

Baltic Sea Academy e.V.

Analysis of Economic Development, Demography, Education and Labour Markets in the Baltic Sea Region Countries

Knowledge Alliance for Human Resources and Organizational
Development

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Executive Summary

The following report aims at giving a comprehensive overview of the demographics, economy as well as labour and educational markets of the Baltic Sea region as a whole and of the individual countries. While a clear divide between the countries North and South of the Baltic Sea can be seen with regards to economic indicators, this does not uphold with regard to softer factors, i.e. work life conditions.

All countries are suffering from an ageing and declining society. Therefore, special attention needs to be paid to attracting and retaining skilled workers, especially in bottleneck occupations in manufacturing, construction as well as health and social care. This can be done by attracting migrants and refugees as well as making the workplace more attractive through Workplace Innovations.

With regards to the educational system, the different cultures and achievements provide an excellent basis for learning from and with one another. The focus here should lie on general and vocational education.

The report is structured as follows:

First, the region is introduced by mapping out its demography. Second, macro-economic conditions are elaborated on. Third, the labour market is analysed, detailing employment and unemployment rates according to various indicators. This is followed by a section on human resources and organisational development, suggesting aspects to consider when supporting businesses in implementing Workplace Innovations. Lastly, the individual educational markets are described, followed by an outlook for future developments.

Introduction

The word *region* is defined as “an area, especially part of a country or the world having definable characteristics but not always fixed boundaries”¹. The Baltic Sea region (BSR) is particularly unique. While the Baltic Sea is the pivotal point defining much of the region’s characteristics and challenges, the countries are also extremely different. Geographically, they are divided between Northern, Western and Central/Eastern Europe, historically, they have been shaped by the East-West divide after the second world war. Nevertheless, given their proximity to the Baltic Sea, they have much in common.

The EU has acknowledged this by issuing the very first macro-regional strategy, the EU Baltic Sea Region Strategy in 2009. As most countries boarding the Baltic Sea were by then EU member states, it can well be considered the EU’s inland sea. The challenges, such as saving the sea, i.e. ensuring clear water, rich and healthy wildlife as well as clean and safe shipping, and the opportunities for a prosperous region through cooperation measures to increase innovation, deepen the single market by improving transportation systems, connecting energy markets and fighting trans-border crime together, make the region very distinct from other parts of the world. Therefore, “BSR integration is best understood as the way that European integration has been translated into this region, further deepening and leveraging access to the rest of Europe and the markets that the EU provides”²

Over the past 25 years, this region has become a densely integrated, e.g. in the areas of trade, investment, labour mobility, transport and energy infrastructure as well as research collaboration. Furthermore, it demonstrates a broad landscape of robust cross-border organisations and collaborative efforts. Nevertheless, “companies do not look at the Baltic Sea Region as one integrated market in terms of their strategies. For most of them, the region remains a group of individually small markets within the EU, each with its different dynamics, rivals, and often even regulatory rules”³.

Keeping this in mind, the lack of comprehensive regional data collection is surprising. Therefore, as part of the Erasmus+ funded project “Knowledge Alliance: Human Resources and Organizational Development” (2018 – 2021), an analysis of the region’s demography, economy, and labour as well as education market has been conducted. The majority of the data is taken from the Eurostat database of the European Union. When needed additional sources, such as the OECD database have been consulted as well.

About the project

For SMEs in the Baltic Sea Region to remain competitive in the long term, it is necessary to increase their innovation capacity and reduce the gap between qualification requirements and demands. For this reason, the Knowledge Alliance “Human Resources and Organizational Development”, consisting of eleven partners from four countries, relies on increased cooperation between universities and companies in order to realize education and innovation promotion. To reach as many SMEs as possible, chambers strengthen the partnership between universities and companies.

Human capital is the most important resource for strengthening innovation and productivity. Hence, the project focuses on the comprehensive promotion of Workplace Innovations. While there is great need for further development in this area in the countries south of the Baltic Sea, Workplace Innovations are already more advanced in the Scandinavian countries. Therefore, the project involves countries from both regions.

The alliance, which will be extended to 68 partners from 13 countries and permanently continued, focuses on cooperation in two areas. First, the development, testing, and implementation of SME-specific

¹ Oxford Dictionary

² Skilling, David (2018). *The Baltic Sea Economies: Progress and Priorities*. Copenhagen: Baltic Development Forum, p.10.

³ Ibid., p.11

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methods, instruments, and projects through R&D work at universities, that create workplace innovations in areas such as employee recruitment, motivation and digitization, a more innovative working environment and more efficient use of human capital. Second, the strengthening of awareness and competences in this new area of innovation promotion for small and medium-sized enterprises in the Baltic Sea Region through qualifications. The project will develop and implement:

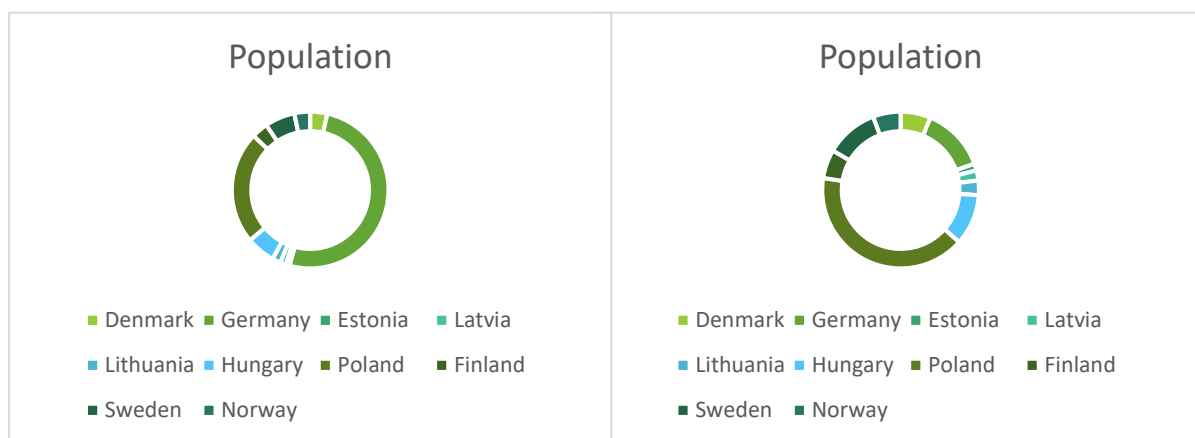
- a) three comprehensive continuing education programs: "Digitization & Cooperation", "Employees & Co-entrepreneurs" and "Innovation Processes".
- b) a dual bachelor's degree course: "Corporate Management 4.0"

All products and further results will be transferred to 68 actors in 13 countries for implementation.

Mapping the Baltic Sea Region

Demography

In 2018, there were approximately 153,6 (163,4) million people living in the entire BSR (including Germany as a whole). If Germany is counted as a whole it is by far the largest country in the region. If, however only the northern German *Bundesländer* are included the picture looks much different, Poland being the largest country with almost 38 thousand inhabitants, followed by Germany with only 12 thousand and Sweden close by with 10 thousand. The projections made by Eurostat for 2030 indicate a slight decrease in all BSR country, with the exception of the Nordic countries, Finland, Sweden, Norway and Denmark, which results in a slight increase in the overall population of the region by 3 million.

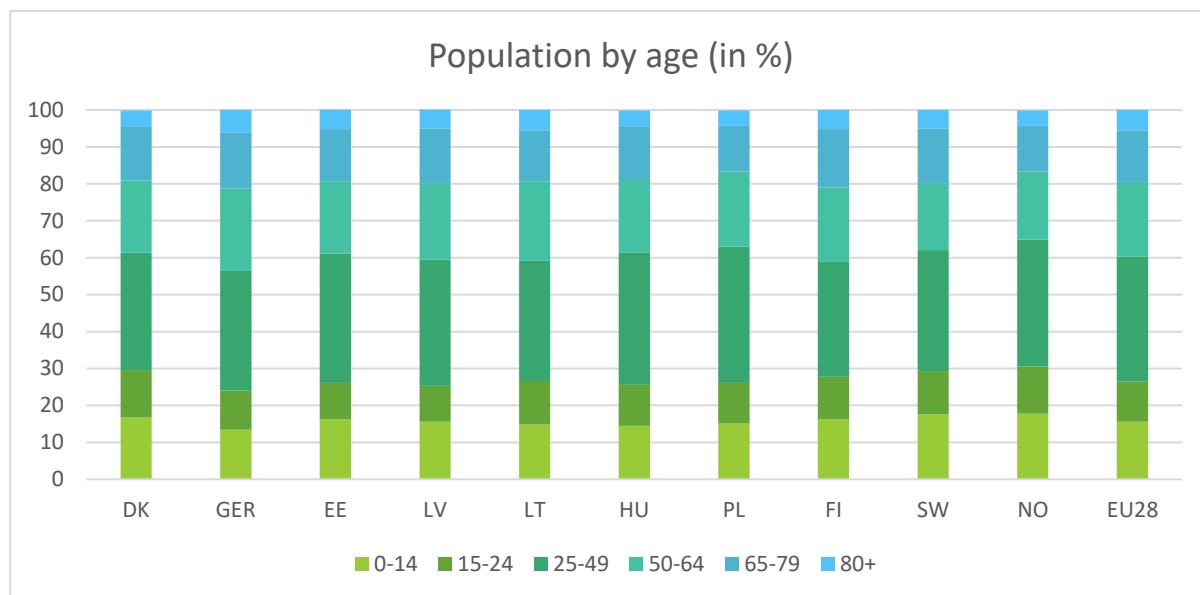


Source: Eurostat, 2018, own calculations

The following graph is showing the different BSR countries age structure in 2017. The relatively large two portions of the population aged 25 to 49 and 50 to 64, already foreshadows what is forecasted by the many statistical offices in the EU. Like in the rest of the EU, the population of the Baltic Sea region is aging significantly. Increased life expectancy is caused by multiple reasons for example through improved socioeconomic and environmental conditions, changes in working conditions, jobs, lifestyles, or simply better medical treatment and care. Especially, in Poland the increase in median age is drastic, increasing from 39,6 years to 50,4 years in just 65 years (see graph 7). The lowest increase is most likely to occur in Sweden, where the median age only increases by 2,3 years, from 40,9 years in 2015 to 43,2 years in 2080. According to this forecast, Sweden will then also be the youngest country in the region, followed by

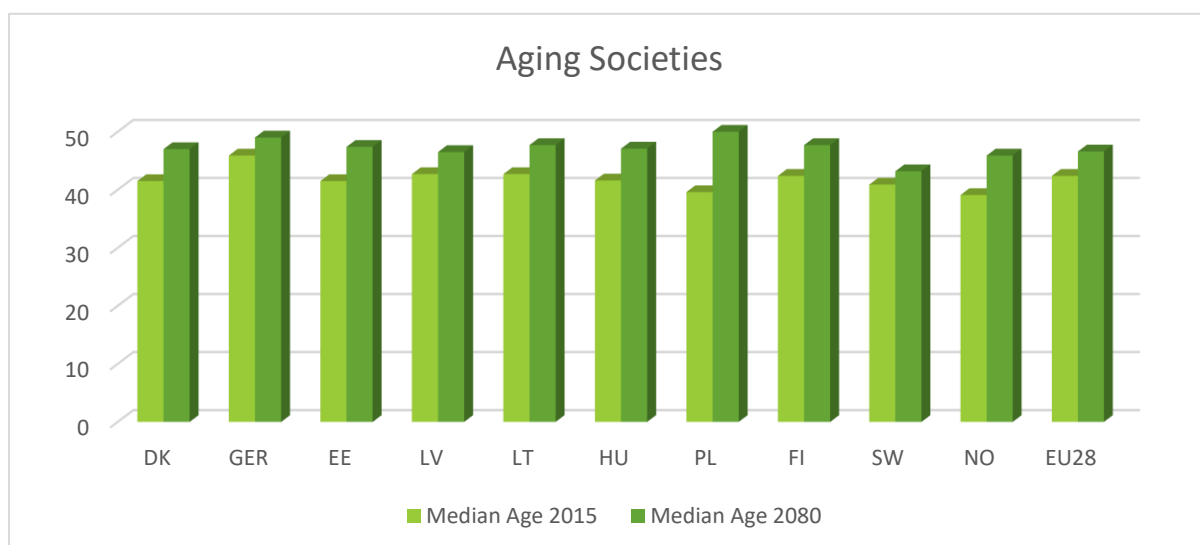
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Norway, who has been the youngest country in the region in 2015 (39,1 years to 45,9 years) and Latvia (46,5 years).



Source: Eurostat, 2017

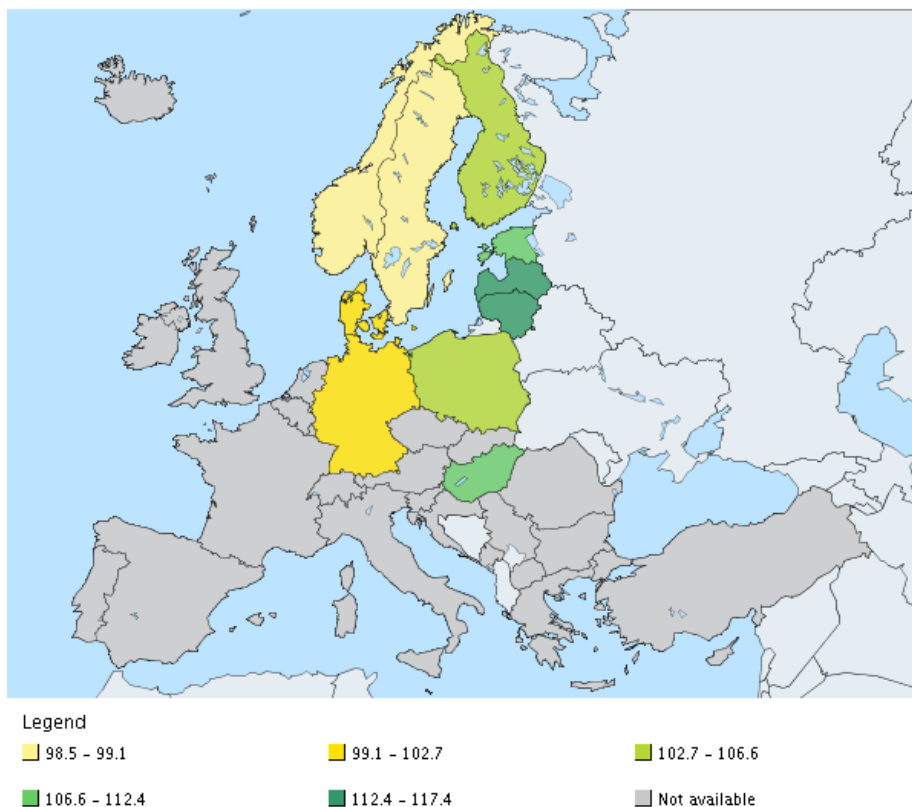
Overall life expectancy in the BSR (79,5 [79,2] years) is slightly under the EU average of 80,9 years. This also applies to the average life expectancy of men and women, where the EU average is 78,3 years and 83,5 years respectively for the EU, and 76,3 (75,9) years and 82,7 (82,4) years respectively for the BSR. Overall, women have a higher life expectancy than men in all BSR countries, ranging from 3,3 years to 9,9 years difference. Considering that the reasons for prolonged life expectancy mostly have to do with a country's wealth, this data comes to no surprise. The smallest differences occurring in the Nordic and Western countries, while the Baltic States have the largest differences of almost 10 years in life expectancy between the genders.



Source: Eurostat, 2017, own calculations

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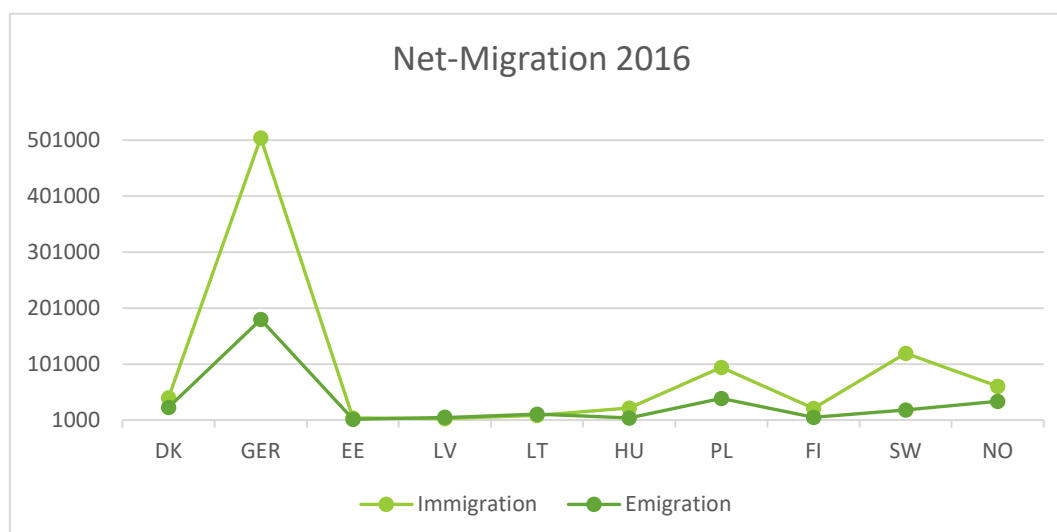
As a result of the higher life expectancy, there are more women in all BSR countries than there are men. In line with the diverging rate, this phenomenon is more pronounced in the Baltic States and Poland. The following graphic shows the number of women per 100 men in 2018.



Source: Eurostat

Migration

Considering the effect aging societies have on the labour market, i.e. increase scarcity of skilled workforce, and the pension system, i.e. disequilibrium of people paying into the pension fund and people living off the it, all countries increasingly depend on migration. With the exception of Latvia and Lithuania, all BSR countries have positive net-migration, i.e. more immigration than emigration, the front-runners being Germany (surplus of 324.382 people) and Sweden (surplus of 100.866 people)



Source: Eurostat

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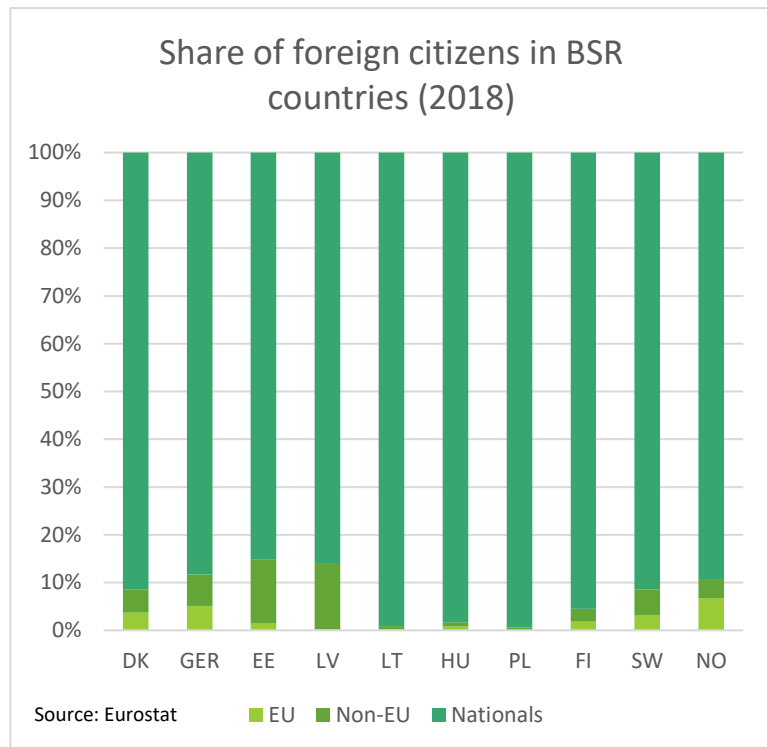
However, as net-migration is working with absolute numbers, it is not a reliable indicator for the number of foreigners in a country. Even though, Germany has by far the largest number of immigrants, taking into account the total size of the population, Estonia and Latvia have a significantly higher share of foreign citizens, with 14,95% and 14,09% respectively. The country with the lowest share of foreign citizen being Lithuania (0,97%). In all BSR countries, except for Norway, and Hungary, the share of citizens of other EU countries is below the share of non-EU country citizens.

The country of origin⁴ that is present the most is Poland, followed by Syria, Russia and Ukraine⁵, and third in line being Romania, Germany and Recognised non-citizens (former USSR citizens now living in Estonia, Latvia and Lithuania without taking on the respective national citizenship). This ranking however

changes, when absolute numbers are taken into account instead of the frequency of appearances in most foreign nationalities. In absolute numbers the largest group of immigrants in Europe is Turkish, with 1.359.000 people living in only two countries, i.e. Germany and Denmark. The second largest group is Polish, approximately in accordance with their ranking in frequency, with 9,6 thousand Polish migrants living in 5 BSR countries, i.e. Denmark, Germany, Lithuania, Sweden, and Norway. The Polish community is closely followed by the Syrian community of migrants, i.e. 8,5 thousand people living in four BSR countries (Denmark, Germany, Sweden, and Norway). These numbers are another way of showing that most migrants, in terms of absolute numbers, are living in the countries north and west of the Baltic Sea as all of the largest groups of immigrants are present in them.

With regards to EU-nationals living in other EU countries (in the Baltic Sea region) the Polish migrant community is the largest, followed by Romania and Italy. The largest groups of non-EU foreign nationals residing in the BSR are Turkey, Syria, and Russia.⁶

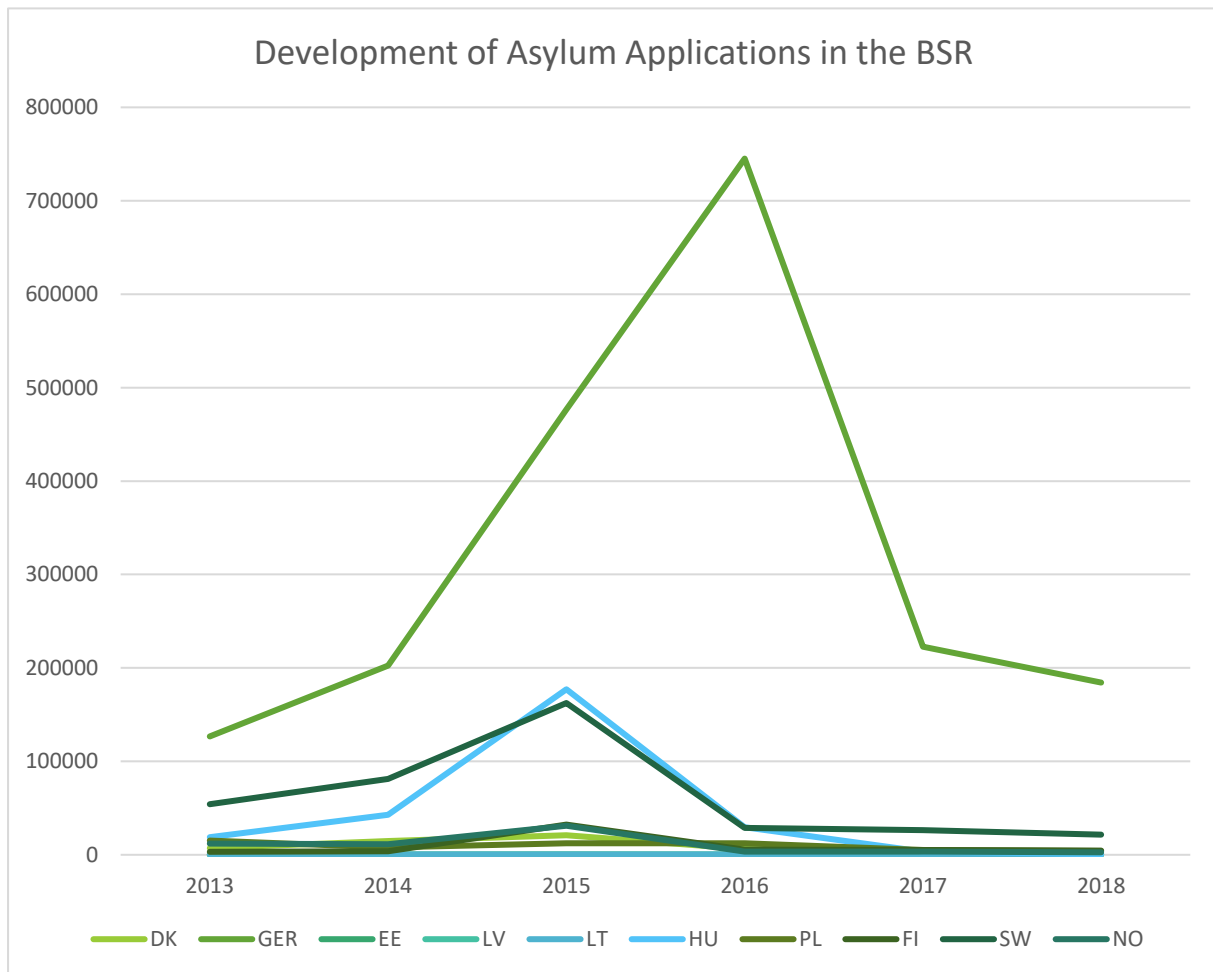
Lastly, the number of asylum applicants has also declined dramatically after the large influx of refugees coming to Europe in summer of 2015. The total number of asylum applicants has dropped to its 2013 level or below in all BSR countries, with the exception of Germany (increase of approx. 52.000 applications compared to 2013) and Lithuania (increase of 135 applications to 2013). The increases in the years 2014 – 2016 have been tremendous, almost doubling each year in the Northern and Western BSR countries as well as Hungary. The largest communities of asylum applicants come from Syria, Iraq, Iran and Turkey, all with more than 10.000 applicants in 2018. Russia follows on rank five, however with merely approximately 2000 applications.



⁴ No data available for Poland as reporting country.

⁵ Ukraine, Romania, and Germany would all move one rank down if Hungary is excluded from the analysis.

⁶ These rankings remain the same if Hungary is excluded from the analysis.



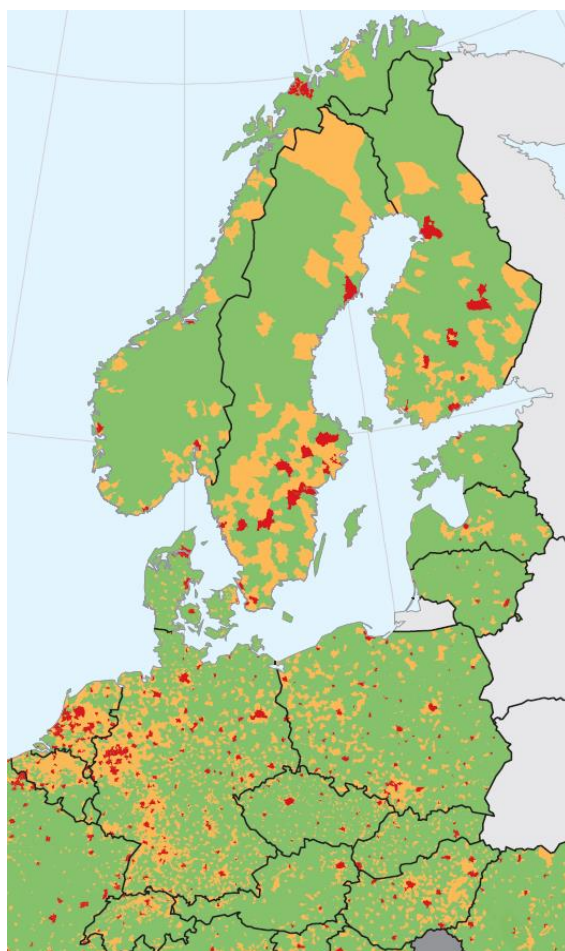
Source: Eurostat

Urbanisation

In comparison to Western Europe (e.g. Benelux countries or South-Western Europe), the Baltic Sea region is relatively sparsely populated, with an average of 204,5 (195) inhabitants per km². However, considering the range of 1397,18, from the lowest density in Norway (16,9) to the highest density in Germany (1414,08), the median of 31 (38,4) paints a much more accurate picture of the overall density of the region. According to the World Bank World Development Indicators urban population growth in the BSR is between -1.2% in Lithuania and 1.7% in Sweden.

As can already be seen in the graph presented below, the number of metropolitan areas differs greatly between the regions. The EU defines a metropolitan area as an area “where at least 50 % of the population lives inside a functional urban area (FUA) that is composed of at least 250 000 inhabitants”. Whereas Estonia and Latvia only have their capital cities, Tallinn and Riga, as metropolitan areas, Poland can account for a total of 19 cities.

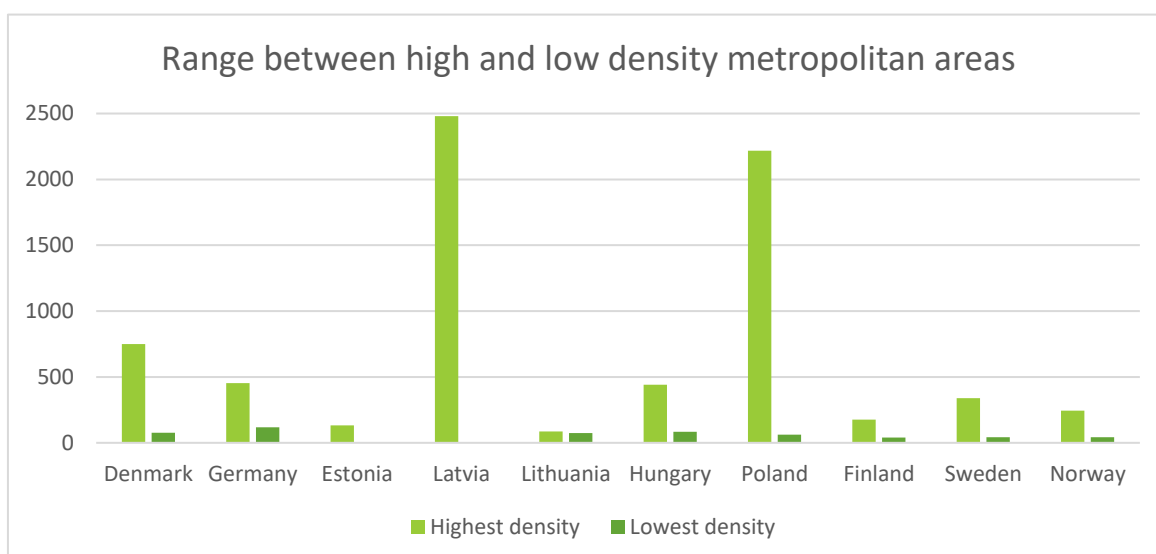
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- Cities (Densely populated areas: at least 50% of the urban population lives in urban centres)
- Towns and suburbs (Intermediate density areas: less than 50% of the population lives in rural grid cells and less than 50% of the population lives in urban centres)
- Rural areas (Thinly populated areas: more than 50% of the population lives in rural grid cells)

Source: Eurostat – GISCO, 05/2016, based on population grid from 2011 and LAU 2014

It is interesting to see that, for example, Poland has the highest number of metropolitan areas but also some of the densest, whereas Latvia has only one metropolitan area and it is by far the densest of the entire region. In contrast, Estonia, having only one metropolitan area as well, which is more on the lower side of the density spectrum. Therefore, for the density of metropolitan areas no correlation can be seen with regards to location, i.e. north or south of the Baltic Sea, or number of such areas in the country.



Source: Eurostat, 2016

Macroeconomic Conditions and Trade

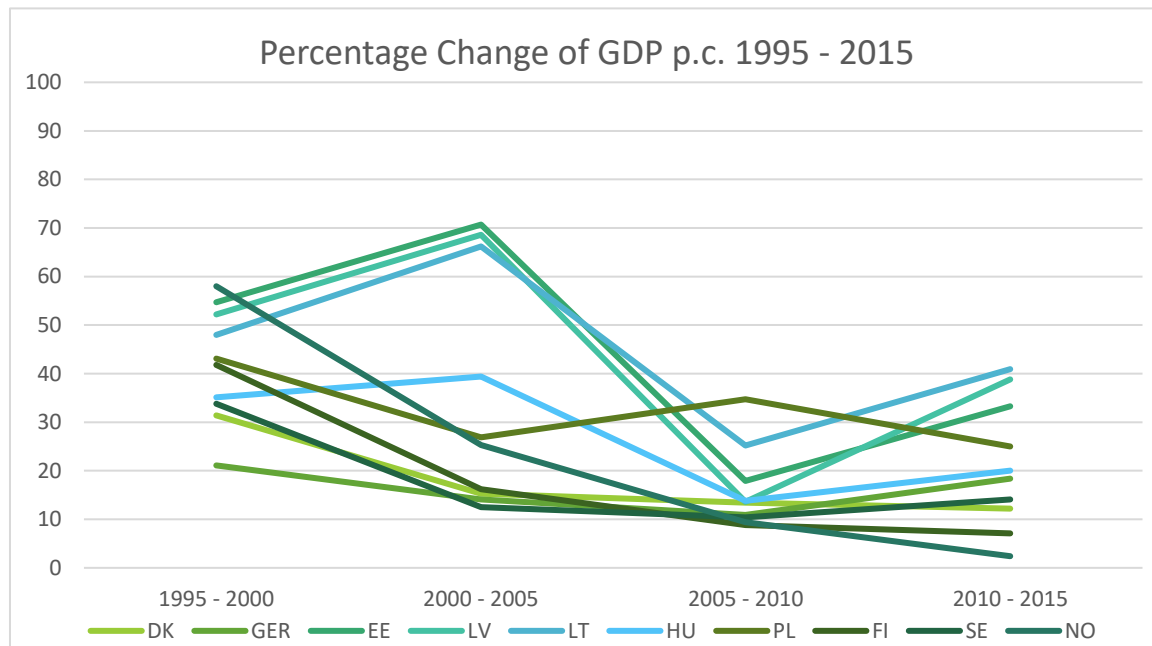
The average real Gross domestic Product (GDP) (chain-linked volumes 2010) in the BSR in 2018 ranged from 2.974.293,2 million Euro in Germany to 19.895,6 million Euro in Estonia, averaging at 535.519,05 (494.136,64) million Euro. The Baltic countries, Estonia, Latvia, and Lithuania clearly at the lower end of the scale, Hungary, Denmark, and Finland in the lower mid-section, followed by Poland, Sweden, and Norway in the upper mid-section and Germany by far the country with the highest GDP. GDP, as the best known and central measure of national accounts, summarises a country's economic position. However, for better comparison, it should be divided by the total population of a country. By doing that, it also serves as a proxy measure for analysing living standards across countries. With an average real GDP p.c. of 30.711,1 (29.670) Euro, the BSR is slightly above the EU28 real GDP p.c. of 30.000 Euro. Comparing the BSR countries a clear divide between the Eastern and Western countries of the region can be made, where the Western countries are all above the region's and the EU-wide average, and the Eastern countries between 7.000 and 10.000 Euros below it. A similar picture is drawn, when looking at the Gross National Income (GNI) per capita. Overall, the BSR is only slightly below the EU28 average. However, the clear divide between Eastern and Western BSR countries with regards to the GDP p.c. is also apparent regarding the GNI p.c.

Country	GDP p.c. (2017; current prices, purchasing power standard per capita)	GNI p.c. (2017; current prices, purchasing power standard per capita)
<i>EU28</i>	30.000	29.983
<i>BSR</i>	30.711,1 (29.670)	29.121,9 (28.079,3)
<i>Denmark</i>	38.400	38.865
<i>Germany</i>	37.100	37.808
<i>Estonia</i>	23.600	23.275
<i>Latvia</i>	20.000	20.128
<i>Lithuania</i>	23.500	22.672
<i>Hungary</i>	20.300	19.739
<i>Poland</i>	20.900	20.107
<i>Finland</i>	32.700	33.145
<i>Sweden</i>	36.300	36.975
<i>Norway</i>	43.900	:

Source: Eurostat

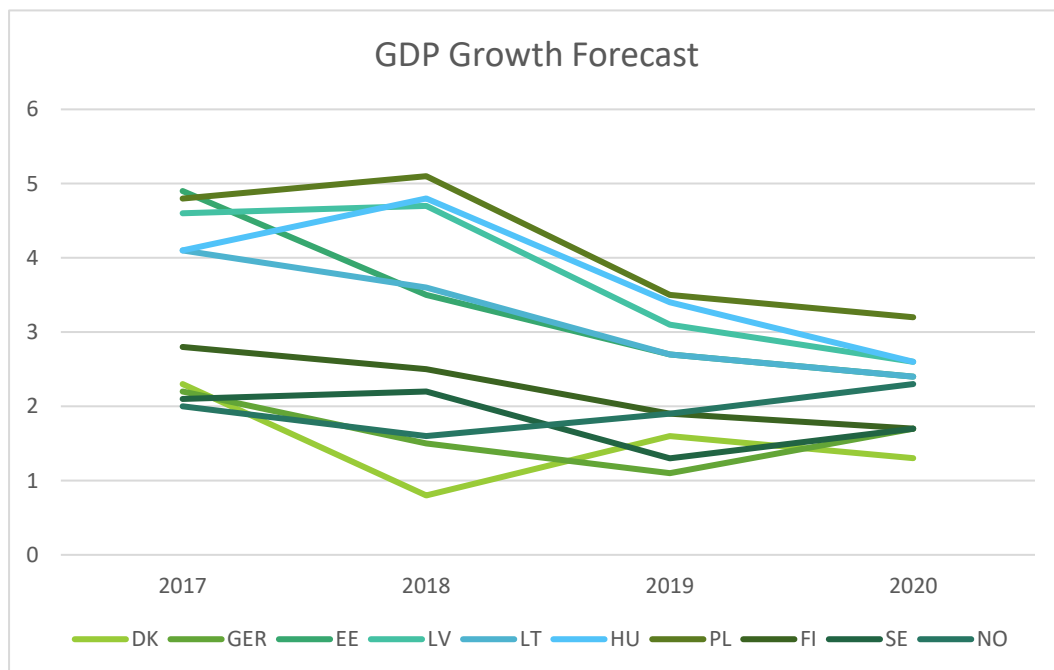
In long-term perspective, catching-up processes are very much apparent, especially in the three Baltic countries, with percentage increases in GDP p.c. between 2000 and 2005 of almost 70%. However, these countries were also hit much more drastically by the economic crisis 2008/2009, with a drop of more than 50 percentage points in Estonia and Latvia, and 41 points in Lithuania.

This convergence of GDP per capita is mainly caused by growth driven by labour productivity which can be traced back to a number of factors. First of all, there is on-going investment in innovation from the countries north of the Baltic Sea to the countries to the South of the Baltic Sea, especially between Finland and Estonia. Second, after the end of the Cold War and the fall of the Communist regimes, the Baltic states and Poland absorbed many new technologies and business practices leading to great leaps in terms of growth. Third, the smaller economies of the Eastern BSR countries benefit from general global growth and globalisation by integrating their economies into larger international markets. Lastly, especially through EU initiatives, the entire region is much more integration. However, in times where economic protectionism and nationalism are on the rise and catch-up gains from new technologies and business practices will not be as high anymore due to overall convergence, the growth gap is starting to narrow.



Source: Eurostat

The Winter 2019 forecast by the European Commission (and OECD for Norway), predict slower growth in all BSR countries except for Germany, Sweden and Norway in 2020, for most countries continuing a downward trend starting in 2017. For the majority of BSR countries domestic demand remains the main driver behind economic growth and due to increased tensions between major international trading partner, this is not likely to change any time soon. The countries relying more on agricultural exports such as the Baltic countries and Denmark, have also been negatively affected by bad harvest caused by intense weather conditions.



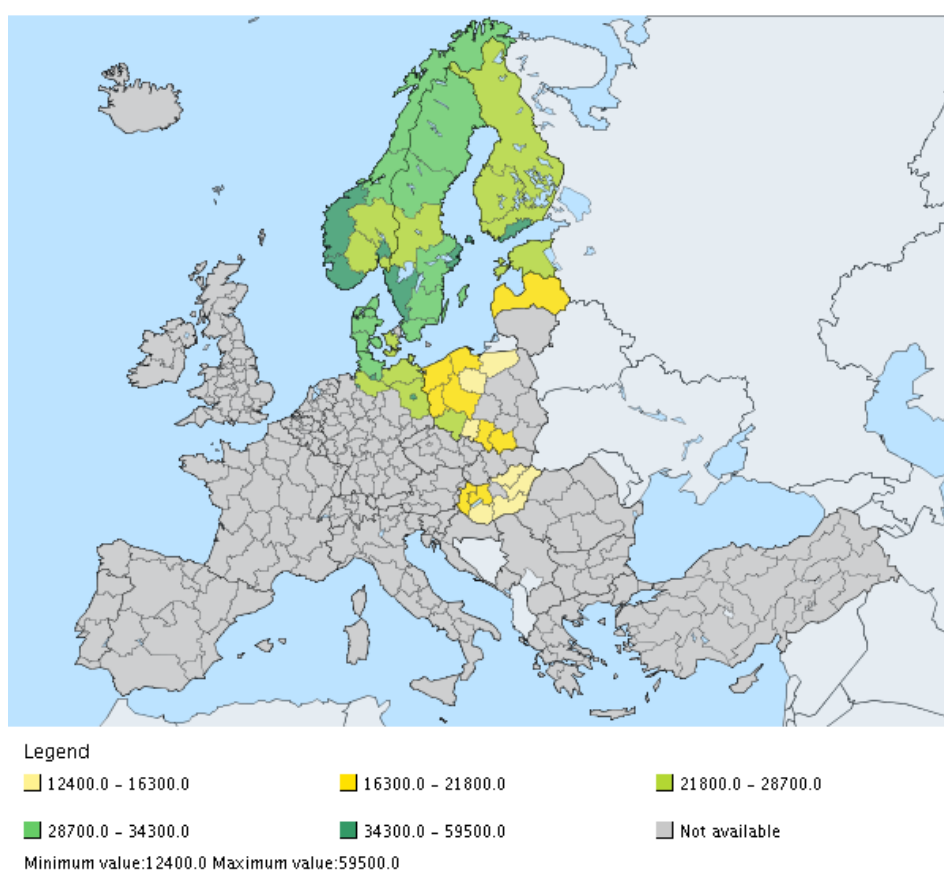
Source: Eurostat & OECD

Nevertheless, all BSR countries are export nations, i.e. exporting more goods and services than they are importing. Germany and Denmark are the front runners with export to import ratio of 1.17 and 1.11 in 2018 respectively. Latvia and Finland are the only outliers with slightly more imports, both with a ratio of 0,99. According to the EU Commission Winter 2019 forecast, this is caused by two opposing factors. While

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in Latvia export growth is slowed due to weaker external demand and declining road transport and financial services, Finland records a boost in import demand as a result of a fast-growing economy which in turn leads to improved labour market conditions and increased disposable incomes for household, strengthening domestic demand.

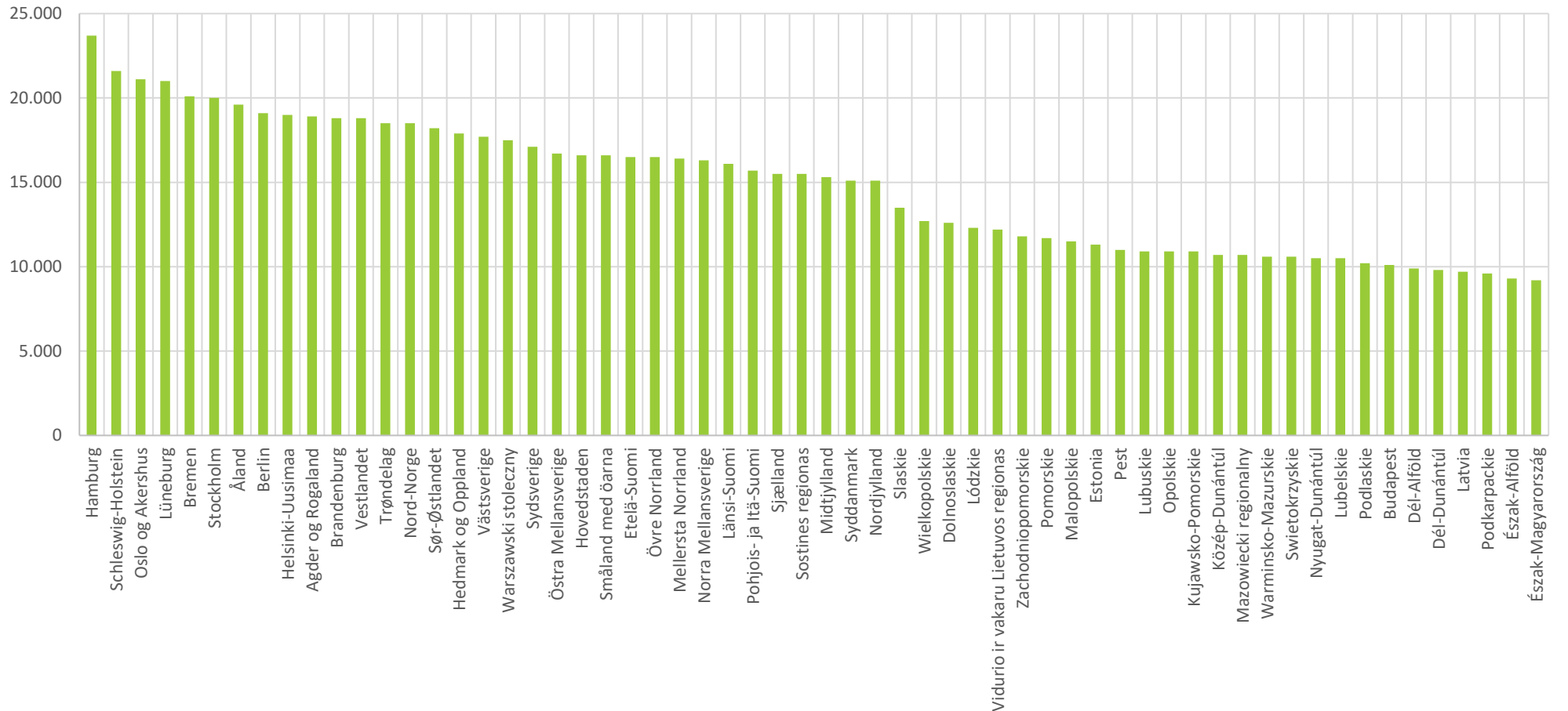
GDP per inhabitant measured in PPS in 2017 is relatively even distributed. The NUTS level 2 regions are more or less in line with overall GDP in the country – bigger cities and/or capital cities generally having a higher GDP per inhabitant than rural regions. However, again the divide between the Eastern and Western BSR countries can be seen with the exception for Estonia, having a similar level of GDP per inhabitant as Germany, Finland or parts in Norway and Sweden. Unfortunately, data for Lithuania and parts of Poland are missing.



Source: Eurostat

Disposable income per household in NUTS 2 region (measured in PPS) is distributed similarly to GDP per inhabitant with the exception for Estonia and Warsaw. In this sense, the richest region is Hamburg in Northern Germany with 23.700€ p.a., the poorest region on the other hand being Észak-Magyarország in Hungary with less than half of the income (9.200€ p.a.). Generally, the different regions in the individual countries are not too far apart, except for Poland. In Poland Warsaw, the region with the highest disposable income per household in the mid-section of the upper half of the spectrum, whereas the rest of Poland and the other Easter BSR countries are all in the lower half of it. The range in Poland being 7.900€ (Warsaw: 17.500 – Podkarpacki: 9.600).

2016



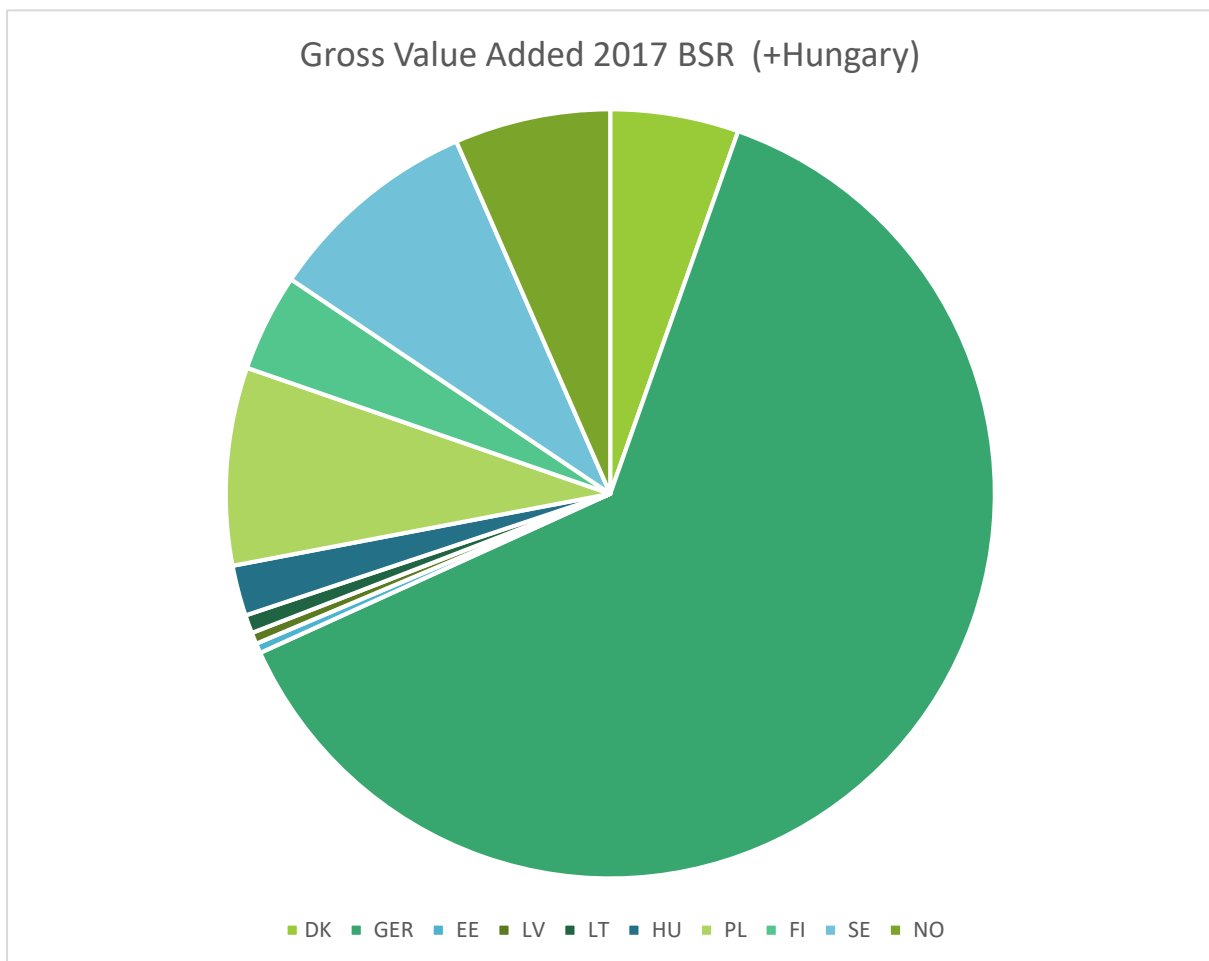
Source: Eurostat

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Gross Value Added

Gross Value Added (GVA) is an indicator measuring economic output. On the one hand, it provides information on the productivity of the overall economy of a country in comparison to other countries. Additionally, it also provides inside into the relative strengths of the different economic sectors within the domestic economy. Lastly, GVA divided by population size shows a country's or region's labour productivity. GVA at basic prices is defined as output at basic prices (goods and services bought by the final consumer) reduced by intermediate consumption (inputs bought and used by producers to produce the final product) at purchaser prices.

The GVA of the BSR (+ Hungary) makes up 1/3 of the total EU28 GVA. Though, Germany alone already contributes 21%. The table below shows the distribution of GVA in 2017 in the BSR: Germany dominating the region with 65% of the GVA, the three Baltic countries with approximately 2% barely making a significant contribution, and Poland, Sweden as well as Norway jointly contributing about 1/4.



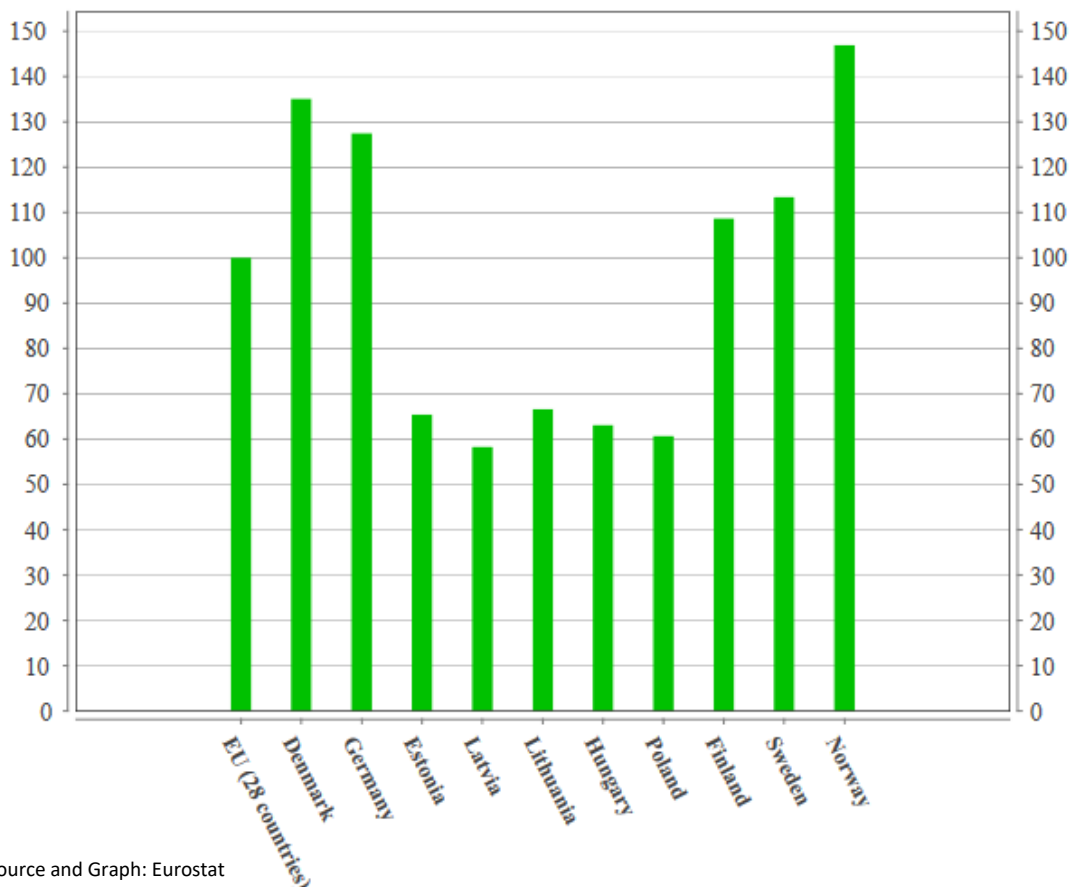
Source: Eurostat

As with most economic indicators, it is advisable to put them into relation to the number of inhabitants of the geographic area in question, since it is only natural that a country with the size of Estonia has a significantly lower gross value added than a country with the size of Germany. GVA divided by the number of people employed in a country reflects the country's labour productivity. However, this does not differentiate between full-time and part-time positions. Therefore, it is more appropriate to relate the GVA to the number of hours worked. High levels of labour productivity can be linked to an efficient use of labour or can be caused by a mix of activities of the domestic economy, since all sectors have a different

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need for labour input, i.e. the business sector and financial services need relatively little labour input in comparison to the agriculture sector.

The following graph shows the nominal labour productivity per hour worked in 2017 in the BSR countries (+ Hungary) and the EU28. Once again, a clear divide between the Eastern and Western BSR countries can be seen. The key resource of the European economy is its human capital, i.e. knowledge, skills, and motivation of staff. In order to strengthen the regions innovation capacity and productivity to remain competitive in the long run, this resource has to be nurtured. Especially, the Eastern countries of the Baltic Sea region need to put more emphasis on strategic human resource management and workplace innovations. This can help to close the productivity gap to their Western neighbours and ensures long-run competitiveness of the region as a



Economic Sectors

In order to get a better overview of the economic structure of the different BSR countries, a closer look is paid to the gross value added of the individual economic sectors. An economy can be divided into four sectors: primary, secondary, tertiary and quaternary. The primary sector includes any economic activity involving the extraction and collection of raw material, i.e. agriculture, mining, forestry etc. The secondary sector is comprised of activities producing tangible goods, whereas activities in the tertiary sector provide intangible goods, i.e. services. The quaternary sector is relatively new to economic theory and is basically a sub-section of the tertiary sector. Activities in this sector are all part of the so-called knowledge economy, i.e. knowledge- and information-based services such as consultation, IT, communication etc.

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The EU's own classification system (NACE) is very detailed. For clarity reasons, the main categories were therefore grouped together in the four economic sectors plus public administration as follows:

Primary Sector	Secondary Sector	Tertiary Sector	Quaternary Sector
Agriculture, forestry, fishing	Electricity, gas, steam and air conditioning supply	Repair of computers and personal and household goods	Information and communication
Mining and quarrying	Water supply; sewerage, waste management and remediation activities	Wholesale and retail trade, transport, accommodation and food service activities	Financial and insurance activities
	Construction	Real estate activities	Education
	Manufacturing	Administrative and support service activities	Professional, scientific and technical activities
		Human health and social work activities	Arts, entertainment and recreation
		Other (personal) service activities	
		Activities of membership organisations	
		Activities of households as employers; undifferentiated goods- and services-producing activities of households for own use	

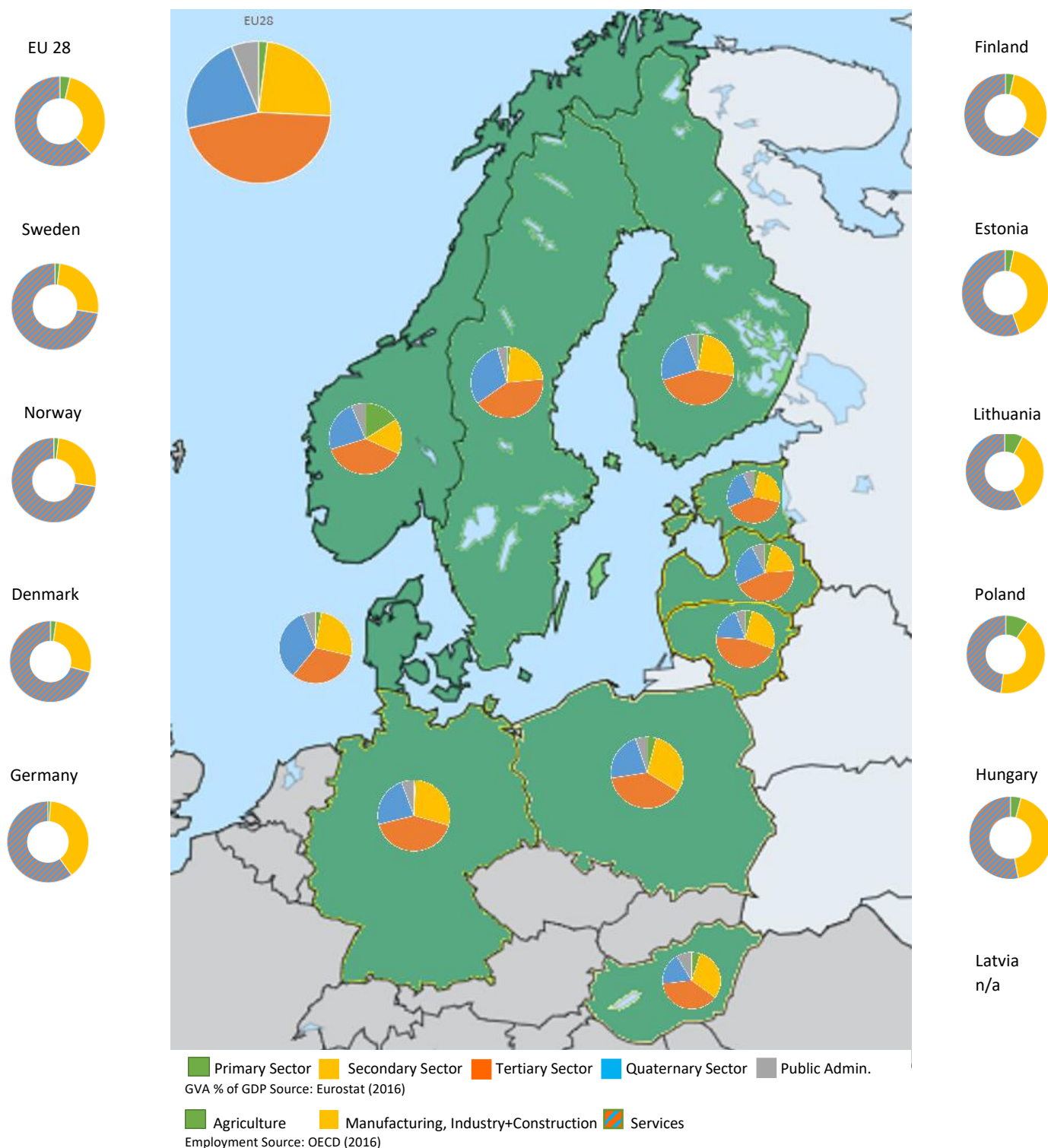
The map below shows the distribution of gross value added in 2016 (last complete data set) of the four different economic sectors and public administration to the national economies in each of the BSR countries. In line with the three-sector model developed by Allan Fisher, Colin Clark and Jean Fourastié⁷ that foresees the main economic activity shifting from the primary through the secondary to the tertiary sector according to a country's state of overall development, the main activities in all BSR countries are in the 3rd and 4th sector. Compared to the EU28 average, especially the Eastern BSR countries as well as Norway have a stronger primary sector though. In Norway this is caused by the large fishing industry, while Poland, Lithuania, and Hungary have an especially large agriculture industry and Estonia and Latvia are more forestry heavy.

The circles outside of the map show the employment numbers per sector. These numbers, however, are not available as detailed as the GVA data and there are not data for Latvia at all. Therefore, they only show the primary, secondary and tertiary sector (which includes the quaternary sector) and no public administration. The sectors with the highest GVA may not always have the most people working in them. As mentioned before, for example, the primary sector is very labour intensive however does not add

⁷ Developed by the authors in their works between 1935 – 1949; for more information visit <http://www.economicport.com/concepts-all/three-sector-model.html>

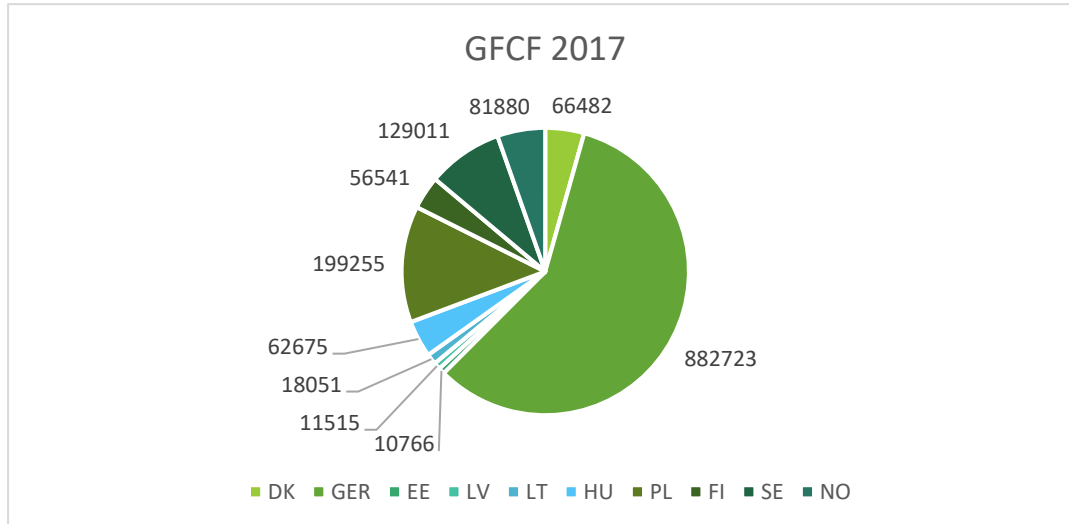
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much value to the overall economy, especially when compared to sectors like the financial sector. This is for example the case in Poland or Lithuania, where the number of people working in the primary sector is significantly higher than the gross value added by this sector. The opposite is the case in Norway, where a very large portion of GVA is attribute to the primary sector, however only very few people work in it. This could be explained by the large fishing industry in Norway that needs fewer human resources to create values, as fish is still a relatively expensive commodity. Overall, it can be seen that in countries with a larger primary sector, the tertiary sector is also smaller, i.e. the Western BSR countries have employ around ¾ of their population in the service sector, while in the Eastern BSR countries it is only about half.



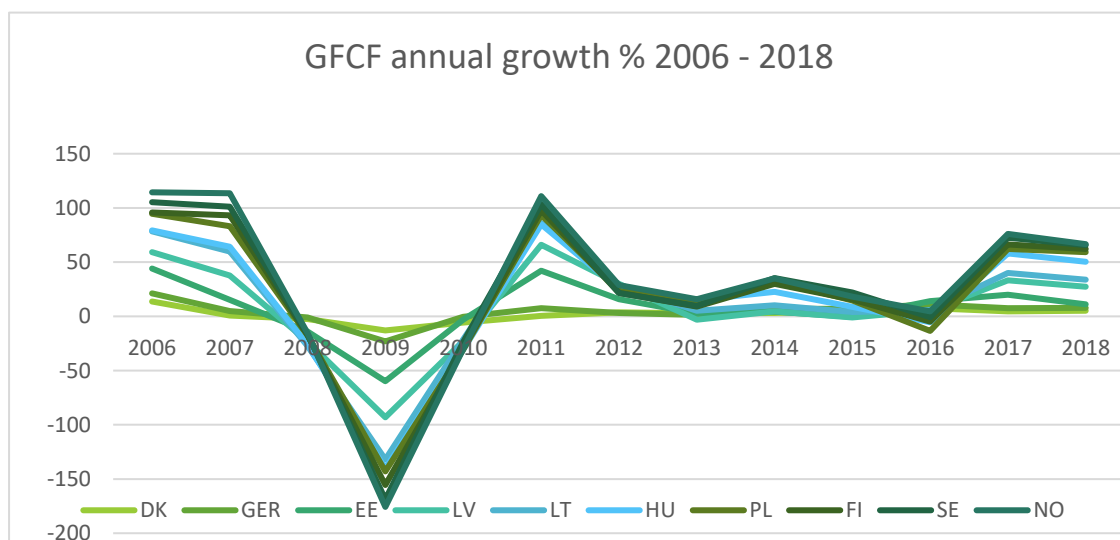
Investment

Gross Fixed Capital Formation (GFCF) measures the amount of money residents invest in fixed assets produced as outputs from production processes that are used repeatedly. It is differentiated between household corporate and central government investments. Total GFCF in the Baltic Sea Region in 2017 was US\$ 1.456.224 (1.518.899), i.e. 33% (34,5%) of EU investments.



Source: Eurostat

The (OECD) annual percentage growth of investment shows well how much the different countries of the Baltic Sea region have been affected by the economic crisis 2008 – 2010. Whereas investments in Denmark and Germany have remained relatively stable over the course of the 12 years depicted in the graph, all other countries have experienced very volatile levels of investments with the absolute low point in 2009 during the world economic crisis, a large increase in 2011 after recovery from said crisis and another significant decrease in 2016 which they quickly recovered from in 2017. With the overall economic performance of the EU still being rather depressed, especially the small open economies of the BSR suffer from negative market conditions of trade partners and overall uncertainty in the world economic system.⁸

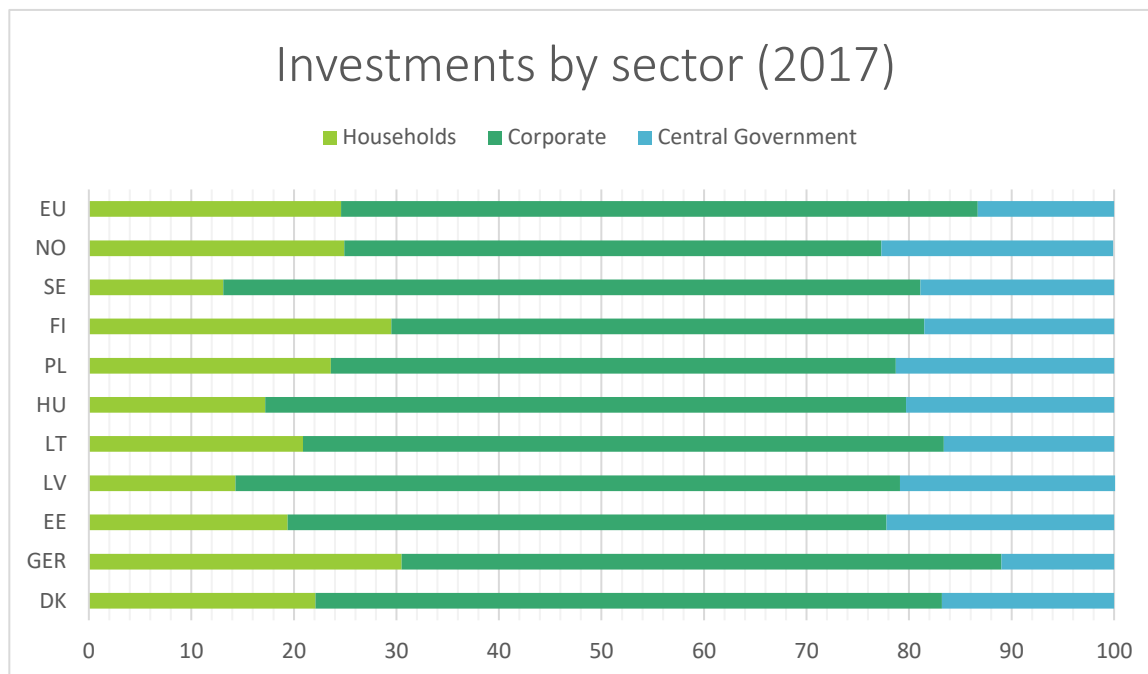


Source: OECD

⁸ Durán, Jorge (2019) FDI & Investment Uncertainty in the Baltics. European Economy Economic Brief 043. European Commission, https://ec.europa.eu/info/sites/info/files/economy-finance/eb043_en.pdf.

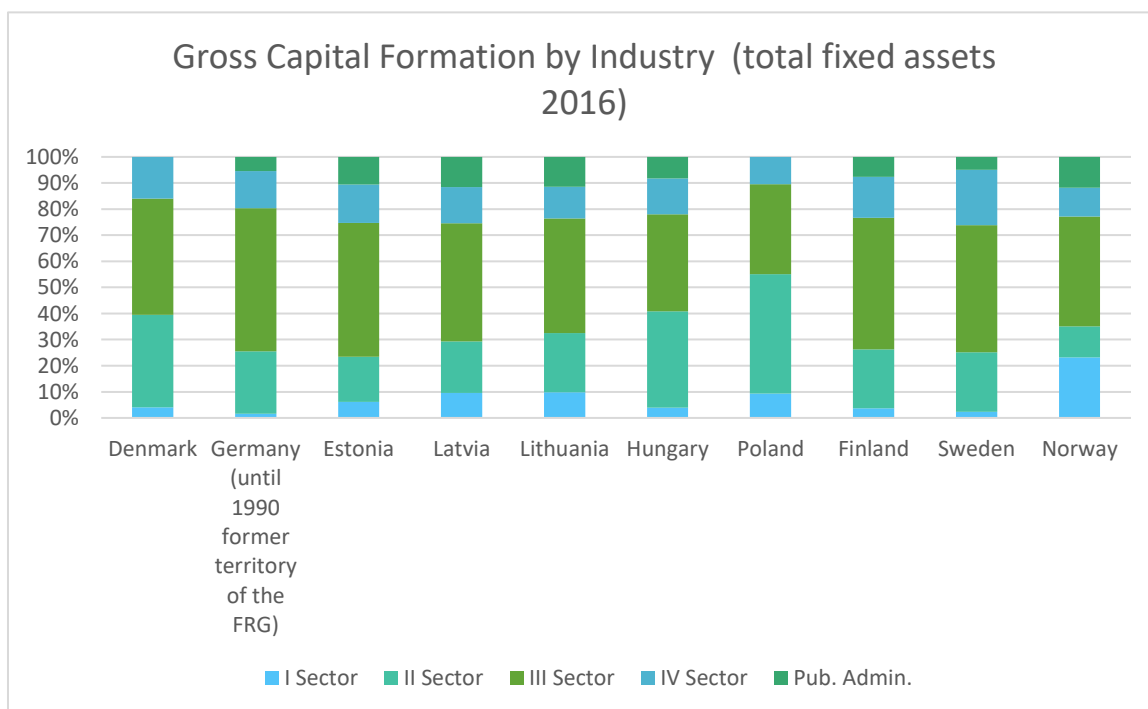
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Investments by sector (OECD) are relatively equal between the countries of the BSR with corporate investment lying between 52% (Norway and Finland) and 68% (Sweden) of overall investment, central government investment between 11% (Germany) and 23% (Norway), and household investment between 13% (Sweden) and 30,5% (Germany).



Source: OECD

Not surprisingly, investments in the different industries (same NACE classification as with GVA) are similarly distributed as GVA. These numbers are to be taken with caution however, as for Denmark and Poland much data is missing.



Source: Eurostat

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Investments do not just occur within a country. An important part of a country's economy is foreign direct investment coming into the country by foreign investors but also flowing out of the country to other countries. The annual FDI flow in % of the GDP (picture on the left) shows that Denmark, Germany, Poland, Lithuania, and Estonia have a positive FDI flow, i.e. more inflow than outflow, whereas Finland, Sweden, Norway, Latvia, and Hungary have a negative flow.

The right picture shows the intensity of FDI which is a measure for integration in the international market - Estonia leading the way in the BSR, Finland and Hungary being the least integrated countries which is in line with their overall low FDI flow in general. Of the inwards flows of FDI, about 1/3 comes from countries within the region, i.e. investments from the richer Nordic countries into the poorer Baltic countries and Poland⁹

FDI flow annual % of GDP (2018)



Legend

Source and Graph: Eurostat

FDI flow annual % of GDP (2018)



Legend

Source and Graph: Eurostat

⁹ Skilling, David (2018). *The Baltic Sea Economies: Progress and Priorities*. Copenhagen: Baltic Development Forum.

Labour Market Development

Employment¹⁰

Employment Rate by Regions

Employment and other labour market-related issues are at the heart of the social and political debate in the EU. Paid employment is crucial for ensuring sufficient living standards and it provides the necessary base for people to achieve their personal goals and aspirations. Moreover, employment contributes to economic performance, quality of life and social inclusion, making it one of the cornerstones of socioeconomic development and well-being¹¹.

The EU's labour force is shrinking as a result of demographic changes that have led to a greater share of older people than younger people in the population. Because of these changes, a smaller number of workers are now supporting a growing number of dependent people, putting the sustainability of Europe's social model, welfare systems, economic growth and public finances at risk¹².

To face the challenges of an ageing population and rising global competition, the EU needs to make full use of its labour potential. The Europe 2020 strategy, through its 'inclusive growth' priority, places a strong emphasis on job creation. One of its five headline targets address employment, with the aim of raising the employment rate of 20 to 64-year olds to 75 % by 2020¹³.

In 2017 the overall employment rate in the EU reached 72.2 %. As a result, the distance to the Europe 2020 employment target of 75 % narrowed to 2.8 percentage points. In 2017 five BSR countries had already met their respective national employment targets¹⁴: Germany, Lithuania, Estonia, Latvia and Sweden. The overall employment rate in the BSR reached 76.8% in 2017 (BSR incl. Hungary – 76.4%) and thus exceeded the EU-28 wide average.

¹⁰ **Employment rates** represent the share of employed persons in the total population in the same age group; they are typically published for the age group 15 to 64 years. The earliest age that a person can leave full-time compulsory education in the EU is 15 and in many Member States this is also the minimum employment age. However, in a majority of Member States it is rare to attain secondary education while working (even part-time). Therefore, most 15 to 19-year olds who are still in education or training are not seeking employment. Students that attain higher levels of education tend to enter the labour market later. As a result, the lower age limit of the Europe 2020 strategy's employment target has been raised to 20 years. The upper age limit for the employment rate is usually set to 64 years, taking into account statutory retirement ages across Europe (European Commission (2012), The 2012 Ageing Report: Economic and budgetary projections for the EU27 Member States (2010–2060), p. 99).

¹¹ European Union (2018): STATISTICAL BOOKS. Smarter, greener, more inclusive? Indicators to support the Europe 2020 strategy. 2018 edition: <https://ec.europa.eu/eurostat/documents/3217494/9087772/KS-02-18-728-EN-N.pdf/3f01e3c4-1c01-4036-bd6a-814dec66c58c> (accessed April 2019), p. 24.

¹² European Union, 2018, p. 24

¹³ Ibid.

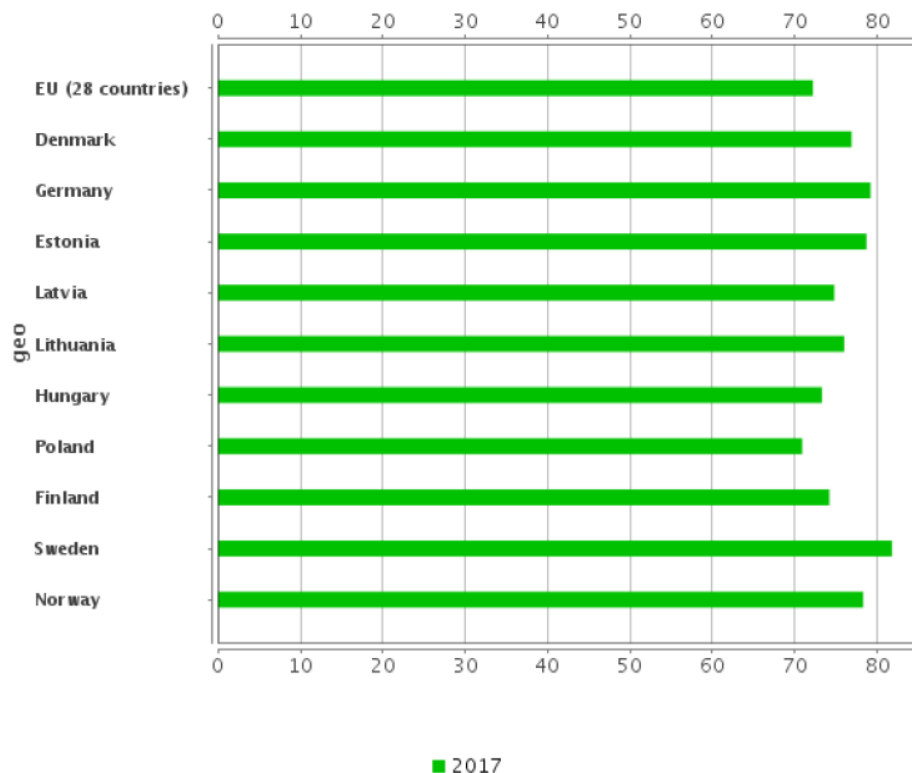
¹⁴ To reflect different national circumstances, the general EU target has been translated into national targets. These range from 62.9 % for Croatia to 80.0 % for Denmark, the Netherlands and Sweden.

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Employment rate by sex, age group 20-64

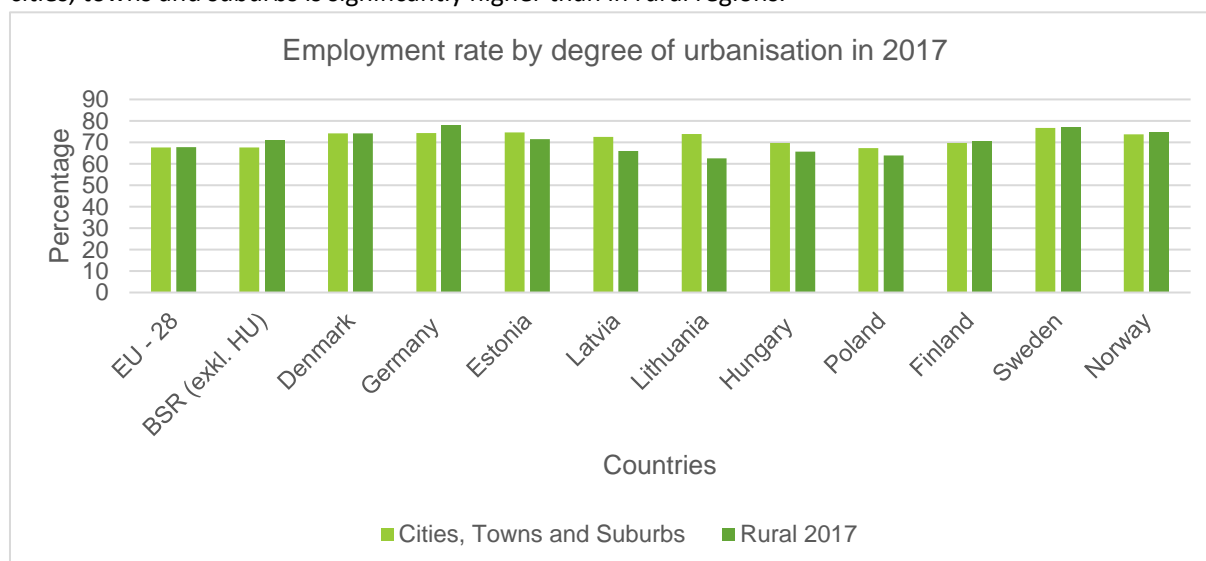
%

Total



Data source: Eurostat

The graph below shows that the highest employment rates in Baltic Sea region were mainly recorded in the rural regions of Germany (78.1%) and Sweden (77.3%). Overall, the employment rate in rural regions is either higher than in cities, towns and suburbs in western BSR countries like Germany, Sweden and Norway, or equally high as it is in Finland and Denmark. The opposite is true in eastern and southern Baltic Sea region countries - Lithuania, Poland, Latvia, Estonia and Hungary, where the employment rate in cities, towns and suburbs is significantly higher than in rural regions.



Data source: Eurostat; own calculation

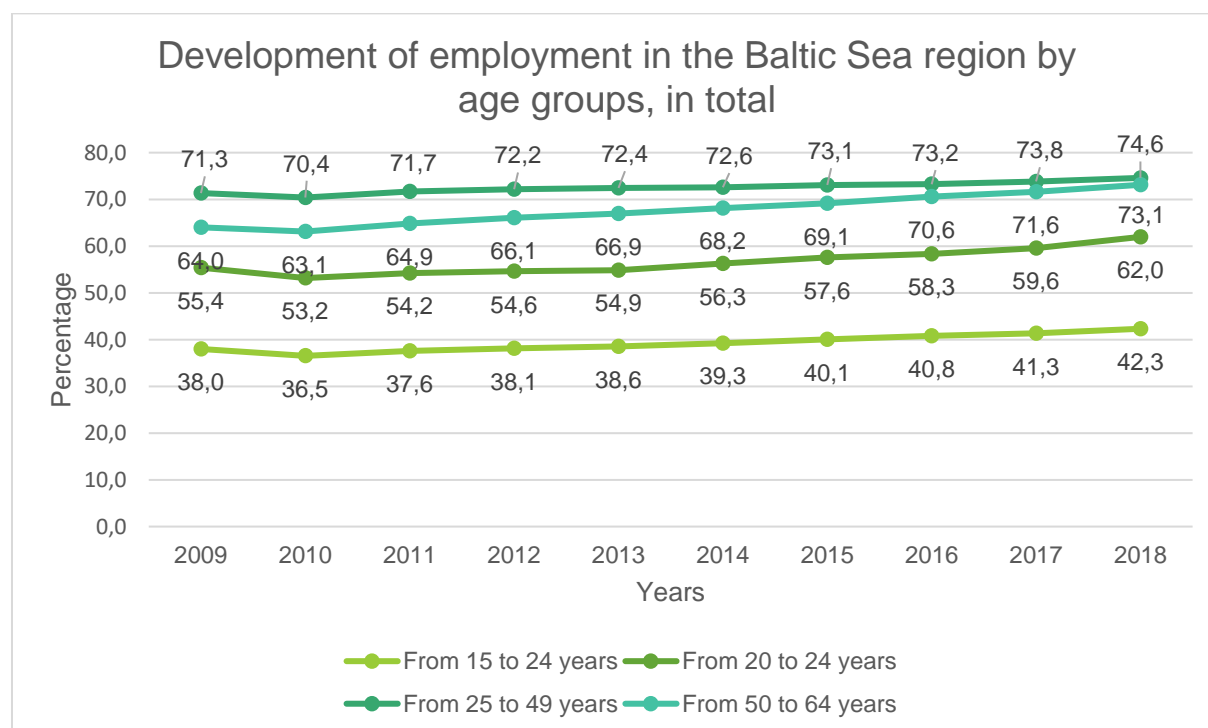
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In 2017, the Finnish region 'Åland' had the highest employment rate in the age group 20 – 64 in the EU, at 88.2 %, followed by 'Stockholm' (Sweden), at 84.2 % and Västsverige at 82.7. Other regions in the BSR that exceeded the high 80% mark of employment rate were: Trøndelag (Norway), all regions in Sweden, except the Sydsverige (78.8%) and Östra Mellansverige (79.9%), Sostines regionas (Lithuania) and Brandenburg (Germany). At the other end of the scale, the lowest rates were observed in Warminsko-Mazurskie region - 65.6% (Poland), Zachodniopomorskie - 67.5% (Poland) and in Dél-Dunántúl region - 67.8% in Hungary.

Employment Rate by Age

In 2018 in BSR, the employment rate of people aged 25-49 years was the highest one in comparison to other age groups. The employment rate for 50 to 64-year olds has converged significantly and is only 1.5 percentage points behind the 25-49 aged.

In contrast, in 2018 significantly lower employment rates were observed among 15-24-year olds - 42.3% and 20-24-year olds - 62% (see graph below), who had at least 10 percentage points less employment than the two older age groups. On the one hand, this significantly lower employment rate is due to the fact that young people and young adults do not pursue regular, full-time employment due to participation in education and training, studies, a free social year, the Bundeswehr, internships, inclusion in international exchange programmes, etc. On the other hand, "this may not only reflect the overall lower activity rates of younger people but may also be due to the generally less secure position of young people in the labour market, which makes youth employment more sensitive to the macro-economic fluctuations than adult employment¹⁵.



Data source: Eurostat; own calculation

BSR: Denmark, Germany, Estonia, Latvia, Lithuania, Poland, Finland, Sweden and Norway

BSR wide employment rate – average number of employment rate in the individual BSR countries

"Overall, the increase in the employment rate of older workers is one of the main drivers of the total rise in employment across the EU. These increases can be linked to structural factors such as cohorts with better educational attainment, especially women, moving up the age pyramid as well as recent pension

¹⁵ European Union 2018, p. 33

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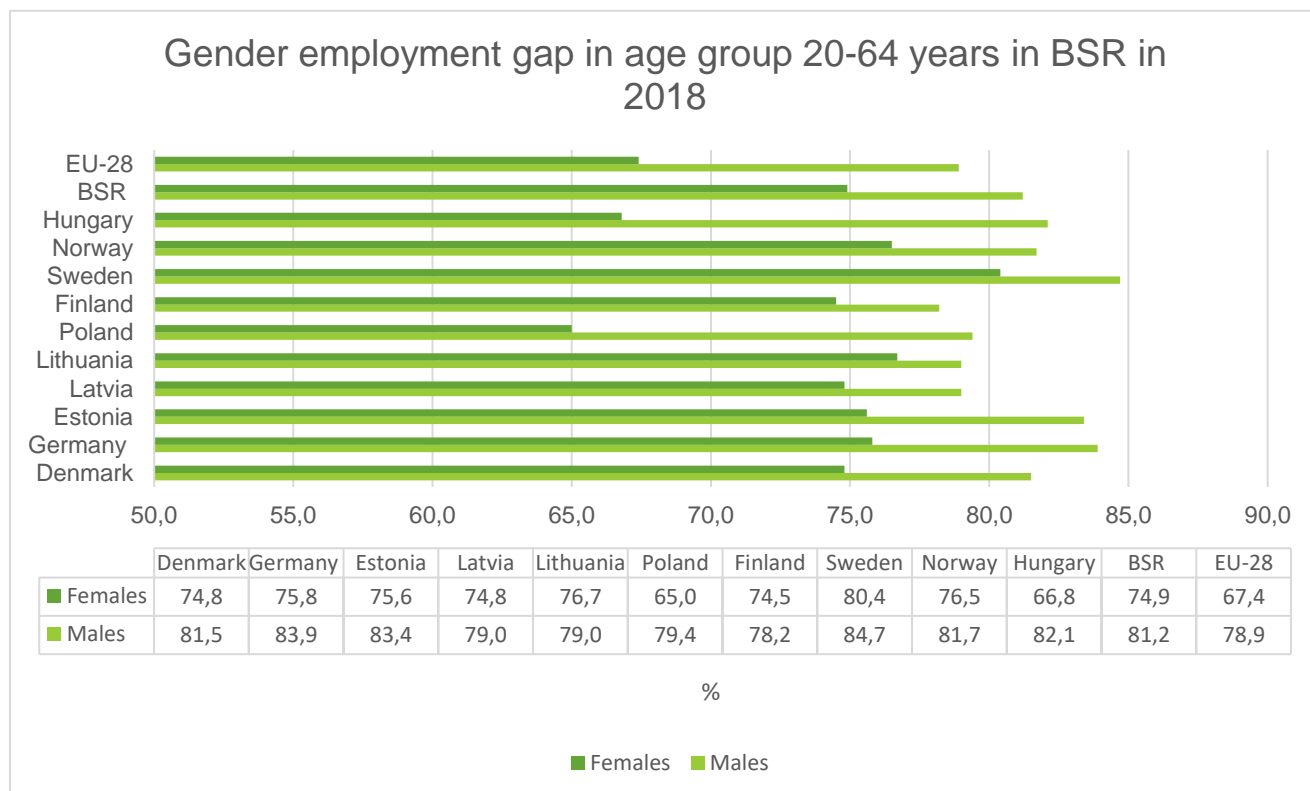
reforms, such as increases in the pensionable age, the age for early retirement and the length of pension contribution. This has led to longer working lives for both women and men¹⁶.

All in all, the employment rates of younger and older people continued to be lower than for the total employment rate in the EU.

Employment Rate by Gender

In the whole European Union, “considerably lower employment rates are observed for women than men. The gender employment gap is the widest for three age groups: 30 to 34, 35 to 39 and 60 to 64. Despite women becoming increasingly well qualified and even outperforming men in terms of educational attainment¹⁷, the activity and employment rates of women remain lower than those for men. However, the gender employment gap — the difference in employment rates between men and women — has been decreasing for all age groups. Overall, for the age group 20 to 64, the gap fell from 17.3 percentage points in 2002 to 11.5 percentage points in 2017. Several structural factors influencing the participation of women in the labour market may account for why they have been catching up with men. These include changes in social values and attitudes, policies enabling women to reconcile paid work with household responsibilities such as childcare provision, flexible working hours, reduction in financial disincentives for women, improved mechanisms to encourage fathers’ parental engagement, and pension reforms. European employment policies promoting new forms of flexibility and security are addressing the specific situation of women to help raise their employment rates in line with the headline target¹⁸.

Developments in the employment rate for men and women are also reflected in the participation of women and men in the labour market in the Baltic Sea region, as the next figure shows.



Data source: Eurostat; own calculation

BSR: Denmark, Germany, Estonia, Latvia, Lithuania, Poland, Finland, Sweden and Norway

¹⁶ Ibid.

¹⁷ see also the ‘Poverty and social exclusion’ chapter, page 103 in the European Union (2018): Smarter, greener, more inclusive? Indicators to support the Europe 2020 strategy.

¹⁸ European Union 2018, p. 34

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In the Baltic Sea region, as elsewhere in Europe, the average employment rate for women is lower than for men, but significantly higher than the EU average.

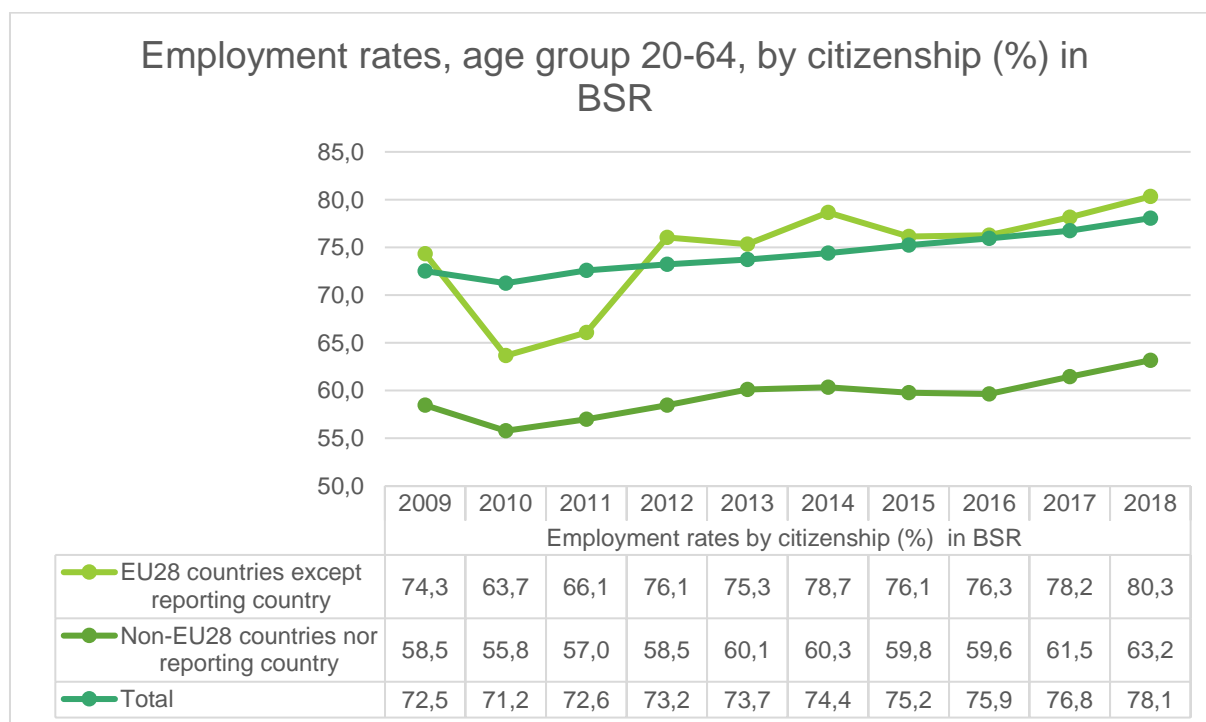
In addition, the average employment rate for both men and women in the Baltic Sea region is higher than the EU-28 average. Poland has the lowest female employment rate with 65 percentage points in the Baltic Sea region, followed closely by Hungary with 66.8%. This is almost 10 percentage points lower than the BSR average.

The differences between men's employment rates across countries and in the EU and the BSR average are smaller, ranging from 78.2% in Finland to 84.7% in Sweden, and in BSR – 81.2% and EU-28 – 78.9%.

Employment Rate by Country of Origin

In the European context “economic migration is becoming increasingly important for the EU’s ability to deal with a shrinking labour force and expected skills shortages. According to current population projections, without net migration the working-age population aged 20 to 64 would shrink by 9 % by 2030 and by 28 % by 2060 compared with 2015 levels. As shown further below, the working-age population is expected to decline even with net migration into the EU, but at slower rates of – 4 % by 2030 and – 13 % by 2060. Country of origin can impact the labour market performance of individuals. Migrant workers from countries outside the EU tend to occupy low-skilled and insecure jobs with temporary contracts and poorer working conditions. Migrants are also among the first to lose their jobs during economic setbacks. Much lower employment rates are consequently reported for this group than for EU citizens”¹⁹ (see figure below).

In 2018 in the BSR, the employment rate of non-EU nationals aged 20 to 64 was 14.9 percentage points below the total employment rate and 17.1 % below the employment rate by EU citizens. Additionally, their employment rate has so far slightly recovered from the setback caused by the economic crisis, with the 2018 rate being slightly higher than the levels recorded before the crisis.



Data source: Eurostat; own calculation

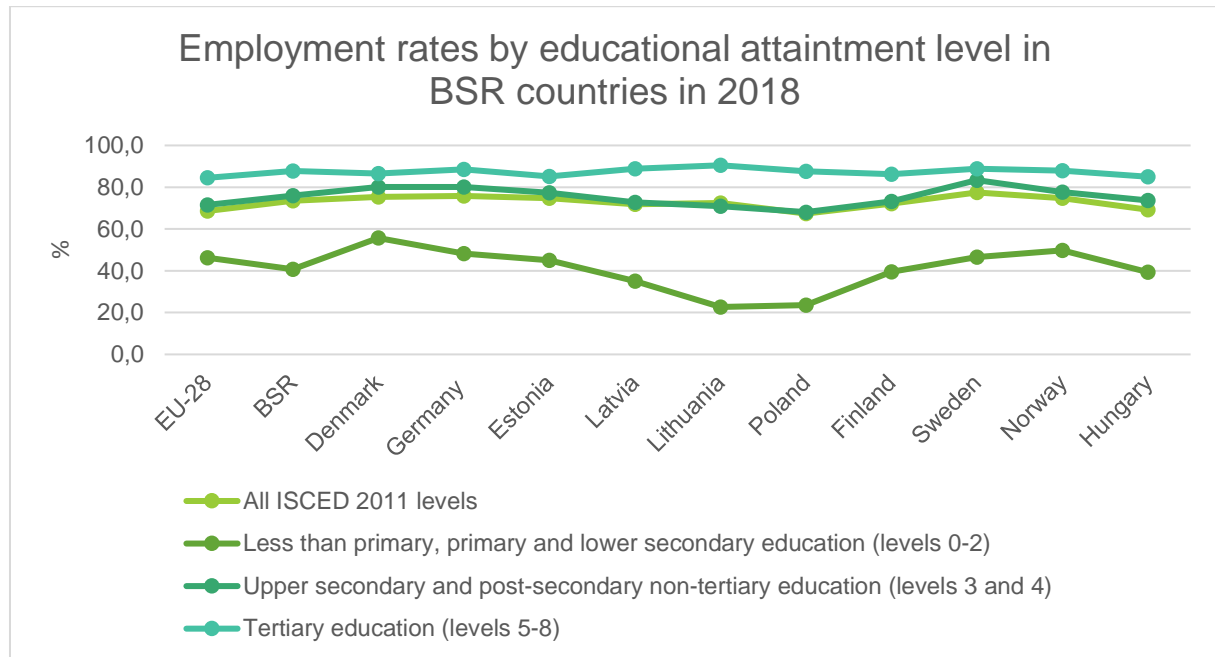
¹⁹ European Union 2018, p. 35-36

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It is interesting to note that the employment rate of EU citizens living in other country in the BSR is higher than total employment rate.

Employment Rate by Educational Level

People with low educational attainment form one of the most disadvantaged groups in the labour market, exhibiting low employment rates as the figure below shows.



Data source: Eurostat; own calculation

BSR: Denmark, Germany, Estonia, Latvia, Lithuania, Poland, Finland, Sweden and Norway

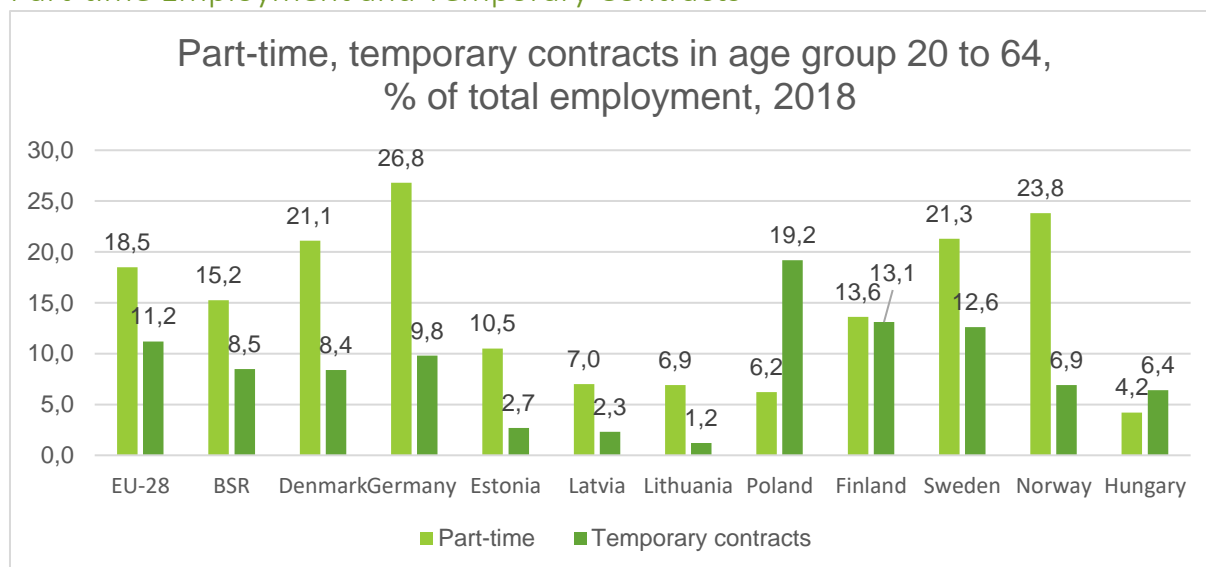
The strong link between the educational attainment and employment can be observed in both the EU and the Baltic Sea region. Employment rates are higher for more well-educated people. In 2018, the employment rate among tertiary education graduates (87.8%) was much higher than the EU average total (73.6%). In contrast, people who have reached less than primary, primary and lower secondary education are employed at 40% on average in BSR, showing very low employment rates in Lithuania and Poland at 20% level. The employment rate for people with upper secondary or post-secondary non-tertiary education was in between the levels - tertiary education - and slightly above the overall BSR average employment rate²⁰.

These findings underline the importance of education for employability. Increasing educational attainment and equipping people with skills for the knowledge society are, therefore, a major focus of European employment policies addressing Europe 2020 headline targets on employment and education²¹.

²⁰ cf. European Union 2018, p. 35

²¹ European Union 2018, p. 35

Part-time Employment and Temporary Contracts



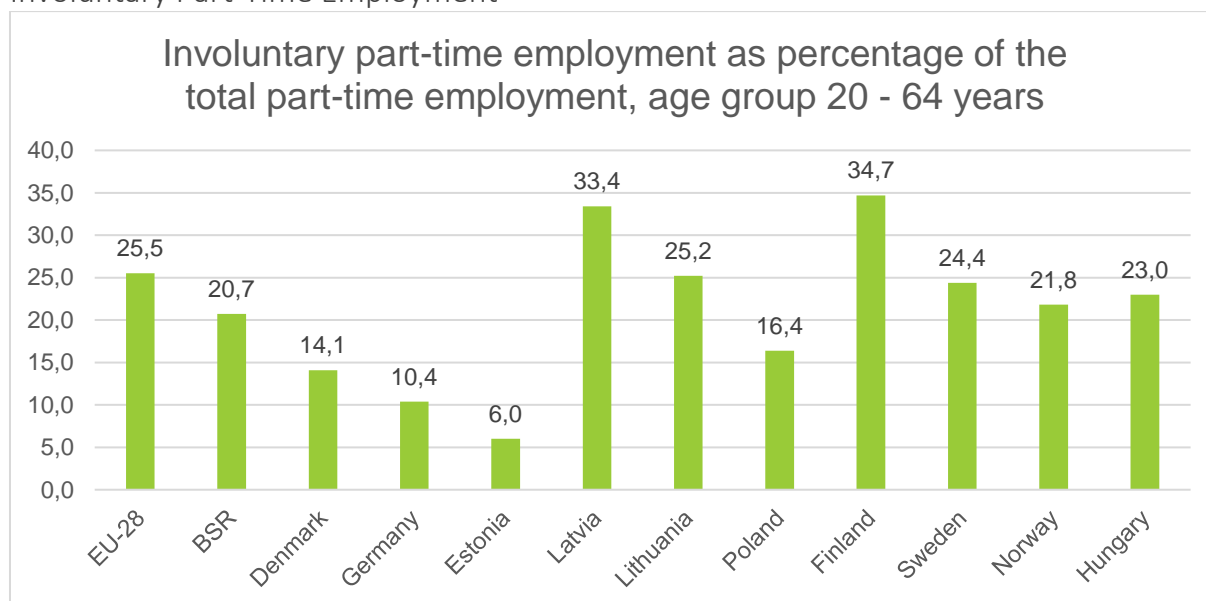
Data source: Eurostat; own calculation

There is a distinct split between eastern and western regions, with much lower part-time employment rates generally recorded in the former. These patterns probably reflect the maturity of labour markets and the impact of national employment legislation alongside a high degree of conformity within each Member State as regards attitudes to part-time work.

Part-time in Eastern BSR countries – very low level.

It is interesting to note in Poland, where part-time employment is 6.2%, which is more or less in average compared to other eastern Baltic Sea region countries, and temporary contracts, which have a strong above-average share of 19.2% in the labour market both in BSR and in the EU-28 as a whole.

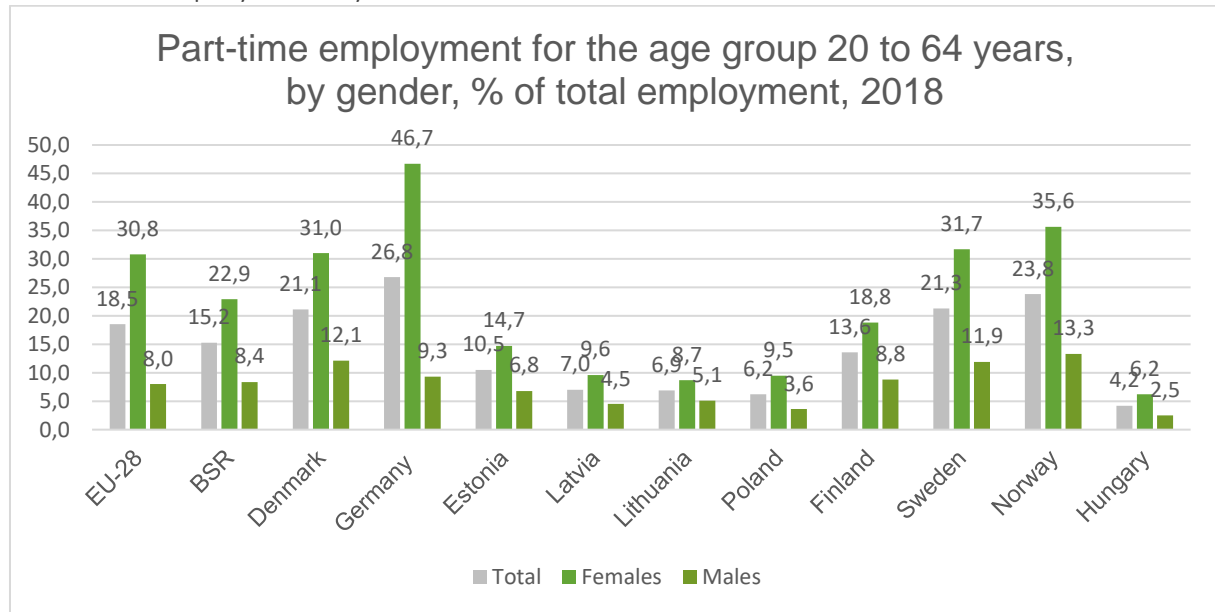
Involuntary Part-Time Employment



Data source: Eurostat; own calculation

One in four part-time workers in EU-28 countries is involuntarily employed part-time; in the Baltic Sea region this is one in five. The most conscious choice for part-time work is in Estonia, where involuntary part-time work is lowest at 6%.

Part-time Employment by Gender



Data source: Eurostat; own calculation

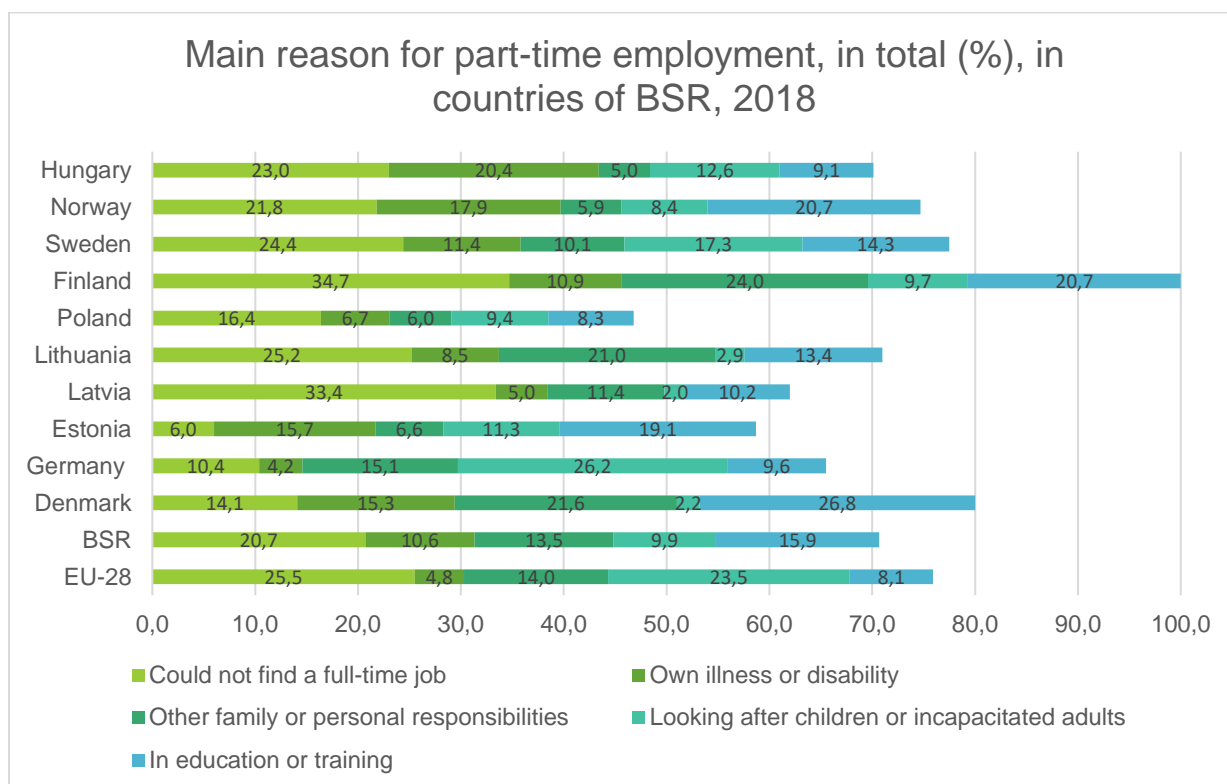
The main reasons for part-time work vary from country to country in the Baltic Sea region. It is interesting to take a closer look (see the table below) by highlighting some findings. In 2018, the most frequently cited reason for part-time work in Germany is "looking after children" with 26.2 percentage points. In no other BSR country was this mentioned as the main reason, therefore the BSR average here is only 9.9%, but in EU-28 it is 23.5%.

One in five part-time employees in Hungary does not work full-time for the reason of "own illness or disability". Nowhere in BSR as many as here. The average is close to 17.9 in Norway and 15.7 and 15.3 in Estonia and Denmark.

In Denmark, for example, the main reason for part-time work is being in education or training - 26.8%.

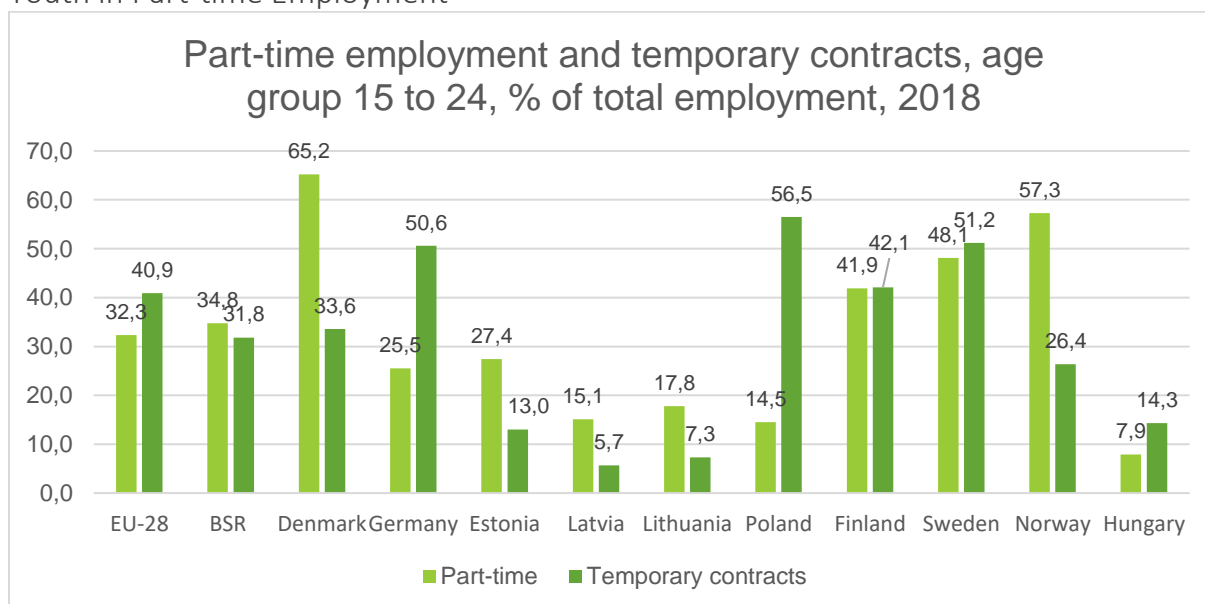
However, in many BSR countries the main reason for part-time work is "could not find a full-time job". Finland with 34.7 leads the top of the country list for this reason, followed closely by Latvia – 33.4%. This is also the main reason in BSR by average.

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Data source: Eurostat; own calculation

Youth in Part-time Employment



Data source: EUROSTAT; own calculation

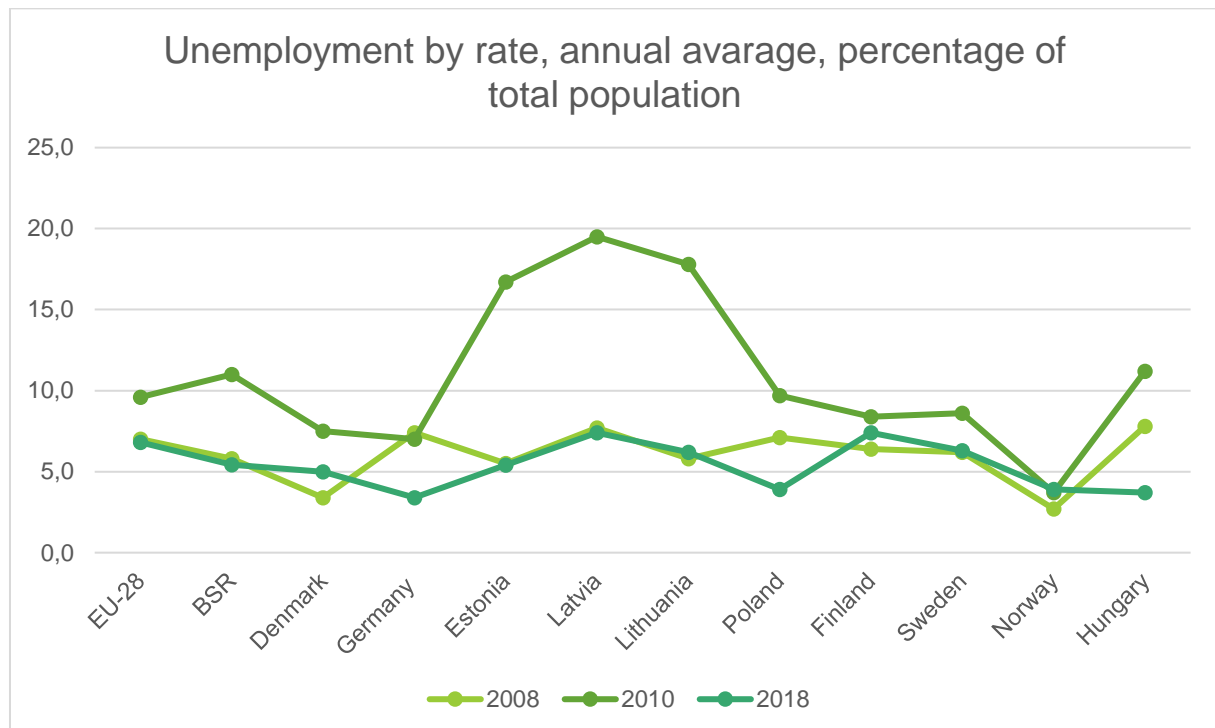
Youth in part-time are two times more likely to be employed than the age group of 20 – 64 years old. A high proportion of young people in part-time are in Denmark and Norway.

However, 56.5% are employed in Poland and one in two in Germany on the basis of temporary contracts.

Unemployment²²

Unemployment can have an impact not just on the economic well-being of a country (unused potential labour input and higher social protection payments) but also on the well-being of individuals who are without work. The personal and social costs of unemployment are varied and include a higher risk of poverty, debt or homelessness, while the stigma of being unemployed can cause a reduction in self-esteem, a breakdown in family/personal relations, or social exclusion²³.

In 2019, the recovery of the European labour market continued at a rapid pace, with employment in the EU in 2018 exceeding pre-crisis levels and unemployment rates approaching pre-recession levels. In February 2019, the unemployment rate reached 6.8% in the EU-28 and in the BSR – 4.4% (and 4.3% incl. HU). The decline in unemployment continued to be stronger than expected due to the dynamics of economic growth. All countries benefited from the economic recovery spurred by the dynamism of domestic demand, strong consumer and business confidence and favourable macroeconomic policies, as this is reflected in the lower dispersion of unemployment rates²⁴.



Source: Eurostat, own calculation

The graph shows 3 selected points from recent history: 2008 - unemployment rate before the economic crisis, 2010 - during the economic crisis when the highest unemployment rates were reached and 2018 - current figures.

In the BSR, Latvia and Finland had the highest unemployment rates (7.4%) in 2018 and are therefore higher than the EU-28 average of 6.8%. Latvia and Finland have by far the highest unemployment rates, with the same level of 7.4%. Nevertheless, in Latvia in particular, this is to be a good development, as the labour market in Latvia was hit hardest during the global economic crisis with 19.5 percentage points of

²² Based on the ILO definition, unemployed persons are aged 15 to 74 who: -are without work; -are available to start work within the next two weeks; -and have actively sought employment at some time during the previous four weeks.

²³ Eurostat statistics explained: labour market statistics at regional level: https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Labour_market_statistics_at_regional_level#Unemployment (May 2019).

²⁴ Cf. European Commission (2017): Labour Market and Wage Developments in Europe. Annual Review 2017. Luxembourg: Publications Office of the European Union, 2017, p. 1, 8.

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unemployment in the BSR. In addition, the unemployment rate in Latvia today is lower than pre-crisis unemployment rate.

Overall, in 2010 the three Baltic States - Latvia, Estonia and Lithuania - were most affected by the economic crisis demonstrating 19.5%, 16.7% and 17.8% unemployment rate respectively, but have recovered most rapidly and in 2018 Estonia and Lithuania have lower unemployment rates than the EU-28 average of 6.8%. Latvia is slightly above the average with 7.4 percentage points. Against the background of the development of unemployment around the Baltic Sea, the Eastern European countries have taken the right steps towards the unemployment problem, as shown by the positive developments in the Baltic States above, Hungary and Poland. So, after Germany (3.4%), Hungary has the second lowest unemployment rate and Poland the third lowest in the Baltic Sea region in 2018.

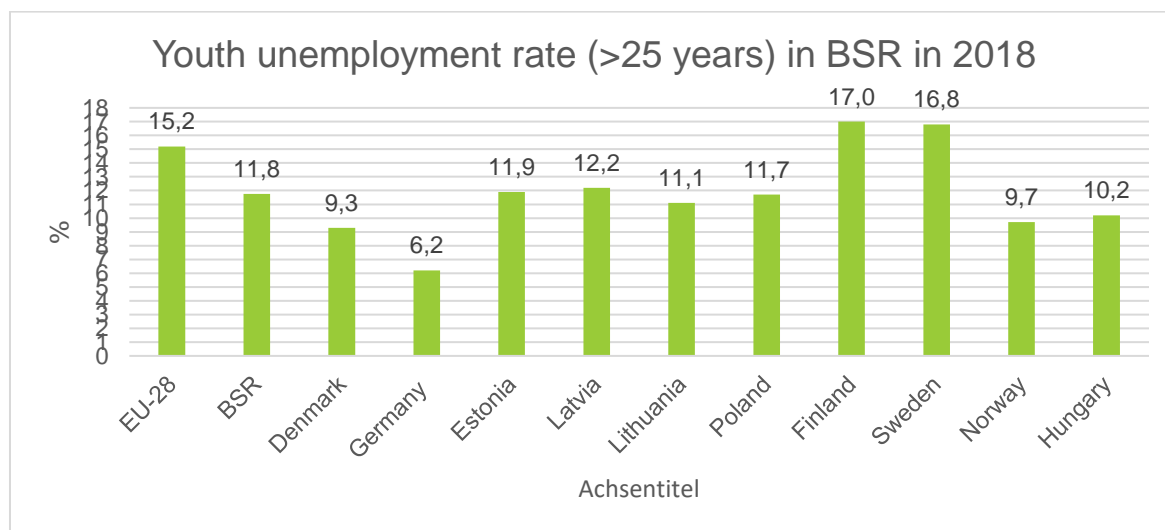
Most of the Baltic Sea region countries have lower unemployment rates in 2018 than before the crisis - Hungary, Poland, Latvia, Estonia, Germany - and the BSR and EU-28 wide average. However, in Denmark, Lithuania, Finland, Sweden and Norway these are higher today as the ones ten years ago.

Unemployment Rate by Regions

Looking at the unemployment rate in NUTS-2-regions²⁵ scale in BSR, the lowest rate is observed with 2.0% in Hungary in Nyugat-Dunántúl region²⁶, followed by regions with 2.2% unemployment rate – Pest and Közép-Dunántúl (Hungary) and region of Wielkopolskie (Poland). In contrast, the highest unemployment rate is identified in Sydsverige (Sweden) – 8.3% and in Pohjois- ja Itä-Suomi (Finland) – 8.1%.

Unemployment Rate by Age

In the previous paragraph, the total unemployment rate has already been shown. Now, this age group of 15-74-year-olds belonging to the active population group is divided into "less than 25 years" and "25 to 74 years" in order to highlight youth unemployment²⁷. Youth unemployment is given high priority in describing the economic development of a country, as youth unemployment is an important indicator of this.



²⁵ Definition for nuts regions here: <https://ec.europa.eu/eurostat/web/nuts/background> (May 2019)

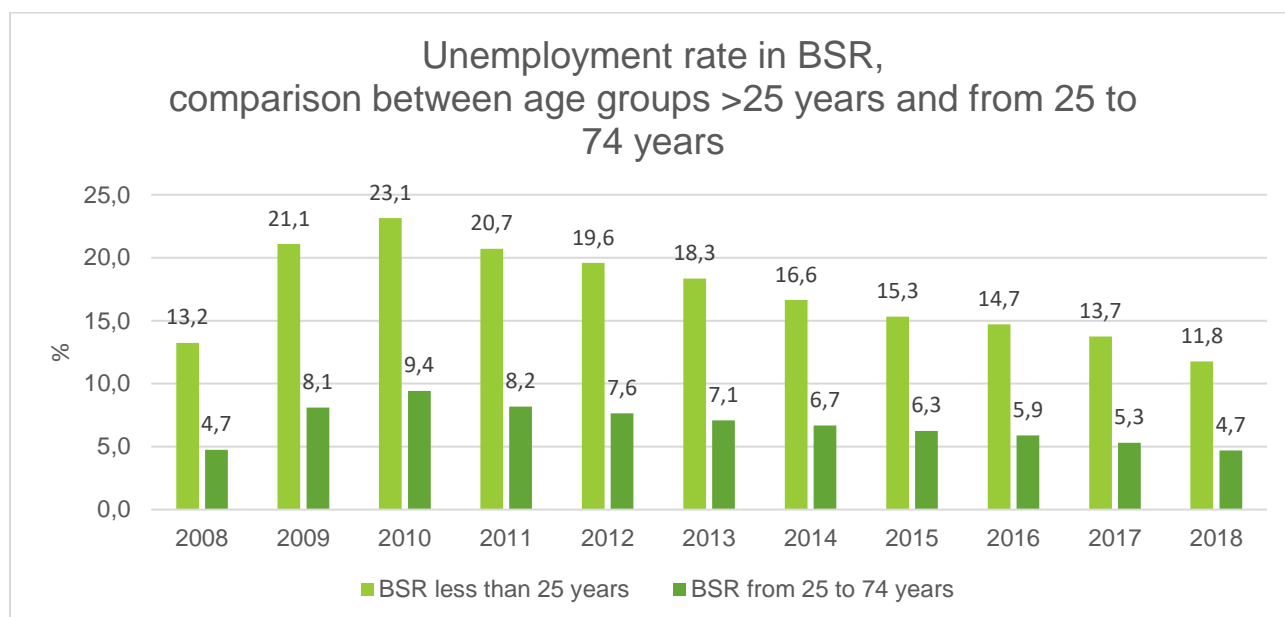
²⁶ In the case Germany is not considered as a whole in the BSR, but parts in North. Otherwise, regions in southern Germany are at the top: Mittelfranken (1.8%), Oberpfalz und Tübingen (1.9%).

²⁷ The **youth unemployment rate** is the unemployment rate of people aged 15 to 24. In contrast, the **youth unemployment ratio** is the percentage of unemployed young people compared to the total population of that age group (not only the active, but also the inactive such as students).

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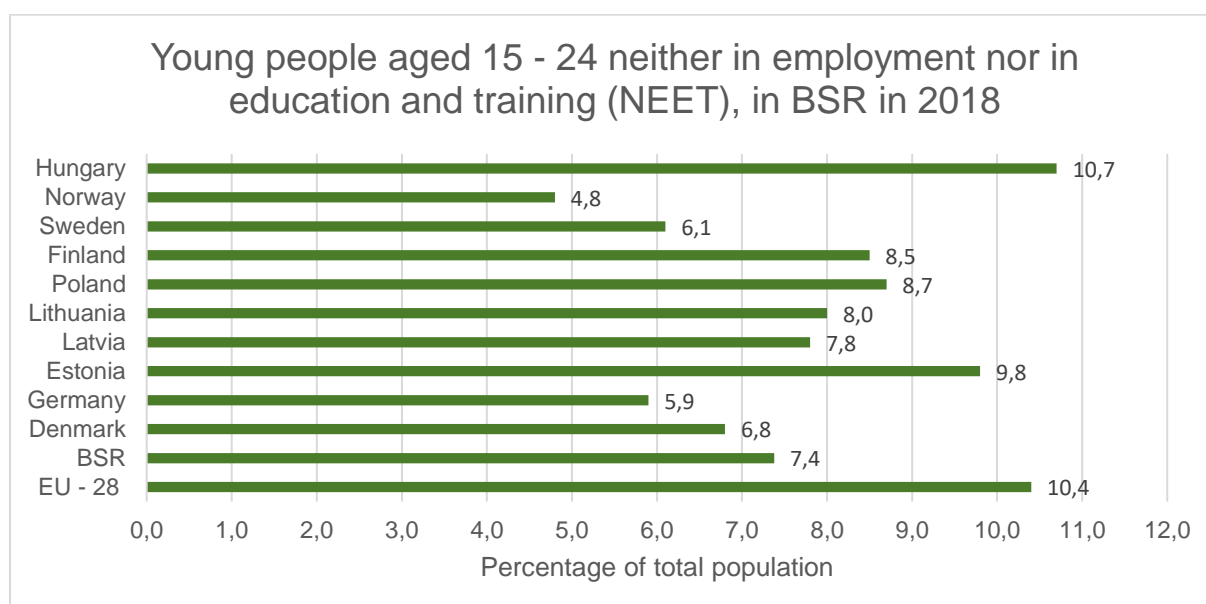
In total numbers, 677 thousand young people (aged 15-24 years) are unemployed in 2018 in the BSR (excl. Hungary).

By direct comparison, it can be seen that youth unemployment in the Baltic Sea region has been double or almost even three times higher than the of 25-74-year-old (see figure below). The development of the youth unemployment rate is subject to the macroeconomic developments of a country, such as the rate of 25-74-year old, but the young people are more strongly affected by the economic fluctuations; face specific challenges in the transition from school to work; need to overcome structural changes like unsatisfactory outcomes in education and training, segmentation of labour markets affecting young people, and at times the low capacity of public employment services to provide tailored services to young people, particularly to the most vulnerable.



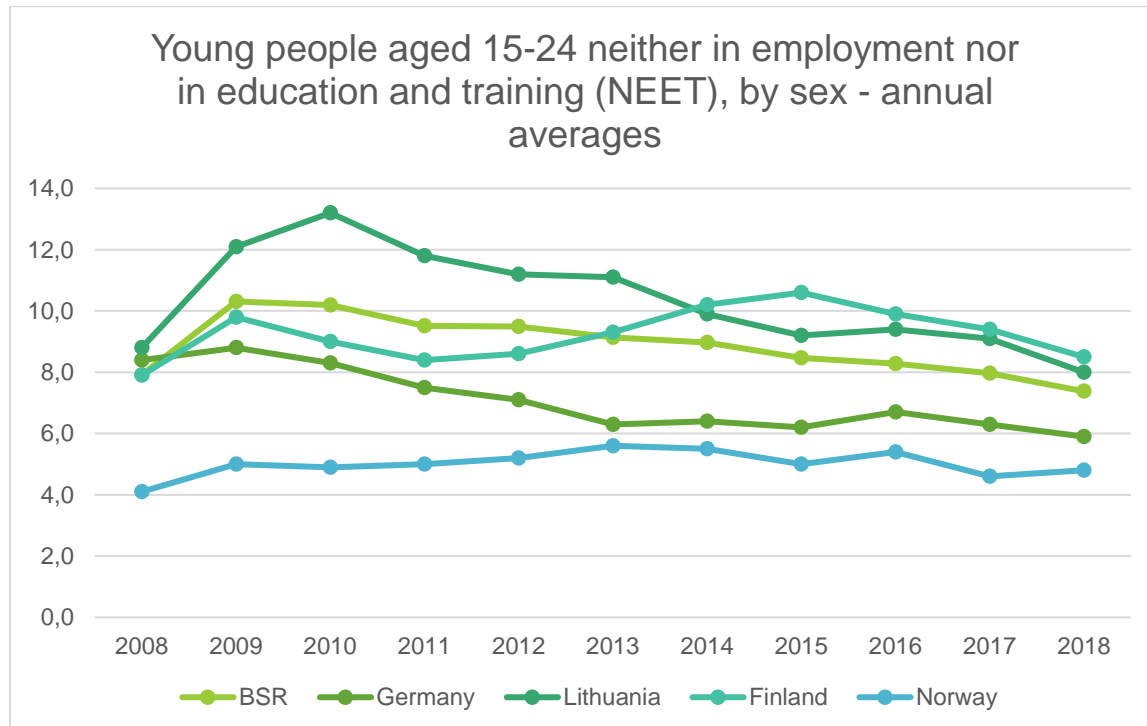
* calculated: percentage of active population

In 2018, 7.4% % of 15 to 24-year olds were neither in employment nor in education (NEET) in the Baltic Sea region, exposing themselves to the risk of labour market exclusion and dependence on social security.



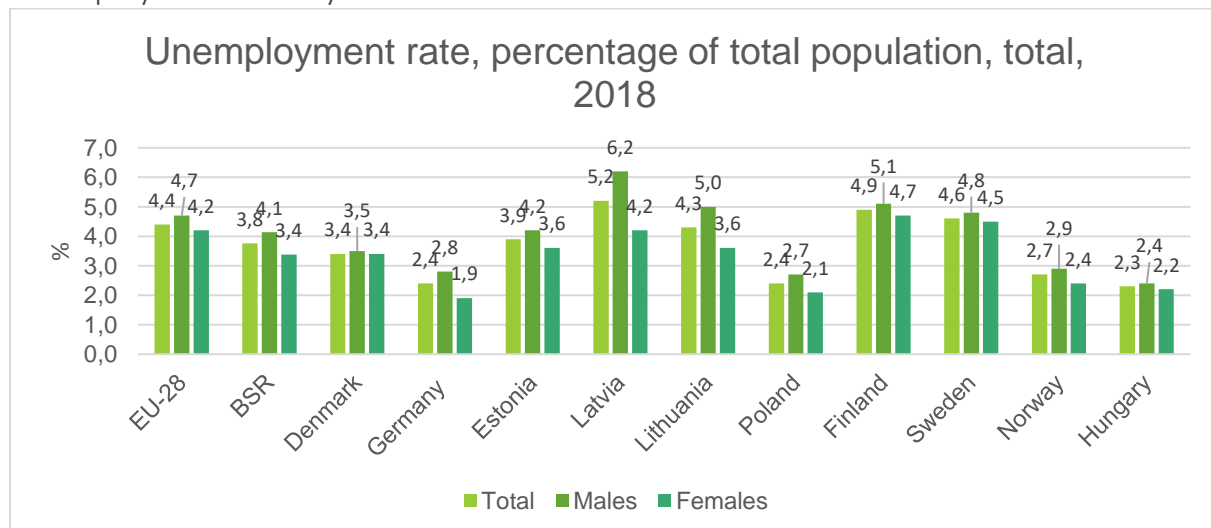
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It is interesting to note that the proportion of young people who belong to NEET has changed over the last 10 years in the individual countries without making comparatively large leaps, i.e. if, then by a few percentage points e.g. during the economic crisis, then settled back to a level that can still be observed.



* for better visibility, NEET indicators presented by selected countries; for all countries: online data code [lfsi_neet_a], Eurostat

Unemployment Rate by Gender



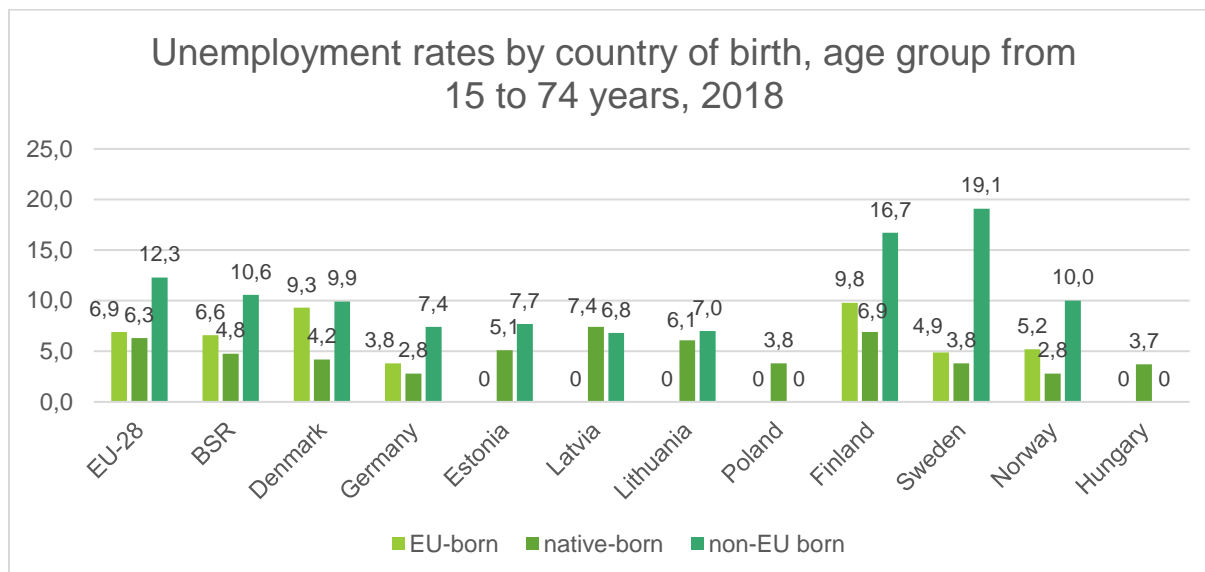
Unemployment Rate by Country of Origin

Unfortunately, not all countries have complete data sets on unemployment rate of population born abroad – in other EU country or third country, therefore the value 0 is considered "no data available" as it is in Hungary, Poland and for EU-born population in Estonia, Latvia and Lithuania.

An analysis for the individual EU Member States confirms that unemployment rates were generally lower for native-born rather than foreign-born populations. The highest rate between these three population groups are observed under non-EU born, except for Latvia, where the native-born unemployment rates were 0.6% higher.

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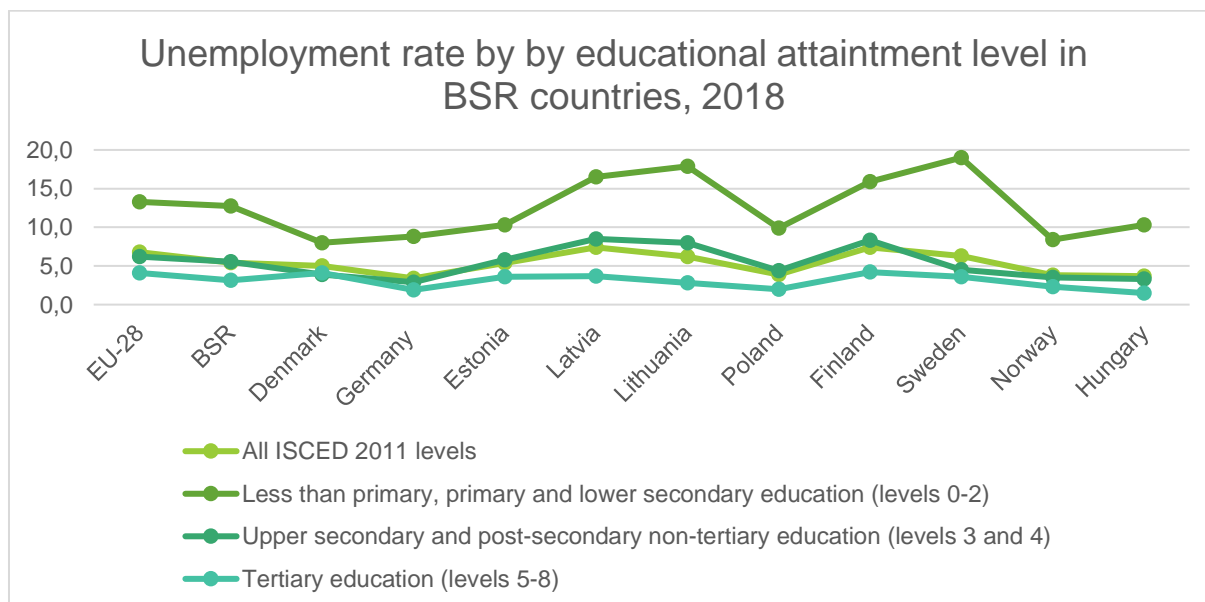
The average percentage of non-EU born is 6 percentage points higher than the one of native-born and 5.4% higher than of EU-born.



*EU-born = other than the reporting country

Unemployment Rate by Educational Level

A reflection of the employment rate by educational attainment level can be seen in the unemployment rate. Accordingly, the unemployment rate is highest for people with “less than primary, primary and lower secondary education (levels 0-2) and the lowest having tertiary education degree (levels 5-8).



Human Resources and Organisational Development

As can be seen from the analysis above, the BSR will have to deal with major structural challenges in the near future. In order to safeguard sustainable growth and good living conditions, growth will have to be generated by innovation as an aging society and labour mobility will make it increasingly difficult to retain talent and the necessary work force. Therefore, a focus should be put onto Workplace Innovations that

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will make it possible for companies, especially SMEs, to increase productivity in spite of a lack of human resources.

Workplace Innovations are defined by Totterdill (2013)²⁸ as “designate new and combined interventions in work organisation, human resource management, labour relations and supportive technologies. It is important to recognise both process and outcomes. The term workplace innovation describes the participatory and inclusive nature of innovations that embed workplace practices grounded in continuing reflection, learning and improvements in the way in which organisations manage their employees, organise work and deploy technologies. It champions workplace cultures and processes in which productive reflection is a part of everyday working life. It builds bridges between the strategic knowledge of the leadership, the professional and tacit knowledge of frontline employees and the organisational design knowledge of experts. It seeks to engage all stakeholders in dialogue in which the force of the better argument prevails. It works towards ‘win-win’ outcomes in which a creative convergence (rather than a trade-off) is forged between enhanced organisational performance and enhanced quality of working life.”

The following four examples from the Baltic Sea region illustrate the main features of this definition:

1. **TYKY – maintaining the work ability and concept of work ability management** – is a Best Practice from the category “process of productive reflection as part of everyday working life”. This Workplace Innovation was launched by the Social Insurance Institution of Finland (KELA) with the goal to improve working environment, health and safety of employees thereby decreasing the risk for accidents and early retirements. After careful study of the status quo which indicated increasing numbers of early retirement and sick leaves because of musculoskeletal and connective tissue diseases or mental problems, goals were defined, and corresponding activities were planned and implemented. The activities may include individual rehabilitation, group rehabilitation, leisure activities, work ability theme days, motivation campaigns, campaigns against harassment, improving the safety and ergonomics in the workplaces, rethinking the tasks and content of each job etc. Often, insurance companies might pay part of the costs of immaterial activities, but not of implementing new equipment or other costs directly connected to company’s business activities.
2. **Corpworking for SMEs** – is a Best Practice representing the category “interaction between stakeholders within and outside the organisation”. Here, SMEs rent desks at coworking spaces for their employees. This benefits employees because they have to spend less time commuting to work and have the possibility to interact and network with people for other field which fosters creativity and “outside the box”-thinking. For employers it is an easy solution since co-working spaces are more flexible in their renting conditions than renting entire offices, they are already equipped and usually include community areas etc.
3. **Fastems: The Way We Rock** – has been classified as a Best Practice in the group “process which builds bridges between the strategic knowledge of the leadership, the professional and tacit knowledge of frontline employees and organisational design knowledge of experts”. In this Workplace Innovation a working group of ten employees was given the task to find the root causes behind the problems the company was facing, i.e. profit-making ability, values, core processes and performance were all lagging. This transformation programme was named New Fastems Journey and required the input of every employee. It was all about leadership, the main business processes, responsibilities, indicators, organisational structure and above all, organisational culture. When the processes are functional and effective and people feel satisfied in their work, the organisation tends to succeed.

²⁸ Totterdill P. (2013), *Workplace Innovation: The Fifth Element*, EUWIN, Nottingham [online]
<http://portal.ukwon.eu/the-fifth-element-new> (accessed 13 August 2015).

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4. **Nonmonetary motivations to ensure employees satisfaction with workplace** – is a Best Practice from the category “process towards win-win outcomes for the organisation and employees”. These motivational measures are for example the freedom to choose the tools for work, paid training, flexible working hours, birthday gifts from the company, paid gym memberships, free lunches, a sauna and swimming pool at the office, inspiring guest lecturers, informal team building activities such as Christmas parties, sports teams, boat trips etc., or a day off on your birthday. These measures aim to increase employees’ motivation, satisfaction, productivity, loyalty, innovativeness and appreciation.

While large companies have the time and resources to develop elaborate strategies to make the most of their staff by improving their work life, small companies lack these resources. However, especially these companies could benefit to a great extent from Workplace Innovations. Therefore, the Knowledge Alliance for Human Resources carried out a survey of business support institutions and SMEs of the Baltic Sea region to assess the status quo. The survey showed that economic chambers attach great importance to HR issues, they offer training, coaching and consulting measures as well as development projects. Furthermore, specific services for personnel development exist but not for HR policy in general. The survey results suggest that support organisations overestimate the importance of modern topics, such as digitalisation, and underestimate the importance of recruiting and training.

Using these insights, the Knowledge Alliance aims to support SMEs in better Human Resource Management. To offer targeted measures, the SMEs were supposed to be grouped into categories. However, the analysis of economic structures in the Baltic Sea region as well as the identification of conditions and qualification needs showed that SMEs in various sectors differ only marginally in terms of Workplace Innovation and their conditions for implementation. If anything, differences can be detected between different business sizes. Therefore, instead of using a prototype-based “search-model”, the Knowledge Alliance developed an SME-specific “finding-model”. With this instrument, SMEs can easily analyse the status quo of their company and quickly find out which type of Workplace Innovation is particularly important for the respective company. Based on the particularly relevant types of Workplace Innovations found this way, the individual SMEs can then use the corresponding best practices and support measures of the project (or also additional best practices) for realisations in their company.

Nevertheless, there are some aspects that can be taken into account when addressing the issue of Workplace Innovations and Human Resource Management for SMEs. As stated above, much depends on the size of the company. A micro enterprise with 4 employees has different needs than a medium-sized business with a staff of 200 people. Work processes in a 150-people firm are organised differently than in a company with 20 people. This has an effect on the type of Workplace Innovation that is needed to improve a business. However, in the BSR, much like the rest of the EU, the majority of businesses are micro enterprises. While the total share is 88,8%, it goes up to almost 96% of all businesses in Poland, and even the lowest share (in Germany) is still 82%. Hence, in the individual consultation or training case it is important to take the size of the business into account. However, the diversity of businesses within the size-groups is too high to make general claims about which Workplace Innovations would work.

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	Large (251+)	Medium (50 – 250)	Small (10 – 50)	Mirco (1 – 9)	Total
DK	652 (0,3%)	3.714 (1,7%)	20.079 (9,1%)	194.104 (88,8%)	218.549
GER	11.762 (0,5%)	60.505 (2,5%)	373.276 (15,1%)	2.022.140 (81,9%)	2.467.686
EE	169 (0,2%)	1.047 (1,5%)	5.449 (7,7%)	63.952 (90,5%)	70.617
LV	198 (0,2%)	1.432 (1,2%)	7.454 (6,5%)	106.392 (92,1%)	115.477
LT	345 (0,2%)	2.234 (1,2%)	11.448 (5,9%)	178.530 (92,7%)	192.557
HU	878 (0,2%)	4.451 (0,8%)	27.172 (4,9%)	518.649 (94,1%)	551.173
PL	3.315 (0,2%)	15.273 (0,9%)	56.105 (3,3%)	1.620.219 (95,6%)	1.694.912
FI	589 (0,3%)	2.827 (1,2%)	16.662 (7,3%)	208.538 (91,2%)	228.616
SE	1.025 (0,1%)	5.489 (0,8%)	31.833 (4,5%)	664.688 (94,5%)	703.035
NO	590 (0,2%)	3.085 (1,0%)	22.055 (7,4%)	270.693 (91,3%)	296.423
Total	19.523 (0,3%)	100.057 (1,5%)	571.533 (8,7%)	5.847.905 (88,8%)	6.539.045

Source: Eurostat

Other aspect that has to be considered when finding the right Workplace Innovation, is the prevalent business or company culture of the region. This is important because it “reflects a complex interaction of values that characterise attitudes and behaviors, as is reflected by the members” (Cîmpeanu, M.-A. & Pîrju, I. S., 2010, p.291)²⁹. Hence, work processes, leadership style etc. may vary to a great extent depending on the business culture, therefore having a great impact on which kind of Workplace Innovation works. While the overall European business culture can already be clearly distinguished from other cultures, e.g. the Asian or American model, there are also difference between the European regions.

Lessem and Neubauer (1993)³⁰ distinguish between the Nordic, Southern, Western, and Eastern management systems. The countries of the BSR being part of the Nordic and Eastern systems, where the Nordic countries are characterised by thinking, a very bureaucratic culture, object-oriented knowledge, strategic planning, managerial control, long-term forecasts and a change-oriented management. The Eastern countries, south of the Baltic Sea, on the other hand are characterised by intuition, an industrial culture, bent work ethic, appreciation of art, work discipline, long-term perspective and a management acting as architect.

Yochanan Altman (1992)³¹ has a similar geographic distinction, dividing between traditionally capitalist countries (GER), Southern countries, Scandinavia (DK, SE, NO, FI) and former Communist countries (LV, LT, EE, PL, HU). The traditionally capitalist countries, with a strong sense of national identity, display a value system that is based on entrepreneurial spirit, the ability to innovate, and freedom of action. Scandinavia’s business culture is marked by a well-developed social care sectors and characterised by a wide range of opportunities, access to resources, and acceptance of responsibility. Furthermore, it is associated with security. Lastly, the former communist countries are shaped by two values systems: one imposed by the communist regime which is characterised by respect for hierarchy, a merger of work and individual life, money does not have much of a value and an attitude where the function is more important than the person. These characteristics still have an influence on the now prevailing second values system which is more specific to the individual countries.

Size and culture are two aspects determining what kind of Workplace Innovation is more likely to be needed in certain businesses. Another way to address the issue is, to investigate working conditions as

²⁹ Cîmpeanu, Mariana-Aida & Pîrju, Ionel Sergiu (2010). The specificity of the Organizational Culture in European Management. *European Integration – Realities and Perspectives*, 290-295.

³⁰ Lessem, Ronnie & Neubauer, Franz-Friedrich (1993). *European Management Systems: Towards Unity Out of Cultural Diversity*. McGraw-Hill.

³¹ Altman, Yochanan (1992). Towards a cultural typology of European work values and work organisation. *Innovation: The European Journal of Social Science Research*, 5, 35-44.

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well as labour shortages to get an idea of the geographical and occupational areas in which consultations by business support institutions might be especially helpful.

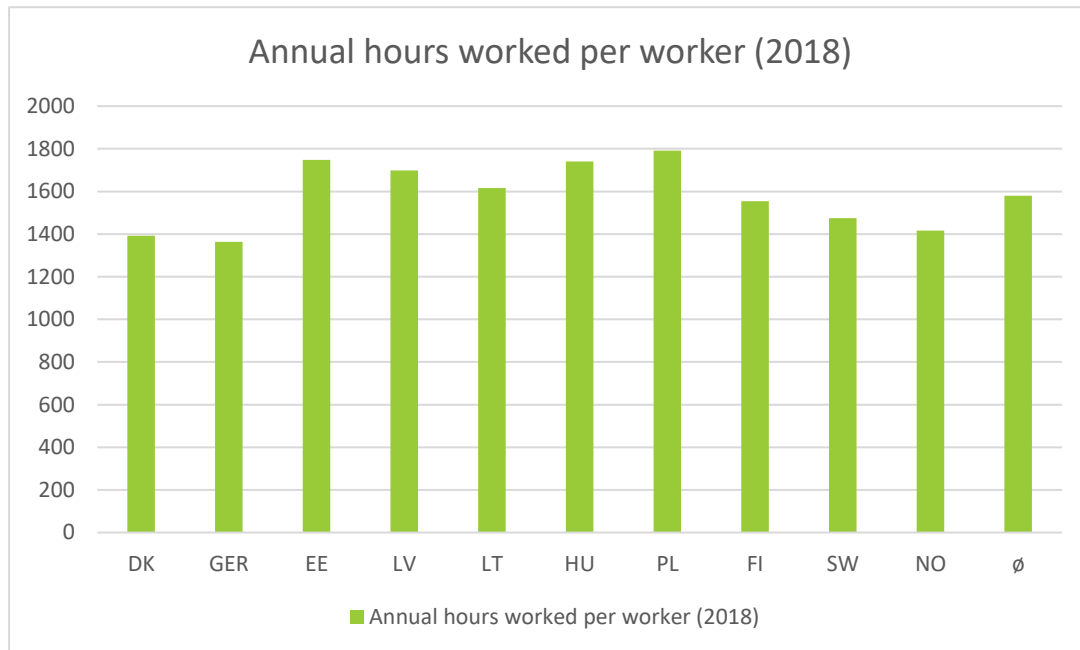
The three sectors in the EU with the highest vacancy bottlenecks are manufacturing, construction as well as health and social care. This is also reflected in the main bottleneck occupations listed by European employment services in 2017, i.e. plumbers and pipe fitters, general medical practitioners as well as welders and flame cutters as the top two and three occupations with labour shortages. In these areas, there is a lack of qualified employees, making it even more important to create an environment that fosters innovation, efficiency, motivation, and loyalty. While these numbers are not specifically for the Baltic Sea region, they can still be used by business support institution to get an idea of the areas in which there is a profound need of supporting businesses in optimising their work processes to increase motivation and innovation as well as attracting and retaining much needed personnel.

Occupation	Number of PES reporting occupation as shortage	Occupation	Number of PES reporting occupation as shortage
Cooks	16	Systems analyst	10
Plumbers and pipe fitters	13	Cleaners and helpers in offices, hotels etc.	10
Generalist medical practitioners	13	Bricklayers and related workers	9
Welders and flame cutters	12	Building and related electricians	9
Heavy truck and lorry drivers	11	Butchers, fishmongers and related food	9
Metal workers, machine tool setting and operators	11	Motor vehicle mechanics and repairers	9
Nursing professionals	11	Nursing associate professionals	9
Software developers	11	Sheet-metal workers	9
Agriculture and industrial machinery repairers	10	Shop sales assistants	9
Commercial sales representatives	10	Waiters	9
Specialist medical practitioners	10		

Source: McGrath, John & Behan, Jasmina (2018). A comparison of shortage and surplus occupations based on the data from the European Public Employment Services and Labour Force Surveys – Labour shortages and surpluses 2017. ICON-INSTITUT Public Sector GmbH.

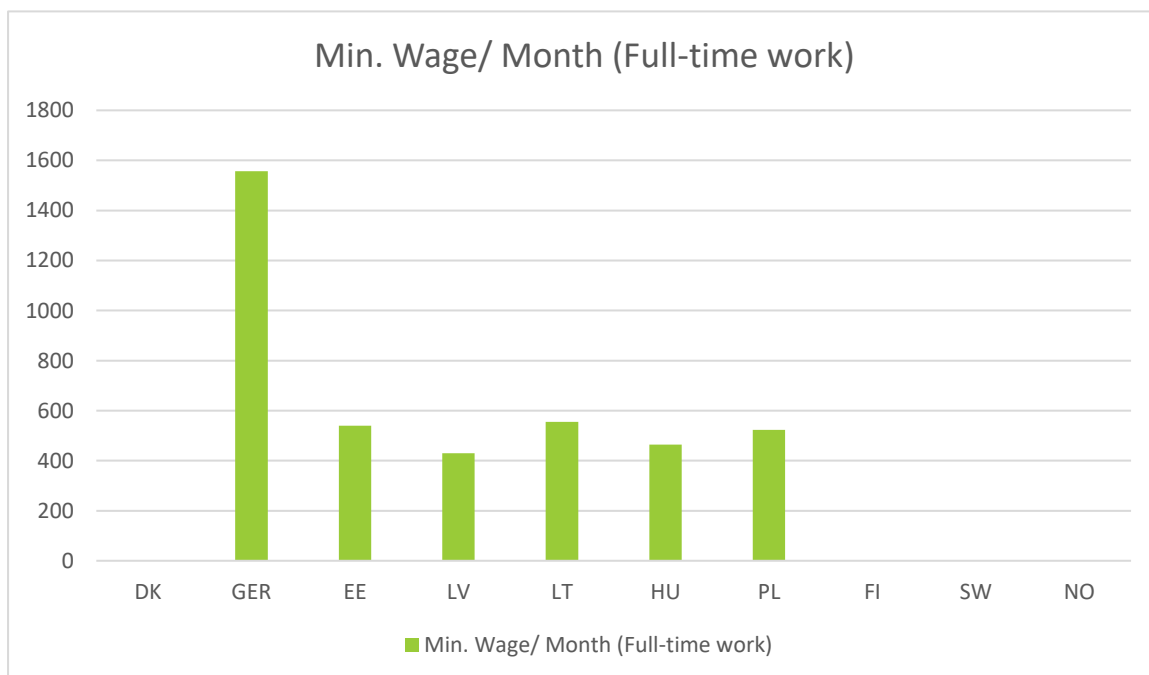
Lastly, the overall working conditions are also an interesting starting point. First of all, there are legal framework conditions that determine among other things annual leave regulations, working hours and dismissal protection. While the normal work week in all BSR countries consists of five working days per week, usually consisting of 40 working hours (8 hours per day), annual hours worked are generally much higher.

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Source: OECD

As has been seen in earlier chapters of this report, the wage level in the Nordic BSR countries is much higher than in the countries South of the Baltic Sea. Nevertheless, it is only in those countries that no regulation on minimum wage exists.



Source: The European Job and Mobility Portal

The minimum annual leave in all Eastern countries, including Germany, is 20 days, whereas employees in the four Nordic countries receive 25 days. However, it is important to note that the practiced amount of annual leave days can go much higher, depending on the country. In Finland, for example, it is common to have a holiday bonus of 13 – 18 extra days. In Germany there is an average of 30 days of paid vacation even though the legal minimum is only 20 days. In Poland the number of paid vacation days goes up to 26

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days after 10 years of employment and in Hungary, the days increase as well according to age and the number of children one has to care for. Public holidays range from 9, in Sweden, to 14, in Lithuania.

Especially in comparison to other parts of the world, the maternity and paternity leave regulations in Europe are rather good. Nevertheless, there are still differences between the BSR countries.

Country	Maternity Leave	Paternity Leave	Parental Leave
DK	4 weeks before delivery + 14 weeks afterwards	2 weeks during 14 weeks of maternity leave	Each parent of up to 32 weeks after maternity leave
GER³²	6 weeks before delivery (not mandatory) + 8 – 12 weeks after delivery	-	Full- or part-time for both parents until child is 3 years old
EE	10 – 4 weeks before delivery + 20 – 22 weeks afterwards	10 days from 8 weeks before delivery until delivery	Unpaid for either parent until child is 3 years old
LV	10 - 8 weeks before delivery + 16 weeks after delivery	10 days after delivery (no later than 2 months afterwards)	18 weeks for each parent until child is 8 years old
LT	10 weeks before delivery + 8 weeks afterwards	30 uninterrupted days after delivery (no later than 3 months afterwards)	Parents entitled until child is 3 years old
HU	24 weeks (2 must be taken)	-	Either parent is entitled to unpaid leave until the child is 3 years old
PL	20 – 37 (in case of more than one child) weeks	2 weeks until child is 2 years old	32 – 34 weeks after maternity leave + childcare leave of up to 36 months until child is 6 years old
FI	15 weeks	54 days of which 1-18 days can be used together with maternity leave	22,5 weeks after maternity leave
SW	8,5 weeks before delivery	10 days around the date of delivery	Both parents are entitled to full-time leave until child is 18 months old
NO³³	19 weeks	19 weeks	Both parents are entitled to 30 – 40 weeks

Sources: The European Job and Mobility Portal

If the employee wants to terminate the work contract the usual period of notice is one month. In some countries, it can be less; for example, 14 days for a contract of under 5 years in Finland, 5 – 20 days depending on the reason for termination in Lithuania or 14 days – 6 months depending on the duration of the contract in Poland. If employers terminate the contract it can be immediate if the termination is due to a wrongful action of the employee. Otherwise it depends on the duration of the contract and can be from 14 days to 7 months. In countries with strong unionism, employees are encouraged to always reach

³² <https://www.bmfsfj.de/bmfsfj/service/gesetze/mutterschutzgesetz/73762>

³³ https://www.norge.no/en/life_situation/having-child

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out to their union in case they are laid off. In Hungary, the employer even has to justify his/her decision to the union. However, what applies for all countries, is a very short period of notification (between 3 and 15 days) for both sides during the probation period.

Different forms of employee representation, such as trade unions or worker's councils, exist in all BSR countries. Their tasks include for example to bargain collective agreements and organise strikes in case of labour disputes. Unions are especially strong in the Nordic countries.

In addition to legal framework conditions, the actual working conditions are also an important factor to look at to understand in which areas Workplace Innovations could be applied. The European Foundation for the Improvement of Living and Working Conditions is a tripartite EU agency providing knowledge to assist in the development of better social, employment and work-related policies. Among other things, the agency collects data on job quality through the European Working Conditions Survey. In the sixth wave of the survey in 2015, nearly 44 000 workers from the EU28, Norway, Switzerland, Albania, the former Yugoslav Republic of Macedonia, Montenegro, Serbia and Turkey were interviewed face-to-face. Job quality is defined by Eurofound in 8 categories with various items covered in the interviews. The eight categories are: (1) physical environment, (2) work intensity, (3) working time quality, (4) social environment, (5) skills and discretion, (6) prospects, (7) job & company context, (8) working life perspectives. The main finding of the survey is that "overall, [...], structural inequalities and differences in terms of gender, employment status and occupation are still significant. In the last 10 years, there has been limited progress in some aspect of job quality."³⁴. The full survey can be found [here](https://www.eurofound.europa.eu/surveys/european-working-conditions-surveys/sixth-european-working-conditions-survey-2015). Below is a selection of items for the BSR.

What is interesting to see in these results, is that the typical divide between the Western and Eastern BSR countries encountered in so many of the economic and structural indicators does not seem to appear in the case of working conditions, or at least not to the same extent.

³⁴ <https://www.eurofound.europa.eu/surveys/european-working-conditions-surveys/sixth-european-working-conditions-survey-2015>

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		Always, most of the time	Sometimes	Rarely, never
Do you have enough time to get the job done?				
	DK	67%	20%	14%
	GER	70%	18%	12%
	EE	84%	10%	6%
	LV	82%	11%	8%
	LT	84%	11%	5%
	HU	78%	12%	9%
	PL	73%	18%	8%
	FI	74%	16%	10%
	SE	68%	19%	13%
	NO	77%	17%	6%
Does your job require that you hide your feelings?				
	DK	18%	28%	55%
	GER	28%	23%	49%
	EE	32%	24%	43%
	LV	35%	25%	41%
	LT	31%	29%	40%
	HU	42%	20%	39%
	PL	26%	22%	52%
	FI	26%	35%	39%
	SE	25%	34%	42%
	NO	18%	31%	51%
Do your colleagues help and support you?				
	DK	84%	12%	4%
	GER	67%	18%	14%
	EE	76%	15%	8%
	LV	68%	17%	15%
	LT	80%	15%	5%
	HU	80%	10%	10%
	PL	54%	27%	19%
	FI	83%	12%	4%
	SE	71%	22%	7%
	NO	88%	8%	4%
Does your manager help and support you?				
	DK	70%	20%	10%
	GER	47%	25%	28%
	EE	59%	22%	19%
	LV	61%	22%	17%
	LT	71%	22%	7%
	HU	76%	14%	10%
	PL	47%	31%	22%
	FI	71%	18%	11%
	SE	52%	32%	16%
	NO	75%	17%	8%

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		Always, most of the time	Sometimes	Rarely, never
Are you treated fairly at your workplace?				
	DK	90%	7%	2%
	GER	91%	7%	3%
	EE	87%	8%	5%
	LV	83%	9%	8%
	LT	75%	19%	6%
	HU	83%	9%	7%
	PL	72%	18%	10%
	FI	93%	6%	2%
	SE	87%	9%	3%
	NO	94%	5%	1%
You are able to apply your own ideas in your work.				
	DK	69%	23%	8%
	GER	40%	26%	33%
	EE	51%	25%	25%
	LV	53%	22%	25%
	LT	41%	28%	31%
	HU	55%	21%	24%
	PL	42%	26%	32%
	FI	73%	20%	7%
	SE	66%	23%	9%
	NO	64%	25%	10%
Are you involved in improving the work organization or work processes of the department or organization?				
	DK	57%	24%	19%
	GER	37%	22%	41%
	EE	55%	20%	25%
	LV	35%	18%	47%
	LT	35%	22%	43%
	HU	47%	18%	35%
	PL	39%	23%	38%
	FI	51%	22%	27%
	SE	45%	30%	25%
	NO	56%	31%	13%
Can you influence decisions that are important for your work?				
	DK	57%	28%	16%
	GER	43%	27%	30%
	EE	51%	27%	22%
	LV	44%	25%	31%
	LT	43%	28%	29%
	HU	45%	22%	33%
	PL	46%	27%	27%
	FI	64%	24%	12%
	SE	53%	30%	17%
	NO	55%	34%	12%

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		Always, most of the time	Sometimes	Rarely, never
Does your job give you a feeling of work well done?				
	DK	89%	9%	2%
	GER	87%	9%	4%
	EE	85%	11%	4%
	LV	76%	16%	7%
	LT	69%	23%	8%
	HU	74%	16%	10%
	PL	73%	19%	8%
	FI	75%	20%	5%
	SE	81%	16%	3%
	NO	88%	10%	2%
Do you feel you are doing useful work?				
	DK	93%	5%	2%
	GER	87%	9%	4%
	EE	87%	9%	4%
	LV	84%	11%	5%
	LT	82%	14%	4%
	HU	85%	8%	6%
	PL	75%	17%	7%
	FI	89%	9%	2%
	SE	83%	13%	4%
	NO	94%	5%	1%
How often in the last 12 months have you worried about your work when you were not working?				
	DK	12%	40%	48%
	GER	5%	16%	80%
	EE	13%	30%	57%
	LV	12%	23%	65%
	LT	9%	30%	62%
	HU	12%	16%	72%
	PL	9%	27%	64%
	FI	18%	36%	46%
	SE	13%	34%	53%
	NO	7%	42%	51%
How often in the last 12 months have you felt too tired after work to do some of the household jobs which need to be done?				
	DK	17%	44%	39%
	GER	13%	34%	53%
	EE	22%	38%	40%
	LV	18%	37%	45%
	LT	13%	44%	43%
	HU	13%	26%	60%
	PL	18%	39%	43%
	FI	17%	43%	40%
	SE	21%	46%	33%
	NO	9%	47%	44%

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		Always, most of the time	Sometimes	Rarely, never
How often in the last 12 months have you found that your job prevented you from giving the time you wanted to your family?				
	DK	7%	31%	62%
	GER	7%	22%	71%
	EE	8%	23%	69%
	LV	13%	65%	22%
	LT	4%	28%	68%
	HU	15%	21%	64%
	PL	11%	29%	60%
	FI	13%	30%	57%
	SE	12%	31%	57%
	NO	6%	33%	61%

		Yes	No
In the last month, has it happened that you had less than 11 hours between two working days?			
	DK	28%	72%
	GER	17%	83%
	EE	17%	83%
	LV	14%	86%
	LT	18%	82%
	HU	15%	85%
	PL	18%	82%
	FI	28%	72%
	SE	28%	72%
	NO	33%	67%
Subject to adverse social behaviour?			
	DK	25%	75%
	GER	16%	84%
	EE	22%	78%
	LV	18%	82%
	LT	16%	84%
	HU	9%	91%
	PL	11%	89%
	FI	20%	80%
	SE	21%	79%
	NO	19%	81%

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		Yes	No
Have you been subjected to discrimination at work in the last 12 months?			
	DK	5%	95%
	GER	6%	94%
	EE	10%	90%
	LV	7%	93%
	LT	4%	96%
	HU	5%	95%
	PL	3%	97%
	FI	9%	91%
	SE	11%	89%
	NO	7%	93%
Does your work involve learning new things?			
	DK	89%	11%
	GER	66%	34%
	EE	82%	18%
	LV	55%	45%
	LT	58%	42%
	HU	54%	46%
	PL	63%	37%
	FI	90%	10%
	SE	91%	9%
	NO	89%	11%
Have you received paid or on-the-job training in the last 12 months?			
	DK	43,5%	56,5%
	GER	39,5%	60,5%
	EE	49,0%	51,0%
	LV	30,5%	69,5%
	LT	33,5%	66,5%
	HU	22,5%	77,5%
	PL	34,0%	66,0%
	FI	54,5%	45,5%
	SE	46,0%	54,0%
	NO	51,5%	48,5%
Do you think your health and safety is at risk because of your work?			
	DK	20%	80%
	GER	18%	82%
	EE	33%	67%
	LV	34%	66%
	LT	28%	72%
	HU	19%	81%
	PL	21%	79%
	FI	25%	75%
	SE	47%	53%
	NO	15%	85%

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		Yes	No	
Does your organization have a health and safety delegate or committee?				
	DK	80%	20%	
	GER	55%	45%	
	EE	54%	46%	
	LV	51%	49%	
	LT	34%	66%	
	HU	39%	61%	
	PL	54%	46%	
	FI	81%	19%	
	SE	79%	21%	
	NO	88%	12%	
Does your organization have a regular meeting in which employees can express their views about what is happening in the organization?				
	DK	72%	28%	
	GER	58%	42%	
	EE	59%	41%	
	LV	58%	42%	
	LT	51%	49%	
	HU	26%	74%	
	PL	36%	64%	
	FI	65%	35%	
	SE	78%	22%	
	NO	73%	27%	
Does your job affect your health?		+	-	
	DK	21%	26%	53%
	GER	5%	19%	76%
	EE	19%	35%	47%
	LV	9%	41%	50%
	LT	4%	37%	58%
	HU	6%	20%	74%
	PL	9%	27%	63%
	FI	23%	25%	52%
	SE	28%	29%	43%
	NO	31%	21%	48%
Do you think you will be able to do your current or similar job until you are 60 years old?				
	DK	81%	19%	
	GER	83%	17%	
	EE	78%	22%	
	LV	69%	31%	
	LT	76%	24%	
	HU	70%	30%	
	PL	60%	40%	
	FI	73%	27%	
	SE	80%	20%	
	NO	73%	27%	

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		Mean
Management quality index		
	DK	73
	GER	70
	EE	68
	LV	68
	LT	71
	HU	74
	PL	71
	FI	74
	SE	71
	NO	81
Level of fairness, cooperation and trust		
	DK	77
	GER	78
	EE	76
	LV	76
	LT	73
	HU	74
	PL	71
	FI	77
	SE	73
	NO	83
Level of engagement		
	DK	73
	GER	68
	EE	67
	LV	68
	LT	69
	HU	65
	PL	63
	FI	69
	SE	69
	NO	72

Is it difficult take an hour or two off to take care of personal or family matters during working hours?		Difficult	Easy
	DK	24%	76%
	GER	46%	54%
	EE	30%	70%
	LV	28%	72%
	LT	34%	66%
	HU	47%	53%
	PL	35%	65%
	FI	20%	80%
	SE	21%	79%
	NO	18%	82%

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How well informed are you about health and safety risks related to your job?		(Very) well informed	Not very or at all informed	
	DK	90%	10%	
	GER	92%	8%	
	EE	94%	6%	
	LV	93%	7%	
	LT	96%	4%	
	HU	92%	8%	
	PL	94%	6%	
	FI	89%	11%	
	SE	87%	13%	
	NO	91%	9%	
Does your job involve being in situation that are emotionally disturbing for you?		(Almost) all of the time	¼ - ¾ of the time	(Almost) never
	DK	4%	20%	77%
	GER	3%	29%	68%
	EE	4%	28%	68%
	LV	6%	35%	69%
	LT	6%	50%	44%
	HU	4%	23%	73%
	PL	7%	31%	62%
	FI	4%	32%	64%
	SE	4%	24%	72%
	NO	2%	21%	77%
Considering all my efforts and achievements I feel I get paid appropriately.		Agree	Neither agree, nor disagree	Disagree
	DK	67%	11%	22%
	GER	57%	21%	23%
	EE	48%	22%	30%
	LV	45%	17%	38%
	LT	42%	21%	37%
	HU	44%	29%	27%
	PL	51%	23%	25%
	FI	62%	7%	32%
	SE	60%	12%	28%
	NO	73%	7%	19%
I receive the recognition I deserve for my work.				
	DK	76%	13%	11%
	GER	66%	21%	14%
	EE	64%	22%	14%
	LV	59%	21%	19%
	LT	55%	28%	17%
	HU	56%	27%	17%
	PL	56%	24%	20%
	FI	78%	11%	12%
	SE	67%	20%	13%
	NO	81%	10%	9%

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How many days were you absent from work for health reasons in the last 12 months?		More than 15	1-15	none	
	DK	8%	55%	37%	
	GER	10%	47%	42%	
	EE	12%	28%	60%	
	LV	9%	23%	68%	
	LT	44%	30%	59%	
	HU	3%	26%	71%	
	PL	9%	31%	59%	
	FI	11%	54%	35%	
	SE	7%	52%	40%	
	NO	13%	45%	42%	
Level of team autonomy		Team with full autonomy	Team with some autonomy	Team with no autonomy	No team-work
	DK	20%	35%	12%	33%
	GER	8%	27%	18%	47%
	EE	14%	30%	22%	34%
	LV	11%	17%	20%	51%
	LT	16%	18%	29%	36%
	HU	6%	19%	17%	58%
	PL	9%	20%	21%	50%
	FI	23%	27%	12%	38%
	SE	27%	27%	15%	31%
	NO	25%	28%	15%	31%
How satisfied are you with working condition of your main paid job?		Very satisfied	Satisfied	Not very satisfied	Not at all satisfied
	DK	47%	44%	8%	1%
	GER	30%	59%	10%	1%
	EE	16%	74%	8%	2%
	LV	16%	66%	16%	2%
	LT	19%	64%	16%	1%
	HU	18%	68%	11%	3%
	PL	21%	66%	11%	2%
	FI	28%	64%	8%	0%
	SE	26%	59%	13%	2%
	NO	44%	50%	5%	1%

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How often have you worked in your free time to meet work demands?		Daily	Several times a week	Several times a month	Less often	Never	
	DK	2%	10%	17%	26%	45%	
	GER	1%	4%	10%	18%	67%	
	EE	2%	5%	13%	36%	44%	
	LV	1%	5%	13%	27%	53%	
	LT	1%	6%	15%	23%	55%	
	HU	3%	6%	12%	25%	54%	
	PL	2%	5%	13%	27%	54%	
	FI	3%	6%	14%	29%	48%	
	SE	2%	7%	16%	26%	48%	
	NO	2%	7%	18%	32%	42%	
Number of determinants of work pace?		0	1	2	3	4	5
	DK	13%	28%	28%	21%	8%	2%
	GER	13%	34%	26%	19%	6%	2%
	EE	14%	26%	29%	29%	9%	4%
	LV	18%	30%	26%	15%	9%	3%
	LT	10%	28%	29%	20%	9%	5%
	HU	13%	21%	29%	22%	10%	4%
	PL	20%	29%	22%	15%	9%	5%
	FI	14%	29%	29%	18%	7%	2%
	SE	12%	29%	32%	17%	8%	1%
	NO	9%	25%	30%	21%	13%	3%

Educational Markets

Introduction EU2020 Strategy

While the responsibility for education and training systems lies with the Member States, the role of the European Union is to support and supplement their action and capacity. The EU supports Member states through policy cooperation within the ET 2020 framework and individual funding actions (e. g. Erasmus+ programme and the European Structural and Investment Funds).

The European Strategy 2020 for Education and Training (ET 2020) pursues the following four common EU objectives:

- Make lifelong learning and mobility a reality;
- Improve the quality and efficiency of education and training;
- Promote equity, social cohesion, and active citizenship;
- Enhance creativity and innovation, including entrepreneurship, at all levels of education and training³⁵.

Moreover, the ET 2020 also supports the achievement of the following benchmarks at European level by 2020:

³⁵ European Commission, Education and Training, European Policy Cooperation (ET 2020 framework), https://ec.europa.eu/education/policies/european-policy-cooperation/et2020-framework_en (May 2019)

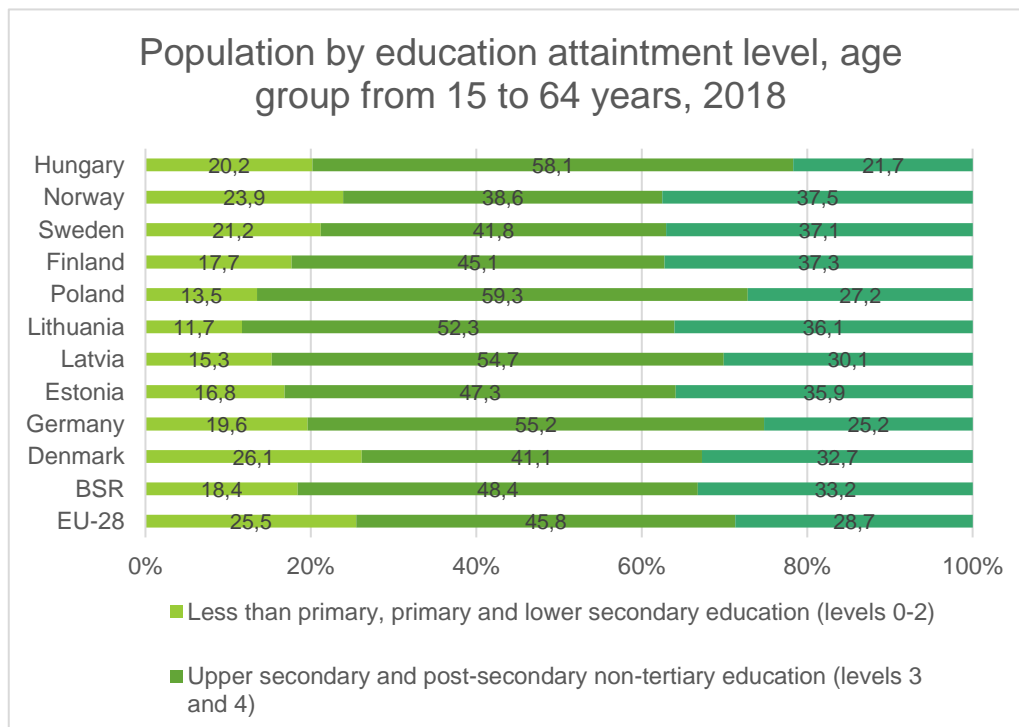
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- At least 95% of children should participate in early childhood education;
- fewer than 15% of 15-year-olds should be under-skilled in reading, mathematics and science;
- the rate of early leavers from education and training aged 18-24 should be below 10%;
- at least 40% of people aged 30-34 should have completed some form of higher education;
- at least 15% of adults should participate in learning;
- at least 20% of higher education graduates and 6% of 18-34-year-olds with an initial vocational qualification should have spent some time studying or training abroad;
- the share of employed graduates (aged 20-34 with at least upper secondary education attainment and having left education 1-3 years ago) should be at least 82%³⁶.

The ET 2020 strategy has encouraged action in individual EU countries by making national plans and country specific recommendations, which, after only a few years, are already reflected not only in figures set as benchmarks, but also in more efficient education that is accessible to all, of better quality, anchored in work-based learning, adapted to labour market needs and permanently changing environment of knowledge based societies. The “old” educational systems have been reorganised. Many restructurings have been carried out, which can be described as reforms of the education systems: establishment of competence centres, introduction of work-based learning in vocational education and training, efforts to make education systems permeable, new forms of learning by incorporating digital technologies and promoting intense mobility of teaching staff and young people in education and training.

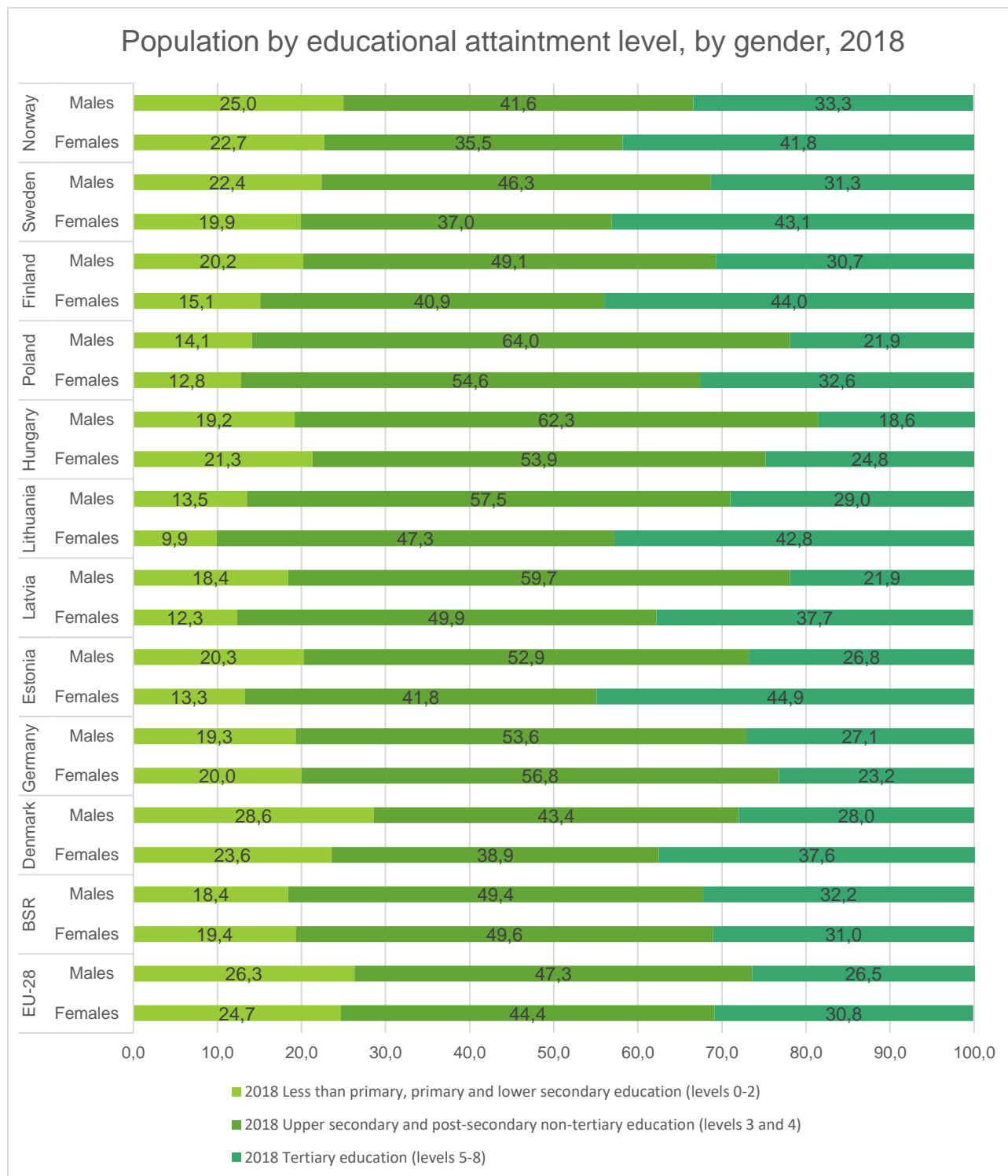
Educational Level of Population in Countries

“Tomorrow belongs to those who can hear it coming”, said David Bowie forty years ago. Jobs, labour markets and economies are rapidly changing - globalisation, technology and a growing services sector are both causes and symptoms. Ageing populations and dwindling youth cohorts, on the one hand, and labour



³⁶ European Commission, Education and Training, European Policy Cooperation (ET 2020 framework), https://ec.europa.eu/education/policies/european-policy-cooperation/et2020-framework_en (May 2019)

migration, on the other, are affecting workforce composition. And that's not to mention the lingering impact of the financial crisis³⁷. What about the educational landscape in the BSR countries today?



³⁷ CEDEFOP, briefing note – what future for vocational education and training in Europe?

<http://www.cedefop.europa.eu/en/publications-and-resources/publications/9133> (May 2019)

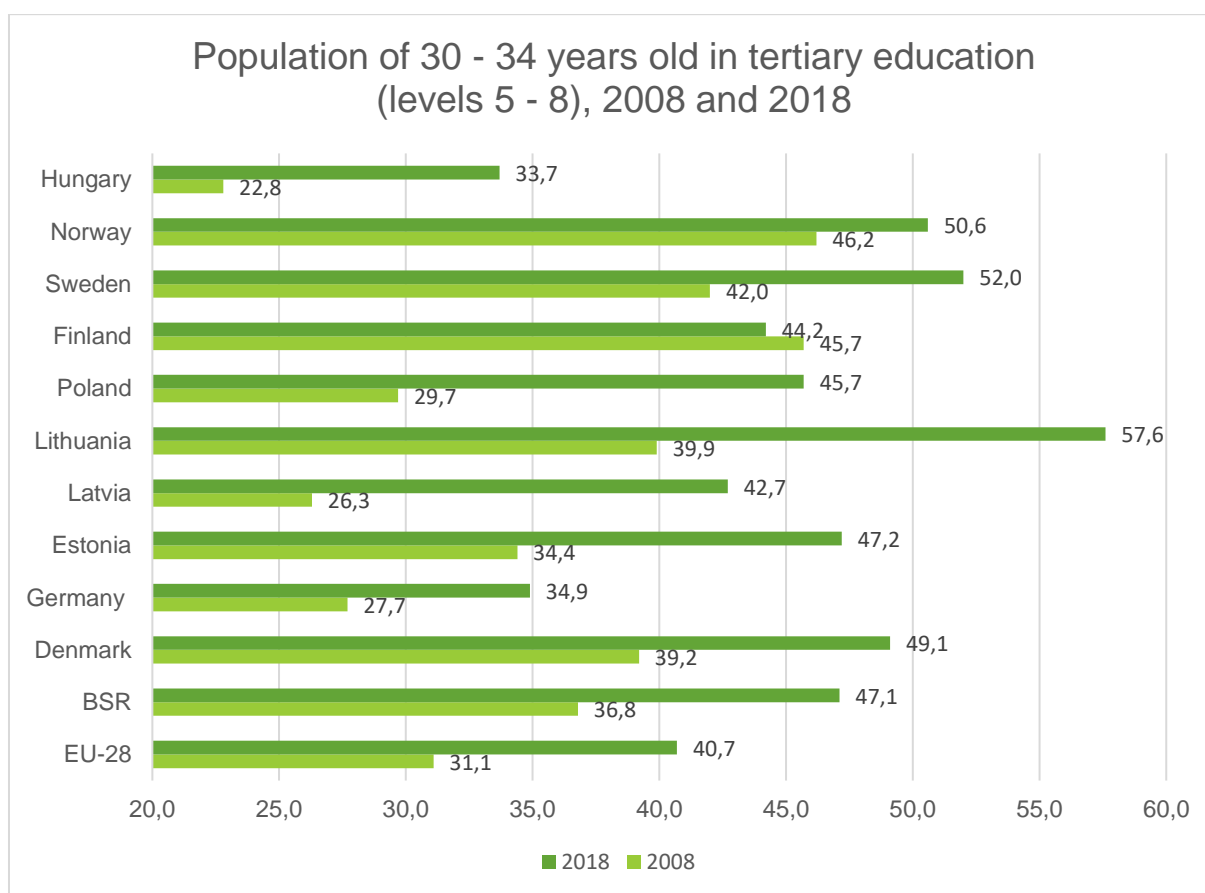
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As mentioned above, one of the targets identified in ET 2020 was that "at least 40% of 30-34-year olds have completed tertiary education". The following graph shows the situation as to the extent to which this target has been achieved in the BSR countries shortly before the 2020 deadline.

In the European Union and the Baltic Sea region, the overall participation of 30-34-year olds in tertiary education has increased significantly over the last 10 years. If in 2008 only three countries in the Baltic Sea region - Norway, Sweden and Finland - had exceeded the 40% threshold, then in 2018 only Germany (and Hungary) were below it and had not yet met this ET 2020 target.

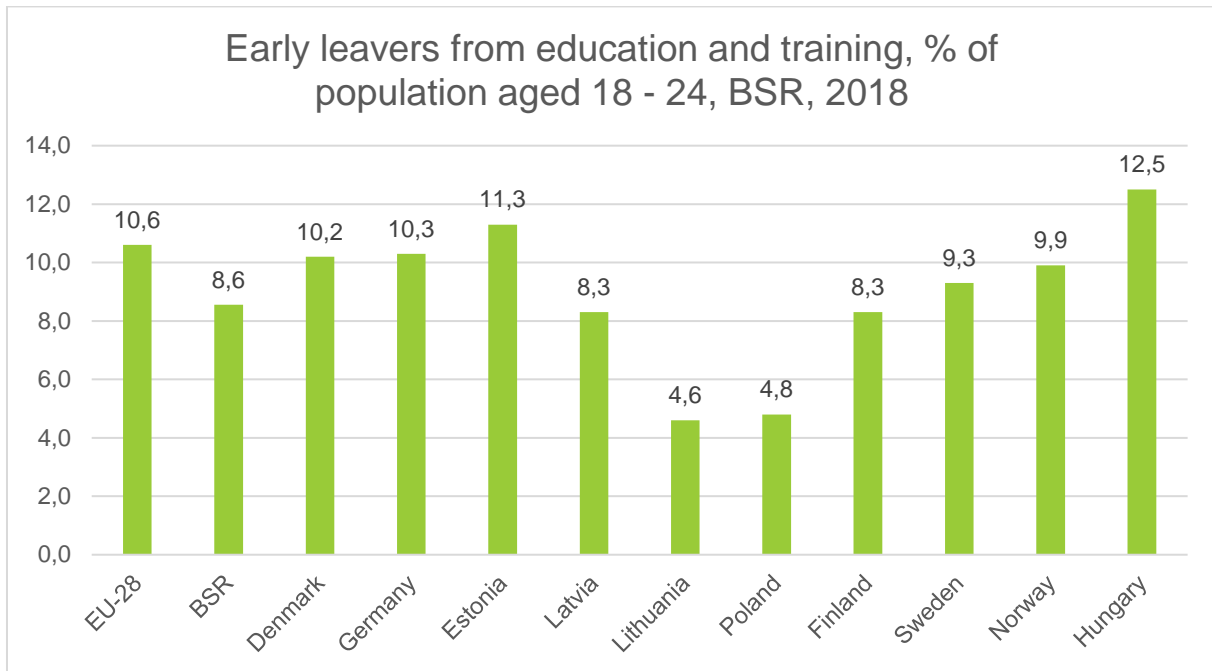
The highest participation in tertiary education (57.6%) reaches Lithuania in 2018, followed by Sweden with 52% and Norway with one in two tertiary education graduates.

By comparison, the lowest rates were in Hungary (33.7%) and Germany (34.9%), although in Germany this could be due to the strong participation of young people in dual vocational education and training.



Early Leavers from Education and Training

In general, low educational attainment — at most lower secondary education — influences other socioeconomic factors. The most important of these are employment, unemployment and the risk of poverty or social exclusion. Fortunately, the statistical data show a positive trend: early leaving from education and training has been falling continuously in the EU since 2002, for both men and women. Additionally, this development represents steady progress towards the Europe 2020 targets of 10% (see the graph below).



In 2018, the ration of early leavers ranged from 4.6% in Lithuania and 12.5% in Hungary. Accordingly, the lowest early leaver rates in the Baltic Sea region are in Lithuania (4.6%) and Poland (4.8%). In all other EU countries, this figure is significant, almost twice as high.

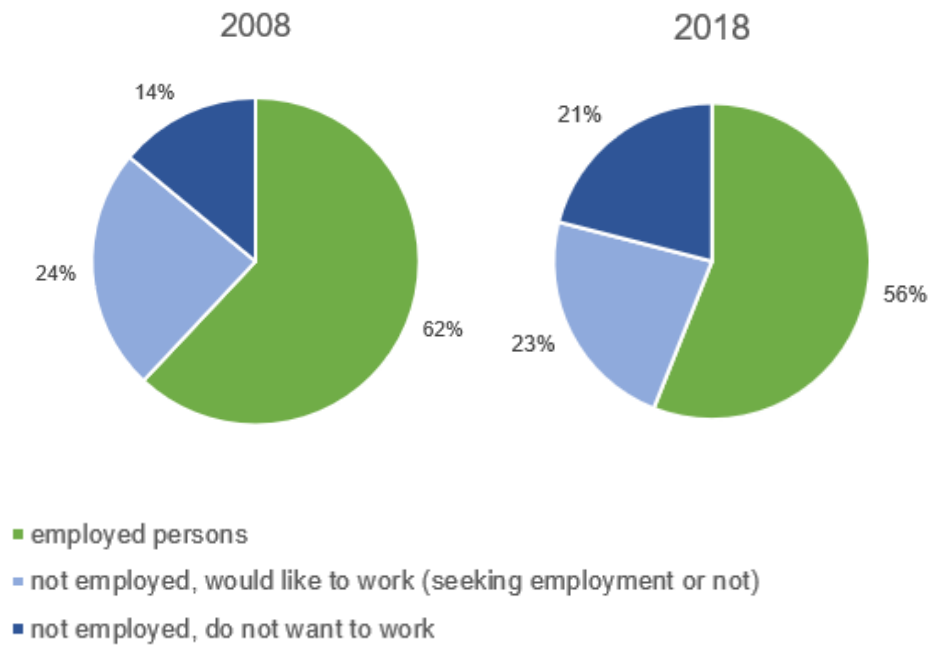
Overall, in 6 of the 9 BSR countries, less than 10% of population aged 18 - 24 leave education and training, which was set as the target to be achieved by 2020. Only in Estonia, Germany and Denmark (and Hungary), the early levers rate is higher than the 10% threshold. While in the EU-28 average this threshold needs to be still achieved, the BSR countries in average has it already done.

As described at the beginning of this part, early leavers from education and face particularly severe problems in the labour market. As figure shows below, 44% of the early leavers, were either unemployed or inactive in 2018 (54% in EU-28). The situation for early leavers has worsened over time:

Between 2008 and 2018, the share of 18 to 24-year-old early leavers who were not employed but who wanted to work has decreased imperceptibly (by 1%), but the share has grown significantly of those young people who were not employed and do not want to work. Proportional to the last size, the proportion of employed persons had fallen after the one decade.

Early leavers from education and training, by labour status, Baltic Sea region (excl. Hungary), 2008 and 2018

(% of the early leavers aged 18–24)



Adult Learning³⁸

Adult learning is crucial for maintaining good health, remaining active in the community and being fully included in all aspects of society, as well as improving and developing skills, adapting to technical developments, advancing a career or returning to the labour market.

The Education and Training 2020 (ET 2020) framework includes the benchmark to increase the share of adults participating in learning to 15 %. Adult learning is the key subject of the Council Resolution³⁹ on a renewed European agenda for adult learning and the ET 2020 framework. It also plays a crucial role in the Europe 2020 flagship initiative "New Skills Agenda for Europe". The recently adopted Recommendation Upskilling Pathways: new opportunities for adults, aims to improve adult learning provision in order specifically to address the needs of low-skilled, low-qualified adults.

In addition to tertiary educational attainment, adult participation in learning is also crucial for providing Europe with a highly qualified labour force. Adult education and training cover the longest time span in the process of learning throughout a person's life. However, the share of adults participating in learning does not seem to be increasing fast enough to meet the ET 2020 benchmark at EU level, however the average participation in the countries of the BSR has already reached the 15%, even exceeded 16.4%. However, adult participation in learning varies widely across the BSR countries and the high average adult participation at BSR level has been achieved mainly thanks to the Nordic countries - Denmark, Sweden,

³⁸ According to the Eurostat glossary **adult learning** means the participation of adults in lifelong learning. Adult learning usually refers to learning activities after the end of [initial education](#) and is a vital component of the EU's lifelong learning policy.

The main indicator to measure adult learning is the participation rate in education and training, which covers participation in formal and non-formal education and training. The target population of Eurostat's adult learning statistics is the population aged 25-64.

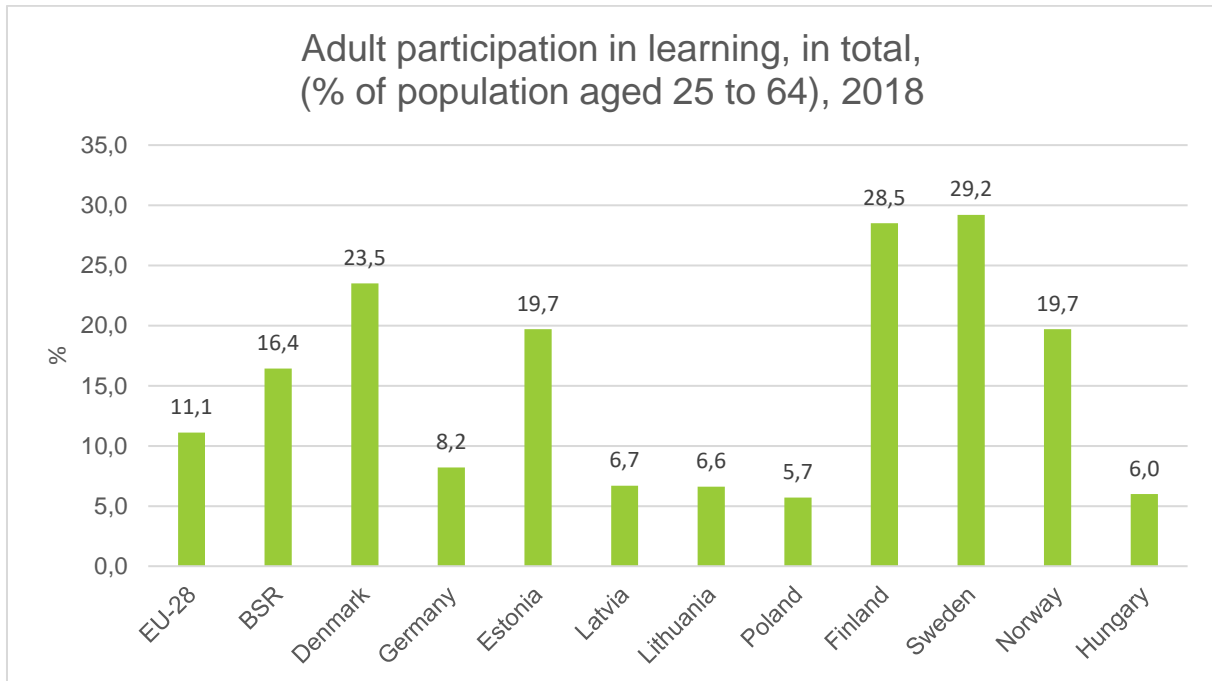
³⁹ Council Resolution on a renewed European agenda for adult learning (2011/C 372/01), Official Journal of the European Union, 20 December 2011:

<https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2011:372:0001:0006:EN:PDF> (May 2019)

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Norway and Finland - where adult participation in learning is disproportionately high compared to other countries, from 19.7% in Norway to 29.2% in Sweden.

Another outlier are the Baltic States, where Estonia has an above-average participation rate of 19.2% in the BSR compared to its neighbouring countries Latvia and Lithuania.

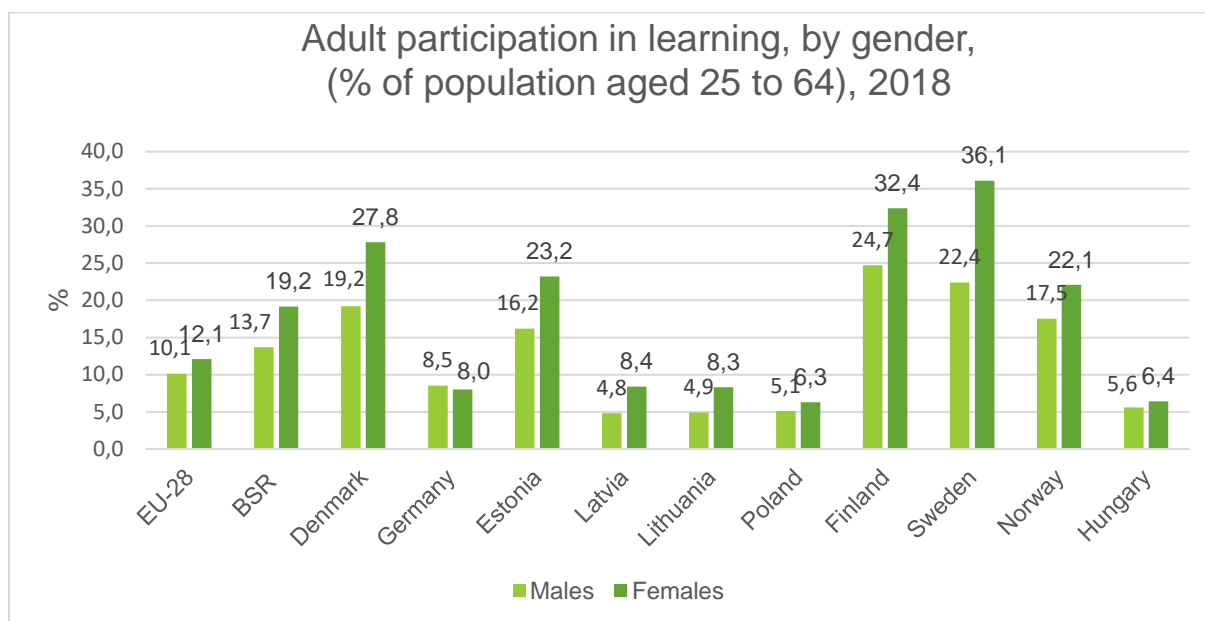


When looking more closely at the development of the adult participation rate in learning, it has not developed continuously and stably over the last 10 years in the individual countries, but shows jumps, declines and increases. So, in 2018 in several countries, the participation rate is lower than in 2017, e.g. Denmark, Germany, Latvia, Sweden, Norway and Hungary. Nevertheless, most countries experienced growing adult participation rates in education and training in last decade.

Women are more likely to participate in adult learning than men and this trend is stable over time. In 2018, the share of adult women engaged in learning was 2 percentage points higher than that of men (12.1 % compared with 10.1 %) in EU-28 and 5.5 percentage points higher than that of men in BSR countries.

Germany is the only country among the countries of the Baltic Sea region (and Hungary) where adult male participation in learning was higher than that of women in 2018.

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Eurostat makes available, even if it is scarce information, the distribution of non-formal education and training activities by provider. Data are available for 2007, 2011 and 2016. In the table below the most current information is presented and the highest rates in the respective category in each country highlighted which shows a rather homogeneous picture in the Baltic Sea region - in most countries the employer is the most frequent provider of non-formal education, and training activities, except for Lithuania and Poland, where “non-formal education and training institutions” provide education and training in the majority of cases. Chambers of commerce show low engagement in providing education, except for Lithuania where chambers of commerce provide 15.2% and thus show the highest rate in all BSR countries. Overall, there is a high variety in forms and providers in adult education.

	Formal education and training	Non-formal education and training institutions	Commercial institutions where education and training is not the main activity (e.g. equipment)	Non-commercial institutions where education and training is not the main activity (e.g. not the main activity)	Employer	Employers' organisations, chambers of commerce	Trade unions	Non-profit associations (e.g. cultural society, political party)	Other training providers
EU-28	7,6	17,7	9,4	3,4	35,4	4,2	1,1	6,7	6,3
BSR	12,0	19,6	10,2	1,9	31,2	4,5	2,1	4,6	5,7
Denmark	17,6	15,5	8,6	2,9	32,0	2,0	4,2	3,3	11,1
Germany	3,3	14,3	13,6	0,9	39,7	8,4	1,7	5,4	1,1

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Estonia	11,7	24,4	6,1	2,7	31,9	:	7,4	10,4	2,9
Latvia	6,1	22,9	11,8	3,4	34,7	3,6	:	1,5	2,4
Lithuania	20,1	24,3	8,2	3,0	12,6	15,2	:	1,7	3,7
Poland	8,6	48,7	8,0	1,1	23,2	1,4	:	2,0	3,6
Finland	23,1	9,1	3,1	1,4	39,2	1,1	3,1	12,3	5,4
Sweden	9,8	5,1	22,1	1,6	32,9	3,3	:	2,0	11,2
Norway	7,7	12,2	10,3	:	34,7	5,4	2,6	2,4	9,7
Hungary	4,1	13,0	3,8	1,8	57,9	7,7	:	3,3	1,0

Vocational Education and Training in the Baltic Sea Region⁴⁰

Participation of Young People in Vocational Education and Training

Within lower secondary education (ISCED level 2), vocational programmes are relatively rare: in 2016 they accounted for 3.3 % of the total number of pupils at this level in the EU-28 (including 2015 data for the United Kingdom) and in BSR this share even less – 1.9%. A somewhat higher proportion of male pupils (3.7 % in EU-28, 2.3% in BSR) followed vocational programmes within lower secondary education, as the corresponding share among female pupils was 2.9 % in EU-28 and 2.9% in BSR.

Estonia is the only country in the Baltic Sea region where females are more involved at this level of education than males.

In 12 Member States there were no vocational programmes at the lower secondary level as well as non-member countries like Norway, Iceland, Liechtenstein, Switzerland, Montenegro, North Macedonia, Serbia or Turkey.

Share of students in vocational education programmes, 2016									
%									
	Lower secondary			Upper secondary			Post-secondary non-tertiary		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
EU-28	3.3	3.7	2.9	49.3	54.0	44.5	91.5	90.7	92.1
BSR	1.9	2.3	1.5	44.5	50.3	34.4	96.5	95.5	97.5
Denmark	-	-	-	40.6	45.2	36.1	-	-	-
Germany	3.7	4.5	2.9	46.3	53.5	37.7	91.5	88.8	93.5
Estonia	2.1	2.1	2.2	38.7	47.0	30.2	100.0	100.0	100.0
Latvia	0.6	0.7	0.4	38.1	44.0	31.8	100.0	100.0	100.0
Lithuania	2.2	3.2	1.2	27.2	33.3	20.4	100.0	100.0	100.0
Hungary	0.9	1.0	0.7	21.4	26.1	16.5	100.0	100.0	100.0
Poland	-	-	-	51.1	60.0	41.3	100.0	100.0	100.0

⁴⁰ ⁴⁰ cf. Eurostat statistics explained, with additions to the numbers for BSR and modification of table by the author

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Finland	-	-	-	71.3	74.2	68.7	100.0	100.0	100.0
Sweden	-	-	-	36.6	37.6	35.8	80.9	74.8	86.4
Norway	-	-	-	50.4	58.2	41.7	100.0	100.0	100.0

In 2016, close to half (49.3 %) of all upper secondary (ISCED level 3) school pupils in the EU-28 followed vocational programmes, with the share for males (54.0 %) clearly higher than that recorded for females (44.5 %). The same picture can be seen in the countries of the BSR, just the share of participation of pupils was lower at this education level than in the EU-28 as a whole – 44.5% total, 50.3% males and 34.4% females.

In 3 BSR countries more than half of all upper secondary pupils were studying vocational programmes. Very strong share at this level presents Finland – 71.3% of all pupils at his education level, followed by Poland – 51.1% and Norway – 50.4%. In Hungary just over one fifth out of all participates at this education level, showing up the lowest rate in the whole BSR.

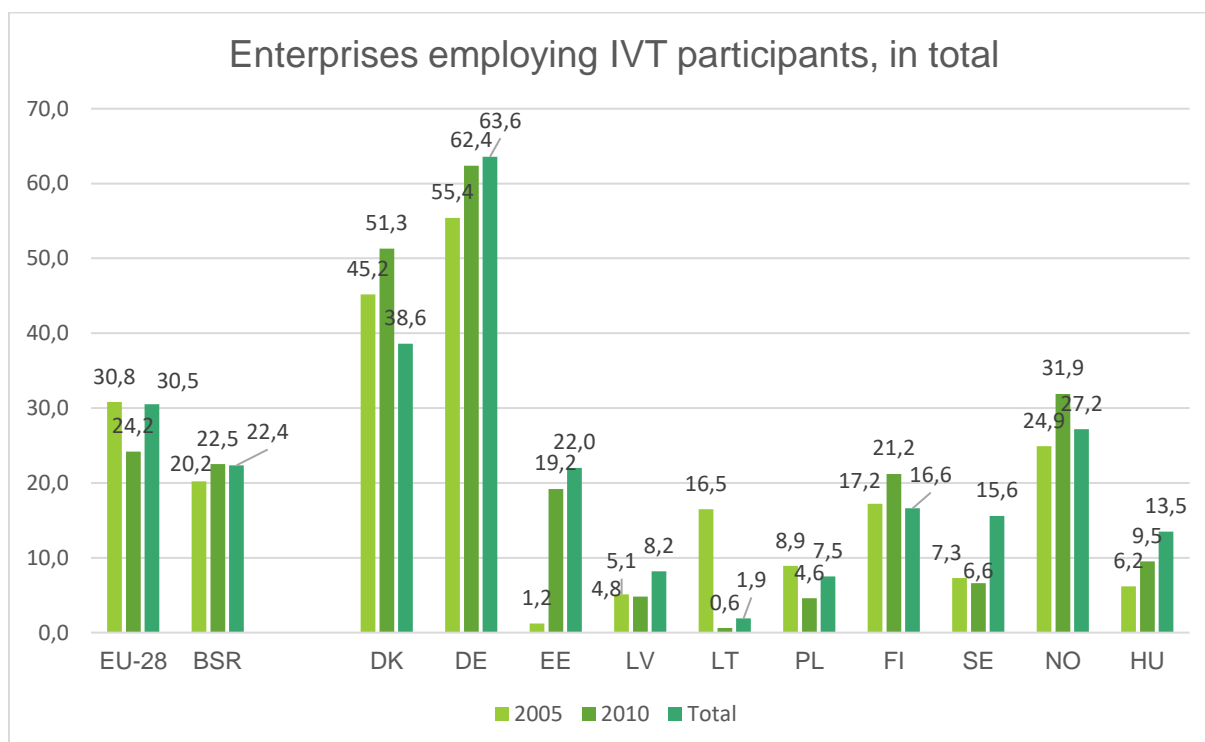
Within post-secondary non-tertiary education (ISCED level 4), the vast majority of pupils followed vocational programmes, an average of 91.5 % across the EU-28 and an average of 96.5% in BSR in 2016. Unlike the two secondary education levels, the share (92.1 % in EU-28, 97.5% in BSR) of females following vocational post-secondary non-tertiary programmes was somewhat higher than that for males (90.7 % in EU-28, 96.5% in BSR). In a majority of the EU Member States (17 of the 23 with post-secondary non-tertiary education) all of the pupils at this educational level were enrolled in vocational programmes. Czechia was one of only two Member States where less than half of the total number of pupils within post-secondary non-tertiary education were following vocational programmes (12.7 %), the other was Malta where all students at this level of education were enrolled in general rather than vocational education programmes. Note there were no post-secondary non-tertiary education students in 2016 in Denmark, Croatia, the Netherlands, Slovenia or the United Kingdom and therefore none following vocational programmes.

Initial Vocational Training (IVT) in Enterprises

The latest statistics to these figures are from 2015. As these show in 2015, almost 1/3 (30.5%) of all enterprises in the EU-28's business economy with 10 or more persons employed provided IVT, although the proportion varied greatly between EU Member states⁴¹.

In the countries of the Baltic Sea region was at least one of five enterprises (22.4%) that engages for young people in IVT.

⁴¹ Eurostat statistics explained, Vocational Education and Training statistics: https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Vocational_education_and_training_statistics#Initial_vocational_training_in_enterprises (May 2019)

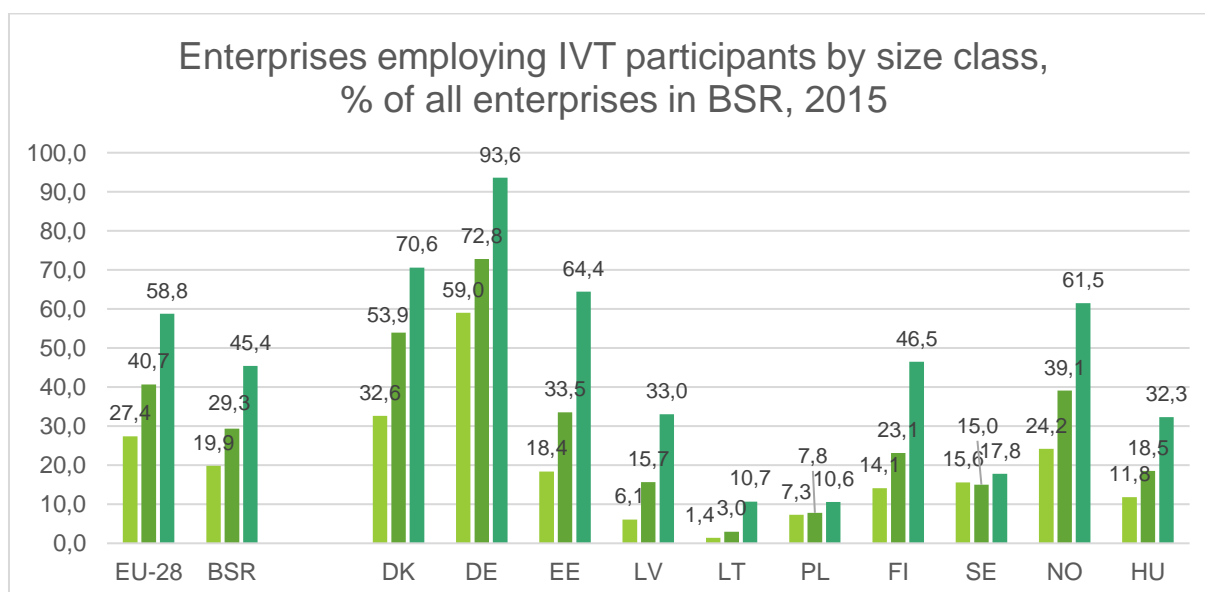


In the countries of the Baltic Sea region, however, a great deal of dynamism can be observed in this respect, so for example: in Estonia in 2005 – 1.2% of all enterprises employed IVT participants and 5 years later it was already – 19.2% and in 2015 – 22.0%.

In Lithuania, this trend has taken a completely different direction as in Estonia, with 16.5% of companies engaged in initial training in 2005, only 0.6% five years later, and a slight increase in 2015 - although at 1.9% they are still only a few companies involved in IVT.

Companies from Germany have the highest rates in the Baltic Sea region employing IVT participants – 63.6%.

The next graph shows the involvement of companies in training depending on the size class. Accordingly, throughout the whole BSR the companies “250 persons employed or more” make up the largest proportion of all companies involved in initial training.

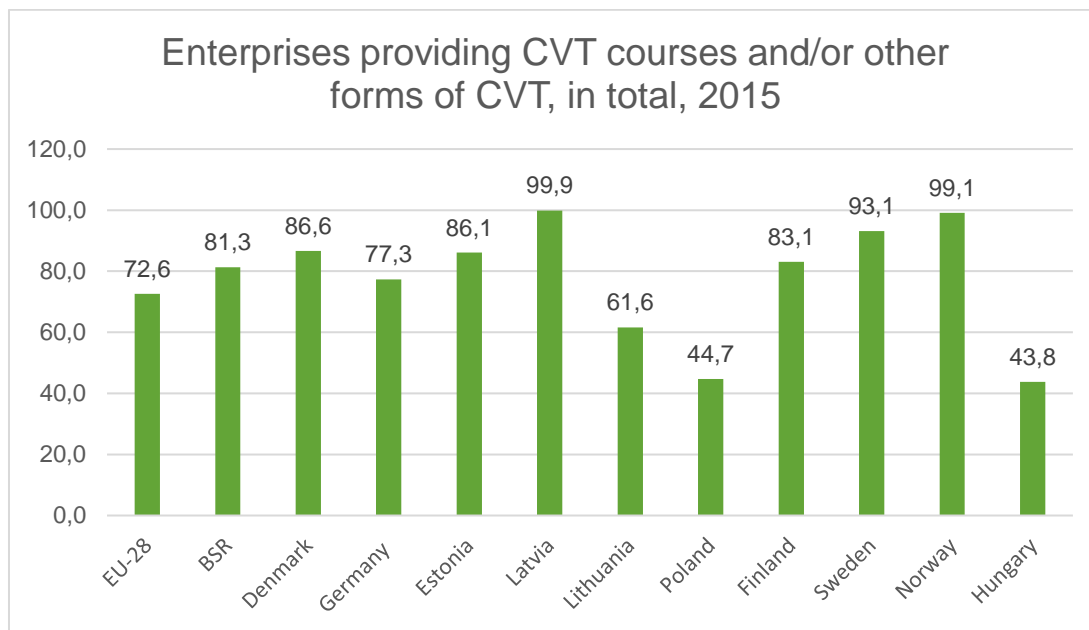


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A different picture becomes apparent when it comes to offering and carrying out continuing vocational training.

Continuing Vocational Training (CVT) in Enterprises⁴²

In 2015 in BSR 81.3% of all enterprises (in EU-28 72.6%) provided CVT to their staff. Among the BR countries, the share of enterprises that provided such training in 2015 ranged from 44.7% in Poland (incl. Hungary it would be Hungary with 43.8%) to 99.9% in Latvia (guided on-the-job training).



For the vast majority of EU Members States, the highest proportion of enterprises providing CVT courses was recorded in information and communication services and financial and insurance activities. In Denmark, Latvia and Lithuania the highest proportion was recorded for other services, which includes real estate activities, professional, scientific, technical, administrative and support service activities, arts, entertainment and recreation as well as other service activities. Latvia also recorded 100% of construction enterprises providing CVT⁴³.

Education Systems in the Baltic Sea Region Countries

The First, education systems are described in the individual countries as a whole, from early childhood, pre-kindergarten education to tertiary education inclusive. Vocational and education training (VET) systems will be described in detail. Also, here the focus lies on nine Baltic Sea region countries and Hungary.

⁴² This information refers to education or training activities which are financed, at least in part, by enterprises; part financing could include, for example, the use of work time for the training activity; CVT can be provided either through dedicated courses or other forms of CVT, such as guided on-the-job training. In general, enterprises finance CVT in order to develop the competences and skills of the people they employ, hoping that this may contribute towards increasing competitiveness. A large majority of CVT is non-formal education or training, in other words, it is provided outside the formal education system (Eurostat Statistics explained)

For more data and information on CVT provided by enterprises see Eurostat:

<https://ec.europa.eu/eurostat/web/education-and-training/data/database>

⁴³ Eurostat statistics explained, Vocational Education and Training statistics: https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Vocational_education_and_training_statistics#Initial_vocational_training_in_enterprises (May 2019)

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The information on education systems is based on relevant literature, such as CEDEFOP, European Commission/EACEA/Eurydice or publications of the relevant ministries in the respective countries.

The country specific general information about the education systems in the tables have the online source: Eurodyce, National Educational Systems: https://eacea.ec.europa.eu/national-policies/eurydice/national-description_de (May 2019).

An overview on the national VET systems delivers: Cedefop (2019), *Spotlight on VET – 2018 compilation: vocational education and training systems in Europe*. Luxembourg: Publications Office.
<http://data.europa.eu/doi/10.2801/009> (May 2019)

The schematic diagrams on education systems are provided by European Commission/EACEA/Eurydice, 2018. *The Structure of the European Education Systems 2018/19: Schematic Diagrams*. Eurydice Facts and Figures. Luxembourg: Publications Office of the European Union.

	<h1>Denmark⁴⁴</h1>
<h2>Structure of the Danish Education System</h2> <p>Denmark 2018/19</p> <p>Source: Eurydice 2018/19</p>	
<p>The Danish education system consists of the following stages</p> <ul style="list-style-type: none"> • Primary and lower secondary education (grundskole) • Upper secondary education (ungdomsuddannelser) • Higher education (videregående uddannelser) <p>The education system for adult and continuing education is targeted adults at the age of 18 years and above and makes it possible for people to engage in continuous education and acquire new skills. The level of the educational programmes in this parallel educational system corresponds to the level in the ordinary education system. Examples of educational programmes are general adult education (AVU), adult vocational training (AMU) and diploma programmes.</p>	
<p>Primary and lower school education</p>	<p>Primary education consists of integrated primary and lower secondary education. The educational institutions at which primary and lower secondary education takes place is called primary and lower secondary schools (in Danish: Folkeskole). Primary education is compulsory between the age of six and 16 and consists of one pre-school year (grade 0) and nine school years (grades 1-9). It is possible to prolong the compulsory education with a tenth grade, but that remains optional.</p>
<p>Following the primary and lower secondary education, students are free to choose the educational path they wish. In brief, the choice is between academically oriented general upper secondary education programmes and secondary vocational education programmes.</p>	

⁴⁴ Source for flags images for each country: www.pixabay.com, international website for sharing photos, illustrations, vector graphics, and film footage under a proprietary license.

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<p>General upper secondary education</p>	<p>General upper secondary education programmes take place at several institutions whereas some institutions offer various types of programmes:</p> <p>The three-year upper secondary school leaving examination (STX) takes place at upper secondary schools (in Danish: gymnasium)</p> <p>The three-year higher commercial examination (HHX) takes place at commercial upper secondary schools, also known as business colleges (in Danish: handelsgymnasium)</p> <p>The three year higher technical examination (HTX) takes place at technical upper secondary schools, also known as technical colleges (in Danish: teknisk gymnasium)</p> <p>The two-year higher preparatory examination (HF) usually takes place at upper secondary schools (in Danish: gymnasium), but the programme is also offered at adult education centres (VUC Centres).</p> <p>The duration of the three first-mentioned programmes is three years. Students usually start at the age of 16 and graduate at the age of 19. However, this depends on several factors, including whether the student in question has taken the tenth grade. The duration of the last-mentioned, HF, is two years, and the age of the students vary greatly.</p> <p>Secondary vocational education programmes vary in duration depending on the programme in question. More specifically, the duration varies from 1½ to 5½ years, the most typical being 3½ to 4 years. The programmes are offered at vocational/ technical schools (in Danish: erhvervsskole). The age of students when starting and graduating varies greatly.</p>
<p>Secondary vocational education</p>	<p>Following the general upper secondary education programmes and secondary vocational education programmes, there is a great variety in the students' educational opportunities. In general, general upper secondary education qualifies for further studies at the level of higher education, while secondary vocational education qualifies for the labour market.</p>
<p>Higher education</p>	<p>Higher education takes place at different educational institutions:</p> <p>Short-cycle programmes are offered at business academies (in Danish: erhvervsakademi)</p> <p>Medium-cycle programmes are offered at university colleges (in Danish: professionshøjskole)</p> <p>Long-cycle programmes are offered at universities (in Danish: universitet)</p>

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VET in Denmark

Vocational education and training (VET) plays a key role in the Danish strategy for lifelong learning, alongside meeting the challenges of globalisation and technological change. An inclusive and flexible initial VET system helps ensure that all young people have the opportunity to acquire competences to aid smooth transition to the labour market. Adult education and continuing training respond to structural and technological changes in the labour market and provide the workforce with new and updated skills.

Danish education and training feature a mainstream system providing qualifications at all levels, from compulsory schooling to doctoral degrees, and a parallel adult education and continuing vocational training (CVT) system. Adult education and CVT are designed to meet the needs of adult learners, for example through part-time courses. The two systems offer equivalent qualifications at various levels, enabling horizontal permeability. VET jurisdiction is with the Ministry of Education, which maintains close dialogue with social partners to respond to labour market needs. Initial VET is organised into four broad entry routes; care, health and pedagogy; office, trade and business services; food, agriculture and experiences' (an umbrella term for tourism and recreation); and technology, construction and transportation. Programmes are organised according to the dual principle, alternating between periods of college based and work-based learning (apprenticeship training) in enterprises. A typical initial VET programme (EUD) lasts three-and-a-half years with a 2:1 split between workplace and college-based training, although there is considerable variation among programmes. Individual study plans are compiled for all students. VET colleges and social partners share the responsibility for developing curricula to ensure responsiveness to local labour market needs. Qualifications at this level provide access to relevant fields in academy profession (KVU) programmes and professional bachelor programmes at tertiary level.

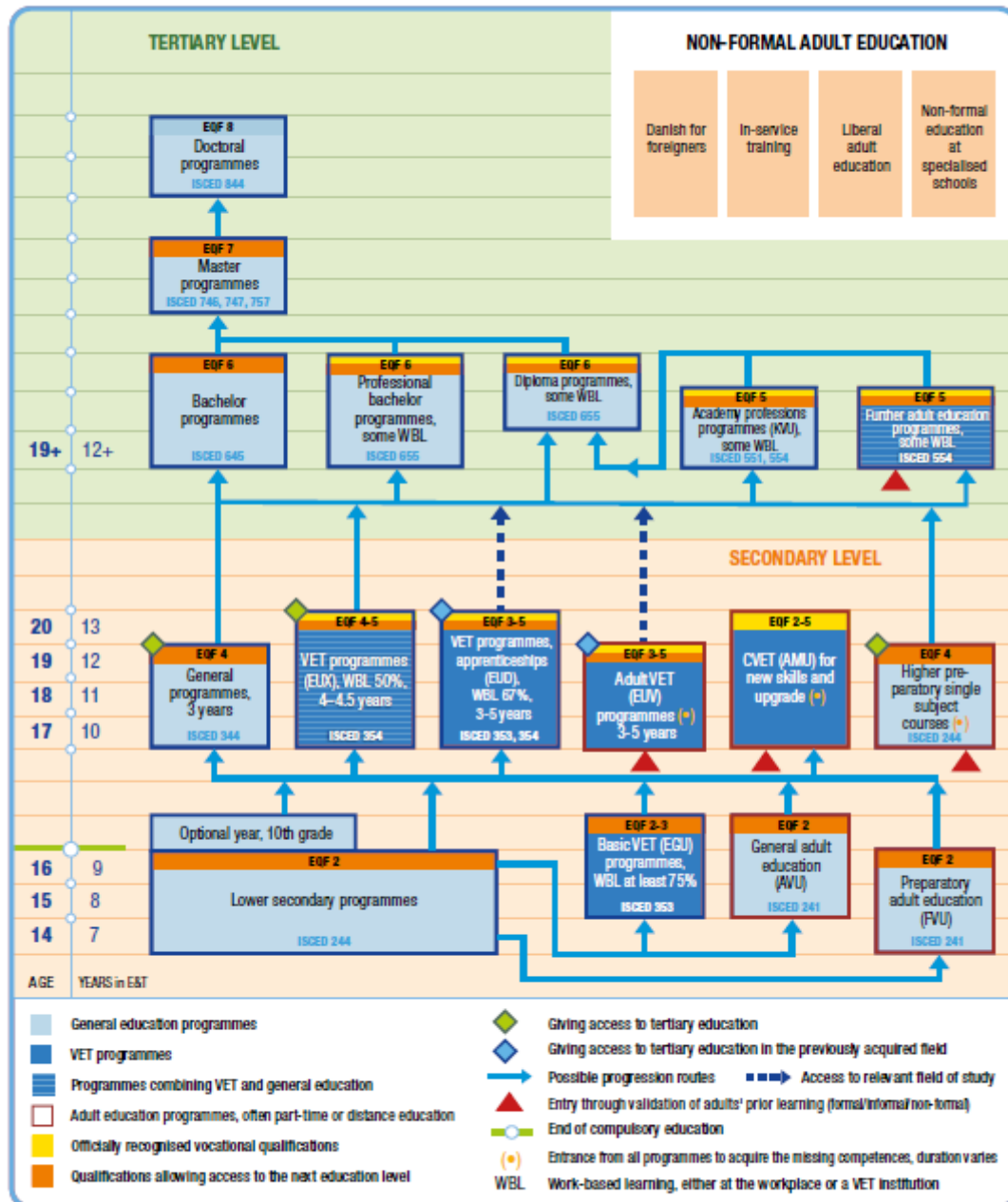
Alternative routes to VET qualifications include:

- combined vocational and general upper secondary education (EUX, an academic preparation programme), a relatively new pathway, which lasts around four years. It enables highly motivated students to obtain access to higher education along with a vocational qualification;
- 'new apprenticeship' (1) (*Ny Mesterlære*) programmes, where the entire training takes place at a company instead of partly at a VET college. Students with a practical approach to learning benefit from these programmes;
- combined post-compulsory education for people aged 15 to 24 who do not possess the necessary vocational, personal or social skills to complete a VET programme;
- basic VET (EGU) for lower secondary graduates, with a practical approach to learning. The programme caters to the young unemployed, lasts three to four years, and includes at least 75% of work-based learning (WBL).

Adult Learning


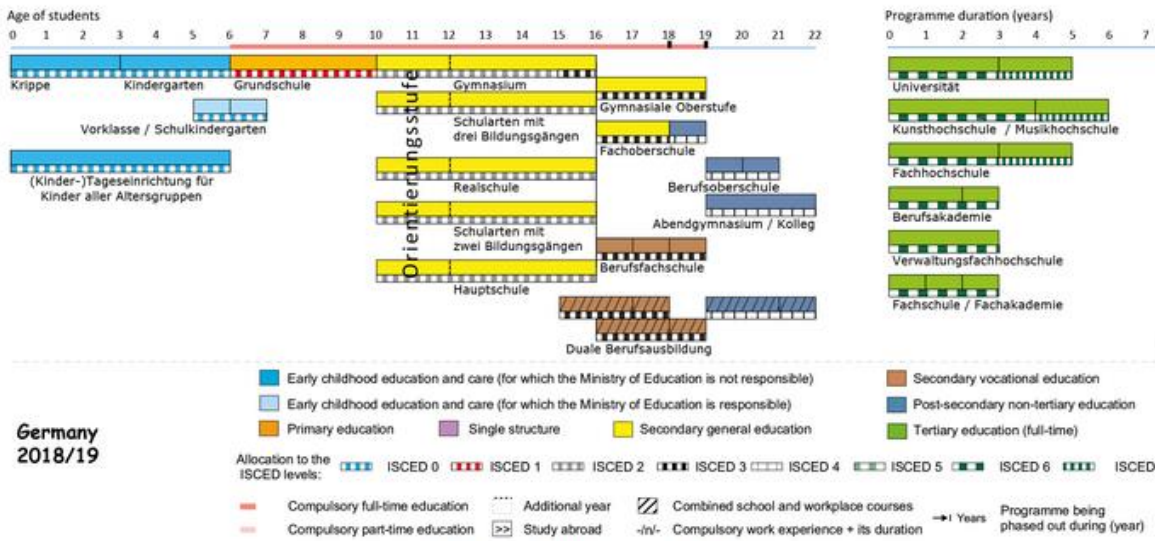
VET for adults aged 25 or older (EUV) has been established as a specific track to offer the lowskilled an attractive and goal-oriented path to become a skilled worker.

Adults with at least two years of work experience can receive VET education without the basic programme and without internship. Adult vocational training (*arbejdsmarkedsuddannelser*, AMU) provides participants with skills and competences relevant to the labour market and is primarily geared to specific sectors and jobs. The programmes help learners either deepen their existing knowledge in a particular field or develop new knowledge in related fields. AMU programmes (around 3 000) last one week on average and are created, adapted or discontinued in response to labour market needs. At tertiary level, further VET and adult education programmes lead to EQF level 5 qualifications.



NB: ISCED-P 2011.

Source: Cedefop and ReferNet Denmark.

	<h1>Germany</h1>
<h2>Structure of the National Education System</h2>  <p>Germany 2018/19</p> <p>Source: Eurydice 2018/19</p>	
<p>In the Federal Republic of Germany responsibility for the education system is divided between the Federation and the Länder. The scope of the Federal Government's responsibilities in the field of education is defined in the Basic Law (<i>Grundgesetz</i>). Unless the Basic Law awards legislative powers to the Federation, the Länder have the right to legislate. Within the education system, this applies to the school sector, the higher education sector, adult education and continuing education. Administration of the education system in these areas is almost exclusively a matter for the Länder.</p> <p>Early childhood education and care is not part of the state-organised school system in Germany but almost exclusively assigned to the child and youth welfare sector.</p> <p>Compulsory Education</p> <p>As a rule, general compulsory schooling begins for all children in the Federal Republic of Germany in the year in which they reach the age of six and involves nine years of full-time schooling. Those young people who do not attend a full-time general education school or vocational school at upper secondary level once they have completed their period of compulsory general schooling must still attend part-time schooling (compulsory <i>Berufsschule</i> attendance – <i>Berufsschulpflicht</i>). This usually lasts three years.</p>	
<p>Early Childhood Education and Care</p>	<p>Early childhood education is provided by institutions catering for children until the age of six at which they usually start school. Children of school age who have not yet attained a sufficient level of development to attend a school have a further option in some Länder, namely <i>Schulkindergärten</i> and <i>Vorklassen</i>. These institutions are</p>

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	either assigned to the early childhood or the primary sector according to the particular Land.
Primary Education	As a rule, in the year in which children reach the age of six, they are obliged to attend primary school. All pupils in Germany enter the <i>Grundschule</i> which in almost all Länder covers grades 1 to 4 (in Berlin and Brandenburg grades 1 to 6).
Secondary education	<p>Following the primary school stage, secondary education in the Länder is characterised by division into the various educational paths with their respective leaving certificates and qualifications for which different school types are responsible. Once pupils have completed compulsory schooling they move into upper secondary education. The range of courses on offer includes full-time general education and vocational schools, as well as vocational training within the <i>duales System</i> (dual system).</p> <p>At school types offering one course of education all teaching is channelled to a specific qualification. These have traditionally been the <i>Hauptschule</i>, <i>Realschule</i> and <i>Gymnasium</i>. <i>Schularten mit mehreren Bildungsgängen</i> (schools offering more than one type of course of education) bring two or three courses of education under one umbrella. In most of the Länder they have meanwhile led to the abolition of the <i>Hauptschule</i> and <i>Realschule</i>.</p> <p>For pupils with <i>sonderpädagogischer Förderbedarf</i> (special educational needs), additionally various types of <i>sonderpädagogische Bildungseinrichtungen</i> (special schools), have been set up within the organisational framework of general and vocational education.</p> <p>Once pupils have completed compulsory schooling – generally when they reach the age of 15 – they move into upper secondary education. The type of school entered depends on the qualifications and entitlements obtained at the end of lower secondary education. The range of courses on offer includes full-time general education and vocational schools, as well as vocational education and training within the <i>duales System</i> (dual system).</p>
Tertiary Education	<p>The tertiary sector encompasses institutions of higher education (universities, <i>Fachhochschulen</i>, colleges of art and music) and other establishments that offer study courses qualifying for entry into a profession to students who have completed the upper secondary level and obtained a higher education entrance qualification.</p> <p>Additionally, there are a number of special higher education institutions which only admit certain groups,</p>

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	<p>e.g. higher education institutions of the Federal Armed Forces and <i>Verwaltungsfachhochschulen</i>, and are not considered below.</p> <p>Those with a higher education entrance qualification may also choose to enter a <i>Berufsakademie</i> offered by some Länder as an alternative to higher education. At state or state recognised <i>Studienakademien</i> (study institutions) and in companies students receive academic but, at the same time, practical career training.</p> <p>The <i>Fachschulen</i> and the <i>Fachakademien</i> in Bayern are institutions of continuing vocational education that, as a rule, call for the completion of relevant vocational education and training in a <i>anerkannter Ausbildungsberuf</i> (recognised occupation requiring formal training) and relevant employment. The qualification level achieved here is comparable to the first level of the tertiary sector in accordance with the International Standard Classification of Education ISCED.</p>
Adult Education and Lifelong Learning	<p>The activities of the state in the field of continuing education are, for the most part, restricted to laying down principles and to issuing regulations relating to organisation and financing. Such principles and regulations are enshrined in the legislation of the Federal Government and the Länder. State regulations are aimed at establishing general conditions for the optimum development of the contribution of continuing education to lifelong learning.</p> <p>As part of lifelong learning, continuing education is assuming greater importance and is increasingly becoming a field of education. In response to the vast range of demands made on continuing education, a differentiated structure has been developed. Continuing education is offered by municipal institutions, in particular <i>Volkshochschulen</i>, as well as by private institutions, church institutions, the trade unions, the various chambers of industry and commerce, political parties and associations, companies and public authorities, family education centres, academies, <i>Fachschulen</i>, institutions of higher education and distance learning institutions. Radio and television companies also provide continuing education programmes.</p> <p>It is usually possible to acquire school-leaving qualifications later in life at evening classes (<i>Abendhauptschulen, Abendrealschulen, Abendgymnasien</i>) and in what is called <i>Kollegs</i>.</p>

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VET in Germany

Vocational education and training (VET) in Germany is based on cooperation between the State, companies and social partners. The Federal Ministry of Education and Research (BMBF) is responsible for general VET policy issues and has a coordinating and steering role for all training occupations in cooperation with the respective ministries. The BMBF also works closely with the Federal Institute for Vocational Education and Training (BIBB),

which conducts research and advises the Federal Government and VET providers. The *Länder* (federal states) are responsible for school-based parts of VET and have VET committees with employer and employee representatives.

The apprenticeship programme (dual system) at upper secondary level (EQF level 4) is the main pillar of VET and also attracts upper secondary graduates: more than one in four apprentices had achieved a higher education entrance qualification before enrolling in apprenticeship. Programmes usually last three years and combine two learning venues, companies and vocational schools (workbased learning share approximately 75%). There are no basic access requirements for participating in the dual VET programme, but an apprenticeship contract must be concluded between learner and company. Enterprises bear the costs of company-based training and pay learners a wage. Those successfully completing training are qualified to be employed as skilled workers. Progression is possible through various VET programmes offered at post-secondary and tertiary level.

Parallel to the apprenticeships are schoolbased VET programmes at upper secondary level (EQF level 2 to 4), which differ in terms of access, length, types and levels of qualification they lead to.

These include:

- programmes at full-time vocational schools (*Berufsfachschule*, duration one to three years depending on the type and level of qualification), leading, for example, to a qualification as nurse or childcare worker. The minimum entrance requirement is the lower secondary general school certificate (*Hauptschulabschluss*);
- general upper secondary programmes with a vocational component, which usually lead to the general higher education entrance qualification (*Berufliches Gymnasium/Fachgymnasium*, duration two to three years). Entrance requirement is the intermediate level certificate (*mittlerer Schulabschluss*).

Young people with social disadvantages, learning difficulties or handicap, or insufficient German language skills (migrants) have the possibility to qualify further through different transition programmes: the pre-vocational training (secondary school leaving certificate can be acquired) or basic vocational training year.

At post-secondary level, specialised programmes (*Berufsoberschulen* and *Fachoberschulen*) build on the intermediate school leaving certificate (*mittlerer Schulabschluss*) or initial VET and impart deeper occupational knowledge. They last one to three years and lead to entrance qualifications for universities of applied sciences

or universities.

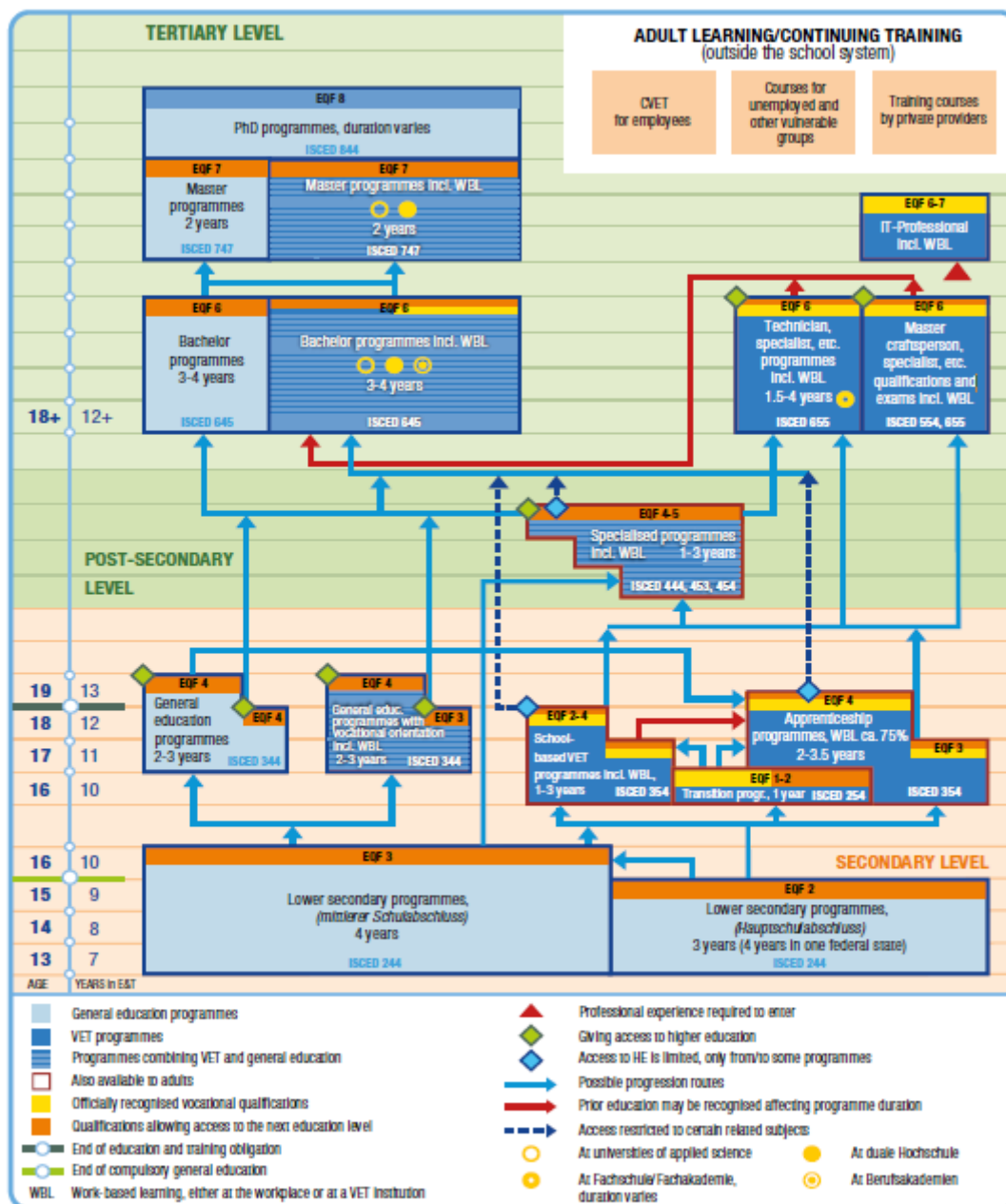
At tertiary level, vocationally qualified applicants can access advanced vocational training (AVT) leading to qualifications at EQF level 6, including master craftsperson, technician, and specialist (*Meister, Techniker, Fachwirt*). AVT confers the right to exercise a trade independently, to hire and train apprentices and to enrol in subject related bachelor programmes. It also facilitates the acquisition of middle management qualifications in companies. AVT is a major factor contributing to the attractiveness of the VET pathway. Courses to prepare for these AVT qualifications are offered by chambers or schools (*Fachoberschulen*,

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master craftsperson schools). Access to the respective assessment generally requires several years of practice in the related occupation.

Practice-oriented learning is also an important element of higher education (EQF levels 6 to 7). Dual study programmes provide a blend of vocational and academic training, offered by universities of applied sciences bachelor programmes) and other higher education institutions (*Berufsakademien, duale Hochschule*). Some of them lead to double qualifications (vocational qualification and bachelor or master's degree). Enterprises bear the costs of company-based training and pay learners a wage based on a contract.

Continuing training is playing an increasingly important role in improving employability. It is characterised by a wide variety of training providers and a low degree of State regulation.

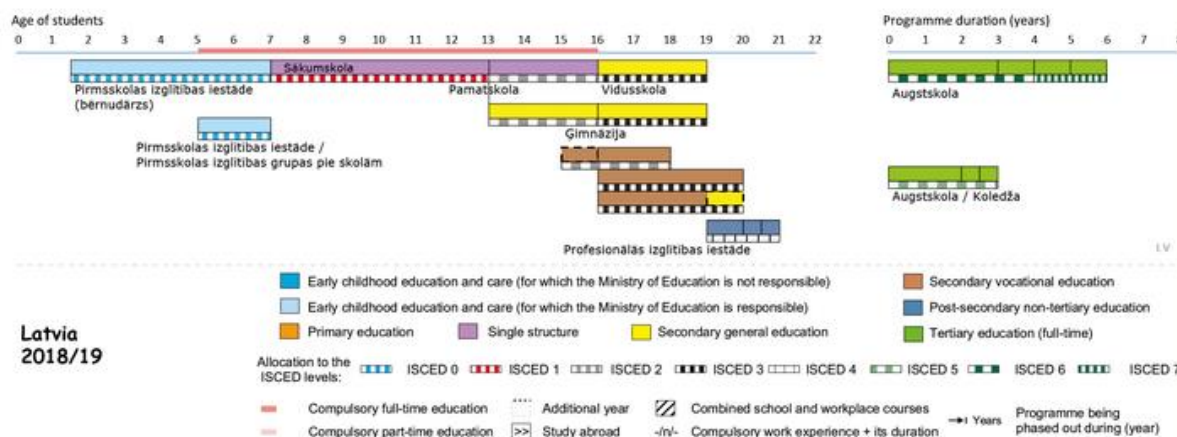


NB: ISCED-P 2011. This is a simplified chart, based on the unified approach used for the spotlights on VET in all EU-28 countries plus Iceland and Norway.

Source: Cedefop and ReferNet Germany.

Latvia

Structure of the national education system



Source: Eurydice 2018/19

Main aim of education policy in Latvia is **qualitative and inclusive education for personal development, human welfare and sustainable development of the country**. Among the EU countries Latvia follows Estonia and Finland in rather equitable distributions of low achievers across socio-economic groups.

Public investment in pre-primary education (for children 3 years and older) as a percentage of gross domestic product is one of the highest among European countries, and public expenditure on education in total in recent years has increased. Having low teachers' salaries - compared to international standards - the government has started in 2016 to implement teachers' salaries reform with the aim to rise teachers' salaries to internationally (regionally) competitive levels.

Comprehensive reforms are initiated in general and vocational education, too. In general education a new competence-based education content will be fully introduced in 2019-2023. As a result of modernization of vocational education and training proportion of upper-secondary students in general education and VET should reach 50/50% in 2020. It was 60/40% in 2016 respectively. In 2017, share of population aged 30–34 with tertiary education attainment in Latvia was above the EU average, but adults' participation in lifelong learning is below the EU average.

Early childhood education

Latvia provides a legal entitlement to **early childhood education** and care (ECEC, pirmsskolas izglītība) for all children from 1.5 years of age. Municipalities are obliged to ensure that children whose residence is declared in the administrative territory of the municipality are able to access ECEC the institution (pirmsskolas izglītības iestāde) close to their home. ECEC for five- and six-year-old children is compulsory.

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Primary and lower secondary education	Primary and lower secondary education is organised as a single structure system (pamatizglītība or basic education), beginning at the age of 7 and consisting of nine years of compulsory schooling. Basic education ends after grade 9 with final examinations in student's first language, the Latvian language for students in ethnic minority programmes, mathematics, history of Latvia and a foreign language, leading to the award of a certificate which is needed to entry into upper-secondary education.
Upper secondary education	<p>Upper secondary education (vidējā izglītība) begins at the age of 16 and ends at the age of 19 and is provided in general and vocational pathways by vidusskola, ģimnāzija and profesionālās izglītības iestāde. Although upper-secondary education is not compulsory, the proportion of population with completed upper secondary education is still high and above the OECD average.</p> <p>Various vocational upper-secondary education programmes take between two to four years to complete and led to different qualification levels. Most of vocational programmes start at upper-secondary level and only a few schools offer lower-secondary vocational education.</p>
Higher education	Higher education is provided by rather autonomous public and private higher education institutions (augstskola): these are universities (universitāte), offering both academic and professional tertiary programmes; other augstskola, akadēmija or koledža offer professional tertiary programmes. The degree structure follows the three-cycle structure: bachelor's, master's and doctoral level studies.
There is a spectrum of formal and non-formal education programmes and courses for the adult learners. Within formal education system, adult education extends over general education provided in pamatskola and vidusskola, vocational and further-vocational training offered by profesionālās izglītības iestāde, and higher education in augstskola. There are also various non-formal adult education opportunities provided by public and private education institutions and organizations. Informal learning acquired through working and personal life can be validated as professional competences acquired outside formal education.	

VET in Latvia

Vocational education and training (VET) in Latvia is offered at three (4) levels: integrated primary and lower secondary (called 'basic' nationally); upper secondary (secondary); and tertiary (professional higher) education. It includes practical training (50% to 65% of curricula) at schools and enterprises. In 2015, an apprenticeship scheme (called 'workbased learning' nationally) was introduced with alternating study

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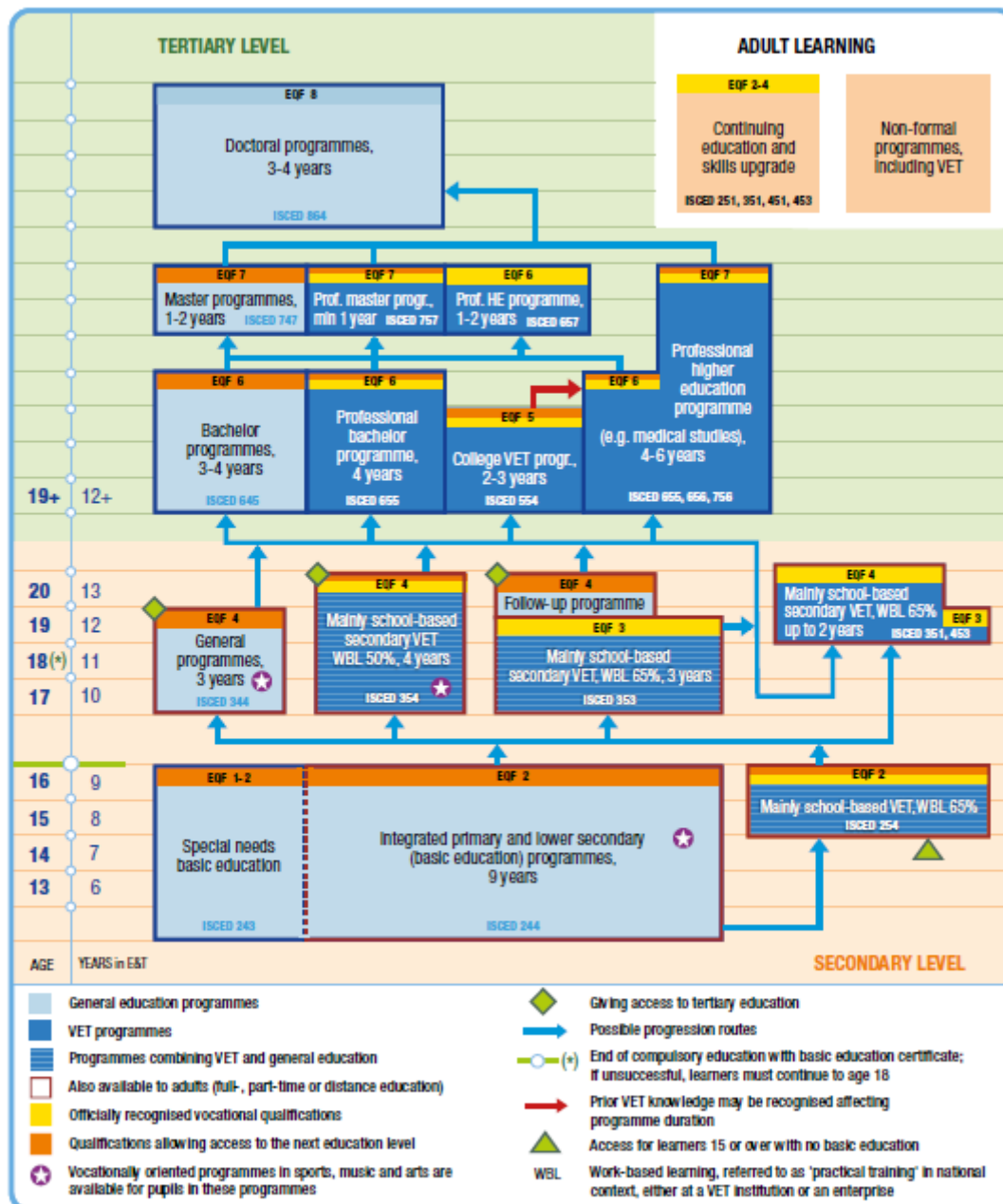
periods at school and in an enterprise. To acquire a VET qualification at EQF levels 2 to 4, learners take a State qualification exam at the end of the programme.

Basic VET programmes (one to three years, ISCED 254) lead to qualifications at EQF level 2 and involve around 1% of the VET population (2017/18 data). Learners must be at least 15 years old to enrol. Those without completed basic education are admitted to three-year programmes (ISCED 254) that include a compulsory basic general education course.

At upper secondary level, VET enrolls 40% of learners in:


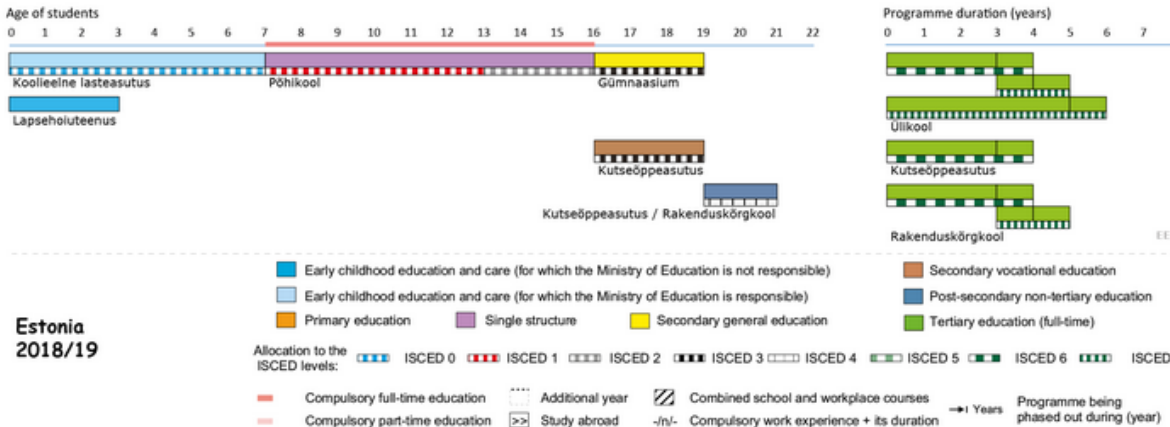
- three-year programmes (ISCED 353) leading to a qualification at EQF level 3 and involving 4% of VET learners. To enrol in higher education graduates should attend an additional one-year bridging programme;
- four-year programmes (ISCED 354) leading to a secondary VET qualification at EQF level 4 and involving 73% of VET learners. Graduates take four State exams in general subjects; if successful, they are also awarded a certificate of general secondary education giving access to higher education;
- one- to two-year programmes (ISCED 351 and 453) leading to a qualification at EQF levels 3 and 4. These programmes are designed for 17 to 29-year-old with or without completed upper secondary education. They involve 21% of VET learners and focus on vocational skills, so they are shorter. Professional higher education programmes are provided at two levels:
 - first-level college programmes (two to three years; ISCED 554, EQF 5) targeted mainly at the labour market, though graduates can continue their studies in second-level professional higher education;
 - second-level higher education programmes (two to six years) (ISCED 655, 656, 657, 756 and 757, EQF 6 and 7) leading to a professional qualification and either professional bachelor or master's degree or a professional higher education diploma.

Formal continuing VET (CVET) programmes enable adults with education/work experience to obtain a State-recognised professional qualification in 480 to 1 280 hours, depending on the field of study. Shorter professional development programmes (at least 160 hours) enable learners to acquire or upgrade their professional knowledge and skills regardless of their age, education and professional background but do not lead to a qualification. Craftsmanship exists on a small scale, separate from the rest of the education system. The Ministry of Education and Science is the main body responsible for the VET legal framework, governance, funding and content. Social dialogue and strategic cooperation are arranged through the national Tripartite Sub-Council for Cooperation in Vocational Education and Employment, founded in 2000 by the State, employer and employee representatives. Since 2011, 12 sectoral expert councils have ensured that vocational education provision is in line with labour market needs; they participate in developing sectoral qualifications frameworks, occupational standards, qualifications requirements, education and training programmes and quality assessment procedures. Since 2015, collegial advisory bodies, including representatives from employers, local governments and the supervising ministry – conventions – have been established at each VET school contributing to strategic development and cooperation with the labour market.



NB: ISCED-P 2011.

Source: Cedefop and ReferNet Latvia.

<div>  <div>Estonia</div> </div>	
<h2>Structure of the National Education System</h2>  <p>Source: Eurydice 2018/19</p>	
<p>In Estonia, the structure of the education system provides opportunities for everyone to move from one level of education to the next. Levels of education comprise preschool education (ISCED level 0), basic education (ISCED levels 1 and 2), upper secondary education (ISCED level 3) and higher education (ISCED levels 6, 7 and 8). The obligation to attend school applies to children who have attained 7 years of age by 1 October of the current year. Children up to 7 years may attend preschool childcare institutions. The obligation to attend schools lasts until basic education is acquired or until a student attains 17 years of age.</p> <p>Estonian education system is decentralised. The division of responsibility between the state, local government and school is clearly defined.</p>	
Preschool education	Preschool education (ISCED level 0) is generally acquired in childcare institutions (<i>koolieelne lasteasutus</i>). Local governments are obliged to provide all children aged from 1.5 to 7 years permanently residing in their catchment area with the opportunity to attend a preschool childcare institution if the parents so wish. In addition, there is also a system of childcare services (<i>lapsehoiuteenus</i>) catering mainly for the youngest children. These services can be either centre- or home-based.
Basic education	Basic education (ISCED levels 1 and 2) is the minimum compulsory general education, which is acquired in the basic school (<i>põhikool</i>) and which gives the right to continue studies at upper secondary education level. Basic school includes grades 1–9. Successful completion of the curriculum and passing final examinations is the condition for acquiring basic education.

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<p>Secondary education</p>	<p>Secondary education (ISCED level 3) is based on basic education and is divided into general secondary education, which is acquired in upper-secondary schools (<i>gümnaasium</i>), and vocational upper-secondary education, which is acquired in vocational schools (<i>kutseõppeasutus</i>). The length of general upper-secondary education is 3 years (grades 10–12). To graduate from upper-secondary school, students must pass state examinations, a school examination and a student investigation paper or practical work.</p> <p>The volume of vocational education curricula is calculated in VET credit points (EKAP). One credit point corresponds to 26 hours of work used by a student for studying. The yearly study volume is 60 credit points. The study volume of vocational secondary education (ISCED 3) is 180 credit points. Successful completion of the curriculum, taking necessary tests and passing all required assessments, practical training and the final examination is the condition for graduating from a vocational school. Acquisition of upper secondary education gives the right to continue studies at higher education level.</p> <p>Vocational education may be acquired also after graduation from upper secondary school. The study volume of VET after secondary education (post-secondary non-tertiary education, ISCED 4) is 120–150 credit points. Also, people with unfinished basic education can enter VET studies, the study volume is 15–120 credit points (ISCED 2).</p>
<p>Higher education</p>	<p>Higher education (ISCED levels 6, 7 and 8) may be acquired as professional higher education (in a vocational school (<i>kutseõppeasutus</i>), institution of professional higher education (<i>rakenduskõrgkool</i>), educational institution belonging to the structure of university (<i>ülikool</i>)) or academic higher education (<i>ülikool</i>). The general structure of academic study has three levels or cycles. The first level is bachelor's study and the second level is Master's study. The third and the highest level is Doctoral study. All persons with upper secondary education or foreign qualifications equal thereto have an equal right to compete to be admitted to the above-mentioned educational institutions.</p> <p>The volume of higher education curricula is calculated in credit points of European Credit Point Transfer System (ECTS). One credit point corresponds to 26 hours of work used by a student for studying. The yearly study volume is 60 credit points. The standard volume of bachelor's study as well as of professional higher education study is 180–240 ECTS. The standard period of master's study is 60–120 ECTS. The standard period of bachelor's and Master's study combined must be at least 300 ECTS in total. The standard period of Doctoral study is 180–240 ECTS.</p>

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	In the course of studies, educational institutions may take account of a person's previous study results and professional experiences (APEL). Through APEL, a curriculum can be completed in full, except for the final examination or final paper.
Adult education is divided into formal education and continuing education. Formal education acquired within the adult education system allows adults to acquire general lower and upper secondary education at adult upper secondary schools. Schools implement individual curricula when needed. In addition to formal education, VET and higher education institutions provide continuing education and retraining courses.	

VET in Estonia

Vocational education and training (VET) in Estonia is under the jurisdiction of the Ministry of Education and Research and is crucial to ensuring a flexible and skilled workforce, capable of adapting to changes in the labour market. Professional standards in the eight-level Estonian qualifications framework are all outcomes-based and are the basis for VET curricula. Social partners are involved in VET policy development and implementation, helping respond to labour market needs. They participate in national professional councils and are involved in drafting VET-related legislation, including curricula. At school level, their representatives belong to VET institution advisory bodies.

Recognition of prior learning and work experience has improved accessibility to VET for learners from diverse education and professional backgrounds. The VET infrastructure has recently been upgraded.

VET institutions offer both initial and continuing programmes. Initial VET is offered at the second, third, fourth and fifth levels of the Estonian qualifications' framework (and the European qualifications framework, EQF). Learners can choose between full-time studies (autonomous learning is less than one half of the study volume) and those where the emphasis is on self-study and contact hours are fewer (referred to as 'non-stationary' studies in the national context). Full-time studies are available as school-based tracks, with up to 70% work-based learning, and as apprenticeship. Financial assistance is available for VET learners to guarantee equal access to education regardless of their socioeconomic circumstances.

There are no minimum admission requirements at second and third levels, but learners must be at least 17 years old to enrol. Curricula are designed to meet labour market needs in elementary occupations. Entry to fourth level studies usually requires completed basic education but there are exceptions for those over 22 without basic education. Programmes at this level give learners the skills needed to perform more complicated jobs.

It is possible to follow vocational programmes at ISCED levels 351 and 354, the latter referred to as upper secondary vocational education. The qualification achieved in vocational secondary education gives graduates access to higher education, provided they meet entry requirements. This may require learners to pass State examinations that are compulsory for general upper secondary education graduates: an optional additional year of general education is available for vocational secondary education graduates (ISCED 354) to help prepare. Upper secondary education gives access to EQF level 5 initial VET programmes (ISCED 454).

These post-secondary programmes prepare learners for technical and associate professional occupations and further studies.

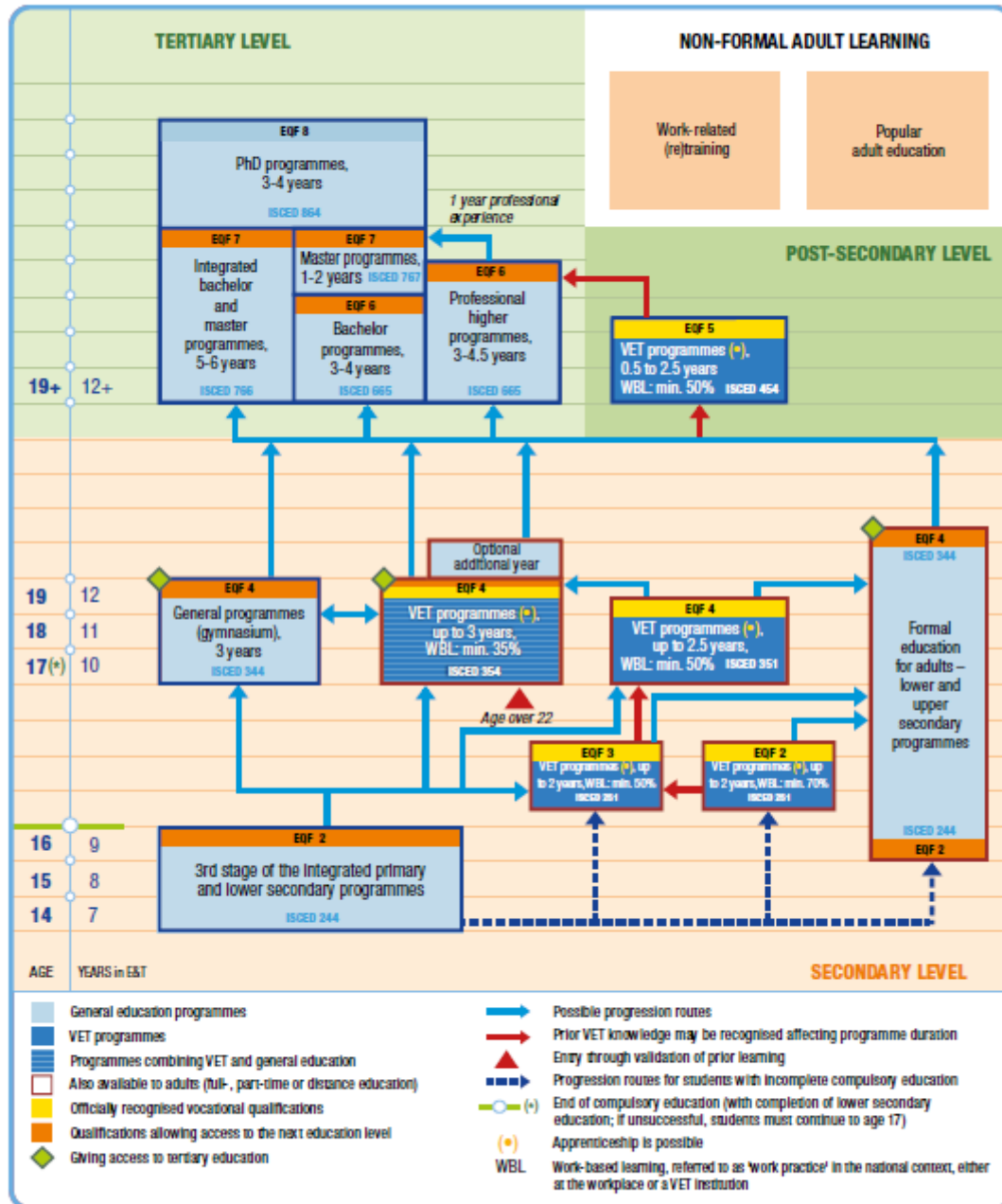
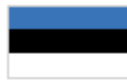
Continuing VET is offered at EQF levels 4 and 5. To enrol, learners need a VET qualification or relevant competences in addition to completed upper secondary education.

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Tertiary VET does not feature in Estonian legislation, though tertiary education may also comprise professional qualifications. These are accessible to all graduates of both general and vocational secondary education, as well as graduates of post-secondary VET.


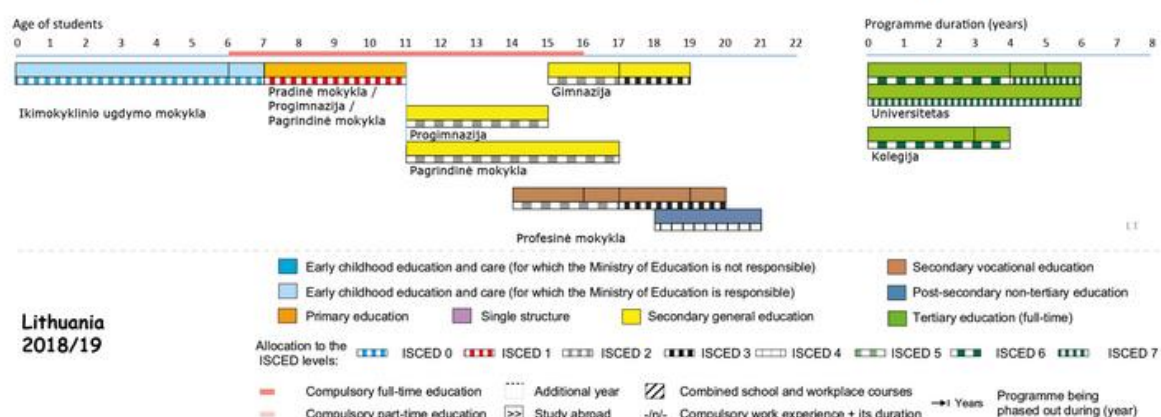
Non-formal continuing VET is part of adult learning regulated by the Adult Education Act. Its forms, duration and content vary. Learners or employers usually cover the costs, though ESF-financed adult courses are free for learners. Participation in these is approximately 50% higher. Training can be provided by VET institutions appointed via public procurement.

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NB: ISCED-P 2011.

Source: Cedefop and ReferNet Estonia.

<div>  <h1>Lithuania</h1> </div>	
<h2>Structure of the national education system</h2>  <p>Lithuania 2018/19</p> <p>Source: Eurydice 2018/19</p>	
<p>Lithuania's education system is decentralized, or at least more decentralized than centralized. National institutions, municipalities and educational institutions all share responsibility for the quality of the education provided. Education policy is formed at the national level by the Seimas (Parliament), adopting laws and declarations on policy changes. The Government <i>in corpore</i> and the Ministry of Education and Science (and other related ministries) also formulate and implement education policy and adopt and implement legal acts other than laws and declarations.</p> <p>The main laws and legal acts, such as the Law on Education or the Description of the Primary, Lower Secondary and Upper Secondary Curriculum are adopted at the national level. The municipalities set and implement their own strategic education plans that are in accordance with the national documents. The municipalities are responsible for ensuring formal education up until the age of 16, organizing non-formal education, transportation to educational institutions and other aspects. The school organizes the education process – for example, teachers are able to adapt the core curriculum to individual children's needs. Formal education is typically provided by public entities. However, private sector education providers are recognised and regulated by national legal acts.</p> <p>Education is a priority of the state and is publicly funded at all levels. Education is free at all stages, with one exception – higher education.</p>	
Early childhood education and care	<p>Early childhood education and care is composed of pre-school (ikimokyklinis ugdymas) and pre-primary (priešmokyklinis ugdymas) education and is attributed to the type of non-formal education. Pre-school education is not compulsory. At the request of the parents, the child can be educated according to the pre-school curriculum. Pre-school education is provided for children from birth to pre-primary education. In order to help the child to prepare for the successful</p>

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	completion of the primary education curriculum, pre-primary education groups are set up. Attendance is compulsory for pre-primary education when a child turns 6 years of age in the calendar year. Pre-school and pre-primary education can be offered at pre-primary classes in ECEC settings, general education schools or provided by licensed freelance teachers or other education providers in accordance with the legal acts. Pre-school and pre-primary educational institutions fall under the authority of local governments.
Primary and basic education	Children must start attending primary schools when they turn 7 years of age during the calendar year. Primary and lower secondary education is free of charge in public educational institutions. Primary education lasts for 4 years, providing children with the fundamentals of learning, literature and social and cultural skills. It is delivered by primary schools (pradinė mokykla, an institution that provides education for grades 1 to 4), progymnasium schools (progimnazija, a general education institution that provides education for grades 1 to 8) or school-multifunctional centres (daugiavfunkcis centras, an institution that provides early childhood education and care, education from grades 1 to 12, and other formal and non-formal education, cultural and social services). Children usually enter lower secondary education when they are 10 to 11 years of age. Lower secondary education lasts for 6 years and is also compulsory by law. It is delivered by pro-gymnasiums (progimnazija, see above), lower secondary education schools (pagrindinė mokykla, a lower secondary education school and general education institution providing education for grades 5 to 10), gymnasiums (gimnazija, a general education institution that provides education for grades 9 to 12), school-multifunctional centres and vocational schools (profesinė mokykla). Education is compulsory until 16 years of age and by that time the learner will have usually finished the course of lower secondary education (10 grades).
Upper-secondary and post-secondary level	The two-year upper-secondary curriculum is implemented by gymnasiums, secondary, vocational and other (e.g., The International Baccalaureate) schools for students typically aged from 17 to 19.
Higher education	Higher education comprises two types of institutions: universities (universitetas) and colleges (kolegija). Learners can begin their higher education after gaining an upper secondary general education. The degree structure follows a three-cycle structure: Bachelor's, Master's and Doctoral-level studies. The first cycle of studies (Bachelor's) usually lasts 4 academic years, the second cycle (Master's) 2 years and the third cycle (Doctoral) 4 years.

VET in Lithuania

The Ministry of Education and Science is the main body responsible for shaping and implementing vocational education and training (VET) policy. The Ministry of Economy participates in human resources development and VET policy. Following the new VET Law, in force since February 2018, the Research and Higher Education Monitoring and Analysis Centre (MOSTA) ensures the monitoring framework for VET

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and higher education, research and innovation. It plans human resources and forecasts new qualification requirements in line with national policies and the needs of the economy.

Vocational education and training in Lithuania is offered from lower secondary to post-secondary education (ISCED levels 2 to 4). To acquire a VET qualification, learners take a specified exam, after which a VET diploma is awarded. VET-oriented programmes in higher education lead to a professional bachelor's degree (ISCED 655); they are provided by colleges, a type of higher education institution.

Lower secondary level VET programmes (two to three years, ISCED 252 and 254) lead to qualifications at EQF level 2. They are open to learners over 14 and training is mandatory until age 16. Those without completed lower secondary education can study VET along with general education.

At upper secondary level:

- two- to three-year programmes (ISCED 352) lead to a VET qualification at EQF level 3 and prepare students for entering working life;
- three-year programmes (ISCED 354) lead to a VET qualification at EQF level 4 and a matura diploma giving access to higher education and post-secondary ISCED 454 programmes. To receive a matura diploma a learner must take at least two matura exams. Graduates who apply to higher education ISCED 645 and ISCED 655 programmes in the same field of studies are awarded additional entrance points.

Post-secondary level VET programmes (one to two years, ISCED 454) lead to a VET qualification at EQF level 4 in specific fields. Implementation of EQF level 5 programmes is under discussion.

Formal continuing VET (CVET) is for learners who want to improve an existing qualification, acquire a new one or gain a competence needed to do jobs specified in regulations. CVET is designed for people with different education attainment levels, from primary to post-secondary; in some cases, a vocational qualification or work experience is a prerequisite. CVET programmes last no longer than one year and lead to qualifications at EQF levels 2 to 4, recognised by the State.

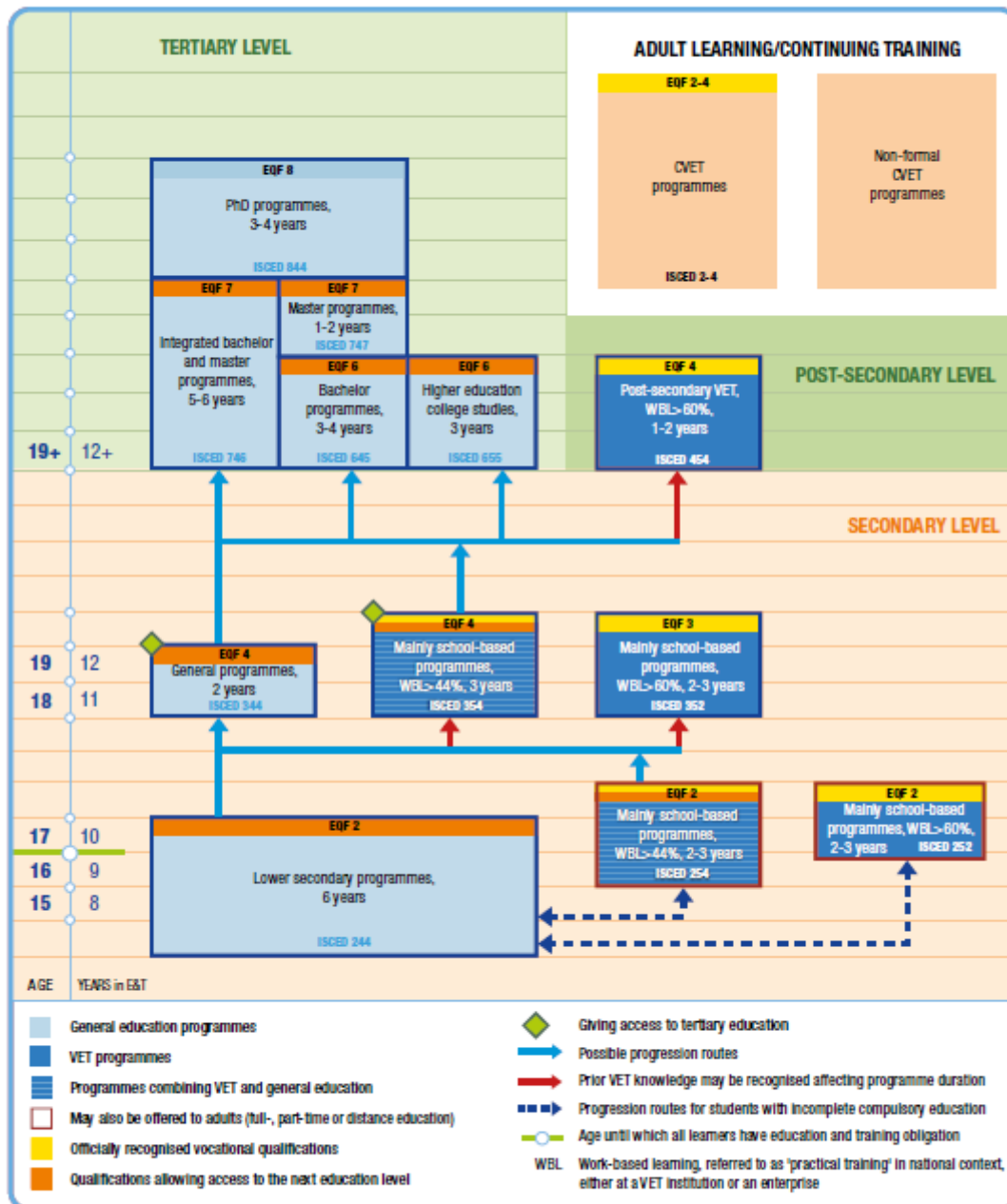
Non-formal CVET for the self-employed and employee training are organised in various settings. Some companies have their own training units and qualifications frameworks or apply internationally recognised sectoral qualifications and programmes.

Although VET in Lithuania is school-based, work-based learning (WBL), in workshops at school and at a workplace, is a significant part. In IVET, WBL takes place in school settings, with 8 to 15 weeks preferably spent in a company. To improve the quality of WBL in a school environment, 42 sectoral practical training centres have been established. In CVET, WBL corresponds from 60% to 80% of the programme, half of it preferably taking place in companies. Progressing implementation of apprenticeship is a national priority and policy initiatives are in process.

Qualification exams are detached from the training process and are carried out by accredited institutions. Social partners, enterprises and employers' associations may apply for accreditation.

Social partners participate in developing new qualifications, standards and VET programmes: the 2018 VET law boosted the role of sectoral professional committees in shaping VET qualifications and planning future apprentice intake.

Reforming VET management, financing schemes and quality assurance mechanisms are part of policy priorities and developments in progress to raise the prestige of VET and its attractiveness to VET stakeholders.

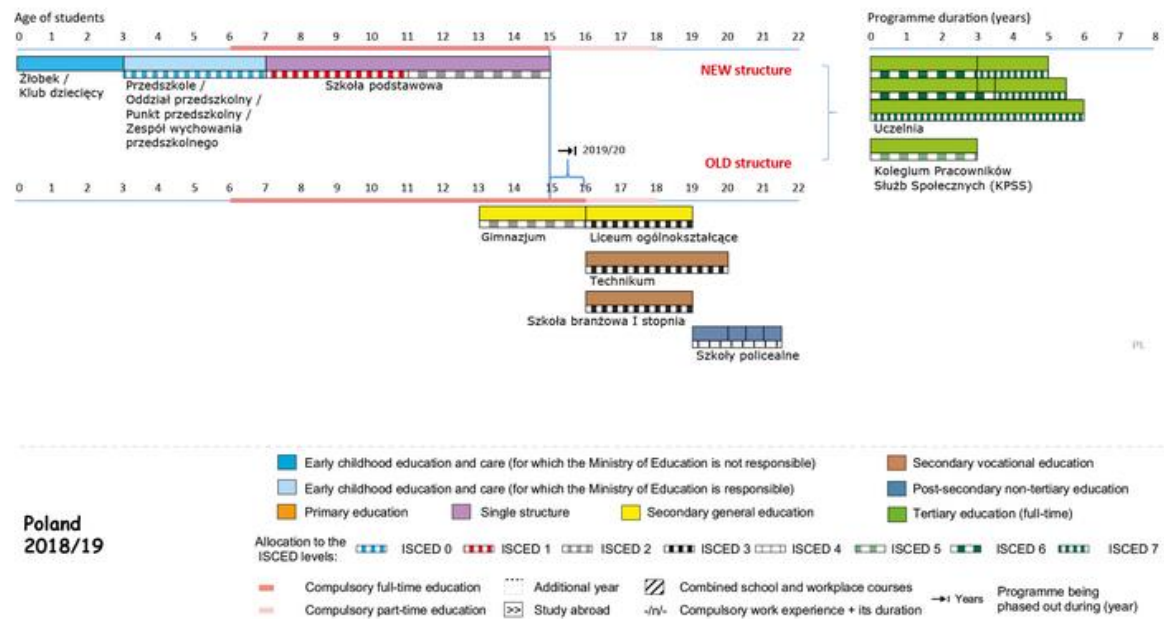


NB: ISCED-P 2011.

Source: Cedefop and ReferNet Lithuania.

Poland

Structure of the National Education System



Source: Eurydice 2018/19

Structural reform in 2017

Educational reform in Poland is being implemented since the beginning of 2017. Its main goal is to offer students a solid background of general education required for further personal development and the needs of contemporary labour market.

The key elements of the reform are as follows:

- change in the school structure: introduction of a long, 8-year primary school, 4-year general and 5-year technical upper-secondary school
- an obligation for 6-year olds to attend one year of pre-primary education in order to acquire basic skills before they start school at 7; (this education, as it is the case for the school education, is financed from the general subvention from the State budget)
- provision of textbooks free of charge
- strengthening secondary education - both general and vocational -through the extension of secondary programmes by one year (see point 1)
- introduction of 3-year sectoral vocational learning (to obtain a professional qualification) with a possibility to continue education for further 2 years at the second stage of sectoral vocational school in order to upgrade qualifications and to prepare for the matriculation exam
- promotion of dual vocational training in cooperation with the business sector
- extending the participation of employers in co-financing of vocational education through the establishment of the Fund for Vocational Education Development.

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The reform will be implemented between 1 September 2017 and the school year 2022/23. On the 1 September 2017 pupils graduating from year 6 of the primary school become pupils of grade 7. At the same time *gimnazja* (lower secondary schools) will be gradually phased out. In the school year 2018/19 *gimnazja* will cease to operate as the last cohort of pupils will graduate.

The new structure includes:

- 8-year primary school
- 4-year general upper secondary school
- 5-year technical upper secondary school
- Stage I 3-year sectoral vocational school
- 3-year special school preparing for employment
- Stage II 2-year sectoral vocational school
- Post-secondary school

The restructuring takes place on the basis of an act of 14 December 2016 “Law on School Education” and an act “Legislation introducing the Act – Law on School Education”.

Stage I sectoral vocational school has been introduced since September 2017, and introduction of Stage II sectoral vocational school is scheduled for the school year 2020/21.

In the following text we refer to two different structures of the school education system (old and new which was initiated in September 2017).

Compulsory education

In the old structure full-time compulsory education lasts for 10 years and comprises the last year of pre-school education, 6 years of primary school education and 3 years of lower secondary school education. Starting 2017 a new structure of school education is being implemented in which full-time compulsory education will last for 9 years (the last year of pre-school education and 8 years of primary school education).

In the Polish educational system full-time compulsory education and part-time compulsory education are defined:

- Full-time compulsory education (obligation to attend primary and lower secondary school- old structure, and primary school – new structure) applies to pupils aged 7-16 years (7-15 in the new structure)
- Part-time compulsory education (obligation to be in education) concerns pupils aged 16-18 (15-18 in the new structure) and it may take place either in school settings (a student attends upper secondary school) or in non-school settings (e.g. a student follows vocational training offered by employers).

Early school education and care	<p>Institutions for children aged 0-3 years:</p> <ul style="list-style-type: none"> - crèche (<i>żłobek</i>) - kids club (<i>klub dziecięcy</i>). <p>Attending a crèche is not obligatory, crèches are not a part of education system as they are supervised by the Ministry of Family, Labour and Social Policy.</p> <p>Institutions for children aged 3-6 years:</p> <ul style="list-style-type: none"> - pre-school (<i>przedszkole</i>)
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	<ul style="list-style-type: none"> - pre-school class in a primary school (<i>oddział przedszkolny w szkole podstawowej</i>) - pre-school unit (<i>zespół wychowania przedszkolnego</i>) - pre-school centre (<i>punkt przedszkolny</i>). <p>Pre-schools are optional for 3, 4 and 5-year- old children and obligatory for 6-year-olds. Every 3-, 4- and 5-year old has an entitlement to a place in a pre-primary setting.</p> <p>As of the school year 2016/17 compulsory education in grade one of primary school starts at the age of 7. Parents of 6-year olds have a choice - they can enroll their children in the first grade of primary school or keep them in a pre-school institution.</p>
Primary education	<p>Old structure</p> <p>6-year primary school (<i>szkoła podstawowa</i>) was compulsory for all pupils who are usually aged 6/7-13.</p> <p>It included two stages:</p> <p>grades 1-3 (early school education)</p> <p>grades 4-6 where teaching is done by subject.</p> <p>A compulsory external exam at the end of grade 6 of primary education is cancelled due to the introduction of the new structure.</p> <p>New structure (single structure education ISCED 1+ISCED 2)</p> <p>8-year primary school (single structure education) is compulsory for all pupils who are usually aged 6/7-15.</p> <p>It includes two stages:</p> <p>grades 1-3 (early school education)</p> <p>grades 4-8 where teaching is done by subject.</p> <p>At the end of grade 8 of primary school pupils will take a compulsory external exam and its results will influence admission to secondary schools.</p>
Lower and upper secondary education	<p>Old structure</p> <p>Lower secondary school</p> <p>3-year <i>gimnazjum</i> for students aged 13-16 is another stage of compulsory education. At the end of lower secondary school pupils take a compulsory external exam and its results influence admission to upper secondary schools.</p> <p>Starting in 2017 the 3-year <i>gimnazjum</i> (lower secondary school) is being phased out. Pupils graduating from the 6th grade of primary school become pupils of grade 7 in a new 8-year primary school.</p> <p>Upper secondary school</p>

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	<p>Although this stage of education is not compulsory (or in fact compulsory part time up to the age of 18) a vast majority of students continues education in upper secondary schools.</p> <p>In the old structure there are three types of upper secondary schools:</p> <ul style="list-style-type: none"> - 3-year general upper secondary school (<i>liceum ogólnokształcące</i>) - 4-year technical upper secondary school (<i>technikum</i>) - 3-year basic vocational school (<i>zasadnicza szkoła zawodowa</i>) (already replaced by stage I 3-year sectoral vocational school (<i>szkoła branżowa I stopnia</i>)). <p>Pupils attend upper secondary schools at the age of 16-19 (16-20 years in case of the technical upper secondary school).</p> <p>New structure</p> <p>New structure is being introduced gradually starting in 2019/20 to be completed in 2023/24.</p> <p>The level of lower secondary school (ISCED 2) will be included in a single structure called an 8-year primary school.</p> <p>The new reformed structure of upper secondary education (ISCED 3) envisages the following types of schools:</p> <ul style="list-style-type: none"> - 4-year general secondary school (<i>liceum ogólnokształcące</i>) - 5-year technical secondary school (<i>technikum</i>) - stage I 3-year sectoral vocational school (<i>szkoła branżowa I stopnia</i>) - stage II 2-year sectoral vocational school (<i>szkoła branżowa II stopnia</i>). <p>Examinations</p> <p>Students of vocational schools - sectoral vocational schools and technical upper secondary schools - may take exams confirming vocational qualifications in a given occupation during the course of study or upon completion of school to receive a diploma confirming their vocational qualifications.</p> <p>Graduates of general upper secondary schools and technical upper secondary schools may take the external upper secondary school leaving examination (<i>egzamin maturalny</i>) to obtain the <i>Matura</i> certificate, which gives access to higher education.</p>
Post-secondary education	<p>Post-secondary education is considered to be a part of secondary education. Post-secondary schools (<i>szkoła policealna</i>) are intended for graduates of general upper secondary schools who wish to obtain a diploma confirming vocational qualifications.</p> <p>The schools offer courses lasting from 1 to 2.5 years. The students of post-secondary schools and students of sectoral vocational schools and</p>

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	<p>technical upper secondary schools take vocational exams of the same type.</p> <p>Post-secondary schools will continue their functioning within the new structure of school education.</p>
Higher education	<p>There are two types of Higher Education Institutions:</p> <p>university-type (<i>uczelnia akademicka</i>)</p> <p>non-university-type (<i>uczelnia zawodowa</i>).</p> <p>They both offer first- and second-cycle programmes as well as long-cycle master's degree programmes while only university-type HEIs can offer third-cycle programmes (doctoral studies) and are authorized to award doctoral degrees.</p> <p>Studies are organized in the form of full-time (<i>studia stacjonarne</i>) or part-time (<i>studia niestacjonarne</i>) programmes.</p> <p>First-cycle programmes lead to two types of degrees:</p> <ul style="list-style-type: none"> - <i>licencjat</i> (equivalent of bachelor's degree) - 3-4-year programmes - <i>inżynier</i> (equivalent of bachelor's degree) - 3.5-4-year programmes. <p>Holders of the bachelor's degree can enter second-cycle programmes, which take 1.5-2 years depending on the area of study.</p> <p>Only several fields of study offer long-cycle master's degree programmes that last for 4-6 years. First-cycle, second-cycle and long-cycle master's programmes end with a diploma examination and students who have passed it are granted a relevant degree.</p> <p>The Master's degree (<i>magister</i> or its equivalent) entitles its holder to practice a given profession and provides access to third-cycle studies. They are organised in HEIs or research and development institutions other than HEIs and last for 3-4 years.</p> <p>Colleges of social work</p> <p>These institutions operate in the framework of school education system (not the higher education system) offering education at tertiary level (short-cycle higher education).</p>
Adult education	<p>Adult education is open to adults who wish to complete school education on primary and secondary level or acquire new vocational qualifications and skills for professional or personal reasons.</p> <p>It is organised, in school and non-school settings, by:</p> <ul style="list-style-type: none"> - continuing education institutions - practical training institutions, - in-service training centres - HEIs as non-degree postgraduate programmes.

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	Training is offered also to the unemployed and to certain categories of people searching for a job.
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VET in Poland

Vocational education and training (VET) has three governance levels: national (ministries), regional (school superintendents, mainly in pedagogical supervision) and county (governing schools). The Ministry of National Education is in charge of VET policy at secondary level, supported by other ministries responsible for particular occupations. The Ministry of Science and Higher education is responsible for higher VET. Social partners advise policymakers on necessary changes in VET.

Since September 2017 the Polish education system has been undergoing substantial restructuring, which will be finalised in the 2022/23 school year. Key elements of the reform include: restructuring the current six- year primary education into eight years, divided into two four year programmes (basic and lower secondary level); phasing out the lower secondary school (gimnazjum), and extending the general upper secondary school (four instead of three years) and the technical upper secondary school (five instead of four); and introducing a two-level 'sectoral vocational school'.

VET is provided at upper secondary and postsecondary levels that are mainly school based. Upper secondary programmes combine general and vocational education. Learners can acquire vocational qualifications in the following:

- three-year sectoral programmes (szkoły branżowe I stopnia, ISCED 353). Graduates can enrol in general education programmes bridging VET and higher education. For graduates of these programmes, the reform foresees introduction of new two-year programmes that will give access to tertiary education from 2020/21;
- five-year upper secondary technical programmes (technika, ISCED 354). Graduates can also acquire an upper secondary school leaving certificate (matura) giving access to tertiary education;
- three-year special job training programmes (szkoły specjalne przysposabiające do pracy, ISCED 243) for learners with special education needs (SEN), leading to a certificate of job training;
- work preparation in classes, available for SEN learners already at lower secondary level in primary schools at age 15 and above (oddziały przysposabiające do pracy, ISCED 243).

At post-secondary non-tertiary level, vocational qualifications can be acquired in one- to two-and-a-half-year school-based programmes (szkoły policealne, ISCED 453). These programmes are strictly vocational and do not include general education. Basic or upper secondary education is required to enrol.

Work-based learning (WBL) is compulsory for all VET- oriented programmes. WBL takes place in school workshops, at continuing education centres, practical training centres, as contract-based practical training organised by an employer and as in-company training from 4 to 12 weeks, depending on the occupation. The last of these is compulsory for upper secondary technical and post-secondary VET programmes.

Adult learning and CVET

Adult learning and continuing VET is available in continuing education centres, practical training centres, further training and professional development centres, and initial VET schools. These offer:

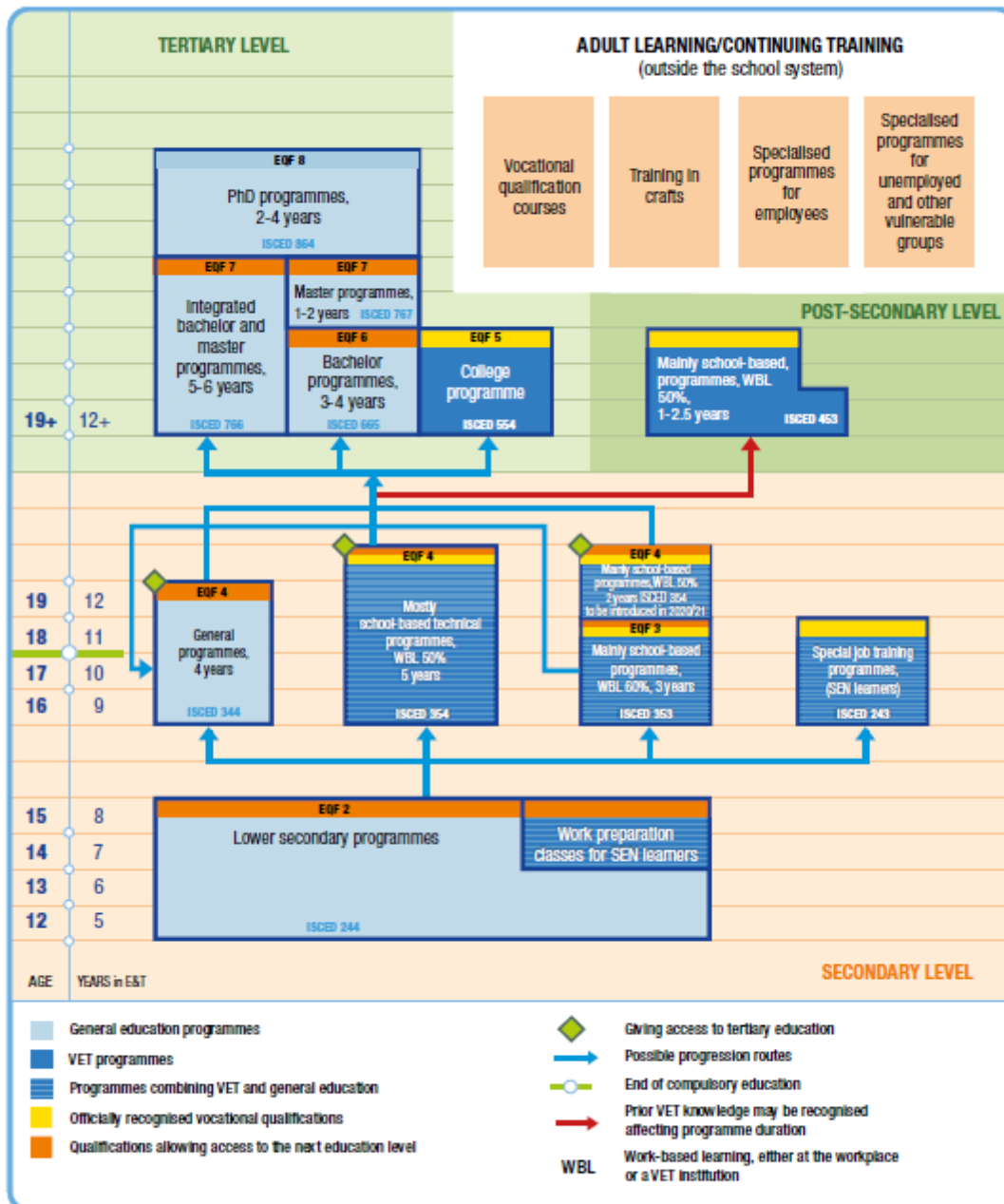
- vocational qualification courses based on curricula for a qualification in a given occupation; learners can take the State vocational examination and attain a vocational qualification certificate;
- vocational skills courses based on the core VET curriculum, including learning outcomes for a qualification or common learning outcomes for all occupations;
- minimum 30-hour general skills courses based on the general education curriculum;

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- courses for juvenile employees in the crafts sector.

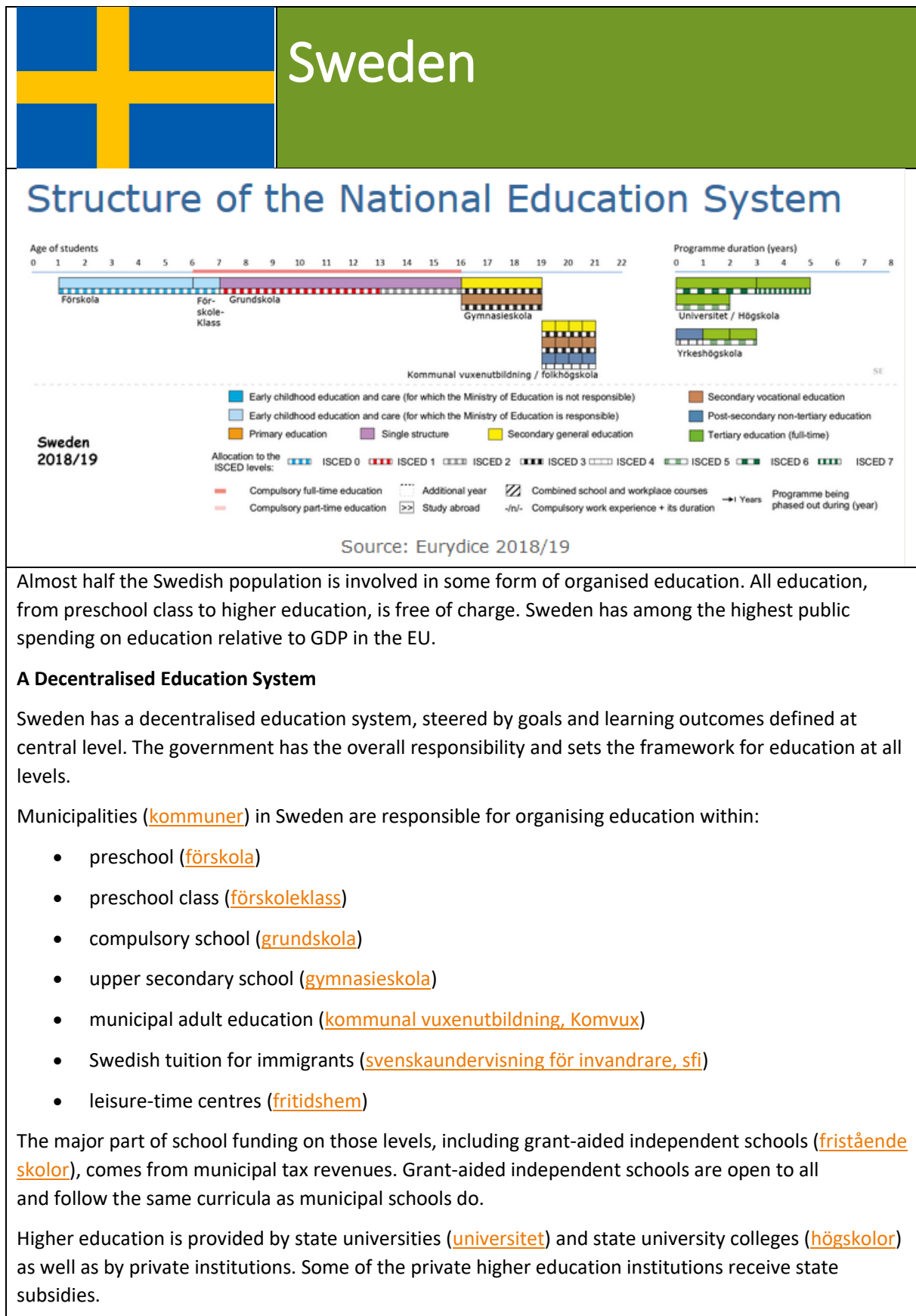
Adults, including the unemployed, may also undertake vocational training through courses provided by training companies and other non-formal education institutions. Since 2016, qualifications based on the curricula of such courses can be included in the national qualifications' framework.

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NB: ISCED-P 2011.

Source: Cedefop and ReferNet Poland.



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<p>Higher vocational education (yrkeshögskola) is provided by state universities, state university colleges, municipalities, county councils and independent education providers. Every year, the Swedish National Agency for Higher Vocational Education (Myndigheten för yrkeshögskolan) calls for applications from education providers who want their education programmes to be part of the Swedish higher vocational education. Approved applications are valid for 2-5 education rounds, after which the provider has to hand in a new application.</p> <p>Focus on Lifelong Learning</p> <p>An overall aim of the education system in Sweden is to strengthen the students' foundations for lifelong learning. This is for example expressed through the curricula for compulsory and upper secondary school.</p> <p>Sweden has a comprehensive system of adult education consisting of municipal and liberal adult education (folkbildning). Higher education and higher vocational education are free of charge and Swedish citizens are entitled to post-secondary student aid (studiemedel) until the year they turn 56. The study support system is equal for all and principally granted</p>	
Preschool class and compulsory school	<p>The preschool class (förskoleklass) is since 2018 compulsory for all children from the year that they turn six. The Compulsory school (grundskola) then begins at the age of seven and ends at the age of 16. Preschool (förskola) is heavily subsidised and available from about the age of one. More than 90 percent of the children attend preschool.</p>
Upper secondary school	<p>Upper secondary school (gymnasieskola) consists of 18 national programmes and five introductory programmes (introduktionsprogram) for students who are not eligible for a national programme. Among the national programmes, there are 12 vocational programmes (yrkesprogram) and six higher education preparatory programmes (högskoleförberedande program). Students usually start upper secondary school at the age of 16 and complete their upper secondary studies at the age of 19.</p> <p>Students that have not completed upper secondary school are able to attend municipal adult education (kommunal vuxenutbildning, Komvux) or folk high schools (folkhögskola). Students that have completed upper secondary school are, depending on their choice of upper secondary national programme and courses within the framework of individual options, also able to apply for universities (universitet), university colleges (högskola) and/or higher vocational education (yrkeshögskola).</p>
Higher education	<p>Mainly as a result of the Bologna process, higher education in Sweden follows a three-cycle structure. First and second cycle education is referred to as undergraduate education and the third cycle as postgraduate education.</p>

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VET in Sweden

Swedish vocational education and training (VET) starts after compulsory education and includes programmes at upper secondary, post-secondary and tertiary levels.

To enrol in upper secondary VET programmes, learners need a sufficient number of passing grades in a lower secondary programme. Alternatively, they can follow individualised introductory programmes, giving access to upper secondary programmes or to the labour market. Depending on the programme type and the students' performance, they last from one to three years.

Upper secondary VET programmes are three-year programmes leading to an upper secondary vocational diploma at EQF level 4. Each programme can be followed through two pathways: school-based and apprenticeship. Both pathways incorporate mandatory training at the workplace; in school-based programmes the overall share of work-based learning is at least 15% and in apprenticeship the minimum is 50%. Upper secondary schools are run by municipalities, county councils, the State and private training providers.

An upper secondary diploma and sufficiently high grades in particular modules (such as Swedish, English and mathematics) are required to access higher vocational education. All learners in VET programmes are entitled to study those modules or can do so at a later stage for free in municipal adult education.

At post-secondary and tertiary VET levels, one or two-year higher VET programmes are offered, leading to a diploma or advanced diploma in higher vocational education at EQF levels 5 and 6. They combine school-based learning with training at the workplace. To obtain an advanced diploma in higher vocational education, at least a quarter of the programme must be carried out as workplace training. The training providers are chosen by the

Swedish Agency for Higher Vocational Education (MYH) and can be municipalities, private providers, counties or universities.

Adult education has a long tradition in Sweden. Participation in lifelong learning was above 30% in 2017, making it the highest in the European Union (Eurostat), and it is provided in many forms. Municipalities offer formal adult education where learners can also acquire an upper secondary vocational diploma. Individual modularised pathways for adults, set up according to the specific required needs, are the most common way to gain a qualification in a new field or study the courses required to access higher vocational or higher general education. At a non-formal level, folk high schools and private training providers offer various courses for adults. Several active labour market policy programmes (ALMP) for the unemployed are also vocationally oriented or feature different forms of work placement. Courses and programmes are financed through fees or by companies and organisations, with public grants also provided.

Since 2016, non-formal and private sector qualifications and certificates can be referenced to the Swedish national qualifications framework (SeQF).

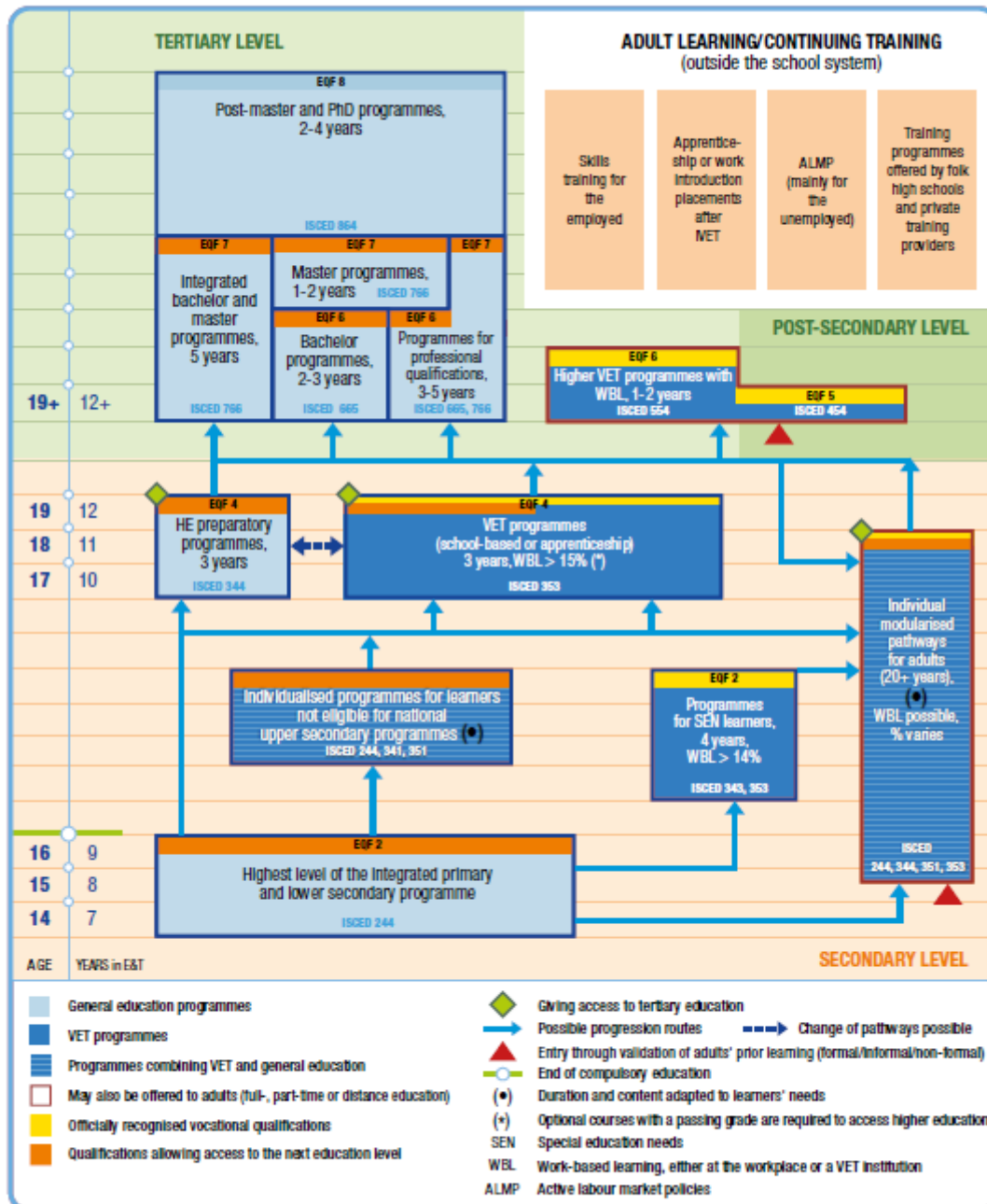
Governance

The Swedish government has overall responsibility for the education system and sets the policy framework at all education levels. Goals and learning outcomes are defined centrally but with decentralised implementation. The Ministry of Education and Research is responsible for most education fields, including upper secondary schools, adult education, and higher VET. Steering documents regulating upper secondary school and municipal adult education are drawn up by the government and by the Swedish National Agency for Education (*Skolverket*). There is a national programme council for each vocational programme; these advise and support *Skolverket* regarding adaptation, development and

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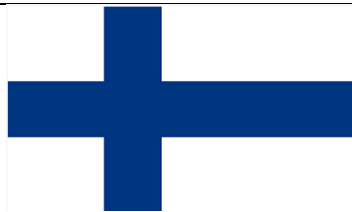
modernisation of vocational education. Social partners, industry representatives and sometimes also public authorities are members of these councils.

The MYH is in charge of higher VET, approving training providers who then cooperate with the world of work to develop and deliver programmes. The government needs to give their final approval to the introduction of any new higher VET programme.



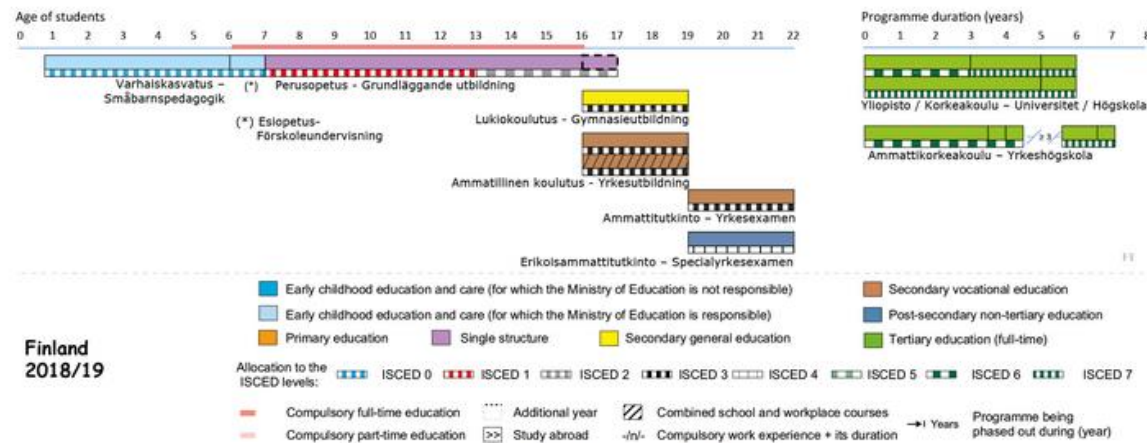
NB: ISCED-P 2011.

Source: Cedefop and ReferNet Sweden.



Finland

Structure of the National Education System



Equity in education

A key feature of the national education culture is to ensure equal opportunities for all. Individual support measures are in place to guarantee that every pupil and student can reach their full potential. Differences between schools are small and the quality of teaching is high all around the country. The education system does not have any dead ends which would affect an individual's learning career.

In Finland, education is publicly funded. Only two per cent of pupils in compulsory education attend schools that have a private provider. Also, these schools are publicly funded.

Education from pre-primary to higher education, is free. School meals and learning are provided free and access in remote and sparsely populated areas is ensured through free school transport.

The education system is based on trust and responsibility

In Finland the provision of education is steered through regulations, information and funding. Local autonomy is high. Most of the funding comes from local budgets and the government transfers are not earmarked.

One of the regulations, the national core curriculum leaves room for local variations and therefore individual schools and teachers have a lot of freedom in designing their own curricula and instruction.

Also, Finnish higher education institutions enjoy extensive autonomy. They have independent regarding their finances and administration. Institutions are autonomous regarding their teaching and research.

There is very little external control, such as school or textbook inspections. The first national examination takes place at the end of general upper secondary education. The most important quality assurance mechanism is the self-evaluation carried out by the education providers themselves.

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Nationally sample-based assessments are carried out according to an assessment plan. HE institutions are also expected to follow the quality of their operations and teaching.

Life-long learning in focus

Life-long learning is ensured by making it possible for learners to take up studies at any stage of their lives. Education for adults is provided at all levels of education. Also, informal and non-formal education is recognised. In vocational education, for example, competence-based qualifications offer a way to demonstrate prior learning.

Adult learning is very popular. Different institutions arrange a great variety of courses and programmes for adults at all levels of formal education, and the provision of liberal adult education is extensive. Adult education includes self-motivated education, staff training and labour market training. It may lead to qualifications or be related to general self-development.

In 2017 over 27 per cent of Finnish adults participated in adult education compared to an EU average of 11 per cent. Most of this is non-formal education.

Early childhood education and care (varhaiskasvatus)	Participation in early childhood education and care is a universal right for all children under school age, that is, aged 0-6 years. It is mainly organised in day-care institutions and so-called family day-care. There are moderate fees for families.
Pre-primary education (esiopetus)	Compulsory pre-primary education starts one year before basic education at the age of six. Municipalities have to provide pre-primary education of a minimum of 700 hours per year. Generally, this is organised so that the children have half a day of pre-primary education activities and the rest of the day is early childhood education and care. Pre-primary education is entirely free for the families.
Basic education (perusopetus)	Compulsory schooling begins at the age of 7 and lasts for 9 years. It is provided in a single structure system called basic education. It includes grades 1-9. Education is free for pupils as well as learning materials, daily school meal, health and welfare services and transport from home to school if the way to school is long or dangerous.
Upper secondary education (toisen asteen koulutus) <ul style="list-style-type: none"> • general upper secondary education (lukiokoulutus) • vocational upper secondary education (ammattillinen koulutus) 	Upper secondary education is provided by general and vocational upper secondary institutions. The general age to participate in upper secondary studies is from 16 to 19 years. In vocational upper secondary education in particular many students are older.
Higher education (korkeakoulutus) <ul style="list-style-type: none"> • university (yliopisto) 	Higher education is provided by universities and universities of applied sciences. The first are more academically oriented and the latter more professionally

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<ul style="list-style-type: none"> university of applied sciences (ammattikorkeakoulu) 	oriented institutions. ISCED 8 level qualifications, such as doctorates can only be granted by universities.
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VET in Finland

The Ministry of Education and Culture (MoEC) is responsible for strategic and normative steering of vocational education and training (VET) and leads national development. National VET objectives, the qualifications structure and core subjects are determined by the government.

Authorisations to provide VET are granted by the MoEC. They cover VET fields, qualifications, number of students, language of instruction, locations, special educational tasks and other issues. VET providers may also be assigned tasks to organise labour policy education.

A VET provider may be a local authority, municipal training consortium, foundation or other registered association or State-owned company. They organise training in their areas, matching provision with local labour market needs. They decide independently on issues such as type of education and training provided, and ways of completing studies, within the limits of their authorisation from MoEC.

More than 40% of students who completed basic education start initial VET (IVET) immediately after; most of these obtain their VET Qualifications at vocational institutions. Vocational qualifications are available for both young students and adults.

There are 52 vocational qualifications (EQF 4) and nearly 110 further vocational qualifications (EQF 4) and specialist vocational qualifications (EQF 5) in different fields. The most popular fields are technology, communications and transport, and social services, health and sports.

Half of the students are female, though the proportion varies greatly from field to field.

Admission to IVET programmes is based on a lower secondary education (basic) certificate; for CVET it is on a case-by-case basis, taking work experience into consideration. An initial vocational qualification requires 180 competence points (cp). Nominal duration is three years depending on the individual personal competence development plan. In addition to vocational units, vocational qualifications include 35 cp of common units (of the 180) such as

communication and language skills, mathematics, citizenship and skills needed in working life. Further vocational qualifications require 120, 150 or 180 cp and specialist vocational qualifications 160, 180 or 210 cp, consisting mainly of vocational units. All include work-based learning.

All qualifications can be obtained in apprenticeship training which also includes courses at vocational institutions. The share of work-based learning is 70% to 80%. Most apprentices are adults.

All VET programmes ensure eligibility for higher education studies.

National qualification requirements ensure standardised vocational competence; they are the basis for evaluating learning outcomes. The Finnish National Agency for Education (EDUFI) develops them in broad cooperation with stakeholders (employers' organisations, trade

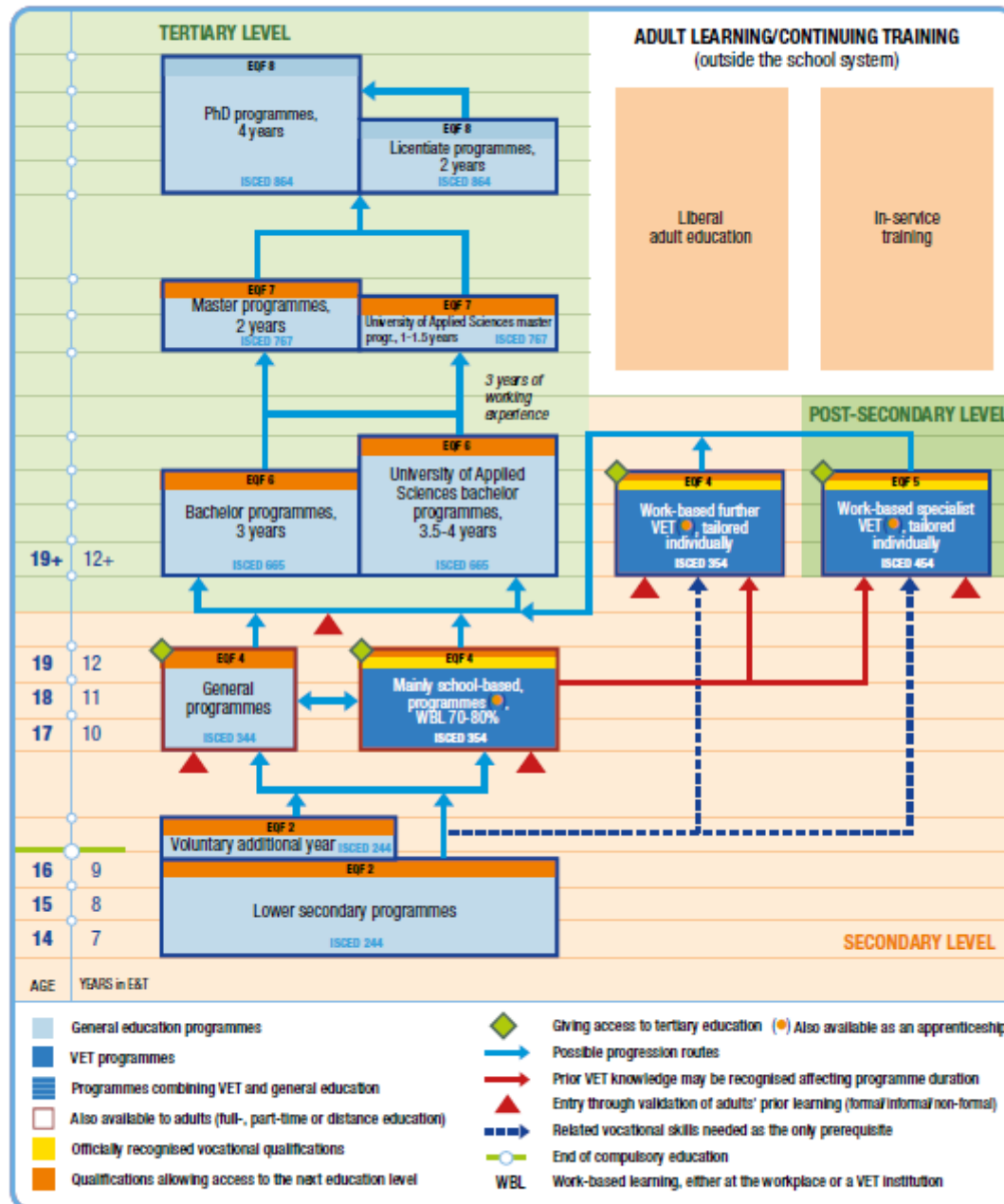
unions, the Trade Union of Education, and student unions). Representatives from enterprises contribute to development of national Qualification requirements; they also organise and plan training at workplaces and competence tests, as well as assessing the tests.

Flexibility and personalisation have become means to respond to changing labour market requirements and individual student needs. Modularisation allows for a degree of personalisation of qualifications; for example, students can choose modules from other vocational qualifications (including both further and specialist vocational qualifications) or universities of applied sciences degrees.

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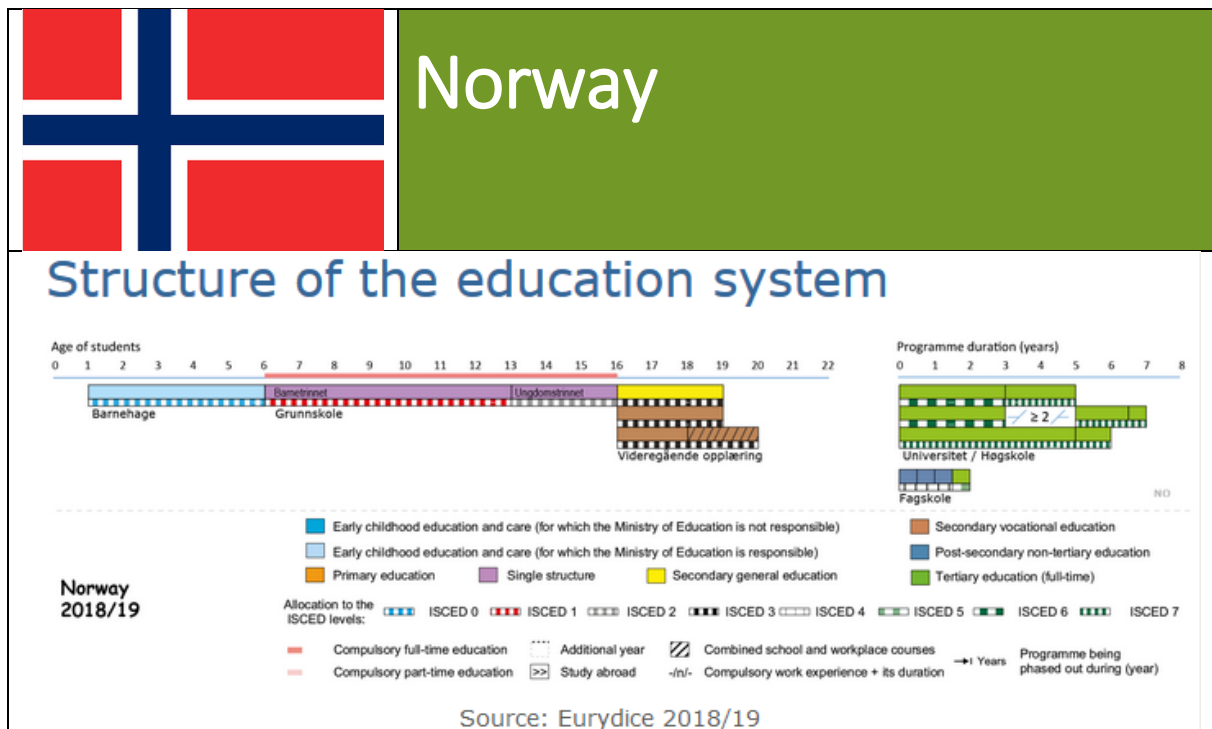
The VET system was reformed as of 2018, with the following focus:

- students may apply for studies at any time of the year;
- VET for young people and adults is in the same framework and regulated by a single act on VET;
- there is a single competence-based method of completing qualifications;
- each student's prior learning is accredited and a personal competence development plan drafted. This defines the skills still to be acquired for obtaining the qualification;
- VET providers are encouraged to organise more learning at workplaces;
- one coherent funding system is applied for IVET, CVET, apprenticeship training and labour market training leading to qualification.



NB: ISCED-P 2011.

Source: Cedefop and ReferNet Finland.



The Norwegian school system is inclusive; there is to be room for all and it is free of charge. Everyone is to be given the same opportunities to develop their abilities. Children and young people have an equal right to education, regardless of where they live, their gender, social or cultural background or any special needs.

Most children attend kindergarten

Parents in Norway are entitled to 11 months parental leave with full salary, of 10 weeks are reserved exclusively for the father.

Children are entitled to a place in a kindergarten from the age of one. About 50 percent of kindergartens are private, but government funded. Fees paid by parents are moderate and are regulated by the government. Fees are the same for public and private institutions. Kindergartens in Norway take a holistic approach to the education and care of children under school age. Norwegian kindergartens are intended to promote well-being and enjoyment through play and learning, and to foster children's natural creativity, sense of wonder and natural curiosity. Kindergartens shall also prepare children for school. Access to kindergartens of high quality brings about important benefits for children, families and society as a whole.

Inclusive education system

Primary and lower secondary school are mandatory for all children aged 6–16, whereas upper secondary school is a statutory right. Primary and lower secondary education is founded on the principle of a unified school that provides equal and adapted education for all students. There is a common national curriculum for primary and secondary education, but within this framework the municipal and county authorities, schools and teachers can influence the implementation of education and training.

The culture and traditions of the Sami community are part of the common Norwegian and Nordic culture which both the national and the Sami curriculum require that all pupils are acquainted with. In areas defined as Sami districts, teaching is given according to the Sami curriculum. The Sami Curriculum

shall ensure that Sami pupils receive high quality teaching based on their own cultural background and the Sami language.

There are very few special schools. Also, grade repetition is not practised.

The school day is short for the younger children, and municipalities are obliged to offer day-care facilities for children in the lower grades. All municipalities are required to have a Culture school. These schools offer courses and training for children and youth in music, dance, theatre etc.

Culture schools often cooperate with day-care facilities for school children and offer courses for the children attending the day care centres. Parents have to pay a fee for participation in after school day-care and in culture school activities. Fees are set by the Municipality.

Statutory right, but not duty to attend Upper Secondary Education

Young people who have completed primary and lower secondary education, or the equivalent, are entitled to three – four years' of upper secondary education or training. There are no age limit for entering Upper Secondary Education, but normal starting age is 16. Adults have a right to Upper Secondary Education if they have not already attended Upper Secondary. In upper secondary school the pupils can choose from three academic education programmes or nine vocational education programmes. General Upper Secondary last three years, while vocational programmes normally last four years.

Most vocational programmes consist of two years in school, followed by two years of apprenticeship. Social partners in Norway have a certain influence on the development of the content and organisation of vocational training. Vocational education and training can also provide access to higher education after a one-year bridging course.

The folk high schools are liberal education schools outside the formal education system. Folk high schools do not have a curriculum or examinations. Folk high schools offer both short and long courses, maximum 10 months. The schools are free of charge and mostly recruit young people from the age of 19.

Few private schools

Norway has relatively few private schools. Almost all private schools are approved by the government and are grant-aided. The main rule is that a private school must constitute a religious or pedagogical alternative or follow an internationally recognised curriculum in order to be approved. Government aided private schools can only charge limited fees and are not allowed to select children according to performance or other subjective criteria.

Higher education free of charge

In higher education (ISCED levels 6 to 8), the degree structure is in line with the Bologna Process, with 3-year Bachelor, 2-year Master and 3-year PhD as the main model. The post-secondary vocational colleges at ISCED levels 4 and 5 provide a variety of courses of half-a-year to two years duration.

Norway is a small country in terms of population but covers a large area. That is why there is a relatively high number of higher education institutions. With the exception of some private university colleges, all higher education institutions are state-run. By law, state-run universities and university colleges may not charge tuition fees for ordinary degree courses or professional training courses. This legislation is a key to ensuring that all citizens have the same right and opportunity to take part in higher education. To further support the principle of equal opportunities, all Norwegian students are entitled to financial support (grants and loans) to cover their living costs through the State Educational

Loan Fund. To qualify for support from the State Educational Loan Fund you must usually be a Norwegian citizen. Foreign citizens can, on certain conditions, receive support for education in Norway.

Lifelong learning

Lifelong learning is an important principle of Norwegian education policy. Basic skills training and validation of prior learning play a significant part in our adult education policies.

Immigrants with legal permission to live in Norway have a right and a duty to take courses in Norwegian language and social studies for immigrants.

Compulsory education (Grunnskolen) is divided into two main stages: **Primary School** (barnetrinnet) and **lower secondary school** (ungdomstrinnet).

Upper secondary education (videregående opplæring) is not mandatory, but young people who have completed primary and lower secondary education, or the equivalent, have a right to three years' upper secondary education and training.

Vocational education and training usually consist of two years in school and one-year in-service training. In-service training at a training establishment is usually combined with productive work, so that an apprenticeship takes two years in all. General studies last three years and lead to general university admissions certification. It is possible for pupils who have finished their vocational education to take a supplementary one-year programme to obtain general university admissions certification.

Higher education mainly has a degree structure in line with the Bologna Process. Post-secondary schools (fagskoler) cover a variety of courses of duration up to two years. Degrees from post-secondary schools at ISCED level 4 and 5 (fagskoler) are normally not accepted as part of higher education degrees.

VET in Norway

The Ministry of Education and Research has overall responsibility for education and training at all levels. In upper secondary VET, both curricula and the VET system structure are laid down in national regulations, and providers are required to comply with them. There is cooperation on upper secondary and tertiary VET, both formal and informal, between education and training authorities and the social partners. The social partner representatives hold the majority of seats in all advisory bodies in the decision-making system for upper secondary VET. This enables technological and labour market changes to be continuously communicated to decision-makers; the overall aim is to provide relevant VET skills.

The regional county authorities are responsible for general education and VET provision, distributing VET financing provided by the State budget and ensuring apprenticeship placement and supervision.

All young people completing compulsory schooling have a statutory right to three years of upper secondary education. Half of them choose between eight VET programmes.

Upper secondary VET is conducted both in schools and in public and private enterprises.

The county authorities must approve training establishments. The standard two-plus-two model normally includes two years in school, where students also participate in practical training in workshops and enterprises, followed by two years of formalised apprenticeship (training and productive work) in enterprises. The first year of training consists of an

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introduction to the vocational area. During the second year, VET students choose specialisations and courses are more trade- specific but core subjects are also included. Some crafts follow varying models with three years in school or one year in school followed by three years of formalised apprenticeship.

Upper secondary VET is completed with a practical-theoretical trade or journeyman's examination (*Fag- eller svenneprove*) leading to an EQF level 4 qualification: a trade certificate (*Fagbrev*) for industrial and service trades or a journeyman's certificate (*Svennebrev*) for traditional crafts. The eight programme areas offer about 190 different

certificates.

There are many possible routes to higher education via upper secondary VET.

With a trade or journeyman's certificate, the options are:

- via a one-year bridging course in core subjects (*pabyggingsar*);
- direct admission to certain specially designed bachelor programmes (*Y-veien*).

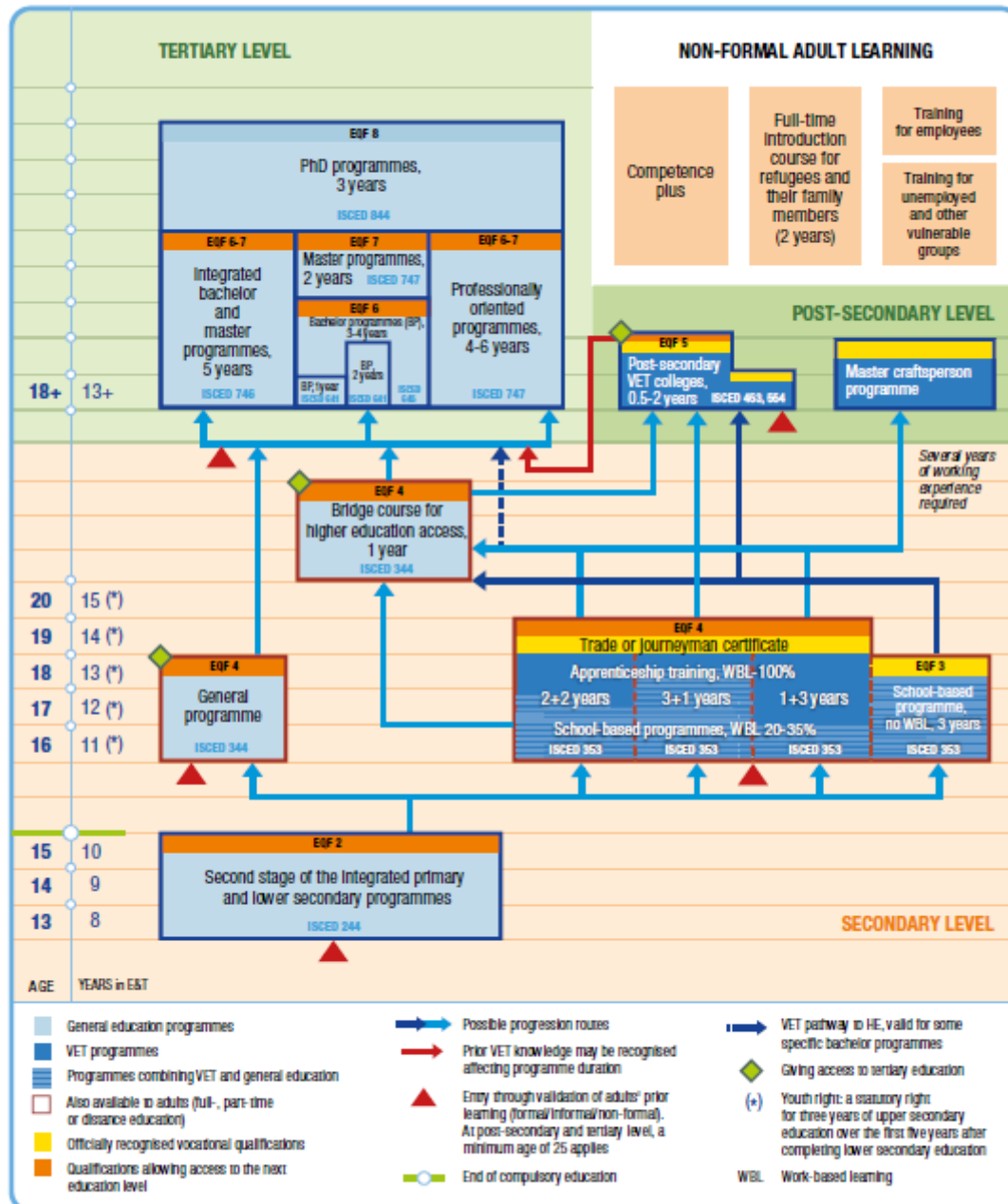
Options without a trade or journeyman's certificate are:

- five years' experience gained in work and/or education and passing a course in core subjects (for those aged 23 or older);
- recognition of relevant formal, informal and nonformal learning for people aged 25 or older who do not meet general entrance requirements;
- completing the bridge course in core subjects after completing the first two years of a VET programme;
- successfully completed two years in vocational college.

Legal rights shape adult VET and contribute to making vocational skills visible. People over 25 are entitled to upper secondary education or training adapted to their needs and life situation. Adults also have a right to have prior learning assessed towards national curricula, which may result in exemption from parts of training. The experience-based trade certification scheme enables adults to sit a trade or journeyman's examination on proof of sufficient relevant practice. The candidate must demonstrate comprehensive experience in the trade or craft, normally over a minimum of five years.

Master craftsperson programmes are for holders of a relevant trade or journeyman's certificate with several years' work experience. The programmes are provided by vocational colleges (*Fagskoler*), both private and public, and combine general business management, marketing and vocational theory. VET colleges also offer a range of vocational programmes (EQF level 5) for students with upper secondary education.

The comprehensive higher education system has no formal or other distinction between vocational and non-vocational education; they are equal for higher education admission.

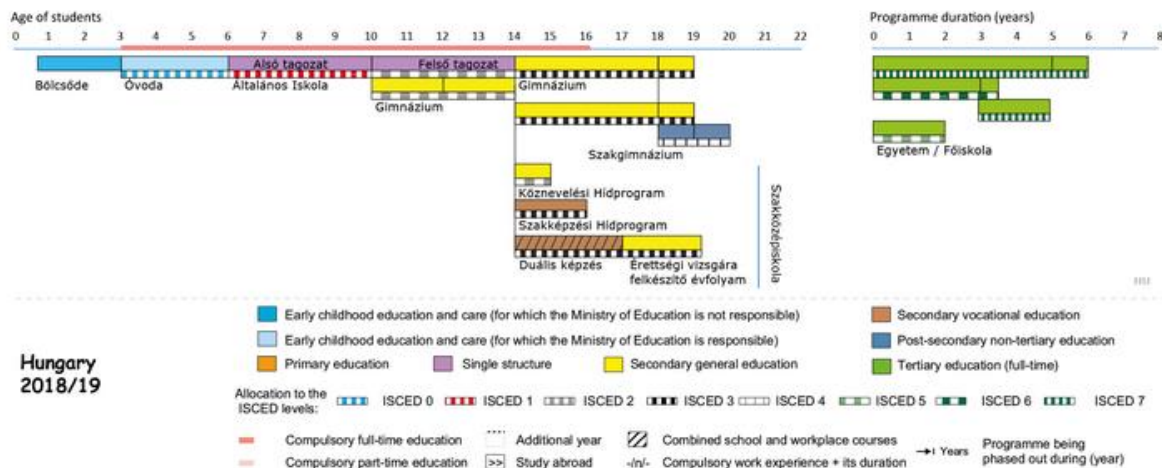


NB: ISCED-P 2011.

Source: Cedefop and ReferNet Norway.

Hungary

Structure of the National Education System



Source: Eurydice 2018/19

In Hungary, schools and kindergartens are established and maintained by the state, local governments, minority local governments, legal entities (foundations, churches, etc.) as well as natural persons. About 90 per cent of children attend public sector institutions.

Overall responsibility lies with the **Ministry of Human Capacities**, which is in charge of education, culture, social affairs, health care, youth and sport. However, school-based VET and adult training is within the competence of the **Ministry for National Economy**.

The maintenance of the education system became more centralized. In January 2013, the state took over the maintenance of public education institutions (with the exception of kindergartens) from the local authorities. The Government established Klebelsberg Institution Maintenance Centre for the maintenance of these institutions. Local governments get contribution from the central budget to finance kindergarten education, they are responsible for the organisation of ECEC on their settlement. Minority governments are allowed to establish schools and teach in their own languages.

Dual vocational education and ESL

The Vocational Training Act (adopted in 2011) introduced the 3-year vocational training system with reinforced dual elements, which provides practical training (in addition to theoretical classes) already from the first grade of vocational school. First it was applicable for students who entered vocational school (grade 9) in September 2013.

The early school leaving target rate for 2020 in the EU is 10 %. Hungary undertook this target rate by 2020. In 2016 the Hungarian early school leaving rate was 12,4 %.

Participation in education is mandatory between the ages of 3 and 16. 10 years plus 3-year kindergarten education are compulsory. However, studies are financed until the age of 18.

- ISCED 0: 3 years

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<ul style="list-style-type: none"> • ISCED 1: 4 years • ISCED 2: 4 years • ISCED 3: 2 years 	
Creche nad Kindergarten	Creche (bölcsöde) is a welfare institution catering for children aged 20 weeks to 3 years and providing professional day care and development. Kindergarten (óvoda) education and care is offered for children aged 3-6 and is compulsory from age 3.
Primary and lower secondary education	Primary and lower secondary education (ISCED 1, 2) is organised as a single-structure system in 8-grade basic schools (általános iskola) (typically for pupils aged 6-14, covering grades 1-8). Upper secondary education (ISCED 3, typically for pupils aged 14-18, usually covering grades 9-12) is provided by general secondary schools (gimnázium), vocational secondary schools (szakgimnázium) or vocational schools (szakközépiskola) or vocational school for special education (szakiskola). However, general secondary schools are also allowed to offer longer programmes starting earlier (from Grade 5 or 7).
	General secondary schools provide general education and prepare for the secondary school leaving examination, which is the prerequisite for admission to higher education. Secondary vocational schools provide general and pre-vocational education, prepare for the secondary school leaving examination and offer vocational post-secondary non-tertiary programmes (ISCED 4 C). Vocational schools provide general, pre-vocational and vocational education and may also provide remedial lower secondary general education for those who have not accomplished basic school. Students can continue their studies to get upper secondary general school examination certificate after finishing their vocational programme.
Higher education	Higher education programmes (ISCED 5A, 5B, 6) are offered by public or private universities (egyetem) and colleges (főiskola) (non-university higher education institutions). In accordance with the three-cycle Bologna degree structure, there are bachelor's degree programmes lasting 6-8 semesters (ISCED 5A, 180-240 ECTS credits), which can be followed by Master degree programmes (ISCED 5A, 60-120 ECTS credits) for another 2-4 semesters. The third cycle provides doctoral studies (ISCED 6). Nevertheless, there are also undivided long programmes (10-12 semesters, 300-360 ECTS credits, ISCED 5A) in some disciplines, e.g. medicine or law.
Adult education and training	Adult education and training include part-time general education programmes at all ISCED levels, vocational education, as well as a wide range of non-formal courses provided by the public and private sector.

VET in Hungary

The education system has undergone substantial transformation in recent decades; governance of schools has been centralised (2013) and VET schools have been integrated into a network of 44 vocational centres

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(2015). The centres coordinate education and training activities of the schools and help them offer training better aligned with labour market needs.

IVET and adult training are led by the Ministry for Innovation and Technology, which is responsible for qualifications standards in the national qualifications register (NQR) and, together with the Ministry of Human Capacities, for framework curricula. The National Office of VET and Adult Learning, supervised by the Ministry for Innovation and Technology, ensures coordination and implementation of national VET and adult learning policies.

The Chamber of Commerce and Industry has an important role in VET in policy advice, qualifications development, accreditation and supervision of practice providers, and apprenticeship contracts. Social partners shape VET policy through participation in advisory bodies. A total of 18 sectoral skills councils came into operation in July 2018.

VET for young people

Learners may enter VET at age 14. VET is offered at upper secondary, post-secondary and tertiary levels and includes work-based learning in different forms:

- four-year programmes (five in bilingual courses) (*szakgimnázium*) combining vocational and general education. Learners acquire an upper secondary school leaving certificate (ISCED 344) giving access to higher education and a basic vocational (ISCED 353) NQR qualification (such as waiter). This is a possibility for learners as an option which aims to strengthen individual training paths. Learners can continue with one additional VET year at post-secondary level to acquire a higher-level VET qualification (ISCED level 454) (such as chemist technician);
- three-year practice-oriented VET programmes (*szakközépiskola*) leading to ISCED 353 qualification (such as electrician). These include an increased share of practical training. Learners can enrol in two-year follow-up programmes to obtain the upper secondary school leaving certificate, allowing progression to higher education;
- one- or two-year post-secondary VET programmes leading to a technician qualification (ISCED 454) (such as chemist technician);
- two- or four- year VET programmes (*szakiskola*) for SEN learners, leading to a full or partial NQR qualification (ISCED 243, 253, 353) (such as pastry maker, carpenter);
- VET bridging programmes for learners who have completed at least two, but not all four years of lower secondary education, leading to a partial vocational qualification listed in the NQR at ISCED 352, 353 (such as pipeline fitter) and giving access to upper secondary VET programmes.

Higher education VET is provided by higher education institutions. Programmes require an upper secondary school leaving certificate and award ISCED 554 vocational qualifications (such as network information technology engineer assistant).

Graduates can transfer credits to a bachelor (BA/BSc) programme in the same field.

Practical training can also be delivered as dual VET (apprenticeship training contract) and/or through a cooperation agreement between the company and the VET institution. In higher

education, dual VET is possible in five study fields (technical, informatics, economic sciences, natural sciences and agriculture). In 2017, almost one in four VET students concluded an apprenticeship contract, most of which (69%) were enrolled in three-year upper-secondary VET programmes. There are scholarship schemes in programmes for deficit occupations.

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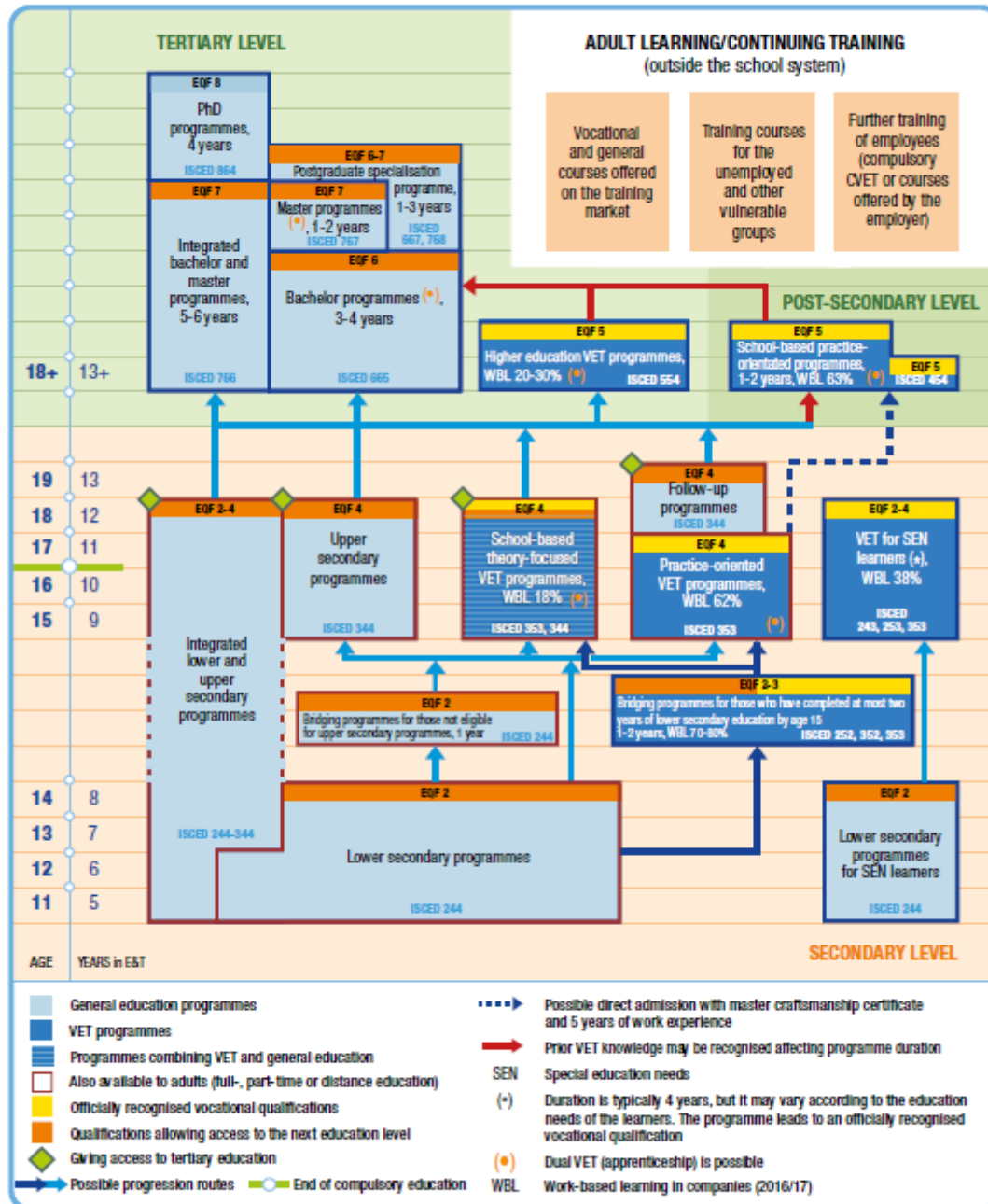
VET for adults

VET programmes are open to adults in full-, part time or distance learning. Adult training by providers outside the school system includes courses preparing for master craftsperson exams (run by economic chambers); mandatory further training programmes for a given occupation; courses for the unemployed and other vulnerable groups; training programmes leading to NQR qualifications or registered (SZPK) by the chamber.

The State provides financial support for training vulnerable groups and SMEs. Financial incentives (tax deductions) for companies offering in-company training are in place.

The prerequisite for enrolling in adult training is that a contract be signed between the VET provider and the learner; for NQR qualification programmes the content of the programme must be formally approved by the State.

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NB: ISCED-P 2011.

Source: Cedefop and ReferNet Hungary.

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Synopsis of Education Systems⁴⁵

The different cultures, educational systems and achievements of the various States of the Baltic Sea Region provide an excellent basis for learning from one another and with one another. The major concern is to promote this, to identify points for further development in the educational policy and develop proposals regarding the specific development and quality of education in the Baltic Sea Region. The focus of the considerations lies in the areas of the general and vocational education; university education is subsidiary and included particularly as regards the transitions and regulatory requirements.

General education

Kindergartens exist in all the countries of the Baltic Sea Region – with significant differences in the levels of care. They are open for children from 3 to 6 or 7 years of age (depending on the starting age), attendance is voluntary.

Conclusions: Learning begins at a very early age; kindergartens should be understood not as mere storage sites, but as early learning and development while playing.

Preschools exist in almost all countries, mostly they are meant for children of the last year before starting school. An exception is Estonia in which 3-7-year-olds attend preschools. In principle, the preschool attendance is voluntary. A compulsory preschool attendance exists in Latvia (for 5-6-year-olds) and in Poland in the form of the so-called zero classes, which are attended by 6-year olds who learn the basic skills in reading, writing and arithmetic.

Conclusions: A mandatory 1-year pre-school (from 5 years) is desirable.

The compulsory education in the Baltic States is between 9 and 10 years. It begins with the enrolment (6- or 7-year-olds). Only in Denmark there is no compulsory school attendance but the compulsory education. This allows for the attendance of the so-called free schools.

In Scandinavian countries there is an explicit guarantee of a further education after compulsory schooling. This law applies in Sweden in terms of a further 3-year education (until 18 years of age); an extension till 20 years of age is planned. In Germany and in Russia compulsory (school or vocational school) attendance applies until 18 years of age.

Conclusions: As regards the compulsory school attendance, the general educational law provides for the age of up to 18 years.

The middle school education (primary or secondary school) is in all countries between 9 and 10 years.

There are significant differences in the distribution of school time. In the Scandinavian States of Denmark, Finland, Norway and Sweden there is 9-year basic education that is uniform and without

⁴⁵ Hanse-Parlament, Baltic Sea Academy (July 2011), Agenda 2020: Educational Policy Strategies and Objectives for the Baltic Sea Region, <http://www.bsr-quick.eu/resources/Education+Baltic+Sea+Region.pdf> (May 2019)

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distinctions for all children. Only in Sweden there are slight differentiations concerning the last 3 years.

In other countries within the 9- or 10-year basic education there is a clearer distinction between primary, secondary and middle school. The primary school in Poland encompasses 6 years. In Germany, Lithuania, Russia and Belarus, the primary school attendance is much shorter with a period of 4 years. In these countries primary school is followed by middle school education in many various forms. In Germany there is a choice between high school, junior school, secondary school and grammar school. In Poland the 6-year primary school is followed by a 3-year middle school. In Russia and Belarus, it is followed by 5-year and 6-year middle school, which despite the formal separation of basic and intermediate levels, is mostly located in one school.

The biggest difference between the school systems are the integrated and selective approaches. In the integrated school system, all 9- to 10-year students undergo school education (mostly referred to as basic education). In selective school systems, division of students takes place after the primary school. The former type of school can be found mainly in the Scandinavian countries, the latter is particularly pronounced in Germany.

Conclusions: The selective system is expected to be better targeted and specific strengths will be supported, though actually the promotion of individual strengths may only be a small-scale experience. In some countries there is an impression that all people should learn by means of the same methods. It results in strong uniformity. In selective education systems everything is strongly divided and marginalised. However, the targeted elite promotion and sustainable support of weaker students is rather limited. Nowadays, in particular Baltic States up to 20 per cent of school graduates are incapable of undergoing vocational training. They are excluded and have no chance for their whole life. However, each person has at least one strong point which can give them a good chance if it is supported within the framework of education and encouraged in the economy, can be put in the right place.

Individual support will be primarily determined by an appropriate education and appear in principle in all schools (with and without selection). Small and medium-sized enterprises demand from general education no narrow economic focus, no general vocational orientation, but the preparation for life in general. The graduates must have mastered the basic cultural techniques such as reading, writing and arithmetic well and they must have personal-social skills such as readiness to learn, openness, cooperation and motivation. But these skills and characteristics are needed not only in the economy but also they are generally required for mastering life. The acquisition of personal-social skills and learning from one another in integrated school systems is generally possible.

The secondary stage encompasses 2-3 years in all the Baltic States. In many countries there is a choice between general and vocational secondary schools, for example in Denmark, Germany, Poland and Finland. In Sweden the elements of vocational training are provided in all types of high schools to a varying extent. In the Baltic States, Russia and Belarus there are only general education schools, in which, however, an occupation-based focus of education is possible.

In the Baltic Sea countries, the secondary stage, high school is completed with the diploma entitling to a university degree; in different countries also complementary or additional entrance exams for studies are needed.

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***Conclusions:** The various forms of pedagogy and content taught are much more important than the different school structures. Educational systems are often excessively intellectualised and become too heavy. In many areas, they only support certain unilateral ability and threaten to become a special institution which fails to educate young people in a holistic and supportive way. The general character of vocational education has to be compared to the one-sided ideal of education. Even in the general educational the intellectual, musical and manual skills are taught to the same extent. The introduction of technology education, learning in the practical action and a holistic education is essential. Education must include all the senses. If this prerequisite is not met, there can be no real learning.*

For the students and for their future career, it is advantageous when vocational elements are taught in secondary schools. In this way, interest in choosing a career can be increased also in the case of high school graduates and the learning of a profession also becomes attractive. A polytechnic focus in general education is the best approach to encourage all the young people and the people of all abilities.

Vocational education

The training duration is between 2 and 4 years. In almost all the Baltic Sea States training takes place at full-time schools. Practical elements are acquired by means of vocational practice, project works and training workshops. An exception is the dual training in Germany (about 60 per cent of vocational training courses are conducted in this way). In this case the apprentice training contract needs to be made with one or more companies; the theory can be obtained in an external state vocational school. In Denmark and Norway, there is a mixed form and the basic training is conducted at a vocational school, and then main training takes place in enterprises. If in Germany, Denmark and Norway not enough training places are available, also here vocational training is conducted at schools with integrated practice internships. In Poland, apart from the school education, also a dual course is possible; it was introduced; however, few students actually take it into account.

Sweden, at least 15 per cent of the training must be acquired in companies; an increase of this share to 20 per cent is being discussed.

***Conclusions:** A significant expansion of the practical training periods in companies, a further improvement of the theoretical teaching, and better coordination between practical and theoretical training seem to improve the quality and increase the attractiveness of training which is particularly important.*

Majority of the countries have no entry requirements for vocational training. Some states, however, differ in this respect: In Estonia a high school diploma is needed to pursue vocational education. In Finland job-related requirements concerning the acquired qualifications are set for each profession at different levels.

***Conclusions:** The introduction of uniform access conditions in the Baltic Sea Region which would be profession-specific should be examined.*

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In some countries, courses are offered at different levels (e.g. in Latvia and Lithuania). The lowest level is open to young people without qualifications, with duration of 1 - 2 years and provides simple professional qualifications. The middle level encompasses 2 - 3 years and provides practical and theoretical qualifications. The upper level provides advanced skills for stronger students (e.g. for high-school graduates). In Denmark and Sweden there is a guarantee that each person can obtain vocational education regardless of their previous education.

Conclusions: In particular, the crafts are destined to train young people with learning difficulties. They are willing and committed to this social problem. But craft businesses may not be the sole specialist for the training and integration of weaker students. Crafts need also the best students to a large and still increasing extent. The creation of differentiated training courses with different entry requirements and different levels of training in an open, transparent system is a priority for targeted development of professional training.

The educational systems of Russia and Belarus are in the course of a transition process. With the collapse of the Soviet Union, the previously existing structures and the close co-operation with the large companies is falling apart. Outdated curricula and equipment contribute to the loss of prestige and the level of vocational education. Russia has shown great interest in the dual system and works on the reform of the professional training, together with German partners. However, social partnerships are created gradually. In Belarus, vocational training takes place in public schools on a full-time basis.

Conclusions: As part of the Russian and Belarusian reform process, an intensive learning from the experiences of other the Baltic Sea States is possible and appropriate. The provision of information, exchange of experiences, development of partnerships and other support is suitable in a way that is also within the interest of the other the Baltic States. The cooperation in education also promotes sustainable economic cooperation.

In most countries of the Baltic Sea vocational training with a recognised qualification examination on the basis of state examination regulations will be terminated. The entitlement to pursue technically oriented courses of study is connected with it especially in Denmark, Latvia and pronounced in particular in Finland. In Sweden such a university entitlement is valid for employees being at least 25 years old and having 5 years of professional experience. In exceptional cases (e.g. Estonia) vocational training is completed with a certificate of completion which is not a formal qualification.

Conclusions: In all the Baltic countries, vocational training should be completed with formal degree examinations, which are based on comparable standards and mutual recognition. The right of ruling the vocational education as well as all intermediate and final examinations should be transferred as sovereign tasks to the chambers in all Baltic Sea states. Due to its closeness to the enterprises the economic self-administration can perform these tasks in a more proper and cost-efficient way. An appreciation of the professional education with strong gender equality in higher general qualifications and a higher permeability is needed between vocational education and studies.

In the majority of the Baltic countries, training has lost much of its attractiveness; too low levels, poor quality and limited practical skills and experience are the subject of complaints. For example, in

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Poland only around 11 per cent of school graduated decided to pursue vocational training. In some countries (e.g. in Germany and the Scandinavian countries), efforts are intense in order to improve the situation. In Sweden the vocational schools are located exclusively on the upper secondary level. In addition to the appreciation, the vocational training and quality improvement of the theoretical instruction in particular, expansion and optimisation of practical training is pursued.

Conclusions: A major problem in all the Baltic States is the declining popularity of vocational education. For young people it is desirable to go to high school and pursue university education. Demographic trends exacerbate this problem. Craft businesses are especially affected in this case. Young people prefer a course of study or training in other sectors in the so-called "white collar" occupations. Any increase in the attractiveness and quality improvement of professional education are the overriding tasks for the promotion of crafts and SMEs within the Baltic Sea Region.

There are much differentiated systems within the framework of vocational training. In Germany, vocational training is not regulated predominantly by the state. The organisation of training and acceptance tests are principal task of the economic self-government (chambers). In most States there are public or private systems with vocationally oriented higher educational institutions like vocational schools, technical schools, technical universities and colleges, which offer higher professional qualifications and include more or less smooth transitions to universities and colleges.

Conclusions: Vocational training should in the first place be the responsibility of the business and economic authorities and it should be regulated by the state in a very limited way. Very important, however, are the quality improvements, greater transparency, smooth transition to general education and study, as well as mutual recognition of qualifications based on comparable standards. The work of the EU on the creation of a European education system within the Baltic Sea Region with the European Qualifications Framework (EQF) and Credit System (ECVET) could be a good basis for the creation of innovative, non-bureaucratic systems with high quality.

In most of the Baltic Sea States within the framework of the pronounced harmonisation of European educational systems, the introduction of Bachelor and Master Degrees is already at an advanced stage. The Bachelor can be obtained only 3-4 years of studies; on the basis of it, a 1-2-year scientific study takes place, which is completed with a Master's degree. In addition to this, promotion is also possible.

In a number of countries already the completed high-school education is an entitlement to enrol for studies at a university or college. In some States (e.g. Denmark, Germany, Finland, Latvia and Sweden) the system is more permeable; it focuses on the universities and colleges, as well as individuals with specific professional training or further education or vocational qualifications with several years of professional experience.

In Finland, Russia and Belarus the universities conduct entrance examinations. In the case of failing these exams, there is, however, still the possibility to study in Russia and Belarus but it is necessary to pay a tuition fee.

In some countries it is possible to apply to a non-scientific university or academy after graduating a vocational school. However, these are not university or college studies with recognised academic qualifications, but training courses which are situated between vocational training and studies.

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Conclusions: *In connection with the far-reaching reforms under the Bologna process and the widespread introduction of the Bachelor and Master's degrees, Bachelor courses should be much more practice-oriented and offered as a dual system.*

The vocational further education with high permeability and flexible transitions for the study will gain an increasing importance and needs to be established as a separate training area. Also, here the Baltic Sea Region can perform the pioneering role with its innovative and business-related concepts.

Outlook

The current educational system is in a number of countries strongly focused on direct recoverability. It lacks many individual grants and elite education as well as a comprehensive training for all mental, manual and social skills. The education system and also the economy run the risk that the systems will lay off their children and more and more people will not be able to meet the requirements due to the uniformity or leaving existing skills unused and eventually often outsourced. Similarly, the learning skills of stronger learners within the framework of the pronounced elite education experience need to be promoted. In principle, the man should not necessarily adapt to the existing systems. The systems have again become more suitable for a human and understand that every person is a unique human being, and as such deserve promotion and appreciation.

The education sector is often discussed primarily within the framework of structural reforms. Certainly, new educational structures are necessary, but used alone they can bring very little results. But the creation of new structures cannot bring lasting improvement if not preceded by far-reaching cultural reforms. For further development of the cultures almost inevitably, new structures need to be developed.

Early childhood education

The educational policy must focus much more on the children under six years old. Learning begins at a very early age and it is primarily the central role in the family. All family members, especially the grandparents, should be intensively integrated in a way that adults learn together with the children, e.g. languages. The number of families are growing which are not able ensure appropriate learning at this age at home. The deficiencies at home are forwarded to schools which can barely cope with or compensate these issues. Finally, within the framework of vocational education, enterprises become a repair workshop for families and schools and are less and less ready to meet the changing requirements and increasing cost pressure.

Families need to be strengthened with all the power in all policy areas.

This includes the rediscovery of extended families and the strengthening of the three-generation-families. The development of recent years has resulted in nuclear families. In the three-generation family the grandparents take over the educational responsibilities and relieve the parents particularly on weekdays. In addition, the development of family-like structures and forms of cooperation among not related persons should be supported. The widespread introduction of full-time care ensures that both parents can continue with their career. This will have a positive impact on the declining birth rate, since childlessness is often the choice between family and professional life and in the case of two earners also the financial base is secured. Among Scandinavian countries this model is implemented largely in Denmark and it is possible for all children older than one year to attend day care centers.

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At kindergartens and schools as a platform for exchange of experiences among each other as well as educators and for further development should be created in the form of a parents- and family-school.

A sufficient number of nurseries and kindergartens are required which do not perceive themselves as mere storage sites, but as early learning and development while playing. Carefree play of the children decides on the future. Playing is for children a serious process which provides pleasure. Also, learning - regardless of the age - should bring joy and make children hungry and not full, has to open instead of closing, awaken curiosity, and provide impulse for continuation, so that all the former students finally find out in their life that there were things of which their teachers had no idea.

The ability of learning by playing needs to be used more actively. Early access to foreign languages is ensured through the introduction of bilingual kindergartens. This simplifies learning further languages and is significant for future close cooperation in the Baltic Sea Region. The highest priority should also embrace the early promotion of languages especially among children whose mother tongue is different, so that language barriers are broken down before the school admission.

An obligatory one-year preschool with smooth transitions into the school system according the linguistic abilities and the standard reached by each individual should be introduced. It would ensure that children from disadvantaged families are supported in early learning and social behavior. Further, it leads to the situation in which children having different mother tongue can master the language of the country before going to school.

The best and best-paid teachers, small group sizes and most attention will be required by the very young and not the older age groups.

School education

Schools should not be an isolated place of learning that is not intensively involved in the social, economic and social environment. The school must be strongly interwoven in decentralized structures, to be a central point of daily life for everyone, sponsorships with companies that include master craftsmen and trainers from the enterprises in the teaching course.

Individual schools and individual teachers in those schools must have a high degree of independence and personal responsibility. On the basis of the total budget, the schools can decide on their own to a considerable extent on the use of their resources. The teaching staff may not be chosen and imposed by superior institutions. The schools also decide on the recruitment and dismissal of teachers. Temporary employment contracts for teachers might be appropriate and gives rise to being aimed at a more intensive exchange between activities at school and in the economy. A performance-based remuneration should be granted.

Teachers are entrusted with the most important thing that a society can have, namely children. Teachers need support, respect and appreciation, and they earn trust. They have the freedom and responsibility to promote children's development and enforcement of their development.

A new pedagogical approach is necessary that requires new qualifications for teachers. Education is a development and qualification task and includes the responsibility of education. Teachers are exemplary trainers who train pupils but also at the same time learn from them. Transferred knowledge become quickly obsolete. This and the continuing development of pedagogics demand for an intensive further education of teachers.

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A holistic education that is created individually and encourages each student according to his personal abilities and talents is required. This requires in particular the need to have distinct diagnostic competence of teachers in order to find out the individual strengths of students and what individual performance objectives can be pursued. These pedagogical elements need to be encompassed with teacher training in a strengthened form and lead to further education. In order to appeal to all senses of students, it is also vital to supply teachers with artistic and manual skills. Every teacher should demonstrate the professional training he or she obtains, which has the form of a dual degree in no way leading to longer training and academic studies.

The school should not give increasingly specialized knowledge, in the case of which growing material abundance requires more feedback. It is important to learn how to learn, how to promote individual strengths and thus strengthen self-confidence. Schools must prepare young people for life, not to a specific occupation. Polytechnic orientations should enable learning through the productive activity, entrepreneurship, independence and promote students' personal responsibility.

The mediation of a broad base of knowledge should be prioritized. A specialization can be taught at secondary schools, studies and during vocational training. The decisive factor is a good mastery of basic cultural techniques: languages, writing, arithmetic, and reading. In addition to the intellectual skills also artistic and manual skills need to be supported. The language is not only the native language, learning at least two foreign languages should be compulsory. They should not teach as an "isolated" subject but rather as language teaching, such as mathematics instruction in English. In addition to the English language, a language from the Baltic Sea Region should be learnt. Enhanced establishment of bilingual schools, especially in border areas, allows attending school in the neighboring country. Along with an expansion of the student exchange between the Baltic Sea Region states, the regional identity will be strengthened, and it will provide the basis for close future cooperation.

General educational school system needs to promote particular personal-social skills. For this purpose, specific subjects are hardly required, because education and learning develop these skills and qualities naturally. Students, who learn in the class together and from each other experience different strengths and weaknesses, develop tolerance, respect and cooperation skills. Individually applied education with specific learning objectives and steps also promotes self-confidence, trust in each other as well as a sense of achievement and motivation. Independent learning in practical action and the required separation in different groups of people promote independence, communication skills, placing in the overall context and mediation of meaning. Through project and group work, students can practice problem solving in a team and are trained in the autonomous learning. Besides the academic achievements by the end of basic education, social behavior will be evaluated.

School/training shall be mandatory until 18 years of age. Following the basic education, all young people shall attend a secondary school or participate in a professional training. School education should not exclude anyone. The high proportion school leavers with no qualifications must be reduced without necessarily reducing level of individual remedial education. The Baltic Sea-wide uniform quality and minimum standards concerning the description of what should be mastered in which class; skills are developed and tested by independent and impartial institutions. This test results should not be used as an evidence for the student or the exclusion criteria, but they should give teachers guidance about where they stand with their students, while encouraging competition between schools as well as the need to focus on the best and schools learning from one another.

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School structures play a secondary role, also in a structured educational system good results can be achieved with the highest permeability. Long learning together is not a prerequisite for good school education, but it facilitates, however, the mediation of personal-social skills of stronger learners and promotes sustainable integration. The success in most of the Baltic Sea Region states suggests rather pursuing the mutual learning as long as possible.

All-day schools should be the norm. This could be done in different models, for example, after the regular lessons from 12.30 pm till 2.00 pm leisure time with common meal and leisure activities and from 2.00 p till 4.00 pm homework supervision and leisure activities, which could have the character of a game, crafts, sports, music or culture and would help to discover personal interests of children, their talents and abilities.

Parents and teenagers can freely choose a certain type of school, a certain professional training or a specific field of study. Children should not be robbed of their childhood. Parents must avoid determining the day's schedule of their children. Children need enough freedom for self-organization, personal discovery of the world, their own individual adventures and gaining experiences. It may not lead to a situation in which children and young people due to a false ambitions or misjudgments in the forms of education and courses of study are pressed to do something every day that is unwelcome and unloved by them. Such young people will continuously collect only negative experiences and failures, lose trust and it would be very difficult for them to entry the professional life.

With all respect for freedom to choose skills, also individual strengths, potential and progress in learning the crossings into further education have a decisive influence. In any case, the choice requires very intensive advice from parents and young people. The overall opening and permeability of the educational system is needed so that everyone can reach their personal potential in accordance with each degree in several ways. Detours will then lead to the optimal way according the individual possibilities and not to losing time. In this way detours increase the knowledge of the area.

For the crossings into a further training course the following conditions should be applied:

Transition from Kindergarten/preschool to the elementary school: Test on command of the native language and the individual level of development.

Transition from the elementary school to secondary school: Individual schools should determine a level of entrance requirement which needs to be achieved in the elementary school (or in the middle school) as a minimum. The respective minimum levels can be set individually by different schools.

Transition from the school to vocational education: For each profession different levels of achievement and eligibility criteria should be specified, which with the help of competence assessment method and potential analysis would be the basis for the career guidance of students.

Admission to university education: Each admission to university education (whether on the basis of the high school diploma or other rights) should necessarily be dependent on mandatory entrance examination. The level of requirements in the test should be determined by each college/university individually.

Vocational training

Within the framework of school education, it is still necessary to inform students comprehensively concerning the possibilities of vocational training, particular professions, requirements and future

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opportunities. Close contact with companies and institutions of economic self-management, presentations of companies, masters and trainers facilitate the information and identification process. Recurring internships and experience in entrepreneurial skills should be mandatory for all students.

The guidance requires significant intensification. This should be addressed not only in formal entry requirements and conditions such as school degree and grades. More important is the development of job-specific competency profiles, which are then compared with the carefully identified individual skills of each young person. Also a careful consultation and preparation for vocational training must achieve a significant reduction of too high ratios of exchanges and dropouts in professional training.

Different levels of performance and eligibility criteria should be set for the whole Baltic Sea Region as a basis for individual competence assessment and analysis of potential and then approved to be transparent. These criteria help trainers and trainees, and the companies to get employees who are ready for the performance of the task and develop a sense of achievement in the case of young people who can be thus motivated for further work. The high number of dropouts and the risk of dead-end jobs will be significantly reduced. Vocational training must adequately take into account individual skills and capabilities and require extensive differentiation. Through the introduction of different levels, young people from different educational backgrounds, with different competences and learning progress can have an opportunity to obtain education which matches their specific skills:

Level 1: Specific vocational training for learners with learning difficulties for a period of 2 years, enabling focused and practical learning, will be completed with an independent recognized qualification.

Level 2: Middle-level vocational training with theory and practice parts for a period of 3 years and a recognized qualification as a skilled worker or journeyman.

Level 3: Advanced vocational training courses for the study of skills with a duration of 3 - 3,5 years, which provide additional qualifications or training preferable in the initial training and which will be completed with recognized degrees above the present trade or journeyman's examination.

With such a differentiated system of professional training, high permeability is needed. Each graduate at a lower level needs to have an unlimited possibility to reach a higher level, according to their progress in learning and actual achievements; taking into account already completed parts of the training. And vice versa, there should be an exchange of courses of a higher level to a lower level courses taking into account the already covered training periods.

In an open and transparent system gradual learning according to individual skills and potential is realized in every respect. Depending on the learning achievements and developments, each individual can achieve in principle the completion of education and training, although in different ways.

Also in vocational training every young person deserves a second chance. This requires specific actions of preparation and support which need to be developed and implemented in close co-operation with enterprises, inter-company training workshops and vocational schools.

Vocational training should preferably ensue in the dual system which combines practical training in the enterprises with accompanying theoretical courses in vocational schools and ends with a recognized vocational education degree. For school-based vocational training, practical learning

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activities under field conditions and corporate learning times should include at least 50% of the total training time. The mediation of theory should be possible alongside the practical training. In the case of larger theoretical issues which require related presentation, longer teaching blocks can be chosen to provide theoretical training to a certain extent.

The teaching of the theory (vocational schools) and practice (companies) requires close coordination and integration of both. Vocational schools also in this case have to prove that they have a very high degree of responsibility and flexibility and the content as well as the presentation forms (block or day classes, block lengths, project work, etc.) should be designed in a way specific for a given profession and in cooperation with enterprises. Vocational schools should be supported with financing from public funds of the economic self-government; in doing so, intensive contacts to enterprises will be made resulting in cost-reduction and concurrent increase of quality. If a sponsorship of vocational schools by economic self-administration is not feasible, enterprises or their representatives of the economic self-governance have at least to be involved in an instrumental way in the design and implementation of the tasks of vocational schools.

Vocational education must qualify for the future requirements of labor force. The superiority of the dual system is based – among others – on the fact that large parts of the education take place in the enterprises. Thus, there is a permanent orientation towards the actual and future economic challenges. Accordingly, school-based vocational training requires intensive contacts with enterprises. The teachers in vocational schools must cooperate intensively with the industry and should do internships in enterprises on a regular basis as well as realise intensive further education.

An internship abroad already during the studies needs to be further supported. In addition to the general broadening of international experience, gathered intercultural competence is strengthened, contacts are made, and work methods and practices are learned abroad. Parts of the training acquired abroad, and the periods of learning must be fully recognised for the vocational training in their home country.

The vocational qualifications of all the three levels must be proven in national examinations. On this basis, the system of professional training and the examinations will be transferred in the entire Baltic Sea area, just as a sovereign function of the chambers as responsible institution for vocational education. The acquired qualifications require mutual recognition in the Baltic Sea Region states.

For this purpose, the development of the European Qualifications Framework (EQF) and a European system of credit points is conducted. These approaches are based on transparency and mutual trust. The focus is on the qualifications of skills of stronger learners and learning outcomes. When implementation it is particularly important to provide non-bureaucratic systems, which would document acquired skills and competencies by certificates of the international recognition and equality, encourage continuous learning, facilitate education and activities abroad and to motivate as well as facilitate the enterprises which are liable for their personnel decisions, provide information and transparency. The chambers in the Baltic Sea Region can - on a solid basis of trust - perform the implementation of non-bureaucratic systems and a full introduction of a pioneering role and so reach innovation projections.

Not only the formal learning and knowledge, but also informal learning and skills of stronger learners acquired during training are crucial for a high level of qualification. They should therefore be documented in certificates, as well as assessments of enterprises and self-assessments. The Euro-Pass constitutes an orientational basis, which encompasses personal skills, competencies and

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recognized qualifications; it can be completed on the basis of the demand and should receive intensive support from the partners from the Baltic Sea Region.

The measures outlined above can also serve to enhance and increase attractiveness of the vocational education. In order to achieve these objectives complete outstanding permeability between vocational and higher education with recognition of competencies acquired earlier is needed. A Vocational degree including professional activity of 2 - 3 years should entitle to higher university education in all the Baltic Sea Region states.

Furthermore, all measures of quality improvement and assurance taken in the professional training and comprehensive information and image campaigns need to be conducted. In this context, it is also necessary to highlight and clarify the immense nature of general education and vocational training, which demonstrates that particularly within vocational education new elite of responsibility, is created and an elite promotion of achievement of all sorts of educational attainments and professional activities needs to be implemented.

Young people and their parents must be aware that facing the large and increasing proportion of university graduates professionals and managers who have completed vocational training as the most limited factor and therefore in comparison to many academic degrees they have the best future prospects. However, vocational training may not lead to dead ends, but must be justified in an open and totally transparent system of continuous further education and university qualifications.

Vocational further education and studies

Vocational training does not require government regulation and should be primarily the responsibility of the industry and its local administration. Employers and employees need to recognize much greater extent of the high and growing importance of training and heavily invest in it. In this context, new models of burden sharing should be developed, in which for example the enterprises bear the cost of the training and the employees can have their leisure time.

However, in general vocational training requires intensive professional development and in particular some improvements. This includes various approaches, for example:

- Systematic development of certified training modules that can be combined and lead to accredited training qualifications.
- Creation of training professions and professional development of horizontal career paths.
- Establishment of equality of educational pathways and degrees of vocational, general and university education.
- Full permeability and enhanced links between vocational education, further training and general education, and in particular university education. Vocational training needs to be taken into account in relevant disciplines of study.
- Promotion of international exchange, implementation of professional activities and training abroad, while making the greatest possible transparency of the acquired skills.
- International recognition or equivalence of further education qualifications in the context of non-bureaucratic systems.

According to the regulation in Germany, the chambers in all Baltic Sea Region countries should maintain the authority of sovereign functions. The chambers should be able to issue official examination regulations with recognized degrees of further education programs (so called Chamber

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examination). Solely the chambers should be responsible for the examinations in further education programs.

The Qualification for Master Craftsmen has proved to be very successful. This qualification secures the theoretical and practical knowledge and skills of junior employees and managers. The Qualification for Master Craftsmen is essential for small and medium sized enterprises; it must be intensified and coherently provided in the entire Baltic Sea area. The Qualification for Master Craftsmen must entitle to start academic studies. The obtained qualification during the Master Craftsmen must be considered comprehensively for the study courses. It seems to be appropriate that achievements in the Qualification for Master Craftsmen will also be evaluated with Credit Points, which can then be considered for the study program. This creation of permeability will sustainably increase the attractiveness of vocational education in general and that of the Qualification for Master Craftsmen in particular. Any opening of the education systems with various educational carriers will satisfy individual affinities and abilities. Furthermore, it provides an opportunity for enterprises to meet the increased demand for skilled workers. It corresponds to the dire necessity that employees from outside the profession can work in craft-based industries and small- and medium sized enterprises.

Bachelor courses should be much more practice-oriented and offered as a dual system. So, studying at the university would be linked to vocational training or practical work in enterprises. Vocational training is completed with a separate degree and in a certain scope would lead also to credit points which are required for passing the Bachelor examination. Dual study programs could be combined with the Qualification for Master Craftsmen. The achieved credit points must be taken into account completely for the Bachelor exam.

Within the framework of dual courses of studies, each student should be obliged to complete a part of their studies or vocational training abroad. Hereby, the focus should be laid on vocational training or employment in a foreign enterprise, since this at the same time allows making contacts between enterprises.

Colleges and universities need to cooperate in teaching and research much more closely with small and medium-sized enterprises. Dual degree programs can significantly contribute to meet the high and growing demand of young entrepreneurs, managers and of professionals in the future who have both practical and sound theoretical training. This training partnership between enterprises as well as colleges and universities is also an ideal starting point to knowledge sharing, technology transfer and implementation of practice-related research and development work.

Educational and regional economic policy

Further decrease in transport and communication costs increases the mobility of production factors. Enterprises migrate to locations with high potential of professionals and workers, to locations with attractive educational opportunities and diverse labor market.

The local competition for (highly) skilled workers and capital is as a result more intense.

Education programs are a key competitive factor. Education policy, therefore, enhances to a large extent the overall location, regional and spatial planning policy.

Education promotes innovation and competitiveness and includes the main support task for small and medium enterprises. Education policy must be organised and have the highest priority over other types of policies. Understood in this way Baltic-wide concerted education policy must

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- increase the competitiveness of the entire Baltic Sea Region.
- promote and develop human capital and the existing advantages and strengths.
- specifically develop individual sub-regions, and optimally support the competition between locations within the Baltic Sea Region in order to support the best educational opportunities and qualified professionals.
- together with the overall attractiveness and competitiveness of the Baltic Sea Region compared with other regions, increase migration of workers and enterprises.
- be enshrined in the EU Baltic Sea strategy and have priority.

Politics, economy and society of the Baltic Sea Region must address their outstanding position of education policy and it is necessary to recognize that the investment in human capital is the safest and brings the best profits.

The German system of dual vocational education, which leads to a comparatively low youth unemployment, integrates enterprises in the task of ensuring the influx of junior staff, as well as combines the requirements of the labor market with the enterprises in a much better way, can provide large contributions to the achievement of objectives with a lasting impact.

The introduction of dual systems of vocational education is the most innovative in the countries with school-based vocational education. This is connected with far-reaching reforms and extensive changes, which constitute a major challenge to these countries. The involved countries are in principle interested to implement dual vocational training; however, they are afraid of great expenses and risks connected with the conversion.

It is also impossible to simply transfer the existing dual systems (e.g. from Germany). It is rather necessary to consider the regional conditions, political conditions, cultural differences, experience, etc., as well as lead to appropriate changes and adjustments, and implement customized solutions which comply with the basic principles of dual vocational education.

In some countries, up to 15 – 20% of school graduates cannot start their professional education, since they lack general education knowledge and/or there are problems in social behavior. This also includes a significant proportion of young people who cannot start their vocational education immediately despite the acquired training maturity. These young people wait in long queues or receive no vocational training, and as a result are prone to face unemployment.

Up to 30% of young people, who complete vocational education, break it up; only about a half of them begin a new vocational education course. A substantial proportion of dropouts fail in theoretical parts of education. The central reasons for this are that the academic knowledge for the selected profession is not sufficient; the career choice made does not correspond with the actual tendencies or competences due to the absence of relevant information and experience or problems or personal and social behaviors.

The vocational education has lost much of its attractiveness. Especially in the new countries of the EU (e.g. Poland, Lithuania, Latvia, and Estonia) with primarily school-based vocational education, the training participation is low, dropped to an alarmingly low level, and is perceived as a dead end by many young people. In a few countries (e.g. in Lithuania) only one- or two-year programs are carried out in the school-based vocational education, which open a faster entry to the labor market with a higher earning potential, however, they do not qualify in a sufficient way and increase the unemployment of young people on an ongoing basis. Only short internships take place in enterprises, so that work-based learning is conducted to a very limited extent. The consequence is the

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unemployment of 15 – 24-year olds at the level of 28 – 30% in Lithuania, Latvia, and Poland.

Insufficient professional qualification leads to long-term unemployment which amounts to e.g. 20% in Poland, 28% in Latvia, and 40% in Lithuania for persons with only primary and lower secondary education.

At the same time, companies complain about the lack of skills of graduates. School-based vocational education can consider the conditions of the labor market and the qualification requirements of enterprises only to a very limited extent, since there are few aligning mechanisms between the number of training places and the development of the demand of workplaces. In the case of school-based education, there is little contact between schools and enterprises, so that the qualification requirements of enterprises can be included in the training only inadequately. The Students learn the everyday business life only in a very limited way, are not sufficiently involved as interns in the company's operations, and the increasingly important personal and social competences can be taught in the classroom only to a limited extent. After a survey conducted in enterprises by the Baltic Sea Academy in Lithuania, 70% of SMEs require additional skilled employees who are very difficult to acquire. 96% of SMEs require a better practical training, and 74% a better theoretical training.

Because of the demographic change, the number of school leavers in all Baltic States has dropped significantly, with the exception of Sweden. By 2030, the number of the working population aged 15 – 44 will decrease by 25%. Already today there is a shortage of skilled workers in most countries, which will have an even stronger effect in the future and will strikingly limit the developments. Simultaneously, we can observe shockingly high youth unemployment, in particular due to the lack/shortage of vocational qualification.

SMEs threaten to be a loser in the competition for qualified young employees. Due to a lack of qualified staff, innovations in SMEs are much smaller than they actually should and could be. The shortage of young entrepreneurs, managers, and professionals, as well as significant skill gaps is the factors which limit the growth of SMEs the most. The increase in the qualifications with the simultaneous elimination of the shortage of skilled workers is the most important promotional task and the central key to sustainable strengthening of innovations, competitiveness, and growth of SMEs in the Baltic Sea Region.

Given this, it is of crucial importance to

- a) prioritize the integration of young people and reduction of youth unemployment as well as
- b) the provision of qualified employees to SMEs and a significant reduction of the shortage of entrepreneurs and of skilled workers.

In dual vocational training, about 70 – 75 % of the total training time is spent in the company. This inevitably means that in the case of a transition from school-based into dual vocational education, personnel and spatial capacities are released. The fear of losing a job is a large inhibiting factor for appropriate reforms. It is necessary to develop new areas of activity for vocational schools; continuing education for example is offered, for which there is a large demand in the majority of Baltic States and so far, the supply has been very limited. Vocational schools must therefore be developed into regional education and innovation centers that are jointly supported by chambers, vocational schools and universities and all tasks from the transition of the general in vocational education, vocational education and training up to dual bachelor's degree programs.