



European  
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# Education and Training Monitor 2019

## Slovakia



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Luxembourg: Publications Office of the European Union, 2019

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PRINT	ISBN 978-92-76-09462-3	ISSN 2466-9989	doi: 10.2766/261671	NC-AN-19-026-EN-C
PDF	ISBN 978-92-76-09463-0	ISSN 2466-9997	doi: 10.2766/90532	NC-AN-19-026-EN-N

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EUROPEAN COMMISSION

# **Education and Training Monitor 2019**

Slovakia

Volume 2 of the Education and Training Monitor 2019 includes twenty-eight individual country reports. It builds on the most up-to-date quantitative and qualitative evidence to present and assess the main recent and ongoing policy measures in each EU Member State. It therefore complements other sources of information which offer descriptions of national education and training systems.

Section 1 presents a statistical overview of the main education and training indicators. Section 2 briefly identifies the main strengths and challenges of the country's education and training system. Section 3 focuses on teachers and challenges of teaching profession. Section 4 looks at investment in education and training. Section 5 deals with policies to modernise early childhood and school education. Section 6 discusses measures to modernise higher education. Finally, section 7 covers vocational education and training, while section 8 covers adult learning.

*The Education and Training Monitor 2019 was prepared by the Directorate-General for Education, Youth, Sport and Culture (DG EAC), with contributions from the Directorate-General of Employment, Social Affairs and Inclusion (DG EMPL) and the Eurydice Network. DG EAC was assisted by the Education and Youth Policy Analysis Unit from the Education, Audiovisual and Culture Executive Agency (EACEA), Eurostat, Cedefop and the JRC's Human Capital and Employment Unit, Directorate Innovation and Growth. The Members of the Standing Group on Indicators and Benchmarks (SGIB) were consulted during the drafting phase.*

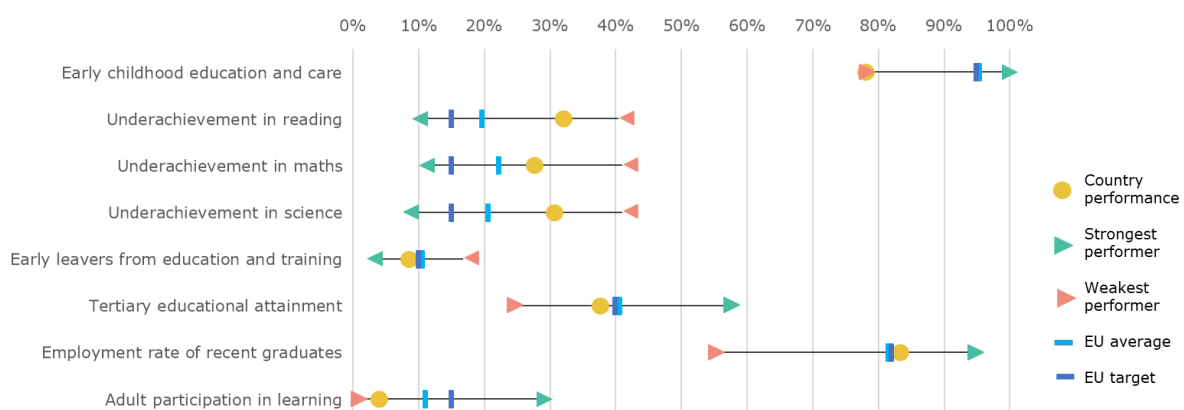
*The manuscript was completed on 26 August 2019.  
Additional contextual data can be found online ([ec.europa.eu/education/monitor](http://ec.europa.eu/education/monitor))*

## 1. Key indicators

		Slovakia		EU average		
		2009	2018	2009	2018	
<b>Education and training 2020 benchmarks</b>						
Early leavers from education and training (age 18-24)		4.9%	8.6%	14.2%	10.6%	
Tertiary educational attainment (age 30-34)		17.6%	37.7%	32.3%	40.7%	
Early childhood education and care (from age 4 to starting age of compulsory primary education)		77.4%	78.2% <sup>17</sup>	90.8%	95.4% <sup>17,d</sup>	
Proportion of 15 year-olds underachieving in:	Reading	22.2%	32.1% <sup>15</sup>	19.5%	19.7% <sup>15</sup>	
	Maths	21.0%	27.7% <sup>15</sup>	22.3%	22.2% <sup>15</sup>	
	Science	19.3%	30.7% <sup>15</sup>	17.7%	20.6% <sup>15</sup>	
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-8 (total)	74.4%	83.4%	78.3%	81.6%	
Adult participation in learning (age 25-64)	ISCED 0-8 (total)	3.1%	4.0%	9.5%	11.1%	
Learning mobility	Degree-mobile graduates (ISCED 5-8)	:	13.0% <sup>17</sup>	:	3.6% <sup>17</sup>	
	Credit-mobile graduates (ISCED 5-8)	:	0.0% <sup>17</sup>	:	8.0% <sup>17</sup>	
<b>Other contextual indicators</b>						
Public expenditure on education as a percentage of GDP		4.2%	3.8% <sup>17</sup>	5.2%	4.6% <sup>17</sup>	
Education investment	Expenditure on public and private institutions per student in € PPS	ISCED 0	€3 648 <sup>12</sup>	€4 388 <sup>15</sup>	:	€6 111 <sup>15,d</sup>
		ISCED 1	€4 208 <sup>12</sup>	€5 193 <sup>15</sup>	€5 812 <sup>12,d</sup>	€6 248 <sup>15,d</sup>
		ISCED 2	:	€4 744 <sup>15</sup>	€6 937 <sup>12,d</sup>	€7 243 <sup>15,d</sup>
		ISCED 3-4	€3 907 <sup>12,d</sup>	€5 379 <sup>15</sup>	:	€7 730 <sup>14,d</sup>
		ISCED 5-8	:	€11 987 <sup>15</sup>	€10 549 <sup>12,d</sup>	€11 413 <sup>15,d</sup>
Early leavers from education and training (age 18-24)	Native-born	4.9%	8.5%	13.1%	9.5%	
	Foreign-born	:	:	26.1%	20.2%	
Tertiary educational attainment (age 30-34)	Native-born	17.5%	37.6%	33.1%	41.3%	
	Foreign-born	:	:	27.7%	37.8%	
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-4	67.9%	84.6%	72.5%	76.8%	
	ISCED 5-8	83.5%	82.4%	83.8%	85.5%	

Sources: Eurostat; OECD (PISA); Learning mobility figures are calculated by the European Commission's Joint Research Centre from UOE data. Further information can be found in section 10 and in Volume 1 ([ec.europa.eu/education/monitor](http://ec.europa.eu/education/monitor)). Notes: EU averages of 2009 PISA do not cover Cyprus; d = definition differs, u = low reliability, := not available, 12 = 2012, 14 = 2014, 15 = 2015, 17 = 2017.

**Figure 1 Position in relation to strongest and weakest performers**



Source: European Commission, Directorate-General for Education, Youth, Culture and Sport (DG EAC) calculations, based on data from Eurostat (LFS 2018, UOE 2017) and OECD (PISA 2015).

## 2. Highlights

- Slovakia is improving early childhood education and care, which is particularly positive for children from deprived families.
- Slovakia is taking a more strategic approach to lifelong learning, upskilling and reskilling.
- The early school leaving rate has continued increasing since 2010, approaching 14% in Eastern Slovakia.
- Investment in education and training is insufficient, and this is reflected in teachers' still low salaries despite recent increases.

## 3. A focus on teachers

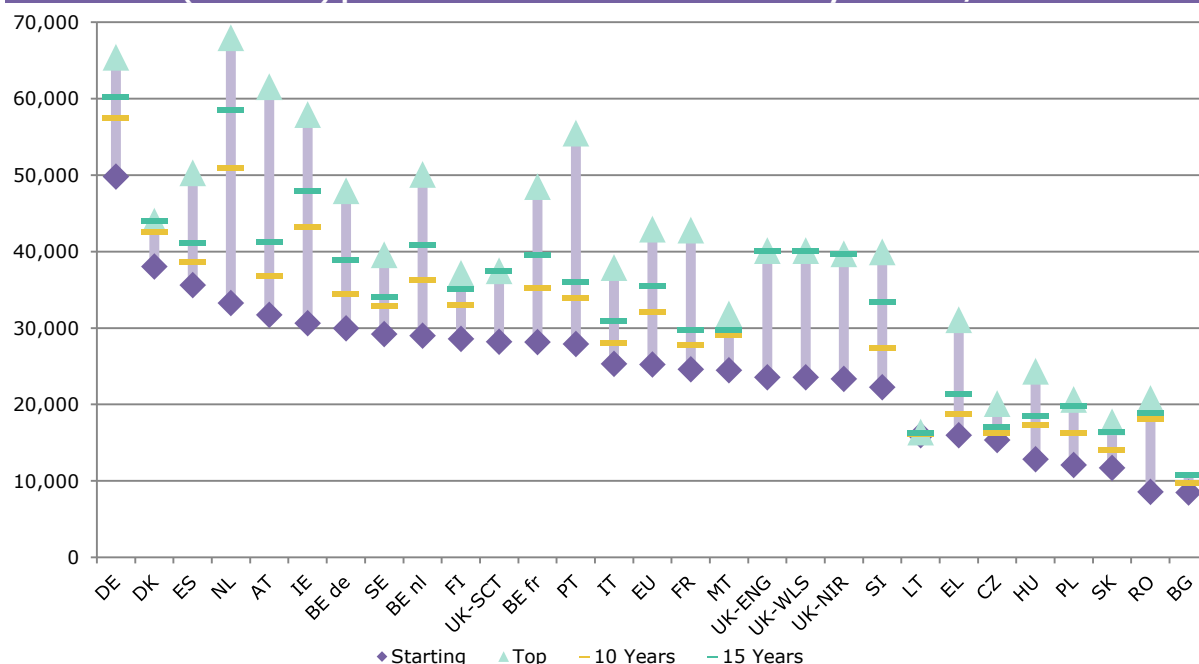
**The teaching profession remains unattractive in Slovakia.** According to the 2018 OECD Teaching and Learning International Survey (TALIS)<sup>1</sup>, the proportion of Slovak teachers who think that the teaching profession is valued in society is the lowest in the EU — 4.5% v 17.7% at EU level (OECD, 2019b). While overall there is no shortage of teachers, teacher supply problems emerge in the Bratislava region, where living costs are high, as well as for vocational education trainers and teachers of science, technology, engineering, mathematics (STEM), physics and English<sup>2</sup>. Average teachers' salaries lag far behind comparable workers — following planned pay increases in 2019-2020, upper secondary teachers in public institutions will earn only 68% of the average salary of a full-time full-wage employee with tertiary education (Ministry of Finance (MoF), 2019). The statutory salaries of Slovak teachers with 15 years of experience are among the lowest in the EU, with one of the smallest differentials between minimum and maximum salary (Figure 2). School heads receive a management allowance, which can be 12-50% higher than the maximums for teachers depending on the municipality size<sup>3</sup>. Since most municipalities are small, the 38% ceiling applies mainly. Overall, head positions are not perceived an attractive career goal, including the financial aspect (Santiago, P. et al., 2016). The 2018-2027 National Programme for the Development of Education (NPDE) envisages further increasing teachers' salaries to reach, in 2027, 85% of the salary of tertiary-educated employees, modifying the career system, the initial training and continuing professional development (CPD) of teachers (Ministry of Education (MoE), 2018a). Whether this will be enough to attract talented young teachers, for example in STEM subjects, remains unclear. A new study on the attractiveness of the profession in Slovakia will be published in 2019.

<sup>1</sup> In 2018, 23 Member States participated in TALIS: Austria, Belgium fr, Belgium nl, Bulgaria, Croatia, Cyprus, Czechia, Denmark, England (UK), Estonia, Finland, France, Hungary, Italy, Latvia, Lithuania, Malta, the Netherlands, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden. TALIS 2018 covers lower-secondary teachers and school leaders in mainstream public and private schools.

<sup>2</sup> See: <https://spectator.sme.sk/c/20902676/lack-teachers-primary-schools-jobs.html>  
<https://spravy.pravda.sk/domace/clanok/481433-na-slovensku-chybaju-stovky-ucitelov-najviac-v-hlavnom-meste/>  
<https://skolskyportal.sk/prevadzka-skoly/skolam-chybaju-stovky-ucitelov>

<sup>3</sup> See: [https://www.slov-lex.sk/pravne-predpisy/SK/ZZ/2003/553/20190101#priloha.priloha-priloha\\_c\\_6\\_k\\_zakonu\\_c\\_553\\_2003\\_z\\_z.oznacenie](https://www.slov-lex.sk/pravne-predpisy/SK/ZZ/2003/553/20190101#priloha.priloha-priloha_c_6_k_zakonu_c_553_2003_z_z.oznacenie)

**Figure 2 Annual basic gross statutory salaries for full-time teachers in lower secondary (ISCED 24) public schools in PPS for the school year 2016/2017**



Source: Eurydice, 2018. Note: For the sake of clarity of comparison between countries, Luxembourg is not presented here.

**The teacher population is ageing.** In 2017, 30% of primary teachers and 39.6 % of secondary teachers were aged over 50; only 7% of primary teachers and 8.8% of secondary school teachers were under 30<sup>4</sup>. The profession in Slovakia is dominated by women: they are represented most strongly in pre-primary (99.5%) and primary education (90%), but still over 70% in secondary education. The ratio is reversed at tertiary level where women constitute 45.8% of teachers.

**Initial teacher education and CPD are weak.** There is some evidence that many applicants for initial teacher training may use it as an easy access route to higher education. This is borne out by the large proportion of graduates from initial teacher training who do not enter the profession (Santiago, P. et al, 2016). Although, according to national data, 73% of students in such programmes declare becoming a teacher, the proportion of graduates from initial teacher training working as teachers is much lower<sup>5</sup>. Initial teacher training lacks sufficient quantity and quality of practice, preparation for teaching students with special needs and applying an individualized approach (Santiago, P. et al, 2016). Slovakia plans a comparative analysis of initial teacher training systems in different countries to provide the basis for modernising its system (MoF, 2019). Slovak teachers indicate that their participation in CPD is hindered by its high cost (42.9%), lack of incentives (42.8%), and its low relevance (40.3%). 20.8% of teachers feel well prepared for teaching in a multicultural setting (EU average: 23.8%), and 9.3% declared a high need for related training. 16.6% of teachers identified information and communications technology (ICT) skills as their main training need (OECD, 2019b).

**Parliament passed a new law on pedagogical staff.** The new act on pedagogical and professional staff was approved on 2 April 2019<sup>6</sup>. It changes the teacher attestation process, introduces a new category of career counsellor, a new code of ethics, and reduces the workload of some categories of education employees (Eurydice, 2019). However, the bill was criticised by the teacher community as not bringing the systemic change necessary to improve the attractiveness of the profession and teachers' professional development<sup>7</sup>.

<sup>4</sup> Eurostat, UOE, 2017. Online data code: educ\_uoe\_perp01

<sup>5</sup> See: <https://www.minedu.sk/data/att/14502.pdf>

<sup>6</sup> See: <https://www.nrsr.sk/web/Default.aspx?sid=zakony/zakon&MasterID=7111>

<sup>7</sup> See: <http://sku.sk/vyzva-poslancom-nr-sr-k-hlasovaniu-o-zakone-o-pedagogoch/>  
<https://www.skolskyportal.sk/legislativa/ucitelia-vyjadri-li-nespokojnost>

## 4. Investing in education and training

**Investment in education and training remains low.** As in previous years, in 2017, general government expenditure on education as a proportion of GDP remained well under the EU average: 3.8% against 4.6%. Education constituted 9.4% of the public budget, also below the EU average (10.2%). Slovakia spends a comparatively higher proportion of its education budget on pre-primary and primary education (36.4% v EU average of 32%) than on secondary education (24.6% v EU average of 41%). Annual public spending per student in purchasing power standards remains low: in 2016<sup>8</sup>, for primary and lower-secondary students it was EUR 4 541 (EU average: EUR 6 139), for upper and post-secondary non-tertiary students EUR 4 736 (EU average: EUR 7 029). Given pupils' worsening results in international tests<sup>9</sup>, the continued strong impact of socio-economic background, regional disparities, and rising early school leaving (ESL) rates, a new focus on investing might be considered to improve educational outcomes, teachers' skills and the attractiveness of teaching, as well as greater inclusion of disadvantaged groups in education and training, in particular Roma. Support for specialists and inclusive teams to facilitate inclusive education, including for Roma children, is being provided by the ESF (Eurydice, 2019); in future the necessary national resources will need to sustain such support.

**Slovakia is making efforts to rationalise its public expenditure on education in a complex administrative set-up.** Public education spending is managed by: (i) the Education Ministry, responsible for 35.7% of the total; (ii) the Ministry of Interior, responsible for 30.5%; and (iii) the self-governing bodies (regions and municipalities), managing the remaining 33.8% (Eurydice, 2019). Besides funding, the Ministry of Interior and its regional offices lay down regulations on school life and administer secondary and special schools. As Slovakia has the highest proportion in the EU of pupils in special schools (EASNIE, 2018), better coordination of educational policies at national level is necessary. Positively, reflecting the recommendations of the 2017 spending review carried out with the support of the European Commission's Structural Reform Support Service and the International Monetary Fund, the budget allocation for individual schools has been made more precise from 2019 onwards as it takes into account each teacher's years of service (MoF, 2019).

**In 2018, Slovakia launched the 2018-2027 NPDE to address current challenges in education and training.** The total cumulative budget of planned measures is EUR 15.6 billion. High-impact measures of the first action plan (2018-2019) include the introduction of compulsory education from age 5 initially planned for 2020, and a legal entitlement to pre-primary education for 4 and 3 year-olds planned for 2021 and 2022 (MoE, 2018b). The European Structural and Investment Funds (ESIF) are also supporting the implementation of these measures. By end of 2019, the government plans to update measures for the following years.

## 5. Modernising early childhood and school education

**Provision of kindergarten facilities is making good progress, yet enrolment rates remain low.** In 2017, the participation rate of Slovak children over 4 in early childhood education and care (ECEC) was 78.2%, the lowest in the EU. The weakest participation was in Eastern Slovakia at 65.3%. The government expanded free kindergarten places to all children (regardless of age) from socio-economically deprived families from September 2018<sup>10</sup>. In June 2019, Parliament approved lowering the compulsory school age to 5 starting in January 2021<sup>11</sup>. The ESIF are supporting the provision of kindergartens: 11 147 places are to be created over 2014-2020 to enable enrolment of 5 year-olds to rise to a projected 96.4% in 2020. Around 2 100 more places will be needed to ensure full enrolment. The management of supply and demand for places is ineffective: 12 502 child admission requests were not met in 2018/2019 for capacity reasons, predominantly in developing municipalities and those with a high share of Roma, despite there being 12 000 spare places nationwide (Hellebrandt, T. et al. 2019).

<sup>8</sup> Eurostat, UOE, 2017. Online data code: educ\_uoe\_fine09.

<sup>9</sup> 2015 Programme for International Student Assessment (PISA).

<sup>10</sup> See: <https://www.minedu.sk/prispevok-na-vychovu-a-vzdelavanie-pre-ms/>

<sup>11</sup> See: <https://www.nrsr.sk/web/Dynamic/DocumentPreview.aspx?DocID=468868>



**Measures are planned to further facilitate participation in ECEC and to review teaching requirements.** In 2017/2018 only 43% of children aged 3-5 from families receiving the 'benefit in material need'<sup>12</sup>, and 31.7% of children in that age group from marginalised Roma communities, were enrolled in kindergartens (Hellebrandt, T. et al., 2019). To increase the enrolment of children from low-income families, the NPDE envisages free transport starting 2020. The qualification requirements for kindergarten staff are to be reassessed in 2020. Ensuring the quality and inclusiveness of educational provision is crucial as poor-quality ECEC can eliminate the potential benefits or even have detrimental effects on children's development and learning (OECD, 2018).

#### Box 1: ESF-funded project to support inclusive ECEC

In July 2018, a national project called 'Support for pre-primary education of children from marginalised Roma communities' (*PROjekt Inklúzie v Materských Školách - PRIM*) was launched with ESF funding.

The main objective is to increase kindergarten attendance by children from marginalised Roma communities by creating an inclusive environment (establishing inclusive teams involving additional teachers and professional staff) and working with families whose children are not yet attending kindergartens.

The project is open to 150 municipalities until 31 October 2020. It is implemented by the Office of the Plenipotentiary of the Slovak Government for Roma Communities.

See more: <http://www.minv.sk/?narodny-projekt-prim-projekt-inkluzie-v-materskych-skolach>

**Equity in education and the quality of educational outcomes are weak.** The 2015 PISA<sup>13</sup> survey found that the proportion of underachievers in Slovakia's secondary schools is significantly higher than the EU average in reading, mathematics and science, and has increased over the years (OECD, 2016). The 2018 national tests run by the Ministry of Education among primary students (Testing 5<sup>14</sup>) confirm large differences in educational outcomes between districts<sup>15</sup> and regions<sup>16</sup>. Students from socially disadvantaged families achieved an average success rate of 22.9% in mathematics in these tests, against 60.9% among students without a social disadvantage<sup>17</sup>. The grade repetition rate is 15 times higher among pupils from socially disadvantaged environments and marginalised Roma communities simultaneously – 14.9%, against 1% among other pupils (Hellebrandt, T. et al., 2019). Teachers in Slovakia rarely employ a differentiated and individualised approach that takes into account diverse educational needs (SSI, 2016). Investment in teachers' competencies and attracting best teachers to disadvantaged areas could help address pupils' learning difficulties.

**The ESL rate has risen since 2010.** Slovakia's ESL rate has strongly deteriorated to 8.6% in 2018 (EU average: 10.6%) from 4.7% in 2010 (EU average: 13.9%). At 13.9%, Eastern Slovakia has the highest rate. Moreover, in 2017/2018, 7.8% of 16 year-olds had not entered the final class of lower secondary education, putting them at risk of dropping out of school (Hellebrandt, T. et al. 2019)<sup>18</sup>. The rates were particularly high for pupils from families receiving the 'benefit in material need' (32.6%) and marginalised Roma communities (37.2%). Poor educational outcomes in secondary education translate into the deteriorating trend in ESL, which is reflected in long-term unemployment among the low-skilled. 60% of the low-skilled long-term unemployed in Slovakia are aged under 29 (European Commission, 2019a).

**The education system is not sufficiently inclusive.** In October 2018, the Plenipotentiary for Roma communities and three other Slovak officials involved in school education and rights protection pleaded for urgent measures to desegregate Roma pupils in primary schools<sup>19</sup>. Roma children have low attainment rates and only a few manage to reach tertiary education (OECD,

<sup>12</sup> See: <https://ec.europa.eu/social/main.jsp?catId=1127&langId=en&intPageId=4769>

<sup>13</sup> OECD 2015 Programme for International Student Assessment.

<sup>14</sup> See: <https://www.minedu.sk/testovanie-5-2018-vysledky-celoslovenskeho-testovania-piatakov/>

<sup>15</sup> See: Results of all 79 districts in 2018 Testing 5: <https://www.nucem.sk/dl/4046/Pr%C3%ADloha4.pdf>

<sup>16</sup> See: Results of 8 regions in 2018 Testing 5: <https://www.nucem.sk/dl/4045/Pr%C3%ADloha1.pdf>

<sup>17</sup> 2 041 pupils from socially disadvantaged families were tested in 69 districts; there were no such students in 16 districts.

<sup>18</sup> In Slovakia schooling is obligatory till age 16.

<sup>19</sup> See: [https://www.minv.sk/swift\\_data/source/mvsr/dokumenty/desegregacia-vzdelavanie-spolocne-vyhlasenie-romovia.pdf](https://www.minv.sk/swift_data/source/mvsr/dokumenty/desegregacia-vzdelavanie-spolocne-vyhlasenie-romovia.pdf)

2019a). It is estimated that 62% of Roma children attend a school where all or most other children are also Roma (FRA, 2016); no real progress on desegregation has been observed over the recent past (Amnesty International, 2016). In January 2019, the government approved an updated action plan for Roma integration up to 2020 aimed at raising the Roma population's education level to the national average<sup>20</sup>. The budget totals EUR 55.72 million for 2019-2020 (Eurydice, 2019). A European Commission infringement procedure against Slovakia over the segregation of Roma children in education is ongoing. In 2019, Slovakia received a country-specific recommendation from the Council of the EU to 'Improve the quality and inclusiveness of education at all levels and foster skills. Enhance access to affordable and quality childcare and long-term care.' (Council of the EU, 2019<sup>21</sup>).

**Slovakia is making progress on digital skills.** In 2017, 59% of Slovaks aged 16-74 had at least basic levels of digital skills, 4 pps more than in 2016 and above the EU average (57%). Slovakia ranks 20<sup>th</sup> in the EU's 2018 Digital Economy and Society Index (European Commission, 2019b). The NPDE highlights the need to extend ICT use in classrooms. It envisages the establishment of a central digital educational content repository including the content developed under ESF projects<sup>22</sup>, which will be available to pedagogical staff.

#### Box 2: 'IT Fitness test'

'IT Fitness test' is an online self-testing instrument developed by Comenius University (content), the Technical University of Košice (maintaining the portal) and the IT Association of Slovakia (promotion and certification).

The tool enables self-assessment of IT skills in office productivity software, internet security, collaboration tools and social networks, and comprehensive tasks. Two versions are available: (i) for primary school pupils to verify their readiness for upper secondary school, and (ii) for any individual to test their employability in terms of meeting employers' IT requirements.

Between 2010 and 2018, 180 000 individuals self-tested. Following analysis of the results, the test authors suggest paying more attention to building critical thinking, analysing and assessing information, and to projects interlinking IT with other school subjects. The results also point to a strong need to improve students' and teachers' competencies concerning security. (Vantuch, J., Jelinkova, D., 2019).

See [www.itfitnessstest.sk](http://www.itfitnessstest.sk)

## 6. Modernising higher education

**The level of tertiary attainment is steadily growing but disparities exist.** In 2018, the national tertiary attainment rate was 37.7% (EU average: 40.7%). The gap with the EU average has been narrowing over time, from 11.7 pps in 2010 to only 3.0 pps in 2018. The gender gap in favour of women is 13.5 pps (EU average: 10.1 pps). High regional disparities persist: in the Bratislava region 59.9% of the adult population have a tertiary degree, almost double the rate in other regions, where it ranges between 33.4% and 35.2%.

**The employment rate of recent tertiary graduates is lower than that of upper secondary vocational education and training (VET) graduates.** Contrary to the situation in other Member States (except Luxembourg), the employment rate of recent tertiary graduates (aged 20-34) is lower than for upper secondary VET graduates: 82.4% v 84.7%. The rate is also lower than the EU average of 85.5% (Figure 3). The proportion of STEM graduates, at 21.2%, is below the EU average of 25.8%<sup>23</sup>. Outward migration is high among people under 30, including tertiary graduates, in particular in the medical and technical fields, where 22% of graduates leave the country. This poses a challenge to growth. The corresponding loss of investment is estimated at EUR 45 million (MoF, 2017). In 2017, 13% of Slovak graduates graduated abroad (EU average: 3.6%).

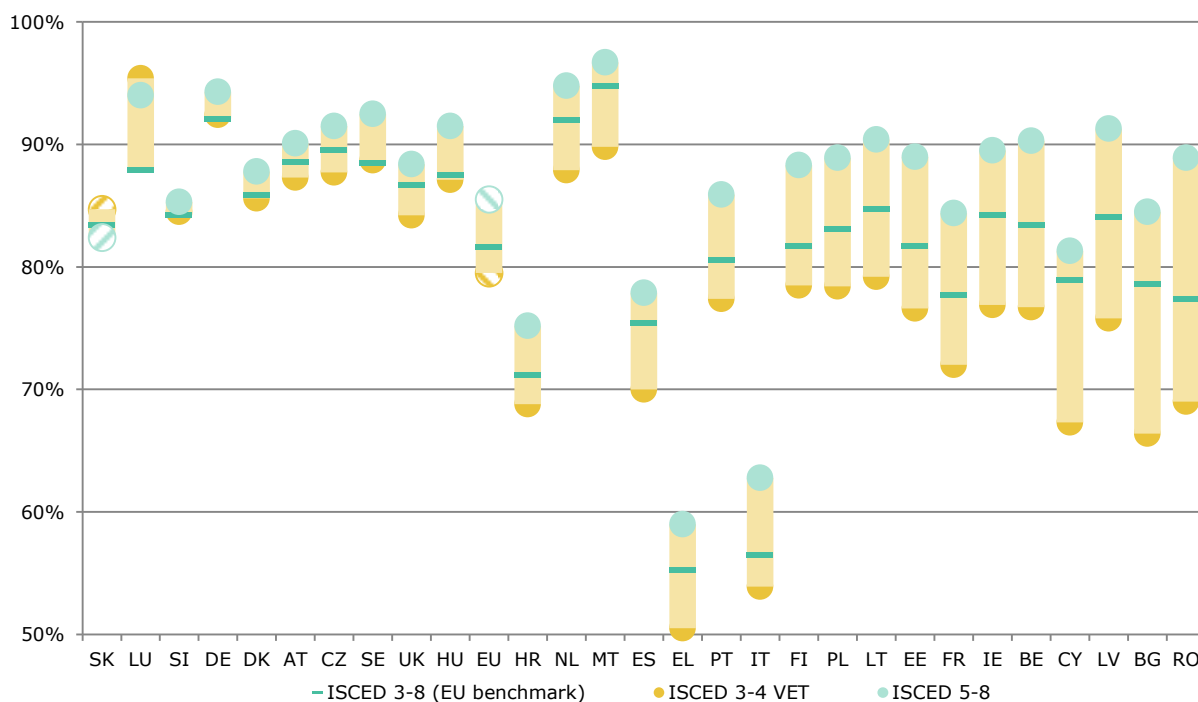
<sup>20</sup> See: <https://rokovania.gov.sk/RVL/Material/23492/2>

<sup>21</sup> See: <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52019DC0525&from=EN>

<sup>22</sup> See: <https://predmety.iedu.sk>, <http://rsov.iedu.sk>, <https://vychovy.iedu.sk>, <https://anglictina.iedu.sk>.

<sup>23</sup> Eurostat, UOE, 2017. Online data code: educ\_uoe\_grad02

**Figure 3 Employment rate of recent graduates (age 20-34) by ISCED level, 2018**



Source: Eurostat, Labour Force Survey, 2018.

**Slovakia is implementing the new law on quality assurance in higher education.** A new legal framework for quality assurance in higher education (Act no 269/2018)<sup>24</sup> and the amendment to the act on higher education institutions (Act no 270/2018) came into force on 1 November 2018. The main changes concern the new system of accreditation and the increased importance of quality assurance processes. A new Slovak Accreditation Agency for Higher Education (SAAHE) is being created. The amendment simplifies the process of creating study programmes and introduces interdisciplinary studies (Eurydice, 2019).

**Professionally-oriented bachelor's programmes are to be developed, as advocated by stakeholders.** In December 2018, a call for projects under the ESF was launched to develop a professionally oriented bachelor's studies, with a budget of EUR 15 million<sup>25</sup>. The projects had been strongly advocated for by employers and educational practitioners. Another call will follow to implement the programmes. It is important that SAAHE develops accreditation and assessment criteria for this type of programme as well.

## 7. Modernising vocational education and training

**Measures are being introduced to increase the responsiveness of VET to labour market needs and to address skills shortages.** In 2017, total enrolment in upper secondary VET in Slovakia was 68.9 % (EU average: 47.8%). VET students had some exposure to work-based learning (12% in 2017 v 11% in 2016) — most programmes include practical elements in the curriculum (UOE, 2017). The employment rate among recent VET graduates increased from 81.6% in 2017 to 84.7% in 2018 (EU average: 79.5%). The NPDE focuses on linking education and training with the labour market, notably through funding for employers' organisations involved in dual VET (an annual estimated budget of EUR 987 062 for 2018-2027) and by increasing financing for VET schools (estimated EUR 76 902 604 over the same period). Post-secondary VET programmes are to be expanded and dual VET is to be promoted in tertiary education. EUR 18 008 185 for 2019-2027 will be earmarked for new career counsellors positions at education counselling centres. The 'entrance quotas' for learners in VET programmes introduced by the 2018 amendment of the VET Act have been softened by the Ministry of Education in reaction to the

<sup>24</sup> See: <https://www.slov-lex.sk/pravne-predpisy/SK/ZZ/2018/269/20180926>

<sup>25</sup> See: <http://www.minedu.sk/27122018-vyzva-na-predkladanie-ziadosti-o-nenavratny-financny-prispevok-na-podporu-prepojenia-vysokoskolskeho-vzdelavania-s-potrebnami-praxe-vysoka-skola-pre-prax-oplz-po12018dop131-02/>

dissatisfaction of VET schools and families. A revision of quotas is envisaged based on the results of the Skills Governance project run by Slovakia and Cedefop. The NPDE has planned EUR 20 000 for adjusting professional standards for pedagogical staff and experts in regional schools in 2020/2021.

## 8. Developing adult learning

**A more strategic approach is being developed to improve upskilling, reskilling and adult participation in learning.** Only 8.3% of adults have not acquired at least an upper-secondary qualification (EU average: 21.9%) (Eurostat, 2018). However, only 4.0% of adults aged 25-64 had had a learning experience in the last 4 weeks in 2018 (EU average: 11.1%) (Eurostat, 2018). In 2017, around 1 500 adults aged over 25 acquired an upper-secondary qualification, which is a small proportion of the nearly 272 000 adults with a low level of educational attainment (Eurostat, 2017). Consequently, only 37.9% of low-qualified adults were employed (EU average: 56.8%) (Eurostat, 2018). This highlights the need for substantial upskilling and reskilling. In 2019, the Ministry of Education in cooperation with OECD has launched a project on the national skills strategy aimed at improving adult learning, skills levels, systems of qualifications, participation in learning, financing, and career guidance. An Act on lifelong learning will follow. The NPDE implementation plan contains three tasks concerning adult learning:

- (i) completion of the system of qualifications by increasing their flexibility (introduction of professional qualifications) and validation of non-formal and informal learning;
- (ii) participation in the second cycle of PIAAC<sup>26</sup>;
- (iii) an analysis of adult participation in learning, a pilot scheme and subsequently a roll-out of individual learning accounts (set at EUR 200 combined with 25% tax-base deductions for employers on training expenses, with total funding of EUR 15.64 million over 2020-2027).

**Efforts are being made to improve adult learning at regional level.** As part of guidelines for programmes for underdeveloped regions there is a special focus on upskilling and reskilling. Priorities include: support for low-skilled workers, young people and marginalised Roma to acquire labour-market relevant skills; establishing a training centre focused on IT and electrical engineering to attract young learners and retrain jobseekers in Bardejov; and establishing a regional VET campus in Kežmarok offering initial and continuing training, and career guidance.

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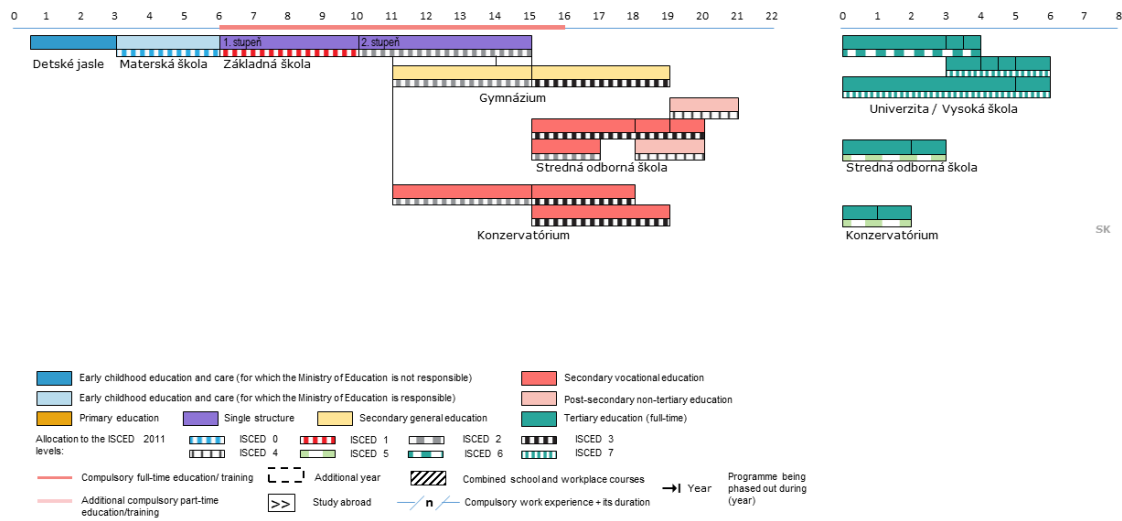
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## Annex I: Key indicator sources

Indicator	Eurostat online data code
Early leavers from education and training	edat_lfse_14 + edat_lfse_02
Tertiary educational attainment	edat_lfse_03 + edat_lfs_9912
Early childhood education and care	educ_uoe_enra10
Underachievement in reading, maths, science	OECD (PISA)
Employment rate of recent graduates	edat_lfse_24
Adult participation in learning	trng_lfse_03
Public expenditure on education as a percentage of GDP	gov_10a_exp
Expenditure on public and private institutions per student	educ_uoe_fini04
Learning mobility:	
- Degree-mobile graduates	JRC computation based on Eurostat / UIS / OECD data
- Credit-mobile graduates	

## Annex II: Structure of the education system



Source: 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.

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# Executive summary

Highlights of the cross-national analysis

Highlights of the country analysis



## Highlights of the cross-national analysis

Among all factors in the school environment, teachers are considered to have the greatest impact on students' learning outcomes. At the same time, more than 60%<sup>27</sup> of public expenditure in education in the EU is spent on teachers. Any policy effort seeking to improve educational outcomes – or the efficiency of education and training – is bound to take a close look at the role of teachers and look for ways to help teachers excel in their demanding profession. New evidence from the OECD TALIS survey sheds more light on teachers. The recent survey data inform the 2019 Education and Training Monitor, which contains a dedicated analysis of school teachers in the EU. Being a unique source of information on teachers' motivations, lifelong learning and careers, the new evidence from TALIS 2018 can help policy-makers harnessing the full potential of teachers by preventing and addressing challenges.

After the teacher-dedicated part, the 2019 Monitor sets to analyse the existing targets adopted by the Council of the European Union under the strategic framework for European cooperation Education and Training 2020 ('EU benchmarks'). This part of the report presents latest data on participation in early childhood education and care; early leaving from education and training; tertiary educational attainment; underachievement in basic skills; employment rate of recent graduates; adult learning; and learning mobility in higher education. Next, the 2019 Monitor offers analysis on education indicators used in other well-established or emerging priorities, including entrepreneurship education; digital education; multilingualism. The report concludes with a section analysing public investment in education and training.

### At the core of learning: the teachers

Across the entire EU, education systems are confronted with a number of challenges relating to teachers. Several countries already face or are about to face shortages of teachers, either across the board or in particular subject areas (typically science, technology, engineering and maths); or in particular geographical areas. In view of the proportions of teachers aged 50 or plus, the 23 EU countries participating in TALIS 2018 will have to renew about one third of their teaching population in the next decade or so. At least five EU countries will have to renew around half of their secondary school teachers in the same period (Italy, Bulgaria, Lithuania, Estonia, Greece and Latvia; and the same applies to primary school teachers in the former three countries).

Successfully renewing the teachers' population requires acting upon key factors such as the number of students deciding to embark on teacher education, the number of new teachers starting in the job and the number of teachers stopping to work. To address this challenge, there is a need to improve the attractiveness of the profession and offer good working conditions for sustained professional activity.

According to survey data, only 18% of lower secondary school teachers in the EU consider their profession as valued by society; and their proportion lowers with longer years of teaching experience. Similarly, the share of teachers would still choose to work as teachers, declines significantly, in several EU countries, among more experienced teachers. Overall, there is a specific challenge in attracting men into teaching; and particularly so for primary and pre-primary education, where the proportion of female teachers reaches 85% and 96% respectively.

Salaries of teachers do not always compare favourably to salaries of other equally qualified professionals. Among EU countries with available data, in four countries (Czechia, Slovakia, Italy and Hungary) teachers at all education levels earn less than 80% of what other tertiary-educated workers do. In most Member States, primary (and especially pre-primary) teachers earn less than secondary level teachers. In secondary education, teachers' statutory salary tends to be higher at upper-secondary level than at lower-secondary level.

There are also shortages of teachers with specific profiles. Nearly 40% of principals in lower secondary schools in the EU declare that the shortage of teachers teaching students with special

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<sup>27</sup> DG EAC calculation on Eurostat's general government finance statistics, reference year 2017 ([gov\\_10a\\_exp](#)).



needs hinders the quality of instruction at their school. Principals also point to shortages of teachers who have competences in teaching in a multicultural or multilingual setting (the largest shortages are in France, Italy and Portugal); and competences in teaching students from socio-economically disadvantaged homes (largest shortages in France, Italy, and Portugal). This second type of shortage is driven by change (technology; diversity in classrooms) and points to a need to improve training (initial and continued).

Furthermore, against an evolving technological and demographic background, teachers need new skills more than ever, including for dealing with cultural and linguistic diversity in the classroom, teaching in a technology-rich environment, and adopting collaborative teaching practices. While 92% of teachers report regular participation in professional development, 21% of them declare a further need for training on teaching students with special needs; 16% report a further need for training on the use of information and communication technology (ICT) for teaching; and about 13% report a further need for training in teaching in multilingual and multicultural environments.

### **Growing participation in education and educational attainment: main achievements in the last decade**

In the last decade, the EU experienced a massive increase in tertiary educational attainment and met its target of having at least 40% tertiary graduates in the 30-34 year-old population – up from 32% in 2009. Despite this increase, there are clear patterns of inequalities in educational attainment. For example, on average, women's tertiary educational attainment (45.8%) is higher than men's (35.7%) – and the gap has been continuously increasing over recent years. Typically, women complete tertiary education earlier than men do. Also, young adults born in the reporting country or elsewhere in the EU, graduate more than their peers from non-EU countries (41.0% against 35.8% respectively). Yet, an overview of policy measures to broaden tertiary educational attainment shows that less than half of EU countries set specific targets to support participation in higher education of under-represented groups, such as, for example, people with disabilities, migrants or students from disadvantaged background.

The attendance of children from the age of 4 in early childhood education has expanded, and is, by now, almost universal. There are also high rates of participation in early childhood education by children from the age of 3. Yet the 90% participation rate for the general population decreases to 77.8% in the group of children at risk of poverty or social exclusion. Experiencing education in the early years of life has been found to be beneficial for better learning outcomes later on in life, and particularly so for children from socio-economically disadvantaged homes. The challenge of ensuring equal access to education in the early years needs to be addressed.

Since the EU cooperation framework in education and training started in 2009, the proportion of young adults leaving education and training without obtaining at least an upper secondary qualification has considerably reduced. Nonetheless, at EU level this process came to a halt after 2016. Comparing 2016 and 2018, there was progress on this indicator in large countries such as Spain or Poland, as well as in other countries such as Romania, the Netherlands and Portugal. However, this was countered by negative developments in other countries – for example, Italy, Sweden, Denmark, Slovakia, and Estonia (in descending order by size of population). Furthermore, in the past 2 years, early school leaving rates increased for both young adults born in the EU (between 2016 and 2017) and those born outside (between 2017 and 2018). Reducing early leaving remains a priority and a target of the EU, as those who leave education and training before obtaining an upper-secondary diploma will struggle with lower employment rates and lower rates of participation in adult learning.

### **The main challenge for the next decade: improving learning outcomes at school, and increasing adult participation in learning**

Participation in education can be measured by data on enrolments, qualifications, or performance test. The latter show that reducing the number of underachieving 15-year-olds to meet the EU

target of less than 15% by 2020<sup>28</sup> remains a challenge, particularly for pupils from disadvantaged socio-economic backgrounds. Failing to achieve basic mathematics, reading or science tasks at the age of 15 impacts on individuals' chances to continue studying, find and maintain employment later in life, cope with fast-paced technological change, and develop as citizens. Between 2012 and 2015, the EU has actually moved further away from meeting this target. Approximately one fifth of pupils in the EU cannot complete basic reading tasks, and the share is slightly higher for science and maths (2015 data). Despite less favourable or sometimes adverse background conditions, around a quarter of socio-economically disadvantaged pupils born in another country are considered academically resilient. Individual factors associated with higher resilience include high academic expectations, and not repeating grades; while disengagement from school (for example skipping classes, and abusing substances) has a negative association with resilience. At school level, the use of school evaluations, connecting the students' test results to teachers' performance, adequate provision of study rooms and being surrounded by pupils with higher socio-economic status are all factors correlating positively with resilience.

Over the years, there has been limited growth in the share of adults participating in education and training during the last 4 weeks in the EU – from 9.5% in 2008 to 11.1% in 2018. In addition, in practically in all EU countries people with little or no qualifications in education – those most in need of access to learning – are the least likely to benefit from it. Age and educational attainment matter when it comes to adult participation in learning. Young adults (25-34) are more than four times more likely to participate in learning as those aged 55-64. Similarly, those with a tertiary degree are more than four times more likely to participate in learning than those holding at most an upper-secondary diploma.

## Developing competences for future life and employment

Research has long established the positive outcomes of being able to study abroad. Transnational learning mobility is associated with future mobility, higher earnings, and lower risk of unemployment. 'Making learning mobility a reality for all' is one of the objectives of the European Education Area<sup>29</sup>. In 2017, 11.6% of higher education graduates 'were mobile', meaning that they studied partially or entirely abroad. About 8% of them were abroad for short-term periods, while 3.6% graduated in another country. The Erasmus+ programme supported about half of the short-term study periods spent abroad by EU graduates. Overall, Luxembourg, Cyprus, the Netherlands, and Finland (in descending order) have high shares of mobile graduates. As to inward mobility, capturing the volume of students coming into a country for a period of study, it can be read as a measure of the attractiveness of the education system. On this indicator the United Kingdom leads the way – both in percentage of inward graduates and in absolute numbers.

There are a number of key competences (or combination of knowledge, skills and attitude) that can support an individual's life chances and also easier transition to the labour market and career job prospects. For example, participation in entrepreneurship education increases the likelihood of engaging in entrepreneurial activities later in life by 35% on average. Of this 35%, a 7 percentage point increase is due to improved self-perceptions by participants of their entrepreneurial skills. However, available data show that participation in entrepreneurship education in the EU is mostly optional, and only a handful of countries make it compulsory.

Furthermore, the potential of digital technologies in improving educational practices is being held up by challenges that education systems still face. To successfully undergo digital transformation, schools need to support teachers' digital competence for pedagogical use, design innovative pedagogical approaches, and provide digital equipment as well as better connectivity. Capacity

<sup>28</sup> Data for this benchmark come from the OECD PISA survey. Students scoring below level 2 are considered underachievers.

<sup>29</sup> In November 2017, EU leaders met in Gothenburg to discuss the social dimension of Europe, including education and culture. As part of the debate on the Future of Europe, the Commission set out its vision and concrete steps to create a European Education Area by 2025. One of the main objective of the European Area of Education is 'making mobility a reality for all', by building on the positive experiences of the Erasmus+ programme and the European Solidarity Corps and expanding participation in them, as well as by creating an EU Student Card to offer a new user-friendly way to store information on a person's academic records. Other measures to boost mobility under the European Education Area include initiating new processes to ensure the mutual recognition of diplomas; improving language learning; creating a network of European universities; and supporting teachers and their mobility.

building for digital assessment needs to be implemented for learners, teachers, schools and education systems.

Moreover, speaking several languages can increase individuals' employment prospects. Overall in Europe, between 2005 and 2015, the number of pupils who experienced compulsory language learning grew both in primary and secondary education. As to the former, 83.7% of primary school children learned at least one foreign language in 2014, against 67.3% almost a decade before. At lower secondary level, 59% of pupils learned two languages in school in 2015, against 46.7% in 2005.

After reaching the lowest point in 2013 (75.4%), the employment rate of recent graduates has been continuously increasing in the EU. With 81.6% in 2018, the rate is now close to the pre-crisis 2008 level of 82%. However, some countries still suffer from the effects of the crisis on employability of recent graduates – in particular Greece and Italy, where employment rates of recent graduates are around 55%. As compared to secondary graduates holding a vocational qualification, those with a general orientation qualification have a less easy transition into the labour market (66.3% against 79.5%). The employment rate of tertiary graduates was at 85.5% in 2018.

## Public investment in education

In 2017, EU Member States invested, on average, 4.6% of their gross domestic product (GDP) in their education systems. This proportion has been slightly but continuously decreasing in the last few years, down from 4.9% in 2014. On average, EU countries spend about one third of their public expenditure for education on pre-primary and primary education; 41% on secondary education; and 15% on tertiary education. Looking at different education sectors, real expenditure on secondary and post-secondary education decreased (-1.3%, between 2016 and 2017) and increased in pre-primary and primary education (+ 1.4%), as well as tertiary education (+ 1.7%). So far trends in education expenditure have been largely independent from demographic developments, with the partial exception of expenditure on tertiary education. Due to the predicted school-age population decline in many EU countries, even constant spending on education is likely to result in an increase in spending per student.

## Highlights of the country analysis

### Austria

To avoid teacher shortages, Austria needs to attract enough students into initial teacher education and improve continuing professional development. Investment in higher education aims to improve the study environment. Improving digital competence is a priority in the education and training system. Discontinued recent reforms may weaken efforts to integrate students with migrant backgrounds and to improve education outcomes of students from a socially disadvantaged background.

### Belgium

The Flemish Community (BE fl) will implement reforms at all levels of education, including dual learning, starting in September 2019. The French Community (BE fr) will also implement school reforms, starting with changes to governance, then the new extended common curriculum and reforming initial teacher education from September 2020. Education spending in Belgium is among the highest in the EU, but educational outcomes are comparatively low, suggesting room for increased efficiency and effectiveness. To reduce inequality and improve outcomes, teachers need more support to manage diversity in the classroom. Tertiary educational attainment is high but disparities remain between regions and groups.

### Bulgaria

The modernisation of the education and training system continues while quality, labour market relevance and inclusiveness remain challenging. Demographic trends and rising skill shortages suggest that Bulgaria needs to invest better in the skills of its current and future workforce. The need to upskill and reskill the adult population is high while participation in adult learning is low. The status of the teaching profession is low, and the teacher workforce is ageing. Salaries are being increased as a means to boost the attractiveness of the profession. Steps have been taken to increase the labour market relevance of vocational education and training (VET).

### Croatia

Pilot implementation of curricular reform and ambitious preparations for full implementation are under way. Reforms are under way in vocational education and training. Participation in early childhood education and care is held back by shortages of teachers and places. Plans to expand the very short average instruction time could help to improve low education outcomes.

### Cyprus

The teaching profession is highly attractive. Reforms to upgrade it are promising but need to be sustained and expanded. Reforms are implemented to foster high-quality public early childhood education and care. However, provision is insufficient for the early years. Tertiary education attainment has risen further but underutilisation of skills remains a challenge given the specific features of the Cypriot labour market. Measures have been taken to upgrade vocational education and training and adult learning, but attractiveness of both sectors and participation in them remain low.

### Czechia

Czechia continues to make vocational education and training more relevant to the needs of the jobs market. Authorities are making good use of EU funds to support reforms. Inclusive education is progressing but measures targeted at Roma remain limited. The attractiveness of the teaching profession remains low.

### Denmark

Changes to university education are making it more flexible and labour market friendly, but the need for more STEM graduates remains. The number of apprenticeships has been increased and measures are being taken to promote adult learning. Reduced education spending is having an impact on schools and universities. There is considerable local variation in the education performance of young people from migrant backgrounds.

### Estonia

Estonia is developing an education strategy for 2021-2035, aiming to bring gradual changes to the system to respond to changes in the labour market and society. Due to demographic trends and

the limited responsiveness of the education and training system to labour market needs, aligning skills supply and labour demand remains a challenge. The ageing of the teaching population coupled with the low attractiveness of the teaching profession are a long-term challenge for the functioning of the education system. Participation in adult learning has reached a record high but the need for upskilling and reskilling remains high.

### **Finland**

While teaching is a prestigious and attractive profession, there are teacher shortages for kindergarten and special needs education. There has been some growth in education inequalities, and spending on education has fallen. New policy measures aim to improve the quality, effectiveness and internationalisation of higher education. Demand for graduates in Information and Communications Technology (ICT) is high and difficult to meet. Implementation of vocational education and training reform is ongoing, and reforms are planned to foster adult learning.

### **France**

Work continues on improving educational outcomes and reducing inequalities, with support for teaching staff and funding measures. A new law on education extends the length of compulsory education and training to 3-18. Authorities are faced with the challenge of combining the rapid pace of reforms with the need to consult stakeholders to ensure good ownership and optimal impact. Implementation of the vocational education and training reform is in full swing.

### **Germany**

Germany has announced significant investments in digitalisation, higher education and research in the decade ahead, but as well in school education. Germany is preparing for fundamental change in the skills of its workforce by carrying out digital initiatives and by refocusing the system of adult learning. The teaching workforce is aging and Germany faces a challenge to replace a large number of teachers. Young people from disadvantaged socio-economic and/or migrant backgrounds continue to lag behind in educational attainment.

### **Greece**

The teaching profession is highly attractive in Greece but opportunities and incentives to improve professionalism are lacking. Education expenditure is lower than in most EU countries and largely spent on salaries. Early school leaving has been further reduced, particularly in rural areas. Finding employment after education remains difficult, including for highly qualified people. Measures to tackle the brain drain of tertiary graduates are being implemented but internationalisation of Greek universities is underdeveloped.

### **Hungary**

Recent measures have raised the qualification levels of staff in early childhood education and care. Measures to reduce performance gaps between pupils have been strengthened. Admission conditions for entry to higher education have been made more restrictive. A new medium-term strategy aims to modernise vocational education and training and adult education.

### **Ireland**

Ireland has a strong framework to ensure highly qualified teachers and further plans to meet emerging needs, including teacher shortages. Early school leaving has continued to decline, and participation in early childhood education and care is to be supported by new national schemes. Despite increased public spending on education, investment in higher education has not kept up with rising student numbers. Ireland implements initiatives aimed at upskilling and increasing adult participation in learning and training but the numbers of low-skilled adults in the population remain sizeable.

### **Italy**

Italy invests well below the EU average in education, particularly in higher education. The share of teachers satisfied with their jobs is among the highest in the EU, but only a small share believe that theirs is a valued profession. Compulsory work-based learning in vocational education and training could help provide more structured training for apprentices and ease the transition from education to work. The level of tertiary educational attainment is low, and the transition from education to work remains difficult, even for highly qualified people.

### Latvia

Latvia has already met and exceeded its Europe 2020 education targets. Latvia should achieve further improvements in learning outcomes through the new competence-based curriculum, a stronger individual approach to students at risk and support for inclusion of students with special educational needs. Enrolment in vocational education and training (VET) is increasing and the employment rate of VET graduates is improving, although both remain below the EU average. In higher education, a gradual increase in investment and incremental changes in quality assurance are welcome, but the sector remains fragmented and international competitiveness low.

### Lithuania

Current trends in student population and teacher workforce call for a comprehensive strategy to manage teacher supply and demand. Improving key competences and relevant skills remains a priority at all levels. Further development of monitoring and evaluation systems may help improve the quality of education and training. Measures have been put in place to increase the education system's overall efficiency, but further efforts are needed to ensure their implementation. Policy measures to address low participation in adult learning are lacking.

### Luxembourg

In 2018, more flexible entry requirements for the recruitment competition for early childhood and primary education teachers attracted more candidates. Pupils' performance is heavily influenced by their ability to cope with the trilingual system. A reform of the orientation process at the end of primary education may have stopped a trend whereby many pupils were being guided to the lowest track in secondary education. Employment rates among recent graduates from all types of education are significantly higher than the EU average.

### Malta

Work is underway to improve the quality of teaching and the attractiveness of the profession. Improving the quality of investment in education and developing monitoring and assessment are key challenges. Increased participation in early childhood education and care and the new secondary system may help reduce the number of early school leavers. While participation in tertiary education is increasing, its labour market relevance is still a challenge.

### Netherlands

The early school leaving rate is below the Europe 2020 national target but has slightly increased. The Netherlands faces an increasing shortage of teachers, both in primary and secondary education. The 2019-2022 Quality Agreements aim to improve the quality of vocational education and training. Dutch tertiary education increasingly attracts foreign students.

### Poland

Early school leaving continues declining and participation in early childhood education and care among children under 3 remains low. The higher education reform has been launched, bringing major changes to the functioning of higher education institutions. Implementing the 2017 school system changes is causing organisational, financial and curricular challenges. Further challenges relate to teachers' pay, emerging shortages, and initial and continuing training. Participation in adult learning remains low.

### Portugal

Teachers are satisfied with their jobs, but the ageing teacher population, the high proportion of non-permanent staff and weaknesses in induction and continuing professional development remain challenging. Investment to upgrade infrastructure is insufficient, particularly for early childhood education and care in metropolitan areas. Regional disparities in education outcomes, grade repetition and early school leaving rates are improving. Tertiary educational attainment has grown but business demand for ICT specialists exceeds supply. There is a significant proportion of low qualified adults while participation in adult learning remains low.

### Romania

Concrete ideas have been presented for major reform of the education and training system. Clear steps need to be taken for the implementation of the reform. Public spending on education is low in EU comparison, while the sector's investment needs are high. Any major reform is likely to require additional funding linked to stronger equity and efficiency mechanisms. Better support for teachers – in particular by redesigning initial teacher education and strengthening continuing professional

development – can help improve quality and equity. Efforts were made to expand dual education. Participation in adult learning remains low despite the high need for upskilling and reskilling.

### **Slovakia**

Slovakia is improving early childhood education and care, which is particularly positive for children from deprived families. Slovakia is taking a more strategic approach to lifelong learning, upskilling and reskilling. The early school leaving rate has continued increasing since 2010, approaching 14% in Eastern Slovakia. Investment in education and training is insufficient, and this is reflected in teachers' still low salaries despite recent increases.

### **Slovenia**

Enrolment in early childhood education and care is approaching the EU benchmark. The proportion of Slovenian upper secondary students enrolled in vocational education and training is one of the highest in the EU, and the employment rate of such graduates is high. There are enough new entrant teachers but large numbers are approaching retirement and shortages already exist in certain categories. Tertiary educational attainment is high, but the differences between men and women and the native-born and foreign-born population are large.

### **Spain**

The teaching profession is attractive, but working conditions differ among regions and between public and private education systems. Private spending in education is significant, while public spending is static compared to GDP. Planned reforms, reflecting political uncertainties, have been slowed down. The process to modernise vocational education and training is ongoing. Adult participation in education is slowly rising.

### **Sweden**

Tertiary educational attainment and graduate employment rates are high. The population's digital skills are among the best in the EU. There is a serious teacher shortage, and a large number of teachers lack formal qualifications. School segregation and inequality are serious and growing concerns.

### **United Kingdom**

Efforts are being made to tackle the high proportion of teachers leaving the profession. In England, school academies are growing in number but many are facing financial pressures. The consequences of Brexit for UK higher education are unclear but policy responses to address the potential loss of EU research funding and reduced student inflows will be needed. England will introduce new qualifications as part of ongoing reforms of upper secondary VET.

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