



European  
Commission

# Education and Training Monitor 2019

## Greece



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EUROPEAN COMMISSION

# **Education and Training Monitor 2019**

Greece

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.*

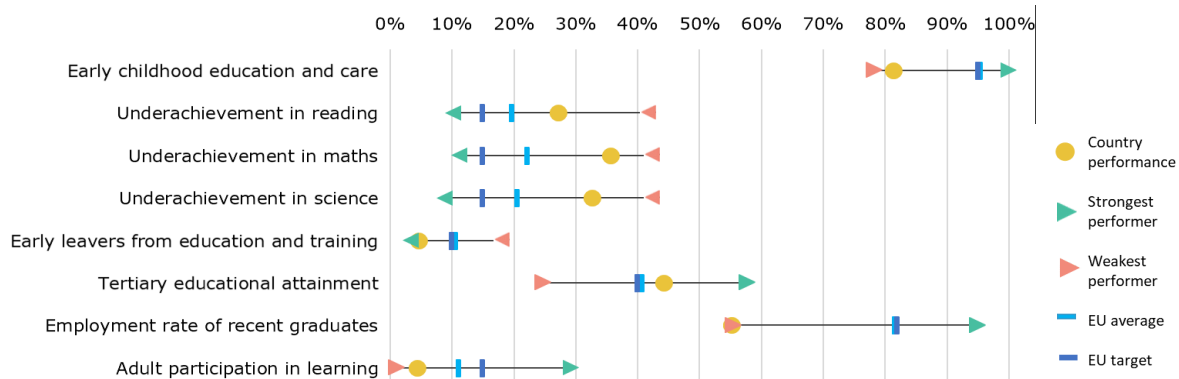
*The manuscript was completed on 26 August 2019.  
Additional contextual data can be found online ([ec.europa.eu/education/monitor](http://ec.europa.eu/education/monitor))*

## 1. Key indicators

		Greece		EU average	
		2009	2018	2009	2018
<b>Education and training 2020 benchmarks</b>					
Early leavers from education and training (age 18-24)		14.2%	4.7%	14.2%	10.6%
Tertiary educational attainment (age 30-34)		26.6%	44.3%	32.3%	40.7%
Early childhood education and care (from age 4 to starting age of compulsory primary education)		:	81.5% <sup>17</sup>	90.8%	95.4% <sup>17,d</sup>
Proportion of 15 year-olds underachieving in:	Reading	21.3%	27.3% <sup>15</sup>	19.5%	19.7% <sup>15</sup>
	Maths	30.4%	35.8% <sup>15</sup>	22.3%	22.2% <sup>15</sup>
	Science	25.3%	32.7% <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)	65.2% <sup>b</sup>	55.3%	78.3%	81.6%
Adult participation in learning (age 25-64)	ISCED 0-8 (total)	3.5%	4.5%	9.5%	11.1%
Learning mobility	Degree-mobile graduates (ISCED 5-8)	:	12.1% <sup>17</sup>	:	3.6% <sup>17</sup>
	Credit-mobile graduates (ISCED 5-8)	:	1.7% <sup>17</sup>	:	8.0% <sup>17</sup>
<b>Other contextual indicators</b>					
Public expenditure on education as a percentage of GDP		4.1%	3.9% <sup>17</sup>	5.2%	4.6% <sup>17</sup>
Education investment	ISCED 0	:	:	:	€6 111 <sup>15,d</sup>
	ISCED 1	€3 794 <sup>12</sup>	€4 281 <sup>16</sup>	€5 812 <sup>12,d</sup>	€6 248 <sup>15,d</sup>
	ISCED 2	€5 005 <sup>12</sup>	€4 956 <sup>16</sup>	€6 937 <sup>12,d</sup>	€7 243 <sup>15,d</sup>
	ISCED 3-4	:	:	:	€7 730 <sup>14,d</sup>
	ISCED 5-8	€2 640 <sup>12</sup>	€2 389 <sup>16</sup>	€10 549 <sup>12,d</sup>	€11 413 <sup>15,d</sup>
Early leavers from education and training (age 18-24)	Native-born	9.6%	3.9%	13.1%	9.5%
	Foreign-born	43.8%	17.9%	26.1%	20.2%
Tertiary educational attainment (age 30-34)	Native-born	29.7%	48.1%	33.1%	41.3%
	Foreign-born	10.3%	15.1%	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	60.8%	49.1%	72.5%	76.8%
	ISCED 5-8	68.1%	59.0%	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 Annex I 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, : = not available, 12=2012, 14=2014, 15 = 2015, 16=2016, 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

- The teaching profession is highly attractive 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.

## 3. A focus on teachers

**The teaching profession remains attractive despite setbacks in recent years.** Teachers in Greece are public servants. Despite salary and hiring freezes over the past decade of financial crisis, the number of candidate teachers still far outstrips demand. In 2018, over 120 000 applied for 20 000 posts as substitute teachers. The announced hiring of 15 000 permanent teachers over the next 3 years is expected to attract a similarly high number of applicants. This high level of interest coexists with relatively high emigration by teachers. Over 2008-2018 the number of secondary teachers who applied for recognition in another EU country to practice there on a permanent basis<sup>1</sup> rose to 14 869 from just 594 during the preceding 10 years. This is the second highest number in the EU after Spain and the highest for regulated professions in Greece<sup>2</sup>. Salaries for teachers were cut by up to 28% in real (inflation-adjusted) terms between 2009 and 2017 (OECD, 2018a). Nevertheless, since 2016, there have been small annual salary increases, in particular for teachers with master's or PhD degrees, as part of the wider public policy objective of raising the salaries of public servants with higher qualifications. While statutory salaries in 2016/2017 were lower than the EU average, for both starting and maximum salaries (European Commission, 2018c), they are generally higher than in EU countries with a similar GDP per capita<sup>3</sup>. Despite the importance of the profession, data about teachers and monitoring of teaching is scarce. To assess the state of teaching in the country, Greece would benefit from taking part in the future OECD Teaching and Learning International Survey (TALIS)<sup>4</sup>.

**Teachers have comparatively short teaching time and small classes.** Teachers teach 660 hours per year at primary level and 609 hours at lower secondary level, below the EU23 averages of 771 and 665 hours (OECD, 2018a). A new law limits class size to 22 students in primary education. Statutory teaching hours decrease progressively and rather rapidly according to teachers' years of service, resulting in less contact time for more experienced teachers. The practice of rewarding teachers in this way for years of service exists in other EU countries but is usually coupled to a minimum age limit, except in Cyprus.

**Teachers are highly educated but lack opportunities to develop their pedagogical competences, especially in secondary education.** Since 2010, subject teachers are required to obtain a certificate of pedagogical and teaching competence after their subject-related degree. However, since no permanent teachers have been hired since 2009, this regulation has had no effect. No competence framework for teachers exists to inform and shape initial teacher education. A small-sample study among secondary teachers in Greece and other countries finds that the knowledge profile of Greek participants was especially strong on assessment (evaluating and diagnosing students, data use, research). It was comparatively weak on learning (relating to the cognitive, motivational and emotional dispositions and learning of students) and poorest on instruction (teaching methods, lesson planning and classroom management). Of all participating countries, Greek secondary teachers and teacher candidates had the fewest opportunities to learn about pedagogical methods (Sonmark et al., 2017).

<sup>1</sup> See the Regulated Professions Database: <http://ec.europa.eu/growth/tools-databases/regprof/index.cfm?action=homepage>

<sup>2</sup> The second is medical doctors (8 690).

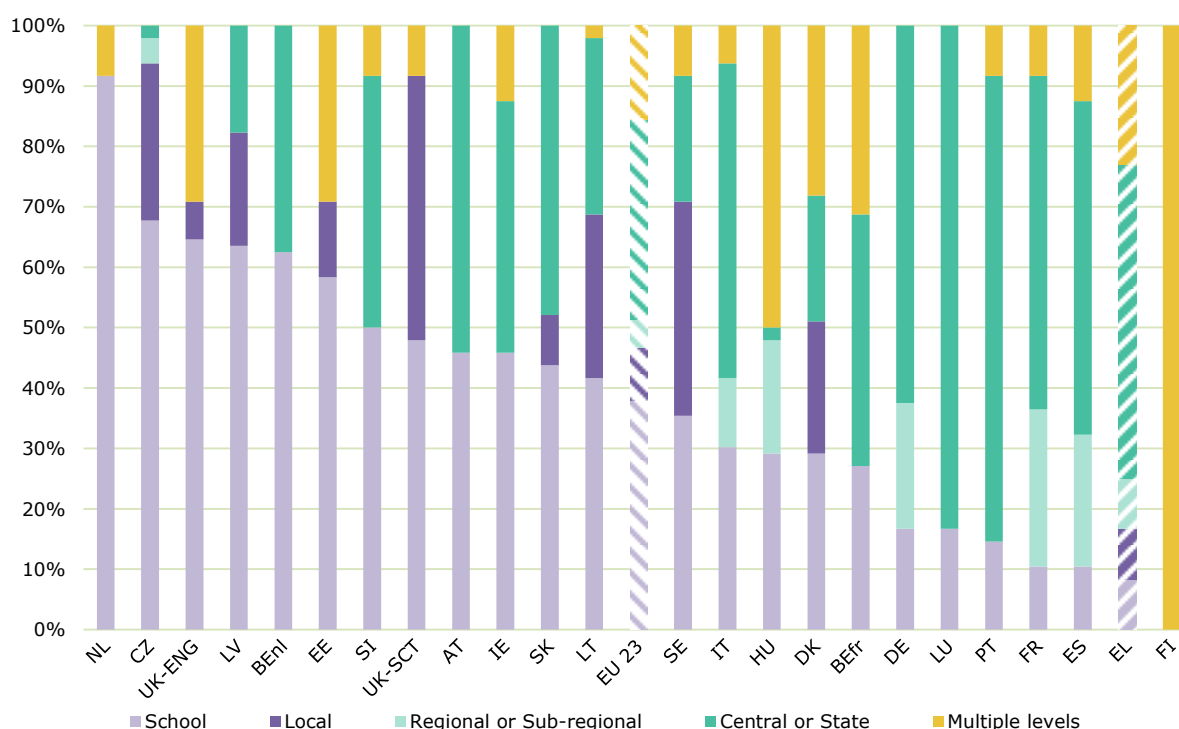
<sup>3</sup> With the exception of Portugal this is the case for Slovakia, Poland, Hungary, Romania, Estonia, Lithuania, Latvia. GDP per capita measured in PPS, Eurostat, reference year 2016.

<sup>4</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.

**Teacher evaluation has not yet taken root.** Teaching competences, in the absence of in-service appraisal, are not rewarded in the Greek system. Effective teacher evaluation as part of a general supportive framework can improve teacher quality, job satisfaction and feelings of self-efficacy (European Commission, 2018a). However, punitive measures linked to teacher evaluation in the past continue to dominate the argument. An understanding has yet to emerge that teacher evaluation and a democratic school culture are not mutually exclusive (Stamelos, 2012). School self-evaluations, which have been legislated for but not yet implemented, could help build the necessary trust.

**School leader posts involve little autonomous decision-making.** In recent years, academic knowledge and additional educational qualifications are increasingly valued in the selection of school leaders. However, their tasks and responsibilities remain largely clerical — literally so, as administrative support staff are scarce in schools — which is also due to Greek schools having one of the lowest levels of autonomy within the OECD. While the opinion of the school’s teachers is considered when the school leader is being selected, school leaders have no role in hiring teachers as teacher allocation is administered centrally by the ministry.

**Figure 2 Decisions taken at different government levels in public lower secondary education, 2017**



Source: OECD (2018a), Table D6.1. See Source section for more information and Annex 3 for notes: <http://dx.doi.org/10.1787/eag-2018-36-en>

### Box 1: Changes in the teacher appointment system

Law 4589/2019 changes the conditions for appointing teachers. The new hiring system abolishes the previously obligatory exams on subject and pedagogical knowledge. Instead, it relies solely on a credit-point system based on academic credentials, years of service and social criteria, such as the number of children in the household.

The certified pedagogical and teaching proficiency that was previously mandatory for taking teacher appointment exams can now be acquired up to 2 years after appointment. Credit points for additional and post-graduate degrees in the teaching subject or in pedagogy were provided for in the previous law but never implemented. No specific requirements for recognition of additional degrees are now necessary.

The new law in effect focuses on regularising the situation of substitute teachers<sup>5</sup> rather than on modernising teacher recruitment. A large number of substitute teachers have been serving in the system, sometimes for many years.

In addition, fundamental equity challenges persist in the central teacher appointment system. Very often, newly appointed and hence less experienced teachers and school leaders serve in the most disadvantaged and therefore least desirable schools and areas. Teacher transfer is based on credit points, with bonuses for serving in remote areas. The combination of centralised appointment and transfer systems undermines the continuity and quality of teaching at disadvantaged schools. Furthermore, the lack of accountability and monitoring has led to the paradox of teachers having almost limitless freedom regarding practice at school level despite strong normative input by the authorities (Stamelos et al., 2012).

## 4. Investing in education and training

**Public expenditure on education is among the lowest in the EU and spent largely on salaries.** Public education expenditure as a share of GDP was 3.9% in 2017 (EU average: 4.6%). As a share of total government expenditure, Greece spent 8.2% - less than most other EU countries (EU average: 10.2%). In real (inflation-adjusted) terms, education spending has contracted by 2.1% since 2016 and by a cumulative 14.3% since 2010. The biggest decrease (25.8%) was for 'intermediate consumption', i.e. teaching materials, heating and electricity. This was followed by 'gross capital formation' (-20.4%), e.g. investments in computers, buildings etc. Spending on teachers' pay fell by 12.5%. In 2017, 82.5% was spent on compensation of employees, more than in any other EU member state (EU average: 62%). In 2019, the Council of the EU addressed a country-specific recommendation to Greece calling on it to invest in education and skills (Council of the EU, 2019).

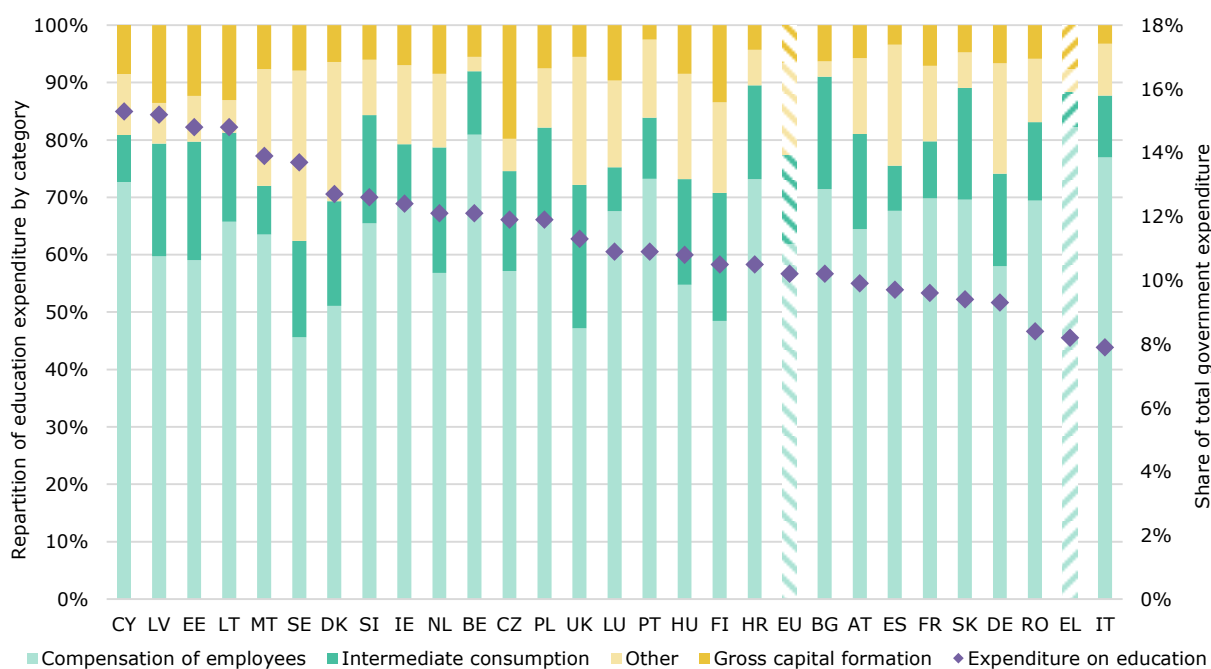
**Greece might have almost one fifth fewer school children within 20 years.** It is estimated that the proportion of children aged 3-18 will shrink by 12% by 2030 and by almost 20% by 2040<sup>6</sup>. This could provide an opportunity to improve the quality and efficiency of the education system. In addition, Greece will need to invest in providing lifelong learning opportunities to address low skills levels across the population.

<sup>5</sup> For a description of their working conditions see: European Commission (2018b).

<sup>6</sup> Eurostat projections.



**Figure 3 Share of total government expenditure dedicated to education and spending by category, 2017**



Source: Eurostat, COFOG.

## 5. Modernising early childhood and school education

**The provision of affordable quality early childhood education and care (ECEC) for under-4s is insufficient.** Participation in ECEC by children aged between 4 and school entry age increased from 79.8% in 2016 to 81.5% in 2017, but remains below the EU average (95.4%). In 2017, 20.5% of children up to 3 attended formal childcare facilities — a remarkable rise of 11.6 pps since 2016, yet still below the Barcelona target of 33% set in 2002. Data collection on childcare facilities is scarce but a large gap between demand and supply is apparent (Nikolaidis, 2017). A curriculum and teacher guidance are implemented for kindergartens. For childcare facilities, standards for infrastructure, a framework for goals, staff categories, and responsible monitoring authorities were legislated in 2017. Initial education of childcare staff was extended to 4 years. In 2018, the starting age of pre-primary education was lowered to 4 years with a phase-in until 2021. This shift does not abolish the dichotomy between care-oriented childcare facilities and learning-oriented kindergartens in favor of an integrated approach to ECEC (Rentzou et al, 2018).

**Early school leaving has been much reduced in rural areas but remains high among foreign-born people.** The proportion of young people aged 18-24 who have left school early is, at 4.7% in 2017, among the lowest in the EU (average: 10.6%). The gender gap was 2.1 pps, with the proportion of men (5.7%) higher than that of women. While early school leaving has declined further since 2016 from 5.4% to 3.9% among native-born people, it has increased among the foreign-born population from 16.9% to 17.9%, thus further widening the gap between the two. Since 2010, Greece has managed to lower early school leaving in rural areas by 12 pps, putting it among the best performers in the EU for that category.

**Changes aim to foster a more collaborative school culture, but an integrated approach is lacking.** Training has started for staff serving in the educational support centres (PEKES), legislated for in 2018. The 2018 law also provides for the creation of teams of teachers with shared fields of expertise within each school in order to cooperate and exchange ideas and teaching material, and to assess educational outcomes. Initiatives to lessen the high degree of prescriptive centralisation include the thematic week, during which teachers design their own programmes instead of following the central one. Networks across schools have been piloted between nine upper secondary vocational schools, and their extension to general primary and secondary schools is provided for in the 2018 law. However, a comprehensive, research-based approach to teacher professionalisation and school development which allows for monitoring and accountability is still lacking.

**The digital school is not yet a reality and digital skills are underdeveloped.** An impressive amount of digital educational content has been developed in Greece in recent years and information and communications technology (ICT) features in curricula of all levels. High broadband speed (>100 mbps) exists in 11% of Greek primary schools, 15% of lower secondary and 19% of upper secondary schools<sup>7</sup>. However, infrastructure impediments related to connectivity and up-to-date equipment exist. The share of schools with both strong policy and support in digital education is lower in Greece at all levels compared to the European average (European Commission, 2019a). Thus, digitally trained teachers are still likely to encounter difficulties in using their skills in the classroom. Among the general population, 46% of people aged 16-74 reported to have at least basic digital skills, below the EU average of 57% (European Commission, 2019b). Among the rest, 31% of individual do not have digital skills at all (EU average: 17%). ICT specialists, especially women, and ICT graduates are fewer than on average in the EU<sup>8</sup>. The National Coalition for Digital Skills, launched in June 2018, has set up several initiatives to upgrade digital skills among the public, SMEs and civil servants.

**Integration of recently arrived migrants into education has so far primarily focused on schools.** In 2018/2019 substantial efforts were made to provide schooling for 12 867 refugee children, 8 290 of them in mainstream classes with parallel educational support and 4 577 in separate afternoon schooling facilities. Some 30 kindergartens exist in refugee camps, including those on islands. 690 teachers received dedicated training. Interpretation was provided to assist the enrolment of refugee children and psychologists recruited to support refugee students, families and educators. However, integrating refugee children into education remains an uphill struggle, considering that an estimated 28 000 refugee and migrant children reside across Greece (UNICEF, 2019)<sup>9</sup>. Particular challenges relate to: allocating teachers qualified for multilingual and diverse settings; teacher training; and resources and access to education for older children and young adults, including at post-secondary and tertiary levels (Tzoraki, 2019). To assess refugees' higher education qualifications, Greece has been part of the Council of Europe project to create the European Qualifications Passport<sup>10</sup>.

## 6. Modernising higher education

**Employment prospects have improved for recent tertiary graduates.** At 44.3%, the proportion of 30-34 year olds with tertiary education rose further in 2018 (43.7% in 2017). It is above the EU average (40.7%) and the national target for 2020 (40%). At 51.3%, women's tertiary educational attainment is 13.8 pps higher than men's. Among the native-born population, 48.1% had tertiary education, three times more than for foreign-born people at 15.1%. The employment rate of recent tertiary graduates was 59% in 2018, 10 pps higher than in 2015 but still the lowest in the EU. Nevertheless, having a degree improves employability: the equivalent rate for graduates from upper secondary and post-secondary education was, at 49.1%, considerably lower.

**New legislation is reforming access to higher education.** Each year, the Ministry of Education assigns first-time students directly to higher education departments based on their performance in national university entrance exams and study preferences. While the system is considered very fair, it produces study mismatches and inefficiencies as quite often neither students nor universities achieve their preferences. In addition, upper secondary education is primarily focused on preparing for university entrance exams. After several measures to upgrade upper secondary education (European Commission, 2018), the new university entrance system, enacted in 2019, allows access to low-demand departments without prior exams. Central allocation based on competitive exams is kept for departments facing high demand.

**Graduate mobility is mostly outward.** In 2017, outward degree mobility — the proportion of graduates obtaining their degrees abroad — was at 12.1%, more than three times above the EU average (3.6%). For master-level graduates, it was five times higher (25.8% v EU 5%). The proportion of graduates from abroad is, at 1.6%, far below the EU average (10.8%) and largely composed of Cypriots. While Greek universities score comparatively well on research, international orientation is underdeveloped and so are knowledge transfer, teaching and learning, and regional

<sup>7</sup> National data.

<sup>8</sup> Out of total employment, female employment and total graduates.

<sup>9</sup> In 2018, 21 770 registered asylum applications in Greece 2018 were for children.

<sup>10</sup> See: <https://www.coe.int/en/web/education/recognition-of-refugees-qualifications>

engagement (U-Multirank, 2019). The low provision of English-taught programmes at bachelor level and the lack of a coherent national plan for internationalising higher education, are contributing to the low degree of internationalisation (British Council, 2019).

**The restructuring of higher education seems not to reflect projected labour market needs.** Legislation passed in spring 2019 provides for upgrading the remaining technical education institutions (TEIs) into universities under the process begun in 2018. New departments and degree-level study places will be created. Prior impact assessment has been largely missing, no study by the higher education quality assurance agency or other independent bodies was commissioned. More than 500 new academic staff positions have been earmarked to smooth the transition, but doubts have been raised over the readiness of former TEIs to provide university-level programmes, facilities and staff, given the speed of the transformation. In addition, labour market projections predict an over-supply of high-qualified workers until 2030 but a shortage of medium-qualified workers (Cedefop, 2018). Therefore, together with the generally low attractiveness of vocational education and training (VET), the restructuring appears to be exacerbating the existing skills mismatch.

#### Box 2: Several initiatives are tackling brain drain in the tertiary sector

Greece has always experienced emigration but it increased during the economic crisis, especially among the highly skilled. The high proportion of small companies in the economy and the related low level of research and innovation, especially in the private sector, have limited the potential to absorb highly educated people (Labrianidis, 2017).

The Hellenic Foundation for Research and Innovation, established in 2016, supports young scientists and seeks to reverse the outflow of leading scientists abroad. The foundation grants scholarships for doctoral and post-doctoral studies; funds high-quality research projects, researchers and faculty members; finances the purchase of research equipment; enables HEIs and other stakeholders to access innovative research programmes; and supports the creation and operation of start-ups which exploit research results. It is estimated that the budget of EUR 240 million for 2017-2019 will create more than 4 000 jobs for young scientists by end-2019.

The 'Research, create, innovate' programme supports the creation of jobs for highly qualified staff in the research and development departments of innovative businesses. It also finances the collaboration of these departments with public universities and research centres. The first phase of the programme, financed with EUR 332 million, created 3 400 full-time jobs. The second phase will be funded with EUR 200 million. Research suggests putting an equal focus on interconnecting permanent expatriates with the Greek economy as on 'return and retain' policies (Labrianidis, 2017).

## 7. Modernising vocational education and training

**Important reforms have been adopted but the attractiveness of the sector is still low.** The proportion of upper secondary pupils enrolled in VET was 28.8% in 2017 (EU average: 47.8%) and has been slowly but steadily declining since 2013 while the EU average has been relatively stable around 48%. The employment rate for VET graduates, though still low, has risen from the all-time low of 37.5% in 2015 to 50.5% in 2018 (EU average: 79.5%). The 'New beginning at EPAL' programme has been expanded to all 401 upper secondary vocational schools. The optional fourth apprenticeship year with a strong work-based learning component for upper secondary VET graduates was expanded. Demand for apprentices is increasing but, overall, apprenticeship offers by companies are still low at 48% of all offers.

**Training of VET teachers and trainers is a key challenge.** The 2017 'Apprenticeship quality framework' stipulates the creation of a register of certified in-company trainers and requires them to attend training programmes designed by the national employment service, chambers and education institutions. The second phase of teacher training on apprenticeships, in May 2019, targeted 1 500 teachers. From September 2019 the certification of teaching competences of VET teachers and adult trainers will become a prerequisite for their enrolment in state-funded non-formal training programmes in initial VET and continuing VET (Law 4485/2017). A partnership for VET, led by the Central Union of Chambers and planned for end-2019, aims to raise awareness and train in-company trainers.

## 8. Developing adult learning

**Regulatory initiatives to build up adult learning are ongoing but implementation is lagging.** Participation in adult learning in 2018 remained very low at 4.5% (EU average: 11.1%). During 2017, around 1 000 adults aged 25 or above acquired an upper-secondary qualification out of nearly 1.5 million adults with low educational attainment. Two new laws were passed in 2018 on the definition of key concepts in adult learning and on the validation of programmes offered by municipal lifelong learning centres. The process of selecting adult educators for these centres ended recently after 2 years. Municipalities have launched a public call for interest for course offers in 145 different subjects so that the centres can become operational in 2019. Adult learning will also be available in all prisons.

**The process of accrediting adult educators has undergone several changes since 2012.** The National Organisation for the Certification of Qualifications and Vocational Guidance (EOPPEP) is responsible for the accreditation of adult educators. It has developed an adult educator occupational profile which serves as the framework for the accreditation process. Since March 2019, the Greek adult educators' community has its own European Platform for Adult Learning.<sup>11</sup>

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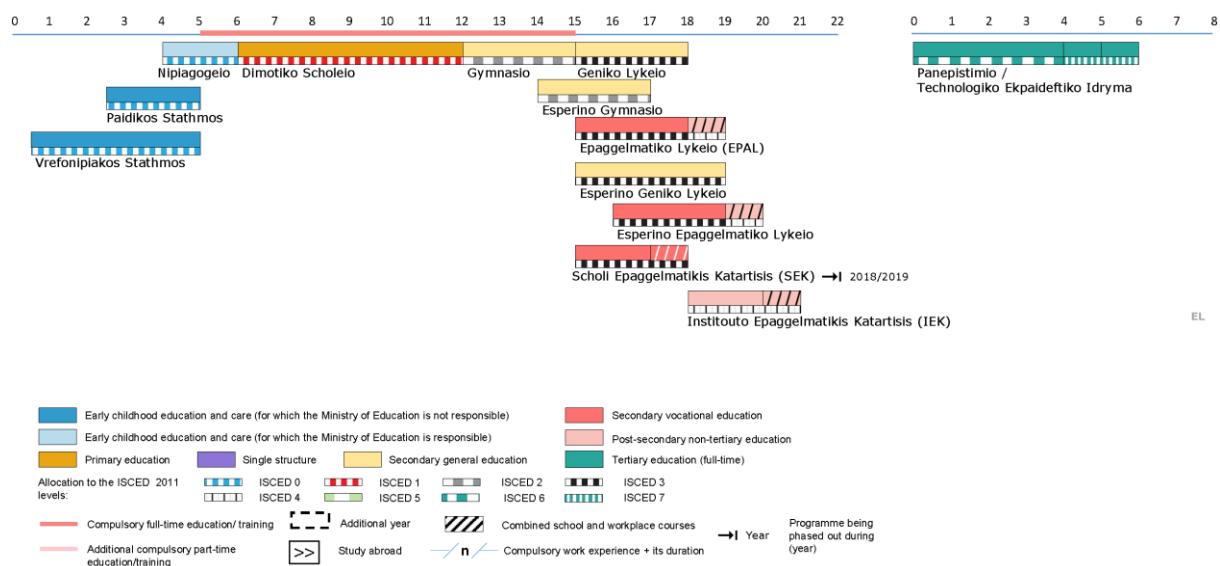
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## Annex I: Key indicator sources

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, 2019. 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>12</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>12</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>13</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>14</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>13</sup> Data for this benchmark come from the OECD PISA survey. Students scoring below level 2 are considered underachievers.

<sup>14</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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