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**COMMISSION STAFF WORKING DOCUMENT**

**Education and Training Monitor 2019**


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*Additional contextual data can be found online ([ec.europa.eu/education/monitor](https://ec.europa.eu/education/monitor))*

# Education and Training Monitor 2019 (Country analysis)

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# Introduction

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.

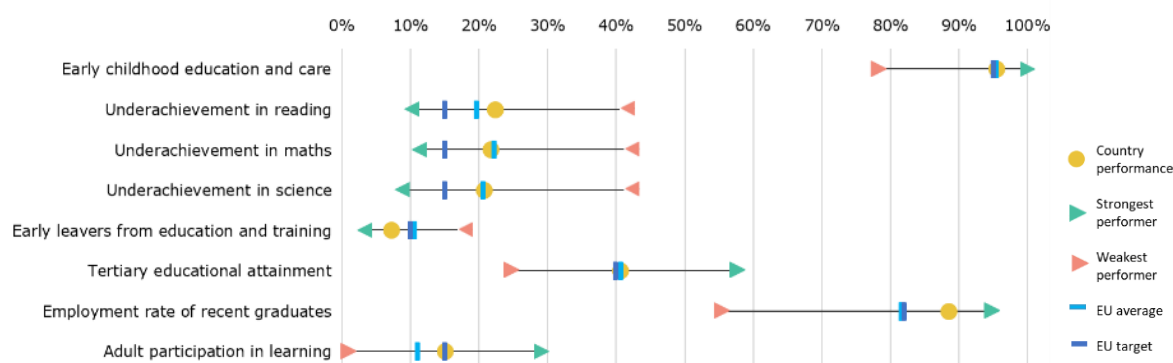
# AUSTRIA

# 1. Key indicators

		Austria		EU average		
		2009	2018	2009	2018	
Education and training 2020 benchmarks						
Early leavers from education and training (age 18-24)		8.8%	7.3%	14.2%	10.6%	
Tertiary educational attainment (age 30-34)		23.4%	40.7%	32.3%	40.7%	
Early childhood education and care (from age 4 to starting age of compulsory primary education)		91.3%	95.6% <sup>17</sup>	90.8%	95.4% <sup>17,d</sup>	
Proportion of 15 year-olds underachieving in:	Reading	27.6%	22.5% <sup>15</sup>	19.5%	19.7% <sup>15</sup>	
	Maths	23.3%	21.8% <sup>15</sup>	22.3%	22.2% <sup>15</sup>	
	Science	20.9%	20.8% <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)	87.9%	88.6%	78.3%	81.6%	
Adult participation in learning (age 25-64)	ISCED 0-8 (total)	13.9%	15.1%	9.5%	11.1%	
Learning mobility	Degree-mobile graduates (ISCED 5-8)	:	5.0% <sup>17</sup>	:	3.6% <sup>17</sup>	
	Credit-mobile graduates (ISCED 5-8)	:	9.6% <sup>17</sup>	:	8.0% <sup>17</sup>	
Other contextual indicators						
Education investment	Public expenditure on education as a percentage of GDP	5.1%	4.8% <sup>17</sup>	5.2%	4.6% <sup>17</sup>	
	Expenditure on public and private institutions per student in € PPS	ISCED 0	€6 597 <sup>12</sup>	€7 540 <sup>16</sup>	:	€6 111 <sup>15,d</sup>
		ISCED 1	€7 459 <sup>12</sup>	€8 948 <sup>16</sup>	€5 812 <sup>12,d</sup>	€6 248 <sup>15,d</sup>
		ISCED 2	€10 500 <sup>12</sup>	€11 846 <sup>16</sup>	€6 937 <sup>12,d</sup>	€7 243 <sup>15,d</sup>
		ISCED 3-4	€10 405 <sup>12</sup>	€11 353 <sup>16</sup>	:	€7 730 <sup>14,d</sup>
		ISCED 5-8	€12 448 <sup>12</sup>	€13 337 <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	6.4%	5.5%	13.1%	9.5%	
	Foreign-born	22.0%	17.0%	26.1%	20.2%	
Tertiary educational attainment (age 30-34)	Native-born	23.2%	42.3%	33.1%	41.3%	
	Foreign-born	24.1%	36.8%	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	87.1%	86.8%	72.5%	76.8%	
	ISCED 5-8	90.1%	90.1%	83.8%	85.5%	

Sources: Eurostat; OECD (PISA); Learning mobility figures are calculated by JRC on 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. Break in series for tertiary education in Austria in 2014 due to the introduction of the new ISCED 2011 classification.

**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

- 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 competences 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.

## 3. A focus on teachers

**Austria has to replace an ageing teaching force.** The number of teachers older than 60 more than doubled between 2013 and 2017 (from about 3 100 to 8 000). In secondary education, 47% of teachers are 50 or older (compared to an EU average of 39. 11% of secondary teachers are 60 years or older in 2017 and will arrive at retirement in the coming years<sup>1</sup>. The age structure is more favourable in primary schools and early childhood education and care (ECEC) <sup>2</sup>. Austria's 2018 National Education Report identifies important replacement needs in the years to come (Oberwimmer, 2018).

**Women dominate the teaching force; they are on average younger than male teachers and less likely to become school leaders.** As in other Member States, teachers in Austria are predominantly female, particularly in lower educational levels (ECEC: 99%; primary: 92%; secondary: 66%). Female teachers tend to be younger than males<sup>3</sup>. They are less likely to become school leaders although catching up. The share of female school heads (44%) is particularly low in non-academic lower secondary school (NMS) (Oberwimmer, 2018).

**As complexity in the classrooms increases, teachers need more support.** Particularly in urban areas, classrooms are increasingly heterogeneous and multicultural. While only 15.1% of teachers feel well or very well prepared to teach in multicultural and multilingual settings — 8.7 pps below the EU average —relatively few of them (13.8%, around the EU average) report a particular need for continued training in this area (OECD, 2019)<sup>4</sup>. Segregation between schools on the basis of socio-economic status and migrant background is becoming more widespread (Breit, 2018). Less experienced or untrained<sup>5</sup> teachers tend more often to teach classes with more pupils with migrant backgrounds, particularly in non-academic lower secondary schools. There are indications that schools most exposed to problems (*Schwerpunktschulen*) face challenges in recruiting and keeping the best teachers and that their teachers more often lack subject specific knowledge. The plan to increase schools' autonomy risks further concentrating better trained and more experienced teachers in better performing schools with less complex school environments (Oberwimmer, 2018). Austrian teachers have less access to specialist support staff (administrative, pedagogical, psychological or sociological experts) than peers elsewhere — the ratio is 19 teachers to 1 support specialist, compared to an OECD average of 8 to 1. Specialist support for pupils with general learning difficulties exists only in primary schools (European Commission, 2018). National research identifies a clear requirement to better assist the teaching force both through additional support staff and improved continuing professional development (CPD) (Breit, 2018).

<sup>1</sup> Eurostat, UOE, [educ\_uoe\_perp01].

<sup>2</sup> 6% in primary schools and only 1% at pre-primary level are 60 years old. In tertiary education, only 38% of teachers are 50 or older.

<sup>3</sup> 42% of female teachers are 50 or older and 12% under 30. 50% of men are over 50 and 6% under 30. 66% of head teachers are men. See Eurostat, UOE, [educ\_uoe\_perp01].

<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.

<sup>5</sup> This could be teacher without initial teacher training or teacher lacking specific knowledge for the subject they are asked to teach.

**Reform has increased the focus on teachers' CPD but impacts differently on different categories of teacher.** The service law from 2013 introduced 15 hours per year of mandatory CPD and came fully into effect for all teachers as of 2019/20. Access to CPD is facilitated by providing teachers with free travel during work time and a replacement teacher is funded (European Commission, 2018). But 52% of teachers believe that there is no relevant CPD offered, compared to a 38.9% EU average (OECD, 2019). The 2018 Austrian National Education Report suggests better integrating initial education and CPD and promoting learning communities. Curricula in initial teacher education stress the need to address multilingualism in general terms but provide little concrete course content focused on migration, particularly for the academic secondary level and for subject teachers. Analysis of initial education curricula shows that about a quarter of courses in 2015/2016 addressed diversity and inclusion. However, specialised training for teachers on how to deal with diversity and intercultural, multilingual and inclusive education remains rather low, with around 4% of course time for each topic. Only 20% of teachers feel well or very well prepared for using information and communications technology (ICT) for teaching. This is the lowest share in the EU and about half of the EU average of 39.4% (OECD, 2019).

**Teachers earn less than similarly educated workers; they don't view teaching as a particularly valued profession in society but they are very satisfied with their job.** The differences in teachers' salaries compared to other tertiary graduates narrow at higher school levels: while primary school teachers earn only 76% of average tertiary graduates' earnings, lower secondary teachers earn 90% and those in upper secondary 97%. School leaders earn substantially more: in primary school, 29 pps more than the average tertiary graduate; in lower secondary school, 28 pps more; and in upper secondary school, 45 pps more. Salary progression from entry-level to the maximum salary level varies from 81% in primary to 94% in lower secondary and 107% in upper secondary — more than in most other EU countries (European Commission, 2018). A comprehensive reform in 2015 changed the lifetime salary structure, providing for higher initial salaries and flatter increases. Austrian teachers rate job security and income reliability as of less importance in their career choice than other teachers in the EU. They are very satisfied with their jobs (96.4% compared to an 89.5% EU average) and their satisfaction remains comparatively stable over time. A high proportion of Austrian teachers would choose the profession again (84.2%, 6.6 pps above the EU average). The proportion of Austrian teachers who believe that teaching is a valued profession in society is 16.1%, 1.6 pps below the EU average (OECD, 2019).

**Teachers' employment is split between the federal and regional levels, which complicates planning and management.** While a little over a third of teachers (37%) are employed at federal level, two thirds (63%) are employed by the regions. The Austrian Court of Auditors identifies this as a source of inefficiencies and confusion. The OECD confirms that the distribution of responsibilities between the federal and regional levels is complex and creates rigidities in teacher recruitment and a risk of resource misallocation (OECD, 2016). These are significant where some regions are facing growing pupil numbers, while other face a decline (OECD, 2016). In Vienna, the authorities have employed teachers for academic secondary school (AHS) prior to completing their post-graduate part-time professional practice as well as non-qualified staff on special contracts to compensate for a shortage of graduates in certain subjects. (OECD, 2016). Teacher planning is undertaken at regional and federal level in short and longer term perspectives (1 and 10 years) (European Commission, 2018).

**Austria is reviewing the entry requirements for teachers.** As of September 2019, all teachers, irrespective of the type and level of school/programme they work in, will need to have a master's degree. Bachelor graduates can be employed provided they commit to completing master studies within 5 years. Part-time study possibilities have been created for this.

## 4. Investing in education and training

**General government expenditure on education as a proportion of GDP remained at 4.8% in 2017, close to the EU average of 4.6%.** The share of government expenditure taken by education in 2017 remained stable at 9.9%, a small increase compared to 9.4% in 2014 (EU average: 10.2%). Teachers' pay remains the biggest expenditure category (64.5%), a proportion



slightly above the EU average. The distribution of spending — 30% pre-primary/primary, 44% secondary and 15% higher education<sup>6</sup> — is also largely in line with the EU average.

**The population is continuing to grow due to migration and the school population is becoming increasingly heterogeneous.** While the fertility rate has improved since 2010 from an all-time low of 1.44, migration from within and outside the EU is the main driver of population growth. According to Eurostat projections, the number of 3-18 year-olds is expected to increase by 7.9% between 2020 and 2030 and by 8.6% by 2040. In 2017, 22% of people in Austria had a migrant background and 15.19% were foreign-born. Half of them originate from within the EU27 and about 14% from Germany. First-generation migrants contributed four times more to this increase than second-generation migrants, with Vienna registering growth of double the national average (Oberwimmer, 2018).

**Schools with the greatest needs do not receive sufficient funding.** The system of resource allocation does not distinguish between the complexities of the school environment, for example whether there are more students from weak socio-economic and/or migrant backgrounds. The OECD also points to an increasing lack of resources in urban areas (OECD, 2016). While the plan to increase schools' autonomy is welcome, safeguards are needed to avoid worsening the existing trend (Oberwimmer, 2018) whereby more experienced teachers are not allocated to the most challenging school environments.

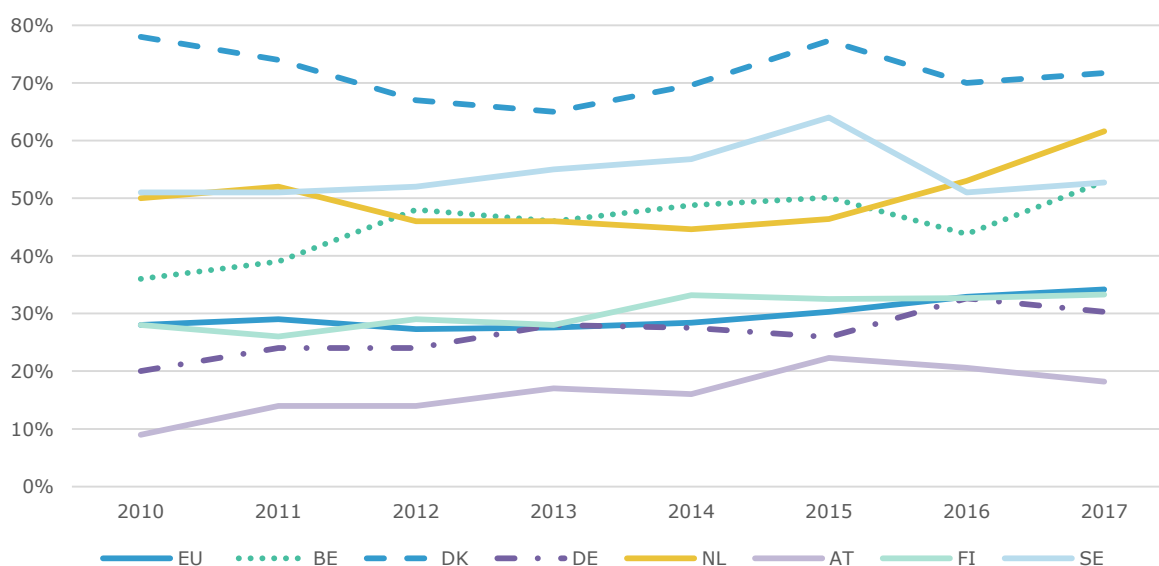
**More investment is required in all-day schools and to meet the challenges of a more complex teaching environment; this is made difficult by the division of competences between government levels.** The expansion of all-day schools has slowed: the envisaged implementation period for the EUR 750 million investment programme has been doubled to 2032/2033. The Austrian Court of Auditors considers the split of competences between the federal and regional levels as one reason for the slowdown. An agreement between the federal and regional levels determines federal support of EUR 142.5 million to the regions until 2021/2022. However, this is not sufficient to overcome challenges such as increased student numbers and more heterogeneous classrooms or the low levels of administrative, psychological and social support staff identified in the opening section.

## 5. Modernising early childhood and school education

**While participation in early childhood education and care (ECEC) is increasing, its quality may need to be addressed.** The share of children under 3 attending ECEC increased from 4% in 2005 to 18.2% in 2017. This remains considerably lower than in comparable countries (Denmark, Germany, the Netherlands, Finland), where participation ranges between 30% and 72%. Participation by children at risk of social exclusion was higher (by 4 pps) than by those not at risk: in most Member States, the opposite is the case. In 2008, 90.3% of children aged 4 to school entry age attended ECEC and this grew to 95.6% in 2017, in line with the EU average. Austria's 2018 National Education Report does not conclude that participation by children from disadvantaged or migrant backgrounds helps them catch up with more advantaged children. Thus ECEC quality may not always be sufficient to assist in this. The European Commission's 2019 European Semester country report on Austria identifies the need for a more long-term development perspective. This was recently partially addressed by a new 'Article 15a agreement' between the federal and provincial governments that established common educational goals encompassing pre-school education including strong competences in German language and a definition of common values. The Council of the EU's 2019 country-specific recommendation to Austria included the following: 'Raise the levels of basic skills for disadvantaged groups, including people with a migrant background; [...] improving childcare services' (Council of the EU, 2019).

<sup>6</sup> 11% are spent for 'other' purposes.

**Figure 2 Participation by under 3s in formal childcare , 2010-2017**



Source: Eurostat, EU-SILC). Online data code: [ilc\\_caindformal](#).

**The government has presented comprehensive education reform plans.** The government has started implementing a comprehensive education reform agenda which will partially reorient previous reforms. There is a strong focus on language learning from an early age. Children from a non-German speaking background attend separate German classes until they master the language. Reforms are introducing more structured and standardised pedagogical approaches, such as a language assessment instrument in preschool and new access criteria for transition to primary school. In lower secondary school (NMS), performance grouping is being reintroduced; team teaching, which was a key innovation of the previous government plans, becomes voluntary.

**The early school leaving rate is 7.3% overall, but three times higher for foreign-born than native-born people.** While the rate among native-born people has remained relatively stable since 2015 at 5.5% (2018), the rate for foreign-born persons fluctuated widely between 19.0% in 2015 and 14.7% in 2016. At 17% in 2018, it remains three times higher than for native-born people but has fallen by 7.5 pps over the last decade. Migrants born in the EU have an early school leaving rate of 10.6%, half that of those born outside the EU (22.3%). Most of the improvement took place in towns and rural areas, whereas the situation in cities remained unchanged between 2002 and 2018. Early school leaving among women fell by 3.2 pps over the last 10 years, leaving a gender gap of 3.2 pps, in line with the EU average.

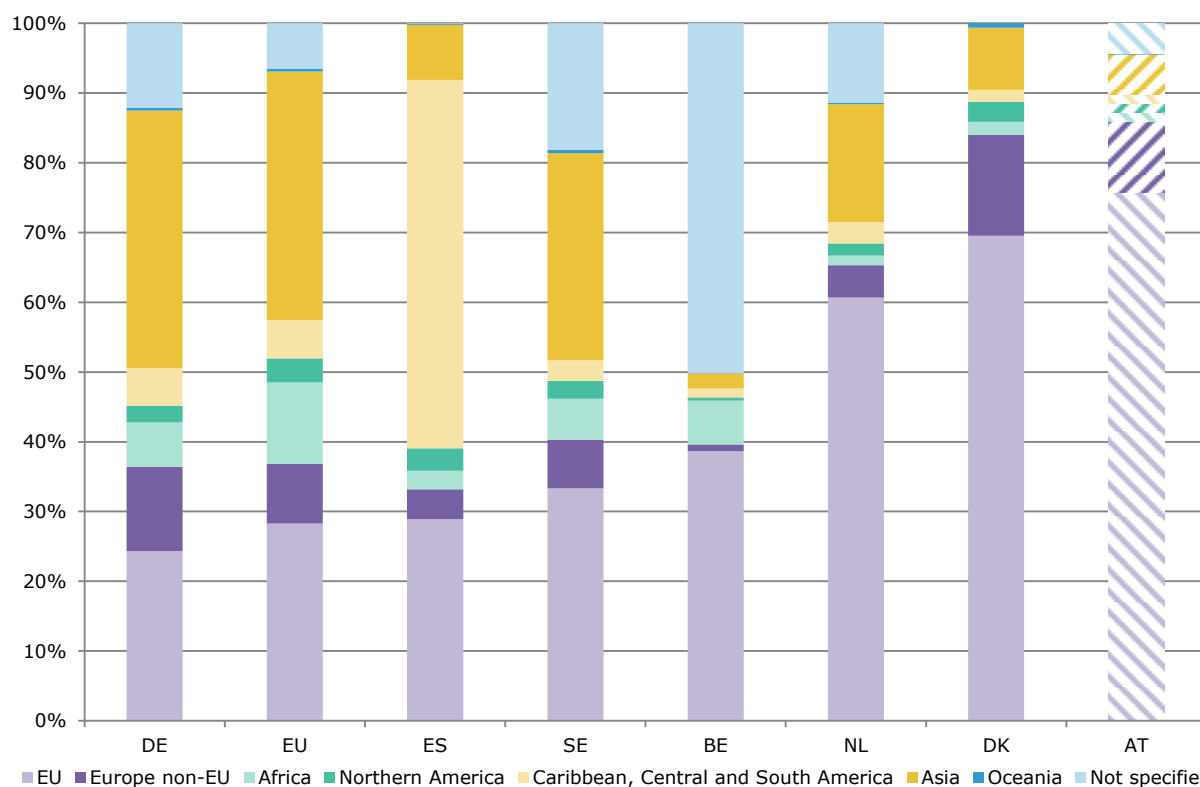
**National testing shows some improvement in basic skills.** Recent results of the mathematics education standards (*Bildungsstandards*) in fourth grade show an improvement from 2013, with more pupils meeting or exceeding national targets. Both boys and girls have improved, but boys displayed more improvement and continued to perform better than their female peers. Pupils from disadvantaged and migrant backgrounds improved their performance. Vienna followed this trend but with less progress among pupils from disadvantaged or migrant backgrounds.

## 6. Modernising higher education

**Tertiary attainment remained stable compared to the previous year.** Tertiary attainment stood at 40.7% in 2018, close to the EU average. The employment rate of recent tertiary graduates is 88.6%, above the EU average of 84.9% in 2018, reflecting strong demand for highly skilled workers. Tertiary graduates also enjoy a significant wage premium over those with an upper secondary degree (46% higher earnings, and up to 74% for doctorate holders) (OECD, 2018). Tertiary attainment is highest in eastern Austria with 43.7%, reflecting Vienna's central role, but south and west Austria have caught up (both at 38.1%). Native-born people are more likely to have tertiary education than foreign-born persons (42.3% v 36.8%) in 2018. Those born outside the EU lag seriously behind with 29.1%.

**Austria's higher education remains highly attractive internationally, with 15.1 % of its graduates coming from abroad in 2017.** This is the fourth highest share in the EU, behind the United Kingdom, Luxembourg and the Netherlands, and equal to Denmark. Compared to Denmark, Austria attracts more international graduates to bachelor programmes but an equal share to master programmes. At doctorate level Austria's ranking slips to eighth. Most international students come from other EU countries (75.8%). Austria's overall outward graduate mobility, at 14.5%, is above the EU average of 11.6%. Students at doctorate level go abroad most often, with 28.8%. 58% of credit-mobile students benefit from an EU programme, above the EU average of 49%.

**Figure 3 Inward degree mobile graduates by country of origin, 2017**



Source: Calculations by the European Commission's Joint Research Centre, based on Eurostat, UOE, 2017. Online data code: [educ\\_uoe\\_mobg02](#)

**Measures seek to improve the study environment but could reduce student numbers.** A new capacity-based funding model ensures more dynamic and forward-looking financing of higher education. An additional EUR 1.3 billion in funding for 2019-2021 has been agreed and performance agreements with each university allow the hiring of additional staff to improve teacher-student ratios. Access restrictions in particularly popular studies, such as law, languages or educational sciences/pedagogy, might help improve study conditions but also risk reducing student numbers (Austrian Federal Chancellery, 2019). The Austrian university development plan, which steers access policies for the system, has been updated for 2019 and 2020.

#### Box 1: Future for MINT initiative

This government initiative aims to create 3 000 additional study places in mathematics, information technology, natural sciences and technology (MINT) subjects in tertiary education. While two thirds of the places will be at ISCED level 5, one third will be created in universities of applied sciences. Digital business will also be strengthened. An Austria-wide mapping exercise will identify needs in MINT subjects as well as describe existing education offers to facilitate matching and encouraging more women to participate.

## 7. Modernising vocational education and training

**VET remains an attractive option for Austrian students as it offers excellent employability for graduates.** In 2017, around 66 600 new students entered formal VET programmes at upper secondary education level, similar as in 2016 (UOE, 2017). The proportion of students enrolled at upper secondary level attending vocational programmes remains quite stable at 68.6% in 2017 (compared to 70.2% in 2013), and well above the EU average of 47.8% (UOE, 2017). Students enrolled in VET receive work-based learning — almost half of educational programmes provide for some practical elements in the curriculum (UOE, 2017). The employment rate among recent VET graduates in 2018 remained high at 87.3%, well above the EU average of 79.5% (LFS, 2018).

**Recent initiatives have focused on adapting VET, including apprenticeships, to the digital shift.** In 2019, at the initiative of the Federal Ministry for Digital and Economic Affairs, the two educational research institutes ibw<sup>7</sup> and öibf<sup>8</sup> developed guidelines for the competence-oriented development of apprenticeships. The aim is to create a framework for developing training that will serve as a reference for all those responsible for steering, planning and implementing apprenticeships. The guidelines aim for stronger integration of practitioners from companies in the design of competence-oriented job profiles, training and examination regulations. At the beginning of 2019 the Austrian Public Employment Service launched the New Digital Skills initiative together with leading companies in five economic sectors (production, trade, tourism, construction and office/administration/IT) to drive the adaptation of programmes and curricula in initial and continuing VET.

### Box 2: Recognising informally and non-formally acquired vocational skills: 'Du kannst was' – 'You can do something'

This regional project in Land Salzburg, 50% co-financed by the European Social Fund, enables participants to obtain formal recognition for already acquired vocational skills and experience, as well as to obtain vocational qualifications. It targets employees with poorly recognised qualifications who are at high risk of unemployment and fall under the category of 'working poor'. After assessing their skills and needs, participants attend a variety of workshops and training sessions in order to acquire their missing competences and finalise their vocational training.

For more information see: <https://www.bfi-sbg.at/uber-uns/bildungsprojekte/du-kannst-was>

## 8. Developing adult learning

**While participation in adult learning is above the EU average, there remains a serious need for upskilling.** In Austria 14.7% of adults do not have at least an upper-secondary qualification, a proportion below the EU average of 21.9%. 55.3% of low-qualified adults are employed, close to the EU average of 56.8% (LFS, 2018). Participation in adult learning was 15.1%, 4 pps higher than the EU average (LFS, 2018). During 2017, almost 10 000 adults aged 25 or above acquired an upper-secondary qualification (UOE, 2017). However, this represents only 1.4% of the Austrian adults who have only a low level of educational attainment (LFS, 2017). In 2017, there were only 356 000 jobs which require only elementary skills (LFS, 2017) and this number is not likely to increase. The country-specific recommendation referred to in section 5 therefore invites Austria to increase its efforts in upskilling.

**In line with the 2016 Council Recommendation on upskilling pathways, Austria is implementing its Adult Education Initiative (*Initiative Erwachsenenbildung*).** This aims to improve access to education for socio-economically disadvantaged persons and to increase their level of education. It enables adults who lack basic skills or who never graduated from lower secondary education to continue and finish their education free of charge. In its third programme period (2018-2021), the initiative will reach around 27 000 people. Some 18 000 of these will

<sup>7</sup> IbW Austria – Research & Development in VET.

<sup>8</sup> Österreichisches Institut für Berufsbildungsforschung.

make use of opportunities in basic education and the remaining 9 000 will catch up on compulsory education certificates.

**During 2018 and at the beginning of 2019, several initiatives were taken to address labour market needs linked to digitalisation.** The Digital Competence Model was published in 2018, based on the European Commission's 'DigComp' reference framework. DigComp 2.2 AT<sup>9</sup> will support the identification and assessment of personal competencies and identify strengths and possibilities for personal development. Linked to this, the 'fit4internet'<sup>10</sup> initiative was launched in 2019 to allow everyone to assess their digital competence and receive proposals for training as a basis for their further personal development. The Pact for Digital Competence (*Pakt für digitale Kompetenz*) brings together companies, adult education institutions and the public administration to jointly foster the development of digital competences among all target groups.

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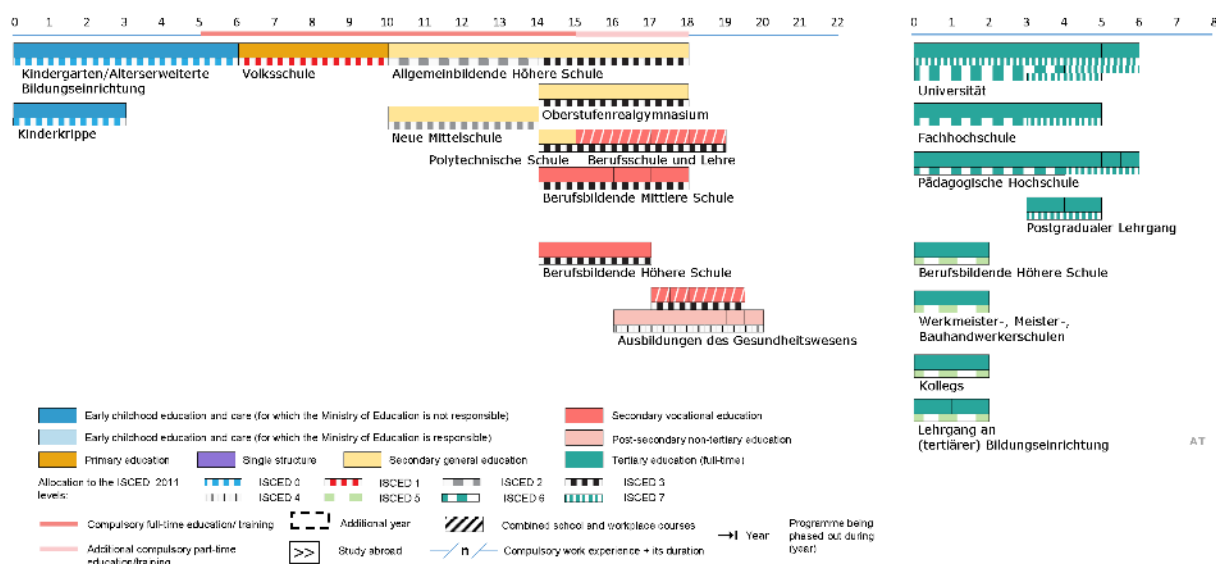
<sup>9</sup> See: <https://www.fit4internet.at/digcomp-framework/>

<sup>10</sup> Ibid.

## 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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# BELGIUM

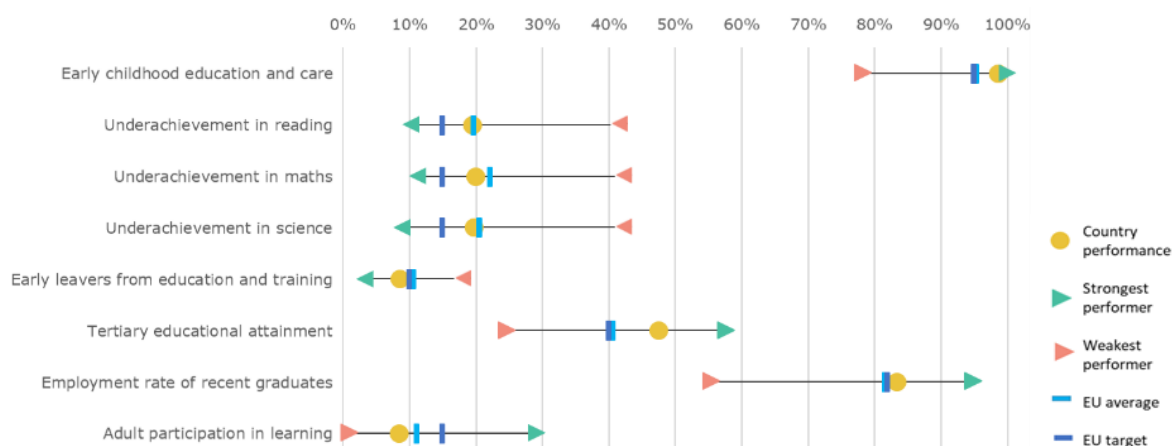


# 1. Key indicators

			Belgium		EU average	
			2009	2018	2009	2018
Education and training 2020 benchmarks						
Early leavers from education and training (age 18-24)			11.1%	8.6%	14.2%	10.6%
Tertiary educational attainment (age 30-34)			42.0%	47.6%	32.3%	40.7%
Early childhood education and care (from age 4 to starting age of compulsory primary education)			99.3%	98.7% <sup>17</sup>	90.8%	95.4% <sup>17,d</sup>
Proportion of 15 year-olds underachieving in:	Reading		17.7%	19.5% <sup>15</sup>	19.5% <sup>EU27</sup>	19.7% <sup>15</sup>
	Maths		19.1%	20.1% <sup>15</sup>	22.3% <sup>EU27</sup>	22.2% <sup>15</sup>
	Science		18.0%	19.8% <sup>15</sup>	17.7% <sup>EU27</sup>	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)	81.0%	83.4%	78.3%	81.6%
Adult participation in learning (age 25-64)		ISCED 0-8 (total)	7.1%	8.5%	9.5%	11.1%
Learning mobility	Degree-mobile graduates (ISCED 5-8)		:	3.6% <sup>17</sup>	:	3.6% <sup>17</sup>
	Credit-mobile graduates (ISCED 5-8)		:	6.2% <sup>17</sup>	:	8.0% <sup>17</sup>
Other contextual indicators						
Education investment	Public expenditure on education as a percentage of GDP		6.0%	6.3% <sup>17</sup>	5.2%	4.6% <sup>17</sup>
	Expenditure on public and private institutions per student in € PPS	ISCED 0	:	:	:	€6 111 <sup>15,d</sup>
		ISCED 1	€7 419 <sup>12</sup>	€7 745 <sup>16</sup>	€5 812 <sup>12,d</sup>	€6 248 <sup>15,d</sup>
		ISCED 2	€9 037 <sup>12</sup>	€9 755 <sup>16</sup>	€6 937 <sup>12,d</sup>	€7 243 <sup>15,d</sup>
		ISCED 3-4	€9 455 <sup>12</sup>	€9 969 <sup>16</sup>	:	€7 730 <sup>14,d</sup>
		ISCED 5-8	€12 054 <sup>12</sup>	€13 218 <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	10.0%	7.2%	13.1%	9.5%	
	Foreign-born	20.5%	18.7%	26.1%	20.2%	
Tertiary educational attainment (age 30-34)	Native-born	44.0%	49.2%	33.1%	41.3%	
	Foreign-born	33.0%	42.6%	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	71.9%	70.0%	72.5%	76.8%	
	ISCED 5-8	87.8%	90.3%	83.8%	85.5%	

Sources: Eurostat; OECD (PISA); Learning mobility figures are calculated by the European Commission's Joint Research Centre (JRC) on UOE data. Further information can be found in Appendix I and Volume 1 ([ec.europa.eu/education/monitor](https://ec.europa.eu/education/monitor)). Notes: The EU's 2009 PISA averages do not include Cyprus; d = definition differs, := not available, 12=2012, 14=2014, 15 = 2015, 16=2016, 17 = 2017.

**Figure 2 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 Flemish community (BEnl) will implement reforms at all levels of education, including dual learning, starting in September 2019. The French community (BEfr) 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.

## 3. A focus on teachers

### **The Belgian communities are taking ad hoc measures to address teacher shortages.**

According to data from the 2018 Teaching and Learning International Survey (TALIS<sup>11</sup>) (OECD, 2019b), the proportion of teachers satisfied with their job is around the EU average (89.2% (84.8% in BEfr, 92.9% in BEnl) v 89.5% at EU level). However, only 16.3% ((5.3%, 25.8%) v 17.7% at EU level) believe that teaching is a valued profession in society. Shortages are increasing, but seem more acute in BEfr. The reasons include the growing pupil population and its increasing diversity, an ageing teacher workforce, fewer enrolments in teacher education, high exit rates among recent teacher recruits, poor conditions for lateral entry, and difficult working conditions. There are particular shortages in specific subjects and geographical areas, including in science, technology, engineering and mathematics (STEM) fields, and in BEfr also for modern languages and specific vocational education and training (VET) courses. Promotion campaigns are being launched to attract higher numbers of and more suitable students. In BEfr, measures include overtime, raising the retirement age, more favourable lateral entry conditions, and simplified recruitment procedures. In BEnl, measures include intensive initial coaching for new teachers, quicker permanent appointments, collaborative platforms giving job security to temporary teachers in primary schools, and an extra salary step for end-of-career teachers.

**The communities adopted reforms to improve the quality and relevance of initial teacher education (ITE).** They will be rolled out from September 2019 in BEnl and as of 2020 in BEfr. In BEfr, all new teachers will need a four-year academic master's degree (ISCED 7); since pay is directly linked to degree level, this will increase the financial attractiveness of the job. Detailed indicators on how the measure is to be financed in the long term, are awaited. In BEnl, a new first master's degree for upper secondary education teacher training will replace the required additional second master's degree (see Box 1 below).

### **Box 1: Initial teacher education reforms in the French and Flemish communities**

In BEfr, pre-primary, primary and lower-secondary education teachers will require a master's degree in education (ISCED Level 7). More focus will be put on training in digital and innovative technologies, on teaching a diverse and multilingual classroom, and on addressing inequalities and differentiated learning. New teacher trainers will need an additional one-year master's degree.

<sup>11</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.

In BEnl, higher education institutions will become the only providers of ITE. Professional bachelor's programmes for pre-primary to lower secondary teachers will focus more on didactics, classroom management, language skills, multilingualism and diversity. 'Dutch as a non-native language' will be a new optional subject in the lower secondary bachelor's degree to support the teaching of students from a migrant background (also in adult education). Teaching practical VET courses will require ITE at ISCED level 5. The programme for upper secondary teachers will involve a bachelor's degree combining subject fields with elective courses in education studies, followed by a master's programme in education. Lateral entry will become possible through a one-year conversion course. Teacher trainers will also take a specific training.

**There is scope to strengthen teachers' continuing professional development (CPD) and pedagogical support.** Schools enjoy autonomy in CPD policy and planning. CPD is not well developed, not mandatory (BEnl), and not recognised for career development. In BEfr, CPD is limited and its impact is not measured. Belgian teachers took significantly fewer ICT-related CPD courses than teachers elsewhere in the EU (European Commission, 2019a). TALIS data show that teachers attend the more popular courses and seminars (64.4% (36.7%, 88%) v 71.3% at EU level) than the activities they themselves consider more impactful, such as peer learning and coaching (25.4% (15%, 34.4%) v 38.1% at EU level). Studies show that pedagogical support for new teaching methods in pre-primary education would be beneficial to manage the increasing number of non-Dutch mother tongue children (BEnl) (Peleman, 2019). An evaluation of centres for pedagogical support and guidance in BEnl made suggestions for improvement (Commissie Monard, 2019).

**The role of school leaders is gaining more recognition.** In BEnl, the government increased the budget for administrative support in primary education by more than 20% in 2018/2019. Salaries of school principals were raised and their teaching load cancelled or reduced, to free time for leadership tasks and to boost professionalisation and motivation. In BEfr, measures to improve the pedagogical leadership of school leaders and to increase administrative support will be implemented from September 2019. School principals reported in TALIS that shortage or inadequacy of time for instructional leadership (58.3% (80.1% in BEfr and 44.4% in BEnl) v EU average of 34.9%) and shortage of support staff (43.7% (63.4%, 31.1%) v 38.4%) hinder the quality of teaching in their school.

## 4. Investing in education and training

**In 2017, Belgian general government expenditure on education as a share of GDP was among the highest in the EU at 6.3%, just behind Sweden and Denmark<sup>12</sup>.** Since 2010, expenditure rose from 6.0% to 6.3% (or EUR 27.8 billion). Over the same period, the share of public spending on education also rose from 11.3% to 12.1%. The real-term increase of 11.5% over the same period is well above the EU average of 0.2%. Spending increased most (12.4%) at pre-primary and primary level, thereby reducing the spending gap between elementary and secondary level, but also at secondary (6.2%) and at tertiary level (7.7%). In 2015, the share of private funding in total educational expenditure was relatively low at 6.1%, reaching 14.2% at tertiary level<sup>13</sup>. Comparing Belgium's spending with other 'high spending' countries, and noting that expenditure is set to remain high (see below), better educational outcomes should be possible (European Commission, 2019b). Authorities need to make more data available to underpin educational research and evidence-based policy.

**Belgium has the second highest share of spending on employee compensation in the EU.** It accounted for 80.9% of public education expenditure<sup>14</sup> in 2017 (EU average 62%), having increased by 12.1% between 2010 and 2017 (EU average 3.4%). This high and growing share reflects the relatively low pupil/teacher ratio in primary and secondary education<sup>15</sup> (10.7 compared with the EU average of 12.9) and higher average salaries at all levels (OECD, 2017). Teacher

<sup>12</sup> Eurostat, COFOG, 2017 [[gov\\_10a\\_exp](#)].

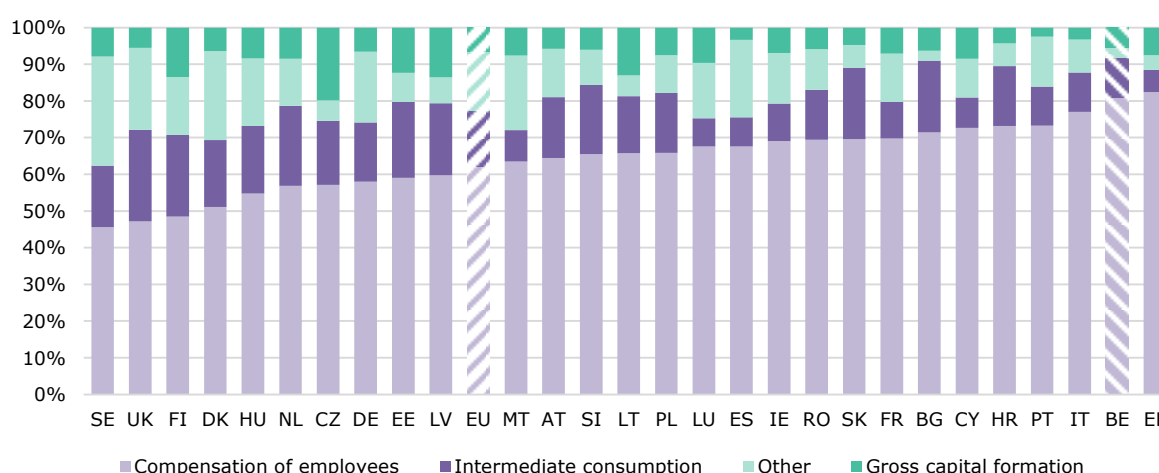
<sup>13</sup> Eurostat, UOE, 2015 [[educ\\_uoe\\_fine01](#)].

<sup>14</sup> Eurostat, COFOG, 2017 [[gov\\_10a\\_exp](#)].

<sup>15</sup> Eurostat, UOE, 2017, [[educ\\_uoe\\_perp04](#)].

salaries are slightly below those of similarly educated workers in BEnl and 4-11 pps lower in BEfr (teacher salaries are on average about 4% higher in BEnl) (OECD, 2018c). Gross capital formation (e.g. buildings, digital infrastructure and equipment) accounted for 5.5% of public expenditure (EU average of 6.4%). This category of expenditure increased by 25.3% between 2010 and 2017 in real terms, strikingly different from the EU average cut (-14.7%). Belgium is set to experience demographic growth, with an expected peak of 6-year-olds by 2021 and 11-year-olds by 2027. Therefore, measures to address infrastructure shortages, particularly in cities, will remain a clear priority. BEnl has invested heavily in new school infrastructure and refurbishment in recent years (EUR 2.48 billion from 2015-2018) (Vlaams Parlement, 2019). In BEfr, EUR 463.9 million was invested from 2012-2014 (OECD, 2016). Nevertheless, recent initiatives to create additional school places in areas with shortages (EUR 20 million/year) are considered insufficient (Court of Auditors, 2019). There is also an acknowledged need for a school infrastructure register (also in BEnl) and more digital equipment (BEfr).

**Figure 2 Categories of public education spending, 2017**



Source: Eurostat, COFOG. Online data code: [gov\\_10a\\_exp](#).

## 5. Modernising early childhood and school education

**In 2016, Belgium reached its national Europe 2020 target for early school leaving (ESL) of 9.5% and maintained the downward trend in 2018.** The national ESL rate in 2018 dropped further by 0.3 pps to 8.6%, below the EU average of 10.6%, but with wide variations between groups and regions. The difference between regions has narrowed, with the significant drop to 10.7% in the Brussels region (-2.2 pps) and to 9.9% in Wallonia (-0.6 pps), unchanged in Flanders at 7.3% (+0.1 pps) (Statbel, 2018). The ESL rate continued to fall for women (6.5%), but increased slightly to 10.6% for men, a gender gap close to the EU average. The gap between the rates for non-EU born (19.2%) and native-born (7.2%) students remains high and slightly above the EU average (11.2 pps). A number of measures now being implemented were set out in the 2018 Education and Training Monitor. In BEfr, a comprehensive plan to address ESL, including measures to collect administrative data and set up a support system to combat dropouts (supported by the European Social Fund (ESF)), will be implemented as of 2020/2021. Improved school governance (see below) should also contribute to reducing both grade repetition (46%) and ESL. In BEnl, the rate of grade repetition fell slightly between 2012/2013 and 2017/2018 (at 26.7%, down 2.3 pps).

**Belgium lowers the age of starting compulsory education to five, as quality early childhood and care (ECEC) is increasingly recognised as key to later success.** Compulsory education in Belgium will start at 5 instead of 6 as of 2020/2021. Regular attendance in ECEC for 5-year-olds is already a prerequisite to access primary education. Although enrolment in ECEC increased further to 98.7% in 2017, attendance is much lower for children with a migrant background or with low-skilled parents in large cities. ECEC institutions and parents do not engage sufficiently with young children in early literacy activities (PIRLS, 2016). Longitudinal research shows that 5-year-old children from socio-economically disadvantaged families already show late

acquisition of learning outcomes, which continues throughout primary school for language, mathematics and some social competences (Groenez, 2016). Different measures have been taken to increase participation in ECEC and boost literacy in BEnl (Education and Training Monitor 2018). From 2019/2020, operating means per child will be increased to the amount at primary level (+ EUR 52 million/year). In BEfr, measures to improve participation include free ECEC as of 2019/2020, a first curriculum of 'initial competences' for ECEC as of 2020/2021, and an increase in the number of teachers and support professionals.

**The average competence level of pupils is decreasing; improving both equity and excellence is a challenge.** The 2019 European Semester country-specific recommendations to Belgium included a recommendation to 'improve the performance and inclusiveness of the education and training systems and address skills mismatches' (Council of the European Union, 2019). International assessments (PISA, PIRLS, TIMSS) and the 2018 proficiency tests ('*peilingen*') in primary and secondary education show a decrease in performance in basic skills and in pupils' second language (BEnl). In parallel, nationwide results for digital skills also dropped over 2015-2017: in 2017, the proportion of people aged 16-24 with overall low digital skills<sup>16</sup> (19%) was higher than the EU average (15%). In BEfr, the strategy for digital education in schools aims to close the achievement gap (FWB, 2018). In BEnl, the third strategic literacy plan (*Strategisch Plan Geletterdheid 2017-2024*) addresses literacy and digital skills of various subgroups. In addition, BEnl identified the need to improve systems skills<sup>17</sup>, complex problem solving, and reasoning (OECD, 2019a).

**The gap in educational outcomes due to socio-economic and migration background is high.** TALIS data from 2018 show that diversity in the classroom is higher than the EU average. Teachers work in classes with at least 10% of students being non-native speakers (35.4% (31.7% in BEfr, 38.5% in BEnl) v 19.4% at EU level), having special needs (51.5% (49.3%, 53.4%) v 30.8%), or being migrants or with a migrant background (34.6% (36.9%, 32.5%) v 20.8%). Over 30% of students come from socio-economically disadvantaged homes (19% (24.5%, 14.3%) v 13.6%), and at least 1% of students are refugees (28.0% (25.7%, 30%) v 15.7%). The proportion of teachers who feel well or very well prepared to teach in a multicultural and/or multilingual setting is lower than the EU average (15.7% (14.2%, 17%) v 23.8%). According to principals, more than in other EU countries, shortages of qualified teachers (46.5% (65.6%, 34.2%) v 24.6%) and shortages of teachers competent to teach students with special needs (55.6% (80.9%, 39.4%) v 37.8%) hinder schools' capacity to provide quality instruction. Performance gaps between schools persist: half of students from disadvantaged backgrounds attend schools characterised as disadvantaged<sup>18</sup> (European Commission, 2017, 2019b). The persistent poverty rate among children below 18 years also doubled between 2007 and 2017 (14.4%<sup>19</sup>, above the EU average of 13.9%). Pupils from a disadvantaged background and with another mother tongue are more at risk of having a problematic school career (Onderwijs Vlaanderen, 2018). The new decree on enrolment in secondary education (BEnl) will abolish the mandatory social mix of pupils within schools as of 2020/2021. The impact of replacement mechanisms on social segregation remains unclear.

**School reforms to improve basic skills, tackle inequalities and improve efficiency and governance will be implemented from 2019/2020 in BEfr.** The '*Pact for Excellence in education*', a systemic and long-term school reform stretching to 2030, aims to improve basic skills, reduce grade repetition, inequity and high dropout rates. Work on the first pillar of the reform (changes to school and system governance) is the most advanced. Central governance is being reinforced, but combined with greater autonomy and accountability for schools. From 2019-2021, all schools must set six-year plans contributing to the objectives of the Pact, including the objectives on performance and inequality, exclusion of disadvantaged groups, differences in individual school performance, early school leaving, grade repetition and collaborative teaching. The second pillar of the reform (a common, multi-disciplinary and poly-technical curriculum) will be rolled out from 2020/2021, first in pre-primary (see above) and then in higher grades, reaching 9th grade in 2028/2029. Two hours per week of individualised child support will be provided from 2019/2020. Benchmarks for this new curriculum still need to be decided. Its successful implementation will depend on political commitment and sustained financing, but also on finding

<sup>16</sup> [isoc\_sk\_dskl\_i]

<sup>17</sup> Systems analysis, judgment and decision making and systems evaluation.

<sup>18</sup> Definition: see page 122 of OECD (2018a).

<sup>19</sup> Eurostat, EUSILC, [ilc\_li21].

sufficient teachers, giving them stronger pedagogical support, and on the new initial teacher education.

**Reforms in secondary education will be implemented in the Flemish community from September 2019.** New curricula, based on the EU key competences framework, have been developed by the different school networks focusing on fewer but more ambitious and clearer final attainment levels for first grade: all children will need to meet a baseline literacy level. Pupil guidance will be mandatory and an additional criterion for recognition of schools. Final attainment levels are currently being developed for second and third grades, including for the first time subject-specific attainment targets for Vocational Education and Training (VET). The range of subjects on offer in second and third grades has been streamlined and should result in a better transition to higher education or the labour market. However, early tracking remains a concern (OECD, 2018b).

## 6. Modernising higher education

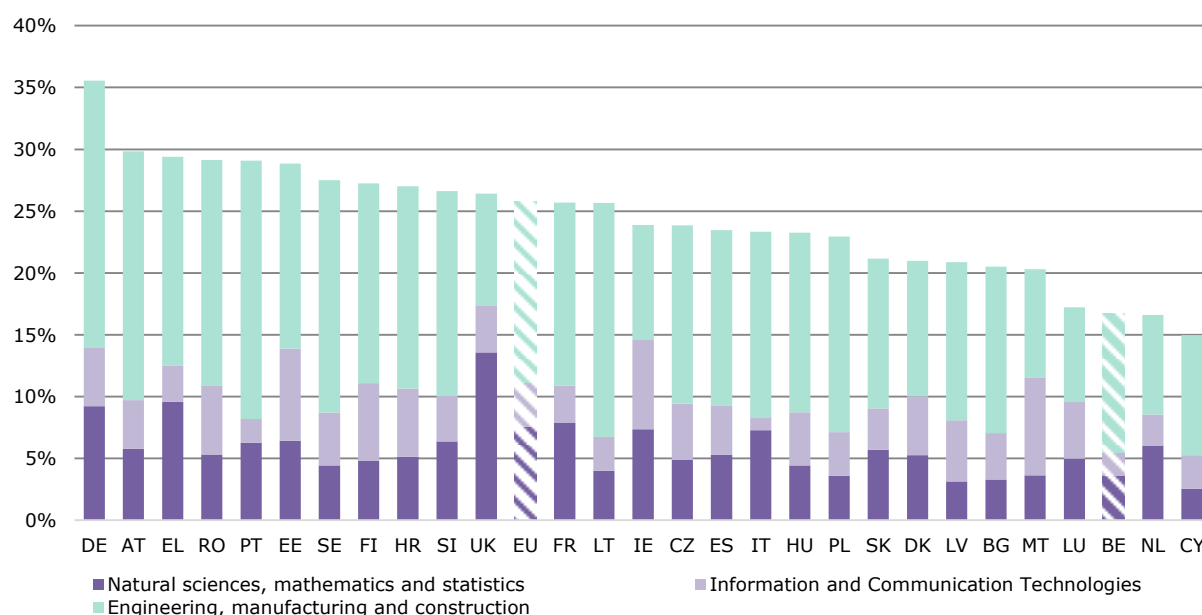
**In 2018, Belgium reached its Europe 2020 national target for tertiary attainment of 47%, but disparities remain between regions and groups.** The rate increased from 45.9% in 2017 to 47.6%. The increase of 1.8 pps was higher in Flanders (48.2%) and in the Brussels region (56.2%) than in Wallonia (+ 1.6 pps to 42.5%) (Statbel, 2018). Though the tertiary attainment rate for men fell slightly from 40.8 to 40.6%, it increased for women from 50.9 to 54.5%. There are wide disparities related to socio-economic and migrant background, which can also be linked to grade repetition at school. Although 49.2% of the native-born population aged 30-34 had completed tertiary education, only 35% of the non-EU born population had done so. In 2016, the attainment gap for people with disabilities far exceeded the EU average (25.5 pps against 13.2 pps).

**In a context of budgetary constraint and rising student populations, the higher education system is expected to better balance equity, effectiveness and efficiency.** Belgium's universities (11 out of 12) in the U-Multirank perform strongest in the research, knowledge transfer, international orientation and regional engagement dimensions, but only average (6 universities) on teaching and learning (U-Multirank, 2019). Higher education institutions (HEI) are increasingly forming clusters with other institutions to improve efficiency, visibility and competitiveness. BEfr has passed legislation in 2019 (*'décret Transparence'*), enforcing private HEI to inform students on the formal value of their degree. From 2019/2020 in BEnl, new short-cycle programmes will provide increased opportunities for vocational education students to access higher education. Teacher education programmes within centres of adult learning will also be incorporated into HEIs. From September 2019, the new quality assurance framework will give HEI more autonomy and responsibility. With the same objective, BEfr has launched in 2019 a large-scale participatory reflection to deliver a new quality assurance framework by end 2021. Nationally, course dropout and year repetition rates are high (De Witte and Hindriks, 2018). Degree completion time has increased, linked to the introduction of flexible education pathways. Though currently every HEI has its own diversity policy, from September 2019, BEnl will start collecting data on disadvantaged/underrepresented groups to develop more strategic policies. In Belgium, adults with tertiary-educated parents are 9 times more likely to complete tertiary education than those with low-educated parents (OECD, 2018a).

**The communities are taking action to increase the uptake of STEM studies, but they lack comprehensive strategies to meet labour market demand.** The 83.4% employment rate of recent graduates from education in 2018 was above the EU average (81.6%). The employment rate of tertiary education graduates (90.3%) is also above the EU average (85.5%), but below average (70% compared to 76.8) for upper secondary and post-secondary non-tertiary graduates. In 2017, Belgium ranked 26th in the EU for tertiary graduates in STEM (16.7%) and last for female graduates in IT. In BEfr, though a number of initiatives are being launched to promote STEM uptake, an overall strategic plan is lacking. In BEnl, implementation of the STEM action plan for 2012-2020 is progressing well (Onderwijs Vlaanderen, 2019). In the German-speaking community (BEde), measures include promoting science in schools and more cooperation with universities and vocational training centres.



**Figure 3 Distribution of tertiary STEM graduates in the EU, as a share of total graduates (ISCED 5-8), 2017**



Source: Eurostat, UOE, 2017. Online data code: [educ\\_uoe\\_grad02](#).

## 7. Modernising vocational education and training

**The share of upper secondary students in vocational education and training (VET) is slowly but steadily decreasing.** In 2017, the share of students in VET (ISCED 3) was 57.8%<sup>20</sup>, about 10 pps above the EU average. However, the proportion of students in work-based learning was only 6% (EU 27%) and the employment rate of recent VET graduates<sup>21</sup> was 76.7% (EU 79.5%).

**All communities took action to improve dual learning.** In BEnl, after a three-year pilot, dual learning will be rolled out from September 2019 as an education pathway in mainstream secondary education. BEnl also adopted a decree to start dual learning in special needs education (Onderwijs Vlaanderen, 2018). In 2018/19, a first pilot to run two courses was set up, to be extended to 30 courses in the next school year. The Walloon government approved a plan to renovate and create IFAPME<sup>22</sup> training centres to become centres of excellence in dual learning both for young people and for adults. In August 2018, an agreement was signed with more than 21 sectoral federations and sector funds to increase awareness of these measures among employers and to develop collaborations with stakeholders (Gouvernement Wallonie, 2018). In the Brussels region, a one-stop shop called the 'Cité des métiers' (City of trades) provides access to all types of lifelong learning, including VET. In BEde, a new training offer called apprenticeship contract '29 Plus' is aimed at persons with a replacement income to improve their chances on the labour market.

## 8. Developing adult learning

**With low participation in adult learning, Belgium is not well prepared to tackle its high exposure to digitalisation.** In 2018, participation in adult learning stagnated at 8.5% (EU average of 11.1%). To improve participation, BEfr has reduced enrolment costs for unemployed and disadvantaged groups. BEnl will further reform training incentives for workers. By September 2019, coordinated actions will be put in place to compensate the employer, the employee in training and the cost of training by issuing vouchers. In January 2018, the development of a Flemish skills strategy was launched in cooperation with the OECD (OECD, 2019a). As Belgium is ahead of other countries regarding exposure to digitalisation (OECD, 2019c), public investment in

<sup>20</sup> [\[educ\\_uoe\\_enrs04\]](#)

<sup>21</sup> [\[educ\\_uoe\\_perp04\]](#)

<sup>22</sup> Institut wallon de Formation en Alternance et des indépendants et Petites et Moyennes Entreprises.

lifelong learning and reskilling to address the digitalisation challenge will be essential. 61% of individuals between 16 and 74 years have only basic digital skills, above the EU average of 57% (European Commission, 2019). The share of adults without an upper-secondary qualification is 21.8%, close to the EU average. However, their employment rate is among the lowest in the EU, highlighting the need for more substantial action on upskilling and reskilling for this target group. Addressing skills mismatches is one of the 2019 country-specific recommendations for Belgium (see section 5).

**Socially disadvantaged groups are underrepresented in adult learning.** Both Flanders and Wallonia have initiatives to address this, for example, implementing the decree on the financing of formal adult education in BEnl, and an increased budget for adult education schools in BEfr.

**Recognition and validation of skills is high on the agenda.** In BEnl, the decree on the integrated policy for the recognition of prior learning (Vlaams Ministerie Onderwijs, 2019) will ensure that individuals can have their competences tested in a special test centres in addition to the systems in higher education. A decree on quality control for vocational pathways based on a common framework was also adopted. A pilot project has been funded to assess up to 100 adult skills in bottleneck occupations and to certify them upon successful evaluation. BEfr is implementing the recommendation on upskilling pathways. BEde continues to develop validation of non-formal and informal learning through a working group of education, training and labour market stakeholders (see Box 2).

#### Box 2: An ESF-funded project makes skills visible and useful in BEde

The 'Zukunftsweg gestalten' project has been put in place to support low-skilled jobseekers, workers and migrants whose foreign qualifications could not be recognised. The project provides for competence assessments and the development of personal competency profiles, guidance and advice on finding training, and recognition of professional skills (Das Bildungsportal, 2019).

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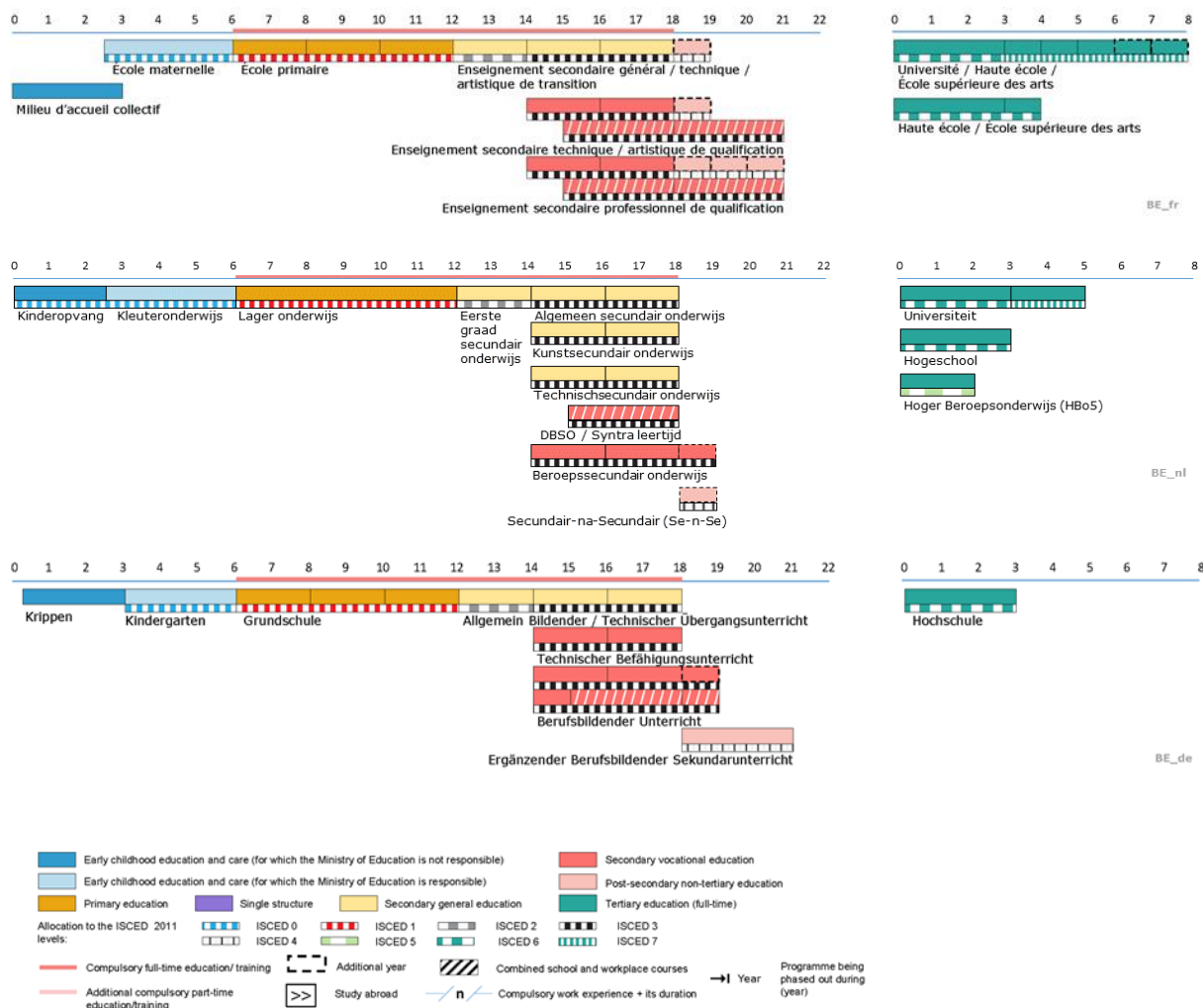
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## Annex I: Key indicator sources

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 - Credit-mobile graduates	JRC computation based on Eurostat / UIS / OECD data



## 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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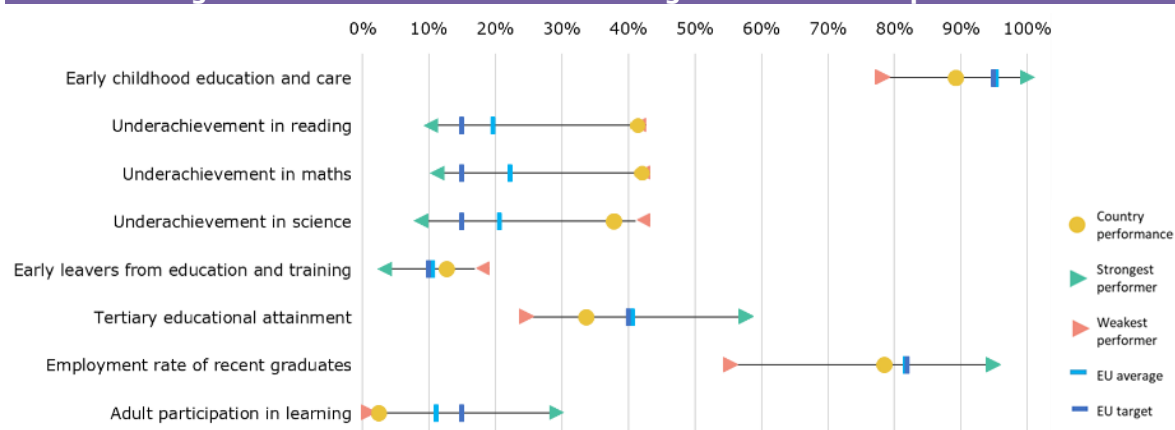
# BULGARIA

# 1. Key indicators

			Bulgaria		EU average	
			2009	2018	2009	2018
Education and training 2020 benchmarks						
Early leavers from education and training (age 18-24)			14.7%	12.7%	14.2%	10.6%
Tertiary educational attainment (age 30-34)			27.9%	33.7%	32.3%	40.7%
Early childhood education and care (from age 4 to starting age of compulsory primary education)			84.2%	83.9% <sup>17</sup>	90.8%	95.4% <sup>17,d</sup>
Proportion of 15 year-olds underachieving in:	Reading		41.0%	41.5% <sup>15</sup>	19.5%	19.7% <sup>15</sup>
	Maths		47.1%	42.1% <sup>15</sup>	22.3%	22.2% <sup>15</sup>
	Science		38.8%	37.9% <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)		73.6%	78.6%	78.3%	81.6%
Adult participation in learning (age 25-64)	ISCED 0-8 (total)		1.6%	2.5%	9.5%	11.1%
Learning mobility	Degree-mobile graduates (ISCED 5-8)		:	8.1% <sup>17</sup>	:	3.6% <sup>17</sup>
	Credit-mobile graduates (ISCED 5-8)		:	1.4% <sup>17</sup>	:	8.0% <sup>17</sup>
Other contextual indicators						
Education investment	Public expenditure on education as a percentage of GDP		4.1%	3.6% <sup>17</sup>	5.2%	4.6% <sup>17</sup>
	Expenditure on public and private institutions per student in € PPS	ISCED 0	€3 114 <sup>12</sup>	€3 579 <sup>16</sup>	:	€6 111 <sup>15,d</sup>
		ISCED 1	€1 865 <sup>12</sup>	€2 274 <sup>16</sup>	€5 812 <sup>12,d</sup>	€6 248 <sup>15,d</sup>
		ISCED 2	€2 220 <sup>12</sup>	€2 820 <sup>16</sup>	€6 937 <sup>12,d</sup>	€7 243 <sup>15,d</sup>
		ISCED 3-4	€2 106 <sup>12</sup>	€2 577 <sup>16</sup>	:	€7 730 <sup>14,d</sup>
	ISCED 5-8	€3 818 <sup>12</sup>	€5 197 <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		14.8%	12.7%	13.1%	9.5%
	Foreign-born		:	: <sup>u</sup>	26.1%	20.2%
Tertiary educational attainment (age 30-34)	Native-born		27.9%	33.5%	33.1%	41.3%
	Foreign-born		: <sup>u</sup>	: <sup>u</sup>	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		63.7%	67.8%	72.5%	76.8%
	ISCED 5-8		85.2%	84.5%	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](https://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, 16= 2016, 17 = 2017.

**Figure 3 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

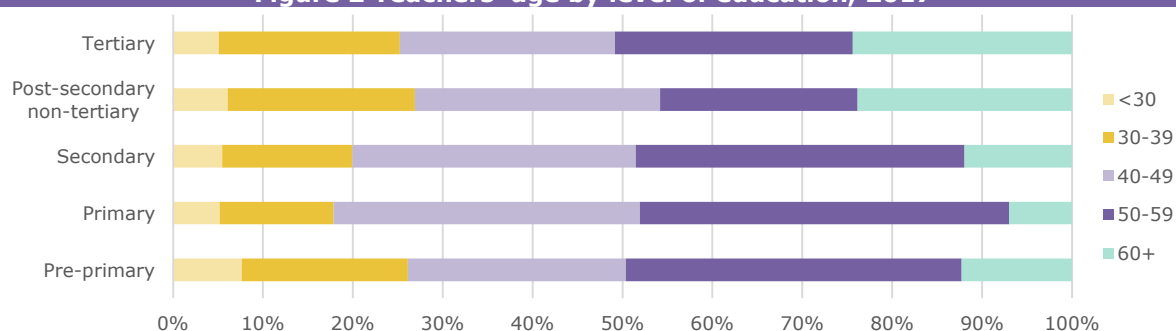
- The modernisation of the education and training system continues while quality, labour market relevance and inclusiveness remain challenging.
- Demographic trends and rising skill shortages suggest that Bulgaria needs to invest better in the skills of its current and future workforce. The need to upskill 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).

## 3. A focus on teachers

**The status of the teaching profession is low.** As in many other European countries, teacher training programmes struggle to attract talented young people. Although the percentage of graduates in such programmes is roughly the EU average<sup>23</sup>, only 60% of graduates actually enter the profession<sup>24</sup>. Low salaries are a major factor deterring young people from choosing a teaching career (Sofia University, 2017). Other negative factors are unattractive working conditions, for example, reflected in insufficient opportunities for professional development or deteriorating class discipline<sup>25</sup>. A recent survey (AEJ, 2019) shows that negative attitudes towards teachers prevail in the media. Only 17.7% of teachers believe that their profession is valued by society and only 57% believe that the advantages of being a teacher outweigh the disadvantages<sup>26</sup> (OECD, 2019). While generally unpopular with young Bulgarians, the teaching profession is particularly unappealing to men, who make up only 17% of school teachers<sup>27</sup> (EU average: 28%).

**Teacher shortages are emerging as the teacher workforce ages.** Almost half of all teachers are older than 50 and thus likely to reach retirement age within the next 10 years; 10% are already over 60. Shortages have started to emerge and are expected to worsen. This is particularly the case for kindergarten and primary school teachers, for subject teachers in foreign languages, ICT, mathematics, physics, and for some VET subjects. The exact replacement need by subject and by level of education is not known, as Bulgaria has only recently (with EU support) started setting up a forecasting tool for the teaching profession. Nevertheless, even with declining student numbers<sup>28</sup>, it is expected that there will be a great need to replace the large cohorts of retiring teachers. In addition, the number of support specialists (such as resource teachers, school psychologists, speech therapists, etc.) is also insufficient, with unmet demand expected to rise as the inclusive education reform advances.

Figure 2 Teachers' age by level of education, 2017



Source: Eurostat, UOE, 2017. Online data code: educ\_uoe\_perp01

<sup>23</sup> In 2017, 8% of graduates at Bulgarian universities had followed teacher training programmes (EU-28: 9%).

<sup>24</sup> According to the data from Bulgaria University Rating <http://rsvu.mon.bg/rsvu3/?locale=en>

<sup>25</sup> For example, 14% of students reported frequent bullying (OECD, 2016).

<sup>26</sup> EU-23: 71%.

<sup>27</sup> ISCED 1-3.

<sup>28</sup> In Bulgaria, the school age population (3-18 year-olds) is projected to fall by 9% by 2030 compared to Eurostat's baseline projections for 2020.

**The need to better prepare teachers to cope with classroom challenges is high.** Among the 23<sup>29</sup> European countries surveyed in the OECD's Teaching and Learning International Survey (TALIS) (OECD, 2019), Bulgarian teachers reported one of the highest need for continuing professional development in knowledge of their subject field (19%, EU-23: 6%), knowledge of the curriculum (20%, EU-23: 5%), pedagogical competences (17%, EU-23: 8%) and ICT skills (23%, EU-23: 16%). The percentage of teachers reporting a high need of training in student behaviour and classroom management, and in teaching in a multicultural or multilingual environment, is also higher than the average of the 23 EU countries surveyed<sup>30</sup>. There is also an acute need of training to accompany the inclusion of children with special educational needs and disabilities (UNICEF, 2018). However, almost 60% of teachers report that participation in training is restricted by high costs (EU-23: 44%) (OECD, 2019). Although some measures have been taken to strengthen initial teacher training, the need to better prepare new teachers remains high. Considering the large number of teachers that are set to retire, further improving initial teacher education and attracting talented candidates to the profession could potentially have a major positive impact on the Bulgarian education system.

### Box 1: Reforming the teaching profession

Teachers were put at the centre of the education reform that started in 2016 with the Pre-school and School Education Act. Since then, a series of steps have been taken to improve the attractiveness of the profession and strengthen support for policies for teachers. Nevertheless, the teaching profession continues to face important challenges.

To avert a possible crisis due to high numbers of retiring teachers, plans are under way to double teacher salaries by 2021 compared with their 2017 level, bringing salaries to 120% of the average salary in Bulgaria. Alternative entry pathways into the profession are also being supported.

Pedagogy was included on the list of priority professions in higher education, and as such receives more funding. In line with a planned amendment of the Higher Education Act, tuition fees for this study track will be eliminated, as for other professions where there are shortages. An induction programme was also introduced to support novice teachers.

An obligation to undertake continuing professional development was introduced for the first time, and was linked to career progression along a five-stage qualification level. A fast-track career development programme was also put in place for teachers in 'innovative schools'. Commuting and accommodation costs for teachers working in remote areas became reimbursable in 2018.

### Box 2: EU-funded support for continuing professional development

'Qualification of Pedagogical Specialists' is a project co-financed by the European Social Fund. With a budget of almost EUR 10 million, the project will provide training to 52 900 teachers, with a view to acquiring qualification levels 1-3, and training to 48 000 teachers with a view to acquiring qualification levels 4-5. More broadly, the aim is to improve professional and career development and to upgrade teachers' competences in key fields such as digital skills, modern pedagogy and student evaluation. The project started in October 2018.

## 4. Investing in education and training

**Although public spending on education is increasing, the system remains underfunded.**

In 2017, Bulgaria's general government expenditure on education rose by 8% in real terms compared to the previous year, reaching the equivalent of 3.6% of GDP. Despite this improvement, public spending on education is still among the lowest in the EU, and significantly below the EU average of 4.6%. As confirmed by the 2019 budget, rising teacher salaries will drive expenditure in

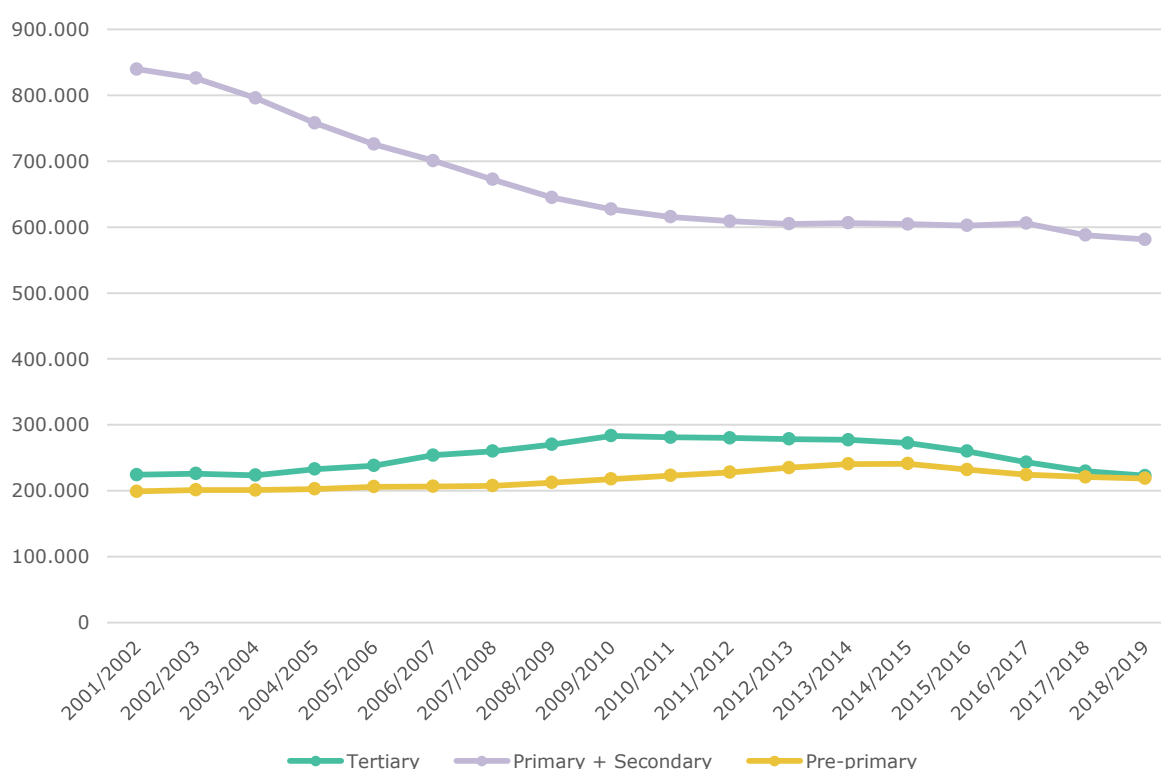
<sup>29</sup> In 2018, 23 Member States participated in TALIS: Austria, Belgium fr, Belgium nl, Bulgaria, Croatia, Cyprus, Czechia, Denmark, England (UK), Estonia, Finland, France, Hungary, Italy, Latvia, Lithuania, Malta, the Netherlands, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden. TALIS 2018 covers lower secondary teachers and school leaders in mainstream public and private schools.

<sup>30</sup> 22% compared with EU-23: 12.5% and 21% compared with EU-23: 13%.

the next couple of years. This year's budget also funds four additional national programmes<sup>31</sup> that aim to attract and train teachers in subjects for which shortages are expected, introduce innovative teaching methods, support early career orientation and create links between schools and IT companies. A national programme has also been introduced to provide support to municipalities for desegregation actions. It finances transport costs, activities with parents, teaching materials and funding for educational mediators. In addition, starting from 2019, all upper secondary schools will receive additional funding to work with students from disadvantaged backgrounds. A similar provision for primary schools was introduced in 2018.

**Educational infrastructure is in great need of modernisation.** There are considerable disparities in the quality of school facilities, with poorer municipalities being particularly at disadvantage (UNICEF, 2018). Schools often lack basic facilities or equipment, and have no laboratories or sports facilities. In addition, maintaining adequate heating during winter is a challenge in many schools in poorer municipalities (ibid). Compared with the European average, there are fewer highly digitally equipped and connected schools (European Commission, 2019a). The network of kindergartens and nurseries is also insufficiently developed.

**Figure 3 Number of students enrolled by level of education, 2001-2019**



Source: National Statistical Institute.

## 5. Modernising early childhood and school education

**Participation in early childhood education and care remains low, hampering the early acquisition of cognitive and socioemotional skills.** Good quality early childhood education and care are crucial for the development of key competences. In Bulgaria, the participation rate for children aged 4 to compulsory school age has been declining since 2014. The latest data available indicate an enrolment rate of 83.9%, significantly below the EU average of 95.4%. Disparities in enrolment exist between regions<sup>32</sup> and between districts<sup>33</sup>. Care-related kindergarten fees still limit

<sup>31</sup> 'Motivation of teachers', 'IT companies in schools and teachers in IT companies', 'Innovation in action' and 'Support for municipalities for educational desegregation'.

<sup>32</sup> Participation rates range from 87.1% to in Yugoziapaden to 77.5% in Severoiztochen.

the participation of children from disadvantaged backgrounds and Roma, while a lack of facilities tends to particularly affect large urban areas. To improve enrolment rates, Bulgaria started implementing the EU-funded project 'Active inclusion in pre-school education'. The project provides additional Bulgarian language training for children with a mother tongue other than Bulgarian; it finances the cost of fees for attending the full-time kindergarten programme and supports parental involvement. Enrolment rates are very low for children younger than 3. Only 9.4% of children in this age group were enrolled in formal childcare for a variety of reasons, including the lack of nurseries. The rate is considerably below the EU average of 34.2%.

**In spite of ongoing efforts, early school leaving remains problematic.** In 2018, the rate of early leavers from education and training (18-24 age group) was 12.7%, still above Bulgaria's national Europe 2020 target of 11% and the EU average of 10.6%. No substantial progress has been made since 2010, with the rate hovering around 12-14% since then. Leaving the education system too early, without proper education and skills, is particularly problematic among the Roma<sup>34</sup> and in rural areas<sup>35</sup>, where poverty is higher and the quality of education is typically lower. It is also problematic from the perspective of the labour market, given the increasing need for higher-skilled workers and the decline of the working-age and student populations. Implementation of the inter-institutional mechanism that aims to identify out-of-school children and return them to education continues. The focus is shifting to school retention measures, such as activities aimed at overcoming learning gaps and increasing students' motivation. Dropout rates, including due to temporary or permanent emigration, remain high, however, and show very large regional variations (Institute for Market Economy, 2018). Despite the efforts of past years and the results that have been achieved so far, expanding and stepping up measures to prevent dropout remains particularly important.

**Improving quality and inclusiveness in education remains a major challenge.** Bulgaria's sharply declining demographic trends means that its economic future will depend to a large extent on how well it can upgrade the skills of its current and future workers (World Bank, 2016). Socio-economic disadvantage is still a key determinant of poor skills and low educational outcomes<sup>36</sup> in a context of important skills mismatches and shortages. Although a series of measures are being rolled out to improve quality and equity<sup>37</sup>, existing data shows that there are important gaps in the acquisition of basic and digital skills. PISA 2015 shows that about 40% of teenagers in Bulgaria do not have basic competences in reading, mathematics or science, with underachievement rates above 60% among disadvantaged students (OECD, 2016). Digital skills are low among the young: only 53% of young people aged 16-19 assess their level of digital skills as basic or above basic, compared to an EU average of 83%. Roma children are less likely to attend kindergarten and much more likely to drop out of school. An important continuing challenge is promoting ethnically-mixed schools and desegregation measures. The link between skills forecasting and follow-up in the education and training system is still not comprehensive (European Commission, 2019b), although some measures to improve the matching of supply and demand were recently taken. In this context, the 2019 country-specific recommendations call on Bulgaria to improve the quality, labour market relevance and inclusiveness of education and training, in particular for Roma and other disadvantaged groups (Council of the European Union, 2019).

## 6. Modernising higher education

**Student numbers continue to fall, while participation of students from disadvantaged backgrounds is rather low.** The number of students enrolled in universities continues to fall, mainly driven by demographic trends but also by the national policy to decrease the number of students in certain study fields. In 2018, the number of students enrolled was 20% lower at bachelor level and 15% lower at master level than in 2013/2014. Conversely, the number of PhD

<sup>33</sup> The gross enrolment rate for children aged 3-6 ranges from 88.9% in Blagoevgrad to 64.8% in Sliven (National Statistical Institute).

<sup>34</sup> 67% among Roma aged 18-24 (FRA, 2016).

<sup>35</sup> 26.2% in rural areas, 12.2% in towns, 5.9% in cities.

<sup>36</sup> Previous international surveys showed that socio-economic status has a significant impact on students' educational outcomes (European Commission, 2019b).

<sup>37</sup> A continuation of the efforts of Ministry of Education and Science to tackle these issues is the project 'Support for success', co-financed by ESF, which builds on previous projects, including 'Your class'. The project targets 1 500 schools, particularly students with learning gaps or at risk of dropping out. Career guidance is planned for students grades V to VII. The project started in February 2019 and has a budget of EUR 65 million.



students grew by 7% in the same timeframe. The number of international students is increasing but is insufficient to compensate for the large number of Bulgarians studying abroad<sup>38</sup>. Available data suggests that the enrolment of students from disadvantaged backgrounds is low<sup>39</sup>. Tertiary educational attainment among the population aged 30-34 increased slightly to 33.7% in 2018, but is still below Bulgaria's national Europe 2020 target (36%) and the EU average of 40.7%. The gender gap persists, with 40.8% of women in this age group holding a tertiary education degree, compared to 27% of men.

**Measures to increase labour market relevance are underway but overall higher education is still insufficiently aligned to the needs of the labour market.** In a context of increasing skills mismatches and declining student numbers, the profile of graduates does not correspond to the qualifications demanded on the labour market. Available data shows that Bulgaria continues to have one of the highest percentages of graduates in social sciences, business and law<sup>40</sup>, while the number of graduates in science, technology, engineering and mathematics (STEM) remains low<sup>41</sup>. A number of measures have been put in place to address this mismatch, such as linking public funding to quality and relevance for the labour market, eliminating tuition fees in professions where there are shortages on the labour market, additional funding for qualifications in demand on the labour market and limiting the number of places in study fields that are in oversupply. Some positive developments are visible (such as falling numbers in business administration and an increase in the number of students in ICT and medical studies). However, the attractiveness of STEM fields – which are high in demand on the labour market- is still rather low. This situation can be partly explained by the performance gaps in science and mathematics among young people (as measured by PISA), insufficient career guidance and the visible gender imbalance in the participation in higher education, particularly in certain study fields<sup>42</sup>. In addition, employers report that graduates have knowledge and skills deficiencies, including in soft skills and other transversal skills. Nevertheless, when students admitted under the new rules graduate, a more in-depth evaluation of the impact of the higher education reform will be possible.

## 7. Modernising vocational education and training

**Efforts are being made to increase the labour market relevance of vocational education and training (VET).** In June 2018, the Bulgarian Council of Ministers adopted a list of professions in shortage of qualified specialists, and the conditions for additional funding to schools that offer these qualifications. Most of these specialties are in the field of machine building, construction and transport. Since February 2019, learners in these fields have been receiving additional scholarships. Available data show a slight decline in total enrolment in upper secondary VET (50.7% in 2017, still above the EU average of 47.8%). The employment rate of recent VET graduates increased significantly in 2018, reaching 66.4%, compared with 59.1% the year before. Nevertheless, in 2018 it remained significantly below the EU average of 79.5%. The main development in relation to dual training was the adoption of the revised VET Act in October 2018. Amendments include the definition of requirements, the development of a database for companies involved in dual training, and the setting up of a labour contract for learners in dual training to provide for social and health insurance. The amended Act also sets rules for the training of in-company trainers, including compulsory training in pedagogy and methodology so that they acquire the competences needed to support dual learners in companies. In addition, an ESF co-financed project that aims to support the dual training system is set to start in the second half of 2019. The concept of 'teacher-methodologist' was introduced under the Bulgarian-Swiss dual VET project (DOMINO). Teacher-methodologists link mentors, (i.e. company employees participating in the

<sup>38</sup> In 2017, 8.1% of upper secondary graduates in Bulgaria had finalised tertiary education abroad.

<sup>39</sup> Less than 2% of students enrolling in a bachelor programme come from families where the parents' level of education is low (European Commission, 2018).

<sup>40</sup> In 2017, 13.2% of all graduates at Bulgarian universities had studied social sciences, journalism and information (EU average: 8%), and 32.9% had studied business, administration or law (EU average: 24%). Together, these two major study fields add up to 46.1%. While this was significantly above the EU average of 33.7%, it does mark a decline compared to previous years (51% in 2014).

<sup>41</sup> The latest available data show that in 2017, 20.5% of tertiary graduates in Bulgaria had studied STEM (EU average: 25.8%). This represents 14.3 graduates in STEM for every 1 000 Bulgarians aged 20-29 and is among the lowest in the EU.

<sup>42</sup> Out of the 31 100 bachelor graduates in 2017, almost 60% were women. 30% had graduated in business administration and law (66% women), 4% had graduated in ICT (36% women), while 14% had graduated in engineering, manufacturing or construction (25% women).



development of curricula for practical training), with VET school teachers. In April, the Ministry of Education and Science introduced a national training programme for in-company trainers.

## 8. Developing adult learning

**The need to upskill and reskill the population is high.** In Bulgaria, 17.4% of the working age population aged 25-64 (approx. 677 000 people) is low skilled. Although this percentage is slightly below the EU average (21.9%), it is particularly problematic given that it corresponds to twice the number of jobs available that require only an elementary level of skills (357 000). This clearly highlights the need for substantial up-skilling and re-skilling. However, only 2.5% of adults aged 25-64 in Bulgaria have had a learning experience during the preceding 4 weeks of the Labour Force Survey (EU average: 11.1%).

**Bulgaria has taken steps to increase the employability of disadvantaged groups and reduce regional disparities in employment rates among the working age population.** In January 2019, the Council of Ministers approved the National employment action plan, which aims to upskill unemployed people from disadvantaged groups through training and subsidised employment, particularly in municipalities with high levels of unemployment. The 'New chance for success' project is specifically aimed at people who have not completed education, as well as those who are unemployed and illiterate. 'Education of adults who have taken literacy courses' provides training for unemployed through apprenticeships and internships.

**Bulgaria lacks a comprehensive system for the training and assessment of teachers and training in adult education, and the supply is not sufficient.** In many cases, especially in vocational centres and enterprises offering job-related non-formal training, the qualification of adult educators is left entirely to the staff involved and is treated as a personal development issue. Adult educators fall into the same professional category as other teaching staff, but their profession is seen as even less attractive than being a school teacher. Insufficient attention is paid to the need for special qualifications for adult educators working with Roma. Further efforts are needed to improve teaching and teacher training for adult education. For example, a legal definition of the status of adult educators and for inclusion of the profession among teachers and pedagogical specialists is needed, alongside the development of a comprehensive system for adult teaching training.

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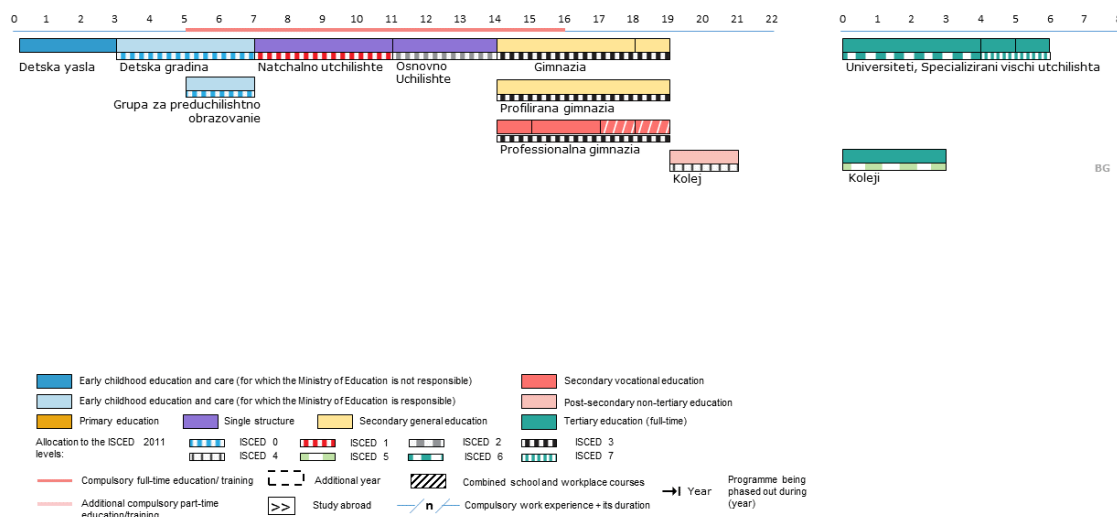
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## Annex I: Key indicator sources

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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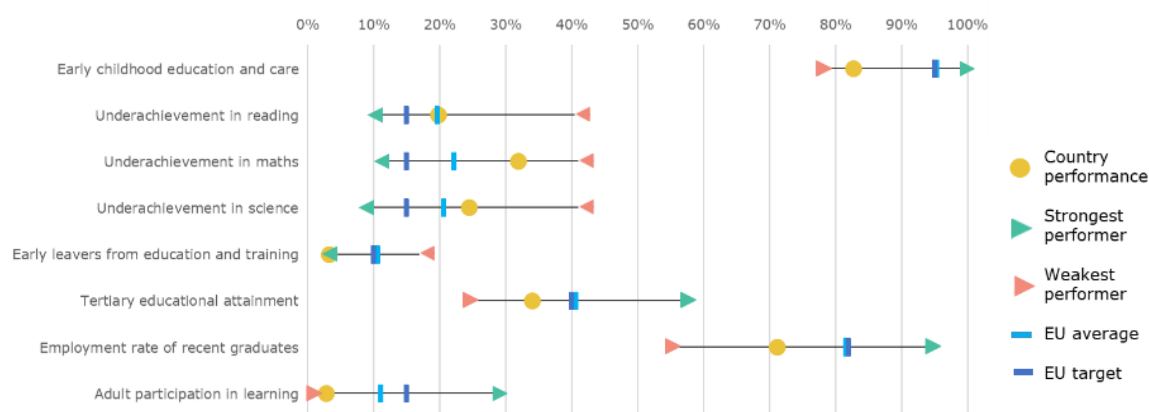
# CROATIA

# 1. Key indicators

			Croatia		EU average	
			2009	2018	2009	2018
Education and training 2020 benchmarks						
Early leavers from education and training (age 18-24)			5.2%	3.3%	14.2%	10.6%
Tertiary educational attainment (age 30-34)			21.3%	34.1%	32.3%	40.7%
Early childhood education and care (from age 4 to starting age of compulsory primary education)			69.2%	82.8% <sup>17</sup>	90.8%	95.4% <sup>17,d</sup>
Proportion of 15 year-olds underachieving in:	Reading		22.4%	19.9% <sup>15</sup>	19.5% <sup>EU27</sup>	19.7% <sup>15</sup>
	Maths		33.2%	32.0% <sup>15</sup>	22.3% <sup>EU27</sup>	22.2% <sup>15</sup>
	Science		18.5%	24.6% <sup>15</sup>	17.7% <sup>EU27</sup>	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)	76.3%	71.2%	78.3%	81.6%
Adult participation in learning (age 25-64)		ISCED 0-8 (total)	3.0%	2.9%	9.5%	11.1%
Learning mobility	Degree-mobile graduates (ISCED 5-8)		:	3.1% <sup>17</sup>	:	3.6% <sup>17</sup>
	Credit-mobile graduates (ISCED 5-8)		:	4.6% <sup>17</sup>	:	8.0% <sup>17</sup>
Other contextual indicators						
Education investment	Public expenditure on education as a percentage of GDP		4.9%	4.7% <sup>17</sup>	5.2%	4.6% <sup>17</sup>
	Expenditure on public and private institutions per student in € PPS	ISCED 0	€3 826 <sup>12</sup>	: <sup>16</sup>	:	€6 111 <sup>15,d</sup>
		ISCED 1	€7 507 <sup>12</sup>	: <sup>16</sup>	€5 812 <sup>12,d</sup>	€6 248 <sup>15,d</sup>
		ISCED 2	: <sup>12, d</sup>	<sup>16</sup>	€6 937 <sup>12,d</sup>	€7 243 <sup>15,d</sup>
		ISCED 3-4	€3 337 <sup>12,d</sup>	: <sup>15</sup>	:	€7 730 <sup>14,d</sup>
		ISCED 5-8	: <sup>12</sup>	: <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	5.3%	3.3%	13.1%	9.5%	
	Foreign-born	3.7% <sup>u</sup>	: <sup>u</sup>	26.1%	20.2%	
Tertiary educational attainment (age 30-34)	Native-born	21.4%	34.8%	33.1%	41.3%	
	Foreign-born	18.7% <sup>u</sup>	28.0% <sup>u</sup>	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	72.9%	66.3%	72.5%	76.8%	
	ISCED 5-8	80.7%	75.2%	83.8%	85.5%	

Sources: Eurostat; OECD (PISA); Learning mobility figures are calculated by the European Commission's Joint Research Centre (JRC) on UOE data. Further information can be found in Section 10 and Volume 1 ([ec.europa.eu/education/monitor](https://ec.europa.eu/education/monitor)). Notes: The EU's 2009 PISA averages do not include Cyprus; d = definition differs, u = low reliability, : = not available, 12=2012, 14=2014, 15 = 2015, 16=2016, 17 = 2017.

**Figure 4 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

- 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.

## 3. A focus on teachers

**Teaching is a predominantly female profession.** In 2017, there were 84 370 teachers working at various levels in the education system. Early childhood education and care (ECEC) and primary teachers are almost exclusively female (99% and 93% respectively). Women are also in the majority (67%) in upper secondary schools, while there is virtual gender parity in tertiary education<sup>43</sup>. Time spent in contact teaching is below the EU average (OECD, 2016). Many students apply for initial teacher education, so it is possible to be selective. A national study suggests that students' motivation drops in the course of their studies (Šimić Šašić et al., 2013). The proportion of teachers whose first choice of career was teaching (66.7%) is around the EU average, but differs significantly between female (70.6%) and male (53%) teachers (OECD, 2019)<sup>44</sup>. In the OECD's TALIS Survey, teachers reported that the profession is not considered attractive (OECD, 2019). This may be due to low social status<sup>45</sup>.

**There are teacher shortages in ECEC and certain subjects.** For the former, the (already big) shortage (in 2016, Croatia needed 4 217 more ECEC teachers) would nearly double if Barcelona targets were to be reached by 2030 (Dobrotić et al., 2018)<sup>46</sup>, in particular in poorer areas where coverage is already low. The number of new entrants to the profession is insufficient to cover the shortfall<sup>47</sup>. In schools, there are shortages in remote areas and for science, technology, engineering and mathematics (STEM subjects), and for information and communications technology (ICT). There are no specific incentives on offer to address these shortages. If there is no teacher with subject-specific qualifications, subjects can be taught by any qualified teacher. About a third of teachers are aged over 50<sup>48</sup>.

**Teachers' salaries are below average for tertiary graduates.** Staff pay (largely teachers' salaries) accounts for 73.2% of government expenditure on education (the EU average is 62.0%)<sup>49</sup>. However, in November 2018 the average net teachers' salary was EUR 895 in primary schools and EUR 975 in secondary schools (CBS 2018a), significantly below the average net salary for tertiary graduates. A 5% pay rise will be introduced in two stages in 2019. Certain categories of teachers (e.g. those working in three or more schools or in special needs education) receive slightly higher salaries. Also, teachers in schools involved in the implementation of the School for Life curricular reform pilot project<sup>50</sup> receive a bonus of up to 15%.

**Initial teacher education differs according to the levels of education.** For ECEC, a bachelor's degree is needed; from primary onwards, a master's. After studies, teachers must undergo a

<sup>43</sup> Eurostat, UOE 2017.

<sup>44</sup> In 2018, 23 Member States participated in TALIS survey: 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>45</sup> According to TALIS 2018, 90.8% of teachers feel that the teaching profession is not valued. Croatian research shows that 63.9% of secondary students share this opinion (AZVO, 2018a).

<sup>46</sup> In 2017/2018, there were 12 142 ECEC teachers; it is estimated that 9 148 more will be needed by 2030.

<sup>47</sup> About 500 students graduate annually as ECEC teachers, a net annual growth of only 200 after taking account of retirees (CBS, 2018b).

<sup>48</sup> 29% in ECEC, 27% in primary schools, 30% in secondary schools, 34% in tertiary education (all below the EU average).

<sup>49</sup> Eurostat, COFOG 2017.

<sup>50</sup> See: <https://skolazazivot.hr/>.

one-year induction and take the state certification examination. The most frequently reported professional development need is in the field of ICT skills (26.2%, compared with an EU average of 16.1%) (OECD, 2019). Continuous professional development (CPD) is obligatory for primary and secondary school teachers and a requirement for career progression. In higher education, there is a tendency to downplay teaching qualifications and teacher training, since they are not a pre-condition for career advancement (Domović et al., 2018).

**Measures to improve attractiveness of school principals positions are being taken.** School principals are elected by school boards for a renewable five-year period and approved by the Minister of Education. They must have at least five years' teaching experience. While their role is mainly administrative, they used to receive little training in leadership or education management, but new education management training has been introduced this year. Their performance is not evaluated and does not affect their pay. The Strategy for Education, Science and Technology proposed licensing for school principals, which is included in the Education Act.

## 4. Investing in education and training

**Education spending is close to the EU average.** In 2017, Croatia spent 4.7% of its GDP on education (the EU average is 4.6%). As a proportion of general government expenditure, education spending (10.5%) is also close to the EU average (10.2%). The share of spending on tertiary education is 21.5%, above the EU average of 15.0%.

**The financing of ECEC is almost exclusively the responsibility of local government.** Total public expenditure for ECEC rose from 0.46% of GDP to 0.61% (from 8.1% to 10.6% of the total budget of local self-government units). There are big regional differences: spending is considerably less in poorer units<sup>51</sup> (Dobrotić et al., 2018). Structural investments are being made on national level to improve the situation.

**Top-up funding for higher education is being introduced.** Performance contracts have been experimentally introduced since 2012; the current (third) cycle covers funding for both research and teaching. In the next 4 years, the contracts will provide higher education institutions with top-up funding of EUR 250 million used for both basic teaching-scientific funding and for top-ups: up to 5% of basic for teaching, up to 20% of basic for science and up to 3% of total funding for a specific institution profile.

## 5. Modernising early childhood and school education

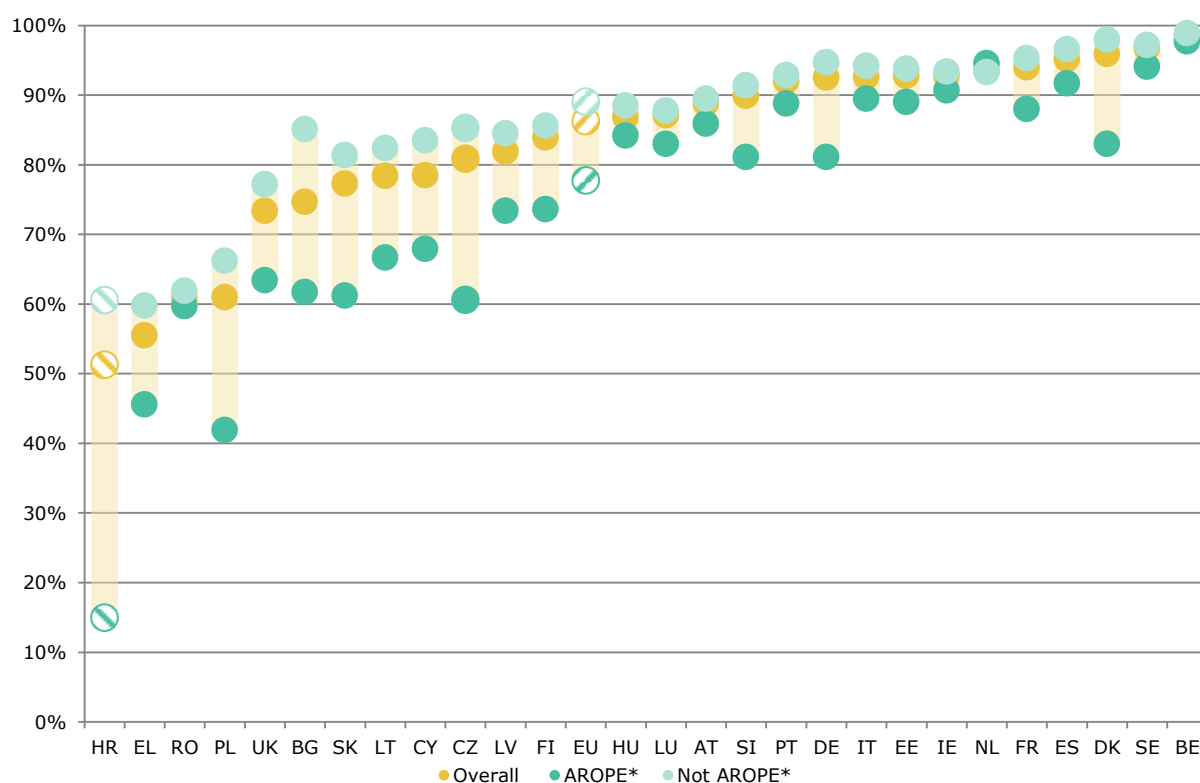
**Low participation in ECEC is hard to remedy, due to decentralised funding and sometimes counterproductive measures.** Croatia has one of the lowest ECEC participation rates in the EU for children between the age of 4 and compulsory education (82.8%, well below the 95% benchmark for 2020 and the EU average of 95.4%), although in 2017 it has risen by 7.7 pps since 2016. Compulsory education starts a year before primary school, so almost all children attend at least that year (OECD, 2017, p. 74). There are not enough places to guarantee participation<sup>52</sup>. Priority is given to families where both parents are working, so the children of unemployed parents are at a disadvantage. Other barriers include insufficient teacher numbers and high parental contributions<sup>53</sup>. The poorest levels of provision are to be found in remote and less-developed regions. Some municipalities give financial support to help parents whose children do not attend kindergarten to care for them at home, thus in effect disincentivising their participation in ECEC (City of Zagreb, 2016). Some positive initiatives are being taken, such as longer opening hours to help parents who work early or late shifts. The EU structural funds support the building and renovation of kindergartens.

<sup>51</sup> 5.7% to 14.1% of units' budget in 2015.

<sup>52</sup> 146 municipalities did not have kindergartens in 2014-2016 (Dobrotić et al., 2018).

<sup>53</sup> 80% of children live in municipalities where parents have to pay monthly contributions of EUR 65-93 for kindergarten, equivalent to 10-12% of the average net salary (Dobrotić et al., 2018).

**Figure 5: Participation in formal childcare or education of children between 3 and mandatory school age, by socio-economic background, 2016 (%)**



Source: JRC calculations using 2016 EU-SILC microdata. Notes: \*AROPE = at risk of poverty or social exclusion

**Emigration is reducing the school-age population.** The school-age population in Croatia is expected to fall by 23.1% between 2020 and 2040, partly as a result of many young families moving to other countries<sup>54</sup>.

**The rate of early school leaving is very low, but the overall quality of education remains a challenge.** Croatia has the lowest rate of early school leaving in the EU (3.3%, compared with an EU average of 10.6%). Nevertheless, the gap for students with disabilities is one of the largest in the EU (14 pps, as against an EU average of 10 pps) (Grammenos, 2013). Croatia has one of the shortest compulsory primary and lower secondary schooling cycles in the EU – it lasts only 8 years. The Strategy for Education, Science and Technology identified this as an area for change, but there are infrastructure challenges, as many schools work in two or three shifts. There is a project in cooperation with the World Bank that aims to enable change to one-shift teaching and increase the number of teaching hours/lessons. This should help improve the results of Croatian pupils (e.g. OECD's Programme for International Skills Assessment (PISA) test, where pupils perform below the EU average in reading, science and in particular mathematics (OECD, 2016)). A national youth study shows that young people are not very satisfied with the quality of their education (Gvozdanović et al., 2019), while according to World Economic Forum indicators the quality of education in Croatia ranks 112th out of 137 (Schwab, 2017).

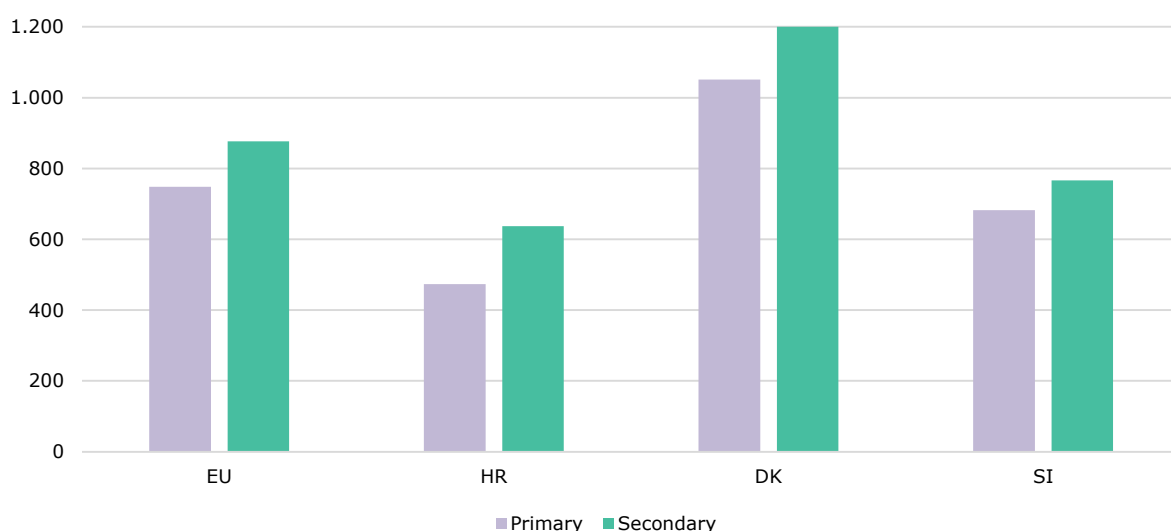
**Instruction time is low and students have a negative attitude towards school.** In primary education, average annual instruction time is 473 hours (EU average: 748). In lower secondary education, it is 637 hours (EU average: 877) (Eurydice, 2019). Nevertheless, students increasingly describe their education as hard and stressful (Gvozdanović et al., 2019); a large percentage do not like going to school at all (42.2% at age 11 and 60.9% at age 14) (Jokić et al., 2019). A

<sup>54</sup> Own calculations on EUROSTAT population projections data. Online data code: [proj\_15npms].



positive development is that 86% of pupils surveyed following participation in the School for Life pilot said that their classes were different and more interesting<sup>55</sup>.

**Figure 3 Recommended minimum instruction time for the compulsory curriculum (in hours, per notional year and by ISCED level), 2017/2018**



Source: Eurydice, *Recommended Annual Instruction Time in Full Time Compulsory Education in Europe*.

**Curricular reform is progressing.** Reformed curricula have been adopted for most subjects and cross-curricular topics and these will be implemented incrementally from 2019/2020 in all primary and secondary schools. Schools are being supplied with all necessary equipment and materials. The reform includes extensive CPD for teachers, mentoring, and learning communities to share practices on teaching methods (see text box 1). Following the e-Schools project, ICT was introduced as a compulsory subject in the fifth and sixth grades of primary and the first grade of general secondary schools from 2018/2019. Croatia received from the Council of the European Union a country specific recommendation to "Deliver on the education reform and improve both access to education and training at all levels and their quality and labour market relevance." (Council of the European Union, 2019).

**Digital skills levels are low.** In 2017, the percentage of 16-74 year-olds who have reported having basic or above-basic overall digital skills was the second lowest in the EU (41%, as compared with an EU average of 57%)<sup>56</sup>. The proportion of people regularly using the internet is among the lowest in the EU (73%, as compared with the EU average of 83%). The digital skills of young people aged 16-19 are slightly better than EU average, but they dropped significantly between 2016 (70%) and 2017 (59%).

#### Box 1: Mass training of teachers in preparation for curricular reform

Curricular reform was piloted in 74 schools in 2018/2019, with a view to full implementation the following year. Due to the tight schedule, preparations for full implementation are proceeding alongside, and being informed by, the evaluation of the pilot phase (MZO, 2019a).

There is an extensive programme of face-to-face and online training courses to prepare teachers and support staff to implement the new curriculum. A first round of face-to-face training covered 32 000 teachers, 26 000 in a second round and 29 000 in the third round. Supplementary online training is taking place at the same time (MZO, 2019b).

Training and support materials have been developed to help teachers implement new elements such as learning outcomes, different types of assessment and the teaching of transversal themes and to make best use of the new IT equipment. Virtual classes are offered for each subject, in

<sup>55</sup> <https://skolazivot.hr/preliminarni-rezultati-zadovoljstva-dionika-reforme-skola-za-zivot/>

<sup>56</sup> Eurostat, DESI 2017.

which teachers should participate for up to 4 hours a week. Participation is not obligatory, but many teachers are taking them. The goal is that all primary and secondary teachers should have completed training by the next school year.

Online training will continue as needed after full implementation in 2019/2020.

## 6. Modernising higher education

**Student numbers are high, but completion of studies is low.** 81% of grammar school and eligible vocational education and training (VET) students hope to go on to higher education (AZVO, 2018b). 68% of upper secondary students enrol in higher education (AZVO, 2014), including 61% of VET students. In 2018, the tertiary education attainment rate was 34.1%, a steep (5.4 pps) increase from 2017 (28.7%), but still well below the EU average of 40.7%. There is an unusually wide gender difference (41.9% of women against 26.5% of men) and 57% of current students are female (CBS, 2018c).

**The number of study programmes is large; the government gives scholarships for STEM studies.** There are 1781 study programmes in Croatia of which 727 in STEM (38.9%) (MZO Register, 2019). For STEM programmes funding arrangements are more favourable: the proportion of STEM graduates is among the highest in the EU (27% in 2017, compared with an EU average of 25.8%).<sup>57</sup> Also, 3 400 scholarships for STEM studies annually were introduced from 2017/2018. However, the scholarships do not specifically encourage students to become STEM teachers and there are already teacher shortages, which may have a negative effect on the future supply of STEM students.

**The level of student mobility is low.** Learning mobility is low (6.9%, well below the EU benchmark of 20% and average of 10.7%). Inward degree mobility is the lowest in the EU (0.4%, compared with an EU average of 8.6%); almost all of it is for doctorates and master's degrees. 90% of foreign students are European (64.3% from non-EU European countries). The government hopes to, among other things, stimulate internationalisation through performance funding.

**The government is making efforts to improve equity.** The 2018-2021 National Plan for the Enhancing the Social Dimension of Higher Education (adopted in January 2019) highlights 16 categories of students who face challenges in accessing higher education or are at risk of dropout. The plan includes:

- improved data management;
- quantitative indicators;
- instruments for improved access; and
- increased retention, completion and employment rates, to be linked to funding for higher education.

As only about half of the eligible students with lower socio-economic status were receiving the regular state scholarship, in 2017/2018 Croatia started using ESF funds to increase the number of scholarships per year from 5 400 to 10 000, including for students with disabilities. It has also increased transport subsidies for students with disabilities.

## 7. Modernising vocational education and training

**Enrolment in VET has decreased, but employability has improved.** The number of new students entering formal VET programmes fell by 7% in 2017 compared to 2016. Total enrolment in upper secondary VET fell slightly (to 69.6%), but is still above the EU average (47.8%). It is reported that until 2017/2018 there were no combined school- and work-based learning programmes in formal VET in Croatia (i.e. the breakdown is reported as not applicable) (UOE, 2017). The employability of VET graduates improved significantly (from 59.4% in 2017 to 68.8% in 2018), but it is still below the EU average (79.5%).

<sup>57</sup> Eurostat, UOE, 2017.

**Many VET students go on to higher education.** Between 2010/2011 and 2013/2014, around 78% of four-year VET students passed the state *Matura* exams each year and 61% enrolled in higher education programmes (Jokić and Ristić Dedić, 2014).

**Croatia is implementing curricular reform in VET.** It aims to develop new innovative and flexible sectoral curricula based on labour market needs and to strengthen teacher competences. Curricula will be developed for each of the VET sectors. VET institutions will be able to adapt 30% of the curricula to local needs. Relevant institutions and social partners are working to develop occupational standards, which will be entered in an online database. A Qualification Framework (CROQF) Register<sup>58</sup> has been created, including units of learning outcomes and qualification standards.

**VET regional centres of competence and a dual VET education pilot are complementing the reform.** In July 2018, 25 VET schools were designated as regional centres of competence in five sectors to promote VET excellence, including teacher training and lifelong learning. Basic features include innovative learning models, teaching excellence (including mentors), high-quality infrastructure and creative partnerships among relevant stakeholders. The experimental programme "Dual Education in VET" launched in 2018 has been expanded by 13 VET schools for 2019/2020, providing more opportunities for work-based learning. It aims to address inadequacies in practical training and insufficient entrepreneurial competences, and to reduce the skills mismatch (over half of registered unemployed people are VET graduates). An ESF project, 'Modernisation of the system of continuous VET teachers' and trainers' development', supports the training of VET school principals and has involved two VET teachers' days attended by over 1 100 participants.

**The VET Act does not provide for VET graduate tracking; data is only collected by schools on a voluntary basis.** The Croatian Agency for VET and Adult Education (AVETAE) plans to implement a tracking model as part of a wider project. A separate inter-institutional project aims to monitor people not in employment, education or training.

#### Box 2: Promotion of student competences and VET through skills competitions and fairs

This project is organised by AVETAE, the partner body for WorldSkills Europe<sup>59</sup> and WorldSkills International. The cost of the project is EUR 5 455 980, of which 85% is covered by the ESF<sup>60</sup>. It started in January 2017 and will last 5 years.

In Croatia, vocational education is considered a less attractive option and this has a negative effect on enrolment. Vocational competitions aim to promote excellence and increase the attractiveness of vocational education. They also provide an opportunity for employers to connect with VET schools<sup>61</sup>.

This project aims to modernise vocational competitions and increase participation, thereby motivating students to improve their competences and presentational skills.

In the first two years, the project has supported the participation of more than 1 000 students and 639 teachers in a new type of competition. The national skills competition (the largest in this part of Europe) took place in March 2019 in Zagreb, with around 450 students competing in more than 40 skills, from traditional skills such as hairdressing to interdisciplinary disciplines such as robotics and mechatronics, in front of an audience of almost 10 000<sup>62</sup>.

<sup>58</sup> See <https://hko.srce.hr/registar/>.

<sup>59</sup> Agency for Vocational Education and Training and Adult Education (ASOO) <http://www.asoo.hr/default.aspx?id=1369>.

<sup>60</sup> ASOO <http://www.asoo.hr/default.aspx?id=1173#PUK>.

<sup>61</sup> *Ibid.*

<sup>62</sup> World Skills Croatia <http://www.worldskillscroatia.hr/hr/kalendar/drzavno-natjecanje-ucenika-strukovnih-skola-worldskills-croatia-2019/>

## 8. Developing adult learning

**While there are relatively few low-qualified adults, participation in adult education is minimal.** 14.9% of the adult population have not acquired at least an upper secondary qualification (EU average: 21.9%). The proportion of low-qualified adults in employment (37.5%) is also below the EU average (56.8%). However, 367 000 adults (aged 25-64) had a low level of educational attainment in 2017, while there were only 120 000 jobs in elementary occupations, highlighting the need for substantial up-skilling and re-skilling, mostly among older cohorts. Participation in adult learning is low (2.9%, EU average: 11.1%). In 2017/2018, no adult aged 25 or above acquired an upper secondary qualification.

**The adult education policy framework is outdated and programmes are not properly assessed.** A new version of the Adult Education Act has been discussed for a long time, but is not yet adopted. It should ensure full compliance with the Croatian NQF, simplify administrative procedures, improve quality assurance through external evaluation and enable recognition of skills gained through non-formal and informal learning.

**The initial and continuing training opportunities for adult education staff are insufficient.** Teachers and trainers work as external associates; they are not employed in adult education institutions and their CPD is a personal responsibility, with no institutional funding. National statistics indicated that 692 adult learning educators participated in training in 2017. Future policy action could include:

- updating the CROQF with the skills required for adult education teachers and trainers;
- creating university programmes for specialists;
- new curricula to train teachers and trainers; and
- establishing permanent education and certification systems for them.

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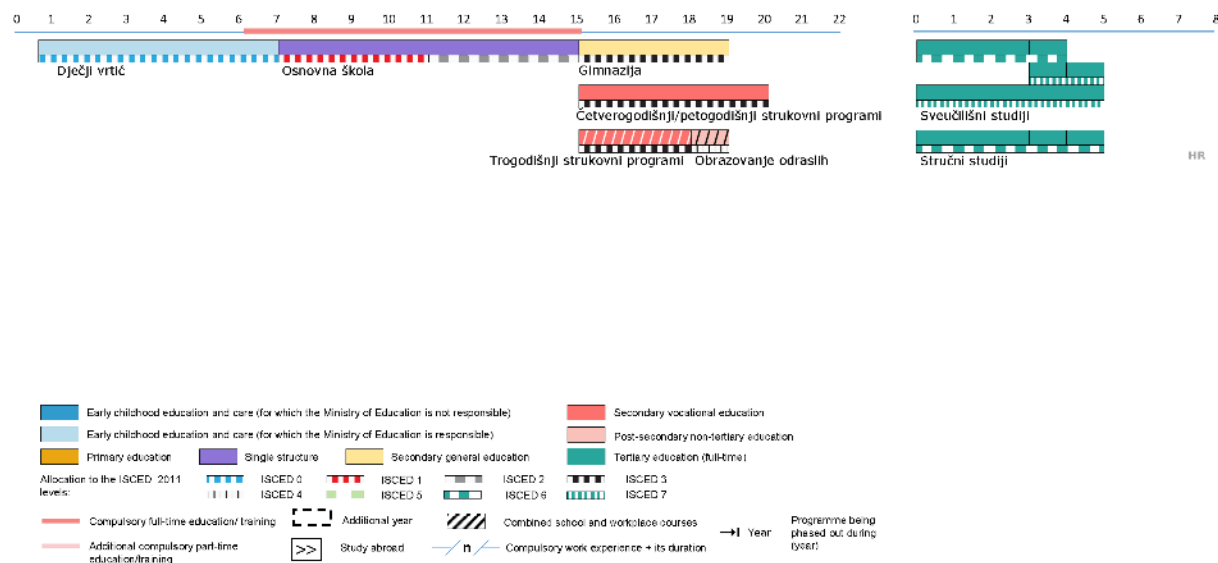
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## Annex I: Key indicator sources

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 2018/2019: Schematic Diagrams*. Eurydice Facts and Figures. Luxembourg (Publications Office of the European Union)

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# CYPRUS

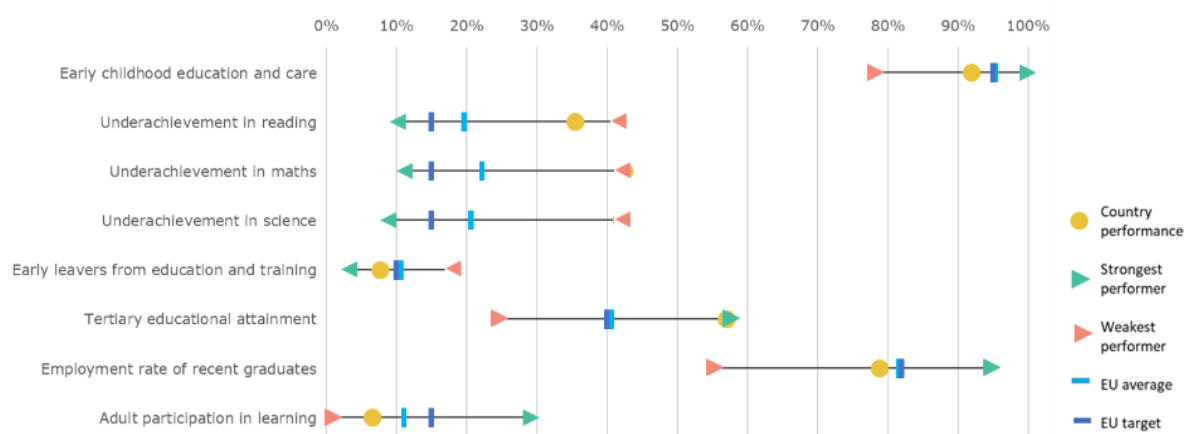


## 1. Key indicators

			Cyprus		EU average	
			2009	2018	2009	2018
Education and training 2020 benchmarks						
Early leavers from education and training (age 18-24)			11.7%	7.8%	14.2%	10.6%
Tertiary educational attainment (age 30-34)			45.0%	57.1%	32.3%	40.7%
Early childhood education and care (from age 4 to starting age of compulsory primary education)			84.7%	92.0% <sup>17</sup>	90.8%	95.4% <sup>17,d</sup>
Proportion of 15 year-olds underachieving in:	Reading		32.8% <sup>12</sup>	35.6% <sup>15</sup>	19.5%	19.7% <sup>15</sup>
	Maths		42.0% <sup>12</sup>	42.6% <sup>15</sup>	22.3%	22.2% <sup>15</sup>
	Science		38.0% <sup>12</sup>	42.1% <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)	81.1%	78.9%	78.3%	81.6%
Adult participation in learning (age 25-64)	ISCED 0-8 (total)		8.3%	6.7%	9.5%	11.1%
Learning mobility	Degree-mobile graduates (ISCED 5-8)		:	35.1% <sup>17</sup>	:	3.6% <sup>17</sup>
	Credit-mobile graduates (ISCED 5-8)		:	1.7% <sup>17</sup>	:	8.0% <sup>17</sup>
Other contextual indicators						
Education investment	Public expenditure on education as a percentage of GDP		6.7%	5.7% <sup>17</sup>	5.2%	4.6% <sup>17</sup>
	Expenditure on public and private institutions per student in € PPS	ISCED 0	€4 282 <sup>12</sup>	€3 751 <sup>16</sup>	:	€6 111 <sup>15,d</sup>
		ISCED 1	€8 228 <sup>12</sup>	€8 326 <sup>16</sup>	€5 812 <sup>12,d</sup>	€6 248 <sup>15,d</sup>
		ISCED 2	€9 767 <sup>12</sup>	€10 849 <sup>16</sup>	€6 937 <sup>12,d</sup>	€7 243 <sup>15,d</sup>
		ISCED 3-4	€10 055 <sup>12</sup>	€11 298 <sup>16</sup>	:	€7 730 <sup>14,d</sup>
	ISCED 5-8	€9 866 <sup>12</sup>	€9 164 <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		7.8%	6.2%	13.1%	9.5%
	Foreign-born		23.0%	13.9%	26.1%	20.2%
Tertiary educational attainment (age 30-34)	Native-born		49.4%	64.1%	33.1%	41.3%
	Foreign-born		36.5%	43.8%	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		73.8%	68.4%	72.5%	76.8%
	ISCED 5-8		82.9%	81.3%	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](https://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 6 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. 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 under-utilisation 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 the attractiveness of both sectors and participation in them remain low.

## 3. A focus on teachers

### **The teaching profession remains attractive and has started to become more competitive.**

Teaching attracts top university students and working conditions remain attractive despite facing specific challenges. Both aspects are key for high-performing systems (European Commission, 2018). The 2018 OECD Teaching and Learning International Survey (TALIS)<sup>63</sup> shows that the proportion of Cypriot teachers who believe teaching is a profession valued by society is the second highest in the EU (43.5% v 17.7% EU average) (OECD, 2019b). 91.2% of teachers are satisfied with their job (EU average: 89.5%), and they remain so after more than 5 years' working experience (91.3%). Job security is considered moderately or highly important by teachers in their decision to join the profession (80.1% v an EU average of 65.5%).

**A combination of factors has led to a large supply of candidate teachers.** Good working conditions, limited alternative job opportunities and a hiring system favouring candidates' seniority over merit have resulted in long waiting times for candidate teachers to be recruited<sup>64</sup>. This has also contributed to the gradual ageing of the teaching workforce. In addition, between 2008 and 2018 Cyprus saw a large influx of Greek teachers, with 10 327 secondary and 1 287 primary teachers applying for recognition in Cyprus to practice there<sup>65</sup>. The new recruitment system introduced in 2017 and based on competitive exams led to the hiring of 60 permanent and 278 substitute teachers in 2018. Recruitment from the old system will coexist until 2027. Exams for a next round of competitive hiring are scheduled for November 2019.

**Teachers' salaries and working conditions compare favourably to those of European peers.** Minimum and maximum statutory salaries are the same for teachers from pre-primary to secondary level. In 2016<sup>66</sup>, Cyprus reported actual salaries for teachers in primary and secondary education that were among the highest in the EU (European Commission, 2016). Teachers need fewer years in service than most other EU countries to reach the maximum salary. Working overtime<sup>67</sup> or additional responsibilities such as conducting extra-curricular activities are compensated through a reduction in teaching hours. Statutory teaching hours are in line with or (for primary education) slightly above the average for beginning teachers in EU peer countries. However, they decrease progressively<sup>68</sup> with years of service, thus reducing contact time for more experienced teachers. The student teacher-ratio in secondary education is below the EU average, while in primary education it is in line with the rest of the EU.

<sup>63</sup> In 2018, 23 Member States participated in the TALIS survey: 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>64</sup> In 2018, the waiting list contained 3 266 pre-primary teachers, 4 060 primary teachers, 35 868 secondary (general) teachers and 5 019 secondary (technical/vocational) teachers.

<sup>65</sup> In the same period 7 secondary and 2 primary teachers moved from Cyprus to Greece. Regulated professions database: <http://ec.europa.eu/growth/tools-databases/regprof/index.cfm?action=homepage>

<sup>66</sup> In PPS. Latest available data as Cyprus did not participate in the 2017 or 2018 data collection.

<sup>67</sup> In primary education, teachers are expected to replace colleagues for 10 teaching periods during a school year and in secondary 7.

<sup>68</sup> From 29 teaching hours in primary education by 2 periods after 14 years and 20 years and from 24 in secondary education by 2 periods after 7, 16 and 20 years.

**New teachers currently receive no induction training.** Induction training is mandatory but has not been implemented since 2013 due to financial constraints. Previously, mentoring programmes paired new teachers with a senior teacher in their school during the first year of teaching, in addition to afternoon training courses. In view of Cyprus's low performance in basic skills (European Commission, 2017), the absence of induction training seems a lost opportunity given the ample evidence of its impact on the quality of teaching (European Commission, 2018) and student achievements (Ingersoll, 2011).

**Continuing professional development (CPD) increasingly responds to the needs of teachers and schools but is insufficiently linked to career development and evaluation.** Teachers can opt to attend as many seminars as they wish over the school year which are provided free of charge. One-off training events have limited impact on professional learning and consequently on students' outcomes (European Commission, 2018a). The 'teacher professional learning' framework therefore emphasizes schools-based training and action research methods. Schools select topics based on their assessment of needs, which are then addressed through different school-based training activities. While CPD is taken into consideration in promotions, it is insufficiently linked to career paths and teacher evaluation (see Box 1).

#### Box 1: A new approach to teacher evaluation

Effective teacher evaluation can positively impact the quality and job satisfaction of teachers as well as their feelings of self-efficacy (European Commission, 2018a). Cyprus's teacher evaluation system has changed little since 1976. In 2019, the Council of the EU addressed for the third time a country-specific recommendation to Cyprus calling on it to 'deliver on the reform of the education and training system, including teacher evaluation' (Council of the European Union, 2019).

The annual reports of school heads on teachers' performance are a largely administrative task. School inspectors, who observe teachers in the classroom, are formally expected to provide both summative and formative evaluation<sup>69</sup>. So far, there is no link of evaluation to school effectiveness. Meta-level analysis of evaluation data with the purpose of informing and reforming the system is also missing.

A new proposal of January 2019 includes: formative assessment of teachers and of school evaluation; support for novice teachers, contract staff and substitutes; evaluation of evaluators; and continuous support for teachers. The proposal also sets out a new horizontal career step for teachers (Senior Teacher), to better profit from experienced teachers in the system. School heads should play a more substantial role in teacher evaluation. Lastly, the proposal provides for meta-evaluation to continuously improve the evaluation criteria and procedures.

While there is no single best model for teacher evaluation (OECD, 2018b), the new framework would provide many valuable measures. These include multiple evaluators, support for professional development, the link to student and school assessment, and evaluation of school heads and inspectors. However, other crucial elements are missing, in particular a clear competence framework for teachers and students. Given that the new system will be implemented by those already involved (inspectors, teachers, school heads), it is important to invest in training evaluators, school heads and teachers to be able to effectively observe and give feedback, and to act on it (European Commission, 2018a). Trust-building measures are also essential, including proper communication, training, pilots and linking teacher evaluation with school improvement (European Commission, 2018a).

## 4. Investing in education and training

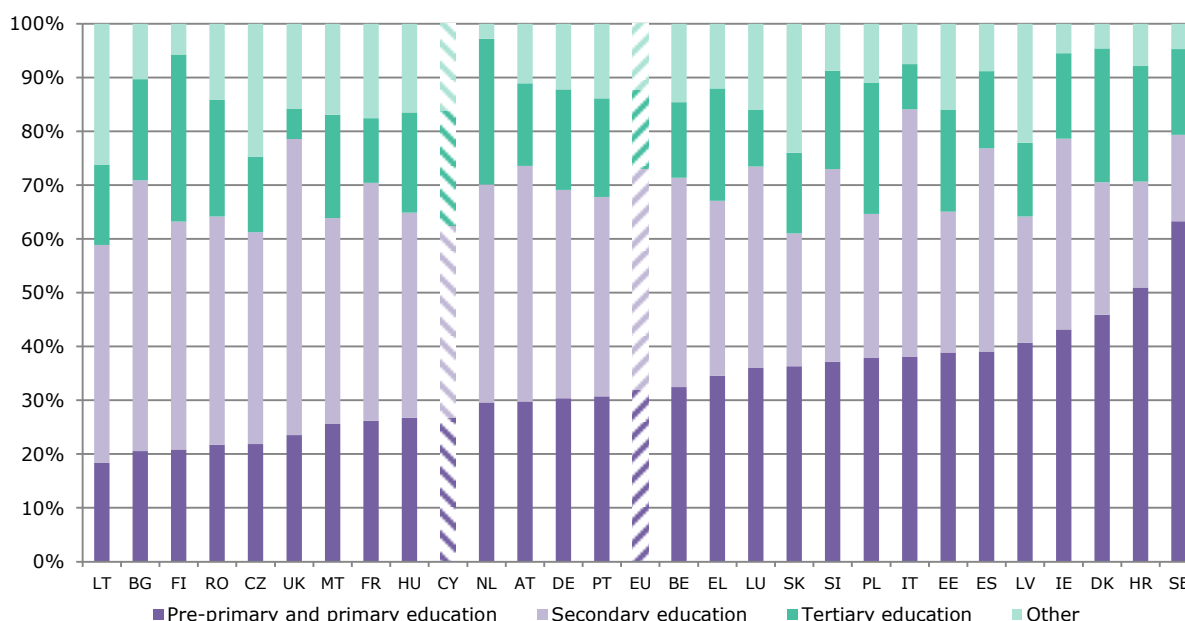
**Expenditure cuts during the financial crisis have had most impact on education for the youngest.** Compared to the EU average of 4.6%, Cyprus's public education expenditure as a share of GDP was 5.7% in 2017. While this is 0.2 pps smaller than in 2016, absolute expenditure was higher, reflecting increased GDP. Between 2010 and 2017, expenditure fell by 10.7% in real terms.

<sup>69</sup> Since 1976 no teacher has been deemed unsatisfactory after passing probation, with most teachers scoring between 35 and 37 out of 40 points.

While research has shown that effective investment in early childhood education and care yields high returns in terms of inclusive education outcomes (OECD, 2018a), the biggest decrease (23.8%) occurred in pre-primary and primary education. By contrast, spending in tertiary education rose by 8%. Teachers' pay constitutes 72.7% of total expenditure on education, higher than the EU average (62%).

**Private tutoring weighs heavily on parents' education spending.** In 2016, private education spending amounted to roughly 26% of overall (public and private) spending on education<sup>70</sup>. While the lion's share of private spending (57%) went on tuition for private education institutions at all levels (ISCED 0-8), a substantial part of it was spent on supplementary tutoring (21%) for pupils. Of this share, 21% was spent for primary education, whereas 47% went to upper secondary students. Socio-economic status is of little relevance: poorer households are almost as likely as high-income families to invest in private tutoring (Lamprianou, 2013). Social mobility in general and high-stakes exams for entry into higher tertiary education in particular are justifications for its prevalence. The ongoing reform of the education system also aims to reduce dependence on private tutoring. However, public tutoring institutions (managed and maintained by the state), which co-exist and compete with private institutions by charging lower fees, appear to validate the phenomenon of private tuition (Lamprianou, 2013).

**Figure 2 General government expenditure in education by level of education (2017)**



Source: DG EAC, based on Eurostat data and the Classification of the functions of government (COFOG). Online data code: gov\_10a-exp

## 5. Modernising early childhood and school education

**Participation in early childhood education and care (ECEC) is moving towards the EU average but public ECEC is underfunded.** In 2017, 92% of children aged 4 to 6 were enrolled in ECEC (EU average 95.4%). Many parents depend on private day care; in 2016/2017, 47% of children attending ECEC went to private facilities and 53% to public ones<sup>71</sup>. Especially for under 3s, of which 28.2% attended ECEC in 2017 (EU average: 34.4%), Cyprus relies heavily on informal settings or private institutions (Rentzou, 2018). Of 220 day care centres in 2016/2017, only 6 were public, while 153 were private and 61 subsidised by municipalities. Curriculum reforms that started in 2016 attest to a growing awareness of the importance of ECEC. In-service training for all kindergarten teachers is being implemented. However, better research into and mapping of

<sup>70</sup> DG EAC calculation based on Cystat data.

<sup>71</sup> Cystat.

parents' needs for affordable, high-quality ECEC provision, including for under 3s, is needed (Rentzou, 2018).

**Early school leaving is declining again.** In 2018, 7.8% of 18-24 year-olds left school early compared to 8.5% in 2017. While the 2018 school dropout rate was 6.2% for native-born people, it was 13.9% for the foreign-born population. The gender gap increased somewhat, with a higher rate among males than in 2017 (9.9% v 9.4%) and a lower rate among females (6% v 7.7%).

**The student assessment reform seeks to ease the transition between education levels.** A new unified and comprehensive student assessment system from pre-primary to upper-secondary education will be gradually implemented as of September 2019. A shift to formative assessment at all levels is envisaged. A dialogue between the Ministry of Education and Culture and school stakeholders on the proposal has started.

**Continuity and equity in schools suffer from frequent teacher changes.** In Cyprus's centralised education system, the Ministry allocates teachers to specific schools. With occasional exceptions, no teacher can stay more than 6 years at the same school in primary education and 8 years in secondary. Credits based largely on years of service determine transfers to other schools. As remote and/or disadvantaged schools are the least preferred, the majority of their staff are novice teachers. In general, student outcomes and the school climate both tend to be better at schools with more experienced teachers (OECD, 2018b). Research also shows that countries where schools enjoy more autonomy in selecting teachers have seen greater improvements in student outcomes (OECD, 2018b).

**Digital skills need to be further strengthened.** In the labour force, i.e. individuals aged 25-64 who are employees, self-employed or family workers, the proportions of those with low digital skills (32%) or only basic digital skills (34%) are higher than the EU average (25% and 30%). By contrast, those reporting above-basic digital skills are fewer in Cyprus (22%) than across the EU (36%). This is of concern given the growing importance of digital technologies and artificial intelligence at the workplace (OECD, 2019a). Moreover, Cyprus has one of the lowest proportions of science, technology, engineering and maths (STEM) graduates in the EU.

## Box 2: Digital education – challenge and chance for schools

The proportion of Cypriot schools with a high provision of digital equipment (laptops, desktop computers, cameras, whiteboards) per number of students and a high broadband speed is lower than the EU average at both primary and secondary level. (European Commission, 2019). Comparatively few schools provide strong digital support: 21% at primary, 40% at lower secondary and 59% at upper secondary level compared to 32%, 54% and 84% respectively across the EU.

TALIS shows that the majority of teachers (61.8%) feel well or very well prepared for using information and communications technology (ICT) for teaching (EU average 39.4%). A relatively low proportion of teachers (10.8%) report a high need of professional development in this area (EU average 16.1%) (OECD, 2019b).

Several initiatives are underway to boost digital education at schools. The European Computer Driving Licence certification programme for secondary students has been successfully implemented. In February 2019, an 18-month pilot programme was launched providing 250 tablets to primary and secondary schools for work in the classroom and at home. At primary level, an ICT lesson was introduced and robotics in selected schools. Some 205 robots were acquired for secondary schools to support robotics lessons and organisation of robotics competitions (NRP, 2019).

**The reform of special needs education has advanced.** New draft legislation has been consulted on with stakeholders with the aim of completing both the law and the new regulations by the end of 2020. The bill provides for transforming special needs schools into resource centres, which will both empower mainstream schools and provide education and support to children with multiple and severe support needs. Teaching special needs students ranks highest among training needs for Cypriot teachers (27%) (OECD, 2019b).

**Integrating newly arrived migrants is a long-term mission.** In 2018, 7 765 new asylum applications were lodged, significantly more than in 2017 (4 600), among them 1 090 applications by people under 18<sup>72</sup>. For school education, a comprehensive policy on integrating students with migrant backgrounds, including those newly arrived, is in place. However, no such policy guidance exists for providing post-secondary education for young migrant adults, even though the proportion of recently arrived refugees aged 18-34 is especially high at 62%<sup>73</sup>. In school education, initial assessment, teacher allocation and monitoring all pose challenges. In addition, the inclusion of migrants needs to be supported through training for teachers and school heads in particular. TALIS shows that the proportion of teachers (48.5%) who feel well or very well prepared to teach in multicultural and/or multilingual settings is the highest in the EU (EU average 23.8%). However, Cypriot teachers also report a greater need for CPD in this area (19.6%) than the EU average (13.4%) (OECD, 2019b).

## 6. Modernising higher education

**Tertiary educational attainment has risen further.** After Lithuania, Cyprus has, at 57.1%, the second-highest tertiary educational attainment rate in the EU (the average is 40.7%). Women, at 64.4%, have a considerably higher attainment rate than men (49.2%). At 20.3 pps, a large attainment gap exists between foreign-born and native-born students. Outward degree mobility is, at 13%, second only to Luxembourg. Short term educational stays abroad are made possible exclusively through EU programmes. The student-teacher ratio is, at 17.7 to 1 in 2016, around that of European peers.

**More recent tertiary educated graduates are entering the labour market.** In 2018, the employment rate of recent tertiary educated graduates grew by 6.2 pps from 2017 to 81.3% (EU average: 85.4%). However, forecasts suggest that the majority of future jobs will be in low- or medium-skilled occupations (Cedefop, 2019). This means the rising provision of highly-qualified workers poses a long-term risk that such skills will be underutilised.

**Monitoring of the higher education system is weak.** Systematic data gathering, analysis and use of data to inform policy on the social dimension or to monitor performance is underdeveloped. Of five structural indicators for higher education, Cyprus applies only one: quantitative targets for widening participation<sup>74</sup> (European Commission, 2018). Whereas graduate tracking is implemented for vocational education and training students, it does not exist for tertiary graduates, who constitute the vast majority of graduates in Cyprus.

**Quality assurance in higher education has been upgraded.** The Cyprus agency of quality assurance and accreditation in higher education, DIPAE, became a full member of the European association for quality assurance in higher education (ENQA) in 2019. Since its establishment in 2015, DIPAE has evaluated nearly 300 study programmes and 6 higher education institutions (HEIs). It expects to evaluate 740 programmes and all 53 HEIs by end 2020 (ENQA, 2019). As the agency develops its capacity it is advised to progressively shift from a control-oriented approach to more quality-improvement support to HEIs (ENQA, 2019).

## 7. Modernising vocational education and training

**Participation in VET remains low.** In 2017 only 16.7% of students in upper secondary education were enrolled in VET, well below the EU average of 47.8%. This reflects the strong preference of young Cypriots for tertiary education and the low attractiveness of VET for employers. Students enrolled in VET had limited exposure to work-based learning — none of the VET educational programmes are reported to be combined school and work-based programmes. However, the employment rate among recent VET graduates has risen to 64.3% in 2018 (EU average 77.5%).

<sup>72</sup> Eurostat.

<sup>73</sup> For 2018.

<sup>74</sup> The other indicators refer to monitoring of students' socio-economic background; recognition of informal or non-formal learning in entry to higher education; completion rates as a criterion in external quality assurance; performance-based funding mechanisms with a social dimension focus.



**VET reforms continued in 2018.** Apprenticeship programmes were linked with evening technical school education to make it easier for apprenticeship graduates to gain formal qualifications. A programme of fast-paced training in practical professions for the unemployed was initiated, with priority given to the young. The construction of new 'technical and vocational schools of education and training' and the expansion and upgrading of some existing ones is underway. VET curricula have been revised in cooperation with industry with the aim to reduce skill mismatches in the labour market. A comprehensive review of the apprenticeship system was completed in 2018. Areas identified for reform include: updating legislation; increasing the role of the Apprenticeship Board; improving guidelines; improving the quality of training in the workplace; and making apprenticeships more attractive to employers.

## 8. Developing adult learning

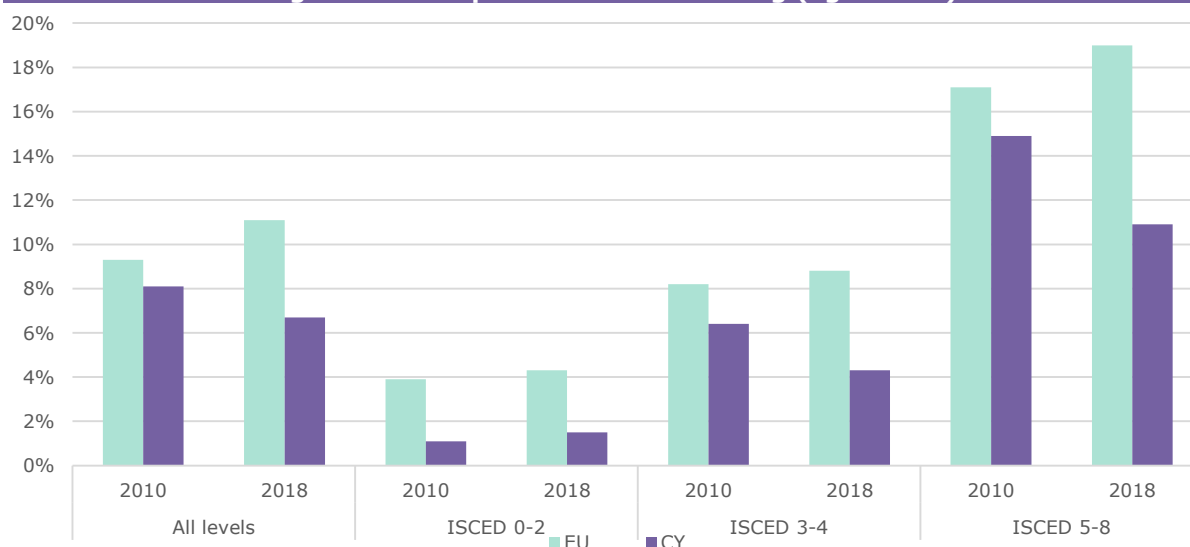
**Participation in adult learning remains low.** At 6.7%, adult participation in learning remains below the EU average (11.1%). At 10.9%, it is highest among those with tertiary education (ISCED 5-8), but even for them it is significantly below the EU average of 19%. Upskilling and reskilling opportunities are most crucial for low-skilled adults (ISCED 0-2), who currently take least advantage of adult learning. The proportion of low-qualified adults in employment in Cyprus was 62% in 2018 (EU average: 56.8%) and higher than in 2017. During 2017, only around 50 adults aged 25 or above acquired an upper-secondary qualification, highlighting the need for a more substantial upskilling and reskilling effort. So far, a single legislative framework for adult learning does not exist. The main actions in adult education are being taken under the 2014-2020 national lifelong learning strategy.

**A distinct professional identity for adult educators has not been articulated, despite a shortage of qualified people in the sector.** The 'Trainer of vocational training' certificate can be obtained after short (14 hours), medium-length or long (around 77 hours) training courses or master's programmes in adult education. Clearly defined qualification requirements for adult educators are lacking as well as training programmes adjusted to the needs of adult educators working in different fields. While demand for adult educators is high at all levels of education, the supply of qualified people remains insufficient.

**Selected measures to promote adult learning are ongoing.** Additional professional standards were developed and three new 'evening schools of technical and vocational education' were established. The multi-company training scheme for the long-term unemployed was expanded to all registered unemployed. In October 2018 the national action plan to establish validation of non-formal and informal learning was approved, to be fully implemented by 2020. The implementation of the qualification framework is still at an early stage and a comprehensive approach to how different stakeholders will cooperate is needed. The National Qualifications Authority, the competent authority for assessing and validating qualifications acquired through formal, non-formal and informal learning, is now operational. However, its mandate and institutional role need to be expanded and made more concrete.



**Figure 3 Participation in adult learning (age 25-64)**



Source: Eurostat, Labour Force Survey. Online data code : trng\_lfse\_03

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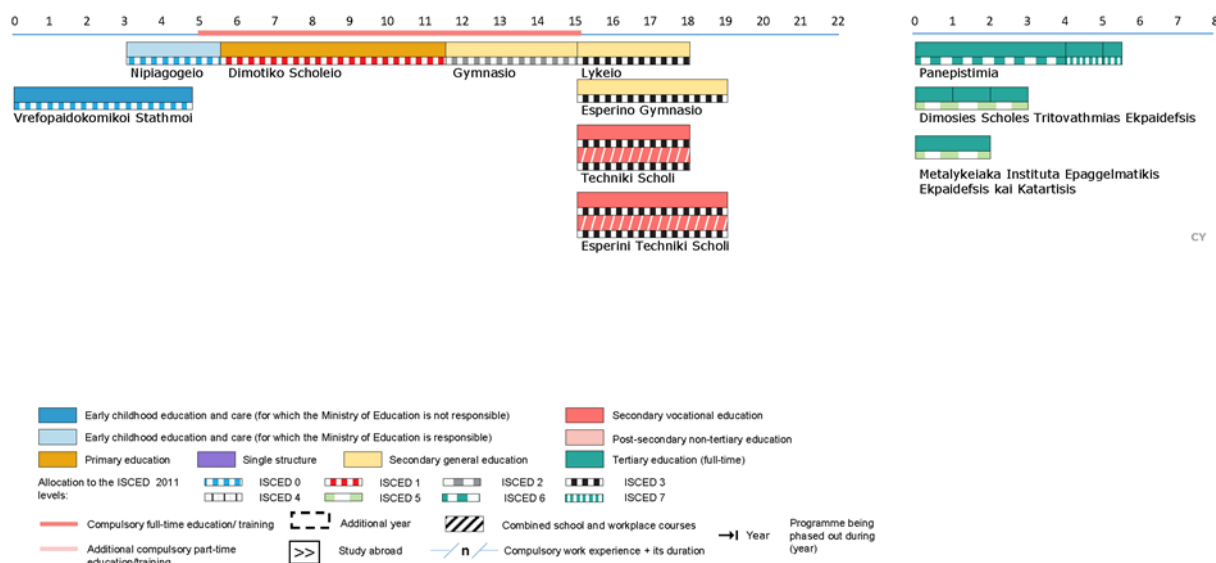
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## Annex I: Key indicator sources

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.

Comments and questions on this report are welcome and can be sent by email to:

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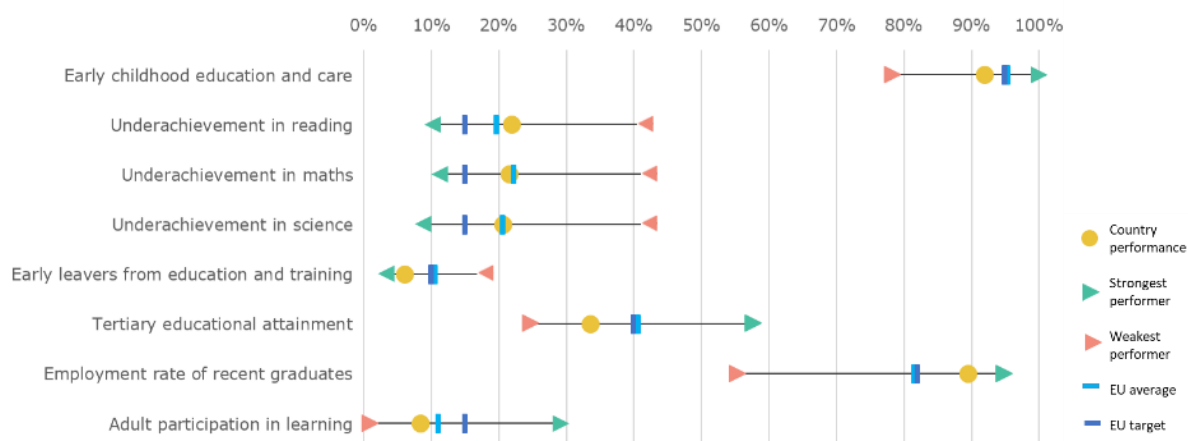
# CZECHIA

# 1. Key indicators

			Czechia		EU average	
			2009	2018	2009	2018
Education and training 2020 benchmarks						
Early leavers from education and training (age 18-24)			5.4%	6.2%	14.2%	10.6%
Tertiary educational attainment (age 30-34)			17.5%	33.7%	32.3%	40.7%
Early childhood education and care (from age 4 to starting age of compulsory primary education)			90.6%	92.0% <sup>17</sup>	90.8%	95.4% <sup>17,d</sup>
Proportion of 15 year-olds underachieving in:	Reading		23.1%	22.0% <sup>15</sup>	19.5%	19.7% <sup>15</sup>
	Maths		22.4%	21.7% <sup>15</sup>	22.3%	22.2% <sup>15</sup>
	Science		17.3%	20.7% <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)	84.5%	89.6%	78.3%	81.6%
Adult participation in learning (age 25-64)	ISCED 0-8 (total)		7.1%	8.5%	9.5%	11.1%
Learning mobility	Degree-mobile graduates (ISCED 5-8)		:	3.9% <sup>17</sup>	:	3.6% <sup>17</sup>
	Credit-mobile graduates (ISCED 5-8)		:	8.0% <sup>17</sup>	:	8.0% <sup>17</sup>
Other contextual indicators						
Education investment	Public expenditure on education as a percentage of GDP		5.1%	4.6% <sup>17</sup>	5.2%	4.6% <sup>17</sup>
	Expenditure on public and private institutions per student in € PPS	ISCED 0	€3 399 <sup>12</sup>	€3 611 <sup>16</sup>	:	€6 111 <sup>15,d</sup>
		ISCED 1	€3 607 <sup>12</sup>	€3 703 <sup>16</sup>	€5 812 <sup>12,d</sup>	€6 248 <sup>15,d</sup>
		ISCED 2	€5 967 <sup>12</sup>	€6 255 <sup>16</sup>	€6 937 <sup>12,d</sup>	€7 243 <sup>15,d</sup>
		ISCED 3-4	€5 191 <sup>12</sup>	€5 894 <sup>16</sup>	:	€7 730 <sup>14,d</sup>
		ISCED 5-8	€7 726 <sup>12</sup>	€7 282 <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		5.2%	6.2%	13.1%	9.5%
	Foreign-born		15.0% <sup>u</sup>	7.6% <sup>u</sup>	26.1%	20.2%
Tertiary educational attainment (age 30-34)	Native-born		17.1%	33.4%	33.1%	41.3%
	Foreign-born		31.5%	40.1%	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		81.7%	87.4%	72.5%	76.8%
	ISCED 5-8		89.0%	91.5%	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, u = low reliability, := not available, 12=2012, 14=2014, 15 = 2015, 16=2016, 17 = 2017.

**Figure 7 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

- 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.

## 3. A focus on teachers

**The teaching profession is facing numerous challenges.** The 2019 country-specific recommendation addressed to Czechia by the Council of the EU included the following: 'Increase the quality and inclusiveness of the education and training systems, including by fostering technical and digital skills and promoting the teaching profession.' (Council of the EU, 2019).

**There are demographic challenges.** The proportion of teachers under 40 is comparatively low in Czechia, while a high proportion is over 50. The ratio of female teachers is among the highest in the EU<sup>75</sup>. There are increasingly attractive alternative career opportunities for women, putting at risk the attractiveness of teaching to women (Münich D., 2017). Pupils in primary education have increased and these higher numbers are moving into lower-secondary education. In 2017, the pupil-teacher ratio in primary education (19.1 to 1, against the EU average of 14.7) and the student-teacher ratio in tertiary education (18.4 to 1 v 15.4) were both comparatively high<sup>76</sup>. The population of (mostly male) school heads is also ageing and there has been only a single applicant for half of all open posts. Often the incumbent applies for his/her own job again at the end of his/her mandate (CSI, 2018a). The Czech and Moravian Trade Union for Workers in Education (CMOS) reports that school heads feel they lack time to provide pedagogical and professional leadership to teachers due to their administrative burdens. They also refer to the lack of sufficient funds to evaluate and reward staff adequately.

**Inspections and surveys among school heads indicate teacher shortages.** In the absence of a teacher registry, teacher shortages can only be estimated<sup>77</sup>. Shortages are reported in particular in primary education and to a lesser extent for English, physics, information and communications technology (ICT) and mathematics. Shortages in primary education are partly linked to the current demographic peak in children of that age; as these start entering lower secondary education in the years to come, subject-specific shortages at that level may worsen.

**Despite recent pay rises, the salaries of teachers and school heads remain very low, both compared with other tertiary-educated workers and by international standards** (see Figure 2 below). In 2016, 85% of 30-49 year-olds with tertiary education had a salary higher than that of primary education teachers of the same age (Münich D., 2017). Salary progression over the career is rather flat (European Commission/EACEA/Eurydice, 2018a). Salaries in the public sector overall increased by more in 2014-2016 than teachers' salaries, weakening the impact of teacher pay rises in making the profession more attractive (Münich D., 2017). Control of pay awards is shared between central and local levels. Excellent teaching performance may lead to a salary supplement. Compensation for specialised tasks requiring continuing professional development (CPD) may reach up to 50 % of the statutory salary. Such tasks include coordinating ICT, contributing to the coordination of school educational programmes, and organising activities related to environmental education.

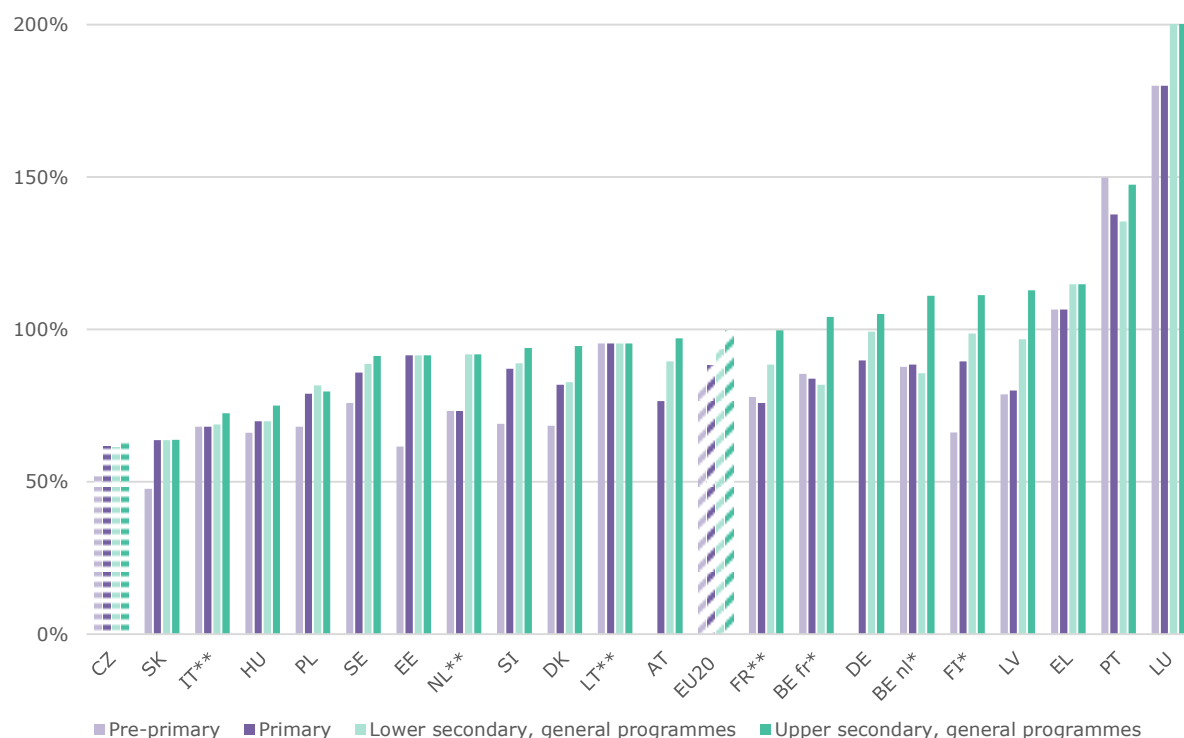
<sup>75</sup> Eurostat, UOE, 2017. Online data code: [educ\\_uoe\\_perp01](#)

<sup>76</sup> Eurostat, UOE, 2017. Online data code: [educ\\_uoe\\_perp04](#)

<sup>77</sup> The data on full-time equivalent teachers in Czechia is gathered at aggregated school level and there is no teacher registry. As a number of teachers teach part-time at more than one school, there is no precise information on the number of teachers.

**In 2018, the government has declared that teachers' and non-teaching staff's average salaries in 2021 should be brought up to 150% of their 2017 level.** To make teaching more attractive, long-term political commitments are necessary.

**Figure 2 Actual salaries of teachers, relative to earnings for full-time, full-year workers (25-64) with tertiary education (ISCED 5-8), 2016**



Source: OECD (2018). Note: \* Data is from 2015; \*\* Data is from 2014

### Box 1: Attractiveness of the teaching profession and teachers' satisfaction

The attractiveness of the profession to talented young people remains low. There are indications that graduates of initial teacher education programmes who opt to enter the profession may not be among those who perform best (Münich D., 2017). A study shows, among other things, an increase in the proportion of young teachers with lower reading literacy (Krajcova J., Münich D., 2018). This may contribute to a divergence in the quality of the education received in different classes, schools or regions (ibid.). Many talented young teachers leave the profession early, often for financial reasons (Münich D., 2017). This calls for measures to address the general OECD's findings that, to promote teaching as a career for top-performing students, job quality matters at least as much as pay (OECD, 2018a).

At the same time, the 2018 OECD Teaching and Learning International Survey (TALIS) finds that the proportion of teachers satisfied with their job is high, at 89.6% (EU average: 89.5%) (OECD, 2019)<sup>78</sup>. It remains stable in teachers with 5 years of working experience. Overall, 74.0% of teachers say that if they could decide again, they would still choose to become a teacher (EU average: 77.6%). Fewer teachers with more than 5 years of experience (73.3%) feel this way than novice teachers (77.3%) (respective EU averages: 76.4% and 83.7%). TALIS also found that 16.0% of Czech teachers believe that teaching is valued in society (EU average: 17.7%).

<sup>78</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.



**European Social Fund (ESF) projects are supporting induction programmes for beginning teachers — including training of their mentors — and CPD.** In May 2019, the government approved an amendment to the Act on pedagogical staff to introduce a two-year induction period for beginning teachers. This has happened in the absence of a career system for teachers, after one was prepared but then abandoned in 2017. Such strengthened support for beginning teachers could help reduce the high rate of those who drop out in the first few years.

#### **Box 2: Support for the Professional development of teachers and headmasters (SYPO) project**

The goal of this project, co-financed by the European Social Fund (ESF), is to design a new system promoting systematic professional development with a view to improving educational outcomes. It aims to be needs-based, practically-oriented and based on the latest scientific findings, and to promote sharing of experience.

SYPO involves the creation of peer networks focusing on didactics of different subjects. They will be piloted at national, regional and local levels. A network of regional ICT methodological workers will be set up too.

The project was launched at the beginning of 2018 and will run until 2022, supported by EUR 13.5 million from the ESF.

**In the highly decentralised Czech education system, CPD is essentially governed at school level, where the staff's CPD plan is defined.** Participation in CPD is a professional duty. While no minimum number of compulsory hours is laid down, the law provides for up to 12 working days a year for CPD (European Commission/EACEA/Eurydice, 2018b). The Czech School Inspectorate found in 2017-2018 that 78% of basic school teachers inspected had attended CPD. The CPD mainly covered subject-related content (52%), then teaching methods (39%), teaching for key competencies (28%) and implementation of inclusive education (see section 5 below) (24%) (CSI, 2018b). The 2018 OECD Teaching and Learning International Survey (TALIS) found that half of Czech teachers believe that CPD is restricted by schedule conflicts (50.8% v EU average of 52.4%). Overall, compared to the EU average a relatively low proportion of teachers believe that CPD is hindered by barriers. For instance, 22% of Czech teachers consider that the CPD offer is not relevant (EU average: 38.9%) and only 15.1% complain about a lack of employer support (EU average: 26.4%).

## **4. Investing in education and training**

**General government expenditure on education as a share of GDP was 4.6% in 2017, similar to the EU average.** The increase in real (inflation-adjusted) government expenditure on education over 2010-2017 was comparatively high at 3.4% (EU average: 0.2%)<sup>79</sup>. Spending varied between education levels, largely linked to the demographic changes in intakes by age group, in a system of (mostly) per capita-based funding. This increase happened over a period of particularly strong GDP growth and the share of government expenditure on education did not evolve much, oscillating between 11.3% and 12% in 2013-2017<sup>80</sup>. Government expenditure on education as a share of GDP decreased from 5.1% in 2013 to 4.6% in 2017. The 2019 budget for the reform to make education more inclusive increased from 2018 (see section 5 below).

**The reform of the funding system for regional education has been delayed again until January 2020 aiming at a better preparedness.** The reform aims to switch from per-capita funding to funding based on the number of hours taught, and it increases the possibilities to split classes (European Commission, 2018).

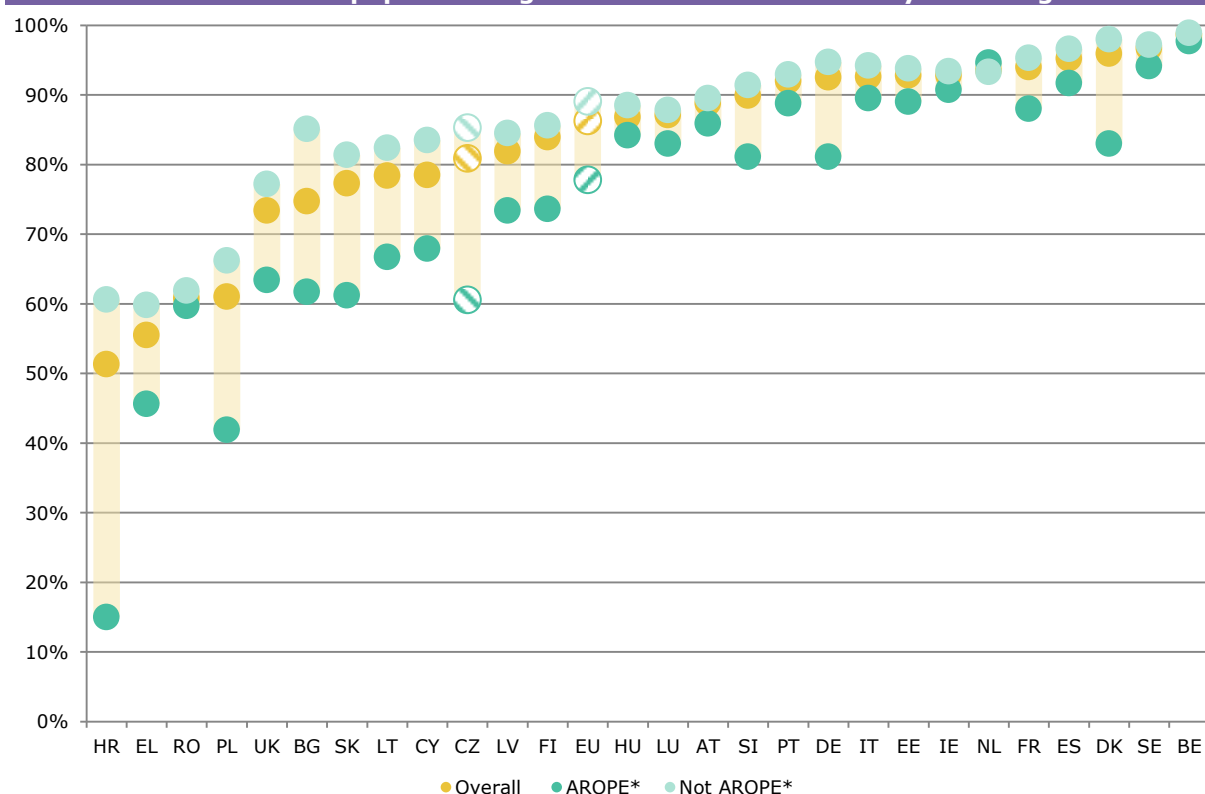
<sup>79</sup> Eurostat, Classification of the functions of government (COFOG).

<sup>80</sup> European Commission, Directorate-General for Education, Youth, Sport and Culture (DG EAC) calculations based on Eurostat, [gov\\_10a\\_exp](#) and [nama\\_10\\_gdp](#)

## 5. Modernising early childhood and school education

**Participation in ECEC continues to increase while remaining highly dependent on children's socio-economic background, with large regional disparities.** The national participation rate for children aged between 4 and the starting age of compulsory education was 92% in 2017 (EU average: 95.4%), ranging from 85.5% in Severozápad to 96.1% in Střední Morava<sup>81</sup>. It is estimated that only about 34% of Roma from the age of 4 attend ECEC (FRA, 2016). Figure 3 shows the participation rates for children between 3 and 6 in 2016, by socio-economic background. While a right to attend ECEC for all children aged 3 and over in their catchment area was established in 2018, its practical implementation depends on the availability of places. The full support of municipalities is, therefore, vital to ensure this right is implemented and to increase attendance rates. Participation by children under 3 remains, at 6.5% in 2017, far below both the 34.2% EU average and the 33% target set by EU leaders in 2002. This is partly due to insufficient capacity. The previously announced entitlement to a place for children aged 2 from 2020 was abandoned in 2018.

**Figure 3 Participation in formal childcare or education of children between 3 and minimum mandatory school age, by socio-economic background (2016)**  
– % over the population aged 3 to minimum mandatory school age



Source: JRC calculations on 2016 EU-SILC. Notes: \*AROE = at risk of poverty or social exclusion.

**Czechia has been using support from the European Social Fund (ESF) to substantially increase ECEC places, but major inequalities in provision have emerged.** Public kindergartens run by municipalities and so-called children groups and micro-crèches (currently co-funded by the ESF and run by the Ministry of Labour and Social Affairs), which partly target children from similar age groups, operate under very unequal conditions. The children-to-adult ratio is much more favourable in the latter (24 children to 3-4 adults) than in the former (up to 28 to 1). Funding per child in children groups is CZK 90 000 compared to CZK 51 000 in kindergartens (respectively around EUR 3 500 and EUR 2 000). The Czech School Inspectorate argues that classes with up to 28 children per adult do not allow individual needs to be met, especially those of

<sup>81</sup> Eurostat, UOE, 2017. Online data code: [educ\\_uoe\\_enra17](#)

children with special needs (CSI, 2018b). The *Long Term Policy Objectives of Education and Development of the Education System 2019-2023* plans a gradual decrease in the number of children in kindergartens, to 20 per class. The 2020 funding reform (see section 4) is likely to motivate a reduction in the children-to-adults ratio in ECEC as kindergartens will not be funded on a per capita basis any more, but rather based on the number of hours taught.

**The rate of early school leaving declined to 6.2% in 2018, after an increase over previous years.** This rate was lower than the 10.6% EU average, while still above the national Europe 2020 target of 5.5%. The rate and its evolution varied widely between regions, the most notable case being Severozápad where the 2017 rate of 13.8% further increased to 15.6% in 2018. A study showed that young people dropping out of school are attracted by the current easy access to paid employment (Bičáková, A. and Kalíšková, K., 2018). However, they often end up in low-paid, low-quality and short-term jobs. Incentives to attract young people back to education, as well as prevention measures, are under discussion. A study supported by the EU's structural reform support programme was launched in 2019 to explore how to reduce regional inequalities in education. It will make recommendations focusing on improving communication between families, schools and other service providers.

**The authorities are continuing to take action to reduce inequalities in educational outcomes linked to pupils' socio-economic backgrounds** (European Commission, 2018). For pre-primary education, actions include ESF-supported teacher training, extra-curricular activities, promotion of cooperation with parents, and career counselling (Eurypedia, 2019a). In line with the 2016 reform to make education more inclusive, the authorities adopted a second action plan for inclusive education, covering 2019-2020. The plan aims to implement desegregation measures for schools where more than half the pupils are Roma, introduce anti-bullying measures and strengthen monitoring by the School Inspectorate. It will guide the implementation of ESF-supported projects. Tackling regional disparities through tailored measures will be key to its success.

**Positive initial results of the inclusive education reform still need to be confirmed, in particular for the education of Roma children.** The Ministry of Education, Youth and Sports is focusing on ensuring that compulsory education from age 5 is applied, in particular in deprived areas. The ministry is also working on further harmonising diagnostic tools used in counselling centres across the country. The 2019 budget for inclusive education was increased from CZK 5.4 billion in 2018 to 7.2 billion, a substantial increase which, however, may not be sufficient to cover all requests from schools. The authorised number of assistants per class will decrease.

**While more teacher resources are being allocated to high-need schools, there are no measures to allocate experienced teachers to disadvantaged schools.** At the same time, the OECD notes a significant positive association between teacher experience and science performance in Czechia (OECD, 2018a).

**The National Institute for Education is revising the framework curricula for pre-primary, primary and secondary education** (NUV, 2019). One aim is to better focus on skills needed for future jobs. Another is to strengthen the guidelines from central level by defining expected learning outcomes at more educational stages than before. This will strengthen central governance in a still highly decentralised system (Eurypedia, 2019b). Revised curricula will build on the strategy for education 2030 which will define expected competences of pupils after 2030.

**The proportion of young people aged 16-19 who report they have above-basic digital skills improved substantially between 2015 (41%) and 2017 (52%), nearly reaching the EU average (57%).** An EU-funded call to support implementation of the strategy for digital education II was launched in autumn 2018. It will enable the creation of new resources, the provision of methodological and technical support for the use of digital technologies in education, training of teaching staff and the promotion of innovative teaching methods (Eurypedia, 2019b). The digital education strategy faced delays in equipping schools with digital infrastructure and providing support materials and training for teachers (European Commission, 2019).

## 6. Modernising higher education

**The past decade has seen a rapid rise in the tertiary education rate together with an increase in the dropout rate.** In 2018, the proportion of 30-34 year-olds with tertiary education was 33.7% (EU average: 40.7%), above Czechia's 32% national target under Europe 2020. Getting each generation to reach a higher education level is challenging. Only 18% of children whose parents did not attain tertiary education obtain a tertiary degree (OECD, 2018b). The projected increase in population within the age span concerned by higher education will, within a few years, require efforts on funding and capacity if growth is to be continued. 37% of students in bachelor programmes drop out in their first year — although a proportion register in another programme later — and more than one third of students do not complete their studies (MEYS, 2015). The authorities are taking measures to reverse the trend. Among the funding criteria for higher education institutions, in 2018 the Ministry of Education, Youth and Sports introduced a new criterion linked to degree completion (European Commission, 2018). Positively, this is triggering remedial action from such institutions. The employment rate of recent tertiary graduates remains very high at 89.6% in 2018.

**The National Accreditation Agency established with the 2016 higher education reform has already granted a number of institutional accreditations.** Stronger internal quality assurance is becoming a reality in the institutions concerned. The reform also aimed to broaden the range of programmes offered, including by encouraging the creation of professionally-oriented study programmes. Nearly 15% of programmes newly accredited or in the process of accreditation by end-2018 were such professionally-oriented programmes, showing that there is some demand for them.

## 7. Modernising vocational education and training

**Total enrolment in upper secondary VET declined very slightly to 72.4% in 2017 but was still well above the 47.8% EU average.** The employment rate among recent VET graduates in 2018 increased to 87.7%, well above the EU average of 79.5%.

**Czechia is continuing to make VET more flexible and more relevant to the needs of the jobs market.** The 2018 Amendment of the School Act obliges schools and to cooperate with employers in designing curricula, providing practical training, participating in final examinations and providing placements in companies for teaching staff. The ESF-funded *Modernisation of vocational education and training* project, launched in 2017, has so far introduced 365 modules with the aim of improving transferability between various pathways in initial and continuous VET and with qualifications in the National Register of Qualifications. In 2017/2018 a pilot project including elements of dual training has started in the Moravia-Silesia Region. A revision of the vocational parts of upper secondary curricula is on-going.

**In October 2018 the government adopted the *Digital Czechia* strategy.** The implementation will build on the strategy for digital education 2020. The latter focuses on opening education to new learning methods using new technologies, improving pupil's competences to work with information and digital technologies and improving pupils' computational thinking.

## 8. Developing adult learning

**The likelihood of adults in Czechia frequently updating their knowledge and skills through adult learning is rather low.** In 2018, only 8.5% of adults aged 25-64 had had a learning experience in the last 4 weeks (EU average: 11.1%). However, only 6.1% of Czech adults had at most a low qualification (EU average: 21.9%). In 2017 around 5 300 adults aged 25 or above acquired an upper-secondary qualification. This represents less than 0.02% of the nearly 367 000 25-64 year-olds with only a low level of educational attainment. At the same time, there are few job opportunities for low-qualified people — in 2017 there were 287 000 jobs in elementary occupations. The 52.2% of low-qualified adults in employment in 2017 was below the EU average of 58.4%.

**A number of projects focus on general upskilling and the digital skills of adults.** The project *UpSkill CZ* (now going through an approval process) will address the implementation of

the 2016 Council Recommendation on upskilling pathways. The project will develop an online tool to assess basic skills and a tool offering relevant learning opportunities. Close cooperation will be ensured between the key players, i.e. the Ministry of Education, Youth and Sports, the Ministry of Labour and Social Affairs and the public employment services. E-learning courses, guidebooks and other methodological materials will be developed. The updated *Digital Czechia* strategy also includes measures for adults. These seek notably to improve adults' digital literacy, digital skills in small and medium-sized businesses and support for teleworking by using digital technologies and addressing digital exclusion. In addition, the strategy defines the goal of 'readiness of citizens for labour market changes, education and development of digital skills, retraining of the workforce, necessity to further educate workers and the creation of new education programmes'.

**There are important developments in continuing VET too.** People with vocational certificates and 5 years of professional experience will have the option of taking an exam leading to a master craftsman qualification. It is planned to develop about 45 such qualifications. The Chamber of Commerce will have a key role in facilitating cooperation between professional craft associations and vocational schools that will participate in the new system.

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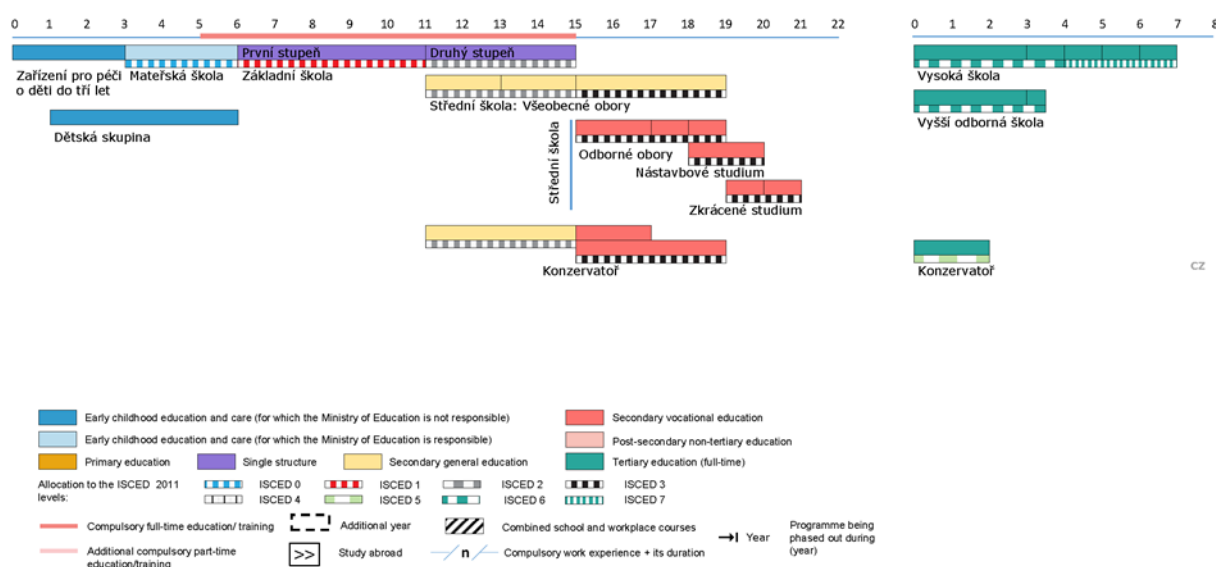
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## Annex I: Key indicator sources

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.

Comments and questions on this report are welcome and can be sent by email to:  
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# DENMARK

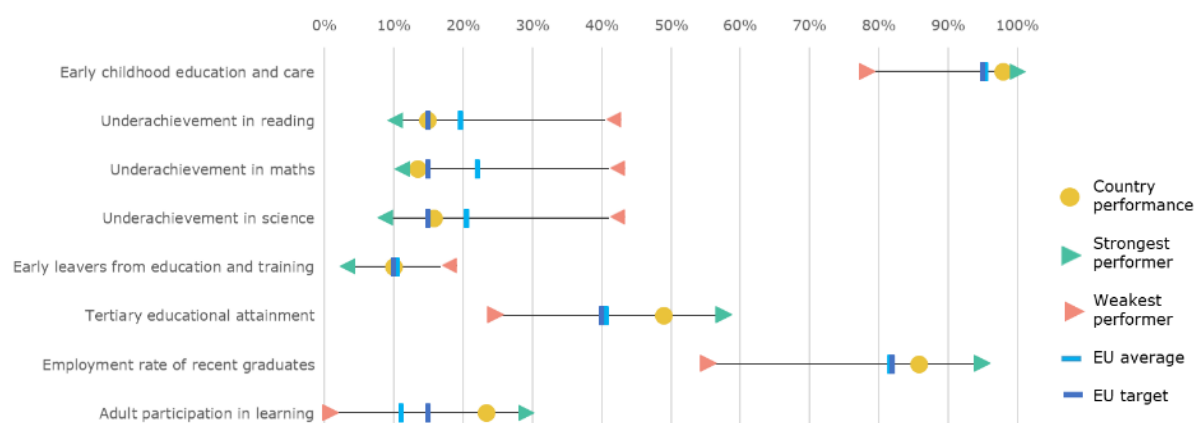


# 1. Key indicators

			Denmark		EU average	
			2009	2018	2009	2018
Education and training 2020 benchmarks						
Early leavers from education and training (age 18-24)			11.3%	10.2%	14.2%	10.6%
Tertiary educational attainment (age 30-34)			40.7%	49.1%	32.3%	40.7%
Early childhood education and care (from age 4 to starting age of compulsory primary education)			91.9%	98.0% <sup>17</sup>	90.8%	95.4% <sup>17,d</sup>
Proportion of 15 year-olds underachieving in:	Reading		15.2%	15.0% <sup>15</sup>	19.5% <sup>EU27</sup>	19.7% <sup>15</sup>
	Maths		17.1%	13.6% <sup>15</sup>	22.3% <sup>EU27</sup>	22.2% <sup>15</sup>
	Science		16.6%	15.9% <sup>15</sup>	17.7% <sup>EU27</sup>	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)	87.9%	85.9%	78.3%	81.6%
Adult participation in learning (age 25-64)	ISCED 0-8 (total)		31.3%	23.5%	9.5%	11.1%
Learning mobility	Degree-mobile graduates (ISCED 5-8)		:	1.5% <sup>17</sup>	:	3.6% <sup>17</sup>
	Credit-mobile graduates (ISCED 5-8)		:	9.2% <sup>17</sup>	:	8.0% <sup>17</sup>
Other contextual indicators						
	Public expenditure on education as a percentage of GDP		6.9%	6.5% <sup>17</sup>	5.2%	4.6% <sup>17</sup>
Education investment	Expenditure on public and private institutions per student in € PPS	ISCED 0	€8 353 <sup>12</sup>	:	:	€6 111 <sup>15,d</sup>
		ISCED 1	€8 385 <sup>12</sup>	:	€5 812 <sup>12,d</sup>	€6 248 <sup>15,d</sup>
		ISCED 2	€8 773 <sup>12</sup>	:	€6 937 <sup>12,d</sup>	€7 243 <sup>15,d</sup>
		ISCED 3-4	€7 624 <sup>12</sup>	:	:	€7 730 <sup>14,d</sup>
		ISCED 5-8	:	:	€10 549 <sup>12,d</sup>	€11 413 <sup>15,d</sup>
Early leavers from education and training (age 18-24)	Native-born		11.0%	10.2%	13.1%	9.5%
	Foreign-born		15.8% <sup>u</sup>	9.9% <sup>u</sup>	26.1%	20.2%
Tertiary educational attainment (age 30-34)	Native-born		42.4%	47.9%	33.1%	41.3%
	Foreign-born		27.5%	53.1%	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		84.2%	83.4%	72.5%	76.8%
	ISCED 5-8		91.0%	87.8%	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](https://ec.europa.eu/education/monitor)). Notes: The EU's 2009 PISA averages do not include Cyprus; d = definition differs, u = low reliability, : = not available, 12 = 2012, 14 = 2014, 15 = 2015, 17 = 2017.

**Figure 8 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

- 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.

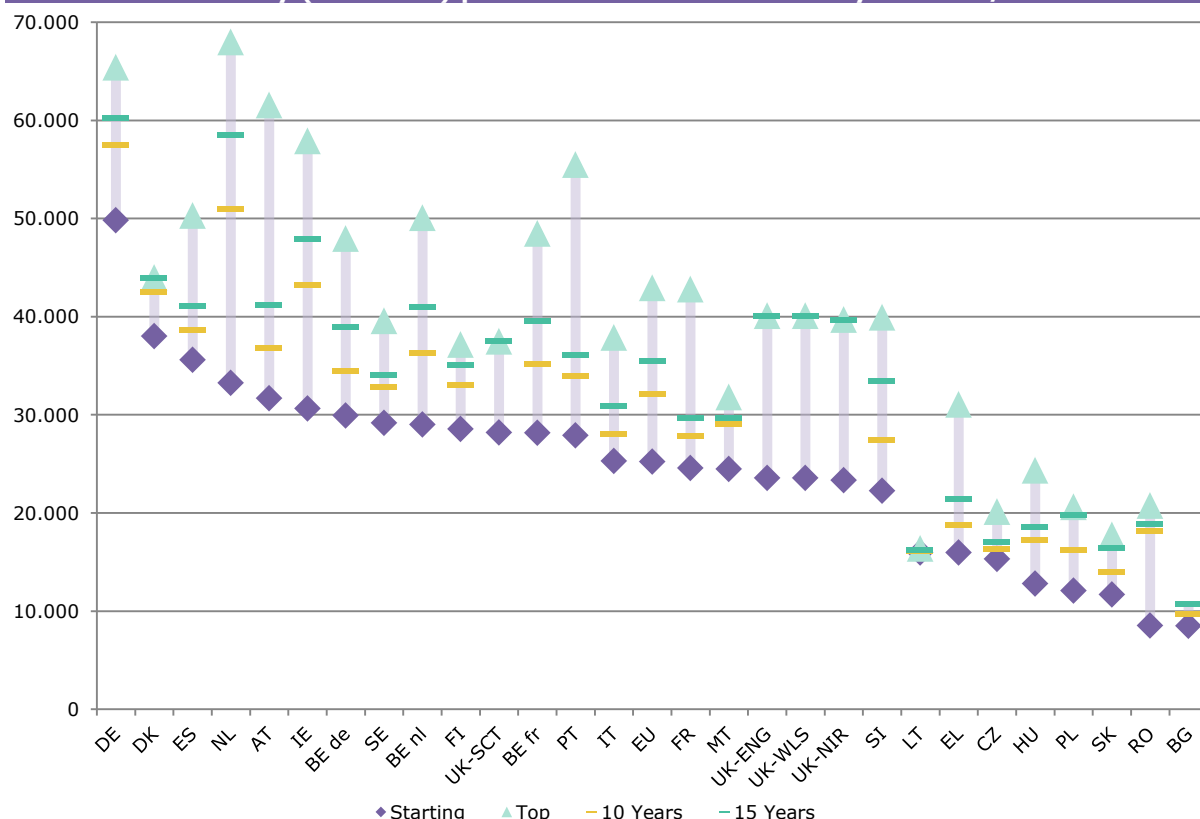
## 3. A focus on teachers

**Denmark is facing teacher shortages and class size increases.** 45% of lower secondary teachers are 50 or older, 10 pps above the EU average. Teacher numbers underwent a prolonged reduction between 2009 and 2018, dropping by 11.8%, more sharply than the concurrent decline in pupil numbers of 7% (Danmarks Lærerforening, 2018). The nationwide shortage of teachers is shown by the increase in average class sizes in primary and secondary school between 2005 and 2016 by, respectively, 10% and 9%, to 21 pupils per class (OECD, 2018). The need to attract teachers among other reasons has motivated municipalities to enter into their own agreements with teacher unions. In 2017/2018, 70 out of 98 municipalities had signed agreements regulating working hours, flexible working time, definition of tasks including preparation, in-service training and assessment. Denmark is divided into five different zones allowing for different salary levels. Unions have now agreed that part of the salary can be negotiated with each school, leading to emerging pay differentials between municipalities (Representative, 2019).

**Teachers' starting salaries are generous but progression is flat.** A Danish primary or lower secondary teacher starting their career in the 2016/2017 school year received an annual 38 040 in purchasing power standard (PPS), the highest amount in the EU after Luxembourg and Germany (European Commission/EACEA/Eurydice, 2018). However, salary progression is very flat: salaries increase by only 12% after 10 years and 16% after 15 years, so that the maximum salary of 43 980 PPS is only slightly above the EU average (see Figure 2). Pre-primary teachers earn about 10% less than primary and secondary teachers. Compared with the earnings of tertiary-educated workers, Danish teachers earn between 68% in pre-primary and 95% in upper secondary education (OECD, 2018). According to data from the 2018 OECD Teaching and Learning International Survey (TALIS), salary, job security and a steady career are weaker motivating factors for Danes than for teachers elsewhere in the EU; Danish teachers say they are more motivated by making a contribution to society and influencing the development of the young. Their job satisfaction is close to the EU average (89%); as elsewhere, it dips somewhat after 5 years in service. They are less likely than the EU average to report that they would still choose teaching as a career (-5.3 pps for young teachers, and -7.9 pps after 5 years). A lower than average proportion say teaching was their first career choice (OECD, 2019).<sup>82</sup>

<sup>82</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.

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



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

**After the reform of the *Folkeskole* (general compulsory education), teaching time other than in upper secondary level is among the highest in the EU.** A Danish lower secondary teacher taught on average 784 hours a year in 2015, far above the EU average of 665 hours and the second highest after the UK. However, this is reversed at upper secondary level, where an average of 405 hours in 2017 puts Denmark at the bottom of the EU ranking (OECD, 2018).

**A 2017 law allows municipalities to exceptionally engage teaching staff without a full teacher qualification.** This weakens the quality approach at the centre of the *Folkeskolen* reform (2013) that had set the objective that 95% of teachers teaching a specific subject should be fully qualified. The number of fully qualified teachers employed by municipalities dropped from 89.2% in 2013 to 83.8% in 2016 but recovered to 86.7% in 2018.

### Box 1: Teachers obtain a professional bachelor degree from university colleges

A major reform of teacher training took place in 2012. Teacher training was constructed around modules, and university colleges (*Professionshøjskoler*) were given more autonomy to set programmes for different teacher profiles (OECD, 2014).

The first results from an evaluation started in 2017 show school principals are satisfied with the competencies and skills of new teaching graduates. However, graduate teachers are less convinced that they are well prepared to work together with parents and other teachers. Teaching unions propose to shift initial teacher training to a master degree at university level, as in other Nordic countries, as a response to the increasingly complex situation teachers face in school and in society.

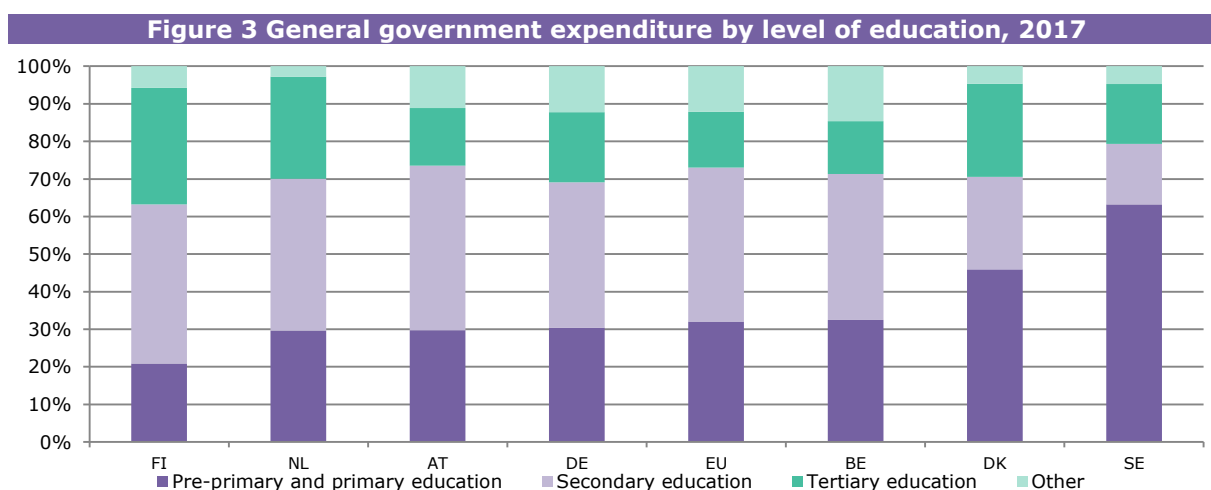
Some in the national research community suggests that adopting features of the Finnish model (master level, training 1 year longer and more academic, but also time in practice schools) might further increase motivation and competencies (Andersen, 2017).

**Teachers' continuing professional development (CPD) is devolved to municipalities** (European Commission, 2018). The proportion of Danish teachers who feel well or very well prepared for using information and communications technology (ICT) for teaching (39.5%) is around the EU average. TALIS 2018 shows that less than half of teachers report that ICT was covered in their initial training education (46.7%, 6.2 pps under the EU average) while 11.2% report a need for professional development in this area, 4.9 pps below the EU average. Danish teachers feel more prepared to teach in a multicultural and/or multilingual setting than the EU average (26.3% v 23.8%) and also that this issue has been integrated into their training (36.8% v 31.7%). However, 51.2% believe that CPD is too expensive (EU 44%). Over DKK 1 billion (EUR 170 million) has been allocated to strengthening CPD over 2014-2020. Free courses addressing specific needs are offered by municipalities (European Commission, 2019).

**The *Folkeskole* Act entrusts responsibility for administrative and pedagogical management to school leaders.** This includes the professional development of teachers and teacher appraisal. School leaders have full autonomy to decide if, how and when teachers are to be appraised, without any involvement by top-level authorities (European Commission, 2019). Training school leaders has been a recent priority, with 75% of school leaders now being certified in management. Research underlines the important role of school leaders for the self-esteem and motivation of teachers. Teachers feel that their autonomy was restricted by the *Folkeskolen* reform, but that school leaders have mitigated some of this effect (Andersen, 2015). This led the government to develop with stakeholders a new certificate for school leaders with a focus on pedagogical leadership, to be offered from mid-2019 (Skolelederforeningen, 2018).

## 4. Investing in education and training

**General government expenditure on education as a proportion of GDP decreased to 6.5% in 2017 but remains well above the EU average (4.6%).** Expressed as a share of total general government expenditure, it remained broadly stable at 12.7% in 2017, again well above the EU average of 10.2%. Teachers' pay, at 51%, absorbs a much smaller proportion of spending than the EU average of 62.0%. Between 2010 and 2017, real (inflation-adjusted) expenditure increased by 33% in tertiary education, but remained broadly unchanged in secondary (-0.1%) and pre-primary/primary education (2.5%) (see Figure 3). There was a real spending fall of 2.7% between 2016 and 2017 affecting all levels other than pre-primary and primary schooling, which is likely to continue. Student-teacher ratios increased in the different education levels by between 9% and 43% between 2015 and 2018.



Source: Eurostat, COFOG. Online data code: gov\_10a\_exp.

**Denmark's school-age population is expected to continue growing.** The school age population (3-18 year-olds) is projected by Eurostat to grow by 12% by 2040, in contrast to a decline in most other EU countries. The Council of the EU's 2019 country-specific recommendation to Denmark included the following: 'Focus investment-related economic policy on education and skills' (Council of the EU, 2019).

## 5. Modernising early childhood and school education

**Participation in early childhood education and care (ECEC) is high.** ECEC attendance by children between 4 and compulsory primary school age is 98.0% and has remained stable since 2010 (98.1%). Children aged over 26 weeks are legally entitled to full time publicly subsidised ECEC (European Commission, 2019). Participation by under-3s is also stable around 71.7% (2017), very high compared to other EU countries. ECEC institutions are usually open about 50 hours a week and, according to EU-SILC data, the majority of under-3s attend for more than 30 hours a week. There is practically no difference in attendance rates of disadvantaged and advantaged students (OECD, 2019a). Emotional and developmental support is a high priority in preschool, rather than instructional support or classroom organisation. Staff ratios (including assistants) are favourable by international comparison (OECD, 2019a) with some differences between institutions.

**The quality of ECEC is somewhat uneven.** Municipalities determine the children-to-staff ratios and the qualification mix of the staff employed. Municipalities feel differently the effects of the current climate of public spending cuts. In 2017, just over 60% of staff had pedagogical education (pedagogue or pedagogical assistant (Socialministeriet, 2017)). Two recent political agreements investing DKK 2 billion (EUR 268 million) provide for more pedagogical staff in areas with children from vulnerable background and for up-skilling of pedagogical staff (pedagogues, pedagogical assistants, leaders and childminders).

**Mechanisms to help children make the transition to primary school after ECEC are important to support children from disadvantaged backgrounds.** Children face a significant reduction in direct contact in the transition from ECEC to primary school (OECD, 2019a). In addition, the vacation before moving to primary school is particularly long. According to the OECD, pedagogical and developmental continuity may be lost in this transition. The fact that different bodies are responsible for these levels of education complicates the transition. There is, furthermore, full local autonomy, thus each of the 98 municipalities designs their own approach. The broad goal of facilitating the transition is specified by law and there are common child monitoring methods, including development reports, but differences in approach result in uneven transition quality (OECD, 2019a).

**The *Folkeskolen* reform has not managed to improve student well-being or education outcomes as intended.** The reform of comprehensive primary education initiated in 2013 and in force since August 2014 is being monitored closely. Neither school well-being nor educational or social well-being have shown improvement since 2014/2015 (VIVE 2019, NRP, 2019). Young people from disadvantaged and/or migrant backgrounds continue to show lower education results. While 55% of first-generation Western immigrants and 75% of Denmark's native-born population achieved good results in reading in the 2017/2018 national tests, only 36% of first generation non-Western immigrants did so. For mathematics the performance gap was similar. Second-generation immigrants do better but are still behind the native population. Other reform objectives, like strengthening physical education, increasing interdisciplinary education and strengthening school leadership, have shown better progress.

**Having declined since 2010, the early school leaving rate has risen again from 2016 and stands at 10.2% in 2018.** Most of the change is happening in cities, at a rate four times that in towns, while there was no change over 2010-2018 in rural areas. No research is available yet on why the downward trend has been interrupted. There is also a significant gender gap in the rate of 4.7 pps. However the gap between the native and foreign-born population is the smallest in the EU, at 0.3 pps (and only slightly larger for those born outside the EU, at 0.9 pps).

**In August 2019, the length of the school day was shortened by three lessons a week.** Municipalities are authorised to make further cuts. But the agreement also extends the number of lessons in some subjects, strengthens support teaching and grants more local autonomy. The Danish Association of School Leaders is critical of the reform, stating that it is underfunded.

## 6. Modernising higher education

**The number of people aged 30-34 with tertiary qualifications continuously increased to 49.1% in 2018, with women (56.6%) outnumbering men (41.8%).** Tertiary attainment rates vary considerably by region: in Hovedstaden (63.1%) they are nearly twice as high as in Syddanmark (37.7%). While the rates for the native-born (47.9%) and foreign-born populations (53.1%) are relatively close, for people born outside of the EU it drops to 34.7%, the widest such gap in the EU after Slovenia. Only 21% of tertiary graduates in 2017 graduated in STEM (science, technology, engineering, mathematics) subjects, below the EU average of 25.8% and far below Germany with 35.6%.

**The employment rate of recent graduates recovered to 87.8% in 2018.** Employment rates generally are high. Upper and post-secondary level graduates from vocational training have better employability than those with general education only (85.6% vs 80%). Higher education (ISCED 5-8) provides only a weak boost to employability of 2.2 pps, one of the smallest advantages in the EU (EU average: 3.8 pps). However, there is a high earnings premium, with average annual income for tertiary-educated workers 65% higher in 2017 than for those with vocational education and training (VET) qualifications.

**Danish universities remain attractive for students from abroad.** 15.1% of the graduates in Denmark studying for a degree come from abroad. About half do so for doctoral studies, a quarter for master degrees and a fifth in short-cycle studies (7% for a full bachelor degree).<sup>83</sup> While the majority come from Europe, other regions are represented too, in particular Asia. About 10% of Danish graduates studied abroad, most of them for short-term credit mobility (8.4%) and about 1.4% for whole degree studies. Short-term mobility is highest at master level and degree mobility at PhD level with 5%.

**The latest reforms make higher education more flexible and link it more closely to labour market needs.** An Agreement from December 2018 introduced the possibility to introduce up to 25 one-year full-time professionally oriented master courses; to allow better opportunities for students to combine study and work<sup>84</sup>; and to allow for work experience between degrees. Having graduated with a bachelor degree, students have now up to three years to actually start with their guaranteed master programme. These reforms are welcomed by stakeholders like the Confederation of Industries and the Confederation of Academics. Recent reforms encourage higher education institutions to develop measures to foster talent. The 2015 'Education for the future' (*Uddannelser til fremtiden*) reform introduced the possibility of special talent tracks with extra credits. An evaluation showed that two out of three universities use broadly defined talent measures but also pointed to the need for funding to support further development in this respect<sup>85</sup>. Thus, in 2019, the Danish government allocated DKK 190 million (EUR 25.5 million) to a talent track aimed at supporting 5000 students. Narrowly supporting only talent in this way was criticised by the Danish University Association and student representatives, who consider that the 2% overall annual budget reduction since 2015 has eroded the funding of the higher education system.

## 7. Modernising vocational education and training

**In 2017, 2% fewer new students entered formal VET programmes in Denmark.** 38.9% of students enrolled in upper secondary education attended vocational programmes in 2017, a small reduction from previous years (and below the EU average of 47.8%). Students in VET had some exposure to work-based learning — most educational programmes provide for some practical elements in the curriculum. The employment rate among recent VET graduates in 2018 increased to 85.6% from 82.8% in 2017, staying above the EU average of 79.5%.

**The number of apprenticeship places is increasing and a new action to boost awareness and motivation has been introduced.** One major issue has been a shortage of apprenticeship places. With more than 2 800 apprenticeship places created in 2018, the target of 2 100 new

<sup>83</sup> Source: Calculations by the European Commission's Joint Research Centre, based on Eurostat (UOE, 2017).

<sup>84</sup> The accord also set aside funds to establish up to 50 programmes where students can complete the classic two-year master studies on a part time basis master studies in 50 study areas.

<sup>85</sup> See: <https://www.ft.dk/samling/20181/almdel/UFU/bilag/97/2048929/index.htm>.



places for 2019 was more than reached (NRP, 2019). A tripartite agreement aimed at attracting young people into VET and increasing completion rates was concluded in August 2017. In November 2018, the Parliament agreed a DKK 2.3 billion (EUR 308 million) action to increase learners' awareness of and motivation for VET programmes from an early age. It involves a stronger focus on practical skills in lower secondary schools, with compulsory VET-related subjects and exams, and a stronger involvement of municipalities in guidance and counselling.

**Denmark has also made progress on providing migrants with training, education and jobs.** A vocational programme for newly arrived migrants (new basic integration programme, IGU), agreed between the government and the social partners, started in July 2016. Access to the unemployment benefit system is granted on successful completion of the programme. Companies employing and training newly arrived migrants receive financial incentives. By April 2018, 1 440 people were enrolled in the programme, and 70-80 new contracts are being issued each month. By January 2019, the number had increased to 1 890. An evaluation of the programme published in June 2018 shows that municipalities and companies are satisfied with it and that it contributes to the competencies of migrants.

#### Box 2: 'STEM - the way to business competence and employment' project

Targeted guidance for pupils and parents, practice-oriented teaching and internships are some of the activities in this new project that seeks to get more young people to choose an education in the digital or technical fields. Mercantec, an educational institution in Viborg, is in charge, in partnership with other vocational schools throughout Denmark. The project is receiving DKK 43 million (EUR 5.8 million) from the European Social Fund.

The project creates targeted guidance and practice-based learning communities that will motivate more young people to take a STEM education (technology, IT, engineering, natural sciences and mathematics). At the same time, special VET classes and extension courses for talents within the STEM areas are being established. Part of the project focuses on increasing the motivation of female students to acquire STEM competencies. Unemployed adults will also have the opportunity to increase their vocational skills, helping them progress from unskilled to skilled workers.

Among other things, the project is expected to create 800 internships and, through targeted company visits, to establish internship placement guarantees in STEM areas in all regions of Denmark. The project runs from 1 January 2019 to 31 December 2021. Around 7 800 people are expected to participate.

## 8. Developing adult learning

**There is strong participation in adult learning, but a high proportion of low-qualified adults requiring upskilling.** A smaller proportion of Danish adults than the EU average (18.7% compared to 21.9%) do not have at least an upper-secondary qualification. 62.5% of low-qualified adults are in employment, 5.7 pps above the EU average (2018). Digital skills levels are high: in 2017, 75% of 16-19 year-olds reported having high-level skills (EU average: 57%). In the wider population aged 16-74, the figure is 71% (EU average: 57%). The participation rate in adult learning, 23.5%, is well above the EU average of 11.1% (2018). However there are still nearly 530 000 people aged 25-64 in Denmark who have only a low level of educational attainment. Therefore, there remains a need for upskilling, in line with the recommendation of the Council of the EU referred to in Section 4.

**A national overview of adult learning opportunities has been created and ICT-based approaches to adult learning introduced.** In addition to the tripartite agreement, the Ministry of Education has launched a web portal to support adults in upgrading their skills and competencies and finding the right training programme. The portal offers a national overview of adult learning opportunities to people in the labour market as well as to the unemployed. ICT-based approaches are increasingly used to fit education into the everyday life of adults. In university study programmes, changes have been introduced that increase the possibility of part-time study.



**Most teachers in adult education in Denmark have formal qualifications and there are no indications of teacher shortages.** In adult education, where institutions and curricula are recognised as part of the public education system, teachers face formalised qualification requirements which vary depending on the type of provision. In non-formal adult education, for instance evening schools and part of the activity of folk high schools, qualification requirements are less formalised. However, such teachers are often expected to have or to acquire the basic adult teaching certificate.

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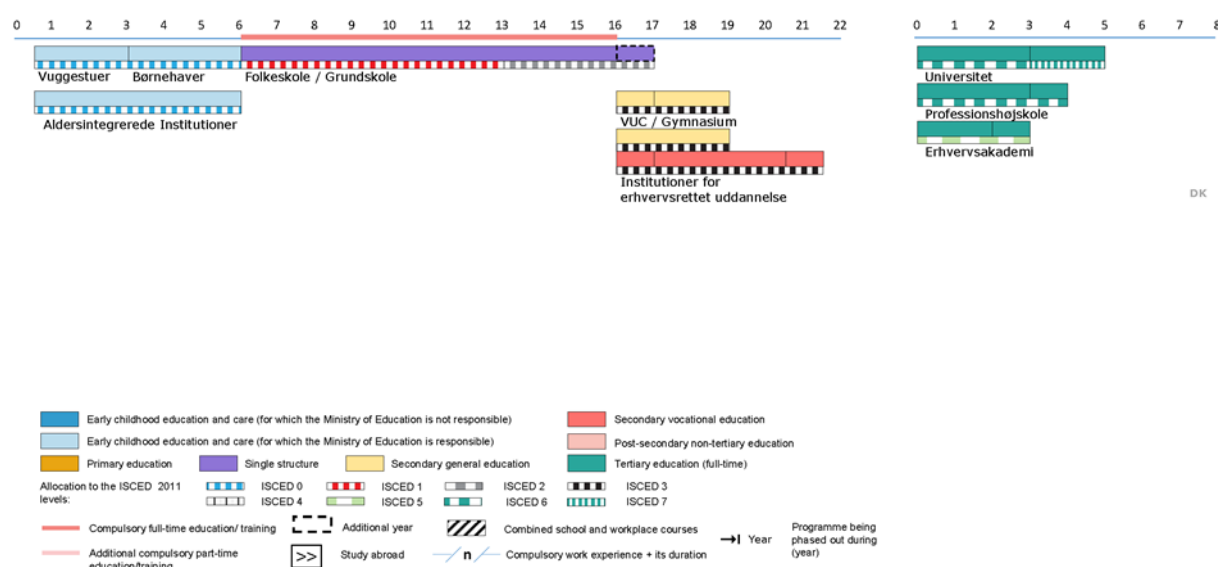
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## Annex I: Key indicator sources

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.

Comments and questions on this report are welcome and can be sent by email to:  
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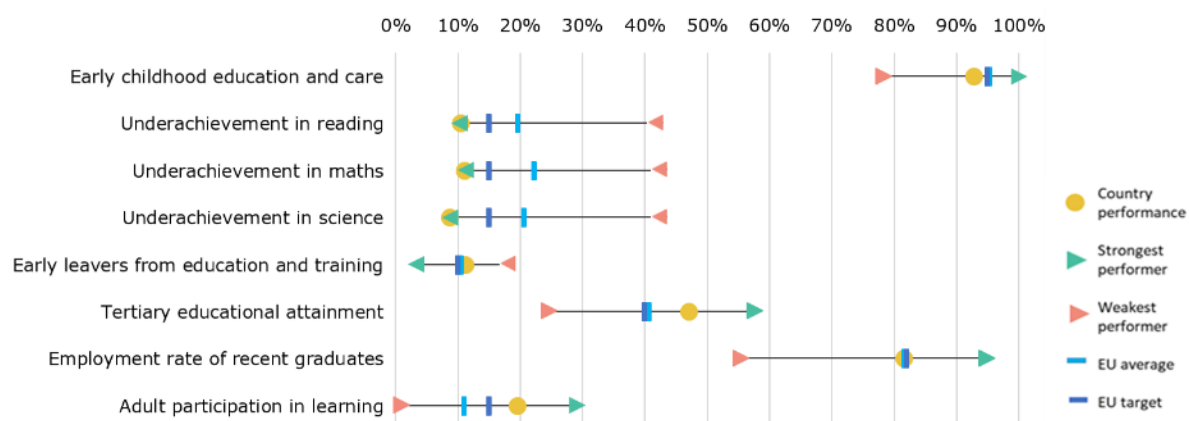
# ESTONIA

# 1. Key indicators

			Estonia		EU average	
			2009	2018	2009	2018
Education and training 2020 benchmarks						
Early leavers from education and training (age 18-24)			13.5%	11.3%	14.2%	10.6%
Tertiary educational attainment (age 30-34)			36.3%	47.2%	32.3%	40.7%
Early childhood education and care (from age 4 to starting age of compulsory primary education)			96.1%	92.9% <sup>17</sup>	90.8%	95.4% <sup>17,d</sup>
Proportion of 15 year-olds underachieving in:	Reading		13.3%	10.6% <sup>15</sup>	19.5%	19.7% <sup>15</sup>
	Maths		12.7%	11.2% <sup>15</sup>	22.3%	22.2% <sup>15</sup>
	Science		8.3%	8.8% <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)	67.7% <sup>b</sup>	81.7%	78.3%	81.6%
Adult participation in learning (age 25-64)		ISCED 0-8 (total)	10.5%	19.7%	9.5%	11.1%
Learning mobility	Degree-mobile graduates (ISCED 5-8)		:	9.6% <sup>17</sup>	:	3.6% <sup>17</sup>
	Credit-mobile graduates (ISCED 5-8)		:	: <sup>17</sup>	:	8.0% <sup>17</sup>
Other contextual indicators						
Education investment	Public expenditure on education as a percentage of GDP		7.2%	5.8% <sup>17</sup>	5.2%	4.6% <sup>17</sup>
	Expenditure on public and private institutions per student in € PPS	ISCED 0	€1 714 <sup>12</sup>	€5 199 <sup>16</sup>	:	€6 111 <sup>15,d</sup>
		ISCED 1	€4 430 <sup>12</sup>	€5 000 <sup>16</sup>	€5 812 <sup>12,d</sup>	€6 248 <sup>15,d</sup>
		ISCED 2	€5 100 <sup>12</sup>	€5 127 <sup>16</sup>	€6 937 <sup>12,d</sup>	€7 243 <sup>15,d</sup>
		ISCED 3-4	€5 551 <sup>12</sup>	€5 008 <sup>16</sup>	:	€7 730 <sup>14,d</sup>
		ISCED 5-8	€6 414 <sup>12,d</sup>	€9 445 <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	13.8%	11.5%	13.1%	9.5%	
	Foreign-born	:	:	26.1%	20.2%	
Tertiary educational attainment (age 30-34)	Native-born	35.9%	45.6%	33.1%	41.3%	
	Foreign-born	44.6% <sup>u</sup>	73.8%	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	65.2%	74.5%	72.5%	76.8%	
	ISCED 5-8	70.5%	89.0%	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 1 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, 16= 2016, 17 = 2017.

**Figure 9 Position in relation to strongest and weakest performers**



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

## 2. Highlights

- 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.

## 3. A focus on teachers

**The teaching workforce is ageing but the number of students in teacher training programmes is insufficient to meet future demand.** In Estonia, every second teacher in primary and secondary education is over 50 years old and almost every fifth is over 60. For the moment there is a degree of oversupply of teachers, reflected in the high number of part-time teachers<sup>86</sup>. This is particularly the case in rural municipalities, where schools have less students and distances between schools are longer. However, many schools report difficulties in hiring teachers in specific subjects, particularly in mathematics, chemistry, physics, geography and biology (OSKA, 2018a), while university programmes to train subject teachers are generally undersubscribed. In parallel, the unmet need for support specialists (e.g. school psychologists, speech therapists, special education teachers, etc.) is high and expected to increase further as the inclusive education reform advances. The number of graduates from programmes preparing these professionals is also insufficient. However, the number of those in pre-school and primary school teacher training programmes is projected to be sufficient to meet future demand (ibid).

**The teaching profession remains a low-status profession.** Only 26.4% of Estonian teachers believe that their profession is valued in society (OECD, 2019a). Nevertheless, this percentage increased significantly compared to 2013, when it was only 14%. In general, teaching is considered stressful, salaries uncompetitive, and working conditions unattractive. Teachers report a lack of feedback and support from mentors, and insufficient cooperation with other teachers and parents (MoER, 2016). While generally unpopular, teaching is particularly unappealing to men, who account for only 17% of school teachers<sup>87</sup> (EU average: 28%; UOE, 2017). To improve the image of the profession, media campaigns were run and a national educational award was introduced in 2018 giving recognition to teaching. The authorities launched a working group to develop new solutions to tackle teacher shortages. More flexible pathways to the profession were introduced in 2013 to allow teachers to enter the profession with a combination of a pedagogical degree or a non-pedagogical degree at either bachelor or master's level. Nevertheless, the challenges arising from the lack of candidates to become teachers is seen as a risk to the successful functioning of the Estonian education and training system.

**The government is increasing salaries to help make the profession more attractive.** Between 2014-2018, teachers' salaries increased by more than 40% (NRP, 2019). On average, a school teacher working full time earns 113% of the average wage in Estonia. The intention is for salaries to reach 120% of the average wage, equivalent to the average pay for employees with a tertiary education degree. The government allocated funds to local administrations to top up the salaries of pre-school teachers, which are lower. In general, career prospects and teacher remuneration over their career are factors affecting the attractiveness of the profession (OECD, 2018a). However, minimum salaries have only been set at national level since 2013. As salaries are defined at school level<sup>88</sup>, they vary significantly across municipalities and across the system (state, municipal, private). More competitive salaries could improve gender balance in the

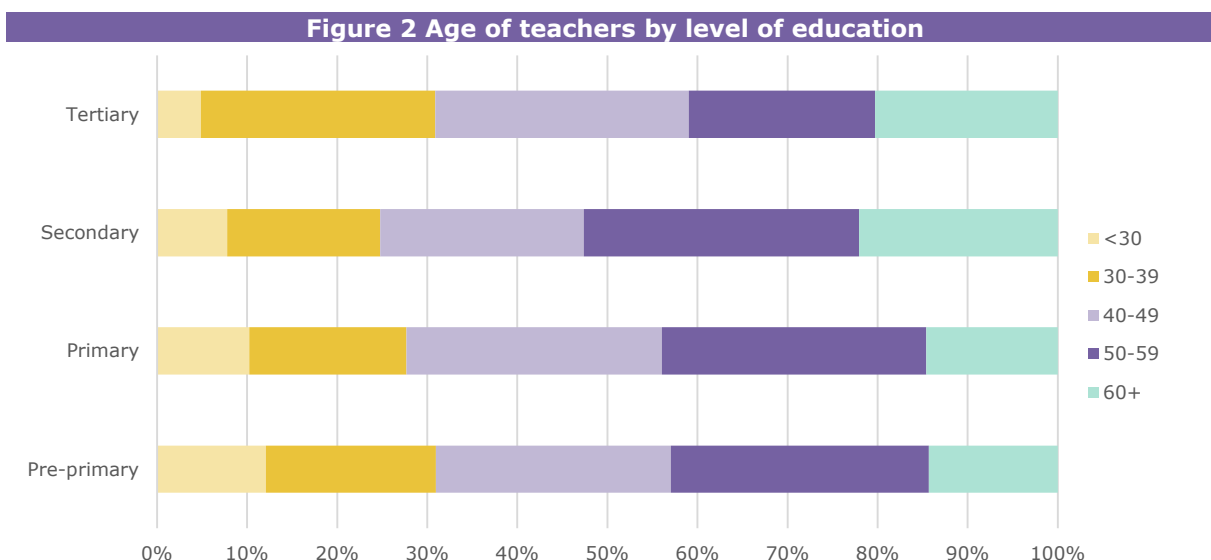
<sup>86</sup> 44% of teachers in general education and 60% in vocational education and training (OSKA, 2018a).

<sup>87</sup> ISCED 1-3.

<sup>88</sup> Typically based on experience, extra qualifications and professional development activities (Santiago et al., 2016).

profession, with evidence suggesting that countries with higher salaries tend to have a better gender balance (OECD, 2018b). Nevertheless, even in countries with higher levels of pay, unattractive working conditions and the low status of the profession are factors that make teaching a less attractive career choice (ibid).

**There is a need to improve teacher education programmes.** Compared with the average of 23 EU countries<sup>89</sup> surveyed in the 2018 Teaching and Learning International Survey (OECD, 2019a), Estonian teachers report a greater need for additional training in teaching students with special educational needs (26.1%; EU-23: 21%), teaching cross-curricular skills (17.2%; EU-23: 12.1%) and ICT skills for teaching (19.2%; EU-23: 16.1%). As the number of students with special educational needs in mainstream education increases, there is a need to better prepare teachers for this purpose in initial teacher education and continuing professional development (OSKA, 2018a). Teachers also report an insufficient level of digital skills, and that this is a major obstacle to teaching digital skills (Praxis, 2017). They often report difficulties in creating digital content and in problem-solving. Moreover, the Survey of Adult Skills showed that Estonian teachers have average or slightly below-average information processing skills but perform worse in problem-solving in a technology-rich environment (MoER, 2013).



Source: DG EAC calculations based on Eurostat and UOE, 2017.

## 4. Investing in education and training

**Spending over the short- and medium-term is likely to be driven by the planned education reform.** As a percentage of GDP, Estonia's general government expenditure on education is above the EU average (5.8% in 2017, against 4.9%). Spending on education is also high as a share of total government expenditure (14.8% against 10.2% in the EU), reflecting the importance attached to education and training policies at national level. Work has started on developing an education strategy for 2021-2035, which would also cover the use of EU funds between 2021 and 2027. The strategy is expected to make gradual changes to the system, such as revising the curriculum and introducing a new approach to learning. It seeks to foster more flexible transitions and more permeability between educational levels by stepping up cooperation between educational institutions through the 'Consortium' approach. To ensure a more efficient use of school resources, Estonia plans to further address demographic trends within the student population and the teaching workforce, for example, by giving further incentives to reorganise the school network and addressing the high share of part-time work among teachers.

<sup>89</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.

**Reorganisation of the general upper secondary school network needs to be finalised but overall investment needs in school infrastructure are expected to fall.** Reorganising the school network, partly financed by EU funds, is ongoing and will require further investment in the coming years (European Commission, 2019). However, a large part of the infrastructure plans – building or renovating buildings – has been completed, so investment needs are expected to fall compared to previous years. 15 out of the 24 planned state gymnasiums have already been opened, the network of vocational education schools was modernised and schools received EU funding to update their infrastructure to make them more energy efficient. In addition, the government offers financial support to basic education schools in return for discontinuing the provision of upper secondary education. The pace of reorganisation is uneven across municipalities. In 2018, 160 schools offered upper secondary education (compared with about 200 in 2013), though the reorganisation aimed to reduce this number to 100 by 2020. Out of 532 general education schools, almost a third are small (fewer than 100 students) or very small (fewer than 30 students). The need remains to continue the reorganisation of the network of upper secondary schools, alongside investing in improving the quality of the entire school network (NRP, 2019).

#### Box 1: The skills challenge in Estonia

Although the level of education in Estonia is high compared with many other EU countries, there are significant imbalances in aligning skills supply to labour demand. Existing data suggests that there is a shortage of cognitive and other transversal skills (OECD, 2019b). Employers expect more general knowledge from graduates of vocational education and training and more practical knowledge from higher education graduates.

There are labour and skills shortages in a number of sectors, including in ICT and construction, and emerging shortages in others (e.g. teachers). According to forecasts, half of those entering the labour market will need a higher education degree and a third will need a vocational education degree; however, the number of graduates in either track will not suffice to meet future needs (OSKA, 2018b).

Although young Estonians have a good level of basic skills, educational outcomes are lower in rural areas and among graduates of Russian-medium schools. Too many young people leave the education and training system too early, particularly young men. An increasing number of young people do not continue their studies after general upper secondary education.

27% of Estonia's workforce has no more than a basic or general upper secondary education and no professional qualifications (either vocational or higher education) (NRP, 2019). Although participation in adult learning is improving, existing skills shortages and mismatches suggest that the need for upskilling and reskilling remains high.

Estonia performs on average in terms of adopting high performance workplace practices and the strength of its innovation system (OECD, 2019b), while the research and innovation (R&I) system does not meet its full potential (European Commission, 2019).

To address these challenges, the 2019 country-specific recommendations call on Estonia to address skills shortages and foster innovation by improving the capacity and labour market relevance of the education and training system (Council of the European Union, 2019).

## 5. Modernising early childhood and school education

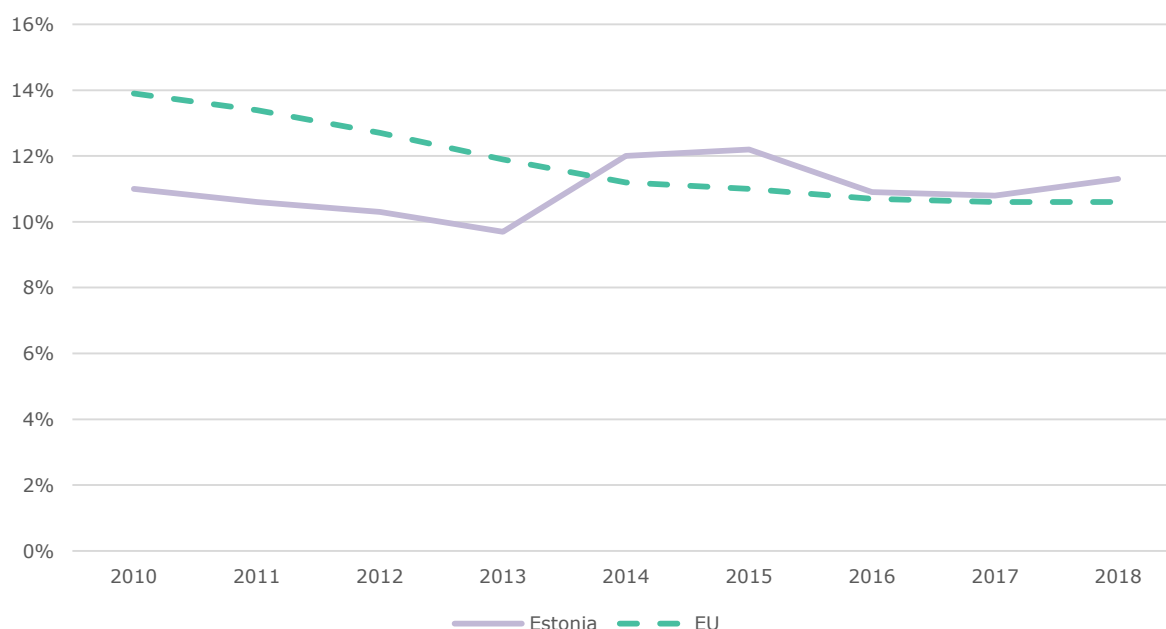
**Participation in early childhood education and care is improving but is still below the EU average.** In 2017, the participation rate for children aged 4 to compulsory education age increased to 93% (EU average: 95.4%). For children aged 0-3, the enrolment rate is 27% (EU average 34%), with parents' educational attainment not seemingly a determining factor (OECD, 2018a). Work has started on harmonising the legal framework and quality requirements for childcare and early childhood education. To support Estonian language learning from an early age, a pilot project providing Estonian speaking teachers in pre-school education groups was launched in the two regions with the highest proportion of Russian speakers. The objective is for children from Russian-



speaking families to speak Estonian at A1 level<sup>90</sup> by the time they go to school, with plans underway to extend the programme, according to the needs in Harjumaa and Ida-Virumaa.

**Too many young people leave the education and training system too early.** At 11.3% in 2018, the rate of early leavers from education and training (ages 18-24) has not improved in recent years. It is above the EU average (10.6%) and Estonia's Europe 2020 target of 9.5<sup>91</sup>%. Early school leaving is particularly problematic given the economic and demographic context: as the need for higher skills increases but the working-age population decreases, it is becoming increasingly important to ensure that young people acquire adequate skills and attain either vocational or higher education. Men are much more likely to leave the education system early (16.1% compared with 6.4% of women — the highest gender gap in the EU). The main factors affecting completion of upper secondary education are weak learning outcomes in basic education and lack of motivation, suggesting that interventions should be offered before students reach upper secondary education (MoER, 2018).

**Figure 3 Early leavers from education and training, 2010-2018**



Source: Eurostat, LFS.

**Proficiency in Estonian language for students with a different mother tongue remains a challenge.** Less than 61.4% of graduates from basic schools where Russian is the language of instruction master Estonian at B1 level, well below the national target of 90%. Overall, 69.2% of all basic school graduates with a different mother tongue than Estonian reach the B1 level. This rises to 86% for students of immersion classes and to 99% for students educated in an Estonian-speaking environment (MoER, 2019). Language competences improve in upper secondary education, where at least 60% of the curriculum is taught in Estonian, with 83% of graduates of Russian-medium schools reaching level B2<sup>92</sup>. Apart from Estonian, having good English skills is perceived as important for competing on the labour market. However, there is a large gap in English-language performance between Estonian and Russian native speakers (MoER, 2018). As of September 2019, all graduates from upper secondary will be able to certify their language skills free of charge by taking an internationally recognised high-level test (Cambridge C1).

<sup>90</sup> A1 corresponds to a basic level of proficiency in the Common European Framework of Reference for Languages.

<sup>91</sup> 9% target under the Lifelong Learning Strategy.

<sup>92</sup> B1 and B2 correspond to an intermediate level of language proficiency.

### Box 2: School of the future

The 'School of the future' is a project financed by the European Social Fund. It aims to develop a new approach to learning by strengthening schools' capacity to innovate using evidence and to support teachers in becoming agents of change. Participating schools have the opportunity to analyse their challenges, set sustainable goals and develop plans for the future. Each school is assigned a consultant to work with on a regular basis, which includes online communication and weekly visits. Additional experts can be involved, depending on the schools' need.

In practical terms, teachers receive support to develop innovative solutions and assess their effectiveness based on evidence, analysed jointly with Tallinn University. Monthly seminars are held to reflect on the process of change and to prepare next steps. At the school level, a steering group of 4-6 members comprising teachers and school leaders follow up by developing specific plans to implement the innovative solutions identified.

## 6. Modernising higher education

**The number of new labour market entrants with higher education is insufficient to meet future labour market needs.** The number of students entering higher education is falling due to demographic trends and the fact that an increasing proportion of upper secondary graduates do not continue studying, particularly men, Russian speakers, and graduates from schools furthest away from economic and administrative centres (MoER, 2017)<sup>93</sup>. Admission to doctoral programmes is also falling. The number of young people who graduate from higher education does not meet the future labour force demand (OSKA, 2018b). Although the number of foreign students is increasing, reaching 13% of admitted students, it is insufficient to offset labour market shortages as few remain in Estonia after graduation, mainly due to their lack of knowledge of Estonian. Although tertiary educational attainment in the age-group 30-34 is currently above the EU average (47.2% compared with 40.7%), it may worsen if the high dropout rates persist.

**Higher education is insufficiently aligned with labour market needs.** Employers often report mismatches in terms of transversal skills. These are critical for building a flexible workforce and include a variety of skills like creativity, critical thinking, entrepreneurship, autonomy and capacity for problem-solving. Two thirds of students in Estonia work whilst studying (Praxis, 2018), which enables them to acquire practical experience. However, as many students drop out or interrupt their studies to move into full-time work, this can lead to a situation where their skills do not meet employers' expectations (MoER, 2018). In addition, the actual number of graduates in science, technology, engineering and mathematics (STEM) – who play a key role in R&D investments – is also insufficient to meet labour market needs. This shortage reflects both the demographic trend and the fact that some STEM fields remain unattractive.

**More women attain tertiary education than men but men are better paid.** In 2018, 38% of men aged 30-34 had a tertiary education degree compared with 57.5% of women in the same age group. This gap has persisted. The employment rate for tertiary educated men who have recently graduated is higher than for women (93.3% vs 85.4%), which may be partly explained by parental leave arrangements. But even when employed, tertiary-educated women earn about 30% less than men. This high gender pay gap has been linked to a number of factors, including insufficient pay transparency, family care responsibilities and gender differences in the field of study (EIGE, 2017).

## 7. Modernising vocational education and training

**The implementation of a new funding model for vocational education and training (VET) has started but is delayed due to funding constraints.** The government introduced performance-based funding to promote innovation and better cooperation between schools and companies. However, only EUR 0.5 million were allocated for this purpose in 2019, compared to

<sup>93</sup> In 2017, 56% of upper secondary education graduates continued their studies in the academic year after graduation, 11 percentage point lower than in 2007. 9% of VET graduates continued to higher education, of which three quarters to professional higher education.

the EUR 12 million initially expected. Total enrolment in upper secondary VET<sup>94</sup> in Estonia also increased slightly in 2017 compared with previous years, with 40.7% of students enrolled (UOE, 2017). However, this was still below the EU average of 47.8%. The share of VET students enrolled in programmes with workplace-based learning experience has doubled but, at 5%, it was still very limited.

**Estonia promotes entrepreneurial skills in VET and supports teachers and trainers in acquiring these skills.** Fourteen VET schools have taken part in the entrepreneurial programme together with general schools and higher education institutions. By 2020, 2 900 teachers and business/industry specialists (including VET teachers and trainers) are expected to attend in-service training in entrepreneurship education. 75 cooperation projects are planned to promote mutual learning between teachers, employers, learners, parents and other institutions. In 2018, 800 teachers followed in-service training in entrepreneurship education and 45 cooperation projects were launched in VET and general education institutions. A network was created for both career and entrepreneurship teachers to share new information and teaching practices. E-materials supporting teachers were compiled and integrated in the training material for pilot schools.

## 8. Developing adult learning

**Estonian adults update their knowledge and skills through learning more often than the EU average but the need for upskilling and reskilling remains high, especially for the low educated.** In 2018, 19.7% of adults aged 25-64 had had a learning experience (EU average: 11.1%). As the number of jobs requiring only a low level of education is decreasing, it is important to upgrade the skills of adults with low levels of education, including older workers. Participation in learning schemes has increased, including for the low educated (7.4% in 2018, EU average: 4.3%). However, the participation rate of this group remains considerably lower compared to highly educated workers in Estonia (28.8%, EU average: 19%). To increase the participation in learning amongst adults with a low level of educational attainment, there is a need to focus on attitudes and to provide learning opportunities tailored to learners' needs. The Estonian Quality Agency for Higher and Vocational Education started to develop a quality evaluation system for continuous training aiming to provide information about the quality of training for adult learners and to encourage providers to systematically improve quality.

**The Unemployment Insurance Fund rules were revised to incentivise adult learning.** Since 1 June 2018, the target group to receive formal education support and training vouchers was extended to cover people on temporary contracts. The income eligibility threshold for support was increased from the national median wage to the average wage (from about EUR 800 to 1 200 per month in 2018). Employers can now apply for support to provide Estonian language training to their employees.

**Estonia plans to improve its skills governance system.** With support from the European Social Fund, Estonia developed a comprehensive system to anticipate labour market needs and skills (OSKA). Since 2017, the European Centre for the Development of Vocational Education and Training (Cedefop) has provided technical advice with the aim of improving the management and coordination of skills anticipation, improving the take-up of recommendations and forging a close link between skills intelligence and the education and training system. The tool is expected to be further developed with the support of EU funding to improve the methodology and the implementation concept.

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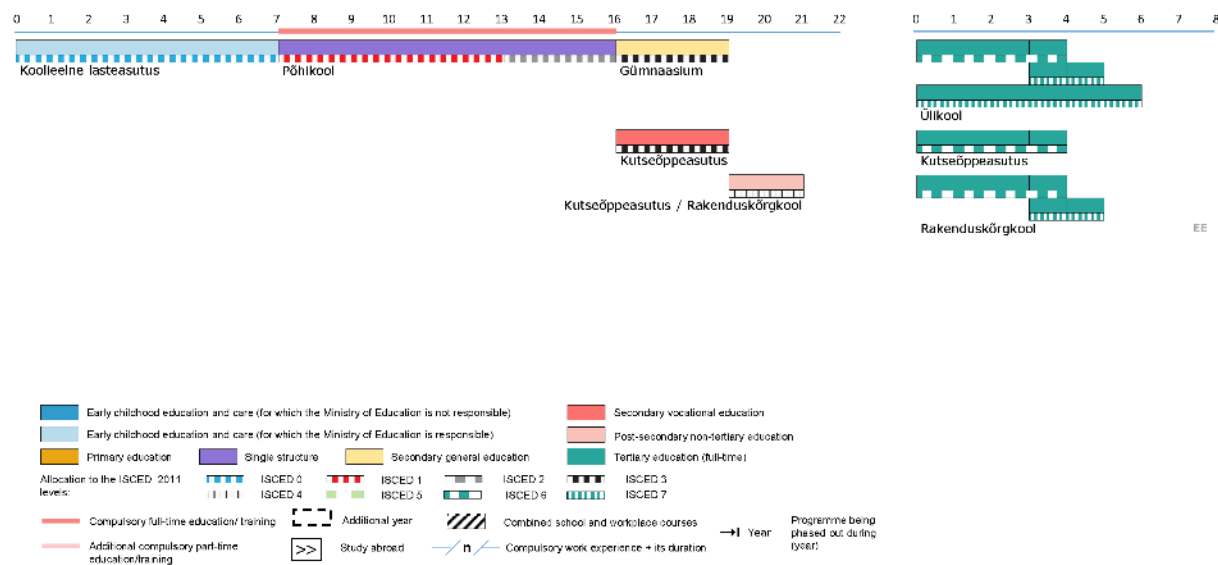
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## Annex I: Key indicator sources

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 - Credit-mobile graduates	JRC computation based on Eurostat / UIS / OECD data

## 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.

Comments and questions on this report are welcome and can be sent by email to:  
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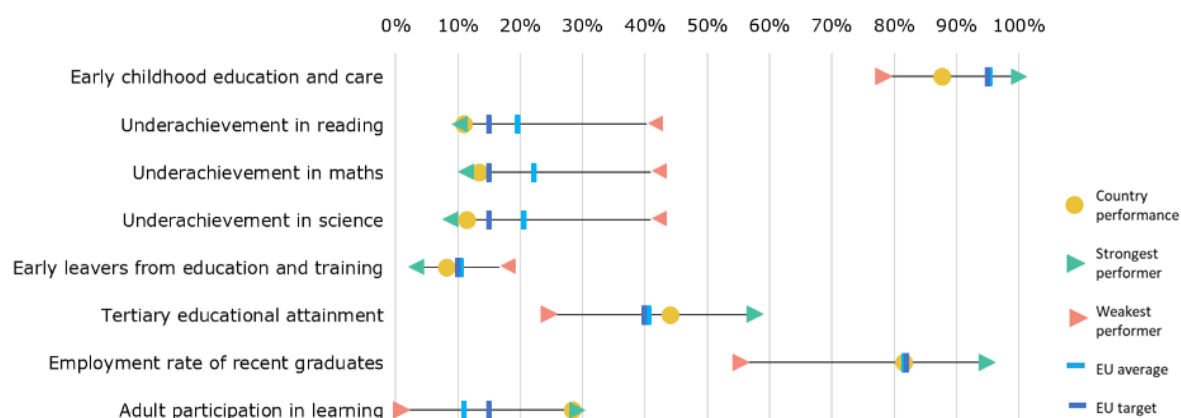
# FINLAND

# 1. Key indicators

			Finland		EU average	
			2009	2018	2009	2018
<b>Education and training 2020 benchmarks</b>						
Early leavers from education and training (age 18-24)			9.9%	8.3%	14.2%	10.6%
Tertiary educational attainment (age 30-34)			45.9%	44.2%	32.3%	40.7%
Early childhood education and care (from age 4 to starting age of compulsory primary education)			71.9%	87.8% <sup>17</sup>	90.8%	95.4% <sup>17,d</sup>
Proportion of 15 year-olds underachieving in:	Reading		8.1%	11.1% <sup>15</sup>	19.5%	19.7% <sup>15</sup>
	Maths		7.9%	13.6% <sup>15</sup>	22.3%	22.2% <sup>15</sup>
	Science		6.0%	11.5% <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)		77.8%	81.7%	78.3%	81.6%
Adult participation in learning (age 25-64)						
	ISCED 0-8 (total)		22.1%	28.5%	9.5%	11.1%
Learning mobility	Degree-mobile graduates (ISCED 5-8)		:	3.8% <sup>17</sup>	:	3.6% <sup>17</sup>
	Credit-mobile graduates (ISCED 5-8)		:	15.2% <sup>17</sup>	:	8.0% <sup>17</sup>
<b>Other contextual indicators</b>						
Education investment	Public expenditure on education as a percentage of GDP		6.5%	5.7% <sup>17</sup>	5.2%	4.6% <sup>17</sup>
	Expenditure on public and private institutions per student in € PPS	ISCED 0	€8 822 <sup>12</sup>	€9 326 <sup>16</sup>	:	€6 111 <sup>15,d</sup>
		ISCED 1	€6 347 <sup>12</sup>	€6 873 <sup>16</sup>	€5 812 <sup>12,d</sup>	€6 248 <sup>15,d</sup>
		ISCED 2	€9 853 <sup>12</sup>	€10 943 <sup>16</sup>	€6 937 <sup>12,d</sup>	€7 243 <sup>15,d</sup>
		ISCED 3-4	€6 563 <sup>12</sup>	€6 451 <sup>15</sup>	:	€7 730 <sup>14,d</sup>
		ISCED 5-8	€13 634 <sup>12</sup>	€12 761 <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		9.3%	8.1%	13.1%	9.5%
	Foreign-born		21.8%	12.7% <sup>u</sup>	26.1%	20.2%
Tertiary educational attainment (age 30-34)	Native-born		47.2%	46.4%	33.1%	41.3%
	Foreign-born		27.2%	25.9%	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		72.9%	76.7%	72.5%	76.8%
	ISCED 5-8		84.1%	88.3%	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: The EU's 2009 PISA averages do not include Cyprus; d = definition differs, u = low reliability, := not available, 12= 2012, 14=2014, 15 = 2015, 16=2016, 17 = 2017.

**Figure 10 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

- 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.

## 3. A focus on teachers

**Teaching is an attractive profession.** Teachers are considered academic professionals and enjoy public respect (Simola, 2005). According to the OECD Teaching and Learning International Survey (TALIS)<sup>95</sup> (OECD, 2019a), the proportion (58.2%) of Finnish teachers who believe that theirs is a valued profession is the highest in the EU (17.7% at EU level). The proportion who are satisfied with their job is 88%, just below the EU average of 89.5%, but does not drop among teachers with over 5 years of work experience. Overall, 78.9% of teachers say that if they could decide again, they would choose to become a teacher (EU average 77.6 %), with teachers with more than 5 years of working experience slightly lower (78.0%, EU average 76.4%). The proportion reporting that teaching was their first career choice is lower than the EU average (59.3%, EU average 65.7%). This is lower for male teachers (56.8%) than for females (60.3%) (EU average: -11.5 pps). Few teachers leave the career in the early years, and they change career less often than other professionals.

**Teachers are predominantly female, and the profession is ageing.** As in other EU countries, most teachers are women. At primary level women make up 80% of teachers, at lower secondary 75% and at upper secondary 60% (85%, 68% and 61% respectively, for the EU). At tertiary level, women make up 52% of teaching staff. In vocational education and training (VET), slightly over half of teachers are women. More than a half of school leaders are men. In 2017, school teachers below the age of 30 make up less than 10% of the workforce (similar to the EU average of 9.4%). The proportion of teachers aged over 50 is smaller in primary (32%) and lower secondary education (32%) than upper secondary (48%) and tertiary education (48%)<sup>96</sup>. In VET, more than half of teachers are over 50 (Paronen & Lappi, 2018). Most school leaders are over 50. There are no policies to address the gender imbalance in teaching.

**Teacher salaries are broadly equivalent to those of other tertiary graduates, but lower in pre-primary and primary education.** Teacher salaries and employment conditions are agreed nationally as part of collective agreements between municipalities and other employers, and teachers' unions. In 2015, average pay of pre-primary and primary teachers was below that of other tertiary-educated staff (73% and 77% respectively), although the pay of lower secondary teachers and upper secondary teachers (84% and 99%, respectively) was higher (OECD, 2018). In 2017, salary progression is one of the lowest in the EU - for primary and secondary level, it is around 30%, but for pre-primary teachers it is only 8% (European Commission/EACEA/Eurydice, 2018a).

**There are shortages of special needs and kindergarten teachers.** The latest forecast of national demand for qualified teachers in primary, secondary and vocational schools in Finland was undertaken in spring 2018. It points to shortages of special education teachers (2.2% of the total workforce) and career counsellors (6.2%) (Nissinen & Välijärvi, 2018). An increasing need of

<sup>95</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>96</sup> Eurostat, UOE, 2017.

special needs teachers was also seen in VET. The 2016 Survey of Teachers and Principals in Finland (Kumpulainen, 2017) had previously indicated shortages in these groups and for pre-primary teachers. There is broad agreement that the intake of trainees in these areas has to be stepped up<sup>97</sup>. Over the past seven years, the government has funded 100-200 extra places annually for pre-primary teachers in university programmes. Some municipalities, such as the city of Vantaa, have offered higher pay to attract pre-primary teachers (Helsingin Uutiset, 2018).

**There are no fixed teacher evaluation practices.** Assessment of teachers' performance is based on self-evaluations and on ongoing dialogue with their school leaders. Similarly, the approach to quality assurance in primary and secondary schools is not based on school inspections or systematic national testing but on self-assessment at school and municipality levels. The evaluation practices aim to support autonomy of teachers (European Commission/EACEA/Eurydice, 2018b).

**Participation in continuing professional development (CPD) has improved.** CPD is the responsibility of the municipalities, which organise in-service pedagogical courses. Teachers have to train for two days per year. Half of Finnish teachers believe that CPD is restricted by schedule conflicts (52.0%, EU 52.4%) and by lack of incentives (51.9%, EU 51.9%). The Finnish Teacher Education Forum (MEC, 2016) has prepared a Development Programme for Teachers' Pre- and In-service Education. Kumpulainen (2017) reports that Finnish teachers and school leaders participated more actively in CPD over the three preceding years, thanks to increased state funding.

**Teachers do not feel sufficiently prepared in ICT or to teach in multicultural and multilingual settings.** TALIS (OECD, 2019a) reports that the proportion of Finnish teachers who feel well or very well prepared to use ICT for teaching is the second lowest in the EU (21.5%, EU average 39.4%). 19% say they need professional development in this area (EU average 16.1%). However, more than half report that this is covered in their formal education (55.6%, EU average 52.9%). TALIS also reports that the proportion who feel well or very well prepared to teach in a multicultural and/or multilingual setting is among the lowest in the EU (13.9%, EU 23.8%). The proportion (6.9%) who report a high level of need for CPD in this area is lower than the EU average of 13.4%.

#### Box 1: Improved continuing professional development for teachers

The 'Development programme for teachers in pre- and in-service education' aims to improve participation in, and quality of, continuing professional development. It responded to the finding in the 2013 TALIS survey which showed low levels of continuing professional development and limited teacher collaboration and networking.

The development programme sets out three strategic competence goals for the pre- and in-service education of teachers. It includes six strategic action guidelines to shape the development of teacher education. 31 pilot projects were started at the end of 2016, costing around EUR 15 million in 2017 and EUR 12 million in 2018.

The Finnish Education Evaluation Centre monitors these pilot projects. They conclude that the reform model prepared at the Teacher Education Forum has several strengths, such as networking and bringing together different experts and stakeholders. The evaluation also noted challenges and further requirements for successful implementation, such as creating a clear plan. The effectiveness of the projects will be fully evaluated on completion in 2023–2024.

## 4. Investing in education and training

**Education spending fell in 2017, and, while above the EU average, is still well below pre-crisis levels.** In 2017, public expenditure on education was 5.7% of GDP, less than in 2016 (6.1%) but well above the EU average (4.6%). This is well below pre-crisis levels (between 6.6% in 2010 and 6.4% in 2013). In real terms, general government education expenditure 2010-2017

<sup>97</sup> See: <https://yle.fi/uutiset/3-10352591>

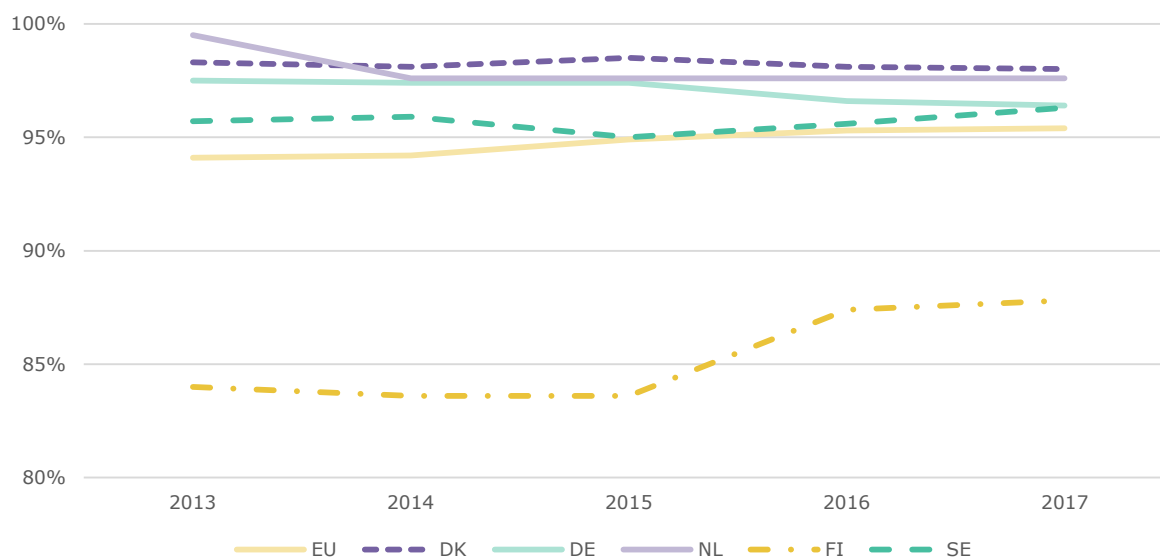
fell by 8% (2.8%<sup>98</sup> in primary, 7.4% in secondary and 10.1% in tertiary education). Public expenditure per pupil/student as a percentage of per capita GDP is below other Nordic countries in primary, upper secondary and tertiary levels.

**The proportion of private spending on education in Finland is the lowest in the EU.** At 1.6% of overall spending, it is well below other EU OECD countries<sup>99</sup>.

## 5. Modernising early childhood and school education

**Participation in early childhood education and care (ECEC) keeps growing, but remains low by international comparison.** Provisional 2017 data<sup>100</sup> show an increase in participation from 2010 for children under 3 (33.3%, up from 28%, now close to the EU average of 34.2%). Finland remains among the EU countries with the lowest participation rate for children aged between 4 and the starting age of compulsory education (87.8%, EU average 95.4%) in 2017.

**Figure 2 Participation in ECEC of children below 4 and the age of starting compulsory ISCED 1, 2013-2017**



Source: Eurostat, UOE.

**Implementing the Act on ECEC will require increased spending.** A new law entered into force in September 2018 simultaneously with the Government Decree on ECEC<sup>101</sup> (FNBE, 2016), aiming to increase quality and participation. Several measures have been implemented since then. Enrolment fees for low-income and middle-income families were reduced. As participation increases, the number of children per classroom has grown. Steps have been taken to increase the number of ECEC teachers with master's degrees<sup>102</sup>. However, local and regional authorities estimate that hiring more such staff will require strong additional investment at municipality level. The Education Minister has proposed additional resources for quality assurance of ECEC (MEC, 2019a).

**Implementation of the national core curricula for primary and secondary education faces challenges.** National education and teacher fora (MEC 2018 a,b) have identified challenges at student, classroom, school and city level in implementing the national core curriculum for basic (FNBE, 2014) and upper secondary education (FNBE, 2015). To address these challenges, the Basic

<sup>98</sup> It does not include the primary education investment incurred by municipalities, which represents around two-third of the total investment. According to the estimates of the municipalities, the overall spending cuts on primary education are equivalent to those of tertiary education.

<sup>99</sup> OECD, <https://data.oecd.org/eduresource/private-spending-on-education.htm#indicator-chart>

<sup>100</sup> Eurostat, EUSILC, [ilc\\_caindformal](https://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&language=en&code=sdg_4.2.1)

<sup>101</sup> <https://minedu.fi/en/legislation-ecec>

<sup>102</sup> Finnish universities report that approximately 1 000 new study positions for kindergarten teachers will be created.

Education Forum<sup>103</sup> published a development plan for primary comprehensive schools (MEC, 2018a). For upper secondary level, a new Act on General Upper Secondary Education will enter into force in autumn 2019. It aims to increase the attractiveness of general upper secondary education and make transition to higher education smoother (MEC, 2018b). In 2019, the Finnish National Agency for Education will release an upper secondary framework curriculum for public consultation.

**There is evidence that educational inequalities have worsened.** Although Finland is acknowledged as one of the most equal societies in educational terms (OECD, 2018b), the PISA surveys (OECD, 2016) showed that inequalities in educational outcomes linked to gender, migration, socio-economic background and area of origin had increased. According to the Finnish Education Evaluation Centre (FINEEC, 2018), parents' socio-economic status and the view of education in a family influence learning outcomes in basic education.

**The early school leaving rate remains stable.** Despite support measures to students at risk of dropping out, early school leaving in 2018 remained almost unchanged (8.3%, 8.2% in 2017) and higher in males (9.2%) than in females (7.4%). However, according to Statistics Finland, in 2015 about 15% of 20-24 year-olds were neither in education nor in the labour market. In 2018, they report that this rate had fallen to 11.8% (MEC, 2019b).

**Teachers' digital competence has markedly improved, but differences persist in the use of digital tools.** A national survey on digital learning at school in 2017-2018 indicates positive but slow progress in the use of digital tools in teaching and learning (Tanhua-Piironen et al., 2019). Progress may be related to the 2016-2019 Finnish government 'Knowledge and Education' and 'Digitalisation' programmes. In 2017-2018 around EUR 10 million were allocated to municipalities to hire mentor teachers to support use of digital tools<sup>104</sup>. According to trade unions, the temporary nature of this measure raises concerns about its sustainability (OAJ, 2018). There are clear differences in progress towards school digitalisation between and within municipalities.

## 6. Modernising higher education

**Tertiary education attainment is high but has fallen slightly, and there are regional and gender imbalances.** The percentage of the population aged 30-34 with a tertiary degree has remained stable since 2017 (44.6% in 2017, 44.2% in 2018), above the EU average of 40.7%. This ranges from 51.9% in Helsinki-Uusimaa to 35.3% in Etelä-Suomi (southern Finland). The gender gap (16.3 pps) was well above the EU average (10.1 pps) in 2018.

**While the number of ICT specialists is high, graduate output does not match business demand, and there are large gender imbalances.** Finland has the highest percentage of ICT specialists in the labour force in the EU (6.8% of total employment in 2019), but the percentage of enterprises reporting hard-to-fill vacancies for jobs requiring ICT specialist skills is above the EU average (6.95%, EU average 4.64%)<sup>105</sup>. The recent trend in graduation rates will further exacerbate the shortage: in 2017 the share of graduates in ICT fell from 7.1% to 6.3% (EU 3.6%), while those in natural sciences, mathematics and statistics remained low at 4.8% (EU 7.6%). The gender gap (around three times more males than females) is much higher than the EU average<sup>106</sup>. The Ministry of Education aims to boost learning of science, mathematics and technology in schools through the EUR 5 million for the LUMA-SUOMI programme 2013-2019<sup>107</sup>.

### Box 2: Fostering learning of science, technology, engineering and mathematics (STEM) and improving teachers' skills in these areas

The national [LUMA centre Finland](#), established in 2013, is an umbrella organisation for cooperation between schools, universities and business, coordinated by the University of Helsinki. The objective is to motivate children to study STEM by promoting the latest pedagogical methods. It also supports the life-long learning of teachers and strengths research-based

<sup>103</sup> A stakeholder consultancy group nominated by the Ministry of Education.

<sup>104</sup> National Agency for Education (Opetushallitus – valtionavustukset)

<sup>105</sup> See: [https://digital-agenda-data.eu/datasets/digital\\_agenda\\_scoreboard\\_key\\_indicators/visualizations](https://digital-agenda-data.eu/datasets/digital_agenda_scoreboard_key_indicators/visualizations)

<sup>106</sup> Eurostat, UOE, 2017

<sup>107</sup> Luma Suomi – ohjelma: <https://suomi.luma.fi/blogi/>

teaching. The main activities are continuing professional development for teachers, including an annual LUMA science day, the national LUMA activation week for schools, Mathematics, Science and Technology camps for children, and resource centres for mathematics and science.

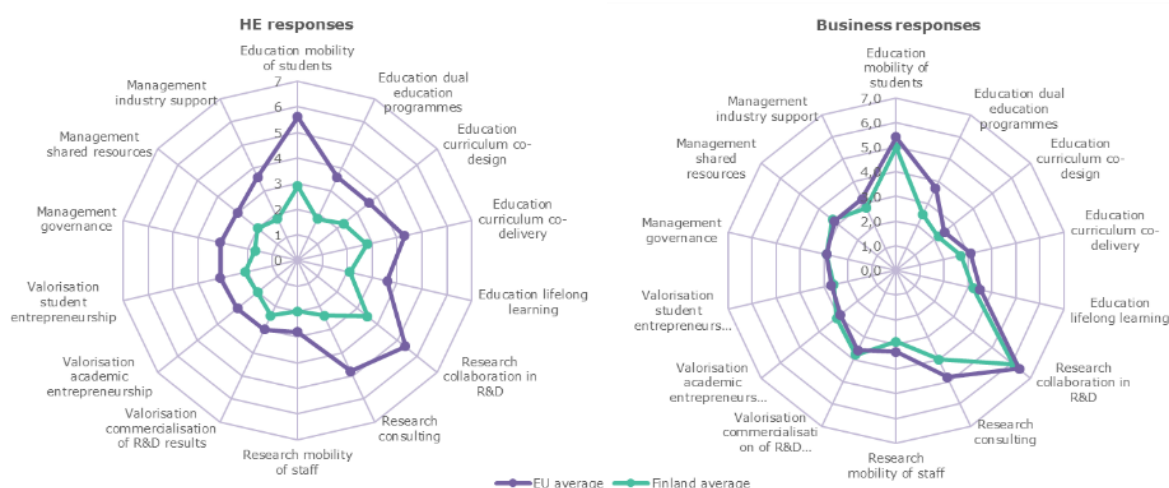
Currently, there are 13 LUMA centres from different Finnish universities and university campuses. See: <https://www.luma.fi/en/centre/>

**A new Higher Education Act aims to increase the quality, effectiveness and internationalisation of teaching, research and innovation.** The new Act, published in early 2019, aims to implement the strategic 'vision for higher education and research in Finland 2030' adopted in October 2018<sup>108</sup>. The Act emphasises strengthening continuing learning opportunities in universities and polytechnics, aims to facilitate access to higher education, and seeks better internationalisation of teaching and research (Finnish government, 2018). For this purpose, universities are discussing their strategic profiles and the areas in which they should focus, coordinated by the Association of Finnish Universities (UNIFI) and the Rectors' Conference of Finnish Universities of Applied Sciences Arena, with funding support from the Academy of Finland (Finnish Academy, 2018). Some mergers of institutions have taken place (Aalto and Tampere universities, for instance). Another action will make bachelor studies more focused on 'generic competences' and suitable for several careers, while making master studies more oriented towards specific fields.

**Finland has strong university-business cooperation, but with room for improvement.** According to a recent survey<sup>109</sup>, higher education institutions cooperate with business mainly on research and development, student mobility and curriculum co-delivery. Businesses are interested mostly in research-related cooperation, consulting activities and supporting mobility of students. There is low involvement in curriculum co-design, dual education programmes and valorisation and management activities. Less than 50% of academics cooperate with businesses. Academics perceive the limited funding available to be the main barrier, while businesses consider finding appropriate collaboration partners, cultural barriers such as different time horizons and motivations, and the strong focus of universities on scientific outcomes and their lack of business knowledge to be the most difficult aspects. Both academia and business are strongly committed to increasing their cooperation.

**Learning mobility is high.** The proportion of higher education graduates who obtain a tertiary degree outside Finland (3.6%) is around the EU average (3.1%). In 2016, participation in short-term study periods and/or work placements abroad (15.8%), usually for the purpose of gaining academic credit, is twice the EU average (7.6%) (Flisi, S. & Sánchez-Barrioluengo, 2018).

**Figure 3 State of cooperation from the higher education and business viewpoints**



Source: DG EAC calculations, based on data from *State of University-Business Cooperation in Europe 2019*. Code: 0: Not at all; 1-4: Low; 5-7: Medium; 8-10: High.

<sup>108</sup> Ministry of Education and Culture - Korkeakoulutuksen ja tutkimuksen visio 2030

<sup>109</sup> <https://ub-cooperation.eu/index/finlandhei>



## 7. Modernising vocational education and training

**Vocational education and training (VET) is an attractive learning pathway in Finland, and its effectiveness is gradually improving.** In 2017, more than 52 500 new students entered formal VET programmes in Finland, representing 74.4% of all new upper secondary students, similar to 2016<sup>110</sup>. Total enrolment in upper secondary VET in Finland also remained at approximately the same level in 2017, with 70.6 % of students enrolled in VET, well above the EU average of 47.8%. The share of VET students who were enrolled in combined school and work-based programmes was 13%<sup>111</sup>. The employment rate of recent VET graduates in 2018 saw a slight improvement, rising to 78.5% from 77.7% in 2017, but still not reaching the 2018 EU average of 79.5%<sup>112</sup>.

**Finland continues to implement the 2018 VET reform.** The reform<sup>113</sup> covers a wide range of issues, including the abolition of the division between vocational training for youth and adults and a system of continuous admission into VET training. Public funding is allocated based, among other criteria, on employment rate at the end of the studies. The reform restructures vocational qualifications from January 2019, decreasing their number from 351 to 164. This is expected to provide greater flexibility to learners and help them organise their competence development according to their needs and in line with the changing demands in the jobs market. As of 2018, key competences are no longer addressed separately, but are included in all vocational competence and skills requirements and assessment criteria of all vocational qualifications.

**Efforts are being made to increase the participation of teachers in CPD.** The 2016 CPD program allocates EUR 60 million over 3 years to increase creativity and learner-centred approaches, and to support work in diverse learning environments. The most recent (2016) survey of teachers and school principals indicates that VET teachers' participation rate in CPD has declined. VET teachers participate more frequently in professional development placements in companies, but only 17% of VET teachers had taken part in such placements, although every teacher is encouraged to undertake such placements every 5 years.

## 8. Developing adult learning

**Increased participation in adult learning.** Although adult learning policies targeting low-qualified adults have resulted in steadily increased participation by this group, there is a need to continue upskilling and reskilling efforts in order to meet the changing needs of labour market. At 55.4%, the proportion of low-qualified adults in employment in Finland was slightly lower than the EU average of 56.8%. Participation in adult learning was 28.5% (EU average 11.1%). During 2017, almost 36 000 adults aged 25 or more acquired an upper-secondary qualification. This is still a limited proportion, however, of the nearly 330 000 adults (aged 25-64) in Finland who have only a low level of educational attainment. In 2017 there were only 155 000 jobs in elementary occupations, indicating a strong need to ensure upskilling and reskilling for this population group<sup>114</sup>. The 2019 country-specific recommendation to Finland included: 'Improve incentives to accept work and enhance skills and active inclusion, notably through well-integrated services for the unemployed and the inactive' (Council of the EU, 2019).

**A working group with dedicated national funding was established in February 2019 to reform lifelong learning into continuous learning.** By December 2019, measures will be introduced to encourage the systematic development of work-related skills throughout the entire career, to focus on vulnerable groups and to use skills anticipation forecasts for upskilling and reskilling. The working group consists of all relevant stakeholders, including ministries, labour market organisations, student and teacher unions, and representatives of higher education and VET. In addition, the Ministry of Education and Culture granted EUR 30 million in November 2018 to universities to provide for continuing and lifelong learning. Digital services supporting continuous learning are being developed.

<sup>110</sup> Eurostat, UOE, 2017.

<sup>111</sup> Eurostat, UOE, 2017.

<sup>112</sup> Eurostat, Labour Force Survey, 2018

<sup>113</sup> Ministry of Education and Culture - Ammatillisen koulutuksen reformi

<sup>114</sup> Eurostat, Labour Force Survey, 2018 and UOE, 2017.

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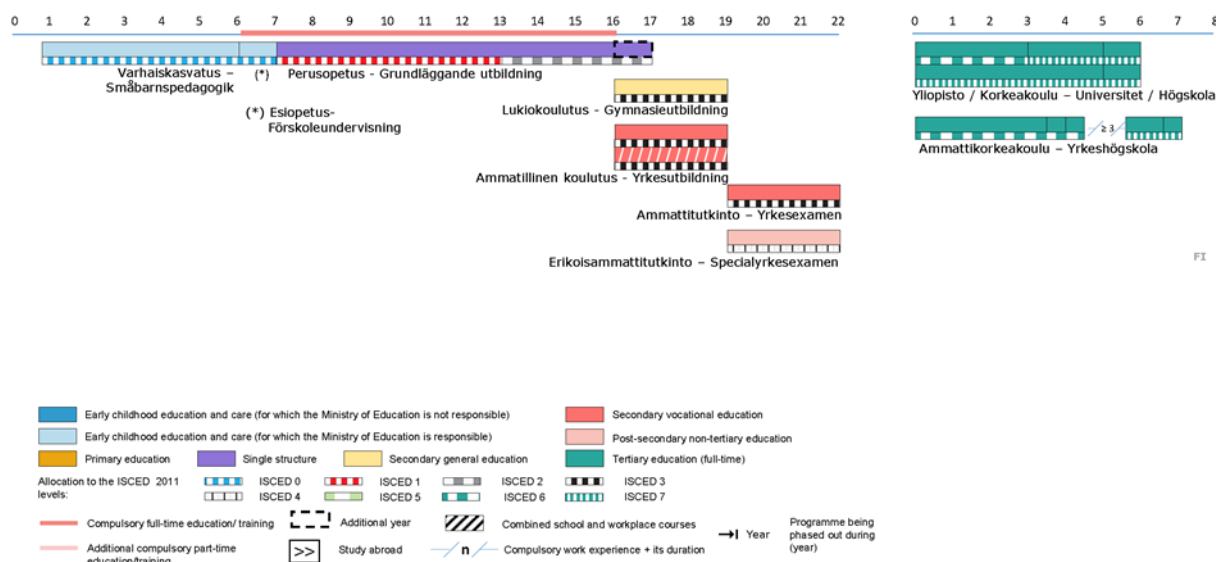
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## Annex I: Key indicator sources

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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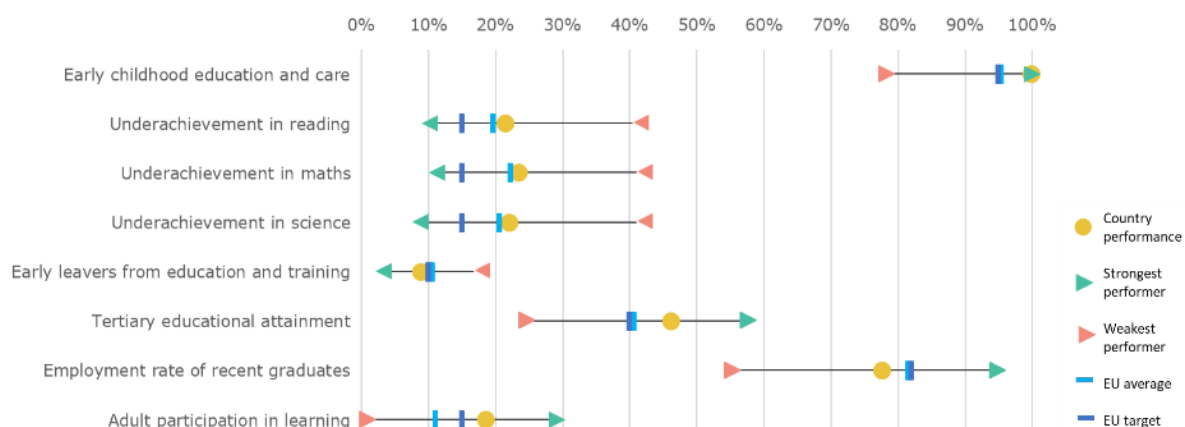
# FRANCE

## 1. Key indicators

			France		EU average	
			2009	2018	2009	2018
Education and training 2020 benchmarks						
Early leavers from education and training (age 18-24)			12.4%	8.9%	14.2%	10.6%
Tertiary educational attainment (age 30-34)			43.0%	46.2%	32.3%	40.7%
Early childhood education and care (from age 4 to starting age of compulsory primary education)			100.0%	100.0% <sup>17,p</sup>	90.8%	95.4% <sup>17,d</sup>
Proportion of 15 year-olds underachieving in:	Reading		19.8%	21.5% <sup>15</sup>	19.5% <sup>EU27</sup>	19.7% <sup>15</sup>
	Maths		22.5%	23.5% <sup>15</sup>	22.3% <sup>EU27</sup>	22.2% <sup>15</sup>
	Science		19.3%	22.1% <sup>15</sup>	17.7% <sup>EU27</sup>	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)	77.3%	77.7%	78.3%	81.6%
Adult participation in learning (age 25-64)		ISCED 0-8 (total)	5.7%	18.6%	9.5%	11.1%
Learning mobility	Degree-mobile graduates (ISCED 5-8)		:	3.4% <sup>17</sup>	:	3.6% <sup>17</sup>
	Credit-mobile graduates (ISCED 5-8)		:	14.6% <sup>17</sup>	:	8.0% <sup>17</sup>
Other contextual indicators						
Education investment	Public expenditure on education as a percentage of GDP		5.7%	5.4% <sup>17</sup>	5.2%	4.6% <sup>17</sup>
	Expenditure on public and private institutions per student in € PPS	ISCED 0	€5 101 <sup>12</sup>	€5 939 <sup>16</sup>	:	€6 111 <sup>15,d</sup>
		ISCED 1	€5 171 <sup>12</sup>	€5 532 <sup>16</sup>	€5 812 <sup>12,d</sup>	€6 248 <sup>15,d</sup>
		ISCED 2	€7 322 <sup>12</sup>	€7 731 <sup>16</sup>	€6 937 <sup>12,d</sup>	€7 243 <sup>15,d</sup>
		ISCED 3-4	€9 895 <sup>12,d</sup>	€10 202 <sup>15</sup>	:	€7 730 <sup>14,d</sup>
		ISCED 5-8	€11 556 <sup>12</sup>	€11 771 <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	11.6%	8.4%	13.1%	9.5%	
	Foreign-born	24.3%	15.0%	26.1%	20.2%	
Tertiary educational attainment (age 30-34)	Native-born	44.3%	47.2%	33.1%	41.3%	
	Foreign-born	34.1%	40.4%	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	69.0%	68.0%	72.5%	76.8%	
	ISCED 5-8	83.4%	84.4%	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 Annex I and in Volume 1 ([ec.europa.eu/education/monitor](https://ec.europa.eu/education/monitor)). Notes: The EU's 2009 PISA averages do not include Cyprus; d = definition differs, : = not available, 12=2012, 14= 2014, 15 = 2015, 16=2016, 17 = 2017.

**Figure 11 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

- 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.

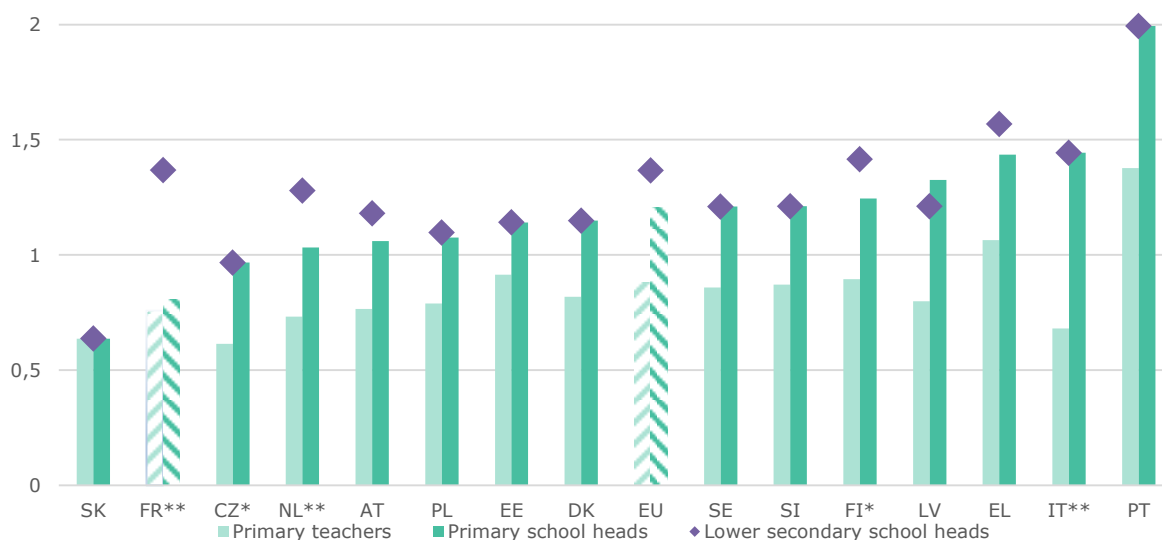
## 3. A focus on teachers

**France has a comparatively young teacher population.** The overall gender balance is among the best in the EU and the proportion of women is increasing.

**The teaching profession has become less attractive.** The applicant-to-job ratio has fallen sharply over the past years (Ministère de l'Economie et des Finances, 2019). Possible explanations are working conditions (including relatively high number of teaching hours and relatively low salaries for primary education teachers) (OECD, 2018a). Teacher shortages affect disadvantaged schools and poorer and remote regions disproportionately. Increasingly, schools are tackling the problem by hiring contractual teachers, possibly at the expense of teaching quality. The share of contractual teachers in public schools increased by 10.2% in 2016/17 compared with the previous year and again by 11.8% in 2017/18 (DEPP, 2018a and 2019a).

**The attractiveness of school leadership in primary education is also at risk.** The salaries of primary school heads are only 7% higher than teachers' salaries; the OECD average gap is 41% (OECD, 2018a)<sup>115</sup>. In addition, a lower secondary school head earns almost 70% more than a primary school head, the widest gap across all EU countries with available data (see figure 2 below). Furthermore, in this highly centralised system, school leaders' autonomy is comparatively limited.

**Figure 12 Primary teachers' and primary and lower secondary school heads' salaries relative to earnings of tertiary-educated workers (ISCED 5-8, 25-64 years old), 2016**



Source: OECD (2018). Notes: The unit is the ratio of teachers' and school heads' salaries to average earnings of tertiary-educated workers in the country; \*Reference year for tertiary-educated workers earnings is 2015; \*\* Reference year for tertiary-educated workers earnings is 2014.

<sup>115</sup> It must be noted that primary school heads in France have less responsibilities than in secondary as primary schools do not have autonomy or legal personality.

**Science teachers in disadvantaged schools are less qualified than their counterparts in advantaged schools** (OECD, 2018b). This qualifications gap was the widest in France, with only 26% of science teachers in schools in the bottom socio-economic profile quarter being fully certified (with a university degree with a major in science), against 94% in the top quarter. A study on teachers in the Ile-de-France region shows that teachers aged under 30 and contractual teachers are three times more numerous in the most disadvantaged schools as compared with the most advantaged schools within the region, and turn-over is nearly twice as high (CNETCO, 2018).

**Participation in continuing professional development (CPD) is low.** Primary teachers must follow 18 hours of CPD per year, but there is no similar obligation for secondary teachers. In 2016/2017, France was one of the countries that did not give teachers allowances for either further formal qualifications, excellent job performance or completing CPD (Eurydice, 2018). According to a 2017 report by the General Inspectorate for National Education, 73% of primary education teachers surveyed after taking part in CPD stated that they 'did not acquired anything' in terms of improving professional skills, and there is a concern about low relevance of the courses on offer to the needs of teachers (IGEN-IGAENR, 2017). The report identified a top-down approach to defining and implementing CPD, largely focused on reform implementation, whereas participants would favour a less prescriptive approach better adapted to their needs. A lack of replacement teachers for those absent on CPD is a further barrier. Results of a 2019 survey on CPD confirm earlier findings and show that (i) 75% of teachers consider the CPD on offer to be of insufficient quantity and 65% consider the quality is low, (ii) sharing of knowledge gained through CPD with colleagues is rare, and that (iii) 83% of teachers were not consulted in designing the training offer (though 80% would have liked to be consulted) (reported in Eduveille, 2019).

**According to the 2018 OECD Teaching and Learning International Survey (TALIS), the proportion of French teachers who believe that teaching is a valued profession is among the lowest in the EU (6.6% v 17.7% at EU level)** (OECD, 2019)<sup>116</sup>. The proportion of teachers satisfied with their job (84.7%) is lower than the EU average (89.5%).

**Authorities increased annual salaries in the most disadvantaged schools by EUR 1 000 in September 2018 and will do the same again in September 2019 and 2020** (MEN, 2018a). The measure aims to attract teachers to those schools (*Réseaux d'éducation prioritaire renforcés REP+*). At lower secondary level, *REP(+)* schools host 21% of pupils (DEPP, 2018b). This increase is complementary to earlier measures targeted to these schools, including halving the class size (see section 5), strengthened pedagogical support, and CPD for teachers. Schools will be able to make targeted recruitments to better meet local needs and to assign the most experienced teachers to the neediest students.

**A 2019 law for a school of trust (*Loi pour une Ecole de la confiance*) reforms initial teacher education (ITE).** The aim is to provide the same standard of education and training to all future teachers, drawing on research into the most effective teaching methods (on ITE and CPD, also see European Commission, 2017). Central governance over institutions and courses will be reinforced. To enable 'pre-professionalisation', the law enables some undergraduate students (1590 in 2019/2020) to be recruited as 'education assistants' for 3 years and start an early training in the classroom under the supervision of a tutor from the second year at university (eight hours a week, with front-line exposure increasing gradually afterwards) (MEN, 2019a). Starting practical experience early and starting to earn may increase the attractiveness of ITE programmes.

**The *Grand Plan d'Investissement* will allocate EUR 250 million to pilot innovative projects for teacher training.** It includes EUR 30 million for projects launched in 2018 to create pilot networks of universities, research institutes and schools to strengthen multi-disciplinary education research, transfer results to teacher education and training institutes, and to support experimentation in pedagogical practices (MESRI, 2018).

<sup>116</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.

## 4. Investing in education and training

**Public expenditure on education increased in real terms by 6.9% between 2010 and 2017, compared with a 0.2% average increase in EU member states.** Public expenditure on education as a proportion of GDP remained higher than the EU average, at 5.4% in 2017. The increases for pre-primary and primary education (+15.6% against a 3.3% EU average) and for tertiary education (+3.6% against an average EU decrease by 6.9% in the EU) are comparatively high<sup>117</sup>. The increase for (pre-)primary education is in line with the government's policy priority to support improvements in basic skills and lower the compulsory age of starting education from September 2019. The EUR 811 million 2019 budget increase will fund the creation of 2 325 teaching posts for pre-primary and primary education, though the pupil population will fall by 36 300. 2 450 posts will be cut in secondary education (-0.2%), though the number of pupils will increase by 34 400 (+0.73%) (DEPP, 2019b and 2019c). This cut is to be offset by the scope for teachers to work paid overtime. Additional primary education teachers will enable full rollout of the plan to halve class sizes in disadvantaged schools, to reach 300 000 pupils by September 2019; and to improve education in rural areas (MEN, 2019b).

**The government will also increase the budget for support measures tackling inequalities.** The budget for the support scheme for parents of non-native speaker pupils and students will be doubled. New posts will be created for assistants of pupils with a disability.

## 5. Modernising early childhood and school education

**France has wide socio-economic and regional disparities in educational outcomes and basic skills are low in primary education (European Commission, 2018 and 2019, OECD, 2018a).** Inequalities also affect pupils with a migrant background. The proportion of early school leavers remained stable at national level between 2017 and 2018 at 8.9%, below the 10.6% EU average. Measures to improve basic skills in primary education (see below) aim to reduce early school leaving since children who perform poorly in the early years often end up leaving school early. Authorities are seeking to take a comprehensive approach to reducing inequalities, linking educational measures to measures on housing, urban policies and poverty alleviation (Ministère de l'Economie et des Finances, 2019).

**The 2019 law for a school of trust lowers the age of starting compulsory education from 6 to 3 and raises the age of ending compulsory education or training from 16 to 18 from September 2019.** The aim is to reduce inequalities in educational outcomes. Lowering the age of starting compulsory education mainly targets those territories where pre-primary education lacks the necessary infrastructure and staff and has the aim to boost pupils' skills in reading, writing, maths and respecting others. Language acquisition is a particular focus. In 2017, participation in early childhood education and care for children aged 4 to 6 varied between 89.9% in Guyana, 90.6% in Corsica and 100% in most other French regions<sup>118</sup>. The law also extends compulsory training from 16 to 18 years (either through education, training, apprenticeships, employment, civic service or through a social or professional integration scheme).

**The new law extends the opportunities for research and experimentation in schools and strengthens evaluation at pupil, school and system levels (see European Commission, 2018).** Encouraging experimentation in schools is intended to encourage improvements in practices in a highly centralised education system. The law also creates the possibility to establish international public schools that provide an education in both French and a foreign language, leading to French and foreign language school diplomas.

<sup>117</sup> Eurostat, COFOG.

<sup>118</sup> Eurostat, UOE, 2017. Online data code: [educ\\_uoe\\_enra17](#).

### Box 1: Halving class sizes

To address the issue of low basic skills in primary education (20% of pupils at the end of primary education) and the link with early school leaving, class sizes were progressively reduced to a maximum of 12 pupils in the first two grades in disadvantaged schools (*REP and REP+*) between 2017 and 2019 (European Commission, 2018). The Ministry of Finance expects to generate over the very long-term a 2% increase in GDP by creating 120 000 new jobs (Ministère de l'Action et des Comptes publics, 2018). Teachers receive specific training support. From September 2019, the measure benefits 300 000 pupils, equivalent to 20% of the population. A first evaluation in the first grade provided very positive results in terms of class climate and pupil attitudes (DEPP, 2019d). The impact on performance is also judged as positive. Nonetheless, the evaluation shows that the reform would require a deep transformation of teaching practices to unlock its full potential. In line with findings in international literature, the Ministry of Finance recommends encouraging the posting of experienced teachers to disadvantaged schools, contrary to current practice where newly-qualified teachers are more often placed there (Ministère de l'Economie et des Finances, 2019)<sup>119</sup>. It also encourages strengthening teacher education and training, including in adapted pedagogical techniques. These could be explored, for example, to reduce stigmatisation of failure, which is strong in France. To have a wider impact, it would be useful to extend measures to the high proportion of disadvantaged students who do not attend *REP(+)* schools (European Commission, 2019). TALIS finds that the proportion of French teachers who feel (very) well prepared in teaching in multicultural/multilingual settings is the lowest in the EU (8.2% v 23.8%). Only 12% report that this was included in their formal education (compared with the 31.7% average). Positively, the proportion increases to 22% for teachers having graduated in the 5 years prior to the survey.

**Authorities are taking measures to strengthen digital skills.** A new optional digital science course is being created in upper secondary education. The Ministry of Education is running a number of projects to step up ICT-based learning, increase students' and teachers' competencies and to use digital evaluations at different levels (MEN, 2019c). The *Magistère* scheme offers around 400 free training courses to teachers. The *Etincel* platform developed in partnership with industry offers digital resources for professional and technological education to support career guidance and better preparation for the workplace.

## 6. Modernising higher education

**In 2018, 46.2% of 30-34 year-olds had a tertiary education, above the EU average of 40.7%.** The employment rate of recent graduates (84.4% in 2018) continued to rise and is catching up with the EU average (85.5%).

**The 2018 reform, including the *Parcoursup* registration platform, was fine-tuned to speed up admissions of future students in universities and improve their information** (European Commission, 2018). The number of holders of a needs-based grant admitted to higher education increased by 21% in 2018, overall costs for students fell and the offer of student accommodation increased (Gouvernement, 2019a and Gouvernement, 2019b). In line with the Ministry's objectives to reduce inequalities, the share of students with a technological or professional end-of-school qualification in short programmes in higher education increased since 2017 (Gouvernement, 2019b).

**To further broaden access to higher education and reduce territorial inequalities, 13 connected campuses were created in cities distant from large universities.** (MESRI, 2019a). The campuses offer innovative third spaces where distance learning is provided with tutoring by qualified staff. Local authorities make infrastructure available for the projects and central authorities allocate funding.

<sup>119</sup> International literature also suggests that reducing class size is not the most efficient way to improve pupil performance.



**The Ministry launched a new plan to boost entrepreneurship in higher education.** Building on earlier schemes, *The spirit of undertaking* aims to give all students experience with entrepreneurship, to increase training in entrepreneurship, to improve the recognition of skills and competences developed by 'student-entrepreneurs'. The plan also aims to support 'student-entrepreneurs' in developing a start-up with individualised support while gaining credits (European Credits Transfer System), to extend the offer of curricula on entrepreneurship, to strengthen the status of 'student-entrepreneur', to further develop training of trainers, to encourage mobility for students-entrepreneurs and to share good practices with other countries willing to know about the PEPITE model (MESRI, 2019b).

**The government adopted the national strategy for artificial intelligence AI for Humanity.** The total EUR 1.5 billion budget up to 2022 includes EUR 665 million for the Ministry of Higher education, Research and Innovation. Among measures planned, the strategy will double the number of doctorates in the field and enhance partnerships.

**The French authorities launched the *Choose France* strategy in September 2019 to improve the attractiveness of French higher education to foreign students, with the objective to welcome 500 000 students by 2027 (Gouvernement, 2018).** The strategy supports French as a foreign language programmes, programmes taught in English, and a quality label *Bienvenue en France* for institutions fulfilling certain requirements. The authorities also increased fees for non-EU students (they remain much lower than in most countries attracting high number of foreign students<sup>120</sup>). In parallel, they increased scholarships and fee exemptions.

**The *Grand plan d'investissement* will support participation by French universities in the European universities initiative (EUR 100 million over 10 years).** The project aims to promote European values and identity, increase mobility and improve quality, innovation and the international competitiveness of higher education institutions (Permanent Representation of France to the EU, 2019).

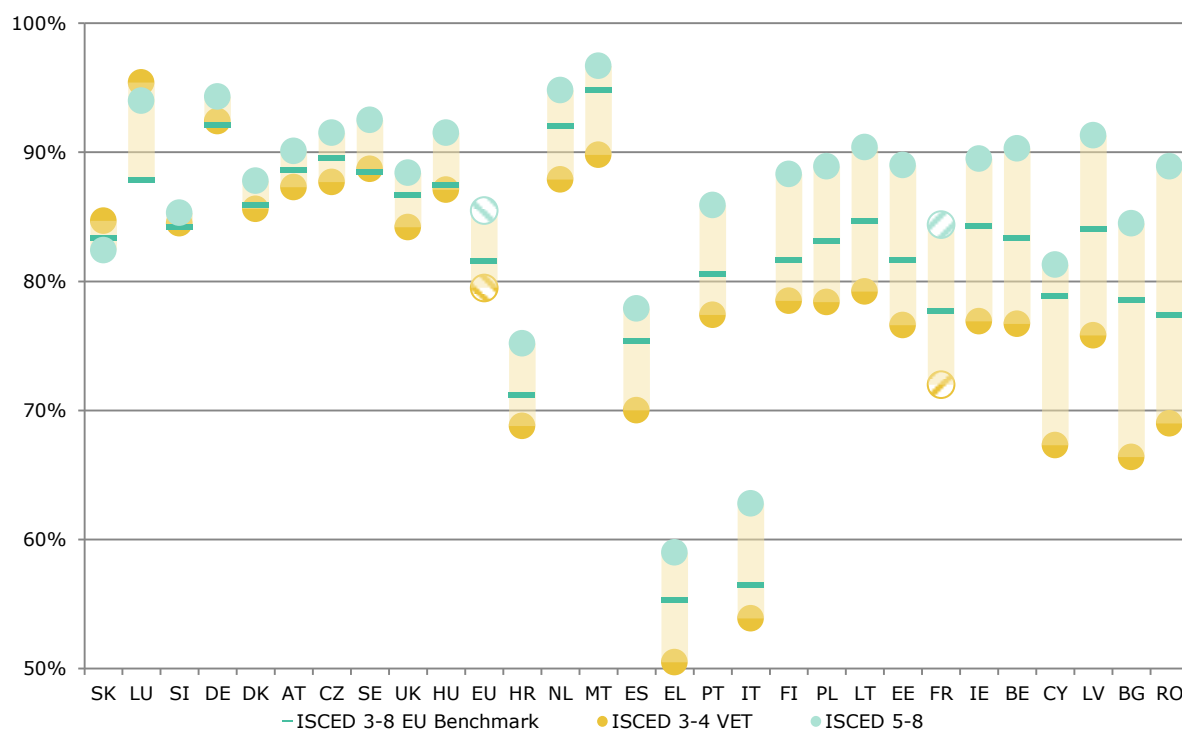
## 7. Modernising vocational education and training

**In 2017, enrolment in upper secondary VET slightly decreased overall in 2017 compared with previous years, to 39.9% of students (the EU average was 47.8%).** 24% had some exposure to work-based learning since most educational programmes include practical elements in the curriculum. The level of employability of recent VET graduates in 2018 increased noticeably to 72%, up from 64% in 2017, but still below the EU 2018 average of 79.5% and with a comparatively large gap in the employability of tertiary education graduates (see figure 3 overleaf).

The 2019 European Semester country-specific recommendation to France included the recommendation to '*address skills shortages and mismatches.*' (Council of the EU, 2019).

<sup>120</sup> On 19 November 2018, authorities announced an increase to EUR 2 770 for students at bachelor's level and to 3 770 for those at master's level. The increase at PhD level was abolished.

**Figure 3 Employment rate of recent graduates by ISCED level, 2018**



Source: Eurostat, LFS, 2018.

**Implementation of the 2018 VET reform is in full swing (European Commission, 2018).**

*France Compétences*, the new National Skills Agency is working on several fronts, such as modernisation of professional certifications (Ministère du Travail, 2019a). In 2019, VET funding bodies are restructured into 11 *Skills Operators* (*Opérateurs de compétences*) in charge of funding apprenticeships, supporting professional branches and employers (especially SMEs) to design certifications, anticipating skills needs and increasing access to training (Ministère du Travail, 2019b). Key features of the reform on apprenticeships involve new incentives for apprentices and companies, the apprenticeship premium for SMEs and first qualification levels, and joint development of vocational courses by the state and professional branches (Gouvernement, 2019c). The law also seeks to improve the attractiveness of VET, notably via a preparatory programme designed to attract low-qualified young people and residents of deprived urban or rural areas.

**A systemic transformation of school-based upper secondary VET is ongoing.** New reforms planned for 2019 cover innovative pedagogical approaches, better adaptation of sectoral offers to labour market trends and new degrees in priority areas for the economy, better connection between general subjects and vocational material, and bringing in apprenticeships in all professional high schools. A new generation of campuses for careers and qualifications is being developed with support provided under the plan. The aim is to open at least three new campuses in each region by 2022 (MEN, 2019d).

**Teacher training is a major challenge under the 2018-2019 social agenda.** Redesigning initial and continuing training for VET teaching/training staff and supporting the professionalisation of other training providers are covered in a 2018 report commissioned by the Education Ministry.

### Box 2: European Social Fund (ESF) project *Developing the employability of young people in sewing and fashion jobs in Santerre Haute Somme*

In 2017 and 2018, the *Maison pour l'Entreprise, l'Emploi et la Formation Santerre Haute Somme* carried out a comprehensive scheme to support young people aged 16-25 interested in the fashion industry and related jobs. The EUR 200 000 project (EUR 117 000 from the European Social Fund) culminated in December 2018 with an event, *The night of fashion*, co-organised by 70 young people.

## 8. Developing adult learning

**Work on up-skilling and re-skilling could be strengthened.** In 2018, a relatively high share of adults (20.6%) did not have at least an upper-secondary qualification, compared with an EU average of 21.9%. The likelihood that adults in France frequently update their knowledge and skills through adult learning was higher than the EU average: 18.6% of adults aged 25-64 have had a recent learning experience during the last 4 weeks, compared with 11.1% for the EU average. In 2017, 71 640 adults aged 25 or above have acquired an upper-secondary qualification, only a small percentage of the 7.2 million adults (aged 25-64) with only a low-level of educational attainment (yet decreasing: 6.9 million in 2018). This is particularly worrying, given the much smaller number of jobs requiring only a low level of education (2.6 million in 2017).

**Work is ongoing to update the personal training account in line with the 2018 law.** Accounts are now credited in euros instead of hours. Changes in the quality assurance of training courses are also being made to prepare for mandatory certification of training providers (2021) (Cedefop ReferNet, 2018).

**Support for career transition is increasing.** As from 2020, new providers of free and tailored professional development counselling will be selected in each region (Ministère du Travail, 2019c). The *Pro-A* program allows employees to access a training program through an apprenticeship, while keeping their work contract and salary.

**The skills investment plan is financing innovative experimentation.** It will support access to training for low-qualified jobseekers and NEETs (Not in Education, Employment or Training) at national and regional levels and scale up the successful pilot *Action on Workplace Learning* (Ministère du Travail, 2018).

**Professional development for adult educators is likely to increase with the ongoing reform.** *France Compétences* will monitor the sector closely as part of its work on quality assurance.

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## Annex I: Key indicator sources

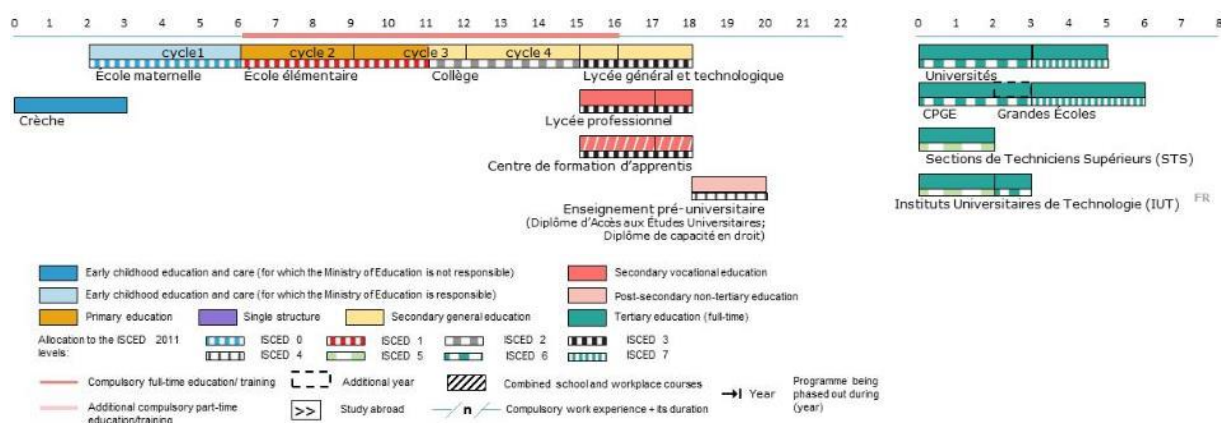
Indicator	Eurostat online data code
Early leavers from education and training	edat_lfse_14 + edat_lfse_02
Tertiary educational attainment	edat_lfse_03 + edat_lfs_9912
Early childhood education and care	educ_uoe_enra10
Underachievement in reading, maths, science	OECD (PISA)
Employment rate of recent graduates	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
- Credit-mobile graduates

JRC computation based on Eurostat / UIS / OECD data

## 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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