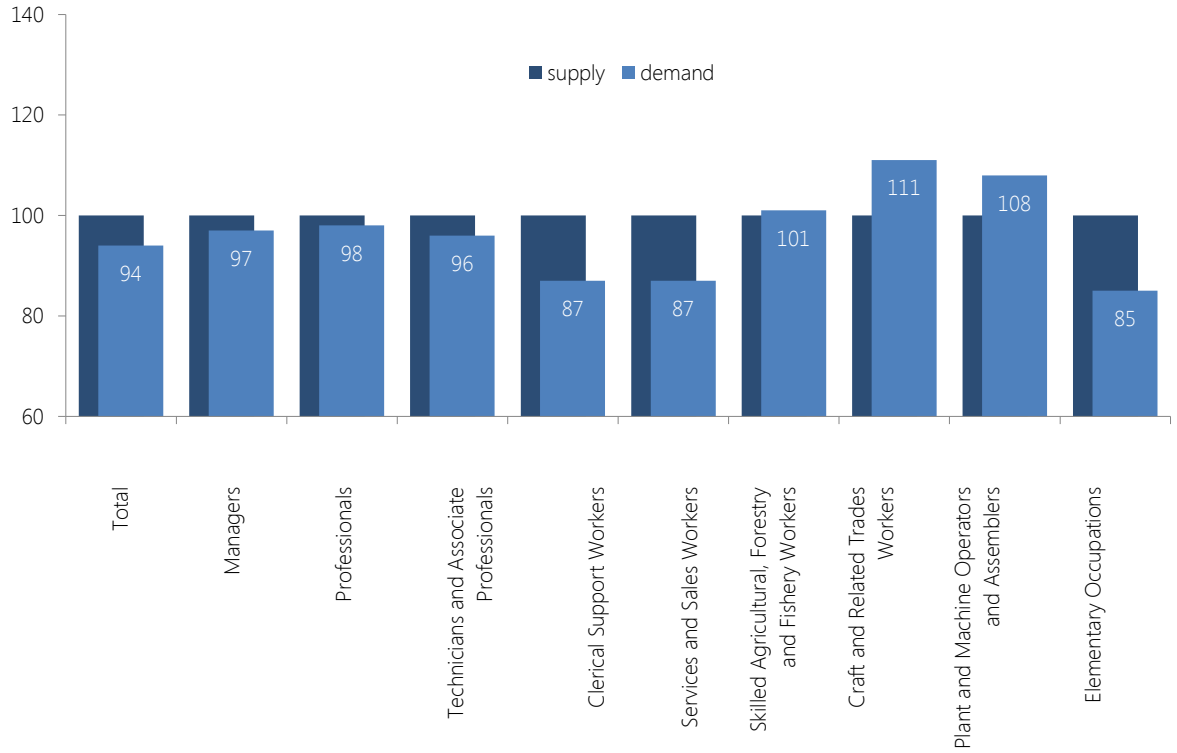
The involvement of career consultants is important to reduce the mismatch between skills supply and demand and stimulate young people to choose the right career. The development and popularisation of work-based learning policy also plays a big role.

*According to CEDEFOP projections

Figure 3.16

Labour demand and supply ratio by occupational groups

2025, demand vs. supply, %

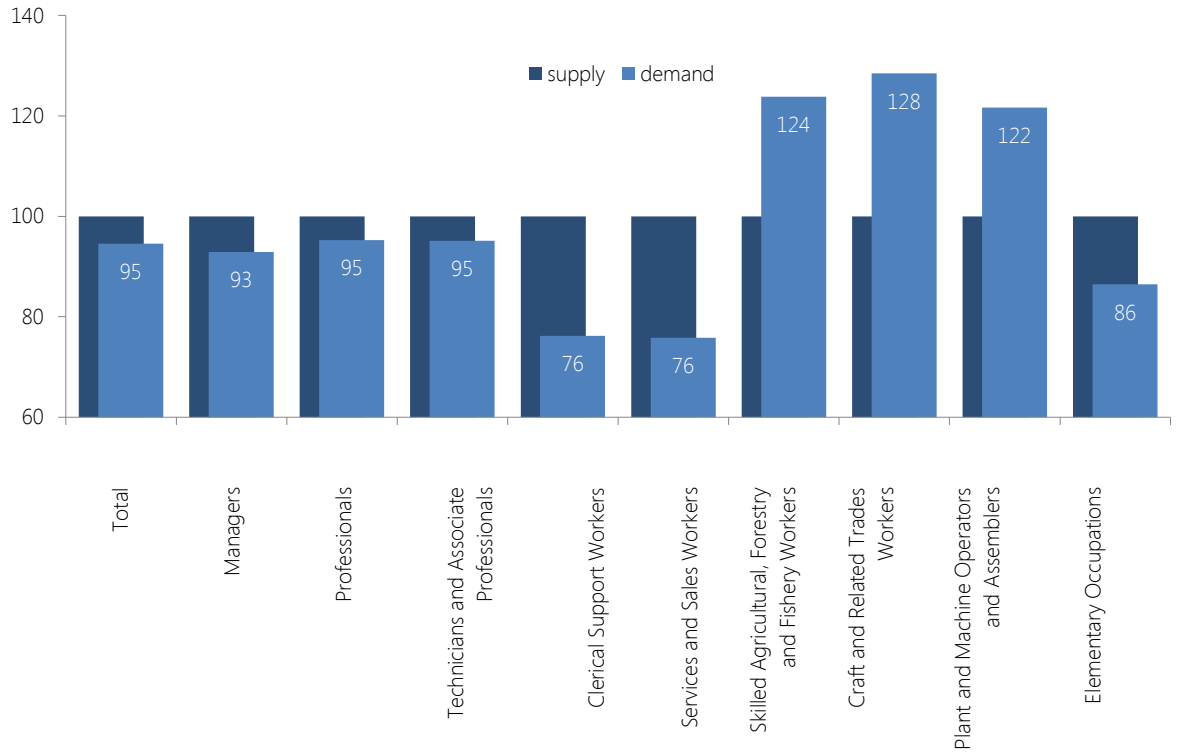


[1] Cedefop's European skill and job survey (2014)

Figure 3.16 cont.

Labour demand and supply ratio by occupational groups

2035, demand vs. supply, %



It is expected that a considerable surplus of labour force will still be in elementary occupations, taking into account the increase in labour supply with basic education in the medium term, as well as a considerable surplus of labour force with general secondary education. It should be taken into account that in the medium and long term, along with automatization trends, a considerable drop in jobs is expected in occupations with high share of manual and repetitive actions.

If the current structure and volume of labour force is retained, in the long term disproportions in the aforementioned medium qualification occupations (plant and machine operators, as well as craft and related trades workers) will deepen and the supply in craft and related trades workers occupations will be considerably lower than the demand. Demand will exceed supply also in the group of skilled agricultural, forestry and fishery workers, as there is a high share of pre-retirement age people in this occupational group and at the same time a comparatively small number of newcomers from the education system.

4. IMPLEMENTED EDUCATION AND EMPLOYMENT MEASURES

The measures for restructuring the labour supply, implemented by the MoES and MoW, have a favourable impact on the labour market. Overall, the measures implemented by MoES focus on ensuring of the quality of education in all types and levels of education, which will have a tangible effect in the medium and long term. Already now the MoES measures have facilitated that an increasingly larger share of young people prefer to continue their studies in life sciences and engineering sciences, which generally reduces the lack of specialists with appropriate qualification. Meanwhile, the active labour market policy measures implemented by the MoW have promoted the preservation/increase of economic activity of the population, as well as the drop of the share of labour force with low qualification and/or not appropriate qualification for the labour market demand.

In order to coordinate inter-sectoral cooperation required for planning, development, implementation, and monitoring of labour market reform or re-arrangement, thereby reducing the disproportion in the Latvian labour market, the **Employment Board** composed of three ministers (ministers of economics, education and science and welfare) was established in 2016. The Board is a non-formal platform for discussions of ministers.

The Employment Board has paid special attention to the matters of investment in human capital and the development of skills of labour force (in particular, low qualification labour force). The board has agreed to include in priority changes: the establishment of an adult education system, modern and qualitative general education, increase of number of students in STEM disciplines, more active involvement of employers in the formation of the education supply, improvement of skills and employment of youths. The Board has put forward as its urgent task the creation of an effective, sustainable and comprehensive adult education system, which would be able to quickly adapt to market needs, thus reducing imbalances in the labour market within a relatively short time.

4.1. DIRECTIONS FOR IMPROVEMENT OF THE EDUCATION SUPPLY

Latest measures in basic and general education

Introduction of competence-based curriculum. The new curriculum envisages to change the approach to studies in the entire general education stage. In academic year 2017/2018 the approbation of the new curriculum with competence-based approach started in 100 general education institutions at pre-school education and basic education levels. In 2018, it is planned to start approbation of the new curriculum at the secondary school level. The development of methodical teaching aids started in relation to the approbation and planned implementation of the new curriculum.

In order to directly promote interest of youths in technologies and engineering, the mandatory curriculum, apart from Natural Sciences and Mathematics, includes a new field of Technology studies, for which curriculum for form 1 to 12 was prepared. Furthermore, a new curriculum was developed for examinations in Physics, Chemistry, Natural Sciences, as well as for 12 diagnostic tests in STEM subjects according to the new curriculum.

The introduction of the improved pre-school education curriculum will start on 1 September 2019. The introduction of new curriculum in schools will start on 1 September 2020 in forms 1, 4, 7 and 10, on 1 September 2021 – in forms 2, 5, 8 and 11, and on 1 September 2022 – in forms 3, 6, 9 and 12. State examinations for graduates of forms 9 and 12 according to the new curriculum will be organised in academic year 2022/2023.

Adjustment of the network of general education institutions. A model of the network of general education institutions, which is fit for current conditions, has been developed. Talks with municipalities and other institutions involved on the best solutions for the development of an efficient and sustainable network of general education institutions are ongoing. As to the decisions adopted by local governments on changes in the network of general education institutions in academic year 2018/2019, it can be stated that they mainly envisage liquidation of education institutions with small numbers of pupils, reorganisation of education institutions changing the degree

of education provided in them, as well as administrative merging of education institutions or their includes in other institutions[1].

Furthermore, taking into account the current classroom occupancies at the stage of secondary education, practices of OECD countries and the results of study by SIA "Karšu izdevniecība Jāņa sēta" *Creation of an optimal model of the network of general education institutions*, starting from 1 September 2018 it is planned to set the minimum permissible number of pupils and criteria for maximum permissible number of pupils in a class and in a group of classes at the stage of secondary education. This will be done taking into account the requirements of regulatory enactments on the minimum area per pupil in a classroom, in the chemistry and physics classroom, in handicrafts and technology classroom, in a gym and computer classroom, as well as the availability of teachers, pedagogical and support staff.

Modernisation of infrastructure of general education institutions. By attracting ERDF funds to general education institutions, it is planned to create a modern, ergonomic learning environment meeting sanitary requirements. Projects are implemented in national level development centres in municipalities and in regional level development centres in municipalities (Ādaži, Carnikava, Garkalne, Ikšķile, Ķekava, Mārupe, Salaspils and Viļaka Municipalities). The construction of new buildings of education institutions is intended in the municipalities, where the number of pupils increases and the existing infrastructure is insufficient. It is expected that at least 100 general education establishments will be fully modernized by 2023, and 20-25% of students will have access to a fully modernized general education learning environment.

Measures to reduce the number of early school leavers among children and youths. Using support from EU funds, there are intentions to create a sustainable and effective prevention system, which would involve the local government, the school, teachers and parents to identify in a timely manner the children and youths at risk of school leaving and provide them with customised support. By the end of 2017, 74 cooperation agreements have been concluded, involving 224 education institutions, within the framework of which 2514 individual support plans for pupils were reviewed.

Career guidance helps pupils to take a conscious and motivated decision on their further education or work career, thus also fostering the reduction of early school leaving. In order to increase career guidance accessibility, the ESF project *"=Improving access to career support for students in general and vocational education institutions* has been implemented since 2016. As a result of the project, it is intended to provide career guidance to pupils of 328 general and vocational education institutions by 2020. In academic year 2017/2018, 75 local governments and associations thereof with 399 education institutions and 17 VECC were involved in the project and 375 teachers-career consultants were employed. 143.7 thousand pupils in 416 general and vocational education institutions have received career guidance in academic year 2017/2018 within the framework of the project.

Latest measures in vocational secondary education

The vocational education content reform continues[2] with support of EU funds ensuring (1) a transition from subject-based vocational education curriculum to result-based learning, as well as introducing (2) a modular approach in implementation of vocational education programmes.

The ESF-supported project *Establishment of Sectoral Qualifications System and Enhancement of Efficiency and Quality of Vocational Education* has been implemented since the end of 2016 aiming to develop vocational education curriculum in line with the changing labour market requirements and ensure compliance of vocational education with European Qualification Framework. The project intends to improve the sectoral qualification system and to prepare descriptions, to develop and improve 160 professional standards and professional qualification requirements, develop and introduce 184 modular vocational education programmes and develop

[1] Latest information on decisions adopted by local government: http://www.izm.gov.lv/lv/publikacijas-un-statistika/reorganizetas-slegtas-un-dibinatas-izglitibas-iestades

[2] In November 2015, the first stage of the reform ended, which focused on the development of cooperation mechanisms and drafting of methodologies, as well as study of the needs of economic sectors. At this stage, comprehensive studies of 14 sectors of the national economy are conducted, 12 sectoral expert councils have been created, 61 professional standards and 19 qualification requirements (80 in total) have been drafted or improved, 56 modular vocational education programmes and content of professional qualification exams for 32 professional qualifications have been developed.

content of professional qualification exams for 210 professional qualifications, as well as develop relevant teaching aids and methodological materials.

Functional analysis of 14 sectors has been carried out and structure of qualification of 14 sectors have been updated, 91 occupational standards have been drafted and coordinated with PINTSA[1] and drafting of remaining occupational standards has started within the scope of the project. Modular programmes for 11 occupational qualifications have been developed, and approbation of 34 modular education programmes developed in the previous programming period of EU funds has completed. The development of 28 professional qualification examinations and 27 teaching aids has started. 2574 teaches have improved their qualification at different courses and seminars.

Eliminating the contradiction between teaching general subjects in the general secondary or vocational secondary education, as well as putting an emphasis on teaching exact sciences in vocational education programmes, in 2016 a technical general subject direction was implemented in vocational education programmes with technically-oriented attainable results.

The introduction of work-based learning (hereinafter WB learning) has been one of priorities in recent years, which involved qualitative reforms in the system of vocational education. A proper legal framework and the operation of institutional mechanisms for coordination and implementation of WB learning has been provided. In 2016 the Cabinet of Ministers approved the *Procedure for organization and implementation of work-based learning*. The procedure stipulates the conditions for WB learning implementation, rights and duties of involved parties coordinating and facilitating the cooperation of merchants and educational establishments and ensuring that vocational education meets the requirements of labour market. Moreover, the *Guidelines for Organization and Implementation of WB Education* were approved in 2017, which include the core principles and methodical support for organisation and implementation of learning.

In order to increase the number of qualified students in vocational education institutions after their participation in WB learning or learning placement in an enterprise, in January 2017 the Employers' Confederation of Latvia started the implementation of the ESF project *"Increasing the Number of Qualified Students in Vocational Education Institutions after their Participation on Work-Based Learning and Teaching Practice in an Enterprise"*. It is expected that 3,150 students will be engaged in WB learning and 11,025 students will be engaged in learning placement in an enterprise by the end of the project in 2023.

Courses for representatives of enterprises are organised to ensure the quality of WB learning. 535 supervisors of WB learning have completed courses by now.

Adjustment of the network and modernization of infrastructure of vocational education institutions. The number of secondary vocational education institutions under the MoES decreased from 60 institutions in 2010 to 21 in 2017, but the number secondary vocational education institutions under MoC reduced to 10 institutions by the beginning of academic year 2016/2017. In order to further modernise the infrastructure of vocational education institutions and priority education programmes and their locations in regions, acquisition of the status of a Vocational Education Competence Centre (VECC) is fostered. At the end of 2017, 23 vocational education institutions, in total have been granted the VECC status.

With support from EU funds, in 2018 modernisation of 23 vocational education institutions continued, continuing the modernisation of learning equipment and improvement of the infrastructure of vocational education institutions for the implementation of vocational education programmes that was started in the previous programming period of EU funds. Overall, it is planned to provide support to 24 vocational education institutions, in particular VECC, by 2023.

Strengthening of cooperation with social partners and industry organisations to ensure the preparation of specialists according to the labour market requirements. Starting from the beginning of 2016, a collegial advisory institution – convent, has been working in all of the vocational education institutions under MoES. The aim of this convent is to facilitate development of vocational education institutions setting the strategic direction of their operation in accordance with market demands.

[1] Tripartite Sub-council for Co-operation in Vocational Education and Employment (part of the institutional system of the National Tripartite Cooperation Council).

Latest measures in higher education

Implementation of a new financing model of higher education. Since 2015, a new higher education financing model has been in place, pillar II of which includes performance indicators according to policy goals on the renewal of academic staff and research-based higher education, as well as indicators on cooperation with economic operators and international project funding attracted, namely: how many students and young scientists have involved in research and creative work, to what extent higher education institutions have implemented international research projects and to what extent they have attracted orders from economic operators for the implementation of research and creative projects.

The *Register of students and graduates* has been introduced. The created register contains data at personal level on students in higher education institution programmes, as well as starting from 2019 depersonified data on employment and wages of graduates will be summarised and published in cooperation with the Central Statistical Bureau. The obtained data will be used as part of higher education quality monitoring and to promote conscious, actual labour market situation based choice of a study programme.

Reduction of fragmentation of study programmes, sharing of resources. In 2017-2018, the second stage of the research is being carried out in cooperation with the World Bank on the improvement of higher education governance and human resources policy for modernization of higher education. On the basis of expert recommendations received during the first stage of the research (implemented in 2016-2017), a programme of EU structural funds was developed for strengthening of governance of higher education institutions, the implementation of which is planned for the end of 2018. In 2018, the second stage of the research resulted in expert recommendations on the improvement of academic staff career development and employment conditions. The first conclusions and recommendations of the second stage of the research have already been taken into account, when drafting programmes of EU Structural Funds to reduce fragmentation of study programmes and strengthen capacity and competence of academic staff, to improve internal governance of higher education institutions, as well as to improve governance and organisational processes of higher education institutions (including to strengthen cooperation of higher education institutions with industries – for the improvement of curricula of study programmes and their alignment for industry development needs), the implementation of which is planned for the second half of 2018.

The transition to a conceptually new teacher preparation system in higher education institutions, taking into account latest news in the education sectors in relation to the reform of the curriculum of general education institutions, sets out conceptually different requirements to the preparation of new teachers. Proposals for ensuring a conceptually new teacher education in Latvia, meeting the requirements of competence-based education were prepared in 2017. Furthermore, in continuing the improvement of the procedure of granting study places, it is envisaged to reduce the number of state-funded study positions for preparation of new teachers in 2018 and 2019. MoES has introduced a new component of the formula of the second pillar or performance funding, which envisages additional funding for higher education institutions, which ensure initial education of teachers depending on the number of graduates, who started working or continue working in education institutions in the next academic year after graduation from the higher education institutions. The purpose is to stimulate higher education institutions to carefully evaluate motivation of potential students and their fitness for work in higher education institutions.

Improvement of the quality assurance system of higher education and establishment of a national institution for quality assurance. In August 2017 the existing Accrediting Agency (the Academic Information Centre (AIC)) submitted an application for international evaluation according to Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG[1]). The evaluation is expected to end at the end of 2018. If the assessment is positive, the European Association for Quality Assurance in Higher Education (ENQA) will grant AIC the status of a fully-fledged ENQA member, as well as will include AIC in the European Quality Assurance Register for Higher Education (EQAR).

In order to make higher education quality assessment systems more compliant with ESG and include AIC in EQAR and at the same time become a full ENQA member, amendments to accreditation and licencing regulations were approved in 2017, and as result of that it was delegated to the AIC to draft guidelines for the preparation of self-assessment reports of higher education institutions, colleges and study directions, as well as guidelines for the preparation of joint expert reports on assessment of higher education institutions, study directions or study

[1] *European Standards and Guidelines for Quality Assurance.*

programmes. The approved amendments define the duty of AIC to select and approve the composition of the group of experts of higher education institutions, colleges or study directions.

In 2016 and 2017, 12 pilot accreditation of study directions in higher education institutions involved in the project and 12 regular accreditations of study directions were implemented, informative seminars for higher education institutions on progress of pilot accreditation and external and internal quality assurances matters were organised. The Accreditation Agency Development Strategy and all necessary internal regulatory enactments have been developed, and proposals for amendments to Latvian legislative acts in the area of quality assessment of higher education were prepared. A *Higher education quality monitoring system concept* was prepared, and the creation of an e-platform to ensure the process of accreditation and licencing was started within the framework of the project in 2017. The next comprehensive accreditation stage is expected to start in 2020.

Modernisation of the material and technical base. To ensure a modern study environment and research environment for the implementation of the STEM study programmes, incl. the medicine and creative industries, and at the same time to ensure a territorially focused creation of study premises and foster the matching of higher education with the needs of economic development and the labour market, it is planned to support the development of a territorially focused infrastructure of the studies and scientific work within the EU funds programming period 2014–2020 (the total indicative financing is 44.6 million EUR, incl. ERDF funding of 37.9 million EUR). At the same time, a support from EU funds is intended for the 1st level vocational higher education STEM study programmes, including medicine and creative industries, and improvement of learning environment in colleges. The implementation of the projects is planned until December 2022.

Internationalization of higher education. In academic year 2017/2018, there were 399 teachers from foreign countries working in Latvian higher education institutions, constituting 5.6% of the total number of academic staff. 131 teachers and 268 visiting professors, visiting assistant professors and visiting lecturers of higher education institutions and colleges were elected from foreign teaching staff. The goal in Latvia is to increase the share of foreign teaching staff to 7% in 2020. Measures for support of higher education institutions were developed in 2017 to promote the attraction of foreign teaching staff and internationalization of higher education. Within ESF projects higher education institutions may submit project applications on the development of study programmes in EU languages and joint doctoral programmes. With ESF support higher education institutions also can attract foreign lecturers and motivated and capable doctoral students to work as lecturers, including from foreign countries, as well as to improve knowledge of current academic staff, including to improve knowledge of professional English through traineeship with economic operators. The beginning of implementation of the projects is planned for the end of 2018.

In 2017, there were 8806 foreign students in higher education institutions of Latvia which constituted 11% of the total number of students (7563 of them studied to obtain a degree, others were from short-term exchange programmes). To increase responsibility of higher education institutions in attraction of foreign students and to foster that only positive information is spread about the Latvian higher education system and studies in Latvia, 15 higher education institutions have signed an *Agreement on good practices in attraction of foreign students and ensuring of studies.*

Joint study programmes were implemented in Latvian higher education institutions in cooperation with foreign higher education institutions (including higher education institutions in Lithuania, Estonia, Spain, Austria and the Netherlands) in the areas of international business and export management, management of technologies and innovations, innovative engineering of roads and bridges, strategic border management, etc.

In December 2017 cooperation memorandums on Norway and European Economic Area financial instruments for 2014-2021 were signed concentrating resources for the creation of a single research and higher education space of Baltic and Nordic countries.

Latest measures in adult education

Development and increase of supply of the adult education system. The target is to increase the proportion of people involved in adult education to 15% or about 120 thousand by 2020 (see section 2.4).

Implementation of a uniform governance model for the adult education system. In order to promote and ensure coordination between the partners involved in adult education, as well as to prevent the fragmentation and establish an effective adult education system, the *Adult Education Management Model Implementation Plan for 2016-2020* was approved in 2016. An inter-sectoral consultative institution – *Adult Education Management Council*, has been established and is functioning to carry out coordination of the plan and monitor the implementation. It consists of representatives from ministries involved in adult education and other organizations, as well as representatives from social and cooperation partners.

The *Guidelines for the Implementation of Policy for Adult Non-Formal Education Quality Assurance* were developed in 2017. To motivate vocational education institutions, employers and the population to involve in adult education more actively, proposals for measures to be taken and changes to be introduced to regulations have been prepared.

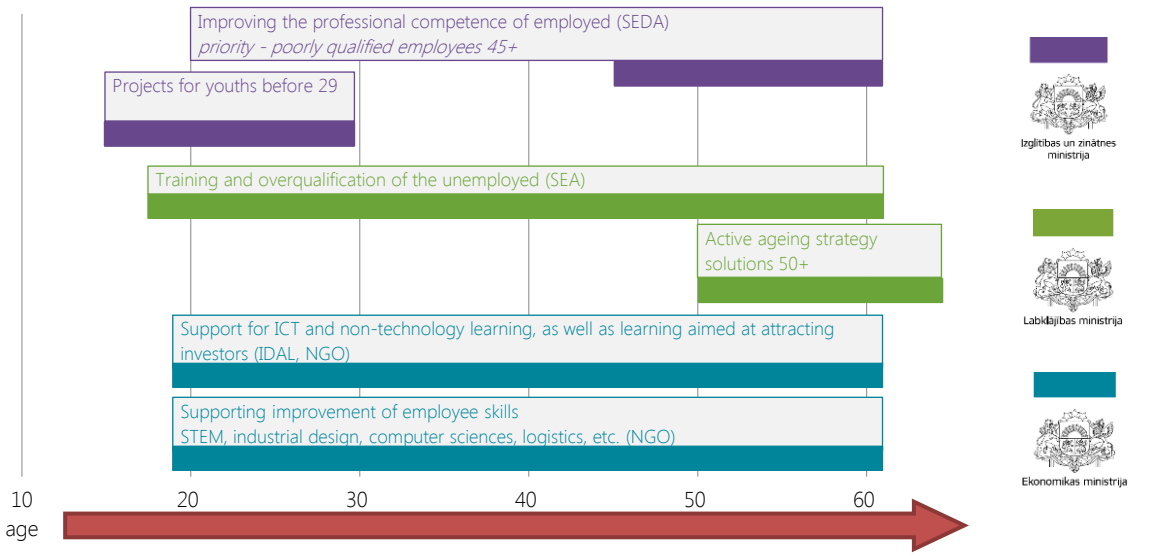
Supporting improvement of professional qualifications of employees. Within the framework of ESF project *Improving the Professional Competence of Employed*, employed persons upon their request receive support for improvement of their professional qualifications and competences, including provision of career consultant's services. It is planned that the project will extend to more than 38 thousand persons, primarily providing support to employed persons from social risk groups, including persons employed in low qualification works, who are subject to the unemployment risk the most. In the 1st quarter of 2018, the first cycle of studies started involving 4 thousand persons in mastering of 193 education programmes. During the second application round, which closed in April 2018, 7,565 applications for studies in 63 education institutions all over Latvia were received. There were applications for studies in 12 different sectors of national economy. Most applications were received in the transportation and logistics sector (2197), as well as in manufacture of electronic and optical equipment, information and communication technologies (1605). Similarly to the first round, in the second round the most popular types of selected study programmes are non-formal education programmes, the length of which does not exceed 159 hours. In 2018, there are plans to organise the third enrolment round offering employed persons, inter alia, to master general skills.

Measures have been developed and implemented to support learning for employees requested by the employer:

- *Support for employed learning (technology learning)*. Support is provided for training of persons employed with a merchant. The aim of this measure is to provide the merchants with labour force holding the relevant qualification, thus contributing to increase in productivity and development and putting into production of new or improved products and technologies. Two project selection rounds are planned. In spring 2016, 10 projects of the first round implemented by the largest sectoral associations were approved. These associations represent manufacturing subsectors, the ICT sector or accommodation and food service activities sector. By the end of 2017, 5,303 persons employed with 384 merchants have been trained. According to the plan, 280 merchants will receive support within the first round by the end of 2018 (training of 5,620 persons);
- *Support for ICT and non-technology learning, as well as learning aimed at attracting investors (non-technology learning)*. The measure is developed with the aim to increase the productivity and work efficiency of self-employed persons, as well as micro, small, medium, and large merchants, by raising the employees' qualifications and skills in information and communication technology areas, to provide merchants with employees holding the relevant qualification, promoting introduction of non-technological innovations in merchants, as well as to provide support for learning thereby attracting investments in the country. In a limited project application selection conducted in 2016, LCCI, LICTA, and IDAL were selected to ensure a successful implementation of the programme. 908 persons employed by 294 merchants have received support since the beginning of training in 2017. According to the plan, 422 merchants will receive support by the end of 2018 (training of 5,540 persons).

Figure 4.1

Adult education measures within the scope of EU funds



MoES (SEDA) project for adult (25+) education. Priority – 45+ employed in poorly paid occupations	MoW (SEA) trainings for the unemployed and job seekers, using coupons or with an employer	MoE (IDAL) grants for industry associations for purchasing of trainings for economic operators and organisation of trainings. (IDAL organises trainings upon request of investors)
38,267 persons by 2021	**85,000** persons by 2021	**22,320** persons by 2021
25.4 million EUR	96.4 million EUR	24.9 million EUR

Improving training measures for the unemployed. In 2017, 52.6 thousand persons in total were involved in skill-improvement training measures. The improvement of cooperation between SEA and employers continues to promote the improvement of skills of the unemployed and job seekers and labour force availability, incl. possibilities for employers are popularised to get involved in the selection of the unemployed to select candidates according to the profile of the vacancy to be filled, and to train the unemployed upon employer's request or get involved in the activity *Training by the employer*, which is practical training of specialists by the employer on site co-funded by SEA. Reduction of skill mismatches and promotion of adult education in general for the unemployed, including those, who have not completed vocational education programmes, yet have extensive work experience or have developed skills outside the formal education system, envisages the possibility to get a document certifying qualification, which is recognised by the state by undergoing evaluation and recognition of competences (no need to learn the entire training course). Similarly, legal regulations envisage modular vocational continuing education and professional improvement programmes within the scope of training of the unemployed, which corresponds to the latest trends in vocational education in the European Union. Training quality aspects are important, therefore additional requirements to material and technical base, environmental availability and responsibility of education institutions for weak study results in non-formal education, etc. have already been introduced. Furthermore, in order to promote access of the unemployed to training places, along with support for access to workplaces, regional mobility support is also available (see section 4.2.1). At the same time, SEA is continuing to make short-term labour market forecasts, within the framework of which, on the basis of macroeconomic indicators and employer surveys, changes in demand at the level of occupational groups are projected and the supply of education for the unemployed and job seekers is planned and organised accordingly and coordinated with social partners. Along with the SEA customer profiling method and career guidance, the SEA website makes publicly available several ICT tools (labour market forecasting tools, education institution search, etc.) to make a more informed selection of an education service provide and a relevant occupation.

In addition, the impact of active employment measures is evaluated within the scope of cooperation with OECD. The results of the analysis will be taken into account in the improvement of implementation and supervision of measures. Intensification of support for persons having lower skills and subject to higher risk of long-term unemployment will also continue, in particular, taking into account society ageing trends and the need to stay as long as possible on the labour market.

Promotion of involvement of state vocational education institutions in the implementation of adult education. In 2017, the Cabinet of Ministers approved proposals of the Employment Board for measures to be taken and changes to be made to the regulations, which would motivate vocational education institutions, employers and the population to get involved in higher education[1].

As we admit that the administrative capacity of vocational education institutions in the area of adult education and marketing is insufficient, a methodical material *Practical guide for work with adults in vocational education institutions* will be drafted within the scope of ESF project *Efficient management of vocational education establishments and raising the staff competence* by the end of 2018. The purpose of the methodical materials is to promote the ability of vocational education institutions to create study supply for the adult target audience, including economic operators, which would ensure skills necessary for the development of companies; to promote the ability of vocational education institutions to carry out a market analysis, to prepare marketing and sales plans, incl. to draft pricelists of services, to ensure the advancement of the services on the market and to successfully sell education services; to orient vocational education institutions to modernisation of sectors and creation of sustainable supply.

The methodical material will be drafted by inviting experts and in cooperation with representatives of four VECC (VECC "Riga State Technical School", VECC "Riga Art and Media Technical School", VECC "Liepaja State Technical School" and Ogre Technical School). After the approbation of the methodical materials in these VECCs, it will be possible to use it in all vocational education institutions.

4.2. GEOGRAPHICAL MOBILITY AND SMART IMMIGRATION OF LABOUR FORCE

Support to internal mobility of labour force

Support programme for construction of houses for rent in regions. In order to promote labour force availability in territories with growing employment, proposals have been drafted in 2018 for a support programme for construction of houses for rent in regions for the purposes of creating a sustainable support model for a qualitative and affordable (housing costs do not exceed 30% of household income) housing for the Latvian populating in Latvian regions. Within the scope of the programme it is planned to provide financial support to local governments (except Riga and local governments bordering Riga City). The plan is to provide support for the creation of up to 100 apartments per municipality, and up to 150 apartments per city of republican importance. The funding necessary to start granting this support in 2018 is about 8 million EUR.

Improvement of the housing guarantee programme. The attraction of qualified labour force to regions is also promoted by state support for purchasing housing, which is available to highly qualified specialists (aged up to 35) from 1 March 2018. Young specialists having constant income, but having no sufficient savings to make the first instalment, can receive a guarantee for purchasing or construction of housing amounting to 20% of the loan amount, which does not exceed 50 thousand EUR. It is expected that within the scope of this programme more than 3000 persons with higher or vocational secondary education will be provided with a place to live in the next 3 years.

Mobility support within the scope of active employment measures. In order to promote involvement in measures for regional mobility support, in 2018 legal regulations were amended envisaging transportation and rent compensation also for work in Riga, as well as reducing the necessary distance from home to work or training to receive support from 20 to 15 km, thus promoting employment outside own administrative territory, where no relevant vacancies are provided. Regional mobility support for the unemployed becomes increasingly more popular, which is used to get to the place of requalification and mastering of skills necessary for work or subsidised work.

[1] *Informative report On the set of measures identifies within the Employment Board and their fulfilment deadlines* (reviewed at the meeting of the Cabinet of Ministers of 21 March 2017).

Attraction of highly qualified labour force from foreign countries

Simplified attraction of specialists missing on the labour market (incl. list of occupations). In order to ensure a balanced labour market and economic development in the medium term, in February 2018 the Cabinet of Ministers approved regulations, which envisage introduction of incentives for the attraction of highly qualified specialists from third countries in occupations, where considerable shortage of labour force is envisaged. The list of occupations includes 237 occupations, which, if third-country nationals have them, secure the following incentives: (1) if an employee wishes to receive an EU Blue Card (special type of work permit) – the minimum remuneration shall not be lower than the average gross wage in Latvia in the previous year multiplied by factor 1.2 (instead of the current factor 1.5); (2) in other cases – it will be possible to attract a foreigner for a vacancy, which has been registered at the State Employment Agency for at least 10 working days (the current requirement is no less than a month). It is envisaged that these changes will result in an increase of the number of work permits for the listed occupations by 200-300 work permits per year, thus reducing tension in the labour market.

Attraction of foreign students. Proposals for amendments to the Immigration Law have been drafted, which will promote the involvement of third-country nationals in the Latvian labour market. The amendments, inter alia, envisage to extend the validity period of the residence permit after the end of studies or research work by four months for the person to have the opportunity to search for a job or start business, to clarify the rights of a researcher and student to employment – it is envisaged to grant a researcher unlimited access to the labour market, while students have the right to work 40 hours per week during summer holidays (at present a foreign student is not allowed to work more than 20 hours per week).

Incentives for receiving an EU Blue Card. In order to facilitate the attraction of highly qualified specialists to sectors with high value added and to reduce shortage of labour force in the short term, draft regulations have been drafted and submitted for review to the Cabinet of Ministers, which envisage the procedure, according to which highly qualified specialists (third country nationals) with professional experience of at least five years can qualify for receiving an EU Blue Card, if the person has no document certifying higher education in the occupation or sector, in which he or she will be employed in Latvia.

Provision of labour force in the ICT sector. In order to ensure the development of the ICT sector and satisfy the demand of other sectors for ICT specialists, the number of graduates in ICT study programmes in the nearest years needs to increase to 3,000 graduates per year. In order to promote the preparation of IT specialists and the development of the sector, the Ministry of Economics has started work on the study of a model on the development of potential solutions and proposals for the creation of an ICT higher education institution or study programme in the territory of the Republic of Latvia, evaluating legal, financial and economic aspects of the implementation of the project. The following main activities are planned to be implemented: (1) preparation of specialists (bachelor's level of studies, with the possibility to prepare a master's course offer after the first two years of existence of the higher education institution); (2) further education and professional improvement (specialised professional improvement courses); (3) implementation of targeted cooperation in research, technology transfer, implementation of master's and doctoral study programmes, involving in school activities foreign scientific institutions and global IT companies.

4.3. SYSTEM OF ANTICIPATING CHANGES IN THE LABOUR MARKET

Actual situation and its weaknesses

In the coming decades, the Latvian economy will face significant structural changes. In order to prepare for and adapt to these changes it is necessary to make anticipating changes in the labour market.

It is impossible to completely predict the future, but it is possible to lead it in a certain direction. In order to ensure that, it is necessary to stimulate the common understanding of the desired outcome and the real possibilities, and to be able to look beyond the current issues and to take decisions yielding benefits in the medium and long term. One of the greatest challenges for the policy makers is to balance the solving of acute problems, where quick response and decision-making, and the reaching of long-term goals is required.

Currently, in Latvia two institutions deal with forecasting the future changes in the labour market at a national level– the MoE, which prepares medium and long-term labour market forecasts, and the SEA, which prepares

short-term labour market forecasts. The Ministry of Finance develops forecasts of macroeconomic indicators, while the Bank of Latvia evaluates the Latvian national economy development and the economic policy being implemented, as well as prepares forecasts of the most important indicators characterising the national economy.

The results of the forecasts by MoE and MoW are regularly presented and discussed with the MoES, and with experts representing other involved institutions and social partners, however several weaknesses have been identified in the current system:

- limited possibilities to disseminate labour market forecasts and lack of information channels (the only opportunity for general public to familiarise with the medium and long-term labour market forecasts prepared by the MoE is the Informative Report on Medium and Long-term Labour Market Forecasts, which is prepared once in two years and is available on the websites of the MoE and CM) result in insufficient public understanding of the anticipated labour market changes;
- insufficient comprehensive public discussions about the future trends and needs of the labour market;
- lack of coordination mechanisms, which ensures the inclusion of labour market forecasts in policy documents. This restricts the adoption of targeted decisions on the creation of a supply matching labour market needs;
- problems with the interpretation of the forecasts and difficult coordination with education supply instruments (financing of education programmes, study places/state-funded study places, etc.). There is a considerable time gap between drafting of forecasts and introduction of their conclusions in the education policy. Coordination is also fragmented between types of education.

Implementation of the system – stakeholders, planned activities and work to date

SEA in cooperation with MoE is implementing an ESF project for the creation of a comprehensive system of anticipating changes in the labour market[1].

Within the scope of this project MoE is implementing a study on the possibilities of establishment of the system of anticipating changes in the labour market and linking of labour market forecasts with the action policy.

Several solutions are provided for the improvement of the system, which will be detailed at later stages of the study upon mutual agreement between the parties on the distribution of responsibility:

Recommendations	Justification
To develop forecasts for regions, skills and in-depth forecasts for sectors using qualitative research methods.	At present the labour market forecasts drafted by MoE do not include information on future skills, profound information about each sector, as well as does not include regional difference in the labour market in the future.
To get the Sectoral Expert Council (SEC) more involved and to strengthen its involvement in the development and interpretation of labour market forecasts.	SEC is an organisation, which is informed the best about the needs and development trends of labour market. At present, SEC lacks capacity for effective performance of its statutory function related to employment, demand and supply in relevant sectors of the labour market and for consulting of MoES and MoE.
To ensure effective interpretation and dissemination of labour market forecasts.	At present, stakeholders (policy planners, potential and existing employers and employees) lack information on the results of the forecasts and lack understanding of their use in the implementation of further actions, development plans, changes.
To use labour market forecasts fully, when planning education supply and demand.	Changes are necessary to have relevant labour force available faster.
Introduction of regional forums for interpretation of labour market forecasts.	Regional representatives understand the market situation in regions most completely (local governments, businessmen, employees, education institutions, etc.), and their knowledge and experience need to be taken into account to successfully plan regional development in general and when planning the education supply.

[1] On 1 March 2016, Cabinet of Ministers Regulations No.126 "Rules of implementation of measure 7.1.2.2 "Implementation of the system of anticipating changes in the labour market" of specific objective 7.1.2 "Creation of a system of anticipating changes in the labour market ensuring its link to the Employment Barometer" of the operational programme "Growth and Employment" were approved.

In order to ensure effective dissemination of labour market forecasts it is envisaged to create a WEB-based labour market forecasts analysis platform (SEA, in cooperation with MoE), which will provide information on occupation and skill demand by sectors of national economy in the short term, in the medium term and in the long term, as well as information to simplify the choice of occupation by users – the information about education possibilities.

Technical information technology solutions will be introduced within the scope of measure 2.2.1.1 "Establishment of centralised public administration ICT platforms, optimisation and development of public administration processes" of specific objective 2.2.1 "To ensure an increase in the reuse of public data and an efficient interaction between public administration and the private sector" of the operational programme (hereinafter referred to as the specific objective 2.2.1.1 measure). The right to use the medium and long term forecast analysis tool and the visual solution will be transferred also to the MoE, which will post medium and long term forecasts on the website of the Ministry of Economics.

Implementation of the organisational framework of SACLM

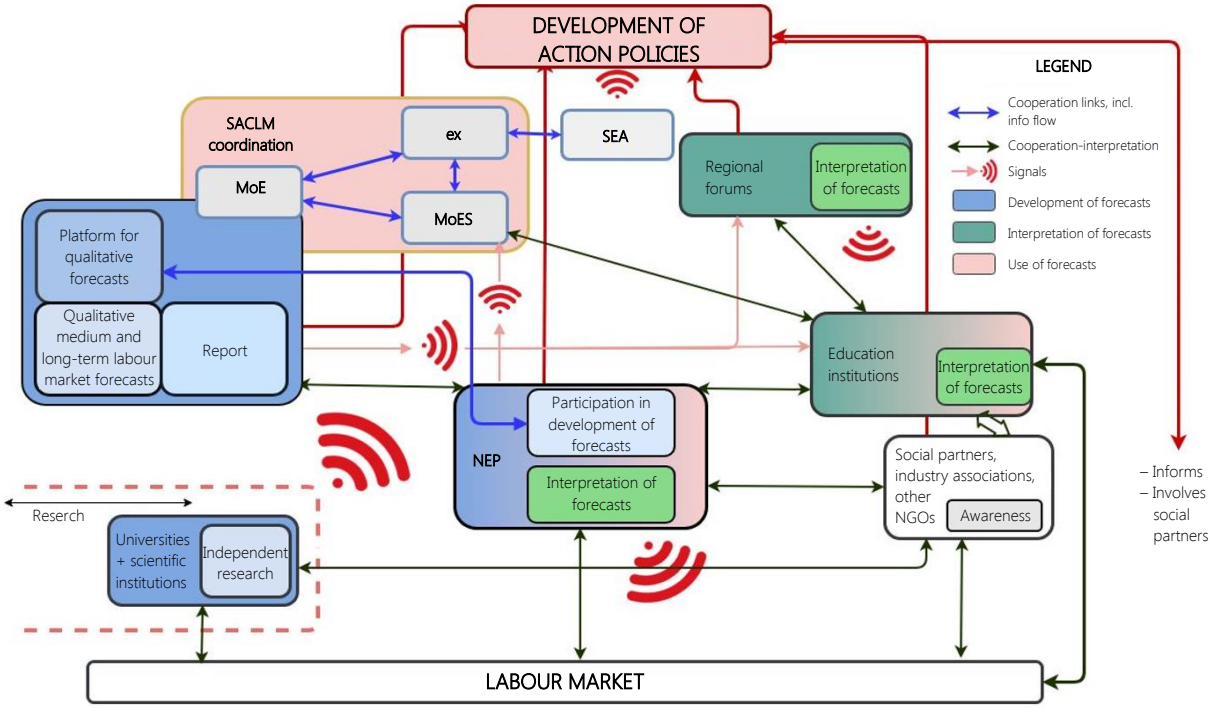
The main improvements to the system of anticipating changes in the labour market to be made in Latvia are related to strengthening of institutional cooperation, improvement of the forecasts developed by MoE, as well as adaptation of the education curriculum to the demand of the labour market.

In order to improve cooperation opportunities within the scope of SACLM, the system should be simple, clearly state functions of the parties involved.

The next step in the development of the organisational framework of SACLM is to create a system, where SACLM coordination is ensured by distributing responsibility among the parties involved, detailing the responsibility of institutions involved In the SACLM context and extending the interpretation of forecasts into several stages.

Figure 4.2

Cooperation within the organisational model of SACLM recommended within the scope of the study



In the selected model, SACLM coordination is ensured by keeping unified responsibilities of the institutions involved for SACLM matters. Therefore, the development of forecasts, the transmission of signals and anticipating changes is ensured mainly through cooperation between MoE and MoES, and also with involvement of MoW.

Like until now, SEA is developing short-term labour market forecasts and ensures statistical data related to unemployment, as well as gets involved in the provision of career guidance within the scope of its competence.

Medium and long-term labour market forecast signals developed by MoE are mainly transmitted to MoES to make anticipating changes in education, and at the same time they are transmitted to other parties involved in SACLM. Restrictions of the quantitative forecasts developed by MoE are mitigated by creating a platform of qualitative forecasts, where experts are working, including NEC representatives, who validate the forecasts developed by MoE and develop future scenarios – qualitative labour market forecasts, as well as cover the regions, sectors and skills.

The interpretation of the forecasts is ensured at several levels: 1) NECs are strengthened by ensuring interpretation of forecasts at the level of sectors; 2) in education institution by interpreting forecast signals in the education supply; 3) at newly created Regional Forums within the framework of which several work seminars are organised and coordinated with participation of local governments, businessmen, education institutions, convents, NEC and other stakeholders. The interpretation carried out at all these levels is used when transmitting informative signals to other stakeholders in order to promote justifies anticipating changes in the labour market.

5. SUMMARY AND RECOMMENDATIONS

The report describes the current situation in the labour market and includes updated medium and long-term labour market forecasts, which are one of the elements in the process of adjustment of labour supply. Labour market forecasts are the quantitative basis for further discussions among employment, education and structural policy makers, social partners, scientists and other stakeholders in order to crystallise action directions, promoting a balanced development of the labour market.

The Ministry of Economics has prepared a scenario of economic growth and a macroeconomic forecast that matches it. The target scenario has been drafted according to settings of the Latvian structural policy defined in policy documents – Sustainable Development Strategy of Latvia until 2030, National Development Plan of Latvia for 2014-2020, for the National Reform Programme of Latvia for the Implementation of the Europe 2020 Strategy, National Industrial Policy Guidelines 2013–2020. Basic assumptions of processes determining global economic development are also taken into account. The target scenario envisages economic growth of Latvia by 4.5% per year on average in the medium term (until 2025) and by 3% on average in the long term (until 2035).

The target scenario envisages that the main economic growth driver in the medium and long term is income from exports and the extension of export possibilities, the ability to get included into international product chains with higher added value products and to create more qualitative products. At the same time, it is taken into account that in the medium term in open labour market conditions the increase in labour costs will remain comparatively fast and competitive advantages of labour force costs will continue to decrease. In the medium and long-term, more rapid development is expected in the sectors, which are able to boost their productivity through overcoming the technological lag, modernisation of production and investments, investments in human capital, research and innovation. The implementation of the target scenario is possible through considerable measures to promote economic competitiveness, as well as ensuring balanced development of labour costs and productivity.

In the following years labour demand will grow slowly and economic growth will mainly be based on a productivity increase. Until 2025 the number of the employed might increase only by a bit more than 11 thousand in comparison with 2017, and four sectors will mainly contribute to this – business services, construction, trade and manufacturing. Taking into account automatization trends of different jobs, the largest drop in jobs is expected in occupations with big share of manual and repetitive actions. Labour demand in elementary occupations until 2035 might reduce by about 1/3 or more than 40 thousand jobs. Since innovation cycles become increasingly faster, then automatization and robotization enters into many high qualification occupations.

Main job opportunities will be created by replacement demand – in the medium term the number of vacancies due to ageing labour force and exit from the labour market will exceed 150 thousand. Taking this into account, by 2025 the employment rate of the population aged 15 to 74 might exceed 67% (~63% in 2017), but in the long term this might gradually get close to 70%. In the long term, job opportunities will grow in the sectors, which create and serve new technologies, as well as taking into account society ageing trends, the demand will grow in different services related to health support, rehabilitation and other "silver economy" related services.

Demographic challenges may aggravate the situation in the labour market in the nearest years. By 2035 the population of Latvia may decrease by over 130 thousand, moreover, the number of working age population will fall more rapidly than the total population. The main reason for the decreasing number of population in both medium and long-term will be ageing, as a result of which the gap between the birth and death rates will increase.

It is expected that the unemployment rate will get close to 6% in the nearest 5 years, and will stabilise at 5-6% in the long term. Unemployment in the medium and long term will be close to the natural level and will mainly consist of frictional and structural unemployment. It should be taken into account that already now economic activity of the population and employment rate have reached the highest historical marks, therefore, the entry of economically inactive population in the labour market might compensate the falling of labour supply due to demographic trends only partially.

In the medium and long term ageing of the labour force will have most effect on the availability of medium qualification labour force. By 2025, the economically active population with vocational secondary education might reduce by about 18% or almost 52 thousand, but shortage of labour force with relevant qualification might increase up to 31 thousands. Sectors like construction and food processing, where the share of medium qualification jobs is about 60% and high share of employees of pre-retirement age will experience shortage of medium qualification labour force the most.

Regional differences in the labour market become increasingly more distinct – new jobs mainly appear in more economically active regions, while less developed regions have the biggest number of job seekers. Registered unemployment rate in the Latgale Region is still almost four times higher than in the Riga Region, which has more than 4/5 of all vacancies. In the following years regional mobility of labour force or its ability to operatively change place of job and residence may have a considerable influence on balanced development of the labour market.

Taking into account the labour demand (both due to new jobs and replacement demand), which is necessary to maintain economic growth, and, on the other hand, labour supply falling under the influence of demographic trends and regional labour market differences, imbalances between labour demand and supply in different sectors of the national economy will become even more distinct in the next 5 years. The biggest **mismatch will be observed among specialists with vocational secondary education**, and it will have the biggest influence on construction and manufacturing sectors, taking into account the high share of medium qualification jobs in these sectors. Likewise, high qualification labour demand and supply in the medium and long term will be close to a balance, which means that the possibilities of manoeuvres in terms of attraction of labour force will be strictly limited. The most significant **shortage of labour force in the higher education group is expected among specialists with engineering, life sciences and STEM education**. At the same time, **surplus of labour force is expected among people with general secondary education and basic education**, which is largely determined by the choice of students in favour of general secondary education, as well as high drop-out indicators at all education stages.

I. MAIN LABOUR MARKET MISMATCHES

In recent years, the education supply has become more balanced and closer to the labour demand. Economic growth and the active labour market policy measures implemented in the previous years have fostered the increase of economic activity of the population, which has generally reduced the impact of negative demographic trends on labour supply. The policy measures have also reduced part of the previously forecast mismatches between labour demand and supply[1].

Equalisation of high qualification labour supply among social and engineering sciences has contributed to a much more balanced structure of higher education supply. The number of students enrolled in STEM disciplines has grown by approximately 7 percentage points since 2008, while the share of students enrolled to social sciences programmes has reduced by 15 percentage points. The number of those youths has also increased, who continue studies in vocational education after they obtain basic or general secondary education, which reduces shortage of medium qualification labour force.

Although considerable improvements are observed in education supply, their positive **impact on the labour market is reduced by insufficient numbers of students, as well as high drop-out indicators at all education stages**. 2/5 of youths still come to the labour market with general secondary education and basic education, while it is expected that the demand for such labour force will decrease sharply in the next years.

Adult education is very important in the reduction of these labour market mismatches. Although the involvement of the population in adult education is gradually increasing, it is still twice lower than the set target – to reach that 15% of the population aged 25 to 64 are involved in adult education measures by 2020. It should also be noted that the current supply of adult education does not fully resolve the large surplus of poorly qualified labour force – the involvement of the population in adult education measures is still the lowest among all population groups and slightly exceeds 3%.

The impact of most of the implemented measures on the labour market is slow and their scale is insufficient to completely eliminate mismatches in the labour market. Therefore, despite visible improvements in the current labour force preparation structure, it is expected that part of projected mismatches will be preserved in the medium and long term.

[1] *Informative report on medium and long-term labour market forecasts* of MoE for 2016

According to the medium and long term forecasts, the following major disproportions of the labour market are expected:

- shortage of high qualification specialists in life sciences, ICT and engineering. Until 2025 the shortage of high qualification specialists in STEM disciplines may increase to ~17 thousand. In comparison with the forecasts of 2016, the shortage has reduced by almost 1/4 (earlier ~23 thousand in 2025);
- shortage of labour force with vocational secondary education. In the medium term this may result in a shortage of labour force with secondary vocational education (~31 thousand), and this shortage will be observed almost in all education academic disciplines, especially in engineering and manufacturing. In comparison with the forecasts of 2016, the shortage has reduced by almost 10 thousand (earlier ~42 thousand in 2025);
- a large proportion of young people entering the labour market without a specific qualification and skills. 2/5 of youth still come to the labour market with general secondary education and basic education, while the demand for such labour force will decrease sharply in the next years;
- a large share of low-qualified labour force. Currently, over 85 thousand or approximately 9% of economically active population have basic or lower education, moreover, it is not expected that their proportion could reduce in the near future.

It should be noted that these labour market imbalances aggravate negative demographic trends and regional labour market differences.

II. MEASURES TO REDUCE LABOUR MARKET IMBALANCES

In order to mitigate the possible disproportions in the labour market in the future, the problems have to be solved in a complex manner. For example, it is difficult to increase the number of students in life sciences and engineering, if the pupils of basic and secondary schools have poor knowledge and little interest in the exact sciences. In addition, it has to be noted that the possible solutions in the higher, secondary, vocational secondary and basic education will give visible results in long-term. Changes in the formal education have relatively little impact on the medium term problems. Therefore, effective adult training and continuing education play an important role in the improvement of the professional quality and mitigation of labour market disproportions. It is very important to increase the involvement of the population with basic education and general secondary education in adult education measures. Such population usually is economically inactive – no job, not registered as job seekers. The provision of a qualitative supply of continuing education to adults plays a crucial role for higher education institutions and also vocational education institutions and employers.

It should be noted that most of the measures focusing on balancing of the labour market supply are already being implemented, however, they are often not mutually coordinated and structured according to their purpose. It is necessary to pay increasing attention to the following areas in order to reduce mismatches in the labour market that are expected in the future:

i. Reduction of the negative impact of demographic trends on labour supply:

- promotion of population replacement – state support to families with 2 and more children (increase of the state family allowance, support to the availability of public services, incl. discounts in public transport);
- return migration support measures – to create a network of return migration coordinators, which provides information and helps families of emigrants to return to Latvia;
- measures to increase economic activity of the population – support to the population with general secondary education, basic education or lower education, who are not registered at the SEA, training of the unemployed with the employer, regional mobility support;
- attraction of highly qualified labour force from foreign countries – simplified attraction of specialists missing in the labour market, incentives for receiving an EU Blue Card.

ii. Reduction of labour market regional disparities:

- mobility support within the scope of active employment measures – transportation and rent compensation to increase mobility of the unemployed;
- attraction of qualified labour force to regions to promote the availability of labour force in territories with growing employment – improvement of the housing guarantee programme, support programme for construction of houses for rent in regions.

iii. Reducing high qualification labour shortage with education in STEM fields:

- reduction of drop-outs of students – strengthening of the quality of studies of mathematics and natural sciences at stages of general education, improvement of the system for selection of students to be enrolled, profiling of youths according to STEM disciplines within the scope of career guidance, methodical materials for consultants in selection of professional career on labour market development forecasts to motivate youths to learn STEM disciplines well, while they are still at school;
- strengthening of the quality of higher education – improvement of the accreditation system, raising the amount of financing per study place, increase of qualification criteria for academic personnel;
- promotion of development of interdisciplinary study programmes to foster development;
- formation of transversal competences – according to higher education standards, to strengthen the formation of transversal competences in STEM disciplines, in particular business, social and communication competences, in the study process;
- extension of STEM supply in 1st level professional higher education (college);
- improvement of technical supplies and equipment of higher education institutions in STEM disciplines;
- extension of adult education supply in higher education institutions in STEM disciplines – restoration and deepening of knowledge in the obtained speciality, re-qualification opportunities for persons with higher education;
- to continue the implementation of a result-oriented higher education financing model – to develop new components (criteria) for performance funding of higher education institutions, which take into account the quality of education and achievements of students.

iv. Reducing medium qualification labour shortage:

- professional education curriculum reform – modular approach to the formation of education programmes and development of interdisciplinary programmes;
- increasing the share of work-based (WB) learning forms in vocational education – more active involvement of employers in WB learning should be promoted;
- promotion of further studies of graduates of vocational education institutions in higher education – synergy between vocational secondary education programmes and 1st level professional higher education programmes in colleges, as well as between study programmes of colleges and relevant bachelor's study programmes in higher education institutions should be strengthened;
- extension of the supply of adult education in vocational education with a focus on adults with general secondary education and basic education;
- strengthening of capacity of sectoral expert councils, including revision of their composition.

v. Reducing the proportion of young people entering the labour market without a specific qualification and skills:

- reduction of the number of students, who do not continue studies after basic education and general secondary education;
- reduction of drop-out rates at all education stages.

vi. Reducing low-qualification labour proportion in labour market:

- reduction of the proportion of young people entering the labour market without a specific qualification and skills;
- targeted adult education measures for the population with general secondary education, basic and lower education, regardless of the status of their economic activity;
- extension of the availability of employment consultations to the population with general secondary education, basic and lower education, who are not registered at SEA.

At the same time, in order to ensure faster adaptation of labour supply to future labour market needs, the development and strengthening of the system of anticipating changes in the labour market should continue. Also, apart from measures for improvement of labour supply, it is vital to strengthen competitiveness of manufacturers and promote restructuring of the national economy from low to medium and high technology sectors.

Deputy Prime Minister,
Minister of Economics A.Ašeradens

Endorsement: State Secretary Ē.Eglītis

06.07.2018. 16:24
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Annex*

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* Detailed medium and long-term labour market forecasts

Development trends of sectors

%, growth compared to the previous year

	2012	2013	2014	2015	2016	2017
Gross domestic product	**4.0**	**2.4**	**1.9**	**3.0**	**2.2**	**4.5**
Agriculture, forestry, fishing	7.4	4.5	0.2	12.5	-0.6	1.9
Mining	5.8	6.9	-9.8	6.7	0.8	18.1
Manufacturing	4.3	-2.0	0.4	0.4	5.6	8.0
Food industry	2.5	6.0	0.1	-4.6	1.8	5.2
Light industry	3.0	1.4	-13.6	-13.2	2.1	7.6
Wood processing	5.4	2.7	6.9	7.1	8.0	2.1
Paper industry and publishing	10.1	5.6	-0.6	0.0	3.6	4.5
Chemical industry	8.3	-8.7	-2.6	-4.1	10.7	11.4
Manufacture of other non-metallic mineral products	8.6	4.6	1.2	-9.8	11.6	11.1
Metalworking	16.3	-17.6	-10.5	34.8	5.4	12.0
Manufacture of electrical and optical equipment	20.0	18.4	32.3	16.7	12.6	15.8
Manufacture of machinery and equipment	8.7	1.4	2.4	7.9	8.5	21.5
Manufacture of vehicles	15.8	3.0	-15.2	3.5	-2.9	22.8
Other industries	26.1	-7.6	-12.0	3.5	0.8	4.3
Electricity and gas supply	-8.8	-7.4	-14.3	22.6	7.2	8.2
Construction	8.7	3.7	5.4	-1.8	-17.9	19.4
Construction of buildings	12.7	3.1	33.6	-6.2	-2.2	11.8
Civil structures	15.4	10.5	-10.4	5.2	-33.3	30.5
Trade	1.2	2.9	5.3	7.3	3.3	5.2
Retail trade	7.3	3.8	3.5	4.9	2.3	4.3
Transportation and storage	5.5	0.2	1.3	-7.7	0.5	7.3
Transport of freight by railway	2.0	-7.9	2.2	-2.4	-14.1	-8.4
Freights transhipped in ports	9.3	-6.3	5.2	-6.2	-9.3	-2.0
Transport of freight by road	-2.4	15.2	2.7	0.5	1.3	7.0
Accommodation and food service activities	-2.2	9.2	3.6	6.0	8.4	4.3
Information and communication	6.3	5.4	-2.4	2.1	4.1	6.1
Financial and insurance activities	4.1	0.0	11.6	4.8	3.1	-16.6
Real estate activities	3.5	5.1	1.4	1.4	0.2	0.3
Professional, scientific and technical activities	4.5	-2.8	-5.7	9.1	2.6	..
Administrative and support service activities	5.8	5.0	-4.7	1.4	5.1	..
Public administration and defence; compulsory social security	-2.3	1.7	1.5	0.5	3.9	3.6
Education	1.0	2.0	4.1	0.7	0.7	5.5
Human health and social work activities	2.8	4.2	6.8	5.5	2.5	5.6
Arts, entertainment and recreation	7.5	5.3	1.1	-3.7	3.2	8.4
Other service activities; households	14.1	-6.9	-8.5	5.3	0.3	..

Table 2

GDP growth rates and forecasts

%, growth compared to the previous year

	Fact						Forecast		
	2012	2013	2014	2015	2016	2017	2018	2019-2025 annual average	2025-2035 annual average
GDP	**3.3**	**1.8**	**1.4**	**2.4**	**1.4**	**5.4**	**4.6**	**4.6**	**3.2**
Agriculture, forestry and fishing (A)	7.4	4.5	0.2	12.5	-0.6	1.9	2.1	2.5	0.7
Manufacturing (C)	4.3	-2.0	0.4	0.4	5.6	8.0	5.3	5.2	4.0
Other types of industry (BDE)	-6.9	-3.5	-10.2	16.6	5.0	7.4	5.5	4.2	3.1
Construction (F)	8.7	3.7	5.4	-1.8	-17.9	19.4	17.0	5.5	3.2
Trade, accommodation and food service activities (GI)	0.9	3.6	5.1	7.2	3.8	5.1	4.9	4.8	3.2
Transportation and storage (H)	5.5	0.2	1.3	-7.7	0.5	7.3	3.1	4.2	3.1
Other business services (JKLMNRST)	5.1	2.8	-0.5	2.9	2.3	1.7	2.3	4.7	3.6
Public services (OPQ)	-0.2	2.3	3.5	1.6	2.5	4.7	4.3	4.1	2.6

Table 3

Key indicators of employment and unemployment

%, age 15-74

	Fact						Forecast		
	2012	2013	2014	2015	2016	2017	2018	2025	2035
Employment rate (the employed to the total population)	56.1	58.2	59.1	60.8	61.6	62.9	63.9	67.4	68.8
Participation level (economically active population to the total population)	66.1	66.0	66.5	67.1	68.2	68.9	69.5	71.6	72.7
Unemployment rate (share of the unemployed (job seekers) in economically active population)	15.0	11.9	10.8	9.4	9.6	8.7	8.0	5.8	5.4

Table 4

Number of the employed in economic sectors and labour demand forecasts

thousands

	Fact						Forecast		
	2012	2013	2014	2015	2016	2017	2018	2025	2035
Total	**875.6**	**893.9**	**884.7**	**896.1**	**893.3**	**894.8**	**898.8**	**906.0**	**895.0**
Agriculture, forestry and fishing (A)	73.3	72.0	66.4	71.1	68.7	61.5	59.9	54.9	51.8
Manufacturing (C)	122.6	125.8	118.9	116.4	123.6	121.0	122.5	124.5	125.6
Other types of industry (BDE)	20.6	20.7	18.8	23.6	25.7	24.5	24.8	24.5	22.1
Construction (F)	62.4	67.4	73.3	71.9	66.2	63.1	66.8	68.9	68.3
Trade, accommodation and food service activities (GI)	155.7	160.1	161.6	159.3	154.8	161.1	161.8	166.3	144.1
Transportation and storage (H)	75.2	77.4	84.9	85.4	83.4	79.7	79.0	79.7	79.1
Other business services (JKLMNRST)	163.3	166.6	164.8	169.9	173.2	182.9	182.2	194.0	219.5
Public services (OPQ)	202.6	203.9	196.0	198.5	197.8	201.1	201.7	193.2	184.6

Distribution of the employed by sectors and age groups

2017, %

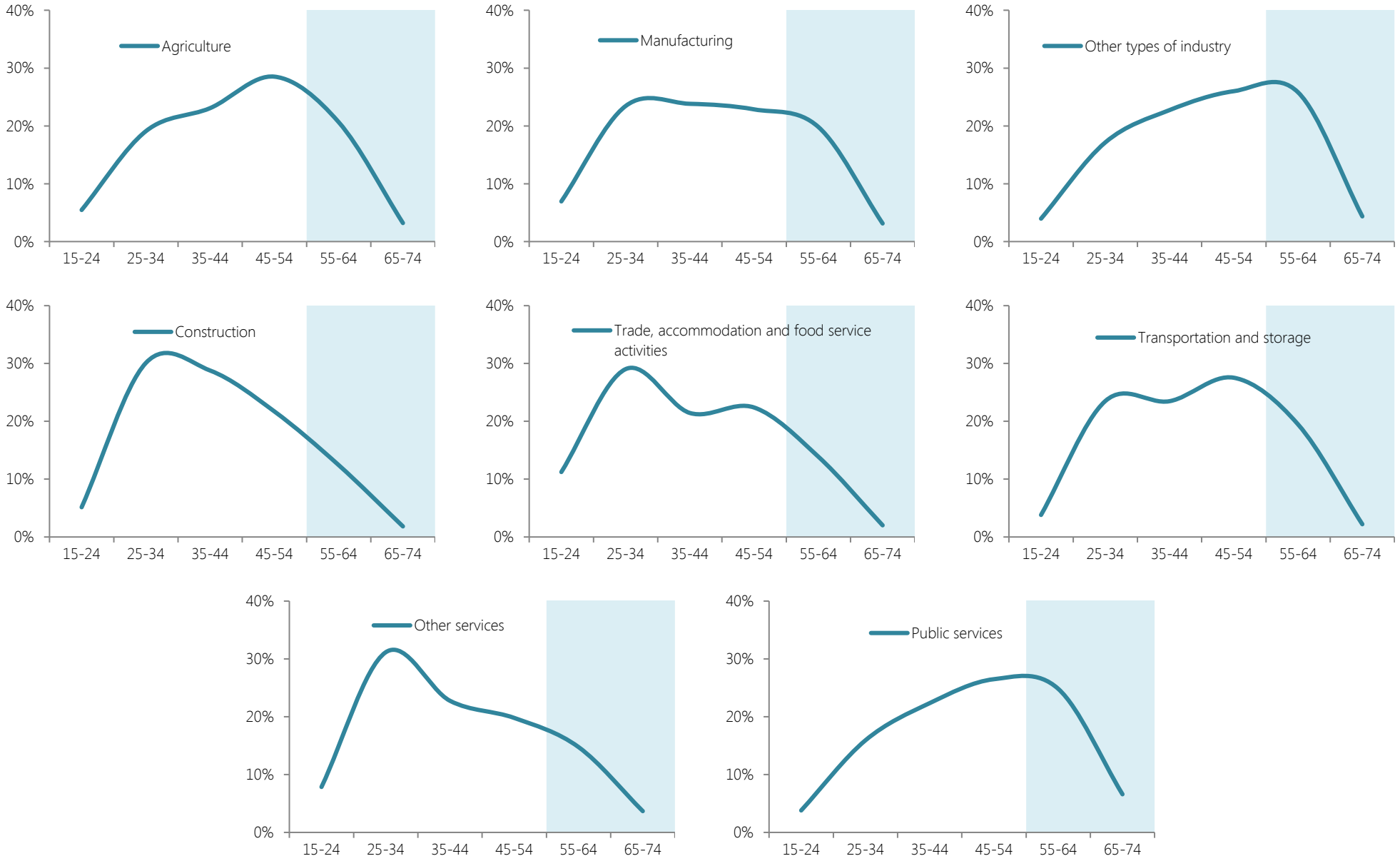


Table 5

Structure of the employed by occupational sub-major groups

2017

Degree of qualification of occupation	Major groups of occupations	OC code	Sub-major groups of occupations	Occupations	%
High qualification occupations	Managers	11	Chief Executives, Senior Officials and Legislators	Chief Executives, Senior Officials and Legislators	4.0
				Managing Directors and Chief Executives	96.0
		12	Administrative and Commercial Managers	Business Services and Administration Managers	90.3
				Sales, Marketing and Development Managers	9.7
		13	Production and Specialized Services Managers	Production Managers in Agriculture, Forestry and Fisheries	5.3
				Manufacturing, Mining, Construction and Distribution Managers	46.9
				Information and Communications Technology Services Managers	4.0
				Professional Services Managers	43.8
		14	Hospitality, Retail and Other Services Managers	Hotel and Restaurant Managers	41.7
				Retail and Wholesale Trade Managers	27.5
				Other Services Managers	30.8
	Professionals	21	Science and Engineering Professionals	Physical and Earth Science Professionals	10.3
				Mathematicians, Actuaries and Statisticians	1.5
				Life Science Professionals	5.2
				Engineering Professionals (excluding Electrotechnology)	44.5
				Electrotechnology Engineers	11.7
				Architects, Planners, Surveyors and Designers	26.8
		22	Health Professionals	Medical Doctors	33.4
				Nursing and Midwifery Professionals	29.9
				Traditional and Complementary Medicine Professionals	0.0
				Paramedical Practitioners	11.9
				Veterinarians	2.9
				Other Health Professionals	21.8
		23	Teaching Professionals	University and Higher Education Teachers	8.9
				Vocational Education Teachers	4.5
				Secondary Education Teachers	23.0
				Primary School and Early Childhood Teachers	46.1
				Other Teaching Professionals	17.6
		24	Business and Administration Professionals	Finance Professionals	20.1
				Administration Professionals	66.0
				Sales, Marketing and Public Relations Professionals	13.9

Table 5 cont.

High qualification occupations		25	Information and Communications Technology Professionals	Software and Applications Developers and Analysts	52.4
				Database and Network Professionals	47.6
		26	Legal, Social and Cultural Professionals	Legal Professionals	31.6
				Librarians, Archivists and Curators	11.6
				Social and Religious Professionals	25.4
				Authors, Journalists and Linguists	15.4
				Creative and Performing Artists	15.9
	Technicians and Associate Professionals	31	Science and Engineering Associate Professionals	Physical and Engineering Science Technicians	51.6
				Mining, Manufacturing and Construction Supervisors	7.5
				Process Control Technicians	11.9
				Life Science Technicians and Related Associate Professionals	11.1
				Ship and Aircraft Controllers and Technicians	17.9
		32	Health Associate Professionals	Medical and Pharmaceutical Technicians	19.1
				Nursing and Midwifery Associate Professionals	42.4
				Traditional and Complementary Medicine Associate Professionals	0.4
				Veterinary Technicians and Assistants	1.5
				Other Health Associate Professionals	36.6
		33	Business and Administration Associate Professionals	Financial and Mathematical Associate Professionals	26.2
				Sales and Purchasing Agents and Brokers	29.2
				Business Services Agents	10.3
				Administrative and Specialized Secretaries	19.4
				Government Regulatory Associate Professionals	15.0
		34	Legal, Social, Cultural and Related Associate Professionals	Legal, Social and Religious Associate Professionals	29.6
				Sports and Fitness Workers	26.0
				Artistic, Cultural and Culinary Associate Professionals	44.4
		35	Information and Communications Technicians	Information and Communications Technology Operations and User Support Technicians	62.7
				Telecommunications and Broadcasting Technicians	37.3
Medium qualification occupations	Clerical Support Workers	41	General and Keyboard Clerks	General Office Clerks	0.0
				Secretaries	26.3
				Keyboard Operators	73.7
		42	Customer Services Clerks	Tellers, Money Collectors and Related Clerks	32.9
				Client Information Workers	67.1
		43	Numerical and Material Recording Clerks	Numerical Clerks	36.2
				Material Recording and Transport Clerks	63.8
		44	Other Clerical Support Workers	Other Clerical Support Workers	100.0

Table 5 cont.

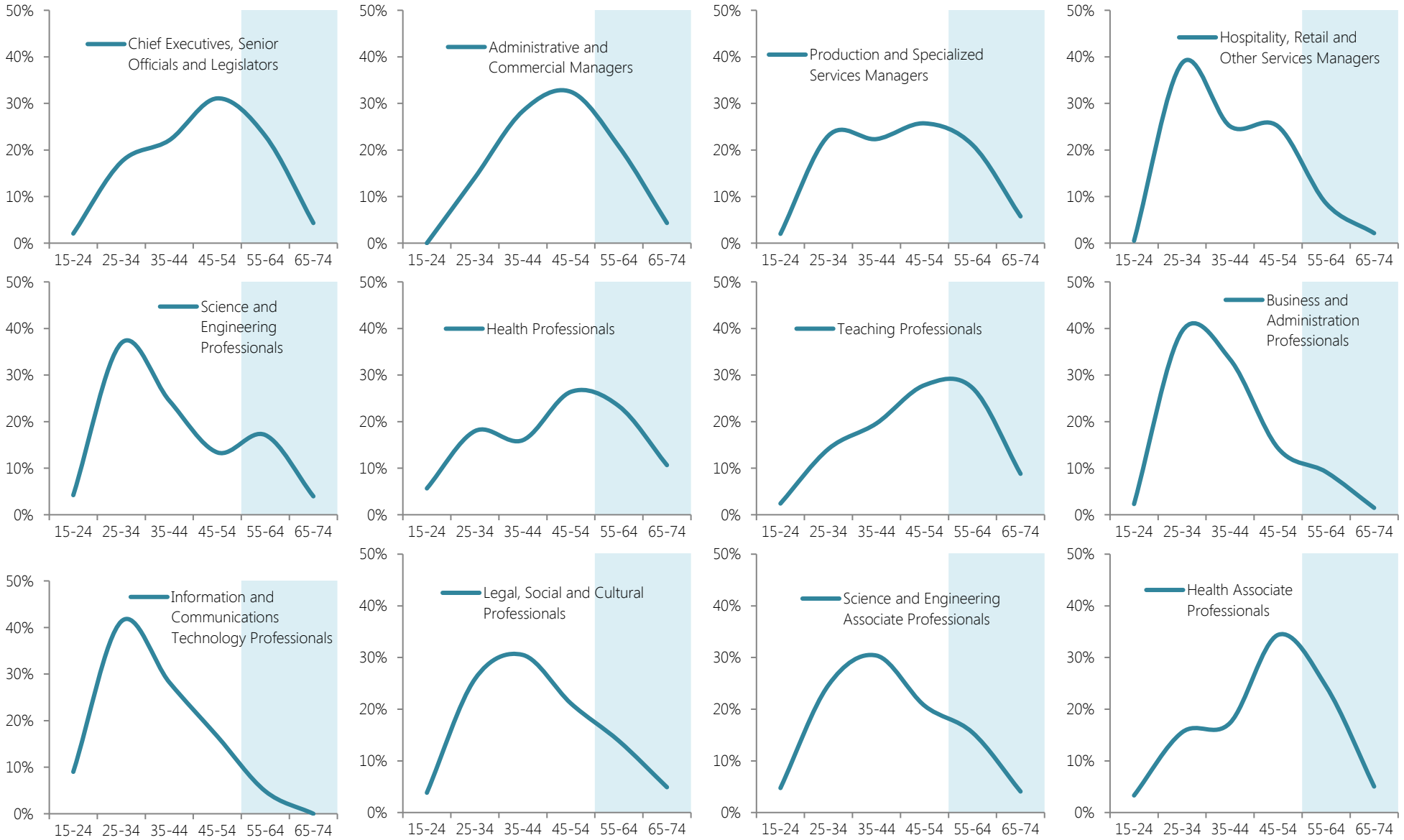
Medium qualification occupations	Services and Sales Workers	51	Personal Services Workers	Travel Attendants, Conductors and Guides	5.0
				Cooks	28.3
				Waiters and Bartenders	14.0
				Hairdressers, Beauticians and Related Workers	20.6
				Building and Housekeeping Supervisors	24.8
				Other Personal Services Workers	7.3
		52	Sales Workers	Street and Market Salespersons	5.3
				Shop Salespersons	82.2
				Cashiers and Ticket Clerks	4.9
				Other Sales Workers	7.6
		53	Personal Care Workers	Child Care Workers and Teachers' Aides	44.6
				Personal Care Workers	55.4
		54	Protective Services Workers	Protective Services Workers	100.0
		61	Market-oriented Skilled Agricultural Workers	Market Gardeners and Crop Growers	60.8
				Animal Producers	37.6
				Mixed Crop and Animal Producers	1.5
		62	Market-oriented Skilled Forestry, Fishery and Hunting Workers	Forestry and Related Workers	89.4
				Fishery Workers, Hunters and Trappers	10.6
		63	Subsistence Farmers, Fishers, Hunters and Gatherers	Subsistence Mixed Crop and Livestock Farmers	100.0
	Craft and Related Trades Workers	71	Building and Related Trades Workers (excluding Electricians)	Building Frame and Related Trades Workers	69.9
				Building Finishers and Related Trades Workers	24.2
				Painters, Building Structure Cleaners and Related Trades Workers	6.0
		72	Metal, Machinery and Related Trades Workers	Sheet and Structural Metal Workers, Moulders and Welders, and Related Workers	24.1
				Blacksmiths, Toolmakers and Related Trades Workers	26.5
				Machinery Mechanics and Repairers	49.3
		73	Handicraft and Printing Workers	Handicraft Workers	71.5
				Printing Trades Workers	28.5
		74	Electrical and Electronic Trades Workers	Electrical Equipment Installers and Repairers	94.5
				Electronics and Telecommunications Installers and Repairers	5.5
		75	Food Processing, Woodworking, Garment and Other Craft and Related Trades Workers	Food Processing and Related Trades Workers	28.8
				Wood Treaters, Cabinet-makers, and Related Trades Workers	34.0
				Garment and Related Trades Workers	29.8
				Other Craft and Related Workers	7.4

Table 5 cont.

Medium qualification occupations	Services and Sales Workers	81	Stationary Plant and Machine Operators	Mining and Mineral Processing Plant Operators	8.6
				Metal Processing and Finishing Plant Operators	1.3
				Chemical and Photographic Products Plant and Machine Operators	7.1
				Rubber, Plastic and Paper Products Machine Operators	3.7
				Textile, Fur and Leather Products Machine Operators	14.4
				Food and Related Products Machine Operators	13.3
				Wood Processing and Papermaking Plant Operators	20.3
				Other Stationary Plant and Machine Operators	31.4
		82	Assemblers	Assemblers	100.0
		83	Drivers and Mobile Plant Operators	Locomotive Engine Drivers and Related Workers	5.2
				Car, Van and Motorcycle Drivers	16.5
				Heavy Truck and Bus Drivers	42.7
				Mobile Plant Operators	30.2
				Ships' Deck Crews and Related Workers	5.4
Low qualification occupations	Elementary Occupations	91	Cleaners and Helpers	Domestic, Hotel and Office Cleaners and Helpers	84.2
				Vehicle, Window, Laundry and Other Hand Cleaning Workers	15.8
		92	Agricultural, Forestry and Fishery Labourers	Agricultural, Forestry and Fishery Labourers	100.0
		93	Labourers in Mining, Construction, Manufacturing and Transport	Mining and Construction Labourers	17.0
				Manufacturing Labourers	62.6
				Transport and Storage Labourers	20.4
		94	Food Preparation Assistants	Food Preparation Assistants	100.0
		95	Street and Related Sales and Services Workers	Street and Related Services Workers	100.0
				Street Vendors (excluding Food)	0.0
		96	Refuse Workers and Other Elementary Workers	Refuse Workers	57.0
				Other Elementary Workers	43.0

Distribution of the employed by occupations and age groups

2017, %



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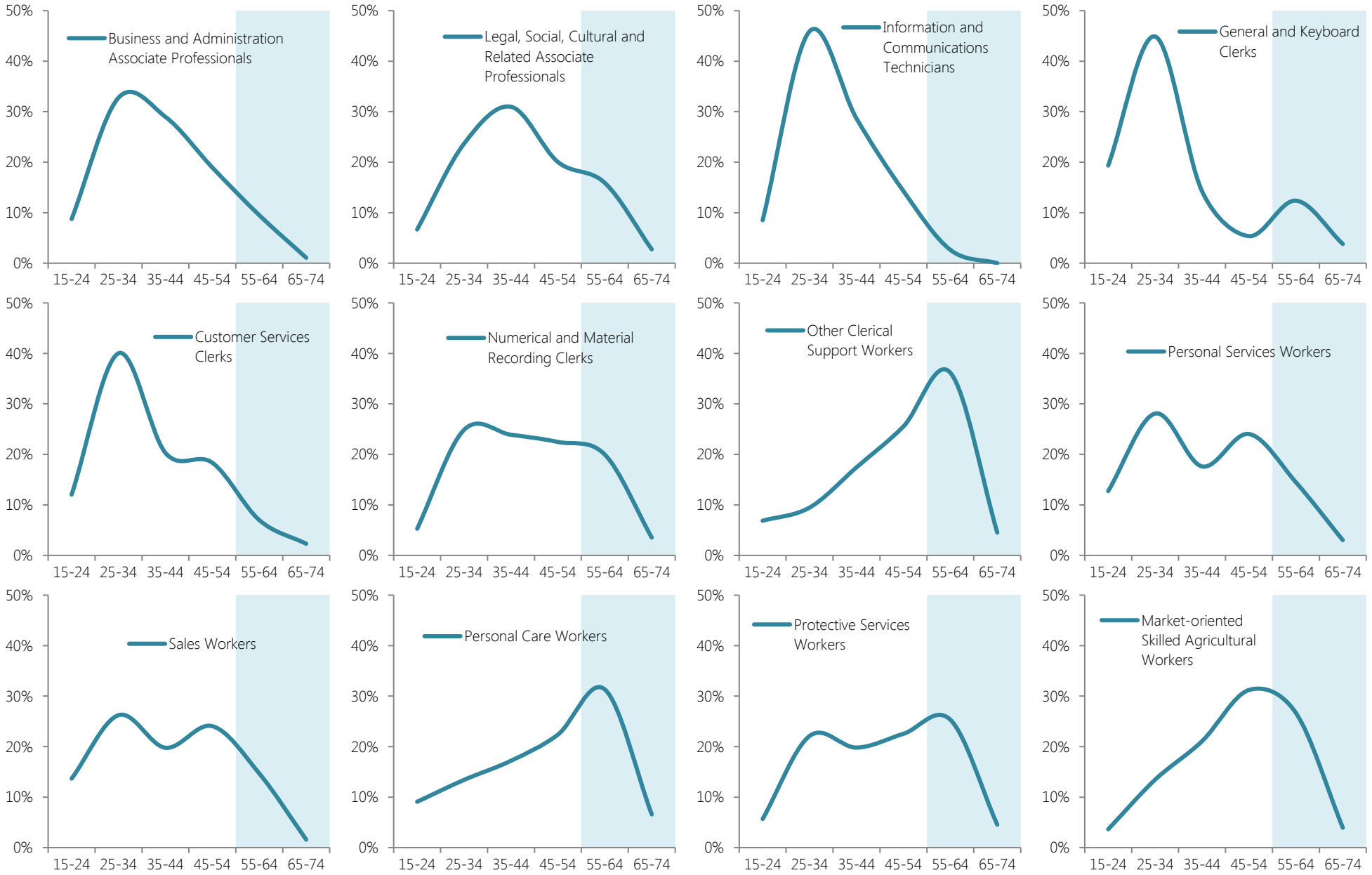

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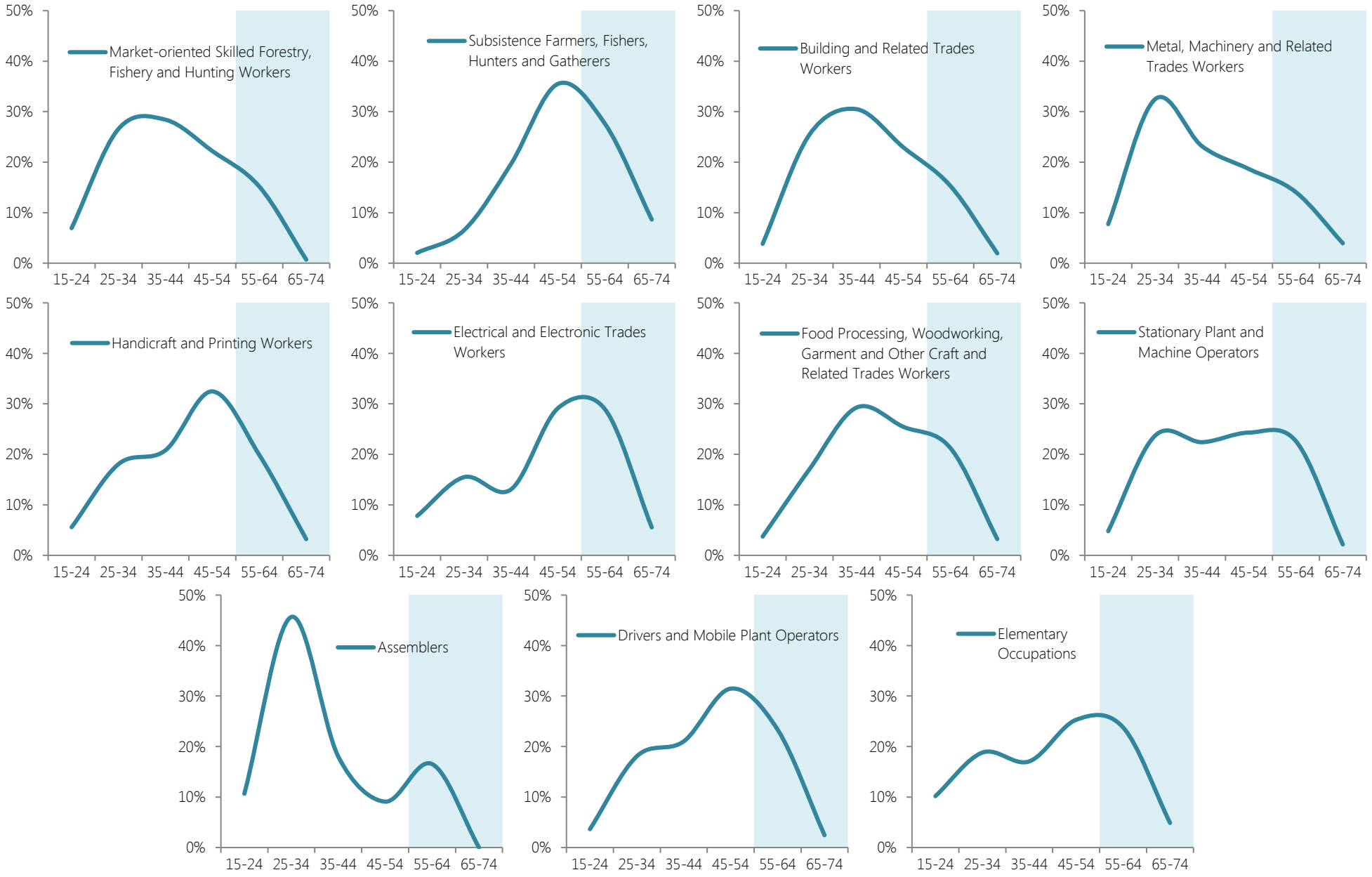

Table 6

Classification of occupations (ISCO-08) and description of sub-major groups

Code	Sub-major group of occupations	Explanation
		High qualification occupations
		I Managers
11	Chief Executives, Senior Officials and Legislators	This sub-major group includes legislators, senior officials and chief executives who define and formulate the public policy, make, ratify and amend laws and regulations, represent the country and act on behalf of it, supervise the implementation of the public policy and observation of laws and regulations, or perform similar tasks in the interests of organisations of national scale; chief executives of enterprises who define and formulate main principles of operation of their enterprise, plan, manage and coordinate the work of business units.
12	Administrative and Commercial Managers	Managers in this sub-major group manage any forms of property and enterprise having any type of economic operation, develop their technical, economic and social development prospects; finance, administration and business services managers of business units plan, direct and coordinate their actions being directly controlled by their immediate superior in the enterprise consulting with managers of other business units.
13	Production and Specialized Services Managers	Production and specialized services managers in this sub-major group manage any forms of property and enterprise having any type of economic operation, develop their technical, economic and social development prospects; managers of business units plan, direct and coordinate production processes, provision of services and other activities of their enterprises being directly controlled by their immediate superior in the enterprise consulting with managers of other business units.
14	Hospitality, Retail and Other Services Managers	Hospitality, retail and other services managers in this sub-major group manage any forms of property and enterprise having any type of economic operation, develop their technical, economic and social development prospects; managers of business units plan, direct and coordinate production processes, provision of services and other activities of their enterprises being directly controlled by their immediate superior in the enterprise consulting with managers of other business units.
		II Professionals
21	Science and Engineering Professionals	Professionals in this sub-major group perform education work, research, develop and improve theories, concepts and operational methods, and apply their knowledge in sectors of physics, astronomy, meteorology, chemistry, geophysics, geology, mathematics, statistics, computing, biology, zoology, botany, ecology, physiology, agronomy, biochemistry, microbiology, architecture, construction and technology.
22	Health Professionals	Professionals in this sub-major group conduct scientific research, improve and develop theories, concepts and operational methods, and apply scientific knowledge in medicine, patient care, dentistry, veterinary medicine, pharmacy, and promotion of health.
23	Teaching Professionals	Professionals in this sub-major group teach the theory and practice of one or more disciplines, conduct research, and improve and develop concepts, theories and operational methods pertaining to their particular discipline, prepare scholarly papers and books, give private lessons, teach and educate mentally handicapped people, design and modify curricula, inspect and advise on teaching methods and aids, participate in discussions concerning the organisation of teaching and related activities at schools and universities, teach subjects for children and organise educational activities for children below primary school age, teach subjects for students and organise educational activities for vocational purposes and professional improvement, organise extra-curricular activities and hobby groups, organise the work of a boarding school and dormitory at an education institution, as well as teach how to fly aircraft, navigate ships, drive motor vehicles, railway and other engines, machine tools, and perform evaluation of competence.
24	Business and Administration Professionals	Professionals in this sub-major group conduct research, improve and develop theories and operational methods, and apply knowledge relating to information dissemination and organisation and management of business, as well as to industrial property, philosophy, psychology, economics, history, sociology, anthropology, other social sciences, linguistics, application of laws, creative activity and organisation of plays. Draft laws, regulations and methodological documents, plan the development of a national economy sector or branch, necessary materials and financial resources, conduct analytical work, examine applications of the population, organise and manage guarding and control of the Latvian state border, enforce deprivation of liberty as a criminal punishment and arrest as a security measure.
25	Information and Communications Technology Professionals	Professionals in this sub-major group conduct research, plan the design of information and communications technology, write tests, provide advice and improve information technology systems, hardware and software and related concepts for specific applications, develop, maintain and support databases and other information systems to ensure optimal performance and data integrity and security.
26	Legal, Social and Cultural Professionals	Professionals in this sub-major group conduct research, improve and develop theories and operational methods, and apply knowledge relating to information dissemination and organisation, and management of business, as well as to philosophy, psychology, history, sociology, anthropology, other social sciences, linguistics, application of laws, creative activity and organisation of plays, conduct analytical work.

Table 6 cont.

		III Technicians and Associate Professionals
31	Science and Engineering Associate Professionals	Associate professionals in this sub-major group perform technical tasks connected with research, the application of concepts and operational methods in the fields of technical science, life science, as well as computing and engineering science, work with technical devices, control operation of aircraft and ship systems, study manufacturing and other processes, and safety and safety performance of manufactured products.
32	Health Associate Professionals	Associate professionals in this sub-major group perform technical functions in the fields of medicine, veterinary medicine, sanitation, pharmacy and related fields.
33	Business and Administration Associate Professionals	Associate professionals in this sub-major group perform technical tasks connected with the practical application of knowledge relating to finance, sales, business administration, bookkeeping, legal, statistical and other services, government activities relating to job placement, guarding and control of the Latvian state border, customs operations, taxation, social security, licensing, police.
34	Legal, Social, Cultural and Related Associate Professionals	Associate professionals in this sub-major group perform technical tasks in the field of legal, statistical and other types of services, government activities related to social area, recreation, sport and religion.
35	Information and Communications Technicians	Technicians in this sub-major group provide technical support for users of communications systems, computer systems and networks, perform technical tasks related to telecommunications, broadcast image and sound as well as other types of telecommunications signals on land, sea or in aircraft.
		Medium qualification occupations
		IV Clerical Support Workers
41	General and Keyboard Clerks	Clerks in this sub-major group perform tasks necessary for management of a body to solve manufacturing or supply problems efficiently and successfully; process financial, statistical, bookkeeping and other information and systematise it by use of computer technology or other office equipment.
42	Customer Services Clerks	Clerks in this sub-major group deal with clients directly, perform money-handling operations, arrange travels, inform clients, organise business meetings. This sub-major group also includes clerks operating telephone switchboards.
43	Numerical and Material Recording Clerks	Clerks in this sub-major group process financial, statistical, bookkeeping and other information and systematise it by use of computer technology or other office equipment.
44	Other Clerical Support Workers	Clerks in this sub-major group process information and systematise it by use of computer technology or other office equipment.
		V Services and Sales Workers
51	Personal Services Workers	Workers in this sub-major group provide personal services, arrange travels, provide housekeeping, catering services.
52	Sales Workers	Workers in this sub-major group sell different goods, art articles, knitting, newspapers, periodicals in wholesale or retail shops, at stalls and on markets and streets; demonstrate goods, explain their classification and quality, as well as display clothing, pose as models for photography, sculpture or painting, or pose for films in the field of advertising.
53	Personal Care Workers	Workers in this sub-major group provide care, supervision and assistance for children, patients, convalescent, disabled and elderly persons in residential, medical and social settings, assist medical, nursing and social work professionals, veterinary, pharmaceutical or other medical professionals in hospitals, other medical and social settings.
54	Protective Services Workers	Workers in this sub-major group extinguish fires, rescue people, property and material values during and after fires, maintain law and order, arrest suspected offenders, provide certified guarding services to legal and natural persons, provide continuous guarding, isolation and control of detained persons at places of detention.
		VI Skilled Agricultural, Forestry and Fishery Workers
61	Market-oriented Skilled Agricultural Workers	Skilled agricultural workers grow and harvest agricultural cultures suited for the Latvian conditions, produce a variety of animal husbandry products, breed animals, cultivate, conserve and exploit forests, keep bees. Products are delivered to marketing organizations or sold at markets.
62	Market-oriented Skilled Forestry, Fishery and Hunting Workers	Skilled forestry, hunting and fishery workers hunt animals, breed and raise, harvest and catch fish, cultivate, conserve and exploit forests and deliver products to marketing organizations or sell at markets.
63	Subsistence Farmers, Fishers, Hunters and Gatherers	Subsistence farmers, fishers, hunters and gatherers who produce for subsistence, grow crops, vegetables, fruit and other cultures, breed, raise and tend livestock, gather wild fruit and plants, hunt animals, and harvest and catch fish.

		VII Craft and Related Trades Workers
71	Building and Related Trades Workers (excluding Electricians)	Workers in this sub-major group construct, maintain and repair buildings and other structures, shape and finish stone for building and other purposes.
72	Metal, Machinery and Related Trades Workers	Workers in this sub-major group make moulds and cores for casting metal; weld, cut and shape metal; erect heavy metal structures; perform similar works under the surface of water; forge steel and other metals to make tools, machinery, articles; set and operate various machine tools, fit, maintain and repair engines, including electrical and electronic devices.
73	Handicraft and Printing Workers	Workers in this sub-major group make and repair precision instruments – nautical, meteorological, optical and other instruments, make jewellery and precious metalware; make, paint and decorate porcelainware, ceramics and glassware; produce handicraft articles from wood, flowers, textile, leather and related materials; perform printing works.
74	Electrical and Electronic Trades Workers	Workers in this sub-major group assemble, adjust, fit and repair electrical machinery and other electrical apparatus and devices in buildings, plants, workshops and in other places, audio and video equipment, install, service and repair information technology and telecommunication equipment in central sites or individual locations, install, lay and repair supply lines and cables.
75	Food Processing, Woodworking, Garment and Other Craft and Related Trades Workers	Workers in this sub-major group treat and process agricultural and manufacturing raw materials into food and other products, produce and repair goods made of wood, textiles, leather and other materials, perform control and inspection operations.
		VIII Plant and Machine Operators and Assemblers
81	Stationary Plant and Machine Operators	Operators in this sub-major group require experience and knowledge to operate and monitor industrial machinery and equipment. They frequently need to cope with machine-paced operations and adapt to technological innovations in machinery and equipment.
82	Assemblers	Assemblers in this sub-major group assemble prefabricated parts or components according to instructions and technological requirements.
83	Drivers and Mobile Plant Operators	Operators in this sub-major group drive and tend trains and motor vehicles, drive motor vehicles at plants, drive agricultural machinery and equipment; operate tractor equipment and other machinery used for quarrying and mining, construction of buildings, tunnels and roads; carry out deck duties on board ships and other water-borne craft.
		Low qualification occupations
		IX Elementary Occupations
91	Cleaners and Helpers	Workers in this sub-major group perform cleaning tasks in households, hotels, offices, hospitals and other establishments, as well as in aircraft, trains, coaches, trams, trolleybuses and similar vehicles.
92	Agricultural, Forestry and Fishery Labourers	Labourers in this sub-major group perform simple and routine tasks in agriculture, forestry, fishery, hunting using simple hand-held tools, manual labour and physical effort.
93	Labourers in Mining, Construction, Manufacturing and Transport	Labourers in this sub-major group perform simple and routine tasks in mining, quarrying, building, manufacturing and transport operations using simple hand-held tools, manual labour and physical effort.
94	Food Preparation Assistants	Assistants in this sub-major group assist in food preparation tasks and kitchen tasks.
95	Street and Related Sales and Services Workers	Workers in this sub-major group clean shoes on streets and in other public places, wash car windows or run errands, sell different non-food items on streets or in other public places such as stadiums, cinemas, theatres.
96	Refuse Workers and Other Elementary Workers	Workers in this sub-major group collect garbage from buildings, streets and other public places, sweep streets, pavements, squares, deliver correspondence or goods, carry luggage, stand guard at public places, perform cloakroom attendant duties, collect money from sold goods, parkings and other vending machines, read meters of utility services and perform other tasks not elsewhere classified.

Labour demand and supply forecasts by occupational groups

If the current structure of labour force preparation is retained

Degree of qualification	Major groups of occupations	OC code	Sub-major groups of occupations	Employed population – demand, thousands				Economically active population – supply, thousands				Supply vs. demand, %	
				Fact	Forecast			Fact	Forecast				
				2017	2018	2025	2035	2017	2018	2025	2035	2025	2035
			Total	894.4	898.8	906.0	895.0	980.3	977.2	962.1	946.6	94	95
High qualification occupations	Managers	11	Chief Executives, Senior Officials and Legislators	33.9	33.9	31.9	27.7	35.8	35.7	34.2	31.9	95	88
		12	Administrative and Commercial Managers	25.0	24.8	23.3	21.6	26.1	26.2	25.5	24.3	93	90
		13	Production and Specialized Services Managers	22.7	23.4	26.9	31.0	23.7	23.9	27.1	32.0	101	98
		14	Hospitality, Retail and Other Services Managers	9.8	10.2	12.8	15.7	10.4	10.6	13.0	16.6	100	96
	Professionals	21	Science and Engineering Professionals	22.7	23.4	26.7	31.8	24.0	24.4	26.4	30.8	103	104
		22	Health Professionals	17.0	17.6	22.0	27.6	17.3	17.4	19.9	26.1	113	107
		23	Teaching Professionals	42.9	42.7	39.9	33.9	44.4	43.8	41.8	39.9	97	86
		24	Business and Administration Professionals	42.0	42.1	42.3	44.5	44.4	45.2	48.4	52.2	89	86
		25	Information and Communications Technology Professionals	12.4	12.9	16.1	21.0	13.0	13.2	15.3	19.0	107	112
		26	Legal, Social and Cultural Professionals	23.0	23.2	24.6	27.3	24.2	24.8	26.9	30.0	93	92
	Technicians and Associate Professionals	31	Science and Engineering Associate Professionals	25.3	26.4	33.4	43.4	26.5	27.0	30.7	38.3	111	115
		32	Health Associate Professionals	10.4	10.9	13.8	17.9	10.8	11.3	14.7	20.0	96	91
		33	Business and Administration Associate Professionals	74.0	73.3	69.8	65.0	78.7	79.4	79.2	76.6	90	86
		34	Legal, Social, Cultural and Related Associate Professionals	11.2	11.3	12.0	12.8	12.4	12.8	13.8	14.4	88	90
		35	Information and Communications Technicians	6.5	7.0	10.4	15.1	6.6	7.0	10.1	14.8	104	103
Medium qualification occupations	Clerical Support Workers	41	General and Keyboard Clerks	6.5	6.5	6.2	5.4	7.2	7.2	8.1	9.2	78	60
		42	Customer Services Clerks	16.9	16.3	14.7	12.2	18.0	18.2	20.2	20.5	74	60
		43	Numerical and Material Recording Clerks	20.6	20.5	19.3	16.6	22.2	21.9	19.5	16.8	101	100
		44	Other Clerical Support Workers	3.6	3.6	3.8	3.8	4.0	4.0	3.8	4.2	100	92

Table 7 cont.

Degree of qualification	Major groups of occupations	OC code	Sub-major groups of occupations	Employed population – demand, thousands				Economically active population – supply, thousands				Supply vs. demand, %	
				Fact	Forecast			Fact	Forecast				
				2017	2018	2025	2035	2017	2018	2025	2035	2025	2035
Medium qualification occupations	Services and Sales Workers	51	Personal Services Workers	41.3	41.3	41.9	42.2	45.7	45.5	44.6	44.6	96	96
		52	Sales Workers	56.8	56.5	53.2	38.9	64.3	64.8	68.7	66.6	79	59
		53	Personal Care Workers	20.5	20.7	21.7	21.5	21.9	21.5	22.2	25.8	99	85
		54	Protective Services Workers	17.0	17.0	16.3	16.7	19.0	18.8	19.6	22.3	85	76
	Skilled Agricultural, Forestry and Fishery Workers	61	Market-oriented Skilled Agricultural Workers	17.6	17.2	16.0	15.3	19.3	18.8	15.6	11.8	104	131
		62	Market-oriented Skilled Forestry, Fishery and Hunting Workers	6.0	5.9	5.5	5.2	6.9	6.8	6.0	4.6	93	116
		63	Subsistence Farmers, Fishers, Hunters and Gatherers	7.9	7.5	5.6	3.5	8.1	7.7	5.7	3.3	100	108
	Craft and Related Trades Workers	71	Building and Related Trades Workers (excluding Electricians)	29.4	31.0	33.3	35.0	34.0	33.6	31.0	27.2	109	130
		72	Metal, Machinery and Related Trades Workers	32.4	33.2	36.4	38.0	35.9	35.4	34.6	33.6	107	114
		73	Handicraft and Printing Workers	3.9	3.9	4.4	4.9	4.7	4.5	3.9	3.5	114	144
		74	Electrical and Electronic Trades Workers	11.5	11.8	13.1	14.5	12.3	12.0	12.1	13.3	110	110
		75	Food Processing, Woodworking, Garment and Other Craft and Related Trades Workers	29.3	29.8	31.9	34.0	32.1	31.5	27.5	22.1	118	156
	Plant and Machine Operators and Assemblers	81	Stationary Plant and Machine Operators	17.7	18.1	19.5	21.2	19.5	19.2	17.2	15.0	116	144
		82	Assemblers	3.2	3.3	3.8	4.5	3.9	3.9	3.7	4.4	105	105
		83	Drivers and Mobile Plant Operators	60.8	60.3	57.3	52.4	66.7	65.7	55.5	45.8	105	116
Low qualification occupations	Elementary Occupations	91	Cleaners and Helpers	23.9	23.5	20.5	15.5	27.6	26.6	20.8	15.7	100	101
		92	Agricultural, Forestry and Fishery Labourers	11.5	11.3	10.3	9.7	13.7	13.5	12.1	9.7	87	102
		93	Labourers in Mining, Construction, Manufacturing and Transport	54.0	53.5	46.2	33.8	66.9	66.5	61.0	44.5	77	77
		94	Food Preparation Assistants	4.9	4.9	4.7	4.0	5.7	5.7	5.5	4.5	87	91
		95	Street and Related Sales and Services Workers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	–	–
		96	Refuse Workers and Other Elementary Workers	19.0	18.0	14.6	9.8	22.3	21.2	15.9	11.1	93	89

Labour demand and supply distributed by education fields

thousands

	Fact	Forecast		
	2017	2018	2025	2035
Total demand, including:	**894.8**	**898.8**	**906.0**	**895.0**
Higher Education	332.9	337.8	365.2	399.1
Vocational secondary education	262.8	265.1	267.3	266.0
General secondary education	229.2	226.5	207.4	168.5
Basic education	69.8	69.4	66.2	61.5
Total supply, including:	**980.3**	**977.2**	**962.1**	**946.6**
Higher Education	346.4	348.8	360.8	402.0
Vocational secondary education	288.3	280.1	236.4	200.0
General secondary education	547.9	537.2	479.1	440.0
Basic education	85.9	91.2	122.2	104.6

HIGHER EDUCATION

Labour demand and supply forecasts distributed by education areas

thousands

Code	Academic discipline	Employed population – demand				Economically active population – supply				Difference between the labour supply and demand	
		Fact	Forecast			Fact	Forecast				
		2017	2018	2025	2035	2017	2018	2025	2035	2025	2035
	Higher education, total	**332.9**	**337.8**	**365.2**	**399.1**	**346.4**	**348.8**	**360.8**	**402.0**	**-4.3**	**2.9**
14	Teacher training and education science	41.6	41.3	38.1	32.3	42.9	42.3	38.7	35.2	0.6	2.9
21	Arts	10.1	10.1	10.2	10.0	10.8	11.0	12.3	14.5	2.1	4.5
22	Humanities	14.1	14.1	14.2	13.6	15.0	14.9	14.9	15.3	0.7	1.7
31	Social and behavioural science	57.4	56.7	52.9	46.7	59.9	59.4	56.8	53.2	3.9	6.5
32	Journalism and information	2.5	2.4	2.2	1.7	2.5	2.6	2.8	3.5	0.7	1.8
34	Business and administration	59.4	61.0	71.0	83.0	63.0	64.5	74.4	92.5	3.4	9.5
38	Law	22.1	23.0	26.8	32.6	22.5	23.1	26.7	33.4	-0.1	0.9
42	Life sciences	5.4	5.5	5.8	6.6	5.5	5.4	4.9	4.9	-0.9	-1.7
44	Physical sciences	6.1	6.3	7.0	8.3	6.3	6.3	5.9	5.9	-1.1	-2.4
46	Mathematics and statistics	2.1	2.2	2.6	3.4	2.1	2.2	2.3	2.4	-0.3	-1.0
48	Computing	10.6	11.4	17.0	25.0	11.0	11.4	13.9	19.3	-3.0	-5.7
52	Engineering and engineering trades	25.2	26.4	34.1	45.1	27.0	26.8	25.9	29.5	-8.2	-15.6
54	Manufacturing and processing	4.6	4.7	5.1	5.6	4.7	4.6	4.0	4.0	-1.1	-1.7
58	Architecture and building	15.8	16.1	17.0	18.7	16.1	15.9	14.3	14.7	-2.7	-3.9
62	Agriculture, forestry and fishery	6.3	6.2	5.4	4.3	6.5	6.5	5.8	4.8	0.4	0.5
64	Veterinary	1.3	1.3	1.4	1.6	1.3	1.3	1.2	1.3	-0.2	-0.2
72	Health	17.8	18.7	26.0	35.4	18.1	18.8	23.3	32.9	-2.7	-2.5
76	Social services	4.0	3.9	3.5	3.2	4.1	4.1	4.1	3.6	0.6	0.5
81	Personal services	8.4	8.5	8.1	7.2	8.7	8.8	8.9	9.3	0.8	2.1
84	Transport services	5.5	5.4	5.2	4.3	5.6	5.6	5.2	5.1	0.0	0.7
85	Environmental protection	0.7	0.7	0.8	0.7	0.7	0.8	1.3	1.9	0.5	1.2
86	Security services	5.3	5.5	5.7	6.4	5.5	5.8	6.8	8.9	1.1	2.5
	Academic disciplines n.e.c.	6.6	6.5	5.3	3.6	6.8	6.7	6.3	6.0	1.0	2.4

SECONDARY EDUCATION

Labour demand and supply forecasts distributed by education areas

thousands

Code	Academic discipline	Employed population – demand				Economically active population – supply				Difference between the labour supply and demand	
		Fact	Forecast			Fact	Forecast				
		2017	2018	2025	2035	2017	2018	2025	2035	2025	2035
	Secondary education, total	**492.1**	**491.6**	**474.7**	**434.4**	**547.9**	**537.2**	**479.1**	**440.0**	**4.4**	**5.6**
	Vocational education and vocational secondary education, including:	262.8	265.1	267.3	266.0	288.3	280.1	236.4	200.0	-30.9	-66.0
14	Teacher training and education science	3.1	3.0	2.5	1.5	3.3	3.2	2.1	1.1	-0.3	-0.4
21	Arts	7.7	7.6	6.9	5.6	8.4	8.2	8.0	8.3	1.1	2.7
22	Humanities	0.1	0.1	0.1	0.0	0.2	0.2	0.2	0.1	0.1	0.1
31	Social and behavioural science	3.0	3.0	2.5	1.7	3.1	3.0	2.1	1.1	-0.4	-0.6
32	Journalism and information	0.3	0.3	0.3	0.2	0.4	0.3	0.2	0.1	-0.1	-0.1
34	Business and administration	20.7	20.4	18.2	13.4	22.5	21.7	17.7	15.7	-0.6	2.3
38	Law	0.2	0.2	0.2	0.1	0.2	0.2	0.3	0.2	0.1	0.1
42	Life sciences	1.0	0.9	0.8	0.5	1.0	0.9	0.9	0.5	0.1	0.0
44	Physical sciences	2.7	2.7	2.1	1.3	2.9	2.8	2.2	1.2	0.1	-0.1
46	Mathematics and statistics	0.4	0.4	0.3	0.2	0.4	0.4	0.4	0.2	0.1	0.0
48	Computing	3.8	4.0	5.3	6.8	3.9	3.9	4.3	5.8	-1.0	-1.0
52	Engineering and engineering trades	83.7	84.3	85.2	84.8	92.8	89.9	72.7	57.0	-12.5	-27.9
54	Manufacturing and processing	37.3	37.7	38.5	39.8	40.1	39.0	32.2	23.3	-6.3	-16.5
58	Architecture and building	22.9	24.4	26.4	29.6	25.9	25.1	21.5	20.3	-4.9	-9.3
62	Agriculture, forestry and fishery	12.2	12.1	12.0	13.6	13.3	12.9	10.8	8.8	-1.2	-4.9
64	Veterinary	1.1	1.1	0.9	0.7	1.2	1.2	0.9	1.0	0.0	0.3
72	Health	12.4	12.2	10.8	8.7	12.8	12.4	9.6	6.3	-1.1	-2.5
76	Social services	0.1	0.1	0.1	0.1	0.1	0.2	0.4	0.9	0.3	0.8
81	Personal services	32.9	32.8	32.8	31.2	36.1	35.7	34.5	36.7	1.7	5.5
84	Transport services	14.9	15.4	19.0	22.6	17.1	16.6	12.9	7.7	-6.1	-14.9
85	Environmental protection	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
86	Security services	2.2	2.3	2.5	3.2	2.4	2.4	2.8	3.7	0.3	0.5
	Not known or unspecified	229.2	226.5	207.4	168.5	259.7	257.1	242.7	240.0	35.3	71.6

Table 11

Aggregation of economic sectors

Aggregated economic sectors	Matching sectors of national economy at NACE 2 letter level
Agriculture	A Agriculture, forestry and fishing
Manufacturing	C Manufacturing
Other types of industry	B Mining and quarrying
	D Electricity, gas, steam and air conditioning supply
	E Water supply, sewerage, waste management and remediation activities
Construction	F Construction
Trade, accommodation and catering services	G Wholesale and retail trade; repair of motor vehicles and motorcycles
	I Accommodation and food service activities
Transportation and storage	H Transportation and storage
Other business services	J Information and communication
	K Financial and insurance activities
	L Real estate activities
	M Professional, scientific and technical activities
	N Administrative and support service activities
	R Arts, entertainment and recreation
	S Other service activities
Public services	O Public administration and defence; compulsory social security
	P Education
	Q Human health and social work activities

Table 12

Discussion of labour market matters in involved councils

Council	Organisations involved in the council	Objective
		National level councils
National Tripartite Cooperation Council (NTCC)	Representatives nominated by the Cabinet of Ministers, Employers' Confederation of Latvia, and Free Trade Union Confederation of Latvia	Ensures and facilitates the cooperation among the government, employer and employee organisations at a national level with the aim to ensure coordinated solving of socio-economic development problems in line with public and national interests, by drafting and implementing strategies, programmes and regulatory acts, in relation to social and economic matters. Examines draft policy planning documents and regulatory acts, provides proposals for their improvement to the respective ministries, including in relation to employment.
Tripartite Sub-council for Co-operation in Vocational Education and Employment (PINTSA)	15 authorised persons – representatives proposed by the Cabinet of Ministers, Employers' Confederation of Latvia, and Free Trade Union Confederation of Latvia	Part of the NTCC institutional system. Its goal is to facilitate the cooperation among the government, employer and employee organisations in the field of national policy of vocational education and employment, development and implementation of strategies, including to review the national development plans, concepts, draft regulatory acts in the field of vocational education and human resource development and employment, to provide proposals for their improvement and to evaluate proposals and provide suggestions to state institutions and public organisations, related to vocational education and employment.
Demographic Affairs Council	Representatives of the Cabinet of Ministers, Saeima, NGOs, social partners, scientists	An advisory and coordinating state institution, which was established in order to facilitate a single national demographic policy and its implementation on all levels of state administration. The Council evaluates and coordinates the implementation of the national demographic policy, and informs mass media on demographic policy matters.
Higher Education Council (HEC)	12 Council members: representatives of the Employers' Confederation of Latvia, MoES, Latvian Academy of Sciences, Rectors' Council, Student Union of Latvia, etc.	An independent institution of the Republic of Latvia, which drafts the national higher education strategy, realizes cooperation between higher education institutions, state institutions and the society, with regard to higher education development, supervises the quality of higher education and ensures adoption of qualitative decisions, in the field of higher education.
		Advisory Councils
National Economy Council (NEC)	MoE, Latvian Chamber of Commerce and Industry, Employers' Confederation of Latvia, Free Trade Union Confederation of Latvia, Latvian Association of Local and Regional Governments, representatives of sector associations, experts	An advisory institution, which was established by the Ministry of Economics, Latvian Chamber of Commerce and Industry, Employers' Confederation of Latvia, Free Trade Union Confederation of Latvia, Latvian Association of Local and Regional Governments. The goal of the NEC is to facilitate drafting and implementing of a business-friendly environment policy in Latvia, as well as to promote the implementation of principles of sustainable development in the national economy.
Employment Board	MoE, MoES, MoW ministers	The goal is to coordinate inter-sectoral cooperation required for planning, development, implementation, and monitoring of labour market reform or re-arrangement, thereby reducing the disproportion in the Latvian labour market.

Table 12 cont.

Council	Organisations involved in the council	Objective
12 sectoral expert councils (SEC)	Sectoral employers' organisations or their associations, sectoral trade union organisations, Latvian Chamber of Crafts, MoES, MoE, MoW, Ministry of Culture, Ministry of Transport, Ministry of Agriculture, Ministry of Environmental Protection and Regional Development, SEA and other institutions participate in SECs voluntarily. The work of SECs is managed by a SEC secretariat, which is comprised of advisers from the Free Trade Union Confederation of Latvia, Employers' Confederation of Latvia and National Centre for Education.	Its goal is to forecast the development of the sector, studying and ensuring the demand and supply in education and labour market.
Adult Education Management Council (AEMC)	Representatives of MoES, MoW, MoE, Ministry of Defence, Ministry of Culture, Ministry of Health, Ministry of Agriculture, Ministry of Justice, Cross-Sectoral Coordination Centre, Employers' Confederation of Latvia, Latvian Chamber of Commerce and Industry, Latvian Association of Local and Regional Governments, Latvian Association of Large Cities, LPIA, LABS, planning regions	An inter-sectoral consultative institution to ensure coordination of measures of the Adult Education Management Model Implementation Plan for 2016-2020 and supervision of the implementation of the plan. The tasks envisage to determine and approve objectives and tasks of adult education, to set priority target groups for adult education, to approve the curriculum to be implemented, to decide on funding allocation principles, to assess the results of the implementation of adult education on a regular basis, etc.
MoW Commission for establishing fields of training for unemployed, job seekers and persons subject to risk of unemployment	MoW, MoE, MoES, SEA, Employers' Confederation of Latvia, Free Trade Union Confederation of Latvia, Latvian Association of Local and Regional Government, other experts	A commission set up by the MoW for determining training sectors, occupations, as well as basic social and professional skills, where training for the unemployed and job seekers should be provided.
Advisory Council "Education to Everyone"	The Council is chaired by the MoES Minister. Representatives of ministries and other state administration institutions, local and regional governments and private sector, public and international organisations	Its goals are to facilitate the development of lifelong learning and access to education for all the population, to promote integration of vulnerable and socially excluded persons, by offering various learning opportunities, to widen the interaction of formal and non-formal education, by providing lifelong learning opportunities and facilitating people's inclusion in the society and their competitiveness in the labour market, to facilitate the development of basic skills of people and their ability to use them according to their personal and public needs.
Cooperation Council for the Career Guidance System	MoES, National Centre for Education, State Service of Education Quality, MoW, SEA, Social Integration State Agency, MoE, Latvian Career Development Support Association, Employers' Confederation of Latvia, Free Trade Union Confederation of Latvia, Latvian Association of Local and Regional Governments, Latvian Adult Education Association and State Education Development Agency	An inter-sectoral institution for information exchange and consultations, with the aim to develop and facilitate career guidance measures and to enhance their quality and promote choice of a further education or professional career direction that would suite the abilities, interests and age of everyone.

Table 12 cont.

Council	Organisations involved in the council	Objective
Rectors' Council	Rectors of universities, other state higher education institutions and private higher education institutions, MoES	A collegiate advisory institution, which coordinates the cooperation among higher education institutions and organises necessary joint activities. Within its competency, the Rectors' Council cooperates with state institutions, legal and natural persons, as well as foreign institutions, and participates in meetings of institutions and in the work of international organisations.

Sectoral associations – include enterprises representing a single sector, are aware of the situation in the specific sector.
Planning regions – five planning regions have been created in Latvia. Their aim is to ensure the planning of regional development and the coordination and cooperation among local governments and other state administration institutions in Latvia.

Deputy Prime Minister,
Minister of Economics A.Ašeradens

Endorsement: State Secretary Ē.Eglītis

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