EUROPEAN
COMMISSION

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PART 3/3

COMMISSION STAFF WORKING DOCUMENT

Education and Training Monitor 2017

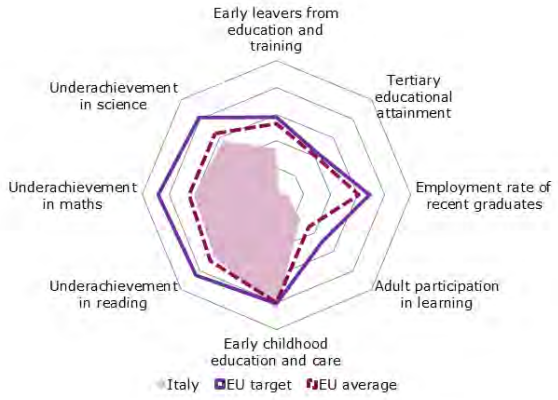
ITALY

1. Key indicators

			Italy		EU average	
			2013	2016	2013	2016
ET 2020 benchmarks						
Early leavers from education and training (age 18-24)	Total		16.8%	13.8%	11.9%	10.7%
Tertiary educational attainment (age 30-34)	Total		22.5%	26.2%	37.1%	39.1%
Early childhood education and care (ECEC) (from age 4 to starting age of compulsory education)			99.2% [12]	96.2% [15]	93.9% [12]	94.8% [15]
Proportion of 15 year-olds with underachievement in:	Reading		19.5% [12]	21.0% [15]	17.8% [12]	19.7% [15]
	Maths		24.7% [12]	23.3% [15]	22.1% [12]	22.2% [15]
	Science		18.7% [12]	23.2% [15]	16.6% [12]	20.6% [15]
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-8 (total)		48.5%	52.9%	75.4%	78.2%
Adult participation in learning (age 25-64)	ISCED 0-8 (total)		6.2%	8.3%	10.7%	10.8%
Other contextual indicators						
Education investment	Public expenditure on education as a percentage of GDP		4.1%	4.0% [15]	5.0%	4.9% [15]
	Expenditure on public and private institutions per student in € PPS*	ISCED 1-2	€6 051	€6 196 [14]	:	: [14]
		ISCED 3-4**	€7 086	€6 764 [14,d]	:	: [14]
		ISCED 5-8	€8 245	€8 410 [14]	:	: [14]
Early leavers from education and training (age 18-24)	Native-born		14.7%	11.8%	11.0%	9.8%
	Foreign-born		34.3%	30.0%	21.9%	19.7%
Tertiary educational attainment (age 30-34)	Native-born		25.2%	29.5%	37.8%	39.9%
	Foreign-born		11.3%	13.4%	33.4%	35.3%
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-4		41.0%	45.6%	69.4%	72.6%
	ISCED 5-8		57.0%	61.3%	80.7%	82.8%
Learning mobility	Inbound graduates mobility (bachelor)		2.9%	3.8% [15]	5.5%	6.0% [15]
	Inbound graduates mobility (master)		5.1%	4.7% [15]	13.6%	15.1% [15]

Sources: Eurostat (see section 9 for more details); OECD (PISA). Notes: data refer to weighted EU average, covering a different numbers of Member States depending on the source; b = break in time series, d = definition differs, e = estimated, p = provisional, u = low reliability, 12 = 2012, 14 = 2014, 15 = 2015. On learning mobility, the EU average is calculated by DG EAC based on available country data in all years. Further information is found in the respective section of Volume 1 (ec.europa.eu/education/monitor).

Figure 1. Position in relation to strongest (outer ring) and weakest performers (centre)



Source: DG Education and Culture calculations, based on data from Eurostat (LFS 2016) and OECD (PISA 2015). Note: all scores are set between a maximum (the strongest performers visualised by the outer ring) and a minimum (the weakest performers visualised by the centre of the figure).

2. Highlights

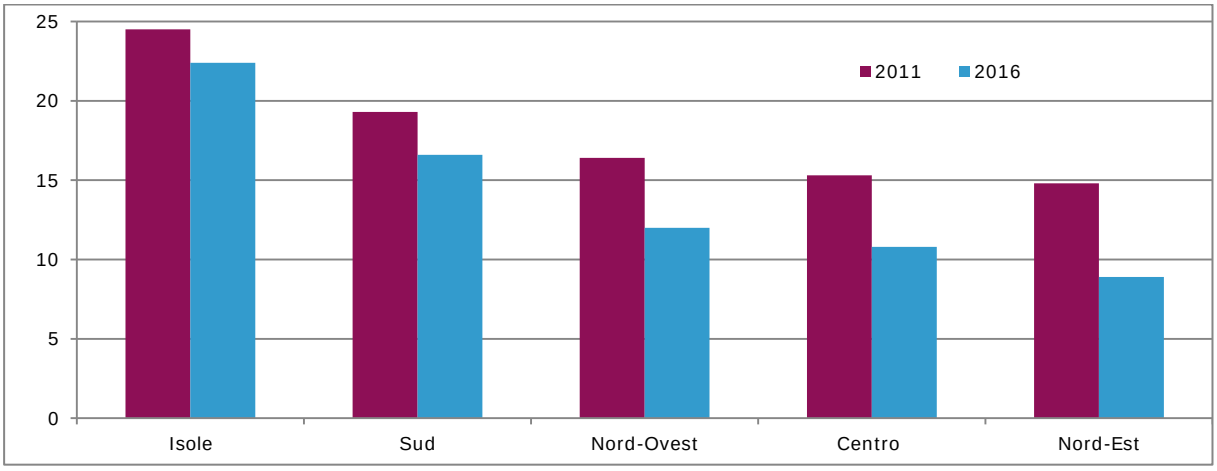
- The 2015 school reform has entered into force and could improve learning outcomes as well as increase equity.
- Although still above the EU average, the early school leaving rate is on a steadily downward trend; participation in early childhood education is almost universal for four- to six-year-olds.
- Italy's tertiary educational attainment rate for 30- to 34- year-olds is one of the lowest in the EU.
- The higher education system faces the challenge of ageing and declining teaching staff. The negative trend in higher education funding is being reversed, with additional resources allocated on a selective basis.
- Transition from education to work is difficult, also for high-qualified people. This is causing an outflow of highly skilled people.

3. Tackling inequalities and promoting inclusion

Improvements in basic skills proficiency appear to have stalled, as evidenced by national and international surveys. After a strong improvement, particularly between 2006 and 2009, in 2015 the performance of Italian 15-year-olds in mathematics, reading and science as measured by the OECD Programme for International Student Assessment (PISA) was rather mixed. The proportion of low achievers in science (23.2% in 2015) and reading (21% in 2015) increased compared to 2012, while the proportion of low achievers in maths declined further (from 24.9 in 2009 ando 24.7 % in 2012 to 23.3 % in 2015), but it remains above the EU average of 22.2 %. Regional disparities are extremely marked, with pupils from North-eastern regions among the top OECD performers, and pupils from the South among the worst (OECD 2016b).

Italy reached its Europe 2020 national target of 16% for early school leaving (ESL) in 2014. Although steadily declining, Italy's ESL rate remains above the EU average (13.8% and 10.7% in 2016, respectively). The rate is particularly high among foreign-born students, at 30%, compared to the EU average of 19.7%. There is also a considerable gender gap, with the rate for boys at 16.1 %, compared to 11.3 % for girls, and a widening north-south divide (Figure 2).

Figure 2. Early school leaving rate by NUTS 1 regions (2016)



Source: Eurostat (LFS 2011, 2016). Online data code: edat_lfse_16.

The NEET phenomenon continues to be a serious issue. In 2016, 19.9% of Italians aged 15 to 24 were not in employment, education or training (EU average: 11.5%). The percentage rises to 24.3% for the 15-29 age group (EU average: 14.2%). In spite of slight improvements in the past two years, this is the highest NEET rate in the EU[1].

Participation in early childhood education is almost universal for four- to six-year-olds. 96.2 % of this age group attended pre-primary school *(scuola materna)* in 2016. By contrast, only slightly more than one in ten children attended a child care facility (*asilo nido*) in the age range 0-2 in 2013, with large variations across regions (from 26.8% in Emilia Romagna to 2.1 % in Calabria)(Istat 2014). These differences reflect both the socio-economic divide between north and south, and the structural differences between these areas in terms, for example, of women's labour participation (higher in the north, lower in the south). Unlike pre-primary education, childcare facilities are provided or subsidised by municipalities and are considered an individual, on-demand service and are therefore fee-paying. Following the adoption of the school reform *la buona scuola*, provision is being made for an integrated ECEC system for children aged 0-6 involving institutional players at the national, regional and local levels[2]: parents' financial contribution will be capped. Several measures have been implemented by the Italian government to help families meet the cost of childcare, such as a nursery voucher (EUR 1,000) for children born after January 2016 until the age of 3. Larger structures (called *Poli per l'infanzia*) incorporating a number of providers will be created to provide a more integrated service for children aged 0-6 and to coordinate the action of the different levels of government involved. The new *Poli* should increase the coverage of this sector, provided they are created in all regions. The reform aims at reaching a coverage rate of 33% for the age group of 0-3 year olds.

Italy is reviewing and promoting its inclusion strategy for pupils with special educational needs (SEN). Its two main instruments are the school plan for inclusion which is part of schools' three-year development plan, and the individual learning plan – *piano didattico individualizzato* - drafted by the class council according to the contents of the individual student's functional profile. Extra requirements for becoming a support teacher are being introduced, notably a one-year university course in special pedagogy and methodology for learning support and inclusion. INVALSI (the National Institute for the Evaluation of the School System) will define the evaluation indicators to be introduced in the school self-evaluation report.

Italian schools are at the forefront of receiving migrant children, but their full inclusion is hindered by social stratification. Over the past decade, the number of non-Italian students more than doubled, from 370.803 in the school year 2004/05 (4.2% of the total school population) to 814.187 in 2014/15 (9.2%). More than half of them (51.7%) were born in Italy[3]. They are unevenly distributed across Italian regions - mostly in Northern regions- and education levels - with decreasing shares when moving from primary to upper secondary - reflecting recent arrivals and also higher school drop-out among this group. They repeat grades with much higher frequency than their Italian counterparts: 14.7% in primary school (against 1.9% for Italians), 41.5% in lower secondary school (7.4% for Italians) and 65.1% in upper secondary school (23.3% for Italians), which increases the risk of dropping out and eventually joining the NEET group. Those who reach upper secondary school level are more likely to choose technical schools (38.5%), followed by vocational schools (37.9%). In terms of basic skills, non-Italian students perform worse than Italians, but those in the second generation perform better than the newly arrived. In PISA 2015 the gap between Italians and non-Italians is higher than in other European states with comparable levels of immigration. (OECD 2016b).

Schools are encouraged to be welcoming and inclusive when receiving migrant students. School autonomy allows teachers to tailor individual learning plans (PDP – *piano didattico personalizzato*) for children with a migrant background. However the uneven geographical

1 Eurostat (LFS, 2016.) Online data code: edat_lfse_20
2 *Decreto legislativo 13 aprile 2017, n. 65, recante "Istituzione del sistema integrato di educazione e di istruzione dalla nascita sino a sei anni".*
3 Children born in Italy of foreign parents do not automatically acquire Italian citizenship, hence the official distinction between "Italian" and "non-Italian" students (which applies to both first- and second-generation).

distribution of migrants in the country creates an overload of demand in certain areas[4]. Italian legislation allows the free admission and school enrolment of children of illegal migrants[5]: school heads are advised to keep documental track of their presence without involving the immigration authorities. Schools are encouraged to assess the health conditions of newly immigrated children as well as to collect information about schooling experiences in their country of origin. The Ministry of Education has extended the range of activities in centres for adult education to include the teaching of Italian language to foreign adults.

Box 1: ESF support for measures to keep children in school

The region of Puglia in Italy has taken steps to tackle early school leaving and raise levels of educational attainment, especially among disadvantaged children, with support from the ESF.

The project "Diritti a Scuola" put in place a range of measures to help primary school children and youngsters in their first two years of secondary school. Full and part-time teaching staff joined head teachers in delivering the project.

The key objectives were to improve the study of language and science at primary level and to raise standards for the teaching of Italian and mathematics in secondary schools.

The project also provided counselling, vocational guidance and intercultural mediation services to children and their families. These services were particularly focused on helping pupils from poor backgrounds and migrant communities.

In addition, a Help Desk was established to deliver counselling and information services. This proved to be a popular initiative and was used by more than 50 000 pupils and 10 000 families.

Diritti a Scuola reached 200 225 children and can claim to be making a positive contribution to their schooling. The early school leaving rate in Puglia decreased from 24.5 % in 2009 to 16.9 % in 2016 (the national average was 13.8 % in 2016). Early figures also suggest that reading skills are steadily improving. For example, the proportion of 15-year-olds with higher reading skills has increased from 4.2 % in 2009 to 6.1 % in 2012.

The project won the Commission's 2015 RegioStars award in the category "Inclusive Growth" and is now in its second phase (2016-18).

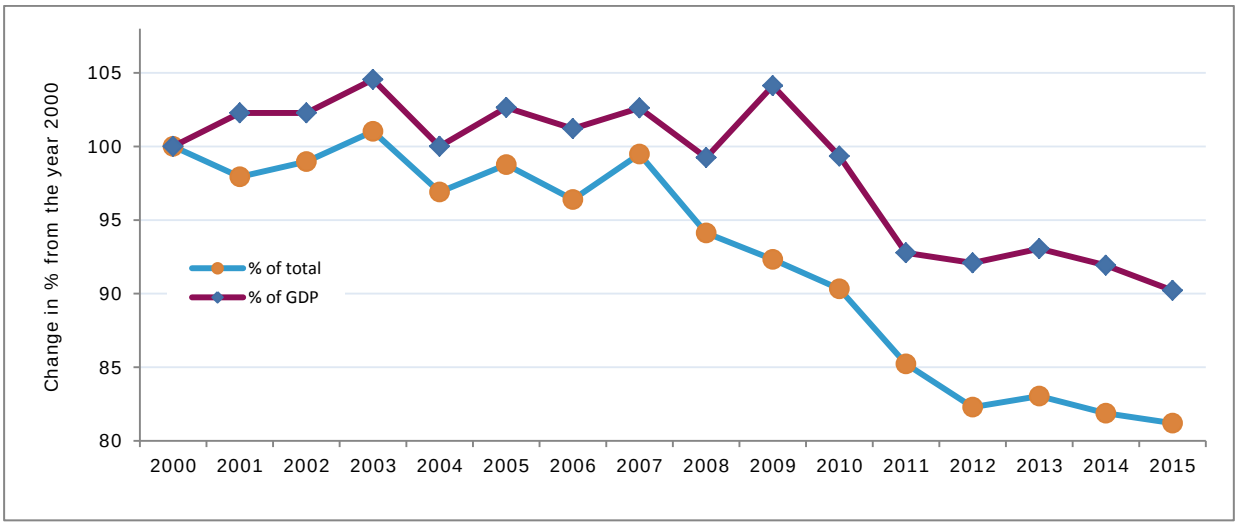
4. Investing in education and training

Education receives a comparatively small share of the public budget. General government expenditure on education, both as a proportion of GDP (4 %) and as a proportion of total general government expenditure (7.9 %) in 2015, continues to be among the lowest in the EU. On a more positive note, the 2015 Stability Law created a specific fund to finance the school reform. In 2015 EUR 1 billion was invested in it, rising to EUR 3 billion a year from 2016. This, however, is not necessarily additional to the present amount of EUR 65.2 billion of annual public spending in education.

[4] In 2014-15 there were 220 schools in the main cities with more than half of foreign students; among them 55 in Milan, 27 in Brescia and 33 in Turin.

[5] See Ministero dell'Istruzione "*Linee guida per l'integrazione e l'accoglienza degli alunni stranieri"* (February 2014).

Figure 3. Expenditure in education in Italy from 2000 - 2016, 2000 =100



Source: DG EAC elaboration Eurostat general government finance statistics (2000 - 2015). Online data code: gov10_a_exp.

The employment rate of 25- to 64-year-olds in 2016 was somewhat below the EU average for low and medium-qualified workers. It stood at 51.2 % and 70.6 % compared to 54.2 % and 74.8 % respectively. At 79.8 %, it was one the lowest in the EU for tertiary graduates, well below the EU average of 84.8 %[6].

5. Modernising school education

The school reform is being implemented and should improve learning outcomes. New measures include the refinancing of student financial aid for the completion of secondary education, especially in the last two years (grade 12 and 13). The earmarked additional funds (almost EUR 40 million per year) are intended to cover fees, the purchase of textbooks and tablets, and transport costs for low-income students. In addition there is a general tax deduction of tuition expenditure (in the order of 19%, intended to provide advantages to students enrolled in private schools) and a gift offered to all Italian students on their 18th birthday of EUR 500 to be spent on cultural consumption (*bonus cultura*).

Student testing now covers the entire student career and allows for adequate monitoring of student achievements. The extension of student testing includes foreign language in grade 5 and 8 and the introduction of a new test at the end of upper secondary school (grade 13) covering literacy, numeracy and English-language comprehension and use of the language. At primary and secondary levels, assessment has mainly formative purposes. Therefore grade repetition occurs only exceptionally while schools focus their activities on the continuous improvement of learning attainments. Participation in work-based learning (*alternanza scuola-lavoro*) is mandatory in the three final years of upper secondary.

The number of teachers has increased. The overall number of teachers in primary school is on a rising trend when support teachers (*insegnanti di sostegno*) are included. Geographical mismatch means that most teachers come from the South, while most teaching posts are available in schools in the North. A new system for the recruitment and initial training of secondary school teachers is being introduced and will be fully operational by 2021 (Box 2). Additional resources (EUR 325 million) were allocated to ensure new training opportunities for all teachers[7], in accordance with the national plan (*Piano nazionale per la formazione in servizio obbligatoria e permanente degli insegnanti*) issued in October 2016 (Ministero dell'Economia e delle Finanze 2017).

6 Eurostat (LFS 2016).Online data code: lfsa_ergaed
7 Topics cover foreign languages, ICT, curricula design, student assessment, teaching by competences, civics and global citizenship, integration of minorities, disability and inclusion, school management, social cohesion and crime prevention.

The government is putting increasing emphasis on evaluation as a lever for change. School heads and teachers are evaluated according to school performance in student testing, while school heads are further evaluated according to parents and teachers' perceptions. However, the introduction of evaluation was met with strong resistance and had to be altered. The evaluation of school principals, which should have taken place for the first time in 2017 at national level, has been postponed for another year. It has also been transformed into a form of peer review without outside evaluators. Newly hired teachers were to have been tested at the end of a one-year trial period before being tenured, but they were not. However, school principals were given additional levers to manage their teachers (the monetary incentive associated with the 'merit reward' - valorizzazione del merito).

Box 2: Initial teacher education and teachers' recruitment procedures

Italy has put in place a new system for recruiting and training secondary school teachers, as foreseen by the 2015 school reform. The aim is to put an end to the long waiting lists for entering the teaching profession (*graduatorie ad esaurimento*) by introducing a form of tenure track for aspiring teachers and to ensure that they receive a high-quality initial education.

From now on graduates in possession of a *laurea magistrale* who want to become teachers will participate in a public competition to be admitted to a three-year initial teacher education managed jointly by universities and schools (*Percorso triennale di formazione, inserimento e tirocinio – FIT)*. The course combines formal learning with two years' teaching apprenticeship, which is remunerated. Upon successful completion of the third year, teachers will be offered a permanent contract.

The selection procedure will be held every two years starting in 2018. The number of places available will depend on turnover in the profession and student enrolment. In order to be eligible for the selection process, aspiring teachers must have obtained 24 university credits in relevant fields (psychological, anthropological, pedagogical) or teaching methods as part of their degree or education.

www.gazzettaufficiale.it/eli/gu/2017/05/16/112/so/23/sg/pdf

6. Modernising higher education

Higher education in Italy continues to be characterised by high drop-out rates and excessive duration of courses. With a tertiary educational attainment rate for 30 to 34-year-olds of 26.2 % in 2016, Italy has just managed to reach its Europe 2020 national target of 26-27 %, but its rate remains the second lowest in the EU and well below the 2016 EU average of 39.1%. There is a large gender gap: the rate was 19.9 % for men in 2016 (EU average: 34.4%) against 32.5 % for women. After a decline in the period 2012-2015, transition rates from secondary to tertiary education seem to have stabilised at 50% (*Ministero dell'Istruzione, dell'Università e della Ricerca*, 2016b). Southern universities were particularly affected by the decline in enrolments.

The situation is compounded by reduced incentives in the labour market. Italian graduates earn less than their European counterparts and take more time to enter employment (OECD 2016a). This reduces the incentives for secondary school graduates to go on to higher education, and it encourages graduates to work abroad. In 2015 almost 23,000 Italian graduates aged 25 and over left the country, an increase of 13 % compared to the previous year (ISTAT 2016). On a more positive note, the employment rate of recent tertiary graduates, which fell sharply during the economic crisis (to 52.9 % in 2014) has recovered over the past two years, although at 61.3% it is still well below both pre-crisis levels (70.5% in 2008) and the EU average (82.8%).

Funding for universities is being increased through different actions. One third of standard funding (EUR1.4 billion) has been allocated based on the results of the recent research quality assessment exercise (*Valutazione della Qualità dei prodotti della Ricerca* VQR 2011-14), and this

has encouraged an upward convergence of performance, especially among low-performing, predominantly Southern universities. Research activity has been funded in a selective way. The majority of assistant and associate professors receive a minimum funding for their research activity. The best departments in state universities compete for additional funding based on the evaluation of their research activity and recruitment policies.

The government is addressing the issue of low support to higher education students. Student aid has been reinforced with tuition waivers and/or reductions (the so-called "no tax area") covering more than 650,000 students; additional resources (EUR 50 million) have been earmarked for student financial aid. The total amount of resources transferred to regional governments for this purpose – called FIS-*Fondo Statale per il diritto allo studio universitario* – has risen from EUR 162 to EUR 217 million.

Universities and public research institutions have been almost completely freed from the hiring freezes imposed for budgetary reasons during previous years. A National Plan for Research promotion was launched in May 2016, in order to coordinate the efforts of various ministries to raise the resources invested in R&D. Funds are allocated to attract researchers from abroad, through selective tax exemptions and additional grants to support fund raising activities from foreign sponsors, including within public institutions (EUR 30 million); creation of new PhD programmes on innovation in the industry sector (EUR 20 million); creation of Competence centres (EUR 20 million in 2017, EUR 10 million in 2018 and EUR 30 million in 2019); and tax credits for firms who invest in research-related activities. The provision of additional funds to hire 500 associate and full professors of high and recognized scientific merit and international standing (*Natta Chairs*) has not yet been implemented.

Italy still lacks a real non-academic tertiary education, and recent initiatives to change the situation remain limited in scope. A pilot initiative for the gradual introduction of vocational degrees (*lauree professionalizzanti)* in a number of universities, initially foreseen for 2017, has been postponed to 2018. The 2015 school reform includes measures to boost the performance of the Higher Technical Institutes (*Istituti Tecnici Superiori*). However, the Higher Technical Institutes remain a niche provider of education, currently attended by approximately 8,000 students, despite the fact that data on the employability of their recent graduates show that after one year 81 % are employed, 90 % in a job commensurate with their degree (Ministero dell'Istruzione, dell'Università e della Ricerca 2016a).

7. Modernising vocational education and training and promoting adult learning

More than half of upper secondary students are enrolled in vocational education and training (VET), but employment rates for VET graduates are low. At 55.8%, the proportion of students choosing VET is well above the EU average of 47.3 %. However, the employment rate of recent VET graduates in 2016 was one of the lowest in the EU (48.7% vs. 75%).

Italy is reforming its VET system, which could lead to improved employment prospects for VET graduates. A Legislative Decree of April 2017 has revised the state vocational institutes (which represent one branch of the VET system) creating more synergies among the different VET systems at regional and national level. Starting from the school year 2018/19 all curricula of state vocational institutes[8] will have 11 study pathways instead of 6. Curricula will be organised according to sector priorities expressed by regional governments, and VET providers will be embedded in a national network (*rete nazionale delle scuole professionali*). The 2017 Budget allocates an extra EUR 25 million to the dual system and extends to 2018 existing tax incentives for private employers to encourage and facilitate youth employment.

8 Programmes last 5 years, with the possibility of obtaining a first official qualification (diploma di qualifica professionale) after three years.

Participation in adult learning has improved considerably, although it remains below the EU average. The number of adults aged 25-64 participating in learning has grown steadily from 6.6 % in 2012 to 7.3 % in 2015, reaching 8.3 % in 2016 (EU average:10.8 %). The "National Plan Industry 4.0" increases public incentives for employees and managers participating in training activities linked with digitisation. Migrants can engage in adult education through the Protection System for Asylum Seekers and Refugees (SPRAR). The budget for educational activities for migrants remains stable at EUR 310 million in 2017.

The Italian National Agency for Active Employment Policies (ANPAL) is conducting a pilot project for online self-assessment of literacy, numeracy and problem solving skills using the OECD-PIAAC on-line testing tool in 18 Italian Regions, with the participation of around 180 Public Employment Centres and involving more than 4,000 unemployed persons. The project aims at supporting the long-term unemployed, and to assess the impact of activation programmes.

8. References

European Commission (2016), *PISA 2015: EU performance and initial conclusion regarding education policies in Europe*
https://ec.europa.eu/education/news/20161206-pisa-2015-eu-policy-note_en

Istat 2014. *L'offerta comunale di asili nido e altri servizi socio-educativi per la prima infanzia*
http://www.istat.it/it/archivio/129403

Istat 2016. *Migrazioni internazionali e interne della popolazione residente*
https://www.istat.it/it/archivio/193771

Ministero dell'Economia e delle Finanze (2017) *Documento di economia e finanza 2017 – Sezione III Programma Nazionale e di riforma. Roma*
http://www.dt.tesoro.it/modules/documenti_it/analisi_progammazione/documenti_programmatici/def_2017/Sez.3_-_Programma_Nazionale_di_Riforma_2017.pdfa

Ministero dell'Istruzione, dell'Università e della Ricerca (2016a), *Comunicato Stampa del 30 Marzo 2016. Istituti Tecnici Superiori, 28 i percorsi premiati oggi al MIUR*,
http://hubmiur.pubblica.istruzione.it/web/ministero/cs300316

Ministero dell'Istruzione, dell'Università e della Ricerca (2016b), *Focus "Gli immatricolati nell'a.a. 2015/2016 - il passaggio dalla scuola all'università dei diplomati nel 2015*
http://ustat.miur.it/media/1083/notiziario_2_2016.pdf

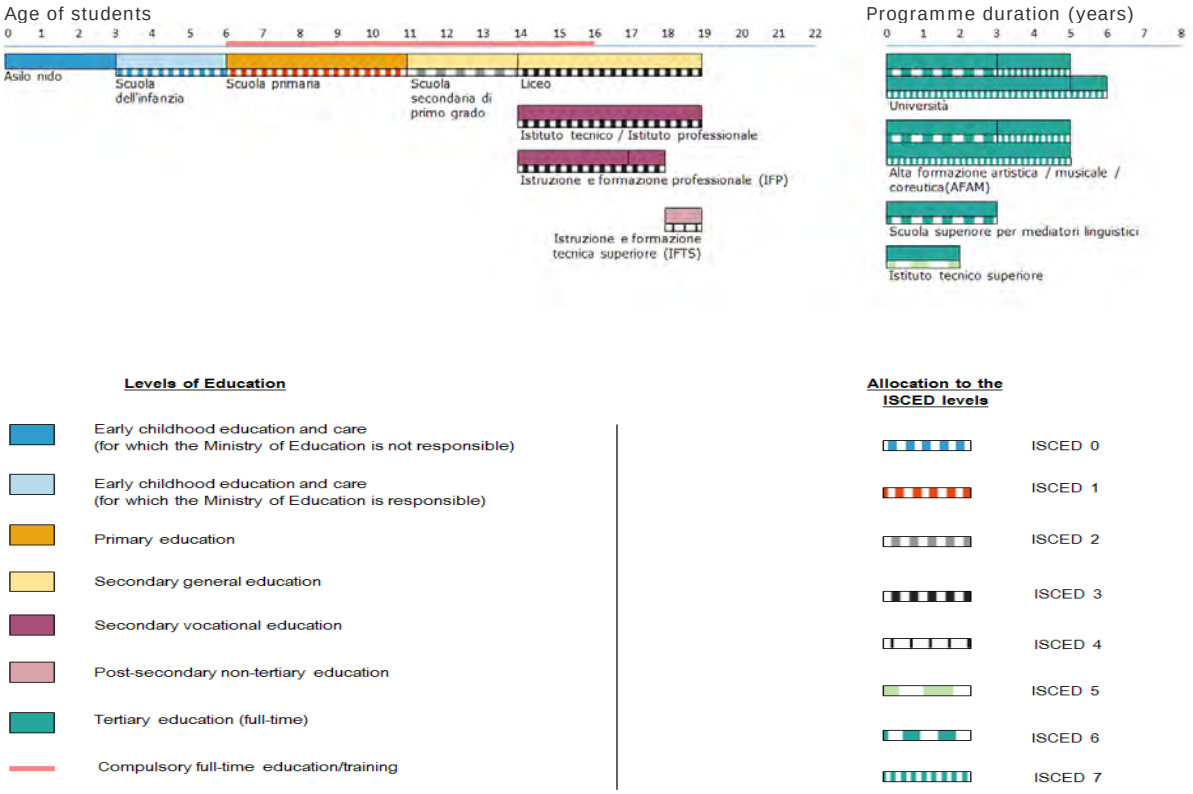
OECD (2016a) *Education at a glance, Italy Country Note*
http://www.oecd.org/italy/education-at-a-glance-2016-country-notes.htm

OECD (2016b) *PISA 2015 – Results in Focus*
https://www.oecd.org/pisa/pisa-2015-results-in-focus.pdf

9. Annex I. Key indicator sources

Indicator	Eurostat online data code
Early leavers from education and training	edat_lfse_02 + edat_lfse_14
Tertiary educational attainment	edat_lfse_03 + edat_lfs_9912
Early childhood education and care	educ_uoe_enra10 + tps00179
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	educ_uoe_mobg03

10. Annex II. The structure of the education system



Source: European Commission/EACEA/Eurydice, 2016. *The Structure of the European Education Systems 2016/17: 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:
Grazia ROMANI
grazia.romani@ec.europa.eu
or
EAC-UNITE-A2@ec.europa.eu

LATVIA

1. Key indicators

			Latvia		EU average	
			2013	2016	2013	2016
ET 2020 benchmarks						
Early leavers from education and training (age 18-24)	Total		9.8%	10.0%	11.9%	10.7%
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Adult participation in learning (age 25-64)	ISCED 0-8 (total)		6.8%	7.3%	10.7%	10.8%
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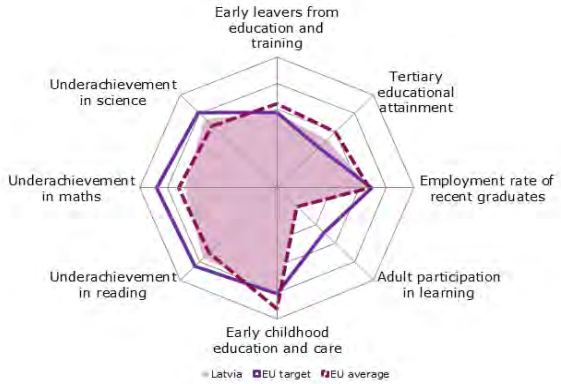
		ISCED 3-4	€4 288	€4 971 [14]	:	: [14]
		ISCED 5-8	€5 864	€6 588 [14]	:	: [14]
Early leavers from education and training (age 18-24)	Native-born		9.8%	10.1%	11.0%	9.8%
	Foreign-born		:	:	21.9%	19.7%
Tertiary educational attainment (age 30-34)	Native-born		40.5%	42.0%	37.8%	39.9%
	Foreign-born		45.0%	62.4%	33.4%	35.3%
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-4		70.9%	71.7%	69.4%	72.6%
	ISCED 5-8		84.1%	88.4%	80.7%	82.8%
Learning mobility	Inbound graduates mobility (bachelor)		1.7%	2.2% [15]	5.5%	6.0% [15]
	Inbound graduates mobility (master)		3.0%	6.0% [15]	13.6%	15.1% [15]

Sources: Eurostat (see section 9 for more details); OECD (PISA). Notes: data refer to weighted EU average, covering a different numbers of Member States depending on the source; b = break in time series, d = definition differs, e = estimated, p = provisional, u = low reliability, 12 = 2012, 14 = 2014, 15 = 2015. On learning mobility, the EU average is calculated by DG EAC based on available country data in all years. Further information is found in the respective section of Volume 1 (ec.europa.eu/education/monitor).

Figure 1. Position in relation to strongest (outer ring) and weakest performers (centre)



Source: DG Education and Culture calculations, based on data from Eurostat (LFS 2016) and OECD (PISA 2015). Note: all scores are set between a maximum (the strongest performers visualised by the outer ring) and a minimum (the weakest performers visualised by the centre of the figure).

2. Highlights

- Latvia has made remarkable recent progress in reducing early school leaving and improving basic skills attainment.
- The new financing model for higher education and the new system of quality assurance are being implemented on schedule.
- The tertiary educational attainment rate is high, but supplying enough STEM graduates to knowledge-intensive sectors remains a challenge.
- Vocational education and training is undergoing significant reform, but there is still considerable scope for expanding work-based learning and updating the curriculum.
- The gender gap in education is a challenge across the board, with women outperforming men significantly both in qualifications and basic skill proficiency.

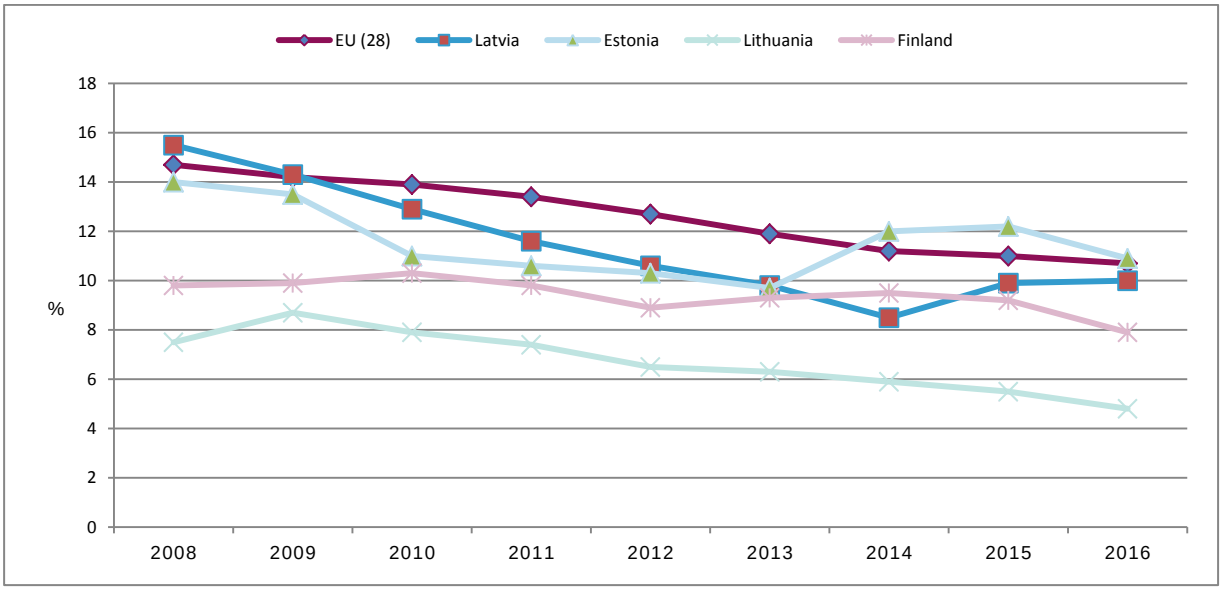
3. Tackling inequalities and promoting inclusion

Almost all Latvians are educated to at least upper secondary level, but access to quality education is strongly dependent on place of residence and type of school. Latvia's education system tends to favour equity through a comparatively longer duration of compulsory education, delayed tracking and low grade repetition. In terms of basic skills, 15-year-olds' performance as measured by the 2015 OECD Programme for International Student Assessment (PISA) appears to have levelled off although it remains well above the EU average. The proportion of low achievers in mathematics (21 %) and in science (17 %) worsened compared to PISA 2012, but continues to be better than the EU average. However, the disparity between rural and urban schools is large and growing. PISA 2015 shows that for students in rural and small-town schools, average performance in science deteriorated since PISA 2006 2015, whereas for students in Riga and other larger cities the performance in science improved over the same period. There are also marked differences in student performance between those in general education and VET, and between mainstream and special needs education (OECD, 2016).

Socio-economic background has a relatively limited influence on students' performance. At less than 20 percentage points, the relation between students' socio-economic background and performance in PISA 2015 is well below the EU average of 26.2 percentage points (European Commission, 2016).

Latvia has reached the Europe 2020 target of 10% early school leaving (ESL), but wide disparities persist between genders and between urban and rural areas. Latvia's ESL rate has been decreasing since 2008. It stood at 10.0 % in 2016, below the EU average of 10.7 % (Eurostat). The figure for female pupils was less than half that for males: 6.2 % and 13.7 % respectively in 2016, as was the figure for urban areas (6.8 %) compared to rural areas (15.5 %). (Government of Latvia, 2017). Latvia is working on the development of a coordinated prevention and intervention strategy with support from the ESF. The project aims at developing adequate prevention mechanisms and at providing individual support to students at risk of dropping out (Government of Latvia, 2017).

Figure 2: Early school leaving in Latvia and EU 28 (%) from 2008 - 2016



Source: Eurostat (LFS, 2016). Online data codes: edat_lfse_14.

The participation of four- to five-year-olds in early childhood education has been growing steadily and is now almost universal. Latvia has reached the European benchmark of 95 %. Enrolments for children under age 3 are still relatively low despite all children being legally entitled to ECEC from 1.5 years of age (European Commission, 2014). Shortages of places, high costs for private ECEC and insufficient geographical coverage are the main issues hampering participation, which the authorities have been addressing in recent years through policies to expand and diversify ECEC services, and to strengthen support (financially and territorially) to families in all parts of the country (Government of Latvia 2017). New pre-school education guidelines are being developed as part of the transition to the competence-based curricula.

Latvia is reforming the special education system and developing a comprehensive support system for the education of students with special needs in mainstream classrooms, but implementation is slow. New criteria for special education development centres (providing support to inclusive education teachers and to students with special needs) have been developed and regulations regarding their functioning and evaluation were adopted in March 2016. The new approach should consolidate expertise on special needs education in 1 or 2 special education development centres in each planning region[9] which provide support to mainstream schools. Currently there are 12 such centres. In March 2017 the MoES launched a study to identify the optimal education, health care and social support services for integrating children with special into mainstream education, and to develop a cost model for the provision of these services. The results of the study will be available in December 2017 and will feed into revised regulations on the procedure and support required for integrating students with special needs in mainstream schools. Success will depend on whether mainstream schools receive sufficient resources to be able to give individual attention to students with special needs.

The gender gap in education is a challenge across the board. Women outperform men significantly both in qualifications and basic skill proficiency. Results from PISA 2015 show the widest gender gap is in reading, where 24.4 % of boys are low achievers, compared with just 11 % of girls, followed by science (20 % and 14 % respectively) and maths (23 % vs 19.9 %). (See also section 6).

[9] Latvia is officially divided into 5 "planning regions" under the Regional Development Law (2002).

There are no specific guidelines for the integration of migrant students. A study on the integration of migrant children in the schools in the capital (Riga), conducted by Riga municipality in 2014, indicates that in the absence of clear state policy on support measures for migrant students, schools rely mostly on ad-hoc measures such as additional consultations with the teachers concerned and meetings with parents. Individual learning plans are developed only infrequently.[10].

4. Investing in education and training

The decline in student numbers calls for structural re-adjustment, but government attempts to reduce the number of schools are met with strong resistance by municipalities. Latvia's general government expenditure on education was well above the EU average in 2015, in terms both of proportion of GDP (6.0 % as compared with 4.9 %) and proportion of total public expenditure (16.2 % as against 10.3 %). Latvia's marked population decline (-12.1 % between 2004 and 2013) has led to a comparable contraction in the number of students in general education. The number of students in general education has stabilised at levels much lower than in the 1990s and is not likely to increase over the next years. Fewer schools and teachers are needed. The government has been exerting pressure on municipalities to reduce the number of schools, to ensure that the school network is adequate to current demographic changes and in keeping with OECD recommendations. However this pressure is resisted by municipalities seeking to preserve as many schools as possible. As a result, in many schools, resources such as teacher salaries (allocated per number of students according to the new model) are scarce, which may affect the quality of education (see section 5).

5. Modernising school education

The debate on the unequal quality of education sparked by PISA 2015 highlights the need to address the issue of under-resourced, over-staffed schools, especially in rural areas. Since 2008, the Ministry of Education and Science has encouraged municipalities to close or merge small schools with low and decreasing numbers of students. The total number of schools has gone from 948 to 763. However, according to a 2013 study, the number of schools with less than 50 students actually increased between 2008 and 2013, while the number with 50-100 students has decreased only slightly[11]. The MoES is carrying out a study to gather evidence for the development of an optimal school network. An interactive map of the existing school network was developed and published[12]. It provides information on the general education school network, including the indicator of Centralized Exam results for each school, teachers-pupil ratios and school infrastructure. The study will serve as a basis for the discussions with the municipalities. Quality of education will be the guiding principle for the discussion, followed by quantitative criteria such as required pupils number per class, traveling to school time etc.

Box 1: Evaluating quality in schools

The State Education Quality Service, through an accreditation procedure, carries out quality assessment of education institutions (except pre-school, HEIs and colleges) and educational programmes. The quality assessment methodology covers such fields as education content, teaching and learning, student achievement, support for pupils, school climate, school resources and organisation, management and quality assurance. The education institutions are accredited for six years, while educational programmes are accredited for six or two years.

The Ministry of Education and Science is planning to develop and implement an education quality monitoring system by 2022. Identified quality indicators will cover all levels of education from pre-school to higher education, including general and vocational education.

10 Izglītības attīstības centrs (2014) SITUĀCIJAS IZPĒTES APKOPOJUMS par jauniebraucēju un reemigrantu bērnu iekļaušanos Rīgas vispārizglītojošajās skolās.

11 Baltic Institute of Social Sciences (2013), Pētījums par mazo lauku skolu tīklu Latvijā.

12 https://izm.kartes.lv/

Voluntary teacher quality evaluation, based on a system of five qualification levels, was introduced in June 2014, with mixed results. The assessment is voluntary, leaving teachers free to choose which quality level to apply for. Although most teachers chose level 3 (the school principal decides on levels 1 to 3, while applications for levels 4 and 5 are assessed externally), Latvia reached the national objective of 10% of evaluated teachers obtaining levels 4 and 5.

In 2017 MoES introduced a new teacher evaluation model. It proposes to reduce the number of quality levels from five to three and to simplify the process. The most important criterion for assessing the work of the teacher is the teacher's daily work in the classroom, cooperation skills and pupils learning outcomes. The teacher assessment process will be carried out at each education institution, thus promoting school autonomy and raising the responsibility of the head of the school for ensuring the quality of education. The quality level can be awarded to a teacher for one, two or three years and is valid only in the education institution where the teacher has been assessed. Assessment is voluntary: all teachers may apply for it, choosing the quality level to which he or she applies. However, the awarding of the premium for the quality level obtained will depend on the resources available to the municipalities in the context of the re-adjustment of the school network.

The introduction of an evaluation system for school principals, originally foreseen for 2015, has been postponed to 2017. According to the new Regulation adopted in 2016, school principals`evaluation is carried out by the State Education Quality Service. The evaluation methodology covers different competencies and such criteria as fulfilment of goals and objectives, execution of duties and professional qualification. School principals are evaluated every six years during the current accreditation period. The State Education Quality Service decides on the principal's compliance or mismatch for their position. Heads of pre-school education institutions will be evaluated from 2018 using the same methodology.

Latvia has taken steps to improve the quality and attractiveness of secondary general and vocational education. The curriculum reform aims to introduce a student-centred approach to learning and to promote the competences and skills needed for individual development and participation in society and the labour market in the future. It also aims to raise students' levels of knowledge and interest in science-related subjects. The new curriculum is being gradually rolled out and should be fully implemented by 2023. A project aimed at reducing school drop-out by implementing preventive and intervention measures (referred to above) is included.

The reform of teachers' remuneration has been implemented, but its success will depend to a large extent on the optimisation of the school network. A new model for calculating teachers' salaries was introduced in September 2016, and an additional 9 million EUR was allocated to teachers' salaries in the 2016 budget, projected to increase to 27 million EUR annually in subsequent years. The schedule for increasing teachers' salaries was submited to the Cabinet of Ministers for approval in April 2017. At the same time the decreasing number of students makes it difficult to maintain investment and high quality of teaching. In many schools, resources such as finance for teachers' salaries (allocated per number of students according to the new model) are scarce.

Latvia has one of the oldest teaching workforces in the EU, but there are no specific measures to increase the attractiveness of the profession. In 2014, nearly 40% of all primary teachers and nearly 50% of all secondary teachers in Latvia were over 50, in both cases about 10 percentage points over the OECD average (OECD 2016). In the absence of government measures, a private initiative called 'Mission possible' (under the Teach for All network) is proving successful in attracting motivated young graduates to teach in schools for two years. Some of them stay on as teachers. From January 2016 the MoES started a joint project with the 'Mission possible' initiative on attracting young professionals to teaching. No induction provisions for new teachers exist in Latvia, but there are teaching traineeships for students of pedagogical faculties.

Box 2: ESF support for teacher training

The project "'Raising teachers' competitiveness during optimisation of education system" was launched in 2009 to help teachers in general and vocational education to adjust to changes brought by recent structural reforms in the education system.

The project focussed on three main activities:

- Piloting a new teachers' evaluation system with elements of self-assessment and peer-assessment (to be introduced in the whole education system, linked with the remuneration system);
- Improving teachers' knowledge and skills for teaching mixed-grade classes, students with special needs or new subjects/higher grades;
- Support for requalification for new jobs including enhanced entrepreneurial and self-employment initiative.

In addition, in 2011 the project also introduced an award for teachers. "Innovation in education", to reward the introduction of innovative approaches in teaching methods and efforts for improving the overall quality of education.

The project, which benefitted from an ESF support of EUR 23 968 460, has been very popular with teachers. Initially, it was planned to involve 17 400 participants but by the end of 2011, it had already reached 27 486 participants. The majority of teachers (some 80%) have participated in the evaluation activity.

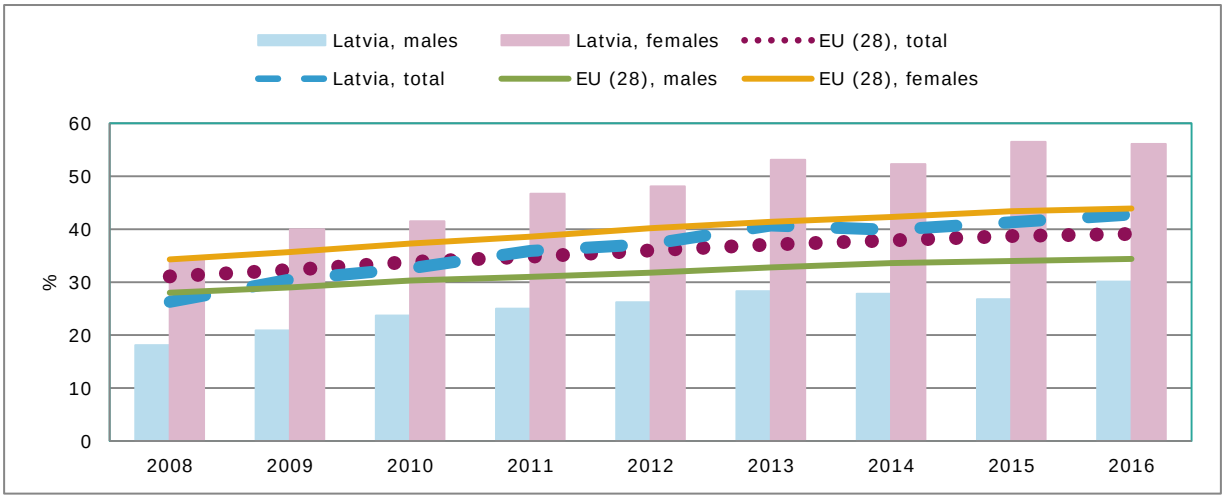
Support for teacher training is one of the horizontal priorities for the current programming period. It is foreseen that by 2023 a total of 16 163 general and vocational education teachers will have benefitted by ESF projects aimed at improving their professional competence.

http://ec.europa.eu/esf/main.jsp?catId=46&langId=en&projectId=244

6. Modernising higher education

Latvia's tertiary educational attainment rate among 30- to 34-year-olds is high. The number of graduates grew from 39.9 % in 2014 to 42.8 % in 2016, i.e. above the EU average (39.1 %) and the national Europe 2020 target (34-36 %). Participation of men in tertiary education (30.1 %) remains significantly lower than that of women (56.1 %), although the gap appears to be shrinking (Figure 3).

Figure 3. Tertiary education attainment in Latvia and EU 28, from 2008 - 2016 (%)



Source: Eurostat (LFS 2008 2016). Online data code: lfse_03.

As student support is entirely merit-based, access to tertiary education tends to be related to private means and therefore to socio-economic status. In Latvia, 31% of total expenditure on tertiary education comes from households. The lack of means-tested financial support hampers access for students from disadvantaged socio-economic backgrounds, despite the availability of free study places. In the 2016/17 academic year, 42% of students were in government-funded study places, while 58 % were funded privately.

There are no regular tracking surveys of graduates and no reliable data is available on employment transition. In 2016 the government amended the *Law on Higher Education* to start collecting data on graduates' transition into employment (Government of Latvia, 2017).

Latvia is progressing in the implementation of the two major higher education reforms launched in 2015 - the establishment of an external quality assurance system, and the introduction of a new funding model. The Academic Information Centre has been operating as an independent national accreditation agency from July 2015. It ensures licensing and accreditation of study programmes as well as the monitoring and evaluation of their quality. The Centre aims to be included in the European Quality Assurance Register for Higher Education by 2018, i.e. before the next large accreditation round scheduled for 2019. The new funding model for higher education was introduced in 2015. In the 2016 budget, the allocation for the performance-based element was increased from EUR 5.5 million (2015) to EUR 6.5 million (Ministry of Education and Science, 2015). However, the historical financing principle (allocating at least as much base funding per university as in the previous year) has been retained for the time being, which somewhat limits the impact of performance-based funding.

Latvia is looking at ways of consolidating its highly fragmented tertiary system. A study by the World Bank (WB) which will evaluate higher education institutions' internal governance, funding systems and human resources policies, and will make recommendations for the design of structural fund programmes. This may suggest more effective ways of reducing fragmentation of the higher education sector in the future. So far, attempts to reduce fragmentation in higher education show that small higher education institutions are reluctant to be merged with bigger ones, even if they do not have a sufficient base for research and innovation on their own.

STEM subjects are being promoted in order to achieve a better balance in the supply of places in higher education. Latvia is gradually increasing the proportion of publicly financed study places in STEM fields and cutting it in social sciences (Government of Latvia, 2017). This may help steer demand towards study fields linked to high added-value economic sectors.

7. Modernising vocational education and training and promoting adult learning

Latvia needs to address the development of skills and competences and low participation in adult learning. Challenges include the lack of a quality assurance framework; a need for more effective coordination of the different policy fields influencing the adult learning system; and the need to ensure that learning provided better meets the demands of learners and the needs of the labour market. The proportion of upper secondary students (ISCED 3) in Latvia in vocational education and training (VET) remained stable in 2015 at 39.8% below the EU average of 47.3%. The employment rate of recent VET graduates in 2016, at 74.8%, was close to the EU average of 75% (Eurostat).

The main challenges for Latvia's VET system - to ensure the quality, labour market relevance and attractiveness of vocational pathways - are being addressed. The policy aim is to ensure a balanced distribution of students choosing vocational and general education after completing basic education. Latvia has launched a project to extend work-based learning in VET programmes, to renew and transform VET curricula into a system based on learning outcomes and to reduce the number of professional standards.

Progress on curriculum reform has been slow. So far 56 VET programmes have been revised as part of an ESF project, out of the 187 planned. As of 2017, only 35 of these have been approved. Out of the 240 occupational standards to be updated, 80 have been updated by 2014 and more 90 should be updated by 2018. The Council of the European Union therefore made a

recommendation to Latvia in 2017 to *"[…]up-skill the labour force by speeding up the curricula reform in vocational education*" (European Commission 2017). A project to increase the number of students participating in work-based learning in enterprises was launched in 2017 with ESF support. The project has a total budget of EUR 20.5 million and aims to attract 3,150 students to work-based learning programmes and to provide another 11,025 students with short-duration practical training by 2022. In 2016 the Cabinet of Ministers approved the regulation on further modernisation of vocational education and training, which foresees an investment of EUR 104.7 million in the development of VET institutions over the next five years.

Latvia is still far from achieving its objective of 15% participation in adult learning by 2020. Adult participation in learning increased in 2016 to 7.3%, but remains well below the EU average of 10.8 %. Latvia's Adult education governance model implementation plan for 2016 – 2020 includes the development of legislative acts and efficient management of available resources. The Adult Education Supervisory Board was established in mid-2016 to monitor and co-ordinate the system, and to coordinate the actions of the different ministries and institutions responsible for specific groups of adults. An ESF project to improve prospects for employed adults, including low-skilled and older adults, is starting in 2017. Around 36.000 adults are expected to take part in training financed through this project, of which 12.000 are expected to be low-qualified adults. The training will be provided mostly at VET schools.

8. References

European Commission (2014), *Key Data on Early Childhood Education and Care in Europe*
http://eacea.ec.europa.eu/education/eurydice/documents/key_data_series/166EN.pdf

European Commission (2016), *PISA 2015: EU performance and initial conclusion regarding education policies in Europe*
https://ec.europa.eu/education/news/20161206-pisa-2015-eu-policy-note_en

European Commission (2017), *Country Specific Recommendations,*
https://ec.europa.eu/info/publications/2017-european-semester-country-specific-recommendations-commission-recommendations_en

Government of Latvia (2017), *National Reform Programme of Latvia for the Implementation of the Europe 2020 Strategy*
https://ec.europa.eu/info/sites/info/files/2017-european-semester-national-reform-programme-latvia-en.pdf

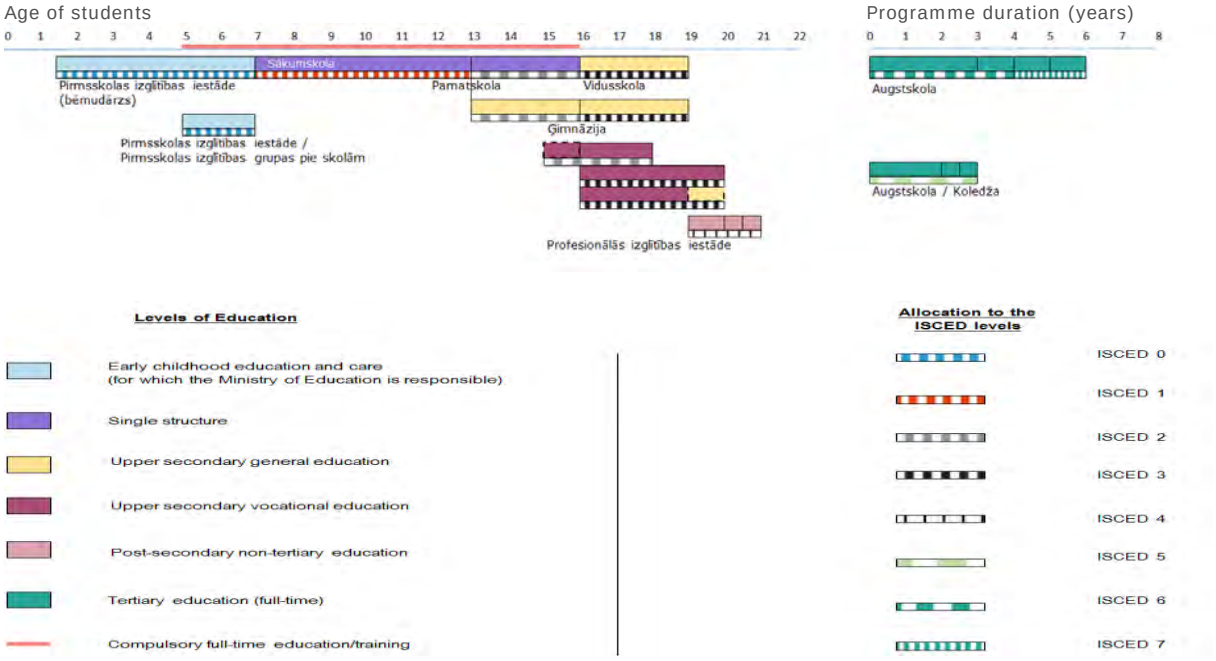
Ministry of Education and Science (2015), *Augstkolu snieguma finansējums*.
http://www.izm.gov.lv/lv/izglitiba/augstaka-izglitiba/augstakas-izglitibas-finansesana/augstskolu-snieguma-finansejums

OECD (2016), *Education at a Glance, Latvia country note*
http://www.keepeek.com/Digital-Asset-Management/oecd/education/education-at-a-glance-2016/latvia_eag-2016-67-en#.WYR3J2dNu-0

9. Annex. Key indicator sources

Indicator	Eurostat online data code
Early leavers from education and training	edat_lfse_02 + edat_lfse_14
Tertiary educational attainment	edat_lfse_03 + edat_lfs_9912
Early childhood education and care	educ_uoe_enra10 + tps00179
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	educ_uoe_mobg03

10. Annex II. The structure of the education system



Source: European Commission/EACEA/Eurydice, 2016. *The Structure of the European Education Systems 2016/17: 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:
Grazia ROMANI
grazia.romani@ec.europa.eu
or
EAC-UNITE-A2@ec.europa.eu

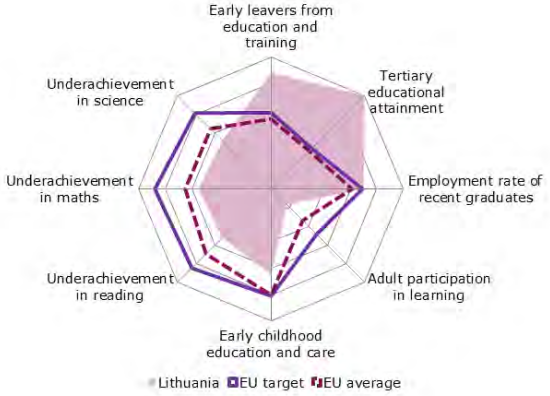
LITHUANIA

1. Key indicators

			Lithuania		EU average	
			2013	2016	2013	2016
ET 2020 benchmarks						
Early leavers from education and training (age 18-24)	Total		6.3%	4.8%	11.9%	10.7%
Tertiary educational attainment (age 30-34)	Total		51.3%	58.7%	37.1%	39.1%
Early childhood education and care (ECEC) (from age 4 to starting age of compulsory education)			84.8% [12]	90.8% [15]	93.9% [12]	94.8% [15]
Proportion of 15 year-olds with underachievement in:	Reading		21.2% [12]	25.1% [15]	17.8% [12]	19.7% [15]
	Maths		26.0% [12]	25.4% [15]	22.1% [12]	22.2% [15]
	Science		16.1% [12]	24.7% [15]	16.6% [12]	20.6% [15]
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-8 (total)		75.5%	82.4%	75.4%	78.2%
Adult participation in learning (age 25-64)	ISCED 0-8 (total)		5.9%	6.0%	10.7%	10.8%
Other contextual indicators						
Education investment	Public expenditure on education as a percentage of GDP		5.6%	5.4% [15]	5.0%	4.9% [15]
	Expenditure on public and private institutions per student in € PPS	ISCED 1-2	€3 582	€3 729 [14]	:	: [14]
		ISCED 3-4	€4 446	€4 364 [14]	:	: [14]
		ISCED 5-8	€6 418	€7 362 [14]	:	: [14]
Early leavers from education and training (age 18-24)	Native-born		6.3%	4.8%	11.0%	9.8%
	Foreign-born		:	:	21.9%	19.7%
Tertiary educational attainment (age 30-34)	Native-born		51.0%	58.2%	37.8%	39.9%
	Foreign-born		:	:	33.4%	35.3%
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-4		63.2%	70.3%	69.4%	72.6%
	ISCED 5-8		84.6%	91.1%	80.7%	82.8%
Learning mobility	Inbound graduates mobility (bachelor)		1.2%	1.0% [15]	5.5%	6.0% [15]
	Inbound graduates mobility (master)		2.2%	5.3% [15]	13.6%	15.1% [15]

Sources: Eurostat (see section 9 for more details); OECD (PISA). Notes: data refer to weighted EU average, covering a different numbers of Member States depending on the source; b = break in time series, d = definition differs, e = estimated, p = provisional, u = low reliability, 12 = 2012, 14 = 2014, 15 = 2015. On learning mobility, the EU average is calculated by DG EAC based on available country data in all years. Further information is found in the respective section of Volume 1 (ec.europa.eu/education/monitor).

Figure 1. Position in relation to strongest (outer ring) and weakest performers (centre)



Source: DG Education and Culture calculations, based on data from Eurostat (LFS 2016) and OECD (PISA 2015). Note: all scores are set between a maximum (the strongest performers visualised by the outer ring) and a minimum (the weakest performers visualised by the centre of the figure).

2. Highlights

- Depopulation due to demographic trends and emigration is a big challenge for the efficiency of spending in education. In this context, low participation of adults in lifelong learning is a concern.
- Key challenges in early childhood education and care are to expand participation and to establish a system of external quality assurance.
- Large disparities between schools in urban centres and rural regions affect funding levels, quality of infrastructure, quality of teaching and, ultimately, educational outcomes.
- The set-up of the working conditions for teachers is having a negative effect both on the quality of teaching and the supply of young teachers to the profession.
- The higher education sector delivers the highest tertiary education attainment in the EU, but there is evidence of quality and efficiency challenges. These are expected to be addressed by major reforms.

3. Tackling inequalities and promoting inclusion

There is stagnation in educational outcomes, as evidenced by international surveys. According to the OECD Programme for International Student Assessment (PISA) 2015, the performance of Lithuanian 15-year-olds in mathematics, reading and science was below the EU average, which continues a general trend from 2009. Compared to 2012, in 2015 the proportion of low achievers increased in science and reading and remained broadly unchanged in mathematics — just above 25 % and above the EU average of 22.1 %. Between 2012 and 2015 the share of top performers decreased and remained well below 10 % across the board, suggesting that excellence is not being adequately fostered[13]. Around 15 % of students are low achievers in all PISA domains, which makes them likely to face serious problems in their further education and work, and later in life. The performance gap between girls and boys narrowed in science and reading over the reference period, while it remained more or less unchanged in mathematics.

Socioeconomic status and school location play a big role in student performance. The extent of educational inequality is highlighted by PISA 2015, which found that 38.8 % of students in the bottom socioeconomic quartile fail to meet basic reading skills (compared with 11.9 % for students in the top socioeconomic quartile). The source of this disadvantage lies mainly in the large differences in performance between urban centres and rural regions. PISA 2015 shows that the difference between children studying in rural and urban areas is 57 points in science, 65 points in reading and 53 points in mathematics[14]. The results of the OECD's survey of adult skills (PIAAC) highlighted the concentration of highly skilled adults in Vilnius, who scored higher in literacy, numeracy and digital problem-solving than adults in smaller cities and rural areas.

Participation in early childhood education and care (ECEC) has been increasing, but the large urban-rural disparity in enrolment rates is not diminishing. In 2015, 90.8 % of pupils aged between 4 years old and the starting age of compulsory education attended pre-school and pre-primary education, up from 86.5 % in 2013 but still below the EU average of 94.8 %.The national target of 95 % participation by 2020 could be still attained thanks to a new measure in place since September 2016 making a pre-primary education programme of a minimum of 640 hours compulsory for all 6-year-olds. (Ministry of Education and Science 2016). The marked disparity in enrolment rates between urban and rural areas — 45 % and 12.3 % respectively for children under 3 years old and 98.2 % and 47.6 % for 4-6-year-olds in 2015 (Statistics Lithuania 2016) — poses a serious policy challenge. One solution has been to encourage more municipalities to offer transportation services, including through European Structural and Investment Funds

13 6.9 % in maths, 4.4 % in reading and 4.2 % in science (PISA 2015).
14 30 points in PISA correspond to around one year of schooling.

(ESIF)-financed projects. As a result, the share of municipalities providing transport to ECEC facilities increased from 67 % in 2012 to 88 % in 2014 (Education Supply Centre 2015).

Quality assurance of institutions offering ECEC is insufficient, even though the child-teacher ratio in ECEC is low. In 2014, there were 7 children per contact staff and 10 children per teaching staff, both of which are lower than the OECD averages of 11 and 14 respectively (OECD 2016a). However, due to the lack of external evaluation mechanisms, there is a lack of comparable data on the quality of ECEC institutions, carers and teachers, which could drive improvement (National Audit Office 2016).

Rates of early school leaving (ESL) are traditionally low and declining. Low participation in early childhood education and care is not translating into high ESL rates. With an ESL rate of 4.8 %, Lithuania is the second best performer in the EU in 2016 (after Croatia) and is below the EU average of 10.7 %. When broken down by gender and school location, the early school leaving rate is highest among boys from rural areas (12.5 %).

4. Investing in education and training

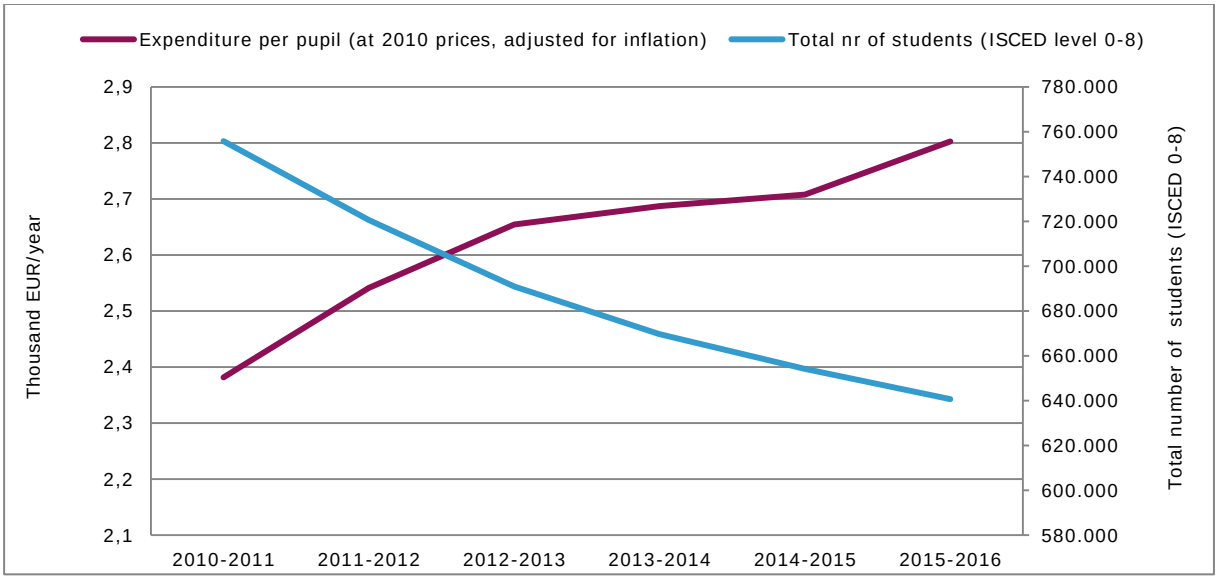
Education expenditure has decreased but remains high by EU standards. In 2015, Lithuania spent 5.4 % of GDP on education, down from 6.4 % in 2010 but still significantly higher than the EU average of 4.9 %. As a percentage of total public government expenditure, at 15.4% Lithuania had the second highest share spent on education in the EU after Latvia (EU average: 10.3 %). The real level of expenditure when corrected for inflation dropped by 2 % between 2010 and 2015, after a decade of rapid growth (by nearly 40 % over 2000-2010). Spending per pupil has increased steadily as the number of pupils/students enrolled has decreased by around one quarter since 2000.

Comparatively high levels of spending on education are not translating into high teacher salaries. In 2015/2016, Lithuania was one of only three EU countries where the highest possible statutory teacher salary at all three levels of school education was lower than GDP per capita (European Commission/EACEA/Eurydice, 2016). New recruits to teaching earn less than experienced teachers because salaries are set on the basis of the workload, the years of service and the teachers' qualification category. It has been argued that the reason for low teacher salaries lies in the size of the teacher workforce and the dissipation of resources across a high number of schools in the country (IMF, 2017). At nearly 10 % of all employment in the country, Lithuania has historically had one of the highest concentrations of teachers in the active population in Europe (OECD 2016b) and a comparably large support staff (LFMI, 2016).

The declining student numbers are a challenge for the efficiency of funding of education. In the past decade there has been a sharp decline in the size of the school-age population (6- to 19-year-olds): in 2015 there were 36% less students than in 2005[15]. Because of the low student numbers, the student-teacher ratio is constantly among the lowest in the EU — in 2015 it was 8.2 pupils per teacher in primary and lower secondary education and 8.1 in upper secondary education. The average class size also decreased — national data showed that class sizes in rural areas dropped from around 13 students per class to 11.4 in 2015, whereas in urban areas they dropped steadily from 23.3 in 2005 to 20.6 in 2015 (Shewbridge, C. et al. 2016, p.42). Consequently, expenditure per student has been rising very fast in the last 5 years (by around 3 % per year in real terms), although from a very low base.

[15] Source: Eurostat data on Population on 1 January by age 2005 and 2015, online data code: demo_pjan

Figure 2. Expenditure per student (all International Standard Classification of Education (ISCED) levels at 2010 prices) in relation to number of students



Source: Lithuanian Statistical Office, Pupils and students by level of education, https://osp.stat.gov.lt/web/guest/statistiniu-rodikliu-analize?hash=8c0ea1bd-5177-4b3a-845a-e20d46d9717c#/ and Eurostat (GOFOF 2010 - 2016). Online data code: gov_10a_exp

5. Modernising school education

The demographic structure of the teaching workforce in Lithuania is a cause for concern, while medium-term shortages are likely. The teaching workforce is ageing, while the supply of young teachers is insufficient. As many as 44 % of lower secondary education teachers were aged 50 years or older in 2014 (higher than the same indicator in the neighbouring countries[16]) and there is ample evidence that the teaching profession is not attractive to young talented people (Research and Higher Education Monitoring and Analysis Centre (MOSTA), 2015; Lithuanian Education Council, 2015). For example, in the last 3 years no students have applied to physics and chemistry teacher training programmes (Lithuanian Education Council, 2015). A significant proportion of entrants into initial teacher education, estimated as high as 85 %, end up not entering the teaching profession (Shewbridge, C. et al., 2016). This suggests that in the medium to long term schools are likely to face teacher shortages.

The gender gap in the Lithuanian teaching force is pronounced. In 2015, women accounted for 87.5 % of all teachers. Gender differences persist in choice of subject, profession and future occupation: women comprise a large majority of students studying in colleges to become a teacher (94.7 %) (Lithuania Statistics 2016). There are more women than men serving as directors of general schools (61.7% are women) but more men than women in charge of vocational schools (37.1% are women). Lithuania's State education strategy 2013-2022 has set the target of increasing the share of male teachers from 16 % in 2012 to 20 % in 2022.

Funding for continuous professional development is scarce. Obligatory in-school practice during initial teacher education is limited, and innovative teaching methods remain underutilised. There are also large discrepancies in the funding of continuous professional development with some municipalities allocating three times as much budget as others, thanks to their autonomy in the allocating resources (Shewbridge, C. et al., 2016).

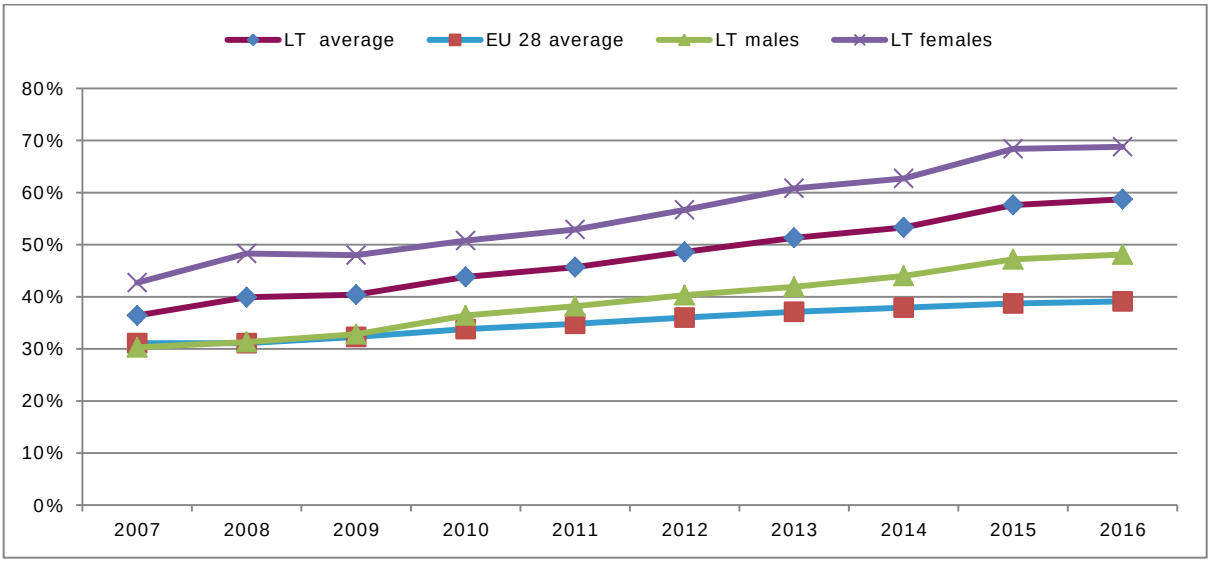
[16] For example, 22 % in Poland, 31.9 % in Latvia, 39.9 % in Estonia in 2014 (the calculations are based on OECD data: https://stats.oecd.org/Index.aspx?DataSetCode=EAG_PERS_SHARE_AGE#)

The government has taken some steps to improve the attractiveness of the teaching profession. It raised salaries for novice teachers and allocated funding for early retirement compensation to create more vacancies and provide more employment opportunities for young teachers. The take-up was fairly successful — 900 teachers in 2015 and 814 in 2016 took advantage of the scheme. While this may indeed be a positive step in some respects, it requires careful planning to avoid future teacher shortages and a loss of accumulated expertise. In addition, scholarships for teaching degrees and a mentoring programme supporting young teachers have been set up. The government is currently negotiating a new way of structuring teacher salaries with the trade unions, moving away from payment per contact hours to a full-time scheme of 36 working hours, which include teaching, preparation and other duties.

6. Modernising higher education

Lithuania tops the EU charts for tertiary educational attainment, but has a gender-unbalanced higher education system. Compared with the EU average of 39.1 %, in Lithuania as many as 58.7 % of 30-34-year-olds have a higher education degree; the expansion over the past decade has also been much faster than in the EU overall (Figure 3). As in most Member States, more women graduate than men — 68.8 % of women of the same age group hold a tertiary degree, compared with 48.1 % of men. This makes Lithuanian women the most highly qualified in Europe, followed by Cyprus, Sweden and Ireland. In recent years, however, there has been some redistribution of enrolments across study fields and a small increase in the number of entrants into natural sciences (MOSTA 2016). This is a positive development, as skills forecasts predict that by 2025 around 27% of job opportunities will be for high-level occupations in science, engineering and healthcare, but also business and teaching.

Figure 3. Tertiary educational attainment of 30-34-year-olds



Source: Eurostat (LFS, 2007 - 2016). Online data code: edat_lfse_03

Labour-market outcomes for higher education graduates are very good. Lithuania's employment rate of tertiary graduates is one of the highest in the EU, reaching 91.1 % in 2016, significantly higher than the EU average of 82.2 %. The employment rate advantage compared to upper secondary education graduates (70.3%) shows the clear value of attaining higher education.

The higher education sector is characterised by a large network of institutions and a declining student body. There are currently 21 universities and 22 colleges operating in Lithuania. While tertiary attainment among 30-34-year-olds is very high, the number of young people entering higher education has for demographic reasons decreased by 21 % since 2012, including a 9 % decrease between 2015 and 2016 alone (MOSTA, 2016). Consequently, in 2016, one third of all study programmes had no more than 10 enrolled students (MOSTA 2016). In order to attract students from a shrinking pool of young people and receive a corresponding amount of

state funding according to the 'money follows student' principle, higher education institutions were encouraged to expand their offer of study courses and to lower the quality threshold for admitting students. However, as of the 2017 academic year, the government introduced minimum entry requirements to increase the quality of entrants into higher education[17].

The reform and rationalisation of tertiary education is high on the political agenda. In December 2016, Parliament adopted a resolution urging the government to work out a restructuring plan. A working group set up for this purpose proposed a wider higher education reform. The blueprint, accepted by the government and adopted by Parliament in June 2017, contains proposals for abolishing bachelor's tuition fees while raising entry requirements and reforming the higher education funding system. Setting up and negotiating the institutions' financial incentives in a way that primarily promotes quality and efficiency of higher education will be the key challenge for the reform.

Box 1: Optimisation of the higher education network in Lithuania

The Lithuanian Parliament adopted the plan for consolidation of Lithuanian universities in June 2017. According to this plan, Lithuania should have two universities offering a wide range of studies in Vilnius and Kaunas, as well as universities with specialised missions focusing on technology, health sciences and arts in Vilnius and Kaunas. University level science centers that correspond to regional needs would be maintained in Klaipeda and Siauliai, with a possibility of integration into other universities. This will replace the current network of 21 universities and 22 colleges.

However, universities are autonomous and can propose their own mergers to Parliament, as Vytautas Magnus University (VDU) has done, proposing to become a national 'umbrella' university. It launched the merger process with the Lithuanian University of Educational Sciences (LEU), while Aleksandras Stulginskis University (ASU) later joined the initiative. VDU also said that they expected to conclude integration talks with the Lithuanian Sports University (LSU). The government's reform plan calls for merging VDU, LSU, ASU, LEU and the Kaunas University of Technology (KTU) into a single university in Kaunas. It remains to be seen how the plan will interact with the universities' own plans for consolidation and how the reform of the funding and quality assurance systems can be combined with the consolidation plans.

7. Modernising vocational education and training and promoting adult learning

The government aims to improve the quality and attractiveness of vocational education and training, yet challenges remain. The proportion of upper secondary students (ISCED 3) in initial vocational education and training (IVET) remained stable in 2015 at 26.8 %, substantially below the EU average of 47.3 %. The employment rate of recent IVET graduates in 2016 of 74.9 % was almost the same as the EU average of 75 %. A work-based learning component in IVET is lacking. With falling student numbers, another challenge is ensuring the sustainability of sectoral practical training centres, which benefited from substantial European Regional Development Fund (ERDF) and European Social Fund (ESF) investments of more than EUR 100 million during 2007-2013.

Lithuania is reforming the concept of IVET curricula to make them more labour-market relevant. The intention is for IVET programmes to be based on qualifications profiles, to be defined by sectoral qualifications standards and transformed into a modular structure. 10 sectoral qualification standards (out of the total of 24) and 60 modular programmes were developed under a dedicated ESF project that ran from 2010 to 2015. Major social partners and employers'

[17] Scores of not less than 3 out of 10 points for universities and not less than 1.6 out of 10 points for colleges.

organisations took part in developing the standards and worked with expert groups that designed IVET programmes. In 2016 the first modular programmes were piloted. Based on the lessons learned, the second wave of modular programmes is to be launched.

Lithuania struggles to increase participation in adult learning, in particular among groups that are the least likely to participate. Adult participation in learning remained low in 2016 at 6.0 %, well below the EU average of 10.8 % and the national target of 15 %. The system for quality assurance seems to be inefficient, with overall fragmentation of the system and insufficient involvement of stakeholders in planning and development of adult learning. As indicated in the Lithuanian Republic Ministry of Education and Science Activity report 2016, low levels of participation in adult education were caused by gaps in legislation and insufficient investment in adult non-formal education.

New legislation in force since 2015, coupled with EU funding, are opening the way to positive developments for increased participation in adult education. As well as addressing quality, funding and governance aspects, changes to the Labour Code have introduced an entitlement to training leave for non-formal education activities for each person. The leave can be up to 5 days per year and must be agreed with the employer. A European Structural Fund call for proposals to develop formal and non-formal learning possibilities was launched in February with a total budget of EUR 12 164 041. The support is planned to be given to the following groups:

- adult school leavers who are willing to finish their secondary education;
- teachers willing to acquire higher education qualification;
- senior learners;
- non-formal learning for vocation teachers so that they can up-skill.

Box 2: Skills monitoring and anticipation in Lithuania

A set of projects collecting and analysing data on skills supply and demand are contributing to a clearer picture of where policy intervention is needed to reduce skills mismatches in the economy.

Specialist Qualification Map

In 2014, the Ministry of Education and Science launched a one-off pilot initiative called the 'Specialist Qualification Map' (Specialistų kvalifikacijųžemėlapis). The initiative was run by MOSTA. The purpose was to assess the level of mismatch between qualifications attained and those required in jobs by combining administrative data from three national databases. It covered 75 000 higher education graduates and around 150 000 VET graduates from 2012 and 2013. The result of the analysis was a report which provides information on the graduates' integration into the labour market, broken down by type of studies, date of recruitment, occupation and earnings[18]. Among other things, the Map gave an insight into the pay gap between public- and private-sector employment, inter-regional migration and the gender pay gap. As a next step, MOSTA is working on a project entitled 'Development and implementation of the system for education supply analysis and evaluation' (ESF, 2016).

National Human Resources Monitoring (NHRM)

The 'Human resources demand forecasting' project (2013-2015), funded by the European Social Fund (ESF), sought to implement an econometric skills forecasting model based on labour demand and supply by extracting data from three different sources. The resulting forecasts and snapshots were presented online at www.zips.lt. To ensure continuity with this project, in February 2016 the government provided the legal basis for the creation of a system of skills monitoring — National Human Resources Monitoring. The NHRM, coordinated by a cross-

18 http://mosta.lt/images/leidiniai/Specialistu_kvalifikaciju_zemelapio_pirmine_analize_2015.pdf

ministerial committee, will integrate various national registers on educational, employment, social security, migration and other data in order to provide a comprehensive system for assessing current and future demand and supply of skills.

Source: Cedefop, Skills anticipation in Lithuania.
http://skillspanorama.cedefop.europa.eu/en/analytical_highligths/skills-anticipation-lithuania

8. References

Education Supply Centre (2015), *Research report on the developments of ECEC municipal facilities in Lithuania (20212/13 and 2014*), EU-funded project 'The development of pre-school and pre-primary education'. http://www.ikimokyklinis.lt/index.php/naujienos/ipup-projekto-naujienos/institucinio-ikimokyklinio-ir-priesmokyklinio-amziaus-vaiku-ugdymosi-salygu-kaitos-savivaldybese-tyrimo-rezultatu-pristatymas/19212

European Commission/EACEA/Eurydice (2016) *Teachers' and School Heads' Salaries and Allowances in Europe — 2015/16*. Eurydice Facts and Figures. Luxembourg: Publications Office of the European Union. https://webgate.ec.europa.eu/fpfis/mwikis/eurydice/images/2/22/Teacher_salaries.pdf

International Monetary Fund (IMF) (2016) *World Economic Outlook Database*, October 2016. http://www.imf.org/external/pubs/ft/weo/2016/02/weodata/weorept.aspx?sy=2015&ey=2021&scc=1&ssd=1&sort=country&ds=.&br=1&c=946&s=NGDP_R,NGDP_RPCH,NGDP,NGDPD,NGDP_D,NGDPRPC,NGDPPC,NGDPDPC,PPPGDP,PPPPC&grp=0&a=&pr1.x=59&pr1.y=18

International Monetary Fund (IMF) (2017) *Republic of Lithuania: Staff Concluding Statement of the 2017 Article IV Mission*. https://www.imf.org/en/News/Articles/2017/05/15/ms051617-republic-of-lithuania-staff-concluding-statement-of-the-2017-article-iv-mission

LFMI – Lithuanian Free Market Institute (2016), *How much does a teacher earn in Lithuania? (Kiek uždirba mokytojas Lietuvoje?),* Vilnius. Retrieved from http://www.llri.lt/naujienos/ekonomine-politika/z-silenas-kiek-uzdirba-mokytojas-lietuvoje/zilvinas-silenas

Lithuanian Education Council (2015), Dėl pedagogų rengimo politikos tobulinimo (Improvement of Teachers' Training Policy). http://www3.lrs.lt/pls/inter/w5_show?p_r=9495&p_k=1

Lithuanian Government (2017), *Lietuvos Respublikos Vyriausybės programos įgyvendinimo planas (Implementation Plan for the Government's Programme of the Republic of Lithuania),* 2017. https://e-seimas.lrs.lt/portal/legalAct/lt/TAP/3cbc070007b511e78352864fdc41e502?jfwid=-wd7z6mxg5

Ministry of Education and Science (2016), Priešmokyklinio ugdymo tvarkos aprašas (The Description of the Pre-primary Education Procedure), V-674. http://www.smm.lt/web/lt/teisesaktai/listing?actual=1

MOSTA (2016) — Research and Higher Education Monitoring and Analysis Centre (2016a), General admission to the first cycle and integrated studies (Bendrasis priėmimas į pirmos pakopos ir vientisąsias studijas, 2016 m), Vilnius. Retrieved from http://www.mosta.lt/images/Priemimas_2016_09_27.pdf

National Audit of Lithuania (2016), Valstybinio audito ataskaita Švietimo stebėsena (Public Audit Report Education Monitoring). https://www.vkontrole.lt/audito_ataskaitos.aspx?tipas=2

OECD (2016a) Education at a Glance 2016: OECD Indicators:Lithuania. http://dx.doi.org/10.1787/eag-2016-68-en

OECD (2016b), PISA 2015 Results (Volume I): Excellence and Equity in Education, OECD Publishing, Paris. DOI: http://dx.doi.org/10.1787/9789264266490-en

Shewbridge, C. et al. (2016), OECD Reviews of Schools Resources: Lithuania 2016, OECD Reviews of Schools Resources, OECD publishing, Paris.

Statistics Lithuania (2016), Education 2015, published June 2016, Vilnius. http://osp.stat.gov.lt/statistikos-leidiniu-katalogas?publication=23298

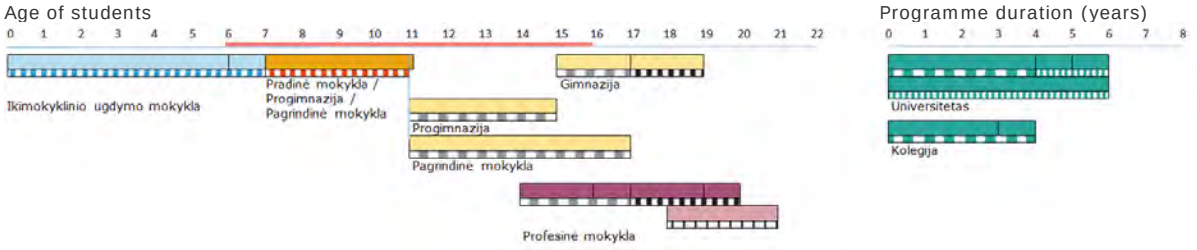
Cedefop (2016a), Skills Panorama Lithuania: Mismatch priority occupations, October 2016. Retrieved from http://skillspanorama.cedefop.europa.eu/en/analytical_highligths/lithuania-mismatch-priority-occupations

Cedefop (2016b), *Skills Panorama*. http://skillspanorama.cedefop.europa.eu/en/countries/lithuania

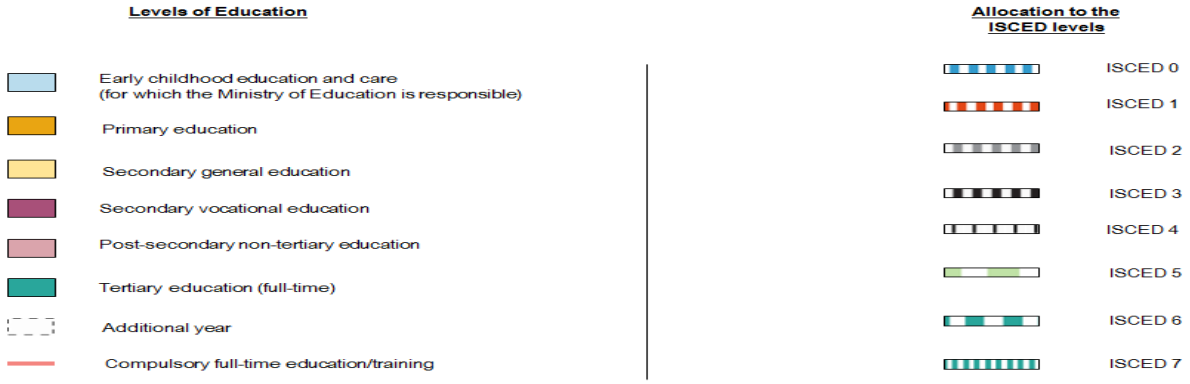
9. Annex I. Key indicator sources

Indicator	Eurostat online data code
Early leavers from education and training	edat_lfse_02 + edat_lfse_14
Tertiary educational attainment	edat_lfse_03 + edat_lfs_9912
Early childhood education and care	educ_uoe_enra10 + tps00179
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	educ_uoe_mobg03

10. Annex II. Structure of the education system



Note: *Gimnazija* may cover both primary education programme (ISCED 1) and basic educational programmes.



Source: European Commission/EACEA/Eurydice, 2016. *The Structure of the European Education Systems*

Comments and questions on this report are welcome and can be sent by email to:
Luka JUROS
luka.juros@ec.europa.eu
or
EAC-UNITE-A2@ec.europa.eu

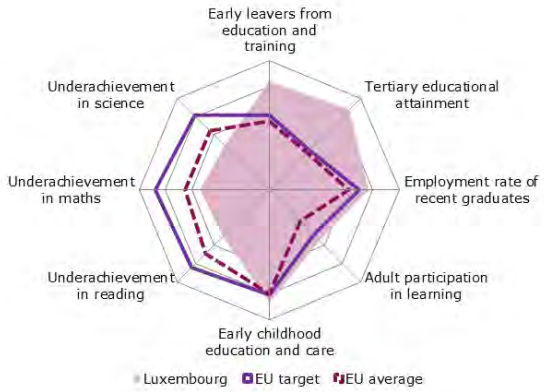
LUXEMBOURG

1. Key indicators

			Luxembourg		EU average	
			2013	2016	2013	2016
ET 2020 benchmarks						
Early leavers from education and training (age 18-24)	Total		6.1%	5.5%	11.9%	10.7%
Tertiary educational attainment (age 30-34)	Total		52.5%	54.6% u	37.1%	39.1%
Early childhood education and care (ECEC) (from age 4 to starting age of compulsory education)			97.8% 12	96.6% 15	93.9% 12	94.8% 15
Proportion of 15 year-olds with underachievement in:	Reading		22.2% 12	25.6% 15	17.8% 12	19.7% 15
	Maths		24.3% 12	25.8% 15	22.1% 12	22.2% 15
	Science		22.2% 12	25.9% 15	16.6% 12	20.6% 15
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-8 (total)		79.1%	85.4%	75.4%	78.2%
Adult participation in learning (age 25-64)	ISCED 0-8 (total)		14.6%	16.8%	10.7%	10.8%
Other contextual indicators						
Education investment	Public expenditure on education as a percentage of GDP		5.4%	5.2% 15	5.0%	4.9% 15
	Expenditure on public and private institutions per student in € PPS	ISCED 1-2	€13 847	€15 628 14	:	: 14
		ISCED 3-4	€13 936	€15 417 14	:	: 14
		ISCED 5-8	:	€34 161 14	:	: 14
Early leavers from education and training (age 18-24)	Native-born		5.3%	4.1%	11.0%	9.8%
	Foreign-born		8.1% u	8.5%	21.9%	19.7%
Tertiary educational attainment (age 30-34)	Native-born		44.2%	50.9%	37.8%	39.9%
	Foreign-born		58.5%	57.2%	33.4%	35.3%
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-4		71.4%	79.9%	69.4%	72.6%
	ISCED 5-8		83.8%	89.0%	80.7%	82.8%
Learning mobility	Inbound graduates mobility (bachelor)		20.9%	20.6% 15	5.5%	6.0% 15
	Inbound graduates mobility (master)		58.8%	63.0% 15	13.6%	15.1% 15

Sources: Eurostat (see section 9 for more details); OECD (PISA). Notes: data refer to weighted EU average, covering a different numbers of Member States depending on the source; b = break in time series, d = definition differs, e = estimated, p = provisional, u = low reliability, 12 = 2012, 14 = 2014, 15 = 2015. On learning mobility, the EU average is calculated by DG EAC based on available country data in all years. Further information is found in the respective section of Volume 1 (ec.europa.eu/education/monitor).

Figure 1. Position in relation to strongest (outer ring) and weakest performers (centre)



Source: DG Education and Culture calculations, based on data from Eurostat (LFS 2016) and OECD (PISA 2015). Note: all scores are set between a maximum (the strongest performers visualised by the outer ring) and a minimum (the weakest performers visualised by the centre of the figure).

2. Highlights

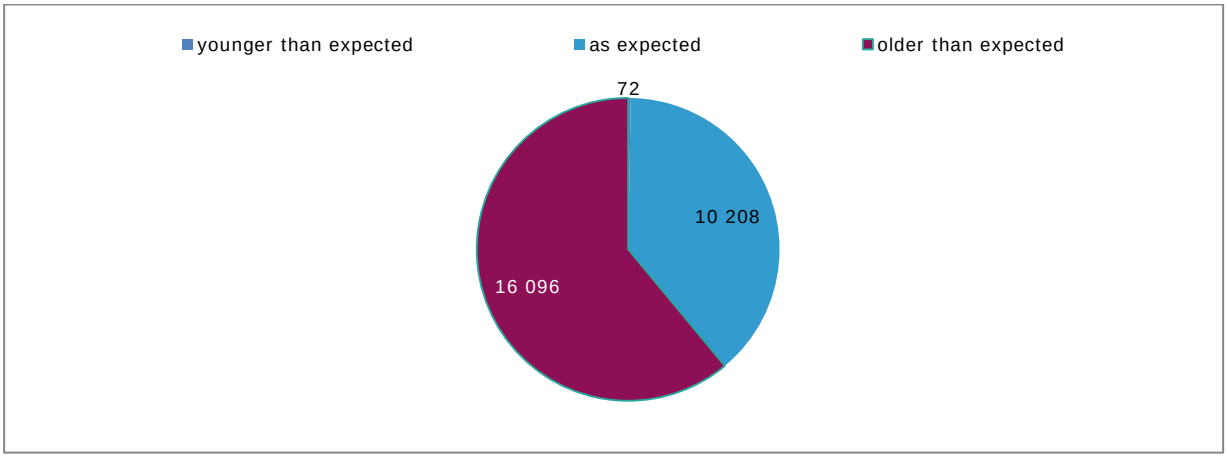
- The PISA performance of 15-year-olds in the 2015 survey was significantly below the EU average in all three components: mathematics, reading and science.
- Calculated according to national surveys, the early school leaving rate is high and has been on the rise since 2009.
- An ambitious reform to improve access and quality in early childhood education and care started in September 2016.
- A number of actions were taken to improve the quality of teaching and support for children with special learning needs.
- To meet the strong demand for high-skilled workers, Luxembourg has made further adjustments to the 2014 reform of financial aid to students as of September 2016.

3. Tackling inequalities and promoting inclusion

Early school leaving in Luxembourg is significantly below the EU average but national surveys indicate a steady rise. Luxembourg's early school leaving (ESL) rate, as measured by the Labour Force Survey in line with standard EU practice, decreased by 3.8 percentage points in 2016, to 5.5 %. However, this data should be interpreted with caution because of the limited sample size in Luxembourg. National estimates based on the actual number of young people not completing upper secondary education indicate that dropouts have been on the rise since 2009 and stood at 13.5 % in 2015 (Ministère de l'Éducation Nationale, de l'Enfance et de la Jeunesse (MENJE) 2017a). Dropout is more than one and half times higher among boys than girls and occurs most often at age 16-17, around the end of the compulsory school age. In addition, some 29 % of pupils leaving Luxembourg schools in 2014/2015 continued upper secondary education either abroad or in a private/European school (MENJE 2017a). This suggests that school failure could be reduced if public education was better adapted to pupils' needs. The Local Action for Youth (ALJ - *Action locale pour jeunes*) offices of the Ministry of Education are responsible for identifying and contacting early school leavers to help them return to education or find a job. Between 2010/2011 and 2014/2015 the shares of such young people the ALJ managed to reach grew from 18 % to 88 %.

Grade repetition is frequent and a strong factor behind early school leaving. About 20 % of pupils have already repeated a grade by the third grade of primary school (Martin et al. 2012) and by the end of secondary education this is true for half of all pupils. Across school types, grade repetition is particularly high (61 %) among pupils in technical secondary education (MENJE 2016). Failing 2 years in the course of one's studies is the clearest predictor for early school leaving (MENJE 2017a).

Figure 2. Distribution of pupils by their real and expected age in Technical Secondary Education in 2014 -2015



Source: MENJE (2016).

Despite recent reform of the orientation process at the end of primary education, early tracking with little scope for change between levels makes the education system more inequitable. Students with lower socioeconomic status are the most likely to fall behind in all subjects and to be oriented towards the technical tracks of secondary school[19]. Changing tracks is extremely rare (Klapproth and al. 2013). The difference in the language regimes of the general and the technical tracks of secondary education — the first being French-based and the second German — also plays a role in orientation decisions and narrows the scope for switching. Pupils of foreign nationality are less frequently oriented towards the higher tracks of secondary education[20]. A majority (63.2 %) of pupils of foreign nationality who do attend general secondary education go to schools that do not follow the national curriculum (MENJE 2016). As most of these schools demand a tuition fee, this option is mainly available to pupils of higher socioeconomic status. As of 2016/2017 the orientation process was reformed to give parents a say in the decision.

Pupils' performance at school is heavily influenced by their ability to cope with the trilingual system. The vernacular language at primary school is Luxembourgish, while pupils learn to read in German and learn mathematics in French. This is challenging for all but especially for pupils who speak a different language than Luxembourgish at home. In 2014/2015, this group represented 57 % of the school population (MENJE 2016). While the share of pupils speaking a Romance language (34.4 %) — in particular Portuguese — in technical secondary education has been increasing, the language of tuition in this track remains German. This further increases the risk of school failure or dropout for non-Luxembourgish pupils (Chambre des Commerces 2014). There is scientific evidence[21] (Thomas & Collier 2002) that reading and numeracy skills develop best when these are acquired in the mother tongue. Research also shows that children's ability to learn additional languages does not suffer when their mother tongue is the primary language of

19 At the end of primary education — in grade 6 — teachers orient students either towards general secondary schools, technical secondary schools or what are called 'preparatory classes' on the basis of their results in the national tests in German, French and mathematics, and the teachers' overall assessment of students' performance. General secondary is geared towards higher education. Technical secondary leads mainly to vocational education but its highest strand, the technical regime, also allows access to higher education. The proportion of students in the two different tracks was 32 % in the general and 68 % in the technical path in 2013/2014 (MENJE/University of Luxembourg, 2015). Preparatory classes are intended for pupils who either failed or did not sit for the secondary school admission test at the end of primary education. The aim is to prepare pupils to enter vocational education.

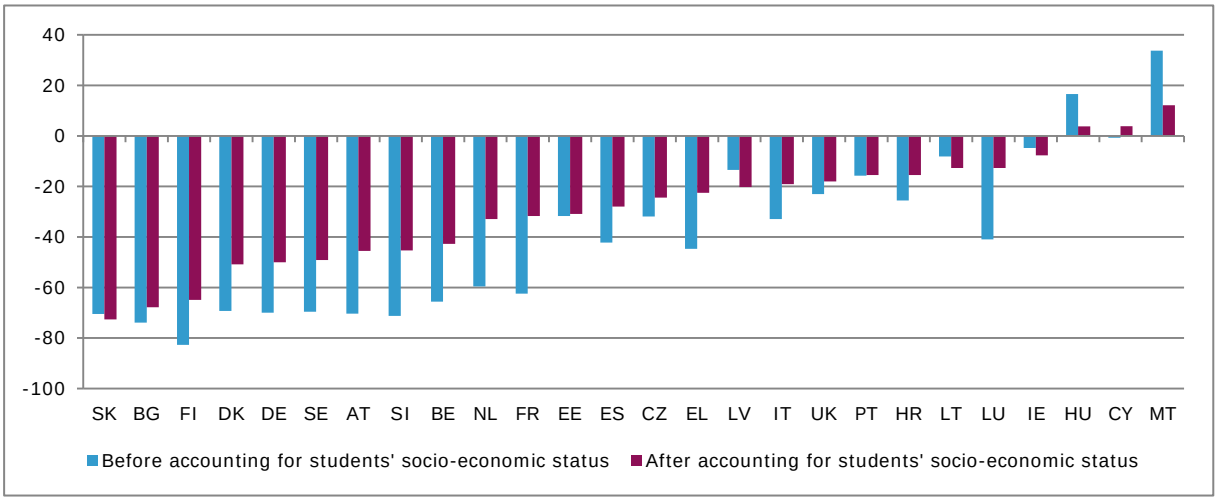
20 In 2014/2015, 47.6 % of Luxembourgish students completing primary education were oriented towards general secondary school, while this was the case for only 12.2 % of Portuguese students and 34.5 % of students of other nationalities (MENJE 2016).

21 Thomas and Collier examined the records of 700 000 language minority students, speaking dozens of home languages, in five school systems between 1985 and 2001. They found that the strongest predictor of learner success at upper secondary level in the dominant (English) language education system was the number of early years of instruction the learners had received in their mother tongue.

instruction throughout primary school (Ball 2014). This suggests that school achievement could be improved by a language system more adapted to children's cognitive development, while this should not harm their language skills.

15-year-olds perform significantly below the EU average in PISA in all three components: mathematics, reading and science. Luxembourg's average performance, already below the EU average, worsened between 2012 and 2015, especially in reading and science. In addition, the proportion of low achievers across all three areas is close to 26 %, much higher than the EU average. The impact of socioeconomic background on performance is the second strongest across EU countries. It outweighs (by 2.7 times) the impact of the language spoken at home (MENJE and the University of Luxembourg 2016) and even the immigrant background. Controlling for socioeconomic status, the performance gap of the children of immigrants is reduced by two thirds (OECD 2017a).

Figure 3. Difference in science achievement between foreign and native-born students (PISA score points) with and without adjustment for socioeconomic status, 2015



Note: Countries are ordered after accounting for students' socioeconomic status. Data are not available for Poland and Romania.
Source: European Commission, DG EAC (2016). "PISA 2015: EU performance and initial conclusions regarding education policies in Europe", based on OECD PISA 2015, URL: https://ec.europa.eu/education/sites/education/files/pisa-2015-eu-policy-note_en.pdf.

In 2016, an ambitious reform was launched to improve access and quality in early childhood education and care. Compulsory education starts at age four, when children enter 2 years of pre-school (*préscolaire*). Virtually all children — 96.6 % — participate. This can be complemented with an optional year of early childhood education (*précoce*) from age 3. The rapid expansion in recent years of private nurseries and day care services made it clear that there was a need for widening access and establishing quality standards in early childhood education. The Act on Youth of April 2016 established national quality standards, with which all providers will need to comply by September 2017. Providers are required to familiarise children aged 1-4 with both Luxembourgish and French to be eligible for the state co-financing scheme (*chèque-service accueil*). Every child is entitled to 20 free hours per week of education and care in eligible providers, with additional free hours for low-income families. From September 2016, the co-financing scheme was extended to commuting workers. Single parents and low-income earners will benefit from tax credits for education and child care costs (OECD 2017a).

Grade repetition

Grade repetition is widely used to tackle the diversity of attainment and behavioural difficulties in class in Luxembourg. Only 40 % of pupils successfully complete secondary schooling in the minimum envisaged number of years, the lowest rate in the OECD (OECD 2014). Grade repetition is particularly frequent in vocational secondary education: while only 9 % of 15-year-old students in general secondary education have repeated a year, the share is 36 % in technical secondary education and 65 % in the preparatory regime (MENJE 2016). Grade repetition is often considered as an assurance of school quality and high standards (OECD 2017a). Teachers believe in its efficacy and schools have few incentives to reduce its level (OECD 2012).

Repeating years is costly[22] for the education system, while the academic benefits are slight and short-term (Klapproth and al. 2016). Related psychological effects are also important: Anderson, Jimerson, and Whipple (2005) found that pupils rated grade repetition as the most stressful life event, similar to the loss of a parent and going blind. Finally, grade repetition increases expenditure on other social services as pupils who experience school failure are more prone to high-risk behaviour and/or dropout (Jimerson, Pletcher and Graydon 2006). A survey among early school leavers showed that school failure was one of the major reasons for interrupting studies (Ministry of Education 2015).

A number of countries have managed to reduce the frequency of grade repetition and in doing so have improved overall performance, e.g. by focusing on early, targeted support, by limiting repetition to the subjects or modules failed instead of whole-year repetition, and by setting objectives and aligning incentives for schools to reduce repetition (OECD 2012). Luxembourg has also taken a number of measures to improve school quality, such as introducing an induction period for beginner teachers in 2016 and increasing the number of hours of compulsory further training for teachers. Since 2009, primary schools have had the obligation to adopt plans for school development, and this is now planned to be extended to secondary schools. Draft legislation submitted in October 2016 provides for 'school development specialists', who will offer individual support to children with special learning needs. Finally, in May 2017 Parliament adopted a Law on guidance, which stipulates that every school must have a local guidance plan[23]. If combined with promoting alternative strategies and targeted incentives, these measures could be instrumental in reversing the culture of repetition.

4. Investing in education and training

General government spending on education has slowed down in recent years. In real terms, it increased by just 3.5 % in the 2010-2015 period, after rising by 65 % in the previous decade. Education spending did not keep pace with growth in either GDP or total public expenditure, falling to 5.2 % and 12.4 % respectively. However, the figure is still above the EU average values of both ratios[24].

Across the OECD, Luxembourg is the country with the highest average spending on education by student per year in primary through tertiary educational institutions: EUR 24 045 compared to an EU-22 average of EUR 10 897 (OECD 2017)[25]. Funding has increased the strongest for higher education and research, from EUR 72 million in 2009 to EUR 154.1 million in 2016.

22 An additional year of schooling for one student generates costs of more than EUR 19 000 (MENJE 2017. L'enseignement luxembourgeois en chiffres. Année scolaire 2015-2016).
23 http://www.men.public.lu/fr/actualites/articles/communiques-conference-presse/2017/05/12-mo/index.html
24 Source: Eurostat, General government expenditure by function (COFOG) database.
25 Figures are in purchasing power standards. There are 22 EU members of the OECD.

Luxembourg has a very mixed population, 46 % of which is foreign-born[26]**.** Among the foreign-born, 86 % are EU nationals[27], who generally achieve high employment participation. In contrast, immigrants of non-EU origin are less successful in the labour market, with high unemployment and high female inactivity (OECD 2017a). On average, immigrants tend to be highly educated: 57.2 % of adult immigrants have a tertiary degree. Due to the high proportion of highly skilled migrants, the employment rate among immigrants (73.8 %)[28] is higher than across the EU (71.2 %) and even than the native-born population (66.1 %).

More than half of the school population has an immigrant background: 21.4 % are first-generation and 30.6 % of 15-year-olds are second-generation immigrants (OECD 2016a). These figures are exceptionally high when compared to other EU Member States. Almost half of pupils with a migrant background have a low socioeconomic status (MENJE and the University of Luxembourg 2016).

5. Modernising school education

Secondary education has been reformed in order better to adapt the school offer to the needs of an increasingly diverse school population. After several years of nationwide debates, the Law on secondary education was adopted in July 2017. The main objective of the reform is to better meet learners' needs by giving schools more autonomy to organise the curriculum, depending on which of the three profiles they would opt for[29]. The school development plans will need to reflect the needs of the school population and cover aspects such as guidance, study success, after-school activities, psycho-social assistance and improving digital skills. The number of subjects in the upper-secondary school leaving exam will be reduced to 6 (down from an average of 10), to allow pupils to focus on the areas matching their further study plans. In vocational education and training, it will be possible to study mathematics at basic or advanced level and guidance will be strengthened to improve study success. In addition to the existing trilingual system, the language choice in public education will be diversified, for example by the opening of a second international public school as of 2017/2018 and by the expansion of English-language education provision to the secondary level in another public school.

Both initial and continuing teacher training have been recently strengthened to enlarge the pool of candidates and improve the quality of teaching. Despite high salaries, there is a shortage of teachers, linked to the requirement to show command of the three official languages. To increase the pool of candidates, the University of Luxembourg launched a master's course for graduates in mathematics, French or German language and literature as a second path to teacher training. At the same time, the teachers' competitive examination was transformed into a simple competition. As from September 2016, a three-year induction period has been introduced for all new teachers, both in primary education (where a similar traineeship did not exist) and in secondary education (replacing the previous two-year programme). Moreover, the hours of compulsory continuing professional development have been doubled to 48 hours every 3 years.

The support system for school quality has been strengthened. Following primary schools, secondary schools now also have the obligation to adopt plans for school development every 3 years. Since September 2016 they are assisted in the design and follow-up of their plans by the Pedagogical and Technological Research and Innovation Coordination Service (SCRIPT). A law adopted in May 2017 replaces the system of inspectorate districts by 15 regional offices. These offices will take over responsibility for the administrative management and pedagogical supervision of primary schools, monitor the implementation of the school development plans and organise support actions for pupils with special educational needs. The law also provides for 'school development specialists' employed by SCRIPT, who will assist schools in their school development plans and offer pedagogical support to teachers. Finally, 150 special education teachers will offer individual support for children with special learning needs at school.

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26 Source: Service Central de la Statistique et des études économiques (2015). Annuaire statistique du Luxembourg

27 Source: Government of Luxembourg: http://www.luxembourg.public.lu/en/le-grand-duche-se-presente/luxembourg-tour-horizon/population-et-multiculturalite/

28 Source: Eurostat, Activity rates by sex, age and citizenship (April 2017).

29 The three possible profiles are: (i) 'future hubs', with an emphasis on ICT, science and new technologies; (ii) entrepreneurial schools; and (iii) schools specialised in sustainable development.

6. Modernising higher education

Luxembourg has set the target of further increasing its tertiary attainment rate among 30-34 year olds to 66 % by 2020. At 54.6 %, the country has the EU's second-highest tertiary attainment rate. This is partly due to the high proportion of the immigrant population with a tertiary degree (57.2 %), compared to 50.9 % among the native-born. Luxembourg has both the largest proportion of international students (44 %) and the largest proportion of national students enrolled in institutions abroad (68 %)[30] among OECD countries (OECD 2016b).

To meet the strong demand for high-skilled workers, Luxembourg has made further adjustments to the 2013 reform of financial aid to students. Following a ruling by the European Court of Justice in 2013, children of commuting workers have also become eligible for state support for their studies. Since September 2016 financial aid has been split into three components: a basic part, a mobility part and a social part, with a view to making the system more equitable. The volume of the aid has been linked to the price index and the amount of the mobility and social parts of the grant have been increased.

7. Modernising vocational education and training and promoting adult learning

Participation in vocational education and training is high but marked by school failure. The proportion of upper secondary students (ISCED 3) in vocational education and training (VET) was 61.4 % in 2015, well above the EU average (47.3 %). The employment rate of recent VET graduates in 2014 was 78.5 %, close to the EU average (75 %). Challenges include high rates of grade repetition and early school leaving (see Section 1). The VET Law was amended in 2016 and has been in application since 2016/2017. The main objective of the reform is to improve the qualitative skill sets and study success rates of students. To better match supply and demand and prevent youth unemployment, the 'Talent Check' initiative was launched in 2016. This is a competence test developed by the Chamber of Commerce to assist learners in their choice of a suitable training place by making them aware of their own strengths and weaknesses. Companies can also make use of candidates' test results when selecting apprentices.

Adult participation in lifelong learning is high but needs to be strengthened for low-skilled people to improve their employability. At 16.8 %, the participation of adults in lifelong learning is considerably higher than the EU average but much lower among low-skilled workers (at 6.9 %), bringing with it the risk of outdated skills and early retirement. The employment rate for older workers is among the lowest in the EU (39.2 %), so it is important to improve the participation in lifelong learning for this age cohort in particular (European Commission 2017). The government intends to progressively implement the national lifelong learning strategy[31], which addresses participation and quality issues in adult education. In July 2017, an amendment to the Labour Law was adopted[32], reorganising the State's co-financing provisions for training provided by companies, which has sparked a broad stakeholder debate, notably among social partners. As of September 2017, the Second Chance School (*École de la 2e chance*) will offer training corresponding to the curriculum of the final year of upper secondary school, leading to a diploma for entry to higher education (*diplôme d'accès aux études supérieures - DAES*). This will give adults without an upper-secondary school leaving diploma a second chance to obtain a recognised certification and access higher education.

Specific provisions are in place to assist the integration of immigrants. Foreign-born adults can benefit from a national programme entitled 'Welcome and Integration Contract' (*Contrat d'Accueil et d'Intégration, CAI*), started in 2011. Participants commit to attending, over a two-year period, an orientation day to get acquainted with public services, a free civic instruction course on Luxembourgish history, culture and institutions, and up to three courses in Luxembourg's three national languages.

[30] State support is available for all students regardless of the country they study in.
[31] http://www.gouvernement.lu/6854330/2017-pnr-luxembourg-en.pdf
[32] http://www.chd.lu/wps/portal/public/Accueil/TravailALaChambre/Recherche/RoleDesAffaires?action=doDocpaDetails&backto=/wps/portal/public/Accueil/Actualite&id=6883

CONSTRUCEC: Technical training for construction workers

A project in Luxembourg enables construction workers to upgrade their skills to meet companies' needs and regulatory requirements and to sustain their employability in the long run. The 'Institut de Formation Sectoriel du Bâtiment' (Institute for Building Sector Training) provides courses of 1 to 6 weeks in a wide range of subjects such as construction techniques, low-energy-consumption buildings and health and safety at the workplace.

ESF contribution : EUR 293 700
Duration: July 2015 – December 2017
Number of participants by July 2016: 243

8. References

Anderson, Jimerson, and Whipple (2005): Anderson, G.E., Jimerson, S.R., Whipple, A.D., *Students' ratings of stressful experiences at home and school: Loss of a parent and grade retention as superlative stressors.* Journal of Applied School Psychology.
http://www.tandfonline.com/doi/abs/10.1300/J370v21n01_01

Ball, J. (2014): *Children Learn Better in Their Mother Tongue,* Global Partnership for Education.
http://www.globalpartnership.org/blog/children-learn-better-their-mother-tongue

Chambre de Commerce (2014): *Actualité & tendances*, Bulletin économique de la Chambre de Commerce. http://www.cc.lu/uploads/media/A_T_16_Oct_2014.pdf

Janta and Harte (2016): B. Janta and E. Harte, *Education policy responses for the inclusion of migrant children in Europe*, RAND Europe.
http://www.rand.org/content/dam/rand/pubs/research_reports/RR1600/RR1655/RAND_RR1655.pdf

Jimerson, Pletcher and Graydon (2006): Jimerson, S., Pletcher, S., Graydon, K. (2006), *Beyond grade retention and social promotion: Promoting the social and academic competence of students*, Psychology in the schools, Vol. 43, No.1.
http://tartarus.ed.utah.edu/users/daniel.olympia/Prelim%20Readings/Articles/Practice/Jimerson%20%282006%29.pdf

Klapproth and al. (2013): Klapproth, F., Krolak-Schwerdt, S., Hörstermann, T., & Martin, R., *Predictive validity of tracking decisions: Application of a new validation criterion. In M. Spiliopoulou (Eds.), Data analysis, machine learning, and knowledge discovery. Studies in classification, data analysis, and knowledge organization.* https://link.springer.com/chapter/10.1007/978-3-319-01595-8_7

Klapproth and al. (2016): Klapproth, F., Schaltz, P., Brunner, M., Keller, U., Fischbach, A., Ugen, S., Martin, R., *Short-term and medium-term effects of grade retention in secondary school on academic achievement and psychosocial outcome variables in Learning and Individual Differences* August 2016. http://orbilu.uni.lu/handle/10993/28207

Martin et al. (2012): Martin, R., Ugen, S., Fischbach, A., Muller, C., Brunner, M., *Schlussfolgerungen*, R. Martin, M. Brunner (Eds.), Épreuves Standardisées. Nationaler Bericht 2011-2012.
https://www.researchgate.net/publication/286442457_Schlussfolgerungen_Conclusions

MENJE (2016), Ministère de l'Éducation Nationale, de l'Enfance et de la Jeunesse, *Les chiffres clés de l'éducation nationale – statistiques et indicateurs 2014/2015*.
http://www.statistiques.public.lu/fr/publications/thematique/conditions-sociales/chiffres-cles-education-2015/Chiffrescles201415.pdf

MENJE (2017a), Ministère de l'Éducation Nationale, de l'Enfance et de la Jeunesse, *Le décrochage scolaire – Année scolaire 2014/2015*. http://www.men.public.lu/catalogue-publications/secondaire/statistiques-analyses/decrochage-scolaire/decrochage-14-15/fr.pdf

MENJE (2017b), Ministère de l'Éducation Nationale, de l'Enfance et de la Jeunesse, *Rapport d'activité 2016*. http://www.men.public.lu/fr/actualites/publications/themes-transversaux/rapports-activites-ministere/rapport-activite-2016/index.html

Ministère de l'Éducation Nationale, de l'Enfance et de la Jeunesse and University of Luxembourg (2016), PISA 2015: *Rapport National Luxembourg*. http://www.men.public.lu/fr/actualites/publications/secondaire/pisa/pisa-2015-rapport/index.html

MESR (2016) Ministère de l'Enseignement supérieur et de la Recherche, *Chiffres clés de l'enseignement supérieur 2015–2016.*

MESR (2017), Rapport d'activité 2016 du Ministère de l'Enseignement supérieur et de la Recherche. http://www.gouvernement.lu/6875441/2016-rapport-activite-mesr

OECD (2010), *PISA 2009 Results: What Students Know and Can Do: Student Performance in Reading, Mathematics and Science (Volume I).* http://dx.doi.org/10.1787/9789264091450-en

OECD (2012), *Equity and Quality in Education: Supporting Disadvantaged Students and Schools*. http://dx.doi.org/10.1787/9789264130852-en

OECD (2014), *Education at a Glance 2014: OECD Indicators*. http://dx.doi.org/10.1787/eag-2014-en

OECD (2016a), *PISA Volume I 2015*: Table I.7.1, Last updated: 5 Dec 2016. http://dx.doi.org/10.1787/888933433226

OECD (2016b), *Education at a Glance 2016: OECD Indicators*. http://dx.doi.org/10.1787/eag-2016-en

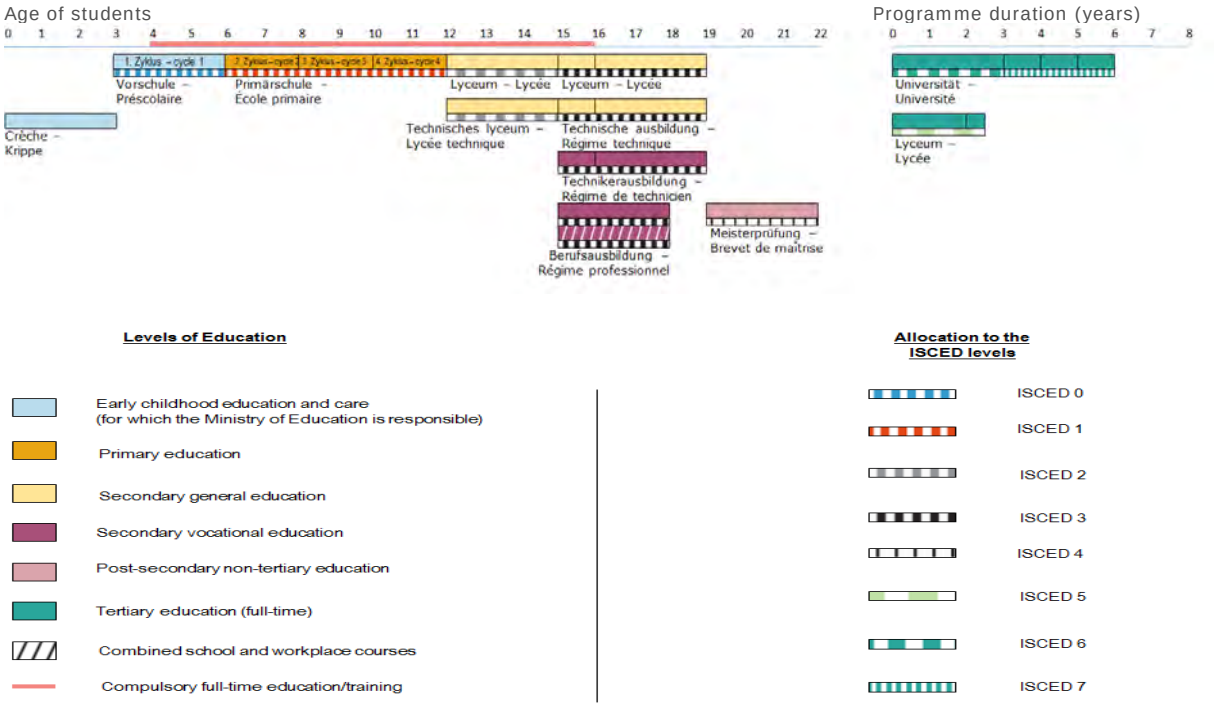
OECD (2017a), *Economic Survey of Luxembourg 2017*, OECD Publishing, Paris. http://dx.doi.org/10.1787/eco_surveys-lux-2017-en

OECD (2017b), *Education at a Glance 2017: OECD Indicators.* OECD Publishing, Paris. http://dx.doi.org/10.1787/eag-2017-en

9. Annex I. Key indicator sources

Indicator	Eurostat online data code
Early leavers from education and training	edat_lfse_02 + edat_lfse_14
Tertiary educational attainment	edat_lfse_03 + edat_lfs_9912
Early childhood education and care	educ_uoe_enra10 + tps00179
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	educ_uoe_mobg03

10. Annex II. Structure of the education system



Source: European Commission/EACEA/Eurydice, 2016. *The Structure of the European Education Systems 2016/17: 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:
Livia RUSZTHY
livia.ruszthy@ec.europa.eu
or
EAC-UNITE-A2@ec.europa.eu

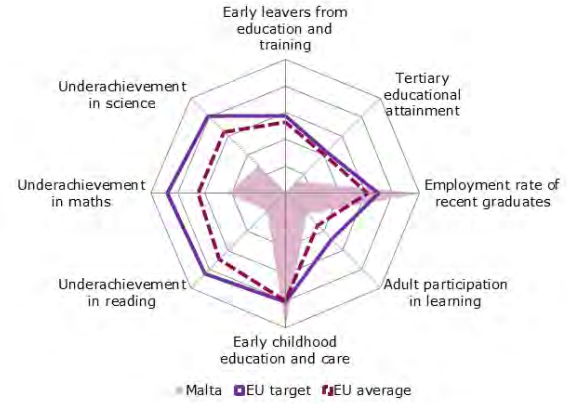
MALTA

1. Key indicators

			Malta		EU average	
			2013	2016	2013	2016
ET 2020 benchmarks						
Early leavers from education and training (age 18-24)	Total		20.5%	19.6%	11.9%	10.7%
Tertiary educational attainment (age 30-34)	Total		26.0%	29.8%	37.1%	39.1%
Early childhood education and care (ECEC) (from age 4 to starting age of compulsory education)			100.0% [12]	100.0% [15]	93.9% [12]	94.8% [15]
Proportion of 15 year-olds with underachievement in:	Reading		: [12]	35.6% [15]	17.8% [12]	19.7% [15]
	Maths		: [12]	29.1% [15]	22.1% [12]	22.2% [15]
	Science		: [12]	32.5% [15]	16.6% [12]	20.6% [15]
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-8 (total)		92.1%	96.6%	75.4%	78.2%
Adult participation in learning (age 25-64)	ISCED 0-8 (total)		7.6%	7.5%	10.7%	10.8%
Other contextual indicators						
Education investment	Public expenditure on education as a percentage of GDP		5.8%	5.5% [15]	5.0%	4.9% [15]
	Expenditure on public and private institutions per student in € PPS	ISCED 1-2	€8 189	€8 461 [14]	:	: [14]
		ISCED 3-4	€8 421	€7 155 [14]	:	: [14]
		ISCED 5-8	€30 324	€11 333 [14]	:	: [14]
Early leavers from education and training (age 18-24)	Native-born		20.3%	19.5%	11.0%	9.8%
	Foreign-born		25.6% [u]	:	21.9%	19.7%
Tertiary educational attainment (age 30-34)	Native-born		24.5%	29.3%	37.8%	39.9%
	Foreign-born		45.4%	35.4%	33.4%	35.3%
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-4		90.7%	95.7%	69.4%	72.6%
	ISCED 5-8		93.1%	97.0%	80.7%	82.8%
Learning mobility	Inbound graduates mobility (bachelor)		3.2%	1.7% [15]	5.5%	6.0% [15]
	Inbound graduates mobility (master)		12.6%	7.2% [15]	13.6%	15.1% [15]

Sources: Eurostat (see section 9 for more details); OECD (PISA). Notes: data refer to weighted EU average, covering a different numbers of Member States depending on the source; b = break in time series, d = definition differs, e = estimated, p = provisional, u = low reliability, 12 = 2012, 14 = 2014, 15 = 2015. On learning mobility, the EU average is calculated by DG EAC based on available country data in all years. Further information is found in the respective section of Volume 1 (ec.europa.eu/education/monitor).

Figure 1. Position in relation to strongest (outer ring) and weakest performers (centre)



Source: DG Education and Culture calculations, based on data from Eurostat (LFS 2016) and OECD (PISA 2015). Note: all scores are set between a maximum (the strongest performers visualised by the outer ring) and a minimum (the weakest performers visualised by the centre of the figure).

2. Highlights

- Malta is investing heavily in its education and training system.
- Despite steady progress, the early school leaving rate is still high and tertiary educational attainment remains low.
- The reform of secondary education has been launched and could help reduce early school leaving.
- Transition from education to the labour market is easier than in most other EU countries
- Adult participation in learning is relatively low, particularly among the low-skilled.

3. Tackling inequalities and promoting inclusion

Despite significant improvement in recent years, the early school leaving (ESL) rate continues to be a challenge, but the proportion of NEET's is lower than the EU average. In 2016 Malta had the highest ESL rate in the EU. While there has been a significant reduction in ESL, from 27.2 % in 2008 to 19.6 % in 2016, Malta is still far from reaching its ambitious Europe 2020 national target of 10 %. The gender gap (male rate minus female rate) is well above the EU average, at 7.3 pp compared to the EU average difference of 3 pps. The proportion of 15- to 24-year-olds not in employment, education or training (NEET's) was 8.6 % in 2016, well below the EU average of 11.5 %. In July 2016 Malta launched the second cycle of its NEET Activation scheme, aimed at training, upskilling and providing work experience to 150 participants a year.

Learning outcomes are strongly influenced by socio-economic background and type of school. Basic skills attainment among young people, as measured by the OECD's Programme for International Student Assessment (PISA), has improved somewhat between 2009 and 2015, but remains weak. 15-year olds continue to perform below the EU average, and improvement was only significant in mathematics. Socio-economic status strongly influences student performance (European Commission, 2016), as does the type of school, with 'independent' (i.e. private) school students performing best, followed by Church school pupils and then State school pupils. The 2015 Trends in International Mathematics and Science Study (TIMSS) survey of 13-14 year olds confirmed these findings (Ministry for Education and Employment, 2016).

Participation in early childhood education for children aged four and five is now universal: this may help lower later early school leaving. To improve quality in early childhood education and care, the government has put forward the Education Act on Professions in Education. The Act regulates the profession of kindergarten assistants working with 3-4 year olds, but does not cover those working in child-care centres with younger children. A reform of pre-school educators' initial training was launched with the creation of the B.A. (Hons) in Early Childhood Education in October 2016. Students graduating at Level 5 in Early Childhood Education and Care from MCAST (Malta College of Arts, Science and Technology - provider of advanced vocational training) can progress to join the third year students in the University of Malta's B.A. course.

The proportion of non-Maltese pupils in schools is increasing, and the biggest integration challenge relates to those whose first language is not English. According to data from the Ministry for Education and Employment, in 2014/2015, they made up 7.4 % of total pupils in primary schools and 4.9 % in secondary schools; they came from around 70 different countries, the largest groups being from the UK, Italy, Libya and Bulgaria. As from the 2015/2016 school year, non-English-speaking students are being offered a one-year induction course in basic functional English and Maltese. This is delivered by trained teachers, language support assistants and parent leaders, who support both students and parents. As from 2015/2016, MCAST has been offering a course in functional Maltese for non-Maltese speaking students at post-secondary level, as well as additional learning support in English through its Learning Support Unit. ITS has also launched courses on Maltese for Tourism and English for Tourism as from 2016. In order to address

the issue of the language of instruction, the government has finalised its language policy for the early years aimed at 3- to 7-year-olds (Ministry for Education and Employment, 2017). This endorses a total immersion approach to both languages, and teachers are encouraged to code-switch depending on the children's linguistic abilities. Greater linguistic engagement is encouraged at home and some language mediation is included. If properly implemented, the policy could improve learning outcomes for pupils who are not proficient in English.

Malta is implementing a range of measures designed to prevent or compensate for early school leaving. The 'Alternative Learning Programme' (ALP) has been offered for the fourth consecutive year. It is aimed at students who are reaching the end of compulsory schooling, but who clearly demonstrate that they will not attain the desired qualification and who are at high risk of becoming early school leavers. The programme comprises a range of vocational pathways and student support services. In 2016/17 the ALP had an intake of 154 students. A centre in Paola now consists of 22 workshops/labs covering engineering, plumbing, auto mechanics, hospitality and multimedia studies; it offers hospitality equipment, as well as salons for personal care and beauty studies. The programme has a strong vocational component and students are expected to continue with their education or training in a full-time higher education institution or in other lifelong learning institutions on a part-time basis. In 2016/17 the government launched the Alternative Learning Programme Plus (ALP+) which enables students to continue their learning experience at a post-secondary level, while receiving a monthly grant.

Box 1: 'My Journey" – Making secondary education more relevant and inclusive

The government is working on a reform called 'My Journey; Achieving thorugh different paths' to be implemented in lower secondary school in the school year 2019/2020 in order to move from a 'one size fits all' system to more inclusive and equity -oriented programmes catering to pupils' individual aptitudes. In this regard, Malta is set to introduce learning outcomes instead of prescribed syllabi. The aim is to promote inclusion and respond to diversity by allowing students to choose from several education routes among general, vocational or applied subjects for their elective subjects (beyond the core curriculum). Under the current system, students are focused mainly on areas of general education, e.g. science, business etc. But in the past few years, a number of vocational subjects were introduced and learning outcomes developed to be offered at levels 1-3 on the Maltese Qualifications Framework.

'My Journey' introduces applied subjects, thus changing the secondary education system (beyond core curriculum) into three main streams: general, which reflects current subjects offered; vocational subjects which build on existing ones; and applied subjects. Once the new system is in place students will be able to choose either an individual pathway or a mix of the three. The reform is intended to promote inclusion and to reduce the number of early school leavers by making education relevant to more students and to a changing labour market.

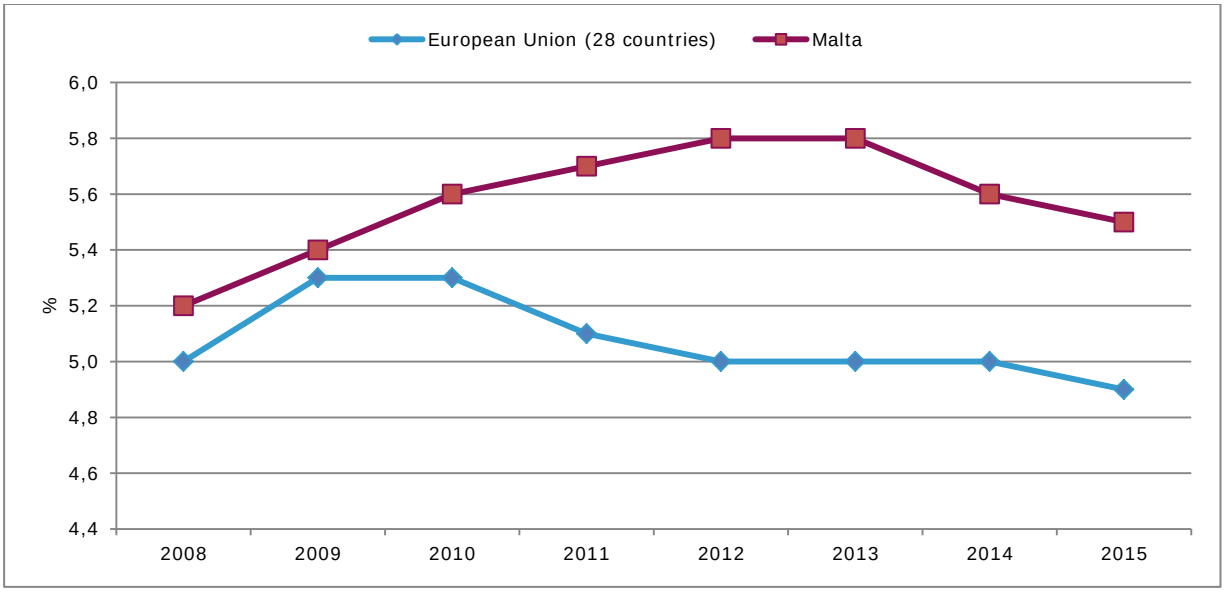
The Ministry for Education and Employment is working on the infrastructure needed to implement the system in local schools. It has set up a committee to ensure teacher readiness through appropriate initial teacher training, re-training of existing teachers and up-skilling and professionalising of trainers who are skilled in a specific sector, but who do not possess teacher training. The committee is comprised of the Faculty of Education of the University of Malta, the Institute of Tourism Studies, MCAST, and the Institute for Education. Haaga-Helia University of Applied Sciences in Finland will assist with the training of teachers in vocational education.

http://www.myjourney.edu.mt/wp-content/uploads/2017/02/MY-JOURNEY-BOOKLET-WEB-UPLOAD-24FEB17.pdf

4. Investing in education and training

Despite significant investment in the education system, basic skills attainment among young people remains below EU average. Malta's expenditure on education is relatively high compared to the EU average, both as a share of GDP (5.6 % as compared to 5.0 %) and as a proportion of total public expenditure (13.3 % against 10.3 %).

Figure 2. General government expenditures on education in Malta and EU 28 (%) from 2008 - 2015



Source: Eurostat (GOFOG, 2008 - 2015). Online data code: gov10_a_exp.

Employment rates are above the EU average at all qualification levels, but overall Malta's workforce remains relatively low-qualified, despite significant improvements in recent years. Malta has the highest proportion of low-qualified adults in the EU, as 56.5 % of those aged between 25 and 64 has at most a level of education equivalent to lower secondary education (ISCED 0-2). In addition, the share of low-qualified youth (25-24 years-old) is among the highest in the EU (37.1% vs. 16.6%). In comparison to the native population, the foreign-born population has on average a higher skills: in 2015, 31.3 % of foreigners living in Malta had tertiary education (ISCED levels 5-8), compared with 18.5 % among the native population. As a result, they are able to take up higher-skilled jobs, thus filling skill shortages in growth areas, such as ICT, accounting and finance and science, where the number of native graduates is not sufficient to meet market demands (see also section 6).

5. Modernising school education

Malta has taken steps to improve basic and digital skills in schools. Following the positive evaluation of a 2015 pilot project for using mobile technology in primary schools as part of the 'One Tablet per Child' initiative, in December 2016, every child in Year 4 (i.e. nine years old) was provided with a tablet computer intended to help improve reading, writing, numeracy and digital literacy skills. Training was provided to 26 specialised teachers who in turn trained 473 Year 4 teachers and Learning Support Assistants (LSAs) during the September 2016 in-service teacher training.

The reform of the national curriculum has led to the development of learning outcomes for all subjects within all educational cycles of compulsory education. Learning outcomes will be used to benchmark and record the educational development of each Maltese student in

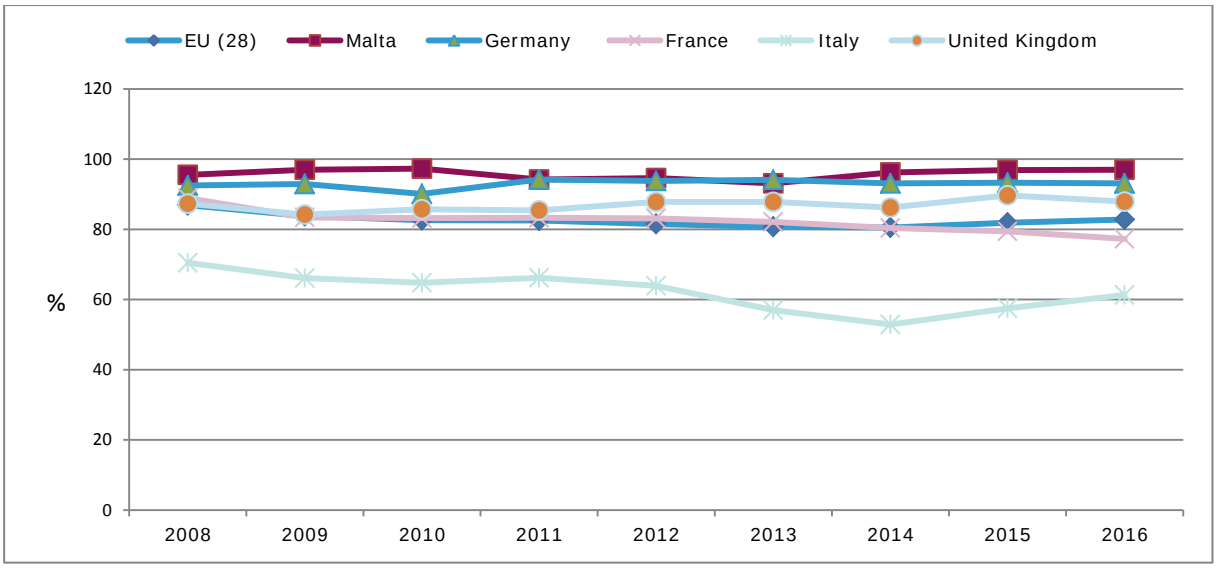
compulsory education. The reform aims to move away from a prescriptive curriculum based on standalone subjects, towards a framework which allows for internal flexibility and promotes inclusiveness, citizenship and employability. Preparations are underway at the University of Malta's Faculty of Education to open initial teacher-training courses within the Master in Teaching and Learning to the new vocational and applied subjects in order to ensure a supply of trained teachers when the reform is launched in October 2019.

Malta continues to invest in the training of teachers. Teacher training has been moved from a Bachelor's degree to Master's level. This reform is being implemented by the Faculty of Education at the University of Malta in consultation with the Ministry for Education and Employment. Continuous professional development for teachers is provided mainly by the Institute for Education, which started to offer courses this year and is taking on a greater role in the training of teachers, having obtained a 5-year licence as a further and higher education institution by the National Commission for Further and Higher Education (NCFHE). The insititute is tasked with developing accredited learning programmes and offers a range of accredited courses including periodic stand-alone courses, both shortand long. It also offers courses for unqualified teachers in schools to help them build their professional skills.

6. Modernising higher education

The tertiary educational attainment rate is rising steadily but remains below the EU average. The rate for people aged 30-34 increased by 6.4 percentage points over the last five years, but at 29.8 % in 2016 it remains one of the lowest in the EU. At the same time, the employment rate of recent tertiary graduates increased by almost 4 percentage points between 2013 and 2015 and is now the highest in the EU, at 97 % (Figure 3). The gender gap (female rate minus male rate) is relatively low: 5 pp against 9.5 pp EU-wide. Inbound graduate mobility is rather high at Master's level. The government supports access to tertiary education by ensuring that it is free for Maltese students, as well as to those coming from EU and EEA countries and by providing grants to Maltese students enrolled in courses in MCAST and the University of Malta. Student attending the Institute of Tourism Studies (ITS) receive a grant of EUR 233 to cover expenses related to their studies.

Figure 3. Employment rate of recent graduates in Malta and EU 28



Source: Eurostat (LFS, 2008 - 2016). Online data code: edat_lfse_24.

The Higher Education sector has undergone significant changes in recent years. It evolved from having one State funded tertiary institution, the University of Malta, to having two additional Bachelor-awarding State institutions, MCAST and ITS, and a number of other institutions awarding select qualifications, certificates, diplomas, higher diplomas, degrees and/or representing foreign

Universities through local campuses, which award foreign degrees. The University of Malta has implemented changes to its entry requirements for students with learning difficulties. The changes come into force with the round of admissions in October 2017, and while it will be easier for those with special needs to be admitted to University, the relaxation of entry requirements will only apply to non-core subjects. MCAST has been reorganised into a three-college structure (Foundation College, Technical College and University College), to ensure a smooth progression from MQF/EQF 1 to MQF/EQF 6 and 7 programmes. As from September 2017, ITS is also offering vocational Bachelor Degrees in tourism and hospitality. A new foreign University, the American University of Malta, is to open its doors in the next academic year 2017/2018. A new medical school is set to open in Gozo by Barts and the London School of Medicine and Dentistry.

Malta is introducing measures aimed at improving governance and quality in higher education institutions. In April 2017 the Ministry for Education and Employment launched a public consultation on the new University of Malta Act. The Act aims at developing a sustainable framework to support higher education institutions and to improve the quality of teaching and learning. The proposed new measures include a requirement for all higher education staff to have pedagogical training, as well as changes to the University of Malta's current governance system (University of Malta, 2017). The Quality Assurance (QA) Committee was set up in May 2015 with the remit of reviewing Levels 7 and 8 qualifications prior to accreditation. During its first two years of operation, as part of the project 'Consolidating Quality Assurance and Validation in Higher Education in Malta', the QA Unit will also update the National Quality Assurance Framework for Further and Higher Education and the External Quality Assurance Manual.

There are some specific measures to promote tertiary education in disadvantaged areas where take-up is low. The University of Malta's Cottonera Resource Centre, set up to act as a bridge between communities in the inner harbour area and the University with the objective of providing information, support and guidance to those interested in furthering their education. The Centre relies mainly on volunteers. Supplementary grants are provided for students from low socio-economic background in order to further encourage take-up of further and higher education. MCAST's Foundation College enables students who left compulsory education without the necessary qualifications to re-engage with education and training. Students who achieve an MQF/EQF 3 qualification from the Foundation College can proceed to MQF/EQF levels 4, 5, 6, and in certain areas level 7, and complete a degree at MCAST's University College.

Several initiatives aim to increase the number of graduates in science subjects. These include the extension of the Material Engineering Lab and the Mathematics and Physics buildings plus a new Transdisciplinary Research and Knowledge Exchange (TRAKE) complex at the University of Malta. A hub for science communication, called 'Esplora', opened to the public in October 2016, with the aim of stimulating interest in science, research and innovation among young people and encouraging them to pursue careers in science and technology. The MCAST Research Framework plans to set up a Research Committee to encourage the transfer of knowledge between academics, students and industry.

The University of Malta continues to promote entrepreneurship through its Centre for Entrepreneurship & Business Incubation (CEBI). The Centre is currently targeting knowledge-intensive sectors such as science, technology, engineering, and creative media and establishing links between the University of Malta and enterprises. Training on product development, business management and other business related topics will be part of a programme targeted at candidates looking to set up their own business. The TAKEOFF Seed Fund Award is again being offered in 2017. This initiative can provide young graduates as well as academics with the necessary financial, legal and management support to develop their ideas and innovations into actual products.

7. Modernising vocational education and training and promoting adult learning

Malta has the highest employment rate for recent VET graduates, but adult participation in learning remains a challenge. The proportion of upper secondary students (ISCED 3) in Malta in vocational education and training (VET) slightly decreased in 2015 to 12.7. Conversely, the employment rate of recent VET graduates in 2016 was the highest in the EU (96.2 %, vs 75%). Malta is having to rely on foreign workers to cover labour shortages. A teacher training programme on the content, pedagogy and assessment of vocational subjects has been offered to secondary school teachers who expressed an interest in teaching vocational subjects. The Government is planning to introduce applied learning subjects to complement the vocational subjects.

The supply and quality of apprenticeships is increasing. The Ministry for Education and Employment and the MCAST cooperate with national and European stakeholders in developing policies and measures to implement quality apprenticeships in local industry. MCAST has increased the number of vocational pathways offered through apprenticeships and will increase the quality of work-based learning through the formal accreditation of work-based modules. Almost all MQF/EQF 4 courses at MCAST have an apprenticeship component as do a number of MQF/EQF 3 courses. MQF/EQF 5 and 6 students at MCAST are offered internships while other forms of work-based learning are encouraged across the board. Once finalised, the "Work-based Learnining and Apprecentiship Act" will provide an harmonised legal framework for work placements, apprenticeships and internships.

The low participation rate of low-skilled adults in learning continues to be a challenge. Adult participation in learning increased slightly in 2016 to 7.5 %, but it is still low in comparison to the EU average of 10.8 %. One of the main challenges remains to increase participation among low-skilled adults (3,0% in 2016) in order to strengthen labour supply. The national VET policy proposes strategic measures targeted at adults, including career guidance, CVET programmes to retrain/up-skill workers in declining sectors, and framework and financial initiatives for employers to invest in CVET dedicated to the low-skilled. In 2017, the Maltese PES launched two initiatives to encourage individuals to develop their skills (Investing in Skills; Training Pays). Emphasis has also been placed on raising the professional profile of adult educators through a National Diploma in Teaching Adults. Malta is building a national framework for the validation of non-formal and informal learning and a skills forecasting and anticipation system. Skills profiling is part of the initial assessment for unemployed people at the Public Employment Service (JobsPlus), leading to an individualised action plan. In addition, the National Skills Council was set up in December 2016 to improve governance, by bringing together the worlds of education and skills.

Box 2: Making VET Education More Relevant and Attractive with the support of the ESF

Project Cost: EUR 7,606,636
Beneficiary: Malta College of Arts, Science and Technology (MCAST)

The project aimed at improving the quality of VET, to make it more economically relevant and attract more students into further and higher education. A substantial upgrading exercise within vocational education was conducted. A number of existing courses were re-designed so as to become more relevant to current economic needs. New courses were designed and launched. Thus MCAST's offerings became more attractive to a larger cohort.

The project's results were:

1) The redesign of 38 courses and accreditation of these. It is estimated that 450 students will progress and further their studies and that 193 will be able to join the job market. It is further estimated that, of these, 154 will within a period of 12 months of certification acquire a job relevant to their studies.

2) The increase of MCAST's course offerings: 14 in Malta and 16 in Gozo. It is estimated that 80% of their graduates will find a job related to their studies within 12 months of their certification.

3) 25% of the certified / licensed students will find employment within the first year after course completion, while others will opt to further their studies and remain in the education system.

4) 16 members of staff who will be employed during the project will retain their job after the project is implemented.

http://ec.europa.eu/esf/main.jsp?catId=46&langId=en&projectId=316

8. References

CEDEFOP, (2015), *Country Forecasts: Skill supply and demand up to 2025*
http://www.cedefop.europa.eu/en/publications-and-resources/country-reports/malta-skills-forecasts-2025

European Commission, (2016), *PISA 2015: EU performance and initial conclusion regarding education policies in Europe*
https://ec.europa.eu/education/news/20161206-pisa-2015-eu-policy-note_en

European Commission, *2017 European Semester: Country Report – Malta*
https://ec.europa.eu/info/sites/info/files/2017-european-semester-country-report-malta-en.pdf

Ministry for Education and Employment, (2017), *A language Policy for the Early Years in Malta and Gozo*
https://education.gov.mt/en/Documents/A%20Language%20Policy%20for%20the%20Early%20Years.pdf

Ministry for Education and Employment, (2016), *TIMSS 2015 National Report, Malta: Ministry of Education and Employment*
https://curriculum.gov.mt/en/international_studies/Documents/TIMSS_2015_Malta_Report.pdf

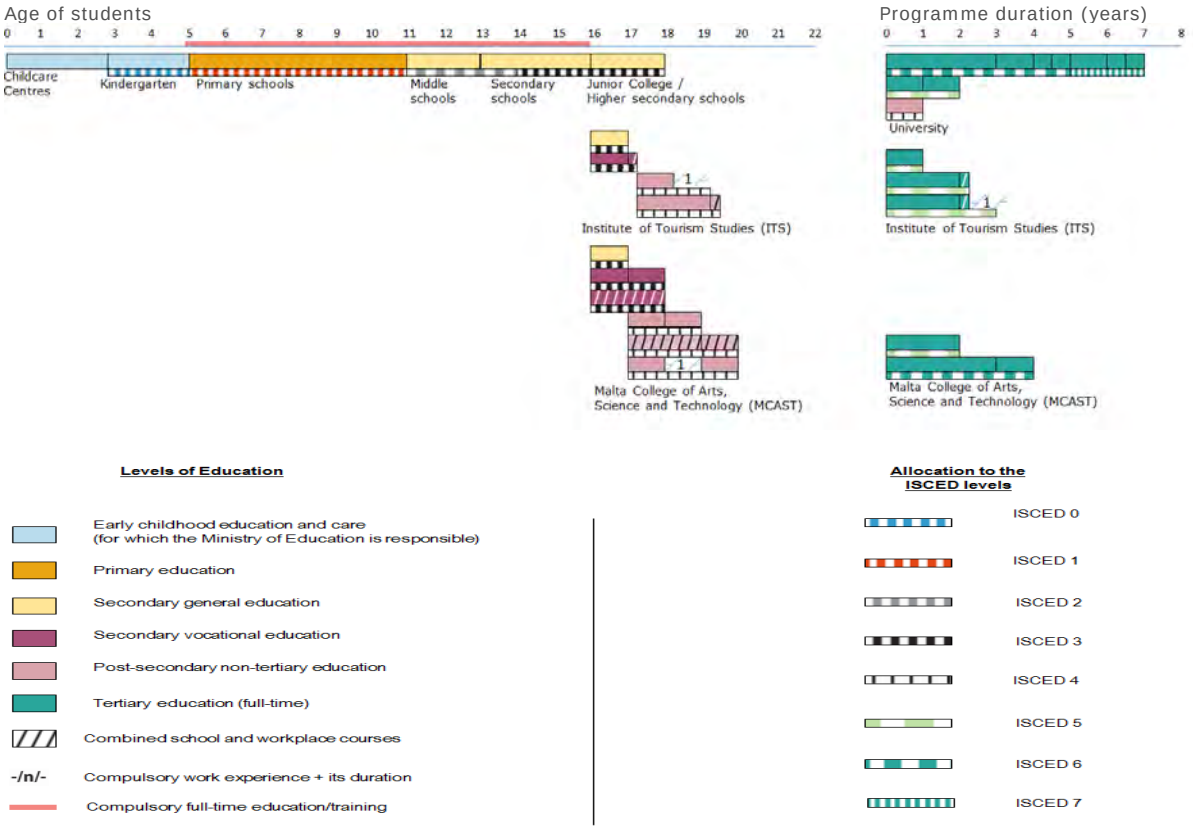
Ministry for Finance, (2017), *Malta National Reform Programme*
http://mfin.gov.mt/en/Library/Documents/NRP/NRP_2017.pdf

University of Malta, (2017), *Open Consultation: University of Malta Act*
https://www.um.edu.mt/newspoint/news/features/2017/04/openconsultationuniversityofmaltaact

9. Annex I. Key indicator sources

Indicator	Eurostat online data code
Early leavers from education and training	edat_lfse_02 + edat_lfse_14
Tertiary educational attainment	edat_lfse_03 + edat_lfs_9912
Early childhood education and care	educ_uoe_enra10 + tps00179
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	educ_uoe_mobg03

10. Annex II. Structure of the education system



Source: European Commission/EACEA/Eurydice, 2016. *The Structure of the European Education Systems 2016/17: 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:
Grazia ROMANI
grazia.romani@ec.europa.eu

or
EAC-UNITE-A2@ec.europa.eu

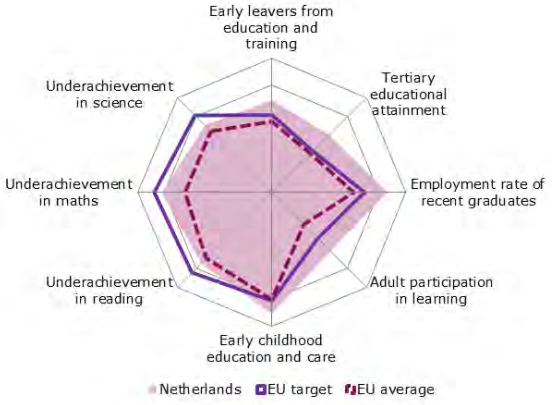
NETHERLANDS

1. Key indicators

			Netherlands 2013	Netherlands 2016	EU average 2013	EU average 2016
ET 2020 benchmarks						
Early leavers from education and training (age 18-24)	Total		9.3%	8.0%	11.9%	10.7%
Tertiary educational attainment (age 30-34)	Total		43.2%	45.7%	37.1%	39.1%
Early childhood education and care (ECEC) (from age 4 to starting age of compulsory education)			99.6% [12]	97.6% [15]	93.9% [12]	94.8% [15]
Proportion of 15 year-olds with underachievement in:	Reading		14.0% [12]	18.1% [15]	17.8% [12]	19.7% [15]
	Maths		14.8% [12]	16.7% [15]	22.1% [12]	22.2% [15]
	Science		13.1% [12]	18.5% [15]	16.6% [12]	20.6% [15]
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-8 (total)		86.0%	90.1%	75.4%	78.2%
Adult participation in learning (age 25-64)	ISCED 0-8 (total)		17.9%	18.8%	10.7%	10.8%
Other contextual indicators						
Education investment	Public expenditure on education as a percentage of GDP		5.4%	5.4% [15]	5.0%	4.9% [15]
	Expenditure on public and private institutions per student in € PPS	ISCED 1-2	€7 315	€7 394 [14]	:	: [14]
		ISCED 3-4	€8 977	€9 154 [14]	:	: [14]
		ISCED 5-8	€13 944	€14 041 [14]	:	: [14]
Early leavers from education and training (age 18-24)	Native-born		9.2%	7.9%	11.0%	9.8%
	Foreign-born		11.3%	8.3%	21.9%	19.7%
Tertiary educational attainment (age 30-34)	Native-born		45.9%	48.2%	37.8%	39.9%
	Foreign-born		29.3%	32.4%	33.4%	35.3%
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-4		80.3%	85.1%	69.4%	72.6%
	ISCED 5-8		90.7%	94.2%	80.7%	82.8%
Learning mobility	Inbound graduates mobility (bachelor)		9.4%	10.0% [15]	5.5%	6.0% [15]
	Inbound graduates mobility (master)		20.4%	21.8% [15]	13.6%	15.1% [15]

Sources: Eurostat (see section 9 for more details); OECD (PISA). Notes: data refer to weighted EU average, covering a different numbers of Member States depending on the source; b = break in time series, d = definition differs, e = estimated, p = provisional, u = low reliability, 12 = 2012, 14 = 2014, 15 = 2015. On learning mobility, the EU average is calculated by DG EAC based on available country data in all years. Further information is found in the respective section of Volume 1 (ec.europa.eu/education/monitor).

Figure 1. Position in relation to strongest (outer ring) and weakest performers (centre)



Source: DG Education and Culture calculations, based on data from Eurostat (LFS 2016) and OECD (PISA 2015). Note: all scores are set between a maximum (the strongest performers visualised by the outer ring) and a minimum (the weakest performers visualised by the centre of the figure).

2. Highlights

- The downward trend in early school leaving continued in 2016.
- Despite good overall school performance, there has been a decline in basic skills and an increase in educational inequality.
- The school performance and employment situation of young people from an immigrant background remains an important challenge.
- The Netherlands faces an increasing shortage of teachers.
- Following the transition from the grant-based system to student loans, enrolments dropped in higher education in 2015 but recovered in 2016.

3. Tackling inequalities and promoting inclusion

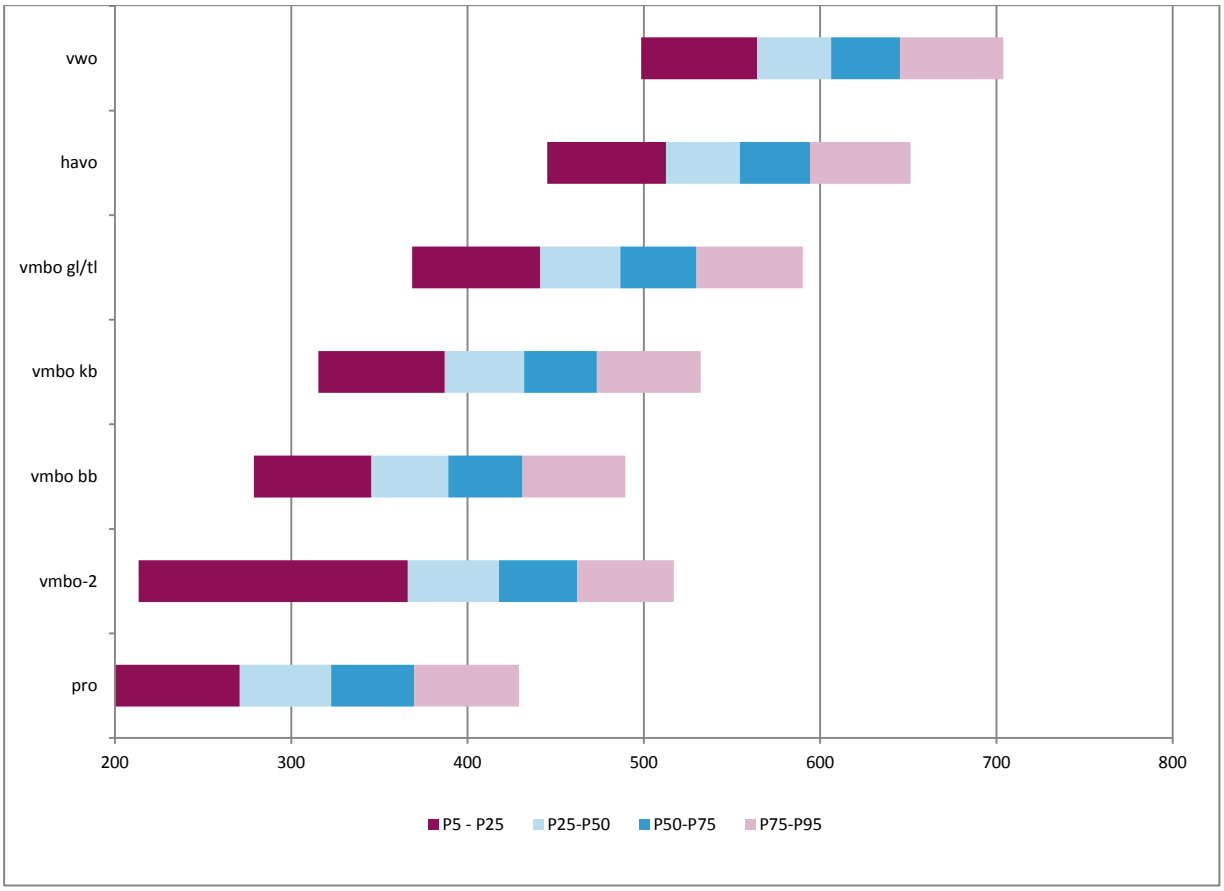
Despite a good overall performance, there has been a decline in basic skills and an increase in performance differences between schools. Average Programme for International Student Assessment (PISA) 2015 scores were lower than in 2012. The proportion of low achievers in PISA 2015 is still below the EU average, but increased in all fields: reading, science and mathematics. Differences between schools have the strongest impact on pupils' performance of all OECD countries (OECD 2016e), and are strongly linked to the different educational tracks they offer. Differences appear also between schools with similar student populations (Inspectorate of Education 2017). Several new measures[33] aim to close performance gaps between students from disadvantaged and more favourable backgrounds. An additional EUR 25 million in 2017 and EUR 32 million in 2018 will be invested to increase equity in education.

Similarity in pupils' performance in the different tracks of secondary education raises doubts about grouping pupils at an early age.[34] PISA performance of pupils in different tracks overlaps considerably, suggesting that pupils may have been oriented to a track either too low or too high for them. In grade 3 of secondary education, 10 % of pupils study in a higher track and 15 % in a lower track than they were advised to at the end of primary school (Inspectorate of Education 2017). As the different tracks involve different learning goals, 'late bloomers' need to overcome a curricular gulf to switch to a higher track. In its 2016 review of the Dutch education system, the OECD recommended that some tracks are merged to better promote permeability in secondary education (OECD 2016a).

33 Action plan as presented on 31 October 2016 to the parliament.

34 Students have a choice of three types of secondary education after primary school: preparatory secondary vocational education (VMBO, accounting for about half of secondary students and which is itself split into 4 sub-tracks); senior general secondary education (HAVO, preparing students for universities of applied sciences and accounting for about a quarter of students); or pre-university education (VWO, accounting for the remaining quarter of secondary students). All students follow a broad curriculum in lower secondary education. At the end of the second year (pre-vocational education and training) or third year (pre-university/university of applied sciences), students opt for one of four study branches.

Figure 2. PISA scores in reading per education level



Source: Cito 2016.

Notes:
Vwo (voorbereidend wetenschappelijk onderwijs): pre-university secondary education
Havo (hoger algemeen voortgezet onderwijs): senior general secondary education
Vmbo (voorbereidend middelbaar beroepsonderwijs): preparatory secondary vocational education
Vmbo gl/tl (gemengde leerweg / theoretische leerweg): combined / theoretical tracks
Vmbo kb (kaderberoepsgerichte leerweg): advanced vocational track
Vmbo bb (basisberoepsgerichte leerweg): basic basic vocational track
Vmbo-2 (tweede leerjaar): second grade
Pro (praktijkonderwijs): vocational training

The downward trend in early school leaving continues. In 2016, the rate of early school leaving (ESL) stood at 8 %: the Europe 2020 national target has been achieved. The Netherlands monitors the number in the age group 12-23 who leave school without a 'start qualification'[35]. number of dropouts fell from 71 000 in 2001/2002 to less than 23 000 in 2015/2016. The goal is to bring this below 20 000 by 2021. Preventing ESL is achieved through a regional approach in which municipalities work with schools, employers, youth organisations and other partners, cooordinated by regional support hubs (Regionale Meld- en Coördinatiefunctie, RMC). In 2016, all 39 regions renewed their covenants with partners for a further four years (MoECS 2017). The government supports these actions with a total of EUR 140 million annually.

Participation in early childhood education and care (ECEC) is high but shows variations by socioeconomic status. From age four 97.6 % of children participate, compared to an EU average of 94.8 %. Up to age three, children from the lowest income group (20th percentile) are five times more likely not to participate in ECEC than children from the highest income group (OECD 2016a). A new measure provides compensation to parents using public pre-kindergartens

[35] A VET, general upper secondary or tertiary qualification.

who previously did not receive compensation (Ministry of Social Affairs and Employability 2016). The development of a curriculum framework and a shift towards a more integrated ECEC system have been proposed to improve quality (OECD 2017). In 2016 the government announced that in 2017 an additional EUR 200 million would be made available to achieve higher quality. Children from disadvantaged backgrounds between the ages of 2.5 and 6 can benefit from a specific education and care programme (*Voor en vroeg schoolse educatie*) with a structured curriculum for holistic child development and special emphasis on Dutch language development.

The school performance of students from an immigrant background remains an important challenge. Non-immigrant children perform significantly better than immigrant children in all three PISA areas. This difference holds also for second-generation immigrants. TIMSS shows that immigrant students are already behind their non-immigrant peers by the age of 10. After controlling for socioeconomic differences, first and second-generation immigrant students score far behind non-immigrant peers, with a 41 point difference in reading and 31 in mathematics (Meelissen et al. 2012).

Massive inflows of newcomers in education in recent years have necessitated a reorganisation of their support system. Most young migrants enter the Dutch education system through so-called international transfer classes (ISKs), designed to facilitate their entry into mainstream schools and Dutch society. ISKs teach Dutch language and introduce children to the school subjects. Children in secondary education usually attend ISKs for two years, after which they join a regular secondary school, vocational education or work. According to a recent report (Stavenuiter et al. 2016) on the transition from ISKs to mainstream schools, the greatest barrier facing migrant children is limited language proficiency. The type of secondary school to which a child is assigned is often determined by proficiency in Dutch rather than cognitive ability. Specific measures for immigrants include: targeted funding for secondary schools with newly arrived immigrants; agreements to reduce segregation between native Dutch and immigrant students in primary schools; induction classes offering intensive Dutch lessons to newly arrived immigrant students; and the creation of specific platforms for ethnic minority parents.

While the overall employment rate for people aged 25 to 64 is higher (78.1 %) than the EU average (73.1 %),[36] it is much lower for people from an immigrant background. In 2016, the employment rate was well above the EU average at all qualification levels: 60.7 % for individuals with at most lower secondary education (ISCED 0-2), 79.4 % for individuals with upper secondary or post-secondary non-tertiary education (ISCED 3-4) and 88.4 % for individuals with tertiary education (ISCED 5-8). The rate for non-EU born immigrants is 20 percentage points lower than for people born in the Netherlands: only a small part of the difference is related to age and educational achievement (European Commission 2017).

Foreign-born young people in the Netherlands are particularly at risk of becoming NEETs (people not in education, employment or training). Immigrants represent a significant and continuously growing segment of the population, with migration inflows rising from 37 457 in 2000 to 139 348 in 2015 (OECD Migration Statistics database). Foreign-born young people (aged 15-29) are more than twice as likely as their native-born contemporaries to be out of school and out of a job: 12.1 % against 5.7 %, compared to EU averages of 21.5 % and 13.3 %. They are at serious risk of economic and social exclusion, with potentially harmful effects for all of society (OECD 2016d).

The number of pupils in primary special education has decreased by more than 6 % since the introduction of 'education that fits' (*passend onderwijs*) in 2014/2015. All schools are now responsible for placing every child, including those with special educational needs, in a suitable educational setting, preferably in mainstream education. Regional school alliances make arrangements for support and guidance. 18 % of primary schools and 72 % of secondary schools have taken on children from special education. Most school principals report that their teachers have followed further training in the past two years related to this change (Inspectorate of Education 2017).

[36] Source: Eurostat lfsa_ergaed.

4. Investing in education and training

Public expenditure on education remained stable. In 2015 the Netherlands' spent 5.4 % of GDP on education, the same share as in 2014, well above the EU average of 4.9 %. In real terms, spending on education had increased by 3.6 % in 2015, consolidating the 2014 recovery. This can also be seen in the ratio of education spending to total public expenditure, which went back up to 12 % after 6 years.

Student loans have replaced grants. Since September 2015, higher education students have been able to take out low-interest loans provided by the government to finance their studies. This system replaces the partly grant-based student finance system for tertiary education. The aim is to invest the resulting savings in higher education, starting with EUR 200 million in 2018 and gradually increasing to an additional EUR 600 million annually from 2025. Furthermore, higher education institutions have also agreed to invest EUR 200 million per year from their own savings in 2015-2017 (MoECS 2015).

5. Modernising school education

Despite strong accountability mechanisms, there is high variance in school performance, even after controlling for the socio-economic background of students (MoECS 2017b). Performance differences between schools are closely linked to the tracks they offer. Primary and secondary schools in the Netherlands have great autonomy: while the system has a centralised framework of attainment targets and supervision, decisions on resource allocation, curriculum and assessment remain with school boards. School autonomy has been associated with high variability in school quality and differing teacher professionalisation efforts (Inspectorate of Education 2017).

In 2015, the Ministry of Education initiated a nationwide dialogue on the curriculum for compulsory education. The central question was what kind of knowledge and skills children in primary and secondary education must acquire to function effectively in a changing society. One of the main conclusions was to put more emphasis on social and emotional skills[37] in the new curriculum. Five transversal skills were identified: working together, critical thinking, learning to learn, creativity and problem solving (MoECS 2016b). Currently the recommendations are being developed further, in consultation with teachers and other stakeholders.

The Netherlands faces an increasing shortage of teachers. In primary education, a shortfall of 4 000 full-time equivalent posts is expected in 2020 and 10 000 full-time equivalents in 2025. In secondary education, a shortage is expected for specific subjects such as mathematics, science and foreign languages (Fontein et al. 2015). After several years of decline in applications, initial teacher education colleges saw a small increase (of 5 %) in enrolments in 2016 (Onderwijs in Cijfers 2017). While the student population is becoming increasingly diverse, the composition of applicants to initial teacher education remains rather homogeneous: there are few men, hardly any students from a migration background and few secondary graduates of STEM subjects (science, technology, engineering and mathematics) (Inspectorate of Education 2017).

Not all students receive education from qualified teachers. On average 5.1% of all classes in secondary education were given by staff without professional teaching qualification in 2015[38], with some evidence of higher rates in certain schools (Inspectorate of Education 2017). Poor performance on the final arithmetic test[39] in secondary education is generally attributed to poor arithmetic skills acquired in primary education, which in turn is ascribed to the poor arithmetic skills of primary school teachers.

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37 In Dutch: *persoonsvorming.*

38 https://www.tweedekamer.nl/kamerstukken/detail?id=2017D04001&did=2017D04001

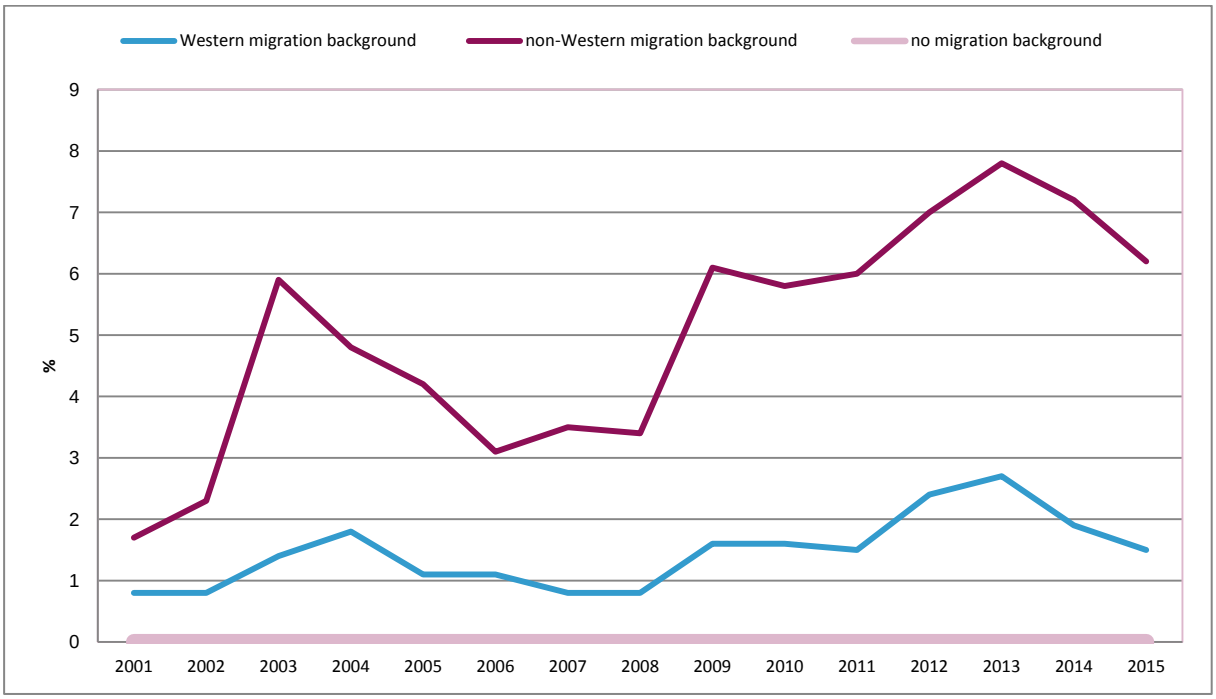
39 In February 2015, the Parliament voted to make the arithmetic test part of the graduation requirements from secondary education as of 2015/2016. However, a later amendment postponed implementation to 2020 in all but the highest track of secondary education (VWO). In the other tracks, success is not a requirement for graduation.

In line with the 2013-2020 Teachers' Agenda, measures to improve the quality of teaching, continuing professional development and career prospects have been implemented. The Teachers' Agenda (MoECS 2013) was launched to improve the quality of teaching and continuing professional development and to make the teaching profession more attractive.[40] It allows schools to support their teachers and school heads in obtaining further qualifications to advance in their career and obtain higher salaries. Teachers will need to record their skills and further training activities in the teachers' register (*Lerarenregister*), which will be mandatory as of 1 August 2018. A teacher scholarship (*Lerarenbeurs*) is available for teachers wishing to obtain a master's or bachelor's degree in education in addition to their other degrees. According to an evaluation of this scheme (Van der Steeg & Van Elk 2015), about one in ten teachers used the scheme to pursue studies that they would not have pursued otherwise.

6. Modernising higher education

The tertiary attainment and graduate employment rates are well above the EU average. There is a large gap in the attainment rates of the native- (48.2 %) and foreign-born populations (32.4 %). The employment rate of recent tertiary graduates was very high at 94.2 % in 2016, well above the EU average of 82.8 %. Surveys show that graduates with a non-Western immigration background from universities of applied sciences are less likely to find a job corresponding to their qualification than their peers (ROA 2016; Falcke et al. 2016; SCP 2016). These inequalities have increased over the last 15 years (Figure 3).

Figure 3. Deviations in unemployment rates of graduates from universities of applied sciences with a migration background compared to graduates with a Dutch background in the period 2001-2015



Source: ROA.

[40] The main changes proposed are: raising entry requirements for teacher training; improving teacher training; promoting attractive and flexible learning pathways; giving new teachers a better start; transforming schools into learning organisations; offering more training to ensure that all teachers are capable and competent; and creating a strong professional body for teachers.

Following the transition from a partly grant-based system to low-interest loans, enrolments initially dropped in higher education but recovered in 2016. In 2015 the number of students enrolling in tertiary education dropped by 7 %, both in universities and universities of applied sciences (HBO). Enrolments fell by around 15 % among students with low-educated parents. In 2015/2016, the proportion of students with functional limitations decreased by around 20 % in HBO and by at least 5 % in universities (Van den Broek et al. 2016). These falls were partly reversed in 2016/2017: 2016 data show a recovery in enrolments of 5 % for HBO and 8 % for universities; participation of students with special needs also increased in HBO (Van den Broek et al. 2017). At the same time, the take-up of student loans has increased by 20 % (Onderwijs in Cijfers 2017). An estimated 67 % of students are in debt at time of graduation. The government continues to monitor the impact of the study loan system, particularly on the social composition of tertiary education.

The performance agreements between the Ministry of Education and Science and each higher education institution are being evaluated in 2017. Savings resulting from the introduction of the student loan system are reinvested in the quality of higher education, as indicated in the Strategic Agenda for Higher Education and Research for 2015-2025.[41] The performance-related budget, linked to the achievement of performance goals set for each institution, increased from EUR 80 million in 2012 to EUR 325 million in 2016, when it represented about 7 % of the total budget for higher education. During the period 2013-2016, higher education institutions could only receive such funding if they had signed a performance agreement. For 2017-2020, they will receive performance funds in function of how much they have achieved their targets for quality of education and study success in the period until 2015. The performance agreement tool is being evaluated in 2017; lessons drawn will be used to design future agreements.

Box 1: The National Technology Pact

Despite high wage premiums for a number of occupations, there is a continuous shortage of STEM graduates. In response, in 2013 the government initiated the National Technology Pact.[42] This brings together over 60 signatories from education, business and government to promote technical training throughout the education system. The Pact identifies measures from primary to lifelong learning which are implemented through regional coordination units.

Recent labour market forecasts (UWV 2015) indicate that the Netherlands will continue to experience labour market shortages in technical and ICT-related professions in the medium term. The objectives and activities of the Pact were therefore renewed in April 2016. The 2016 Pact is structured in three action lines encouraging:
- more pupils to choose a technology education;
- more graduates in technology programmes to start a career in technology and
- more people already working in technology to remain in the field.

The Pact has shown good results, including an increase in the proportion of tertiary students starting a science programme.

41 The Strategic Agenda outlines that half of this money will be spent on initiatives to create small scale and more intensive learning environments. The other half will be spent on: talent programmes (10 %); education-related research (20 %); improving facilities for students; and ICT (10 %). The remaining 10 % will go to national programmes, such as scholarship programmes to improve regional collaboration and experiments in innovation in teaching.

42 http://www.techniekpact.nl/

7. Modernising vocational education and training and promoting adult learning

Ten new programmes were introduced in lower secondary vocational education (vmbo) in 2016/2017. These are based on broad learning profiles that can be combined with more specific courses. Schools can work together with regional business partners in designing these courses. The overall curriculum now consists of three parts: a 'basic' part including courses in Dutch, English, art, physical education and arithmetic; a 'profile' part which, depending on the path, includes either a combination of profile courses and two general academic courses or only general academic courses; and a 'selective' part in which pupils can choose courses according to their study and careers plans.

Upper secondary vocational education (mbo) performs well, with strong links to the labour market. The proportion of upper secondary students (ISCED 3) in the Netherlands in vocational education and training (VET) reached 68.5 % in 2015, well above the EU average of 47.3 %. The employment rate of recent VET graduates at 86.7 % in 2016 is also above the EU average of 75 %. In order to further improve work-based learning, quality agreements were introduced in March 2016. Each VET school develops a plan indicating how they will improve the quality of work-based learning both in the school-based form and in dual training. These agreements form part of a performance-based funding scheme, which envisages extra funding for well-performing schools.

Adult participation in learning at 18.9 % is almost double the EU average of 10.7 %. While participation in non-formal learning is relatively high, participation of adults in formal associate degree, bachelor and master programmes is rather low. Therefore the government aims to increase the flexibility of these programmes. There is a large scale experiment from 2016 to 2022, with around 20 universities of applied sciences and 500 part time programmes, in which the structured content of training programmes is replaced with work-based learning. This is particularly interesting to employers, who can have a say in the choice of skills to be developed for their employees. There is also a smaller scale experiment with voucher funding for modular bachelor and associate degree programmes. From September 2017 onwards, participation in formal part time education is also promoted through a low interest loan to finance tuition fees.

Box 2: Vouchers for Learning Jobs

Municipalities in the IJssel-Vecht region have joined forces to help unemployed young people find a learning workplace. Young people often face difficulties in doing so given the high cost to employers. Between 2011 and 2012 a voucher system was created to motivate employers to offer them learning places. The voucher entitles companies to a contribution of max. 50 % of the minimum salary for up to one year.
Wage costs are financed partly from the European Social Fund (with EUR 860 000) and partly by municipalities. Around 320 young people were placed in learning jobs through the project

8. References

Cito (2016), *Resultaten PISA-2015 Praktische kennis en vaardigheden van 15-jarigen*. Stichting Cito Instituut voor Toetsontwikkeling Arnhem.
http://www.cito.nl/onderzoek%20en%20wetenschap/deelname_int_onderzoek/pisa/resultaten

European Commission (2017), *Recommendation for a Council Recommendation on the 2017 National Reform Programme of the Netherlands and delivering a Council opinion on the 2017 Stability Programme of the Netherlands*. http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.C_.2017.261.01.0079.01.ENG

Falcke, S., Meng, C., & Nollen, R. (2016), *Educational mismatches for second generation migrants. An analysis of applied science graduates in The Netherlands.* https://www.researchgate.net/publication/308614607_Educational_mismatches_for_second_generation_migrants_An_analysis_of_applied_science_graduates_in_the_Netherlands

Fontein, P., Adriaens, H., Den Uijl, M., & De Vos, K. (2015), *De toekomstige arbeidsmarkt voor onderwijspersoneel po, vo en mbo 2015-2025: Update October 2015 .* http://www.voion.nl/publicaties/de-toekomstige-arbeidsmarkt-voor-onderwijspersoneel-po-vo-en-mbo-2015-2015

Inspectorate of Education (2017), *De Staat van het Onderwijs: Onderwijsverslag 2015/2016*. http://www.destaatvanhetonderwijs.nl/downloaden

Ladd and Fiske (2010), *Weighted Student Funding in the Netherlands: A Model for the U.S.?* http://www.iga.ucdavis.edu/Research/EJS/seminars/Ladd%20paper.pdf

Meelissen et al. (2012), Meelissen, M. R. M., Netten, A., Drent, M., Punter, R. A., Droop, M., & Verhoeven, L.: *PIRLS- en TIMSS-2011. Trends in leerprestaties in lezen, rekenen en natuuronderwijs*, Radboud Universiteit / Enschede: Universiteit Twente. https://doi.org/10.3990/1.9789036534758

Ministry of Social Affairs and Employability (2016), *Bestuurlijke afspraken: een aanbod voor alle peuters*. https://www.rijksoverheid.nl/documenten/kamerstukken/2016/04/26/kamerbrief-over-bestuurlijke-afspraken-een-aanbod-voor-alle-peuters

MoECS (2013), Ministry of Education, Culture and Science, *2013-2020 Teachers Agenda*. http://www.rijksoverheid.nl/onderwerpen/werken-in-het-onderwijs/lerarenagenda-2013-2020

MoECS (2015), Ministry of Education, Culture and Science, Rijksbegroting 2015: *VII Onderwijs, Cultuur en Wetenschap .* https://www.rijksoverheid.nl/documenten/begrotingen/2014/09/16/viii-onderwijs-cultuur-en-wetenschap-rijksbegroting-2015

MoECS (2016), Ministry of Education Culture and Science, *Gelijke kansen in het onderwijs*. https://www.rijksoverheid.nl/documenten/kamerstukken/2016/10/31/kamerbrief-over-actieplan-gelijke-kansen-in-het-onderwijs

MoECS (2016b), Ministry of Education Culture and Science, *Beleidsreactie op het advies van het Platform Onderwijs2032*. https://www.rijksoverheid.nl/documenten/kamerstukken/2016/01/23/kamerbrief-met-beleidsreactie-op-het-advies-van-het-platform-onderwijs2032

MoECS (2017a), Ministry of Education Culture and Science, *Kamerbrief over de stand van zaken aanpak voortijdig schoolverlaten*. https://www.rijksoverheid.nl/documenten/kamerstukken/2017/05/08/kamerbrief-over-de-stand-van-zaken-aanpak-voortijdig-schoolverlaten

MoECS (2017b), Ministry of Education Culture and Science, *Kamerbrief met beleidsreactie op de Staat van het Onderwijs 2015 – 2016*. https://www.rijksoverheid.nl/documenten/kamerstukken/2017/04/12/kamerbrief-met-beleidsreactie-op-de-staat-van-het-onderwijs-2015-2016

OECD (2010) *Review of Migrant Education — The Netherlands.* http://www.oecd.org/netherlands/44612239.pdf

OECD (2014), OECD *Reviews of Innovation Policy: Netherlands 2014*, DOI. http://dx.doi.org/10.1787/9789264213159-en

OECD (2016a), OECD (2016b), *Netherlands 2016: Foundations for the future*. http://www.oecd.org/publications/netherlands-2016-9789264257658-en.htm

OECD (2016b), *Getting Skills Right: Assessing and Anticipating Changing Skill Needs*, OECD Publishing. http://dx.doi.org/10.1787/9789264252073-en

OECD (2016d), *Recruiting Immigrant Workers: The Netherlands 2016*, OECD Publishing. http://dx.doi.org/10.1787/9789264259249-en

OECD (2016e) PISA 2015 Results (Volume I): *Excellence and Equity in Education*, PISA, OECD Publishing, Paris, p226, Figure I.6.11. http://dx.doi.org/10.1787/9789264266490-en

OECD (2017), *OECD Skills Strategy Diagnostic Report Netherlands 2017*. http://www.oecd.org/skills/nationalskillsstrategies/OECD-Skills-Strategy-Diagnostic-Report-Netherlands.pdf

Onderwijs in Cijfers (2017), https://www.onderwijsincijfers.nl/

ROA (2016), *Schoolverlaters tussen Onderwijs en Arbeidsmarkt 2015*. http://roa.sbe.maastrichtuniversity.nl/?p=9241

SCP (2016), *Wikken en wegen in het hoger onderwijs*. https://www.scp.nl/Publicaties/Alle_publicaties/Publicaties_2016/Wikken_en_wegen_in_het_hoger_onderwijs

Stavenuiter et al. (2016), *Onderwijs en doorstroom naar de arbeidsmarkt van jonge nieuwkomers in Nederland*. https://www.movisie.nl/sites/default/files/alfresco_files/Onderwijs-doorstroom-arbeidsmarkt-jonge-nieuwkomers%20[MOV-10135960-1.0].pdf

UWV (2015), Description of Labour Market for Technical and ICT-related professions, UWV, 10 September 2015. https://www.uwv.nl/overuwv/Images/UWV_technische%20beroepen.pdf

Van den Broek, A. et al. (2016), *Monitor Beleidsmaatregelen 2015*, ResearchNed. https://www.mboraad.nl/sites/default/files/monitor_beleidsmaatregelen_2015.pdf

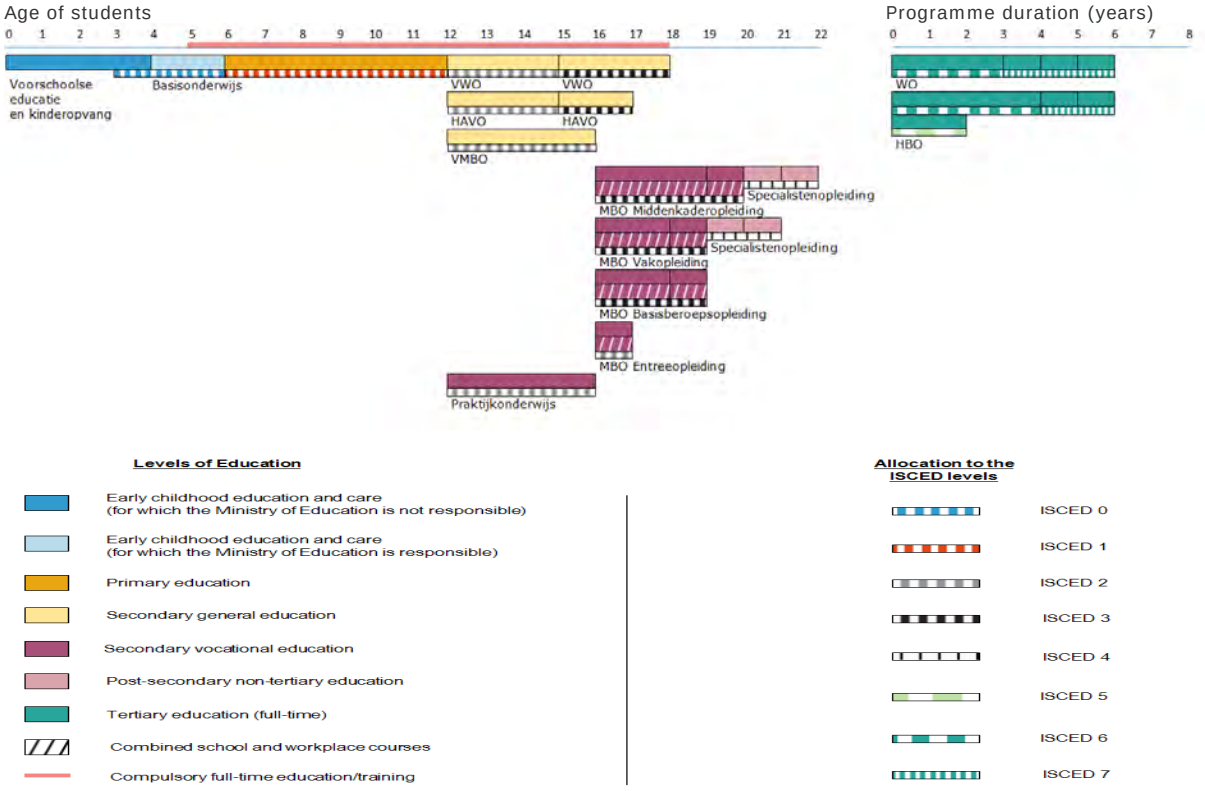
Van den Broek, A. et al. (2017), *Monitor Beleidsmaatregelen 2016*, ResearchNed. https://www.rijksoverheid.nl/documenten/rapporten/2017/05/01/monitor-beleidsmaatregelen-2016-2017

Van der Steeg, M., Van Elk, R. (2015), *The effect of schooling vouchers on higher education enrollment and completion of teachers: A regression discontinuity analysis*. https://www.government.nl/documents/reportss/2015/05/19/the-effect-of-schooling-vouchers-on-higher-education-enrollment-and-completion-of-teachers-a-regression-discontinuity-analysis

9. Annex I. Key indicator sources

Indicator	Eurostat online data code
Early leavers from education and training	edat_lfse_02 + edat_lfse_14
Tertiary educational attainment	edat_lfse_03 + edat_lfs_9912
Early childhood education and care	educ_uoe_enra10 + tps00179
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	educ_uoe_mobg03

10. Annex II. Structure of the education system



Source: European Commission/EACEA/Eurydice, 2016. *The Structure of the European Education Systems 2016/17: 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:
Livia RUSZTHY
livia.ruszthy@ec.europa.eu
or
EAC-UNITE-A2@ec.europa.eu

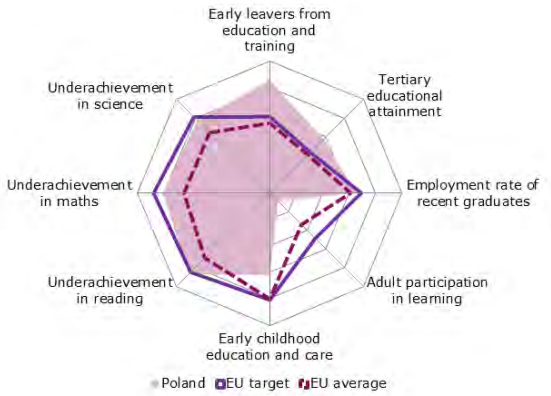
POLAND

1. Key indicators

			Poland 2013	Poland 2016	EU average 2013	EU average 2016
ET 2020 benchmarks						
Early leavers from education and training (age 18-24)	Total		5.6%	5.2%	11.9%	10.7%
Tertiary educational attainment (age 30-34)	Total		40.5%	44.6%	37.1%	39.1%
Early childhood education and care (ECEC) (from age 4 to starting age of compulsory education)			84.3% [12]	90.1% [15]	93.9% [12]	94.8% [15]
Proportion of 15 year-olds with underachievement in:	Reading		10.6% [12]	14.4% [15]	17.8% [12]	19.7% [15]
	Maths		14.4% [12]	17.2% [15]	22.1% [12]	22.2% [15]
	Science		9.0% [12]	16.3% [15]	16.6% [12]	20.6% [15]
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-8 (total)		73.2%	80.2%	75.4%	78.2%
Adult participation in learning (age 25-64)	ISCED 0-8 (total)		4.3%	3.7%	10.7%	10.8%
Other contextual indicators						
Education investment	Public expenditure on education as a percentage of GDP		5.3%	5.2% [15]	5.0%	4.9% [15]
	Expenditure on public and private institutions per student in € PPS	ISCED 1-2	€5 094	€5 086 [14]	:	: [14]
		ISCED 3-4	€4 460	€4 302 [14,d]	:	: [14]
		ISCED 5-8	€6 580	€7 213 [14]	:	: [14]
Early leavers from education and training (age 18-24)	Native-born		5.6%	5.2%	11.0%	9.8%
	Foreign-born		:	:	21.9%	19.7%
Tertiary educational attainment (age 30-34)	Native-born		40.5%	44.6%	37.8%	39.9%
	Foreign-born		:	50.7% [u]	33.4%	35.3%
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-4		62.8%	72.7%	69.4%	72.6%
	ISCED 5-8		81.3%	87.0%	80.7%	82.8%
Learning mobility	Inbound graduates mobility (bachelor)		0.6%	1.1% [15]	5.5%	6.0% [15]
	Inbound graduates mobility (master)		1.3%	1.9% [15]	13.6%	15.1% [15]

Sources: Eurostat (see section 9 for more details); OECD (PISA). Notes: data refer to weighted EU average, covering a different numbers of Member States depending on the source; b = break in time series, d = definition differs, e = estimated, p = provisional, u = low reliability, 12 = 2012, 14 = 2014, 15 = 2015. On learning mobility, the EU average is calculated by DG EAC based on available country data in all years. Further information is found in the respective section of Volume 1 (ec.europa.eu/education/monitor).

Figure 1. Position in relation to strongest (outer ring) and weakest performers (centre)



Source: DG Education and Culture calculations, based on data from Eurostat (LFS 2016) and OECD (PISA 2015). Note: all scores are set between a maximum (the strongest performers visualised by the outer ring) and a minimum (the weakest performers visualised by the centre of the figure).

2. Highlights

- Overall educational performance is strong. Poland is one of the best EU performers on early school leavers, tertiary attainment and the general level of basic skills of young people is high relative to other EU countries.
- Participation in early childhood education and care has increased significantly, but challenges related to the youngest children remain.
- The primary and lower-secondary school system is to be overhauled from September 2017, in conjunction with a later extension of upper-secondary education. These changes are raising concerns among a number of stakeholders.
- The government has launched a new higher education reform to improve quality, performance and internationalisation.
- The labour market relevance of vocational education is still limited, despite recent initiatives. The reform of vocational training starts in September 2017.
- Scattered adult education policy results in low interest and low participation in education and training compared to the EU average.

3. Tackling inequalities and promoting inclusion

Poland's rate of early school leaving (ESL) is very low: in 2016 it was 5.2 %, less than half the EU average of 10.8 %. Eurostat data show, however, that there are regional and gender differences. The highest — and rising — levels are in western Poland, more than 7 %. The rate is higher for boys (6.4 %) than for girls (3.9 %), but this gap has decreased and is now close to the average EU gap. The factors that lead to educational exclusion in Poland are well known and include socioeconomic, institutional and cultural reasons (Federowicz i Sitek, 2011 and Kozarzewski, 2008). The proportion of 15- to 24-year-olds not in employment, education or training was 10.5 % in 2016, slightly below the EU average of 11.5 %, reflecting the low level of school dropout.

The ambitious national target of reducing ESL to 4.5 % will be difficult to meet. Further reducing dropout will be difficult but changes in initial vocational education and training (VET), as well as programmes to help teachers develop their skills, could help (Polish Government, 2017). Between 2013 and 2015 ESL declined by only 0.1 percentage point (pp.) annually. Interesting initiatives include the already well-established reintegration programme for young people who dropped out of school organised by the Voluntary Youth Corps (*Ochotnicze Hufce Pracy* — OHP); strengthening family support (the new 500+ income support programme); cooperation with parents; and institutions providing social assistance (Eurydice, 2017a).

The gradual modernisation of pre-school education is helping to raise participation in early childhood education and care (ECEC). Participation in ECEC increased rapidly by 5.3 pps between 2013 and 2015 to 90.1 %, still below the EU average of 94.8 %. The increase was partly due to the new entitlement to pre-school education, which currently applies to 4- and 5-year-olds and will be extended to 3-year-olds from 2017[43]. However, there are differences in the share of children in pre-school education by age, with 3- and 4-year-olds showing the sharpest increase[44]. Poland is gradually catching up with the levels of other countries in the region but for younger children there is still room for improvement[45]. The government announced the new 'Toddler plus'

[43] In addition, as of 1 January 2017 pre-school education for 6-year-olds is free of charge in public kindergartens.
[44] The provision of pre-school education for every interested family became compulsory for local authorities.
[45] During the period 2011-2015 pre-school was compulsory for 5 year olds'. Starting from September 2016 it is optional, but the entitlement remains.

programme in February 2017,s a continuation of the previous 'Toddler' programme. The new programme has a dedicated budget of PLN 151 million and will support 12 000 new places for children in early-years education and 42 000 existing care places[46] (Eurydice, 2017a).

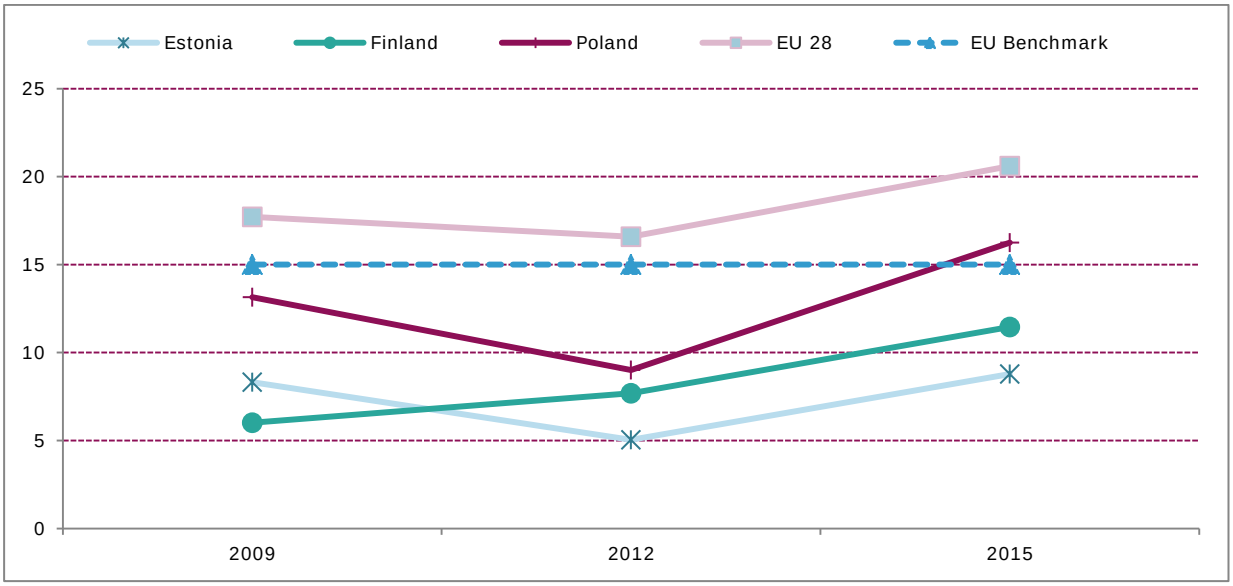
Despite progress, there are persistent regional differences and significant unmet demand for ECEC in urban areas. This concerns in particular the provision for 3-year-olds, who are not yet legally entitled to attend ECEC. A shortage of places is reported, especially in larger cities. The share of children under 3 in ECEC remains very low, at 7.5 % in 2015 against the EU average of 33.9 % (Eurydice, 2017b). In addition, enrolment in ECEC is geographically uneven (GUS, 2017): it is much lower in rural areas, particularly eastern and north-eastern Poland. The general policy of supporting the right to pre-school education will help parents and improve children's knowledge, skills and abilities in the long-run[47].

Poland has established quality standards for ECEC. Pre-schools are monitored by the regional inspectorate (*kuratoria*) offices. ECEC teachers are regulated under the Teachers' Charter. According to new proposed regulations they will be required to have a higher education qualification with appropriate pedagogical content[48]. The qualifications of teachers in non-public pre-schools and of carers or volunteers responsible for children below 3 are also regulated (Polish Government, 2017).

Despite some decline in 2015 PISA results, Poland is among the best-performing EU countries. Following a strong improvement between 2006 and 2012, Poland's performance worsened in all fields in the 2015 OECD Programme for International Student Assessment (PISA) survey (OECD, 2016a), especially in science (see Figure 2). However, it still scored better than both the EU and OECD averages in all areas (European Commission, 2016). The proportion of low achievers, at 16 % in science, 14 % in reading and 17 % in maths, is significantly below the EU average in all fields and very close to the EU Education and Training 2020 benchmark of 15 %. The share of top performers declined to the level observed in 2009 (OECD, 2016b). The impact of socioeconomic status on performance is relatively limited and has continued to decrease since 2006 (OECD, 2016c). The OECD has warned that the recently tabled reform of lower secondary education needs to be carefully evaluated to ensure that it does not cause deterioration in basic skills (OECD, 2017). The OECD's Survey of Adult Skills shows that Poland's general skill levels are lagging behind, particularly among older adults and for those with low educational attainment in rural areas (OECD, 2015).

46 See http://www.zlobki.mpips.gov.pl/.
47 Poland is developing an integrated approach to the ECEC, in cooperation with parents, and accompanied by new income support for families (i.e. the 500+ programme).
48 http://legislacja.rcl.gov.pl/projekt/12295107

Figure 2. Progress towards reducing the rate of low achievers in science, 2009-2015



*Source: O*ECD (PISA 2014) Online data code: table 1.2.2.a

Emerging inequalities between schools in educational outcomes are a new challenge. Inequalities between schools in lower secondary education are emerging. Recent research indicates that, already at primary school level, there is a rising issue of inequality between schools in larger cities (Dolata, 2014). There is also a steady trend of rising selectivity among lower secondary schools in urban areas (Dolata, M. et Sitek, M., 2015). According to Polish authorities current and recent policy reforms seek to address this.

More effort is needed to ensure migrants are integrated effectively. Migrants in Poland arrive principally from Ukraine, the Caucasus and Central Asia[49]. The recently adopted law on school education (see section 5 for details) envisages measures to help newly arrived migrant children integrate and to prevent them from dropping out of school. These measures provide for additional Polish language classes, individual support activities and the deployment of teaching assistants. However, according to the assessment by the Supreme Audit Office, these requirements are frequently not met in reality (NIK, 2015).

4. Investing in education to address demographic and skill challenges

Public expenditure on education has remained stable and close to the EU average over the last decade. Public expenditure on education in 2015 was 5.2 % of GDP, against 4.9 % across the EU. In 2015 education represented 12.6 % of general government expenditure, against 10.3 % on average for the EU. The absolute value of spending on education has risen, given robust GDP growth. Poland's patterns of public and private spending per student, measured in purchasing power standard (PPS), were similar to other central European countries in 2014. It lags behind Western Europe countries, particularly in spending on the tertiary level[50] (OECD, 2016c). The bulk of public expenditure is decentralised in the form of the 'educational subsidy' granted to local authorities (Sztanderska, (ed.), 2014). Experts have recently raised questions about the fairness of

[49] In 2016 Poland granted ca. 0.4 million residency permits and ca. 1.2 million work permits to Ukrainians (GUS, 2017).

[50] For ISCED 0 it was at EUR 4 618, for ISCED 1-2 at EUR 5 086, for ISCED 3-4 at EUR 4 301 and for ISCED 5-8 at EUR 7 213 (all in PPS).

this system, particularly in the context of the forthcoming school reform, which will have a heavy financial impact on local authorities. The employability of recent graduates from education is improving and continues to move towards the EU average. The general rate for all ISCED levels stood at 79.5 %, compared with the EU average of 77.1 % in 2016. However, it varies considerably according to the education level attained[51].

Demographic decline is a key challenge as the numbers in the school system are projected to sharply decrease. The numbers in education are declining, reflecting the low birth rate since the early 1990s. In 2013-2015 the numbers enrolled at all levels of education diminished by 4.3 %; enrolment in higher education dropped by as much as 12.5 %. Between 2007 and 2012, the number of pupils in primary education fell by 9.1 % and the number of schools by 5.8 %. In lower secondary education, the drop in pupils was 20.3 % (GUS, 2016a) but the number of schools increased by 3 %. This reflects both regional redistribution — e.g. to areas of population increase — and the creation of new non-public schools. The decline in student numbers will continue in the future and is likely to raise the difficult question of school rationalisation (Herczyński and Sobotka, 2014). The phenomenon is also visible in the classroom, with the number of pupils per teacher dropping from 16.4 in 2013 to 15.1 in 2015 (OECD, 2016c). The recent reform of lower-secondary schools may partly address this issue.

Box 1: National strategy for responsible development (Strategia na Rzecz Odpowiedzialnego Rozwoju, or 'Morawiecki Plan')

A 'strategy for responsible development' was announced by the new Polish government in 2016 and formally adopted in February 2017. Among other things the strategy envisages a reform of the higher education system and the implementation of the Integrated Qualifications System.

The strategy underlines a number of key challenges in the area of education, including developing key abilities and skills — 'formation of human capital' — for the future of the economy (MR, 2017).

https://www.mr.gov.pl/media/36848/SOR_2017_maly_internet_03_2017_aa.pdf

5. Modernising school education

The changes announced in the structure of the school system are causing uncertainty The December 2016 Law on School Education sets out a major reform of lower and upper secondary education to be implemented between 1 September 2017 and the school year 2022/2023[52]. Lower secondary schools (*gimnazja*) will be gradually phased out. In the school year 2018/2019 these schools will cease to operate and their last pupils will have graduated (Eurydice 2017a). The reform merges primary and lower secondary levels; students will stay in primary education for 8 years instead of 6. Teachers Union argue that phasing out lower secondary schools could lead to potential job losses among teachers and thus have a negative impact students' learning outcomes (ZNP, 2017), but authorities point to planned increases in teacher numbers.

The reform will affect all schools, teachers and local governments, which are responsible for the school network. The cost of the reform over 2017-2018 is estimated at PLN 931 million, which will include a sizeable amount to be met by local authorities. An additional challenge relates to the adjustment of the school network at district (*gmina*) and county (*powiat*) levels as the district level network of primary and lower secondary school will be replaced by primary schools only, while counties will be responsible for the extended period of learning in the new secondary schools. Because of its potentially disruptive effects the reform is opposed by the Polish Teachers' Union (*Związek Nauczycielstwa Polskiego* — ZNP) and by parents' organisations, among others. In April 2017 a petition signed by 910 000 citizens was presented calling for a national referendum on

51 For ISCED 0-2 the rate was 40.7 % in Poland v 54.3 % for the EU average; for ISCED 3-4 it was 68.5 % v 74.8 %, respectively; and for ISCED 5-8 it was 87.5 % v 84.8 % (all 2016).

52 See http://reformaedukacji.men.gov.pl/aktualnosci/ustawy-wprowadzajace-reforme-edukacji-opublikowane-w-dzienniku-ustaw.html.

the reform. This call was rejected by the government because the reform had already been implemented [53].

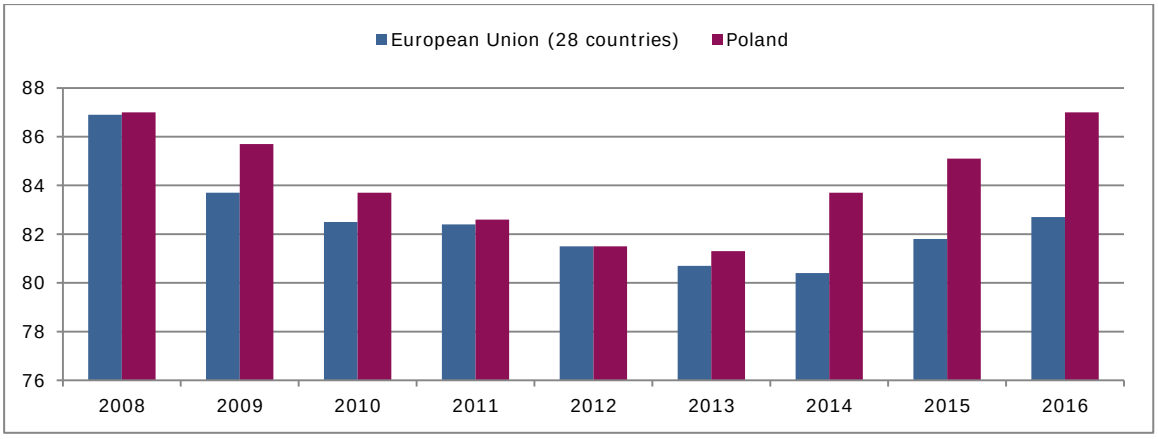
Poland faces the need to continuously improve the quality of teaching. To maintain current good performance, it is important to strengthen the evaluation and assessment of teachers, make new pedagogical tools and methods available to them and improve school management. In this context, in February 2017 the Ministry of National Education adopted a new regulation on core curricula for pre-school and general education in primary schools (MEN, 2017). New textbooks — now free of charge to all primary and lower secondary pupils — were launched. The new core curriculum will be gradually introduced in all grades of primary school in the coming years. All primary school teachers will take part in training on implementing it. However, the new framework programmes could reduce the relative autonomy of school leaders and teachers, by e.g. specifying the exact number of teaching hours per subject in each grade.

The Education Information System is being further developed. The SIO (*System Informacji Oświatowej*) **-** an electronic system of databases on schools, educational institutions, teachers and pupils - is an important source of information on the quality of education. The data are used in policy-making, to manage access to learning and the financing of the education system[54]. Every school sends data to SIO on pupils/ teachers, capital investment and expenses, etc. On psychological, pedagogical and social support to pupils and students the SIO will not collect individual data; only aggregated data will be available for statistical analysis (Eurydice 2017a).

6. Modernising higher education

Poland has one of the EU's highest rates of tertiary education attainment. Poland reached the Europe 2020 headline target in 2013 and in 2016, its rate was 44.6 %, above the EU average of 39.1 %. The ambitious national target of 45 % for 2020 will soon be met. Higher education institutions are starting to face a decrease in enrolments reflecting demographic developments, with student numbers falling since 2013 (GUS, 2016b). This is affecting the funding of both public and private institutions, in line with 'the money follows the student' principle. Poland is considering new entry paths to universities, for example through greater openness to lifelong and adult learners[55].

Figure 3. Employment rates of recent graduates, age 20-34 having left tertiary education 1-3 years before reference year



Source: Eurostat (LFS, 2008 - 2016). Online data code: edat_lfse_24

53 See http://referendum-szkolne.pl
54 See https://cie.men.gov.pl/.
55 A pilot project supporting 'third age' universities was launched in October 2016 with a modest PLN 4 million budget.

Poland has seen a steady increase in graduate employment. The employability rate of recent graduates is high, at 87 % against the EU average of 82.8 % (see Figure 3). The issue of steering more students towards the fields of study most required by the Polish economyhas emerged. The proportion of Polish students studying science, technology, engineering and mathematics (STEM) and ICT, is very close to the EU average but lags behind leaders such as Sweden or Finland. The same applies to learning mobility, especially at masters' level. Growing skills shortages suggest it may be necessary to direct graduates towards STEM subjects. Poland's 2017 national reform programme outlines plans to reform the higher education system, one aim being to improve its relevance to labour market needs (Polish Government, 2017). The EU Structural and Investment Funds play an important supporting role in this regard (see below an example of a successful project supported by the European Social Fund).

Box 2: The Competence Development Programme

It was established on the basis of a specific ex-ante evaluation, commissioned by the National Centre for Research and Development and conducted in 2014, which explored future demand for skills in various industries and in the context of new economic trends.

Its main objective is to strengthen the competences needed to succeed in the labour market, especially transversal ones. The Programme supports i.a. the following actions:

- training sessions and workshops aimed at increasing the skills and competences most relevant to the labour market, including entrepreneurship,
- additional courses delivered jointly with employers,
- project-based learning,
- career guidance.

The Programme puts a particularly strong emphasis on cooperation between universities and employers to strengthen the practical elements of training and increase employer's engagement in the Programme's delivery.

Sample link: http://www.ch.pw.edu.pl/Studenci/Program-rozwoju-kompetencji

Poland intends to reform its higher education model. The need to shift the system towards taking greater account of the diversity of students' abilities, interests and aspirations is acknowledged (Marciniak, 2014). The introduction of the National Qualifications Framework in higher education refocuses the sector on learning outcomes. Further measures are required to improve quality of teaching and monitor labour market outcomes - the national system of graduate tracking introduced in 2016 addresses this need. Initial results are already available online[56] (MNiSW, 2017). In addition, changes were made to the student loan system in the summer of 2016 which allow for greater flexibility in granting means-tested student support. For PhD students the 'Implementation doctorates' programme which combine advanced university studies with professional activities, have been introduced.

56 http://www.nauka.gov.pl/aktualnosci-ministerstwo/zobacz-co-studiowac-zeby-dobrze-zarabiac.html.

Box 3: Poland's new strategy for science and higher education

The Ministry of Science and Higher Education has announced a new strategy covering both fields (MNiSW, 2016). IT aims to improve the performance of Polish higher education institutes in science and research AND comprises three pillars:

- 'Constitution for Science': structural changes to the higher education system, including governance and funding[57];
- 'Innovations for the Economy': commercialisation of science and cooperation with business;
- 'Science for You': a programme promoting the social responsibility and public dissemination of science.

http://www.nauka.gov.pl/ustawa20/ and http://www.nauka.gov.pl/en/polish-science-news/the-experts-presented-their-proposals-of-assumptions-for-the-law-on-higher-education.html

7. Modernising vocational education and training and promoting adult learning

The proportion of upper secondary students in Poland in initial vocational education and training (VET) slightly increased in 2015 to 50.5 %, above the EU average of 47.3 %. The employment rate of recent initial VET graduates in 2016, at 74.3 %, was slightly lower than the EU average of 75 %. The 2016 reform of initial VET has confirmed the challenges facing the sector (Polish Government, 2017). These include the lack of a mechanism to match initial VET offers to labour market demand; the absence of flexible learning pathways; insufficient guidance and counselling; low-quality teaching; and a lack of investment. These challenges have not been sufficiently addressed, mainly because the financing model has not been adjusted to the changes in structure and content introduced by the 2012 reform.

The current VET reform strengthens existing measures and introduces new components. The direction of the reform, which has been implemented since September 2017, is in line with EU policy priorities. It aims at promoting employers' co-operation with schools, especially to organise practical training in real working conditions.There are also projects financed by the European Social Fund (ESF) which address specific issues such as supporting cooperation between initial VET and business or developing exams. In 2016 no specific measures on continuing VET were taken, even though the sector faces similar challenges to those in initial VET (Eurydice 2017a).

Adults show low interest in developing their competencies or acquiring new qualifications. Poland faces a critical long-term challenge to establish a lifelong learning culture among its population, especially among older and low-skilled people. Adult participation in learning in 2016 of 3.7 % represents an increase of 0.2 pp. over the previous year, but is still well below the EU average of 10.8 %. The OECD's latest Survey of Adult Skills shows that 15 % of Polish adults have low literacy and numeracy levels and that all age groups in Poland have ICT skills below the OECD average[58](OECD, 2016c). The integrated qualifications system and qualifications register were launched in 2016. There are also ESF projects in the pipeline to finance activities to develop methods and tools supporting ICT use and to make them widely available. However, these measures may prove ineffective without a coherent adult learning policy, clear leadership at national level and the close involvement of stakeholders. For that reason there are high expecations regarding the future Skills Strategy.

'Sectoral qualification councils' are a new initiative in the area of skills. In 2015 the Polish Agency for Enterprise Development (PARP) started an ESF-cofinanced project to establish and support 15 sectoral qualification councils. The councils should make recommendations for legislative solutions or changes in the area of education and training, and for adjustments to labour market needs in specific sectors (PARP, 2015).

57 A new system of funding public higher education institutes (HEIs) was introduced on 1 January 2017. http://www.nauka.gov.pl/en/polish-science-news/gowin-universities-are-beginning-to-adapt-to-changes-in-financing.html

58 The gap is mainly visible in the level of participation in non-formal education.

8. References

Dolata, Roman (2014), *Nierówności edukacyjne — nasilenie na I etapie edukacyjnym i środki zaradcze — 'Ewaluacja Wewnątrzszkolna'*, by Instytut Badań Edukacyjnych. http://eduentuzjasci.pl/ewaluacja-wewnatrzszkolna.html

Dolata, M. i Sitek, M. (red.) (2015), *Egzaminy zewnętrzne w polityce i praktyce edukacyjnej — Raport o stanie edukacji 2014*, by Instytut Badań Edukacyjnych (IBE). http://www.ibe.edu.pl/images/materialy/ROSE_2014_www2.pdf

Eurocultura, Mazowiecki Kurator Oświaty, Sysco Polska (2016), *Przedwczesne kończenie nauki; monitoring i przeciwdziałanie Metody zapobiegania i reintegracji.* http://www.syscopolska.pl/eng/przedwczesne-koczenie-nauki-monitoring-i-przeciwdziaanie-esl-monitoring-and-prevention-solutions-wersja-eng

European Commission (2016), *PISA 2015: EU Performance and initial conclusions regarding education policies in Europe.* https://ec.europa.eu/education/sites/education/files/pisa-2015-eu-policy-note_en.pdf

Eurydice (2016), *National sheets on education budget in Europe 2015.* https://webgate.ec.europa.eu/fpfis/mwikis/eurydice/images/8/8f/194EN.pdf

Eurydice (2017a), Eurypedia; Ongoing Reforms and Policy Developments in Poland. https://webgate.ec.europa.eu/fpfis/mwikis/eurydice/index.php/Poland:Ongoing_Reforms_and_Policy_Developments

Eurydice (2017b), *Structural indicators on early childhood education and care in Europe — 2016.* http://bookshop.europa.eu/is-bin/INTERSHOP.enfinity/WFS/EU-Bookshop-Site/en_GB/-/EUR/ViewPublication-Start?PublicationKey=EC0417080

Federowicz, M. i Sitek, M. (red.) (2011*), Społeczeństwo w drodze do wiedzy. Raport o stanie edukacji 2010*, by Instytut Badań Edukacyjnych (IBE). http://eduentuzjasci.pl/publikacje-ee-lista/raporty/150-raport-o-stanie-edukacji/770-raport-o-stanie-edukacji-2010.html

Główny Urząd Statystyczny (GUS, 2016a), *Oświata i Wychowanie w roku szkolnym 2015/2016.* http://stat.gov.pl/obszary-tematyczne/edukacja/edukacja/oswiata-i-wychowanie-w-roku-szkolnym-20152016,1,11.html

Główny Urząd Statystyczny (GUS, 2016b), *Szkoły wyższe i ich finanse w 2015 r.* http://stat.gov.pl/obszary-tematyczne/edukacja/edukacja/szkoly-wyzsze-i-ich-finanse-w-2015-r-,2,12.html

Herbst, M., A. Sobotka (2014), *Mobilność społeczna i przestrzenna w kontekście wyborów edukacyjnych. Raport z badania*, by Educational Research Institute. http://eduentuzjasci.pl/zespoly/212-publikacje/raport/raport-z-badania/mobilnosc-spoleczna-i-przestrzenna-w-kontekscie-wyborow-edukacyjnych/1169-mobilnosc-spoleczna-i-przestrzenna-w-kontekscie-wyborow-edukacyjnych-raport-z-badania.html

Herczyński, Jan, Aneta Sobotka (2014), *Diagnoza zmian w sieci szkół podstawowych i gimnazjów 2007-2012,* by Educational Research Institute. http://eduentuzjasci.pl/publikacje-ee-lista/raporty/188-raport-z-badania/diagnoza-zmian-w-sieci-szkol-podstawowych-i-gimnazjow-2007-2012/992-diagnoza-zmian-w-sieci-szkol-podstawowych-i-gimnazjow-2007-2012.html

Kozarzewski, P. (2008), *Wykluczenie edukacyjne. W: Wykluczeni, Wymiar społeczny, materialny i etniczny* (137-176), M. Jarosz (red.), by ISP PAN. http://wydawnictwo.isppan.waw.pl/wp-content/uploads/2008/09/wykluczeni_contents.pdf

Marciniak, Zbigniew (ed.) (2014), *Self-Certification Report of the National Qualifications Framework for Higher Education*, by Educational Research Institute. http://www.kwalifikacje.edu.pl/en/homeen/42-en/aktualnosci-en-news/689-self-certification-report

Ministerstwo Edukacji Narodowej (MEN, 2017), *Podstawa programowa kształcenia ogólnego dla przedszkoli i szkół podstawowych.* https://men.gov.pl/zycie-szkoly/ksztalcenie-ogolne/podstawa-

programowa/podstawa-programowa-materialy-dla-nauczycieli.html and http://reformaedukacji.men.gov.pl/

Ministerstwo Nauki i Szkolnictwa Wyższego (MNiSW, 2016), Reforma systemu szkolnictwa wyższego. http://www.nauka.gov.pl/strategia-gowina/

Ministerstwo Rozwoju (MR, 2017), *Strategia na rzecz Odpowiedzialnego Rozwoju do roku 2020 (z perspektywą do 2030 r.).*https://www.mr.gov.pl/media/36848/SOR_2017_maly_internet_03_2017_aa.pdf

Najwyższa Izby Kontroli (NIK, 2015), Raport *Pomoc Społeczna dla Uchodźców* https://www.nik.gov.pl/plik/id,10216,vp,12539.pdf

OECD (2015), Survey of Adult Skills (PIAAC), *Skills Matter - Further Results from the Survey of Adult Skills,* http://www.keepeek.com/Digital-Asset-Management/oecd/education/skills-matter_9789264258051-en#.WbuZymfp4yU

OECD (2016a), PISA 2015 Results. http://www.oecd.org/education/pisa-2015-results-volume-i-9789264266490-en.htm

OECD, (2016b), PISA Low-Performing Students. http://www.oecd.org/edu/low-performing-students-9789264250246-en.htm

OECD (2016c), *Education at a Glance.* http://www.oecd.org/edu/education-at-a-glance-19991487.htm

OECD (2017), *Policy priorities for making Poland a more inclusive and knowledge-based economy.* http://www.keepeek.com/Digital-Asset-Management/oecd/economics/policy-priorities-for-making-poland-a-more-inclusive-and-knowledge-based-economy_9789264267886-en#.WcTT3Gfp4yU#page4

Polska Agencja Rozwoju Przedsiębiorczości (PARP, 2016), Sektorowe Rady ds. Kompetencji. http://www.biznesdlaedukacji.parp.gov.pl/

Polish Government (2017), *Narodowy Program Reform* (National reform programme, NRP). https://ec.europa.eu/info/sites/info/files/2017-european-semester-national-reform-programme-poland-pl_0.pdf

Sztanderska, Urszula (ed.) (2014), *Koszty Edukacji od Przedszkola do Gimnazjum*, by Educational Research Institute (IBE). http://eduentuzjasci.pl/publikacje-ee-lista/inne-publikacje/962-koszty-edukacji-od-przedszkola-do-gimnazjum.html

Związek Nauczycielstwa Polskiego (ZNP, 2017), Referendum Szkolne. http://referendum-szkolne.pl/linki/

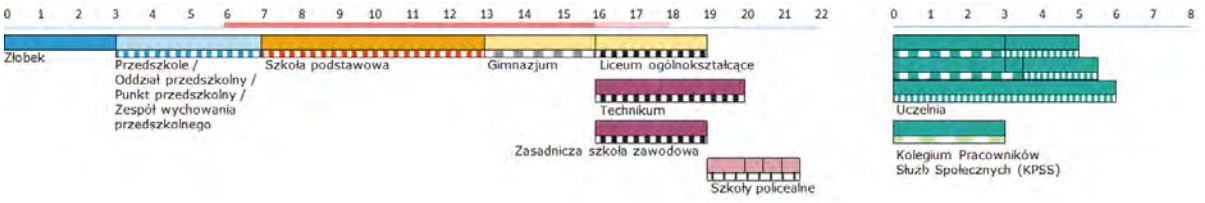
9. Annex I. Key indicator sources

Indicator	Eurostat online data code
Early leavers from education and training	edat_lfse_02 + edat_lfse_14
Tertiary educational attainment	edat_lfse_03+ edat_lfs_9912
Early childhood education and care	educ_uoe_enra10
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	edu_uoe_mobg03

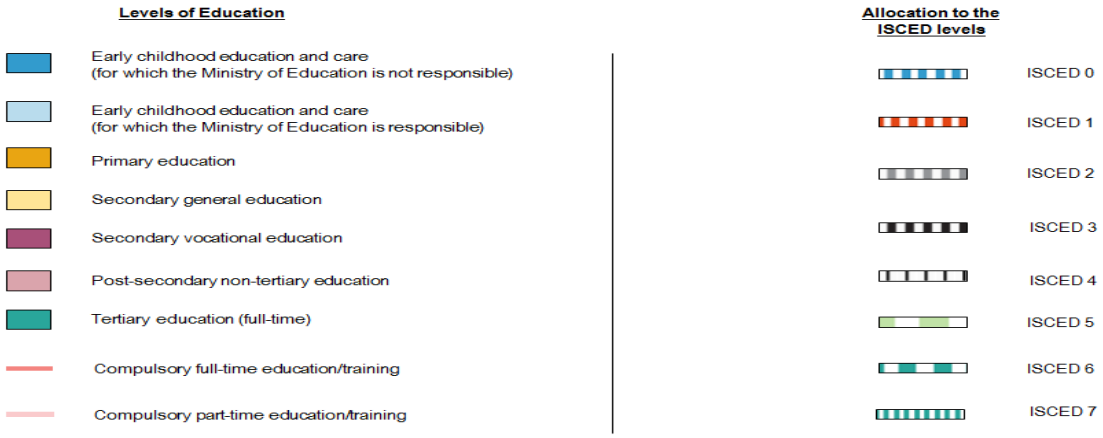
10. Annex II. Structure of the education system

Age of students

Programme duration (years)



Note: As of September 2016, compulsory education in primary school starts at the age of 7. Admission of 6-year-olds to grade 1 of primary school is left to the parents' discretion.



Source: European Commission/EACEA/Eurydice, 2016. *The Structure of the European Education Systems 2016/17: 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:
Krzysztof KANIA
krzysztof.kania@ec.europa.eu
or
EAC-UNITE-A2@ec.europa.eu

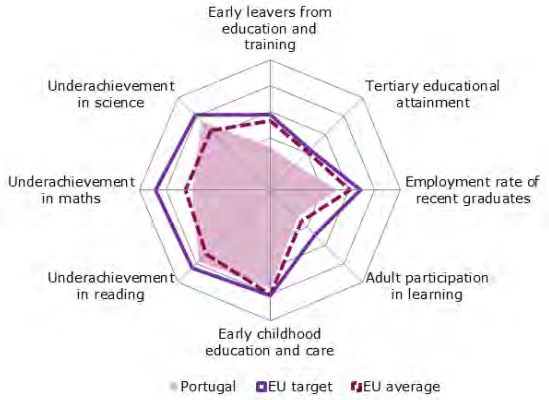
PORTUGAL

1. Key indicators

			Portugal		EU average	
			2013	2016	2013	2016
ET 2020 benchmarks						
Early leavers from education and training (age 18-24)	Total		18.9%	14.0%	11.9%	10.7%
Tertiary educational attainment (age 30-34)	Total		30.0%	34.6%	37.1%	39.1%
Early childhood education and care (ECEC) (from age 4 to starting age of compulsory education)			95.0% [12]	93.6% [15]	93.9% [12]	94.8% [15]
Proportion of 15 year-olds with underachievement in:	Reading		18.8% [12]	17.2% [15]	17.8% [12]	19.7% [15]
	Maths		24.9% [12]	23.8% [15]	22.1% [12]	22.2% [15]
	Science		19.0% [12]	17.4% [15]	16.6% [12]	20.6% [15]
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-8 (total)		67.8%	73.8%	75.4%	78.2%
Adult participation in learning (age 25-64)	ISCED 0-8 (total)		9.7%	9.6%	10.7%	10.8%
Other contextual indicators						
Education investment	Public expenditure on education as a percentage of GDP		6.2%	6.0% [15]	5.0%	4.9% [15]
	Expenditure on public and private institutions per student in € PPS	ISCED 1-2	€6 081	€5 382 [14]	:	: [14]
		ISCED 3-4	€7 852	€6 683 [14]	:	: [14]
		ISCED 5-8	€8 302	€8 757 [14,d]	:	: [14]
Early leavers from education and training (age 18-24)	Native-born		18.8%	14.0%	11.0%	9.8%
	Foreign-born		20.1%	14.3%	21.9%	19.7%
Tertiary educational attainment (age 30-34)	Native-born		30.2%	35.1%	37.8%	39.9%
	Foreign-born		28.8%	29.2%	33.4%	35.3%
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-4		64.1%	69.4%	69.4%	72.6%
	ISCED 5-8		72.0%	77.8%	80.7%	82.8%
Learning mobility	Inbound graduates mobility (bachelor)		1.7%	2.1% [15]	5.5%	6.0% [15]
	Inbound graduates mobility (master)		5.5%	7.4% [15]	13.6%	15.1% [15]

Sources: Eurostat (see section 9 for more details); OECD (PISA). Notes: data refer to weighted EU average, covering a different numbers of Member States depending on the source; b = break in time series, d = definition differs, e = estimated, p = provisional, u = low reliability, 12 = 2012, 14 = 2014, 15 = 2015. On learning mobility, the EU average is calculated by DG EAC based on available country data in all years. Further information is found in the respective section of Volume 1 (ec.europa.eu/education/monitor).

Figure 1. Position in relation to strongest (outer ring) and weakest performers (centre)



Source: DG Education and Culture calculations, based on data from Eurostat (LFS 2016) and OECD (PISA 2015). Note: all scores are set between a maximum (the strongest performers visualised by the outer ring) and a minimum (the weakest performers visualised by the centre of the figure).

2. Highlights

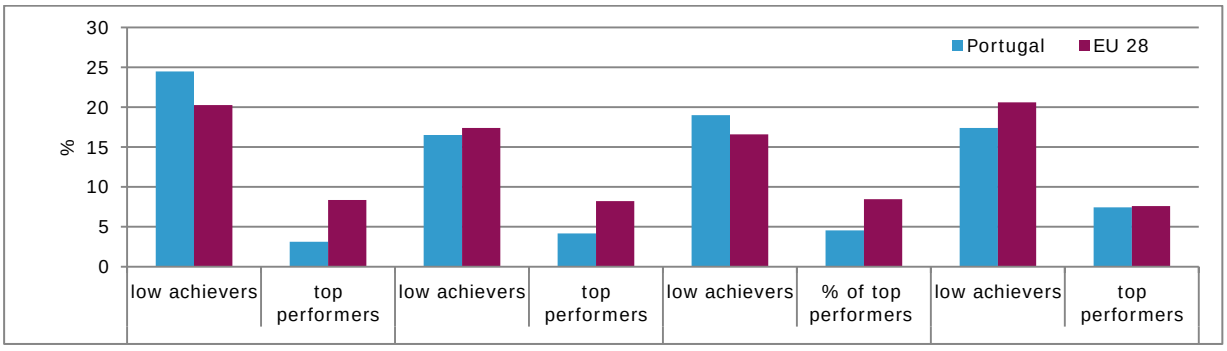
- Portugal is making progress in improving educational outcomes, reducing early school leaving and ensuring full public provision of pre-school education for all children aged 3 to 5 years by 2019.
- Implementation of the 'National Plan to Promote Success at School' — the flagship initiative to prevent school failure — is under way. The number of participating schools has exceeded expectations.
- Tertiary attainment is improving, but meeting the ambitious national Europe 2020 target will be a challenge. Several measures are under way to help streamline the higher education offer.
- Promotion of adult education plays a central role in the current education policy, with the aim of addressing the adult population's low level of basic skills.

3. Tackling inequalities and promoting inclusion

Educational outcomes are improving, with fewer low achievers and more top performers in PISA, but some concerns remain over equity. According to the 2015 OECD Programme for International Student Assessment (PISA), the proportion of low achievers in Portugal decreased in all subjects tested. The country's results are below the EU average in reading (17 %) and science (17 %) but above average in mathematics (24 %). Average performance levels have increased since continuously[59], placing Portugal above the OECD and EU averages for the first time. The percentage of top performers in PISA i.e. students who demonstrated high complexity skills — is also increasing and is now around the EU average (see Figure 2).

Despite these positive trends, concerns remain over equity. The proportion of low achievers among students from the bottom socioeconomic quartile is 25 pps. higher than from the upper socioeconomic quartile (OECD 2016)[60]. This is around the EU average (25.6 pps.). In addition, with more than 31 % of students having repeated a grade, Portugal has the third highest rate of grade repetition in the EU (European Commission 2017a). The social gap in this respect is significant, with rates over 52 % among disadvantaged students and less than 9 % among advantaged ones. The gaps between non-migrants and both first- and second-generation immigrants — as measured by early school leaving rates, PISA performance and grade retention — are comparatively small.

Figure 2. Trends in low and top performance in PISA (%)



Source: OECD (PISA, 2015). Online data code: table I.2.2a.

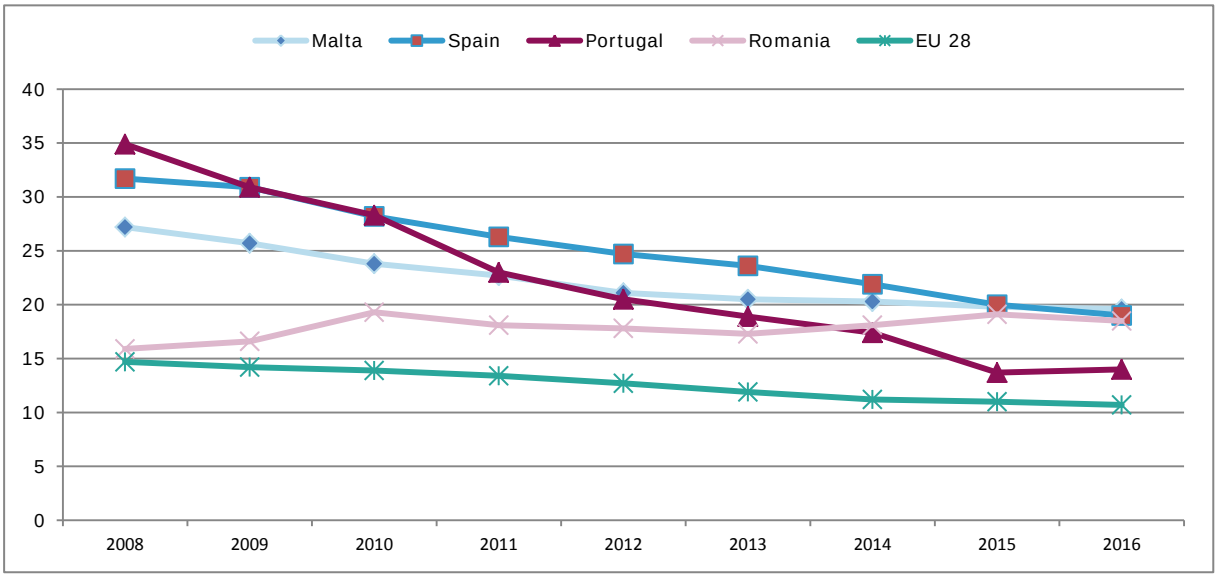
59 Portugal's scores since 2012 increased by 12 points in science, 10 points in reading and 5 points in mathematics

60 4.5 % among students from the top socioeconomic quartile compared to 29.9 % for students from the bottom socioeconomic quartile.

Portugal is progressing towards full public provision of pre-school education for all children aged 3 to 5 years by 2019. The objective of full provision of pre-school education set in 2016 is likely to be achieved for children aged 5 in 2017[61]. In 2015 the participation of children aged between 4 years old and the compulsory school age (6 years) was 93.6 %, slightly below the EU average of 94.8 %. The revision of pedagogical guidelines for pre-school covering ages 3 to 5 has been completed, drawing on approaches developed in training and professional development of early childhood education and care (ECEC) staff during 2015/2016. This new orientation aims to make pre-school education a learning bridge towards primary school. Lack of available premises makes it more difficult to extend universal ECEC provision, which lies under the responsibility of social services, to children aged 0 to 3. The Ministry of Education is working on new pedagogical guidelines for these levels.

Portugal has made substantial progress in reducing early school leaving[62] (ESL). The rate fell from 34 % in 2008 to 14 % in 2016 (Figure 3). If this trend is sustained, Portugal is on track to reach its Europe 2020 national target of 10 %. The difference in ESL rates between students born in Portugal and students born outside the country is very narrow (0.3 pp.), but the gender gap, with higher rates for men, is well above the EU average (6.9 pps. vs 3 pps.).

Figure 3. Trends in early school leaving in selected countries



Source: Eurostat (LFS, 2008-2016). Online data code: edat_lfse_14.

Box 1: The National Plan to Promote Success in School (NPPSS)

This is the government's flagship initiative to prevent school failure and reduce grade repetition in all educational stages. In basic education, the new national examination system introducing formative tests in the second, fifth and eighth grades (7-, 10- and 13-year-old students) for Portuguese and mathematics is now fully implemented. Since the 2016/2017 school year, students who have repeated more than one grade are assigned a trained tutor to accompany their learning and improve performance outcomes, as well as to build their trust in school.

The plan is based around close cooperation between local administrations and school clusters[63]. Schools can propose new pedagogical initiatives adapted to their student population and receive additional resources to develop them.

61 The figure was 95.6 % in 2015 according to Eurostat.

62 The proportion of 18- to 24-year-olds who have not completed upper secondary education and are no longer in education and training.

63 In Portugal, there are 811 'school management units' (713 public school clusters and 98 non-clustered schools) based on geographic proximity.

Training will be provided to school managers and teachers, together with some municipal staff. This will focus on strategic planning, setting indicators and use of resources. Each school estimates its readiness to participate in the plan and then presents, on a voluntary basis, a set of measures to improve their students' performance in an inclusive manner. After the proposal is assessed and approved at central level, additional resources are allocated to the school.

During the first year of implementation, 663 education centres joined the plan, representing 80 % of all schools. Together with the 18 % of schools already signed up to the earlier TEIP[64] programme which focused on schools with a high percentage of students from lower socioeconomic backgrounds, this leaves only a handful of education centres outside the programme. In all, schools have proposed 2 915 measures in different fields such as curricular flexibility, organisational flexibility, multidisciplinary teams, experimental sciences and parents' education.

This significant coverage is very promising but it may be challenging to secure the necessary resources both at local and national levels. The success of the plan in raising performance and closing gaps in the system will depend on capacity to provide technical support, ensure regular monitoring of actions and overall coherence of the different projects.

4. Investing in education and training

Patterns in general government expenditure on education may signal improvements in efficiency of spending. In 2015 spending accounted for 6 % of GDP, down from 7.6 % in 2010. As nominal level of GDP in these 2 years was nearly identical, education expenditure shrank by some 20 % over the period. As a proportion of total general government expenditure, spending on education increased again to 12.4 % in 2015 after falling from 14.8 % in 2010 to 11.8 % in 2014. Set against the major improvements in outcomes discussed earlier, the reduced level of spending seems to indicate greater efficiency in education provision resulting from the reforms implemented. Lower government spending also appears consistent with a steadily shrinking student population, in particular at primary level, and with projections by the National Institute for Statistics predicting that the number of children aged 0 to 14 years will decrease steeply from 1.46 million in 2016 to 0.88 million in 2030.

The national budget for 2017 preserves the 2016 level of financing allocation for school education. The European Social Fund (ESF) will continue to play a key role in education and training. The ESF allocation to human capital[65] will support implementation of the NPPSS, the expansion of vocational education and training and strengthened adult learning through the 'Qualifica programme' (see Section 7). The 2017 national budget allocated to science and higher education provides an increase of 4.6 % compared to 2016**,** confirming the upward trend from the previous year[66]. A significant part of this increase will be used to restore salary levels eroded in previous years, to increase the number of scholarships and to fund a new programme to hire young researchers.

Government and higher education institutions (HEI) have committed themselves to pooling efforts to guarantee funding stability. In July 2016 the Ministry of Science, Technology and Higher Education signed an agreement with all public HEIs (universities and polytechnics) to guarantee stability in public funding during the government's mandate. The government also committed itself to abandoning the common recent practice of reviewing and cutting funding for HEIs during the year. In return, HEIs agreed to a solidarity mechanism so that any HEI facing a financial deficit will be supported through a loan granted by other HEIs in their

64 TEIP: the *educational territories of priority intervention* were launched in 1996, inspired by the French ZEPs (priority intervention zones). Schools with a high percentage of students from a vulnerable socioeconomic background are entitled to benefit from additional funding and support through 'improvement contracts'.

65 SF support in the thematic area for human capital is provided by the Human Capital Operational programme and by regional OPs.

66 The 2016 budget gave an increase of 3.6 % to higher education over 2015.

sector, to be reimbursed over the following years. This prevents the government from receiving unexpected funding requests from HEIs towards the end of the fiscal year. The long announced reform of HEI funding that will replace yearly budgeting by a four-year budget will also help provide institutions with financing stability and enhance their capacity to engage in new projects.

5. Modernising school education

Portugal is making efforts to promote school autonomy. This objective is pursued through the NPPSS to promote school success, but also through the new quality assurance systems at school level and new initiatives for students' participation in policy making and school management. Quality assurance relies on both the direct relationship between school cluster leaders and the Ministry of Education, and on the school councils for clusters, where stakeholders give their views and input on school development plans. External and internal evaluation standards are established for each grade so that schools know what is expected of them. Nevertheless, an important challenge is to develop understanding and ownership of quality assurance indicators — including definitions and understanding of 'quality' — and to ensure that quality assurance focuses on real improvement (European Commission 2017b).

Recent measures seek to improve foreign language learning. Starting from 2015/2016 Portugal has been fully implementing the new policy of making English mandatory for all students aged 8. From 2016/2017, the policy also applies to students aged 9 (Eurydice 2017). In Portugal, Spanish is the second most frequently studied foreign language in general upper secondary education, while French is the second most popular foreign language in vocational education.

Participatory processes seek to improve school governance. The Minister of Education has launched a consultation process with students on the new skills profile, on making curricula more flexible and on future pedagogical changes in schools. The process relies on the organisation of student assemblies in schools to discuss the school of the 21st century. The initiative has been picked up by the OECD as a model for other countries as part of their Education 2030 initiative. In a related effort to support participatory governance, the Ministry of Education launched in 2017 a pilot action under which secondary students are encouraged to make proposals, discuss and vote on how to use a small budget (EUR 800 on average per school) to be spent within the school. Some 1 000 schools are participating. The aim is to develop students' interest and capabilities for civic participation, their financial literacy and engagement in school.

6. Modernising higher education

Tertiary attainment is improving, but the employment rate of recent graduates remains below the EU average. Tertiary attainment in Portugal has significantly increased over the past decade, from 14.9 % in 2003 to 34.6 % in 2016. It is approaching the EU average of 39.1 % but the national target of 40 % by 2020 might be difficult to achieve. Despite the high employability of science, engineering, technology, mathematics (STEM) graduates, there is low student uptake in these fields (GdP 2016). The employment rate of recent tertiary graduates increased to 77.8 % in 2016, but remains below the EU average of 82.8 % and below the national pre-crisis level.

Access to higher education is largely determined by the student's choice of upper secondary education path, but new courses aim to address this issue. Whereas 78 % of graduates from regular secondary education go on to take up higher education, only 6 % of those graduating from vocational secondary education did so in 2014 (DGEEC 2015). The main mechanism to boost enrolment in higher education from upper secondary vocational education and training is the *Cursos Tecnicos Superiores Profissionais, or CTeSPs*. In April 2017, 598 CTeSPs were approved. In 2015-2016, 6 430 students enrolled, 83 % of them in the public sector. Since 2016 there is a public debate on how to adapt the access policy of HEIs to respond to the growing diversity of secondary education paths, while preserving the quality and attractiveness of programmes (CNE, 2017b).

There are overlaps in programmes on offer within the binary higher education system. The public higher education system includes 13 universities, 15 polytechnic institutes and five smaller independent schools. This essentially binary system (universities and polytechnics) is

expected to supply a diversity of programmes to respond to the different needs of the labour market and students' demands for a vocational or academic offer. The flexible legal framework and the growing competition between institutions seeking to attract applicants in a declining demographic landscape have tended to increase overlaps between universities' and polytechnics' programmes, particularly at bachelor's level. Over 40 % of places offered in polytechnics are replicated in similar university programmes, while 25 % of places in universities are also subject to overlaps (A3ES 2013). New measures are emerging to address these inefficiencies.

Unmet capacities in certain regions and institutions further point to the need for the system to be streamlined. From 2009-2010 to 2015-2016 the number of available higher education places on offer decreased by over 20% (DGEEC 2015). This reduction mostly took place in the form of fewer places in private institutions: the proportion of available places in the public higher education sector has increased significantly, accounting for 57 % of places in 2009-2010 and 70 % in 2015-2016. The ongoing reduction in places ended in 2015-2016 with an increase of 51 000 in bachelor's and master's places in public HEIs. Enrolment reached almost 85 % on average in 2015-2016, well up on the previously very low rates (DGEEC 2015), but data point to wide gaps between the different centres. The University of Porto and the University of Lisbon exceeded 90 %, while enrolment hardly reached 40 % in some other institutions. These disparities show further the need to adapt the HEI network to make it more efficient and responsive to students' demand.

The Agency for Accreditation and Evaluation of Higher Education (A3ES) plays a key role in developing quality assurance and helping streamline the HEI offer. In 2017 the A3ES launched an evaluation process of HEIs; this will complement the certification of the quality assurance system developed by each HEI. Certification was done so far on a voluntary basis and thus has covered only a few HEIs, but will now progressively become compulsory. The certifications, together with performance in programme evaluations, research performance and the qualification of academic staff, will be crucial in determining whether HEIs are granted greater autonomy in the next round of evaluations.

Portugal is making efforts to promote digital skills. The new initiative to promote digital skills, the INCoDe2030, includes: a digital literacy and expertise training programme; a code development programme; and graduate and master courses applied to advance manufacturing. It proposes also pilot projects in five polytechnic institutes (Bragança, Cávado e Ave, Leiria, Setúbal e Beja). Each will develop a network community involving businesses, local associations, schools and other stakeholders to reflect on how to improve digital skills in their area. The involvement of ICT businesses in the programmes should allow for a better understanding of their needs.

New initiatives support research careers in HEIs in the context of ageing staff, outflows of highly skilled people and more cooperation with business. The government approved in September 2016 a law regulating the contracting of recent PhD graduates in HEIs (Decree-law 57/2016). The aim is to give researchers more stable working conditions. The recent call for research projects funded by PT2020 and the National Research Council has further strengthened this policy by obliging research institutions with funded projects to hire at least one recent doctorate under these rules. Critics have argued that this is unfair, because conditions for these new contracts are less favourable than for PhD holders already in the system. Its impact may be limited given the financial problems of some HEIs and the need to rejuvenate an ageing teaching and research staff. While it is still too soon to evaluate the full effects, this is an important measure which affects both the quality of teaching and research activities of HEIs, as well as the system's capacity to attract and retain its younger PhD holders in the context of high outflows through emigration.

The Policy Review for University Business Cooperation observed an improvement in the Portuguese environment. This reflects the launch of a number of initiatives in 2016 and 2017 under the national research and innovation strategy for smart specialisation. The 'Interface' programme, one of the strategy's flagship initiatives, encourages joint R&D between universities, research centres and industry by transferring knowledge, developing networks and collaborative platforms and encouraging companies to outsource their R&D to universities. It also provides support to future collaborative laboratories, based mostly in universities, which will promote collaboration in applied research between HEIs and businesses.

7. Modernising vocational education and training and promoting adult learning

Efforts are being made to increase the attractiveness of vocational education and training (VET) and to boost participation of students in upper secondary vocational programmes. Efforts have been made to increase transparency and address overlaps and fragmentation of programmes (*modalidades de formação*) in VET, mainly through the publication of the national credit system in line with the ECVET Recommendation. However, the system is only applicable to double certification training programmes within the national qualifications catalogue. The recently launched 'Qualifica Portal' aims to make obtaining information easier, enabling users to consult programme-related services and tools. The proportion of upper secondary students (ISCED 3) enrolled in VET in Portugal remained stable in 2015 at 44.9 %, just below the EU average of 47.3 %. The employment rate of recent VET graduates increased from 68.6 % in 2015 to 69.8 % in 2016, but is still below the EU average of 75 %.

The recently launched Qualifica Centres network is a key feature of the government's strategy to boost adult education (see Box 2). The number of centres is planned to increase to 300 on the mainland during the first half of 2017 with the creation of 40 new centres. In 2017/2018 the government will also launch the 'Qualifica passport'. This new online tool and platform will upgrade the system for recognising, validating and certifying skills and competences and helping people not in education to access adult learning programmes. Adult participation in learning slightly decreased from 9.7 % in the last 3 years to 9.6 % in 2016 and remains below the EU average of 10.8 %.

Box 2: The Qualifica Programme, a renewed effort to promote adult learning

The QUALIFICA programme focuses on requalification of adults and young NEET to increase their levels of education and employability. It revamps and strengthens the previous CQEPS centres (see below). The main actions are:
- establishment of a network of 300 'Centros QUALIFICA' throughout the country before end-2017;
- reorganisation of the provision of training for adults;
- creation and dissemination of the 'Passaporte QUALIFICA', an online tool for the registration of competences;
- creation of a credit system for professional training more in line with the European system.

The programme aims to reach the following goals by 2020:
1) ensure that 50 % of the active population concludes upper secondary education;
2) increase the number of adults participating in adult learning;
3) 40 % of those aged between 30 and 34 should attain a higher education qualification.

The 'Human Capital' Operational Programme provides financial support for the education of adults in Portugal. Since 2014 it has provided financial support of EUR 11 million for the functioning of the CQEPS adult learning centres, which preceded the Qualifica Centres. A new call will be launched for the 2017/2018 period, amounting to EUR 50 million. The OP also provides support of about EUR 82 million for adult training courses.

8. References

A3ES (2013) Readings n.8: Sarrico C, Rosa M., Teixeira P., Machado I. and Biscaia R. *A eficiência formativa e a empregabilidade no ensino superior*. http://www.a3es.pt/pt/documentos/publicacoes/serie-a3es-readings

Conselho Nacional de Educação (2015), *Estado da Educação 2014*.
http://www.cnedu.pt/content/edicoes/estado_da_educacao/Estado_da_Educação_2014_VF.pdf

Conselho Nacional de Educação (2016), *Estado da Educação 2015*.
http://www.cnedu.pt/content/noticias/CNE/Estado_da_Educacao_2015_versao_digital.pdf

Conselho Nacional de Educação (2017a), *Parecer 'Perfil do aluno para o século XXI',* 130ª Sessão Plenária do CNE.
http://www.cnedu.pt/pt/noticias/cne/1209-parecer-perfil-do-aluno-para-o-seculo-xxi-130-sessao-plenaria

Conselho Nacional de Educação (2017b), *Parecer 'Acesso ao Ensino Superior', 129ª Sessão Plenária do CNE.*
http://www.cnedu.pt/pt/noticias/cne/1203-parecer-acesso-ao-ensino-superior-129-sessao-plenaria-do-conselho-nacional-de-educacao

DGE (2017), Ministério de Educação, *Perfil dos Alunos à Saída da Escolaridade Obrigatória*.
https://dge.mec.pt/sites/default/files/Noticias.../perfil_do_aluno.pdf

DGEEC (2015) '*Enrolments and Graduates in Higher Education in Portugal – Statistical Analysis and International Comparison'*.
European Commission (2015), *The Education and Training Monitor- Volume 2, Portugal fiche*.
https://ec.europa.eu/education/sites/education/files/monitor2016-pt_en.pdf

European Commission (2017a), *Portugal Country Report*.
https://ec.europa.eu/info/files/2017-european-semester-country-report-portugal_en

European Commission (2017b) *Quality Assurance for School Development*, ET2020 Working group on schools.
https://ec.europa.eu/education/sites/education/files/2017-school-development-quality-assurance_en.pdf

Eurydice (2014a), *Key data on early childhood education and care education in Europe*.
http://eacea.ec.europa.eu/education/eurydice/documents/key_data_series/166en.pdf

Eurydice (2014b), *Tackling Early Leaving from Education and Training in Europe*.
http://eacea.ec.europa.eu/education/eurydice/documents/thematic_reports/175en.pdf

Eurydice (2015a), *The European Higher Education Area in 2015: Bologna Process Implementation Report*.
http://eacea.ec.europa.eu/education/eurydice/documents/thematic_reports/182EN.pdf

Eurydice (2015b), *Country Report on ICT in education, Portugal*.
http://www.eun.org/c/document_library/get_file?uuid=72187cdf-a487-42d3-9525-5c7d7bb14318&groupId=43887

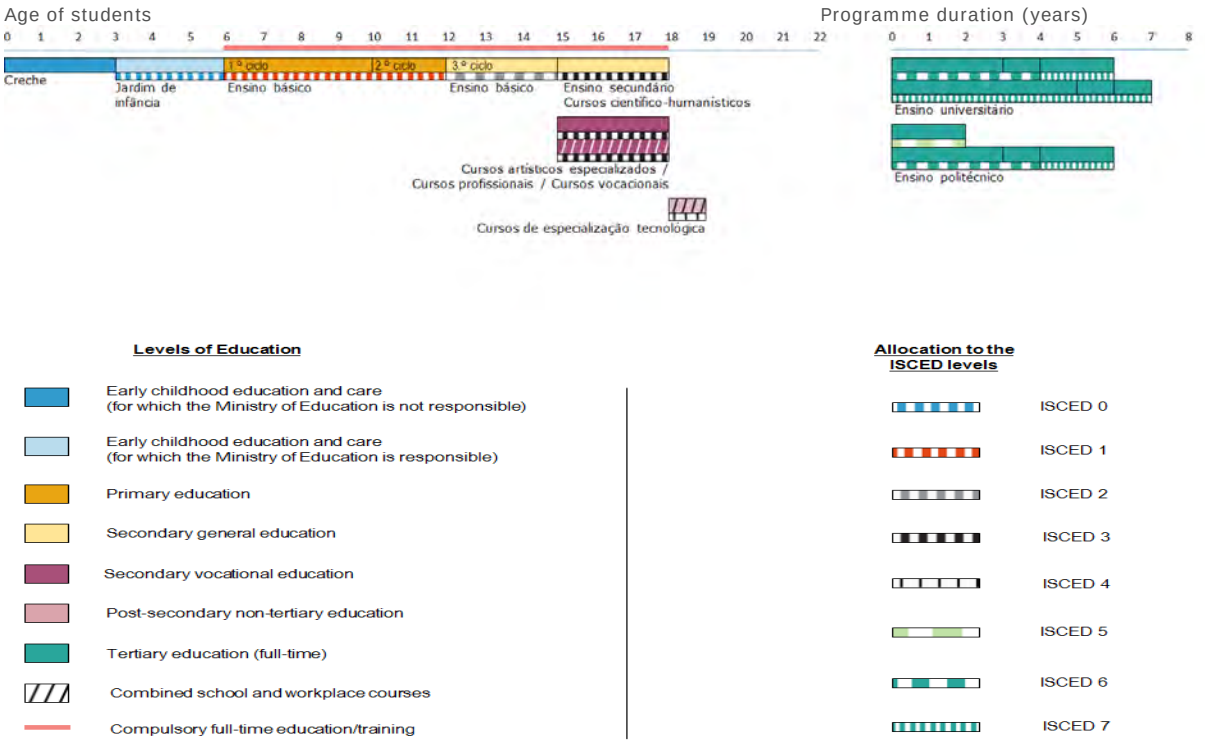
Governo de Portugal (2016) *Relatório Sobre A Avaliação do Acesso ao Ensino Superior*.
http://www.portugal.gov.pt/media/22022458/relatorio-avaliacao-acesso-ensino-superior.pdf

OECD (2016) '*PISA 2015 key findings for Portugal'*.
www.oecd.org/pisa/pisa-2015-portugal.htm

9. Annex I. Key indicator sources

Indicator	Eurostat online data code
Early leavers from education and training	edat_lfse_02 + edat_lfse_14
Tertiary educational attainment	edat_lfse_03 + edat_lfs_9912
Early childhood education and care	educ_uoe_enra10 + tps00179
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	edu_uoe_mobg03

10. Annex II. Structure of the education system



Source: European Commission/EACEA/Eurydice, 2016. *The Structure of the European Education Systems 2016/17: 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:
Antonio Garcia Gomez
Antonio.GARCIA-GOMEZ@ec.europa.eu
or
EAC-UNITE-A2@ec.europa.eu

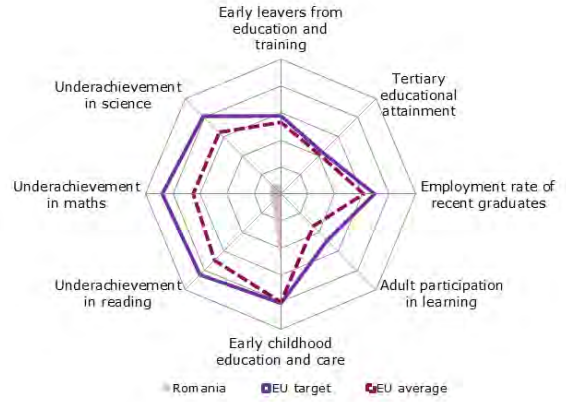
ROMANIA

1. Key indicators

			Romania		EU average	
			2013	2016	2013	2016
ET 2020 benchmarks						
Early leavers from education and training (age 18-24)	Total		17.3%	18.5%	11.9%	10.7%
Tertiary educational attainment (age 30-34)	Total		22.9%	25.6%	37.1%	39.1%
Early childhood education and care (ECEC) (from age 4 to starting age of compulsory education)			85.5% [12]	87.6% [15]	93.9% [12]	94.8% [15]
Proportion of 15 year-olds with underachievement in:	Reading		37.3% [12]	38.7% [15]	17.8% [12]	19.7% [15]
	Maths		40.8% [12]	39.9% [15]	22.1% [12]	22.2% [15]
	Science		37.3% [12]	38.5% [15]	16.6% [12]	20.6% [15]
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-8 (total)		67.2%	69.3%	75.4%	78.2%
Adult participation in learning (age 25-64)	ISCED 0-8 (total)		2.0%	1.2%	10.7%	10.8%
Other contextual indicators						
Education investment	Public expenditure on education as a percentage of GDP		2.8%	3.1% [15]	5.0%	4.9% [15]
	Expenditure on public and private institutions per student in € PPS	ISCED 1-2	€1 700	€1 866 [14]	:	: [14]
		ISCED 3-4	€1 959	€2 328 [14]	:	: [14]
		ISCED 5-8	€2 979	€4 180 [14]	:	: [14]
Early leavers from education and training (age 18-24)	Native-born		17.4%	18.6%	11.0%	9.8%
	Foreign-born		:	:	21.9%	19.7%
Tertiary educational attainment (age 30-34)	Native-born		22.9%	25.6%	37.8%	39.9%
	Foreign-born		:	:	33.4%	35.3%
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-4		55.0%	59.6%	69.4%	72.6%
	ISCED 5-8		77.2%	80.7%	80.7%	82.8%
Learning mobility	Inbound graduates mobility (bachelor)		1.6%	2.5% [15]	5.5%	6.0% [15]
	Inbound graduates mobility (master)		2.5%	4.4% [15]	13.6%	15.1% [15]

Sources: Eurostat (see section 9 for more details); OECD (PISA). Notes: data refer to weighted EU average, covering a different numbers of Member States depending on the source; b = break in time series, d = definition differs, e = estimated, p = provisional, u = low reliability, 12 = 2012, 14 = 2014, 15 = 2015. On learning mobility, the EU average is calculated by DG EAC based on available country data in all years. Further information is found in the respective section of Volume 1 (ec.europa.eu/education/monitor).

Figure 1. Position in relation to strongest (outer ring) and weakest performers (centre)



Source: DG Education and Culture calculations, based on data from Eurostat (LFS 2016) and OECD (PISA 2015). Note: all scores are set between a maximum (the strongest performers visualised by the outer ring) and a minimum (the weakest performers visualised by the centre of the figure).

2. Highlights

- Romania is implementing a competence-based curriculum in school education. Plans are underway to train teachers to teach the modernised curriculum.
- Underachievement in basic skills remains one of the highest in the EU. This is due to educational factors and equity challenges. Access to quality mainstream education is particularly a challenge for students in rural areas and for Roma.
- Funding for education is very low. Early school leaving risks remaining high, with consequences for the labour market and for economic growth.
- The labour market relevance of higher education is improving, but tertiary educational attainment is the lowest in the EU.
- Efforts to introduce dual vocational education and training are underway. Adult participation in learning remains low despite the need for upskilling.

3. Tackling inequalities and promoting inclusion

Students' performance is linked to socioeconomic background. The 2015 OECD Programme for International Student Assessment (PISA) survey found that more than half of 15-year-olds from the lower socioeconomic quartile do not possess the minimum level of skills in science (56.1 %), reading (57.5 %) and mathematics (59 %). Underachievement among disadvantaged students is almost three times higher than within the top socioeconomic quartile[67], even though rates for the latter group are high in international comparison. This gap is one of the highest in the EU (36.9 pp. in science, compared to 26.2 pp. in the EU). Although resilience among disadvantaged students[68] is low (11.3%), including compared to Eastern and Central European peers[69], it has almost doubled since 2006 (OECD 2016).

High early school leaving (ESL) is concentrated in rural areas and among Roma. The proportion of early school leavers among young people aged 18-24 decreased slightly (from 19.1 % in 2015 to 18.5 % in 2016), but remains the third highest in the EU. The national Europe 2020 target of 11.3 % remains beyond reach. The difference between ESL in rural (26.6 %) and urban areas (6.2 % in cities, 17.4 % in towns and suburbs) is high. Annual dropout rates remain high, in particular in rural areas, suggesting that early school leaving will remain a challenge in the years to come. Two national European Social Fund (ESF)-financed calls were launched to finance prevention measures in disadvantaged schools and support the provision of quality education by attracting motivated staff, but implementation on the ground has not started yet. A warm meal programme is being piloted in disadvantaged schools. Preparations for an ESF call to improve the low availability of second chance programmes are underway. However, the design of second chance programme is not flexible enough in particular for adult learners. Accessibility is rather limited in rural areas and programmes are often organised only at specific times of the school year. The alignment between vocational education and training (VET) and second chance programmes requires further strengthening, as well as the focus on basic skills. More alternative pathways are needed to cater for diverse target groups, according to their needs. There are plans to set up a national after-school programme (NRP 2017) and work has begun on developing an early warning mechanism for ESL.

Participation in early education and care (ECEC) is low, but improving. The participation of children aged between 4 and the compulsory school age is increasing gradually, but remains below the EU average (87.6 % in 2015 vs 94.8 %). Romania is currently implementing a means-tested

67 19.2 % in science, 20.4 % in reading and 20 % in mathematics.
68 Resilient students are those from the bottom quartile of the PISA index of economic, social and cultural status (ESCS) who beat the odds against them and perform at high levels when compared with students of the same socio-economic status from around the world.
69 13.6% in Bulgaria, 17% in Hungary, 48% in Estonia.

programme to increase the participation of children from disadvantaged backgrounds. Although the number of new enrolments in kindergarten has not increased significantly, the programme has improved attendance rates. Enrolment for children aged under 2 is very low (1.2 % in 2015), largely due to lack of facilities. In 2012 Romania introduced a preparatory grade into compulsory education, which is assessed as having had a positive impact on reducing dropout rates in the first school years (MoE 2015a) and as having helped reduce disparities among students (IES 2013). The curriculum for kindergarten will be revised with funding from the ESF.

Rural-urban disparities and inequality in education often overlap. Access to quality education is a particular challenge in rural areas, where 45% of Romania's school population (ISCED 1-2) is studying. External evaluations carried out by ARACIP, the quality assurance body in pre-university education, show that rural schools score below urban schools on all performance indicators (ARACIP 2015). The gap in educational outcomes is also confirmed by national examination results. In 2016, 37.5% of 8th grade students in rural schools had poor results (under the 5 mark level) at the national evaluation, compared to 15% in urban schools. Inequalities are further exacerbated by the widespread use of private tutoring, particularly to prepare for national examinations (OECD 2017). The 2017 country-specific recommendations call on Romania to improve access to quality mainstream education, in particular for Roma and children in rural areas.

Challenges in the integration of Roma in education hinder their social inclusion and ability to find employment. A recent survey by the European Agency for Fundamental Rights (FRA 2016) shows that only 38 % of Roma children attend ECEC, while 77 % of Roma aged 18-24 are early school leavers. This indicates that ECEC participation has worsened since 2011, when the figure was 45 %. Meanwhile, the proportion of early school leavers has decreased (compared with 90% in 2011), but remains very high. 64 % of Roma aged 16-24 are out of employment, education and training and only 33 % of Roma aged 20-64 are doing paid work (FRA 2016). By contrast, the survey indicates that 29 % of Roma children receive education in schools where all or most students are Roma. This proportion is the lowest among peer countries (Bulgaria: 60 %, Czech Republic: 30 %, Hungary: 61 %, Slovakia: 62 %). Projects targeting Roma students were prioritised under the ESF. Desegregation criteria were expanded to include other vulnerable groups such as children from rural areas and children with disabilities. The monitoring responsibilities of schools inspectorates were expanded, but there is no standard monitoring methodology.

4. Investing in education and training

Spending on education is low, and mechanisms to channel funds to disadvantaged schools are insufficient. Romania's general government expenditure on education as a proportion of GDP remains the lowest in the EU: 3.1 % in 2015 compared to the EU average of 4.9 %. In 2015 education spending has increased in real terms (+5.6 %), but represents just 8.6 % of total government spending (EU average 10.3 %), below pre-crisis levels. In February 2017 the standard cost per student increased. However, underfunding is evidenced by the unusually large financial burden falling on Romanian households, which spend 35 % of what the government spends on education: this is the highest proportion in the EU. There are no targeted programmes to channel additional resources to disadvantaged schools (OECD 2017). The funding per student formula introduced in 2011 has provided more predictability and improved transparency, but existing correction coefficients are insufficient to address the needs of schools in disadvantaged areas, and also the specific expenditure of VET programmes, partly due to the general low level of funding (UNICEF 2014a). Schools in urban areas are also more likely to receive discretionary complementary funding from local authorities (OECD 2017).

Increasing spending in education may help improve educational outcomes, support human capital development and economic growth. Figure 2 shows that quality educational outcomes are not being achieved with a very low level of spending, including in the case of Romania. A 2014 study estimated significant losses due to non-investment in education, arguing that 'more resources allocated to education could create the conditions for economic development and growth' (UNICEF 2014b). Already, high rates of underachievement in basic skills, coupled with early school leaving and low tertiary attainment do not meet the increasing needs for skilled labour

supply, particularly given the emigration[70] experienced by the country. Overall, evidence from PISA suggests that money relates to learning outcomes among low-spending countries, whereas for the majority of countries what matters most is how resources are allocated, as well as qualitative differences in education policies, cultural norms and professional practices (OECD 2016). Particularly in the context of declining student population, increasing spending while ensuring gains in efficiency and at the same time improving equity is important.

5. Modernising school education

High underachievement in basic skills in PISA is explained by a combination of educational factors and challenges in relation to equity. In PISA 2015, 38.5 % of Romanian 15-year-olds failed to achieve a minimum level of knowledge in science (EU-28: 20.6 %), 38.7 % in reading (EU-28: 19.7 %), and 39.9 % in mathematics (EU-28: 22.2 %). 24% of students are low achievers in all three subjects tested. While underachievement is particularly high in the bottom socioeconomic quartile, it is also relatively high across the socioeconomic spectrum. This shows that educational factors such as teaching and curricula have an important impact on educational outcomes. The proportion of top performing students– those capable of solving complex problems — is the lowest in the EU (2 % in reading, 3.3 % in mathematics and 0.7 % in science). This may suggest that current teaching approaches are ill-equipped to foster more complex, higher-order skills (OECD 2017). Although Romania's average performance in PISA has improved compared to 2006 (from 418 to 435 score-points), it remains by around two years of schooling below the EU-average (495 score-points in 2015). This performance would be even lower if the high proportion of students not enrolled in formal education were included (OECD 2017).

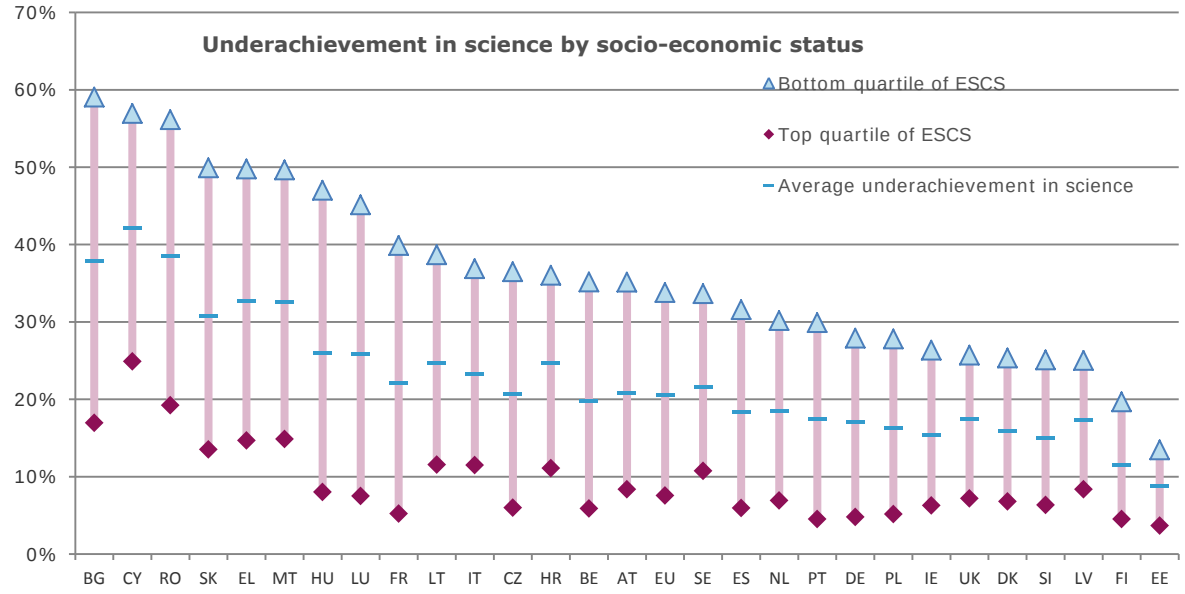
Romania is implementing a student-centred school curriculum focused on key competences. Following the implementation of a competence-based curriculum for primary education, Romania has started phasing in a new curriculum for lower secondary education (with 5th grade in the current school year). In this context, it is important to strengthen learning standards to encourage changes in teaching and use student assessment for classroom and national examinations to improve the new learning standards (OECD 2017). ESF will finance continuous professional development to train teachers to teach the new competence-based curriculum. A modernisation of the curriculum for upper secondary education is planned (NRP 2017).

Strengthening initial teacher education (ITE) remains a challenge. Initial teacher education in Romania offers less preparation than in other European countries, especially in practical domains (OECD 2017), while subjects related to special educational needs and working with students from disadvantaged backgrounds are insufficiently covered. Although the Education Law requires teachers to follow a two-year master's programme in education, this legal requirement was not implemented. The authorities are looking into the possibility of designing a dedicated ITE module focused on special educational needs.

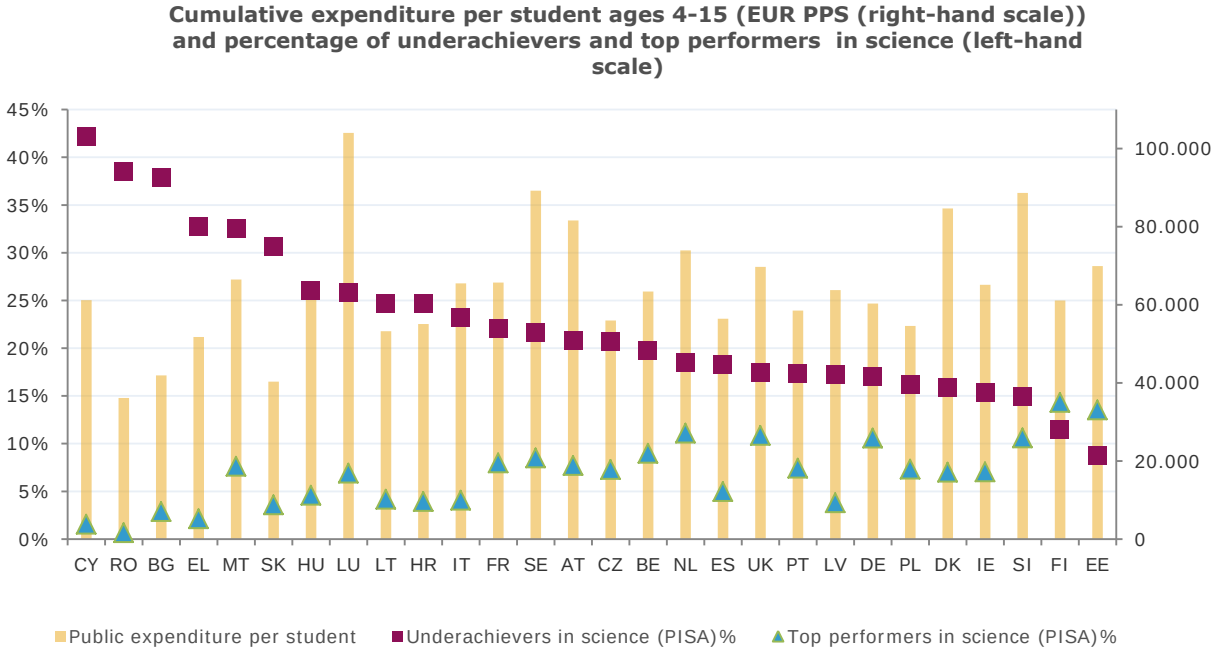
Teacher salaries are increasing, but attracting high-quality teachers in disadvantaged schools remains difficult. Salaries of teachers are increasing, but remain low (OECD 2017) and salary progression is slow. The salary grid was revised last year, resulting in an average 10 % increase for beginner teachers, while in February 2017 teachers' salaries increased by 15 %. Teachers in rural areas also receive an additional allowance, but attracting teachers to disadvantaged schools remains difficult. The current merit-based allowance system, which rewards teachers who achieve exceptional results in examinations and competitions, may encourage a narrow focus on preparation for tests and academic competitions (OECD 2017). In December 2016, criteria for working with disadvantaged students, including students at risk of dropout, were included in merit allowances, but their impact in practice is unclear.

[70] Romania has one of the highest proportions of active, highly educated people having emigrated within the past decade (EC 2015).

Figure 2. Performance in PISA in 2015



Note: Countries are ranked in descending order of the average proportion of underachievement among the bottom quartile of the PISA index of economic, social and cultural status (ESCS).
Source: DG EAC based on PISA 2015.



Source: DG EAC elaboration based on Eurostat and PISA 2015.

Box 1: Quality assurance in school education

Despite improvements over time, quality assurance remains largely focused on compliance due to a combination of features of the current evaluation system:

- lack of a shared definition of school quality to guide evaluation and improvement;
- fragmentation of responsibilities and duplication of work;
- limited feedback and support to low-performing schools;
- challenges linked to self-evaluation by schools.

The perception is that external and internal evaluations have minimal impact on teaching and learning practices (OECD 2017).

There are three external evaluation bodies, each employing their own methodology: the Romanian Agency for Quality Assurance in Pre-University Education (ARACIP); county-level schools inspectorates; and the Monitoring and School Inspection Directorate of the Ministry of Education. Evaluations carried out every five years by ARACIP focus on institutional capacity, educational effectiveness and quality management. However, ARACIP has no legal authority to support school development and improvement (Eurydice 2015) and cannot make recommendations for remedial, corrective or awareness-raising measures (ARACIP 2015). Although self-evaluation is mandatory, it is not widely regarded as a meaningful improvement exercise by schools. Reasons for this include limited capacity and weak school autonomy (OECD 2017).

Mechanisms to support school improvement and development are relatively weak. County schools inspectorates, which are responsible for checking quality in the school system, carry out their own evaluations and make recommendations. In practice, the focus is largely on compliance with regulations. Although the inspectorates are expected to provide support to schools, most of their formal tasks relate to monitoring and control activities. Objectivity of evaluations may also be undermined by the closeness between inspectorates and schools in the same county and by political influence (OECD 2017). The joint UNICEF-OECD review therefore recommends an overhaul of the external evaluation system, in which ARACIP would become the prime external evaluator, while schools inspectorates would strengthen their supporting role.

6. Modernising higher education

The tertiary educational attainment rate is the lowest in the EU. Although tertiary educational attainment (ages 30-34) more than doubled over the last decade — from 12.4 % in 2006 to 25.6 % in 2016 — it has not increased since 2015 and is the lowest in the EU. The target of 26.7 % by 2020 is achievable, but catching up to the EU average (39.1 % in 2016) in the medium term is challenging. This is due to a combination of factors that limit the potential number of students: high dropout rates in pre-university education, increasing but relatively low pass rates for the baccalaureate exam and low participation of disadvantaged groups in higher education. In 2015 the enrolment rate for the 20-24 age group, i.e. those likely to be in higher education[71] was 28 %. Coupled with the emigration of highly skilled workers, low tertiary attainment risks creating skills shortages in knowledge-intensive sectors and ultimately limiting economic growth.

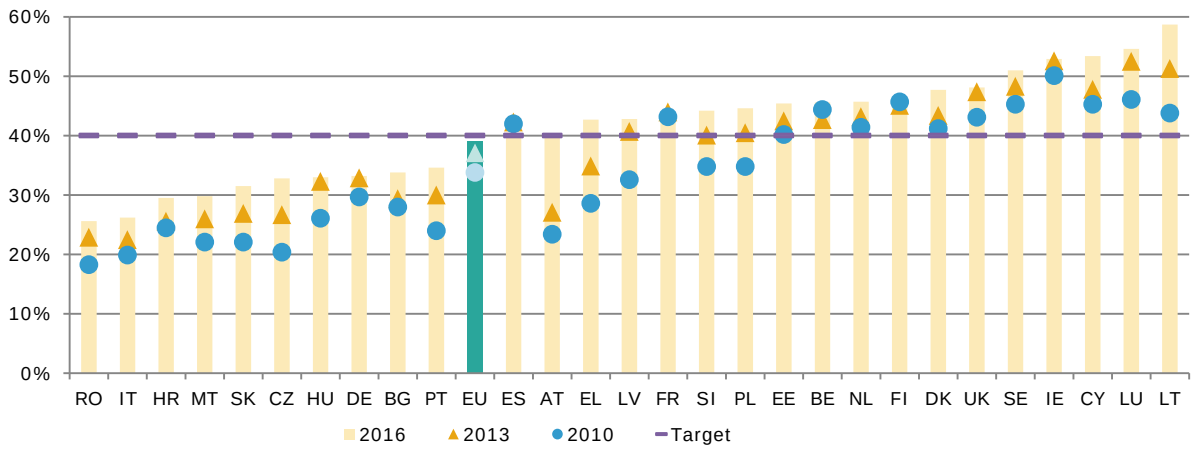
Skills shortages are starting to emerge in a number of economic sectors, and continued emigration adds to the challenge. ICT, health and education are the top three professions for which skills shortages are expected (Cedefop 2017). STEM accounted for 28 % of Romania's graduates - around the average of 26 % in the EU-, but actual numbers are low due to low participation in tertiary education and declining number of students. Remedying the problem of such skills shortages will require integrated approaches to address quality and participation in higher education alongside improving school quality standards.

[71] This indicator may be slightly impacted by the number of Romanian students abroad: 30 100 in 2014, the equivalent of 5 % of higher education students (ISCED 5-8) in that year.

Labour-market relevance of higher education is improving, but challenges remain. The employment rate of recent tertiary graduates is increasing, supported by developments in both the labour market and education. The indicator reached 80.7 % in 2016, narrowing the gap to the EU average of 82.8 %, but remains below pre-crisis levels; the rate was 93 % in the peak year of 2008, when graduate numbers also peaked. Romania has adopted a 2015-2020 strategy for higher education with the aim of raising quality, labour-market relevance and participation of disadvantaged groups, but implementation is slow.

Fostering excellence in higher education and research remains a challenge. Although several measures were put in place to improve quality and labour-market relevance, including ongoing efforts to improve external evaluation procedures and standards for bachelor and master's programmes, several challenges remain, including in quality assurance in universities and doctoral schools. Temporary accreditation was awarded to doctoral schools to allow them to function without the five-year re-evaluation required by law. Plagiarism cases raised questions over the quality of academic ethics and of doctoral schools. More recently, a controversial decision by the Ministry of Research and Innovation limits the participation of foreign peers in the evaluation of national research projects. This raises concerns over the governance, efficiency and openness of Romania's public research and higher education system.

Figure 3. Tertiary educational attainment in the EU



Source: Eurostat, online data code: [edat_lfse_03].

Box 2: Tracking of university graduates

Although tracking of university graduates is not done systematically in Romania, recent measures mark some progress in this direction. An ESF-financed project aims to support the development of a tool to monitor graduates' insertion into the labour market. The project seeks to analyse the compatibility between higher education and employers' requirements, including by analysing the quality and relevance of labour market programmes offered by universities by fields of study at regional level. The project also seeks to improve the decision-making process at the level of the Ministry of Education, and support its forecasting capacities by developing partnerships and a permanent consultation mechanism between the Ministry, universities and employers.

7. Modernising vocational education and training and promoting adult learning

Measures to improve vocational education and training (VET) are underway, but challenges remain. The proportion of upper secondary VET students (ISCED 3) decreased slightly in 2015 to 56.3 %, but remained above the EU average of 47.3 %. The employment rate of recent VET graduates is lower than the EU average (63.3 % vs 75 % in 2016). Reforms in VET continued in the past year, with particular attention to dual VET. Following an extensive consultation process of the main VET stakeholders, the legal framework to allow for dual VET at levels 3, 4 and 5 of the national qualifications framework was adopted at governmental level and awaits approval by Parliament. Private companies involved in dual VET will be offered tax incentives to provide training and will be involved more in decision-making at school level. Effectiveness of measures aimed at aligning qualifications with labour market requirements still needs to be improved. An integrated and robust system of collecting feedback from employers about the relevance of qualifications is still to be developed, despite the isolated good experiences of some education institutions. Guidance and counselling services are still under-developed and lack a common methodology to be effective across all educational levels. Further efforts are needed to improve the attractiveness of VET as a career choice and not mainly as a 'second choice' option. Another measure (still to be adopted by Parliament) proposes support for VET students by ensuring free meals and accommodation to help prevent dropout.

Adult participation in learning remains very low despite the widespread need for upskilling. Adult participation in learning continues to be very low, at 1.2 % in 2016, well below the EU average (10.8 %). The unemployed are less likely to engage in learning (2.1 %) compared with the EU average (9.5 %), as well as older people (0.3 % versus 6.9 %) and low-qualified adults (0.3 % versus 4.3 %). The adult learning system in Romania remains fragmented, and its different components have developed in disparate ways. For example, the validation of prior learning is well developed, but there is no database of possible courses where adults can go to supplement the competences they lack, which would make it possible to match adult learners' needs and demands with the educational offer. In addition, there is poor data collection and a limited culture of participation in lifelong learning, particularly among the large population living in rural areas and working in subsistence and semi-subsistence agriculture, where there is poor educational infrastructure and limited access to learning opportunities.

Implementation of adult learning measures is slow. Implementation of the national strategy for lifelong learning adopted in 2015 has been delayed. The legal framework establishing community centres for lifelong learning was adopted in August 2017, but support for capacity building and training of adult learning professionals to ensure quality and diverse educational provision have yet to be developed. Adoption of the new national registry of qualifications was again postponed. The registry is intended as a single reference tool in training, ensuring fair access to national and European labour markets and matching labour market needs. Access to continuing VET learning programmes is hampered by entry requirements linked to the completion of lower secondary education.

8. References

ARACIP (2015), *Studiu privind nivelul calității serviciilor educaționale înregistrat prin standardele în vigoare și cel înregistrat prin noile standard, precum și privind mecanismele, standardele și procedurile de evaluare internă și externă în România și în alte țări din Uniunea Europeană.* https://www.edu.ro/sites/default/files/_fi%C8%99iere/studii%20si%20analize/2016/aracip/RAPORTUL%20NATIONAL%20septembrie%202015.pdf

Cedefop Skills Panorama (2017). http://skillspanorama.cedefop.europa.eu/en/countries/romania

Council of the European Union (2017), *Council recommendation of 11 July on the 2017 National Reform Programme of Romania and delivering a Council opinion on the 2017 Convergence Programme of Romania.* http://data.consilium.europa.eu/doc/document/ST-9254-2017-INIT/en/pdf

EC (2015), European Commission, *Employment and Social Development in Europe 2015.* http://ec.europa.eu/social/main.jsp?catId=738&langId=en&pubId=7859&furtherPubs=yes

EC (2016), European Commission, *PISA 2015: EU performance and initial conclusions regarding education policies in Europe", based on OECD PISA 2015,* https://ec.europa.eu/education/sites/education/files/pisa-2015-eu-policy-note_en.pdf

Eurydice (2015), *Assuring Quality in Education: Policies and Approaches to School Evaluation in Europe.* http://eacea.ec.europa.eu/education/eurydice/documents/thematic_reports/178en.pdf

FRA (2016, European Union Agency for Fundamental Rights, Second European Union Minorities and Discrimination Survey (EU-MIDIS II) Roma – Selected findings. http://fra.europa.eu/en/publication/2016/eumidis-ii-roma-selected-findings

IES (2013), *Institute for Education Studies, Implementation of the Preparatory Year, Institute of Educational Sciences, Bucharest.*

MoE (2015a) Ministry of Education, *Raport privind starea învățământului preuniversitar în România*. https://www.edu.ro/sites/default/files/Raport%20Stare%20invatamant%20preuniversitar%202015.pdf

MoE (2015b), Ministry of Education, *Raport privind starea învățământului superior în România.* https://www.edu.ro/raport-privind-starea-%C3%AEnv%C4%83%C8%9B%C4%83m%C3%A2ntului-superior-%C3%AEn-rom%C3%A2nia-2015

NRP (2017), *National Reform Programme of Romania.* https://ec.europa.eu/info/sites/info/files/2017-european-semester-national- reformprogramme-romania-en.pdf

OECD (2016), *PISA 2015 Results (Volume I): Excellence and Equity in Education,* http://dx.doi.org/10.1787/9789264266490-en.

OECD (2017), *Reviews of Evaluation and Assessment in Education, Kitchen, H., et al., Romania 2017,* http://dx.doi.org/10.1787/9789264274051-en

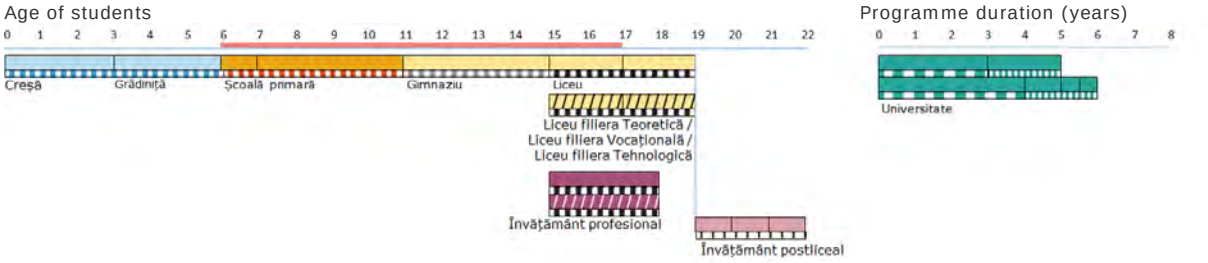
UNICEF (2014a), and Institute for Education Studies, *Financing the Pre-graduate Education System Based on the Standard Cost: A Current Assessment from the Equity Perspective,* http://www.unicef.org/romania/Studiu.ISE.eng.pdf

UNICEF (2014b), *Cost of non-investment in education in Romania.* https://www.unicef.org/romania/Cost.Noninvest.web.pdf

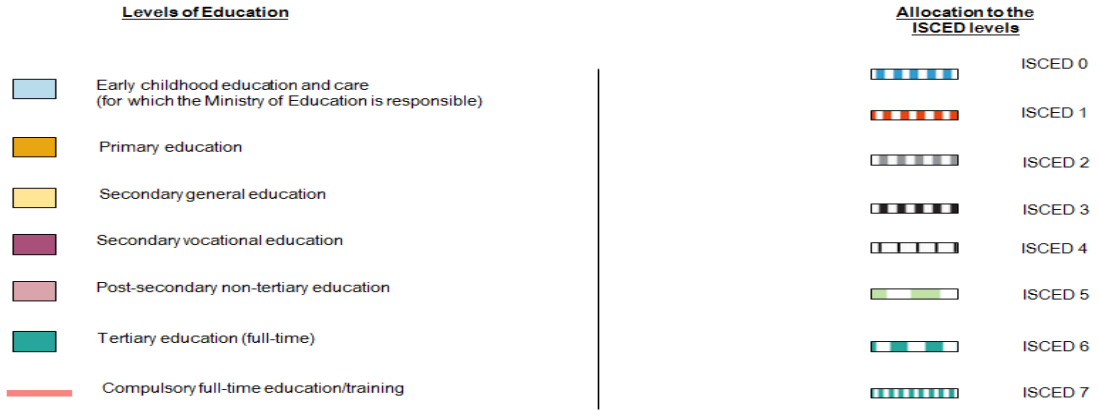
9. Annex I. Key indicator sources

Indicator	Eurostat online data code
Early leavers from education and training	edat_lfse_02 + edat_lfse_14
Tertiary educational attainment	edat_lfse_03+ edat_lfs_9912
Early childhood education and care	educ_uoe_enra10 + tps00179
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	edu_uoe_mobg03

10. Annex II. Structure of the education system



Note: Under Article 23(1)(e) of the National Education Act (Law No 1/2011), as amended, *învățământ postliceal* is defined as 'non-university tertiary education' (*învățământ terțiar non-universitar*). According to the International Standard Classification on Education (ISCED), *învățământ postliceal* is defined as ISCED 4 level.



Source: European Commission/EACEA/Eurydice, 2016. *The Structure of the European Education Systems 2016/17: 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:
Alexandra Tamasan
alexandra.tamasan@ec.europa.eu
or
EAC-UNITE-A2@ec.europa.eu

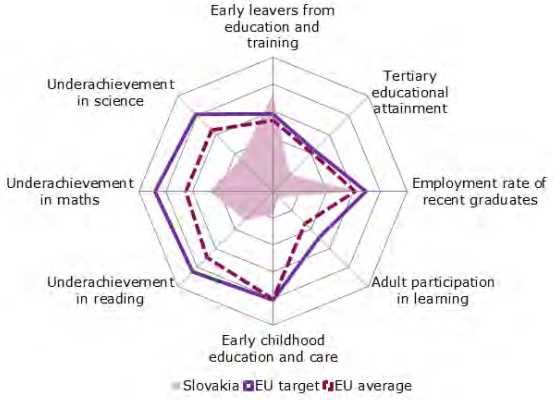
SLOVAKIA

1. Key indicators

			Slovakia 2013	Slovakia 2016	EU average 2013	EU average 2016
ET 2020 benchmarks						
Early leavers from education and training (age 18-24)	Total		6.4%	7.4%	11.9%	10.7%
Tertiary educational attainment (age 30-34)	Total		26.9%	31.5%	37.1%	39.1%
Early childhood education and care (ECEC) (from age 4 to starting age of compulsory education)			77.1% [12]	78.4% [15]	93.9% [12]	94.8% [15]
Proportion of 15 year-olds with underachievement in:	Reading		28.2% [12]	32.1% [15]	17.8% [12]	19.7% [15]
	Maths		27.5% [12]	27.7% [15]	22.1% [12]	22.2% [15]
	Science		26.9% [12]	30.7% [15]	16.6% [12]	20.6% [15]
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-8 (total)		70.3%	79.6%	75.4%	78.2%
Adult participation in learning (age 25-64)	ISCED 0-8 (total)		3.1%	2.9%	10.7%	10.8%
Other contextual indicators						
Education investment	Public expenditure on education as a percentage of GDP		4.0%	4.2% [15]	5.0%	4.9% [15]
	Expenditure on public and private institutions per student in € PPS	ISCED 1-2	€4 278	€4 580 [14]	:	: [14]
		ISCED 3-4	€4 299	€4 866 [14]	:	: [14]
		ISCED 5-8	:	€8 242 [14]	:	: [14]
Early leavers from education and training (age 18-24)	Native-born		6.4%	7.4%	11.0%	9.8%
	Foreign-born		:	:	21.9%	19.7%
Tertiary educational attainment (age 30-34)	Native-born		26.8%	31.5%	37.8%	39.9%
	Foreign-born		:	:	33.4%	35.3%
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-4		63.1%	75.9%	69.4%	72.6%
	ISCED 5-8		76.7%	82.5%	80.7%	82.8%
Learning mobility	Inbound graduates mobility (bachelor)		4.2%	4.2% [15]	5.5%	6.0% [15]
	Inbound graduates mobility (master)		3.5%	4.6% [15]	13.6%	15.1% [15]

Sources: Eurostat (see section 9 for more details); OECD (PISA). Notes: data refer to weighted EU average, covering a different numbers of Member States depending on the source; b = break in time series, d = definition differs, e = estimated, p = provisional, u = low reliability, 12 = 2012, 14 = 2014, 15 = 2015. On learning mobility, the EU average is calculated by DG EAC based on available country data in all years. Further information is found in the respective section of Volume 1 (ec.europa.eu/education/monitor).

Figure 1. Position in relation to strongest (outer ring) and weakest performers (centre)



Source: DG Education and Culture calculations, based on data from Eurostat (LFS, 2016) and OECD (PISA, 2015). Note: all scores are set between a maximum (the strongest performers visualised by the outer ring) and a minimum (the weakest performers visualised by the centre of the figure).

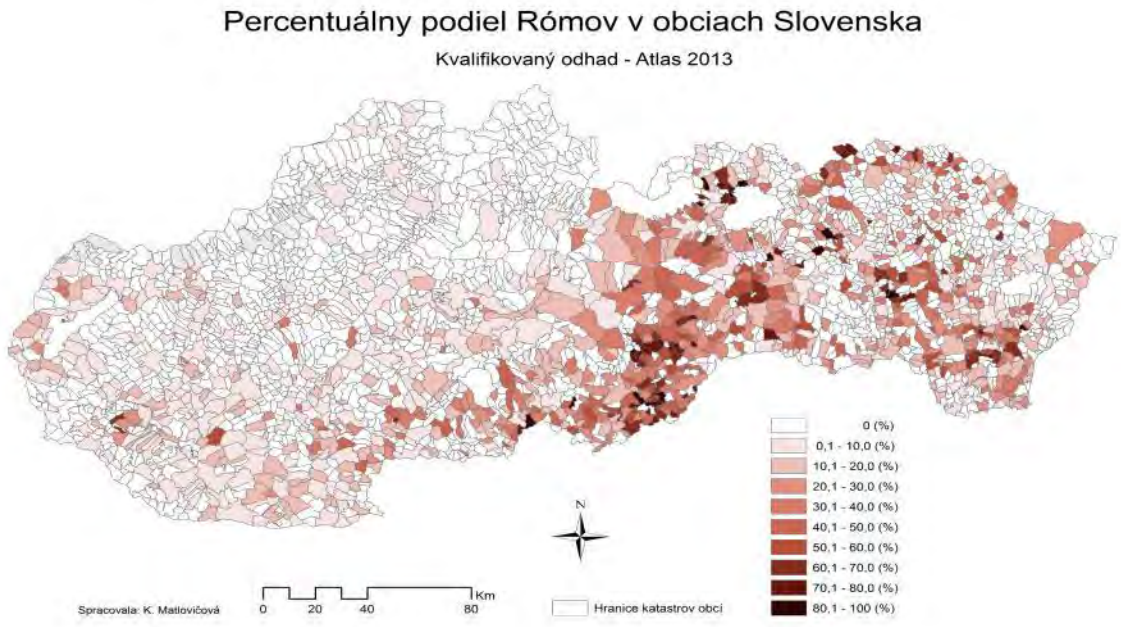
2. Highlights

- Slovakia is aiming to develop more strategic central steering of education policies.
- PISA 2015 results showed a decline in basic skills and a high level of inequality, with low achievement strongly linked to socioeconomic background. There are large regional disparities, particulary affecting the Roma community.
- Teachers are insufficiently paid and their status is low, limiting the attractiveness of the profession. Their continuing professional development is not sufficiently targeted to development needs. Initial teacher education is not clearly focused on preparing for practical teaching.
- Education continues to be relatively underfunded at all levels.
- Slovakia's tertiary attainment rate has made substantial progress. Quality assurance of higher education does not yet meet international standards, the sector is insufficiently internationalised and lacks a professionally oriented short-cycle study offer.

3. Tackling inequalities and promoting inclusion

In 2017 Slovakia received a country-specific recommendation on quality, equity and access to education, in particular for Roma. The recommendation by the Council of the European Union calls on Slovakia to '*Improve the quality of education and increase the participation of Roma in inclusive mainstream education*' (Council of the European Union, 2017)[72]. The country's socioeconomic and educational exclusion of its Roma communities (estimated by the 2011 census at 2 % of the population) is a key problem[73]. Roma communities are mainly in the central and eastern parts of the country (see map below). The 2016 EU Agency for Fundamental Rights (FRA) survey indicates that 62 % of Roma children attend a school where all or most other children are also Roma (FRA 2016). The 2015 OECD Programme for International Student Assessment (PISA) survey shows a very wide gap between pupils who speak Slovak at home and those who do not — most commonly Roma pupils. In science, this gap is 106 points, equivalent to more than 3 years of schooling (OECD, 2016a). A recent Amnesty International report criticises Slovakia for continued discrimination against Roma children and their over-representation in special schools[74]. Almost 2 years after the European Commission launched an infringement procedure over the segregation of Roma children in education, the report sees no real progress (Amnesty International, 2017). In addition, the national prohibition on collecting data based on ethnic origin hinders better understanding of the problem.

72 See http://data.consilium.europa.eu/doc/document/ST-9310-2017-INIT/en/pdf.
73 See also '*Action plans for the least developed regions of Slovakia*'; http://www.nro.vlada.gov.sk/18329-sk/akcny-plan/.
74 Amnesty International studied two basic schools and two special basic schools.



Map: Roma communities in Slovakia in 2013 in % of total population at local level, from 'Atlas Rómskych Komunít na Slovensku' (UNDP, 2014)[75].

Educational outcomes further deteriorated in PISA 2015; socioeconomic status continues to have a strong influence on performance. The proportion of low achievers in PISA 2015 is significantly higher than the EU and OECD averages in all areas tested (31 % in science, 32 % in reading and 28 % in mathematics). Slovakia's general performance deteriorated in 2009-2015 (see Figure 2 below on reading (OECD, 2016b). The gap in achievement between upper and lower socioeconomic quartiles is among the widest in the EU at more than 35 percentage points (pps), compared to an EU average of 26 pps. Half of all pupils in the bottom social quartile are low achievers. At the same time, the proportion of low achievers among the top social quartile is higher than in most other EU countries. Slovakia also shows a very sizeable gender gap in reading, with boys 13.2 pps. more likely to be low achievers than girls (European Commission, 2016). These results are confirmed in other international surveys, such as the 2015 Trends in International Mathematics and Science Study (IEP, 2017).

Slovakia's 2017 national reform programme sets the ambitious goal of reaching the OECD average performance level on basic skills by 2020 – it seems unlikely that this can be achieved. The draft 'Learning Slovakia' consultation paper published by the Education Ministry in March 2017 proposes improvement in mathematics, for example, through increasing support for out-of-school activities to boost numeracy (Ministry of Education, 2017a). The Slovak Chamber of Teachers in a February 2017 opinion points to a range of issues including: a shortage of assistant teachers and of teacher trainers; insufficient preparation of teachers for pedagogy; poor inter-ministerial cooperation; no systemic approach to social inclusion; and underfunding (Slovak Chamber of Teachers, 2017)

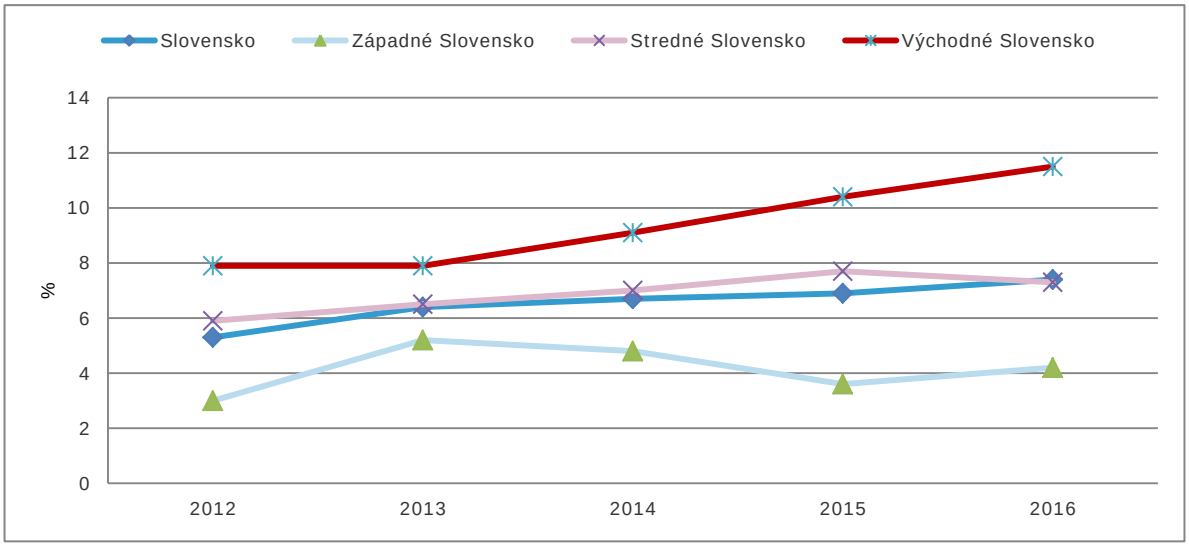
75 http://www.minv.sk/?atlas_2013.

Figure 2. Progress towards meeting the benchmark of low achievers in reading, PISA 2009, 2012, 2015

*Source:*OECD (PISA 2009; 2012; 2015). Online data codes: table 1.4.2a.

School dropout has risen and there are large regional disparities. The rate of early school leaving (ESL) is low at 7.4 %, well below the EU average of 10.7%. However, it has risen since 2012 when it stood at 5.3 %. Eurostat data show a sizeable regional variation. The highest and fastest-rising levels are in eastern Slovakia, where ESL exceeds 12 %; compared to 4 % in western regions (see Figure 3 below). ESL is higher for boys (7.1 %) than for girls (5.3 %) in 2016 (Eurostat, 2017). FRA estimates that 58 % of Roma children are early school leavers. The rate of young people aged 15-24 not in employment, education or training was 12.3 % in 2016, close to the EU average of 11.5 %.

Figure 3. Early leavers from education and training by regions in Slovakia 2012-2016



Source: Eurostat (LFS, 2012 - 2016). Online data code: edat_lfse_16.

The new national 'School for everyone' and 'More Successful in Basic School' projects aim to foster equity and inclusion. The goal is to provide the same access to quality education for everyone and to improve the competences of children in kindergarten and primary school (Eurydice, 2017). According to the IEP, the share of pupils with light mental disability attending the first grade of special schools and special classes decreased by 10%. The impact of legislation targeting misplacement of children in special schools or classes, adopted in 2015-2016, will be evaluated in 2018 (Slovak Government, 2017).There is also a renewed targeted initiative for Roma communities (see Box 1 below).

Box 1: Updated action plan for Roma integration up to 2020

The government approved the revised action plan for integrating Roma in February 2017. The main educational goal is to narrow the difference between the education level of Roma and the population average (Ministry of Interior, 2017).

More than EUR 380 million, mostly from the European Social Fund, will be earmarked for the plan, with EUR 170 million going to education. While the Government Plenipotentiary for Roma is hopeful that the plan will alleviate the marginalisation of Roma communities, experts point to the need to ensure full and timely implementation.

See http://www.minv.sk/?revizia_strategia

Participation in pre-school education is stagnating, with differences in attendance persisting across the board. According to Eurostat, participation in early childhood education and care (ECEC) was 77.4 % in 2015, well below the EU average of 94.8 % (a 17.4 pp. difference), an increase of only 1 pp. in 2013-2015. There are big regional disparities. Participation of Roma children, estimated at 34 %, is particularly low (FRA, 2016).

An amendment to the act on social services to improve provision and quality of ECEC became effective on 1 March 2017. Care for a child aged up to 3 years with parents working or studying in secondary or higher education will be considered a social service. Nurseries providing care to children up to 3 became a state-regulated and registered social service; they must meet all legal requirements by the end of the current year (Eurydice, 2017).

4. Investing in education to address demographic and skill challenges

Public expenditure on education has been well below the EU average over the last decade. Slovakia's general government expenditure on education in 2015 was 4.2 % of GDP, below the EU average of 4.9 % (the gap has narrowed in recent years). In 2015 education represented 9.3 % of total government expenditure, against 10.3 % for the EU. Nevertheless, the absolute value of spending on education is constantly increasing, reflecting the country's fast economic growth: in real terms spending has grown by 45 % since 2005. On public and private spending per student in purchasing power standard (PPS), in 2014 Slovakia had patterns broadly similar to other central European countries (OECD, 2016c)[76]. The employability of recent graduates is improving and approaching the EU average, but very poor for the lower-skilled population. The rate for all ISCED levels stood at 72.8 % in 2016, close to the EU average of 73.1 % (Eurostat, 2017)[77].

[76] For ISCED level 0 it was EUR 3 658, for ISCED 1-2 EUR 4 278, for ISCED 3-4 EUR 4 299, all in PPS (NB no data for higher education are available).

[77] For ISCED 0-2 the rate was very low at 37.2 % v 54.3 % for the EU average (a 17.1 pp. difference). For ISCED 3-4 it was 74.3 % v 72.6 %; and for ISCED 5-8, at 81.3 % it was marginally below the EU average rate of 82.8 %.

There is an ongoing focus on effectiveness of education spending, but in a context of low expenditure. The Ministries of Finance and Education (MoE) conducted an Education Spending Review with assistance from the IMF. It suggested future rationalisation and more effective use of financial and human resources in education (MoF and MoE, 2017). The Review team's analysis acknowledges underfinancing, but projected only a slight increase in the share of GDP going to education: to 4.3% GDP in 2020, still significantly below EU and OECD averages[78]. It confirms the persistently low pay of teachers, noting that wage rises proposed in the present Government Manifesto would increase salaries *"from 63% to 67% of the average tertiary level educated workforce, while the OECD average is 85%"* (MoF and MoE, 2017). The recently tabled draft Learning Slovakia strategy addresses some of the issues raised (see box below). It sets a target for teacher salaries to reach 80% of the average tertiary level wage by 2020. New legislation of June 2017 included measures to support access and equity, for example by covering fees for pre-primary schools for children from poor families; transportation costs to the nearest school with the corresponding language of instruction; and funding of schools which will take into account teachers' years in service. Reducing the number of schools is under debate. Authorities are also making an attempt to more strategically steer the education sector in the ambitious 2017 national programme for education development (Ministry of Education, 2017d).

Box 2: 'Učiace sa Slovensko' ('Learning Slovakia') — a 10-year national strategy for education

A team of independent experts tasked by the Education Ministry with preparing an agenda for a comprehensive and long-term education reform in Slovakia unveiled their vision in March 2017.

A final version of the document and a releted two-year action plan are expected in the second half of 2017.

See https://www.minedu.sk/data/files/6987_uciace_sa_slovensko.pdf

5. Modernising school education

Slovakia faces shrinking pupil numbers coupled with a rapidly ageing teaching force. According to the '*OECD Reviews of School Resources: Slovak Republic*' of February 2016, more should be done to rationalise the school network and consolidate the teaching force. This requires better planning capacity, coordination and inter-municipal collaboration. Between 2003 and 2016 student numbers dropped by 25%, while the number of schools reduced by 12%, teachers by 19 % and classes by 14 %. Slovakia has fewer pupils per class than the OECD average in both primary (18 vs. 21) and lower secondary levels (19 vs. 23). In the tight fiscal context greater efficiencies are required, more co-ordination and collaboration is needed between the 2,900 municipalities responsible for basic schooling. A range of solutions is suggested: consolidating small schools; sharing resources across schools; and clustering small schools under a single leadership team and budget (Santiago et al., 2016).

Teacher salaries are being increased gradually, but much remains to be done to make the profession more attractive. Teachers' salaries increased sharply in 2016 (4 % in January and 6 % in September), and in 2017 (6% in September) and the government is commited to making annual increases of 6 % until 2020[79]. However, the profession has long been unattractive and it is not easy to reverse this. The 2017 national reform programme commits strongly on the issue (Slovak Government, 2017)[80]. Non pay measures being implemented include: enhancing initial teacher education, professional development and working conditions; decreasing administrative workloads and increasing funding for materials and technical conditions[81].

78 More on https://goo.gl/5zVBEJ
79 More on http://www.minedu.sk/prehlad-zrealizovanych-uloh-a-cielov-v-rezorte-skolstva/
80 '*The attractiveness of the teacher's profession will be increased… staff in regional education will receive a higher salary (…) faster growth will be encouraged in the case of novice teachers in order to increase the attractiveness of the teaching profession for the most talented young people*.'
81 More on http://www.minedu.sk/data/att/9207.pdf

Box 3: European Social Fund (ESF)-supported project: helping marginalised Roma pupils make the grade in Spiš

This project provided a range of activities to help Roma pupils do better at primary school, in order to improve their educational attainment and life chances. It focused on the Spiš region in north-eastern Slovakia.

ESF contribution: EUR 177 679. Number of participants: 177 pupils, 15 staff.

See http://zsstefsbela.edupage.org/text/?text=text/text3&subpage=18

6. Modernising higher education

Slovakia has fast-increasing tertiary educational attainment rates, but internationalisation is still low. In 2016, the tertiary attainment rate was 31.5 %. While below the EU average of 39.1 %, it has progressed strongly with an increase of 7.8 pp. since 2012. Women (at 39.4 %) strongly outperformed men (at 24 %). Outgoing learning mobility remains low at only 4.5 % for ISCED 5-8 levels in 2015, against 8.2 % in the Czech Republic for instance. Weak internationalisation is an issue: the number of in-coming foreign students studying at Slovak universities is roughly one quarter of the Czech level.

There has been a steady improvement in graduate employment. The employment rate of recent graduates recovered to pre-crisis levels in 2016, reaching 82.5 %, in line with the EU average of 82.8 %. There is evidence of skills mismatches, with an estimated 40 % of master-level graduates working in a position other than their field of graduation (Martinák, 2016). The introduction of universities of applied science and the provision of practically oriented bachelor studies are under discussion (Eurydice, 2017). Rationalisation of the higher education network is also being considered as is the possibility to change funding formulas to encourage more specialisation and differentiation.

Quality assurance and accreditation mechanisms are to be strengthened. In April 2017 the Ministry of Education presented legislative proposals applying the goals of the 'Learning Slovakia' reform agenda to higher education. The objective is to introduce greater flexibility for universities in response to current societal needs, while also strengthening their responsibility for the quality of education. The draft laws should enter into force on 1 January 2018 (Ministry of Education, 2017c)[82]. There is a general consensus on the need to follow European guidelines on accreditation through a fully independent quality assurance agency, but no agreement among stakeholders on the appropriate approach. Both the Higher Education Council and the Rectors Conference have expressed dissatisfaction with the legislative proposals. In November 2016 the government approved its plan for educational, research, development and other activities in higher education institutions for 2016-2021 (Eurydice, 2017).

Slovakia faces high emigration among tertiary graduates[83]**.** In January 2017 the Institute for Financial Policy (IFP) published a study on emigration showing that university graduates are more likely to emigrate than their peers with lower levels of education. More than 10 % of recent university graduates have left the country; the report estimates an annual sunk investment cost of EUR 45 million. Emigration is especially pronounced among graduates in medicine and technical fields, where it reaches 22 % (IFP, 2017)[84].

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82 See https://www.minedu.sk/minister-skolstva-predstavil-navrhy-na-zvysenie-kvality-vysokoskolskeho-vzdelavania/.

83 14.2% of tertiary students are enrolled abroad - the second highest rate in OECD; most in the Czech Republic. A majorit of these (82%) state that Czech institutions offer a better education (2017 OECD Economic Survey of the Slovak Republic).

84 See http://www.finance.gov.sk/Default.aspx?CatID=11308.

7. Modernising vocational education and training and promoting adult learning

The proportion of upper secondary students (ISCED 3) in vocational education and training (VET) remained stable in 2015 at 69.0 %. This is well above the EU average of 47.3 %. The employment rate of recent VET graduates, at 77.2 % in 2016, was slightly higher than the EU average of 75 %. Adult participation in learning remains very low compared to the EU average (10.8 %) and in 2016 it even decreased to 2.9 %.

Following the launch of the 'dual VET' scheme in 2015, further efforts are needed to increase quality and responsiveness. They are necessary particularly to address skills shortages and to improve the financing model and continuous professional development of VET teachers and trainers**.** There is a lack of quality data on labour market outcomes of VET graduates and on future skills needs. The financing model is largely input based. A key issue is the asymetric distribution of VET students in specific VET fields with respect to labor market needs. Teachers and trainers in VET have little access to specialised continuous professional development. For in-company trainers, there is no system for their further professionalisation.

A draft national programme for development of education (*'Učiace sa Slovensko'*[85]) has opened a broad debate on improvements, including on VET. The draft programme was submitted for public consultation in spring 2017. Among other issues, it points to an urgent need to analyse the impact of automation on VET; OECD says Slovakia is the country with the highest share of jobs at risk of being automated (OECD, 2016d). The draft programme proposes to decouple provision of training by VET schools from the final examination processes. It also envisages introducing a new group of independent evaluators to ensure objective assessment of VET graduates, so that they acquire minimum qualification standards.

Since the 2015 VET Act, experts without teacher training do not need to comply with the pedagogical qualification requirements if they teach for less than 10 hours per week. Linked to further improvements in the dual scheme, employers are expected to support the professionalisation of in-company trainers and the provision of training placements for teachers from VET schools. Cedefop will undertake an in-depth review of future skills needs in Slovakia (Cedefop 2017). Recently introduced elements of performance-based funding in VET, together with motivational scholarships for pupils selecting study fields with identified shortages, have potential to improve the quality and responsiveness of VET to labour market needs. The VET Act provides for two lists of study fields to be drawn up annually, one to list fields that do not produce enough graduates for the jobs market and the other to lists fields that produce too many[86]. Under the first two lists published in February 2017, per capita funding for VET schools was increased by 10 % for study fields with a lack of graduates and cut by 10 % for the other fields (Ministry of Education, 2017). To underpin credibility of the lists, however, further improvements are needed in the quality of the data on outcomes of VET graduates (Martinák, 2017)[87].

Slovakia still struggles to make full use of its human resources. Employers lack skilled workers yet unemployment is still relatively high. While unemployment has decreased sharply in recent months (6.7% in July 2017), long-term unemployed and inactive people need to be empowered to (re)enter the labour market. The government has introduced two action plans addressing the long-term unemployed and the least developed regions. Both emphasise the need

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85 See Box 2.

86 See http://www.minedu.sk/zoznam-studijnych-odborov-a-ucebnych-odborov-s-nedostatocnym-poctom-absolventov-pre-potreby-trhu-prace-a-zoznam-studijnych-odborov-a-ucebnych-odborov-ktore-su-nad-rozsah-potrieb-trhu-prace-15-februar-2017/.

87 The Institute for Education Policy published an analysis of the performance based funding arrangements. It concluded:
- the existing model has shortcomings caused i.a. by low data availability. Improving the data for evaluation purposes is desirable. Also some reconsideration of evaluation methodology is needed, e.g. to cover the regional aspect
- the effect on increasing participation in study fields with labour shortages is insufficient. It suggests that motivational tools (scholarships) may be either inadequate or poorly communicated, or that schools' teaching capacity in these study fields is insufficient.

to upskill and reskill specific groups (Slovak Government, 2017). Government envisages transforming local VET schools into regional centres for training the workforce, focused on long-term unemployed with few or no qualifications. The centres will also link municipal social enterprises to help get the long-term unemployed back into work by developing the skills and working habits they need. The plans give specific attention to marginalised Roma communities.

A new ESF project to be launched by the end of 2017 will introduce the nationwide system for validating non-formal and informal learning. Implementation of the project will make the education and training system more flexible and allow for validation of individualised learning pathways (Eurydice, 2017). The project covers development of the validation system, pilot testing and putting the changes into legislation. A new act on lifelong learning is expected. The ESF provides support to develop dual education in Slovakia through a national project launched in November 2016 with a total allocation of EUR 34 million.

8. References

Amnesty International (2017), *A Lesson in Discrimination: Segregation of Romani children in Primary Education in Slovakia'.* https://www.amnesty.org/en/latest/news/2017/03/slovakia-unlawful-ethnic-segregation-in-schools-is-failing-romani-children/

Cedefop ReferNet (2017), Slovakia Reports. http://www.cedefop.europa.eu/en/news-and-press/news/slovakia-better-skills-governance-envisaged

Council of the European Union (2017), Council Recommendation of 11 July on the 2017 National Reform Programme of Slovakia and delivering a Council opinion on the 2017 Convergence Programme of Slovakia. http://data.consilium.europa.eu/doc/document/ST-9310-2017-INIT/en/pdf

Education Ministry Expert Team (2016), *Návrh cieľov Národného programu rozvoja výchovy a vzdelávania 'Učiace sa Slovensko' — Proposal for the Goals of the future National Programme for Development of Education*. https://www.minedu.sk/data/att/10448.pdf

European Union Agency for Fundamental Rights (FRA, 2016), *Second European Union Minorities and Discrimination Survey (EU-MIDIS II) Roma — Selected findings*, Publications Office of the European Union, Luxembourg. http://fra.europa.eu/en/publication/2016/eumidis-ii-roma-selected-findings

European Commission (2016), *PISA 2015: EU Performance and initial conclusions regarding education policies in Europe.* https://ec.europa.eu/education/sites/education/files/pisa-2015-eu-policy-note_en.pdf

Eurydice (2017), Eurypedia; Ongoing Reforms and Policy Developments in Slovakia. https://webgate.ec.europa.eu/fpfis/mwikis/eurydice/index.php/Slovakia:Ongoing_Reforms_and_Policy_Developments

Government of the Slovak Republic, (2016), *Programové vyhlásenie vlády na roky 2016-2020 — Government Manifesto for years 2016-2020*. http://www.vlada.gov.sk/programove-vyhlasenie-vlady-sr-na-roky-2016-2020/?pg=2 and the full text at http://www.vlada.gov.sk/data/files/6483_programove-vyhlasenie-vlady-slovenskej-republiky.pdf

Martinák, D. (2016). *Filozof úradníkom, učiteľ pokladníkom: analýza nesúladu kvalifikácie a zručností s požiadavkami na trhu práce,* Komentár 02/2016, marec 2016, http://www.minedu.sk/data/att/9645.pdf

Martinák, Zápražná (2017), *(Ne)preferované odbory: Analýza regulačných nástrojov na zlepšenie súladu odborov stredných škôl s potrebami trhu práce,* Komentár 03/2017, júl 2017, http://www.minedu.sk/data/att/11874.pdf

Ministry of Finance and Ministry of Education (2017), *Hodnota za peniaze — Závrečná správa*, https://goo.gl/5zVBEJ

Institute for Financial Policy (IFP 2017), *Odliv mozgov po slovensky, Analýza odchodov Slovákov do zahraničia od roku 2000*, by Martin Haluš, Marek Hlaváč, Peter Harvan, Slavomír Hidas. http://www.finance.gov.sk/Default.aspx?CatID=11308

Ministry of Education (2016), *Dlhodobý zámer vo vzdelávacej, výskumnej, vývojovej a ďalšej tvorivej činnosti pre oblasť vysokých škôl na roky 2016 – 2021*, http://www.minedu.sk/data/att/10633.rtf

Ministry of Education (2017a), *National programme for education development — 2017.* https://www.minedu.sk/data/files/6987_uciace_sa_slovensko.pdf

Ministry of Education (2017b), *Lists of study fields with lack or surplus of graduates.* http://www.minedu.sk/zoznam-studijnych-odborov-a-ucebnych-odborov-s-nedostatocnym-poctom-absolventov-pre-potreby-trhu-prace-a-zoznam-studijnych-odborov-a-ucebnych-odborov-ktore-su-nad-rozsah-potrieb-trhu-prace-15-februar-2017/

Ministry of Education (2017c), *Navrhy na zvysenie kvality vysokoskolskeho vzdelavania.* https://www.minedu.sk/minister-skolstva-predstavil-navrhy-na-zvysenie-kvality-vysokoskolskeho-vzdelavania/

Ministry of Education (2017d), *'Akčný plan NPRVV na rok 2017'* https://www.minedu.sk/data/att/11131.pdf

Ministry of Finance (2017), *Revízia výdavkov na vzdelávanie.* http://www.mfsr.sk/Default.aspx?CatID=5907

Ministry of Interior (2014), *'Atlas Rómskych Komunít na Slovensku'* http://www.minv.sk/?atlas_2013

Ministry of Interior (2016), Action Plan for Roma Integration up to 2020. http://www.minv.sk/?revizia_strategia

OECD (2016a), PISA (2015) Results. http://www.oecd.org/education/pisa-2015-results-volume-i-9789264266490-en.htm

OECD, (2016b), PISA Low-Performing Students. http://www.oecd.org/edu/low-performing-students-9789264250246-en.htm

OECD (2016c), *Education at a Glance.* http://www.oecd.org/edu/education-at-a-glance-19991487.htm

OECD (2016d), *The Risk of Automation for Jobs in OECD Countries: A Comparative Analysis*, OECD Social, Employment and Migration Working Papers, No 189. Paris: OECD Publishing, 2016. http://dx.doi.org/10.1787/5jlz9.56dvq7-en

Santiago, P., et al. (2016), *OECD Reviews of School Resources: Slovak Republic 2015.* http://dx.doi.org/10.1787/9789264247567-en

Šiškovič, M. Toman J. (2015), *OECD Review of Policies to Improve the Effectiveness of Resource Use in Schools — Country background report for the Slovak Republic*, by IEP. https://www.oecd.org/slovakia/CBR_School%20Resources_SK.pdf

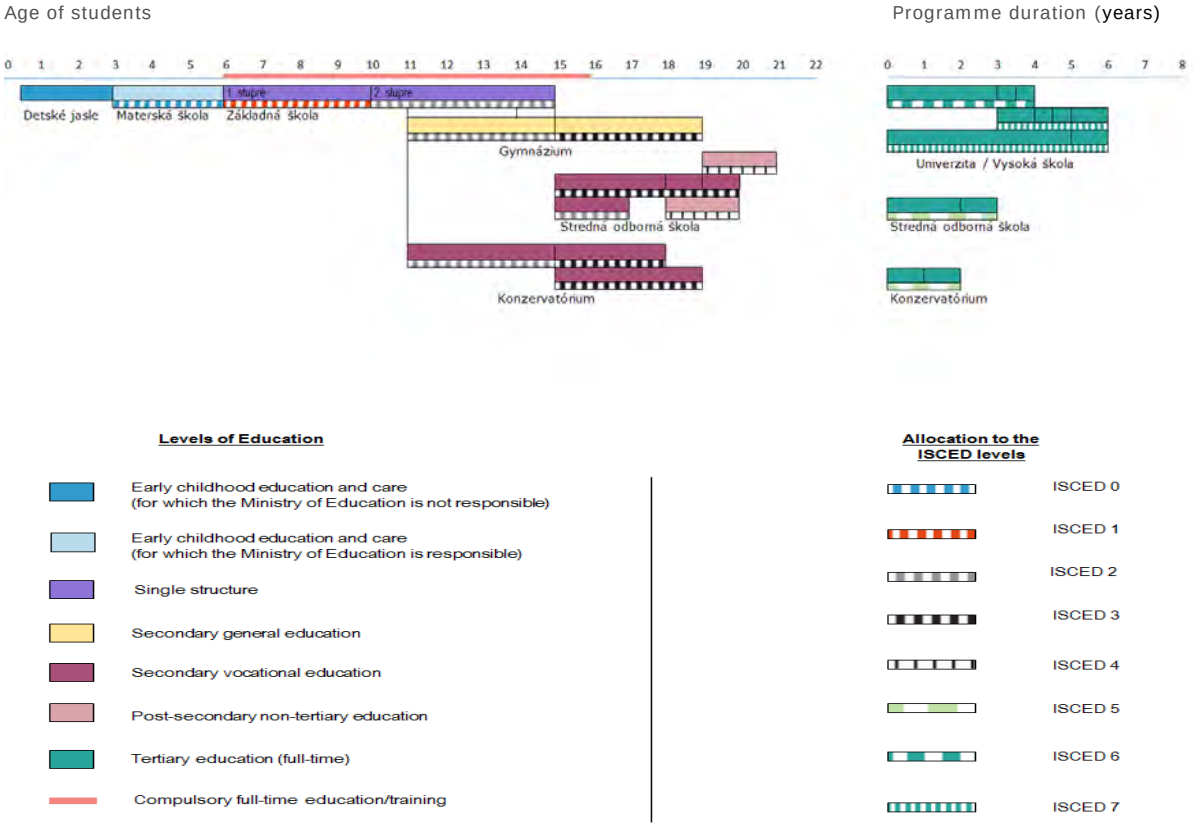
Slovak Chamber of Teachers (2017), *The Opinion of the Slovak Chamber of Teachers for Inclusion in Slovakia.* http://sku.sk/download/opinion-slovak-chamber-teachers-inclusion-slovakia-10-february-2017/?wpdmdl=14164

Slovak Government (2017), *Národný program reforiem Slovenskej republiky*, National Reform Programme. http://www.finance.gov.sk/Default.aspx?CatID=5197

9. Annex I. Key indicator sources

Indicator	Eurostat online data code
Early leavers from education and training	edat_lfse_02 + edat_lfse_14
Tertiary educational attainment	edat_lfse_03 + edat_lfs_9912
Early childhood education and care	educ_uoe_enra10 + tps00179
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	educ_uoe_mobg03

10. Annex II. Structure of the education system



Source: European Commission/EACEA/Eurydice, 2016. *The Structure of the European Education Systems 2016/17: 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:
Krzysztof KANIA
Krzysztof.Kania@ec.europa.eu
or
EAC-UNITE-A2@ec.europa.eu

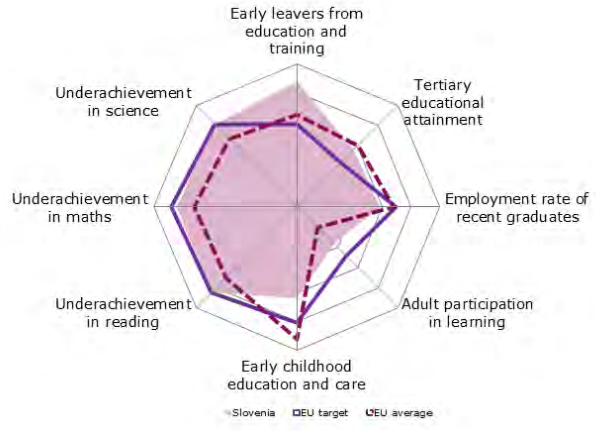
SLOVENIA

1. Key indicators

			Slovenia		EU average	
			2013	2016	2013	2016
ET 2020 benchmarks						
Early leavers from education and training (age 18-24)	Total		3.9%	4.9%	11.9%	10.7%
Tertiary educational attainment (age 30-34)	Total		40.1%	44.2%	37.1%	39.1%
Early childhood education and care (ECEC) (from age 4 to starting age of compulsory education)			90.9% [12]	90.5% [15]	93.9% [12]	94.8% [15]
Proportion of 15 year-olds with underachievement in:	Reading		21.1% [12]	15.1% [15]	17.8% [12]	19.7% [15]
	Maths		20.1% [12]	16.1% [15]	22.1% [12]	22.2% [15]
	Science		12.9% [12]	15.0% [15]	16.6% [12]	20.6% [15]
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-8 (total)		73.8%	76.7%	75.4%	78.2%
Adult participation in learning (age 25-64)	ISCED 0-8 (total)		12.5%	11.6%	10.7%	10.8%
Other contextual indicators						
Education investment	Public expenditure on education as a percentage of GDP		6.5%	5.6% [15]	5.0%	4.9% [15]
	Expenditure on public and private institutions per student in € PPS	ISCED 1-2	€7 028	€7 078 [14]	:	: [14]
		ISCED 3-4	€5 724	€5 636 [14]	:	: [14]
		ISCED 5-8	€8 602	€8 815 [14]	:	: [14]
Early leavers from education and training (age 18-24)	Native-born		3.5%	4.4%	11.0%	9.8%
	Foreign-born		16.4% [u]	15.6% [u]	21.9%	19.7%
Tertiary educational attainment (age 30-34)	Native-born		42.4%	46.8%	37.8%	39.9%
	Foreign-born		13.1% [u]	19.2% [u]	33.4%	35.3%
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-4		61.8%	70.3%	69.4%	72.6%
	ISCED 5-8		79.3%	80.2%	80.7%	82.8%
Learning mobility	Inbound graduates mobility (bachelor)		1.5%	2.0% [15]	5.5%	6.0% [15]
	Inbound graduates mobility (master)		2.6%	4.1% [15]	13.6%	15.1% [15]

Sources: Eurostat (see section 9 for more details); OECD (PISA). Notes: data refer to weighted EU average, covering a different numbers of Member States depending on the source; b = break in time series, d = definition differs, e = estimated, p = provisional, u = low reliability, 12 = 2012, 14 = 2014, 15 = 2015. On learning mobility, the EU average is calculated by DG EAC based on available country data in all years. Further information is found in the respective section of Volume 1 (ec.europa.eu/education/monitor).

Figure 1. Position in relation to highest (outer ring) and lowest performers (centre)



Source: DG Education and Culture calculations, based on data from Eurostat (LFS 2016) and OECD (PISA 2015). Note: all scores are set between a maximum (the strongest performers visualised by the outer ring) and a minimum (the weakest performers visualised by the centre of the figure).

2. Highlights

- With a low rate of early school leaving and a high share of tertiary attainment, Slovenia has a highly educated population and has already met its national targets under the Europe 2020 strategy. There are marked differences, however, between pupils with a migrant and a non-migrant background.
- High attendance in early childhood education and care provides a strong basis for later success in basic skills.
- The higher education sector is undergoing reforms which aim to link funding with performance, increase completion rates, encourage internationalisation and strengthen quality assurance.
- Vocational education is attended by a large number of young people. However, apprenticeships are being reintroduced to engage employers further and help young people make the transition to working life.

3. Tackling inequalities and promoting inclusion

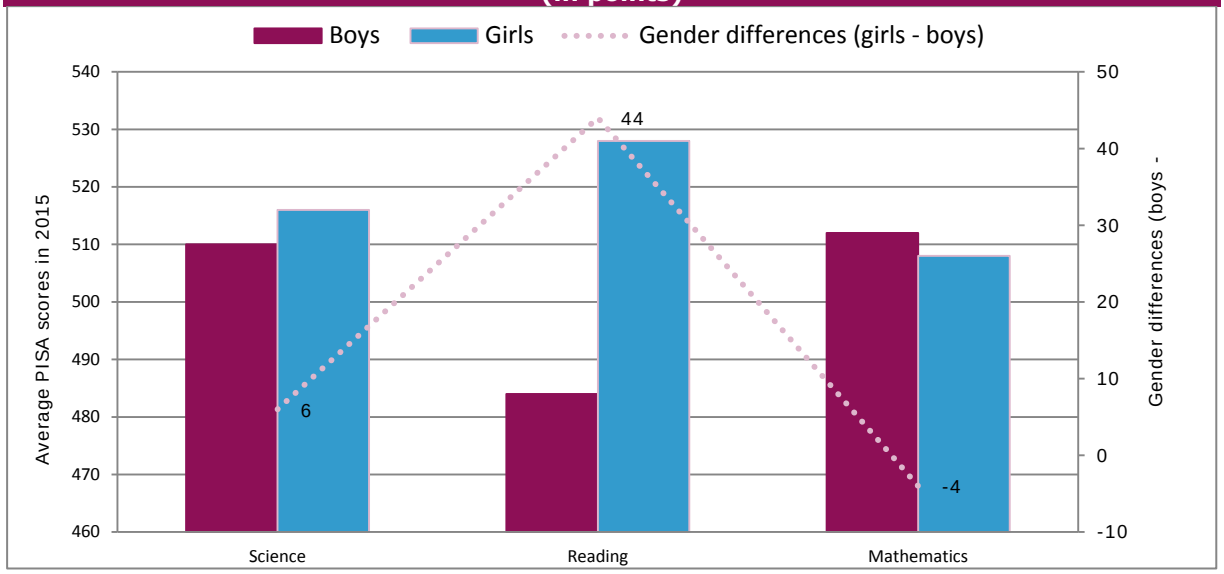
The basic skills of Slovenian 15-year-olds are, overall, high and improving. Slovenian 15-year-olds are performing well in all three fields tested in the OECD's 2015 Programme for International Student Assessment (PISA) survey — science, mathematics and reading. In particular, Slovenia has achieved one of the EU's steepest reductions in the proportion of low achievers in reading since 2009 (second only to Ireland).[88] At the moment, there is insufficient data to explain this trend. The proportion of low achievers is below the EU average in the areas covered (15 % in science, 16.1 % in maths and 15.1 % in reading); each field is now close to the EU benchmark for 2020 of 15 % of low achievers. Other international comparative assessments have found a similar steep improvement in the maths and science skills of 4th grade and 8th grade pupils over the past decade. The 2015 Trends in International Mathematics and Science Study (TIMSS), for example, found striking increases of 58 and 79 points, respectively, in the maths and science performance of 4th grade pupils between 1995 and 2015.[89] Slovenia's older pupils — 8th graders — achieved some of the highest results among participating EU countries in both maths (third-best result in the EU) and science (best EU result).

Equity in education is improving but certain inequalities persist. The rate of underachievement among students from the bottom socioeconomic quartile is 25.1 %, against only 6.3 % for students from the top quartile. However, the gap is smaller than in the EU as a whole (18.8 percentage points (pp.) vs 26.6 pp.). Moreover, the difference in performance associated with students' socioeconomic status narrowed to 13.5 % in 2015 from 17.5 % in 2006, signalling an improvement in equity. The variation in performance between schools is strongly associated with the socioeconomic status of the schools and their pupils. In addition, the difference in the proportion of low performers among students with a migrant background (7.8 % of students in PISA 2015) and non-migrant students is rather high. The difference in performance in science between students who speak Slovenian at home and those who do not is quite high but below that in most EU Member States (88 score-points, corresponding to almost 3 years of schooling).[90]

Girls significantly outperform boys in PISA, despite a narrowing of the gender gap. In science, Slovenia had the ninth-highest proportion of girls — 10.4 % — demonstrating high complexity skills of the 72 countries and economies participating in PISA 2015. In reading, girls' performance is the eighth highest in PISA. Despite a significant improvement between PISA 2012 and PISA 2015 – leading among the EU Member States – the performance of boys in reading literacy is still concerning. There are 12.1 % more boys than girls who underachieve in reading (EU average 9.6 % - Figure 2).

88 From 21.2 % in 2009 to 15.1 % in 2015.
89 From 462 points in 1995 to 520 points in 2015 for maths and from 464 points in 1995 to 543 points in 2015 for science for 4th grade pupils.
90 OECD average: 52 points.

Figure 2. Average PISA scores in 2015 by gender and gender difference in Slovenia (in points)



Source: OECD (PISA Volume I, 2015). Online data codes: Table 1.2.8a, Table1.4.8a, Table1.5.8a

Early school leaving is rare and mostly affects men. Only 4.9 % of 18- to 24-year-olds in 2016 left school before acquiring an upper secondary qualification. This is the third-lowest rate in the EU and less than half the EU average of 10.7 % in 2016. Data for foreign-born children are less reliable due to a small sample size, but they suggest that early school leaving is much more widespread among them (15.6 %) than among native children (4.4 %). In line with the situation across the EU, in Slovenia early school leaving is more prevalent among men (6.7 %) than women (3.1 %).

Participation in early childhood education and care is increasing. The number of children attending Slovenian kindergartens is growing. As a proportion of the whole age cohort in 2015, 90.5 % of all children between the age of 4 and the school-starting age (6) were enrolled in pre-school education. This is moving closer to the EU average of 94.8 % and the benchmark of 95 %. 82.8 % of children aged 3 attended kindergarten in 2015. The participation rate in childcare was 69 % for 2-year-olds and 21.4 % for children below 2 — respectively, the fifth- and sixth-highest in the EU (Eurostat, 2015).[91]

4. Investing in education and training

Slovenia has reduced its investment in education. Education expenditure as a proportion of GDP was 5.6 % in 2015, down a further 0.4 pp. after the 0.5 pp. drop in 2014[92]. Nevertheless, although approaching the EU average of 4.9 %, Slovenia is still among the 10 EU countries that spend the most on education. The proportion of education expenditure in the 2015 total general government expenditure (11.6 %) is also above the EU average (10.3 %), but it has fallen compared to 2014 (12.1 %). Since 2009, public expenditure on education has decreased by 13 % in real terms, whereas the number of pupils and students has remained broadly stable.

Slovenia's expenditure allocation between different education sectors in 2015 was broadly in line with the EU average. Secondary education received 35.7 %, compared with an EU average of 38.7 %; tertiary education was allocated 18.8 % (EU average 15.2 %); and 37.3 % went to pre-primary and primary education (EU average 31.4 %).[93] The budget cuts in secondary, pre-primary and primary level, as a percentage of funding year on year, were lower than the total budget cuts. They were higher at the tertiary education level.

91 Source: Eurostat (UOE 2015). Online data code: uoe_enrp07.
92 Source: Eurostat, general government finance statistics (2015) online data code gov_10_a_exp.
93 Source: Eurostat, general government finance statistics (2015) online data code gov_10_a_exp.

5. Modernising school education

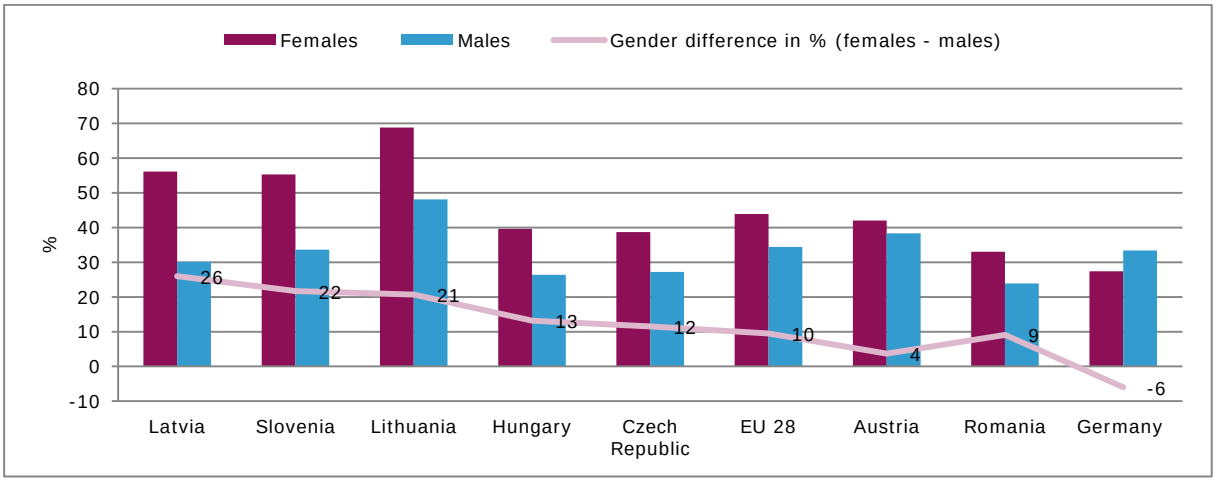
An important development is the full introduction of foreign language learning earlier in primary education. One of the most important new measures in school education is the introduction of the first foreign language as a mandatory subject from the 2nd grade of primary education (age 7). In April 2015 a total of 90 basic schools were selected to test the measure, which was then fully implemented in the 2016/17 school year.[94] This change, plus the possibility for children to choose a second foreign language in the 4th grade (age 10) as an optional subject, should foster the development of their key competences and improve their future mobility options.

High spending on education is not reflected in high teacher salaries. Slovenian teachers' statutory salaries are below the EU-22 average in all education sectors and at all points in their career (starting salary, salary after 10 years, after 15 years, and salary at top scale) (OECD, 2016a). Lower secondary teachers' actual salaries were 88 % of the earnings of tertiary-educated workers in 2014, which is higher than the OECD average (OECD, 2016b). After a period in which teachers' salaries were frozen, in 2016 Slovenia restored promotion to higher wage grades and titles as well as an increased holiday payment for all public employees including teachers (Eurydice, 2016).

6. Modernising higher education

High tertiary attainment masks wide gender differences. Slovenia's tertiary educational attainment rate has continued to grow: in 2016, 44.2 % of 30- to 34-year-olds held a tertiary qualification, up from 43.4 % in 2015. This is above the EU average of 39.1 % and the national Europe 2020 target of 40 %. Access to higher education is helped by the absence of tuition fees, but nevertheless there are differences in participation between men and women. Women are much more likely to graduate from higher education than men. The gender gap is the second-widest in the EU, with 55.3 % of women but only 33.6 % of men attaining higher education. Slovenia's employment rates are slowly recovering to their pre-crisis levels and are broadly equal for men and women. The employment rate of tertiary-educated 20-34 year-olds who graduated 1-3 years before employment was 80.2 % in 2016, just below the EU average of 82.8 %. The rate has been growing since 2012, when it was 78.6 %. For men the rate is 82.5 % and for women 78.5 %.[95]

Figure 3. Tertiary educational attainment (age 30-34) by sex in 2016 (%)



Source: Eurostat (LFS, 2016). Online data code: edat_lfse_03

A reform of higher education was initiated in 2016 and implementation is starting in 2017. The idea behind the two-stage higher education reform was to speed up the adoption of less controversial measures on which there was consensus among key stakeholders, while postponing the more demanding issues until a more fundamental legislative change. As a first step, revisions

94 MESS (2016).

95 Source: Eurostat (LFS 2016). Online data code: edat_lfse_24

to the Higher Education Act were adopted in November 2016. These brought institutional accreditation as opposed to programme-based accreditation, abolished the procedure of the programmes' reaccreditation and increased student involvement in internal governance. They also initiated some important changes in the funding of higher education (Box 1).

An ambitious recalibration of higher education funding towards a more performance-oriented system is planned. As a second step in the higher education reform, the government coalition agreement for 2014-2018 committed to delivering a new Higher Education Act by the end of 2017. The new law will define what constitutes public service in higher education and from which sources this service should be financed. It will also define more clearly the rights and responsibilities of employees[96] in higher education and science; define the rights of students and users of higher education; and provide for more stable and systemic financing of research activities. However, there are several points of contention between the different stakeholders. These include whether work on income-generating activities constitutes a public service of the university and whether they should be covered from public sources. Such activities include teaching fee-paying PhD students or part-time students, and engaging in privately financed projects. The definition of the public service role depends on defining the broader strategy for higher education[97].

Box 1: Reform of higher education funding

The revision of the Higher Education Act in November 2016 introduced performance-based funding of higher education institutions.

The law brought new elements into the higher education funding formula:
- a basic pillar, sub-divided into fixed (although increased by the growth index every year) and variable funds (maximum 25% of the basic pillar); and
- a developmental pillar (maximum 3 % of overall funding)

The changes include a revision of the funding formula, with details to be worked out in a decree on budgetary financing of higher education in autumn 2017. It is clear that the funding formula will move from being input-oriented to being output-oriented, with a variable part that can be tapped into by institutions that are deemed to be performing well. The formula will reward, amongst other things, scientific excellence, completion rates, employability of graduates and ability to attract research and development funds from other sources, including the business sector. The idea is that such a funding system would push higher education institutions to optimise their operations and increase the quality of teaching and research.

The revised law obliged the Government to extend the financing of PhD studies as part of a public service in higher education. Its most progressive element is the guarantee that national funding for study-related activities in higher education should remain at a minimum of 1% of GDP (currently it stands at exactly 1.0%).

A significant innovation is the introduction of 4-year funding agreements which would cover not only the basic financing pillar but also the developmental pillar, which will support the implementation of institutional priorities which are in line with the national strategic goals. The timetable for rolling out the funding agreements as well as the exact details of their content are not set in law. It is hoped that with the introduction of performance-based agreements, the institutions will be empowered to respond to changes in their environment and autonomously shape the direction of their development and institutional specialisation.

The European Commission is supporting the higher education reform in Slovenia through a year-long peer counselling exercise. In this, experts from different EU administrations are giving Slovenia advice on the design of the new higher education funding model.

96 Covering their pedagogical, research and other duties.
97 The issues under consideration include the one of a balance between the missions of the smaller regional faculties (both private and public) and universities, or the bigger, research-intensive universities.

7. Modernising vocational education and training and promoting adult learning

Attendance of VET is high and is expanding further into pilot apprenticeships in 2017. Vocational education in Slovenia, which includes vocational (2-3 years) and technical (4 and 3+2) programmes, is designed to obtain trade-specific qualifications to enter the labour market or to pursue programmes at the tertiary level. The proportion of upper secondary students (ISCED 3) in Slovenia in vocational education and training (VET) increased in 2015 by 0.7 pp. to 67.5 %, which is well above the EU average of 47.3 %. By contrast, the employment rate of recent VET graduates in 2016, at 72.3 %, was below the EU average of 75 %. The pilot implementation of an apprenticeship scheme is expected to begin from the school year 2017/2018, starting at seven VET schools with a maximum of 200 apprenticeships. The Apprenticeship Act creates opportunities for unemployed people, among others, to join apprenticeship schemes. The government sent to Parliament in July 2017 a draft amendment to the Vocational and Technical Education Act which touches on technical issues. These include a procedure to verify learning work places and the setting-up of a single register of learning work places at national level. It also includes provisions addressing part-time students.

Box 2: Job rotation of VET trainers and mentors in companies

A programme to improve the professional competences of teachers was launched in 2016 as part of a Ministry of Education initiative. Running until 2022, the programme has funding of EUR 1.65 million, of which EUR 1.32 million is from the European Social Fund and the rest from the Slovenian government. Its aim is to improve teaching quality and learner experience by giving teachers and mentors the opportunity to update and complement their knowledge, skills and competences through job rotation.

Teachers of vocational modules and organisers of work-based learning will spend 2 or 4 months in a company. In this period they will be substituted by suitably qualified and trained experts from the host companies or by previously unemployed teachers. The planned number of in-company mentors and teachers participating in the programme is 560, with 297 in Eastern Slovenia and 263 in Western Slovenia.

Adult learning is widespread but the lack of learning by low-skilled adults in Slovenia is a serious issue. Adult participation in learning is 11.6 %, just above the EU average of 10.8 %. National statistics show that in 2015, 89 % of employees took part in professional training and 84.1 % of all businesses offered professional training to their employees (Statistical Office Slovenia, 2017). However, variations in adult skill levels are wide, with older people having the lowest proficiency. Older and low-skilled workers continue to have low employment rates and the unemployed older and low skilled are under-represented in active labour market policy measures. Especially problematic is the very low employment rate of low-qualified women aged 50-64 — 29.6 %, against the EU average of 39.1 %. As a result, under the 2017 European Semester the Council of the EU recommended Slovenia to '*Intensify efforts to increase the employability of low-skilled and older workers, particularly through targeted lifelong learning and activation* measures' (Council of the European Union, 2017).

The authorities are seeking to develop a long-term skills strategy and regulate the adult education system. The National Skills Strategy, currently being developed with facilitation from the OECD, intends to build a consensus around the skills challenges and their long-term solutions. A diagnostic report was published in June 2017, with a set of nine broad recommendations covering the development of skills, activation and their effective use, as well as the functioning of the skills system (OECD, 2017). In addition, the Ministry for Education, Science and Sport held a public consultation on the draft Adult Education Act in March 2017. The proposal went into inter-ministerial consultation in June 2017.

8. References

Council of the European Union (2017), *Recommendation for a Council Recommendation on the 2017 National Reform Programme of Slovenia and delivering a Council opinion on the 2017 Stability Programme of Slovenia*. http://data.consilium.europa.eu/doc/document/ST-9311-2017-INIT/en/pdf

European Commission (2017), *Country Report Slovenia 2017: Including an In-Depth Review on the prevention and correction of macroeconomic imbalances*. https://ec.europa.eu/info/sites/info/files/2017-european-semester-country-report-slovenia-en.pdf

European Commission (2016), *Eurydice, Teachers' and School Heads' Salaries and Allowances in Europe 2015/16*. https://webgate.ec.europa.eu/fpfis/mwikis/eurydice/images/2/22/Teacher_salaries.pdf

European Commission (2017), Eurydice, Key Data on Teaching Languages at School in Europe – 2017 Edition. https://webgate.ec.europa.eu/fpfis/mwikis/eurydice/index.php/Publications:Key_Data_on_Teaching_Languages_at_School_in_Europe_–_2017_Edition

National Examinations Centre (2014), *National knowledge assessment – report for year 2013/2014*. Retrieved from: http://www.ric.si/mma/Letno%20porocilo%20NPZ%202014%20dokoncno%202/2014121113504097/

OECD (2016a), Table D3.1a. *Teachers' statutory salaries, based on typical qualifications, at different points in teachers' careers* (2014), in *Education at a Glance 2016*, OECD Publishing, Paris. http://dx.doi.org/10.1787/eag-2016-table226-en

OECD (2016b), Graph D3.1. *Lower secondary teachers' salaries relative to earnings for tertiary-educated workers (2014): Actual salaries of lower secondary teachers teaching general programmes in public institutions*, in *Education at a Glance 2016*, OECD Publishing, Paris. http://dx.doi.org/10.1787/eag-2016-graph220-en

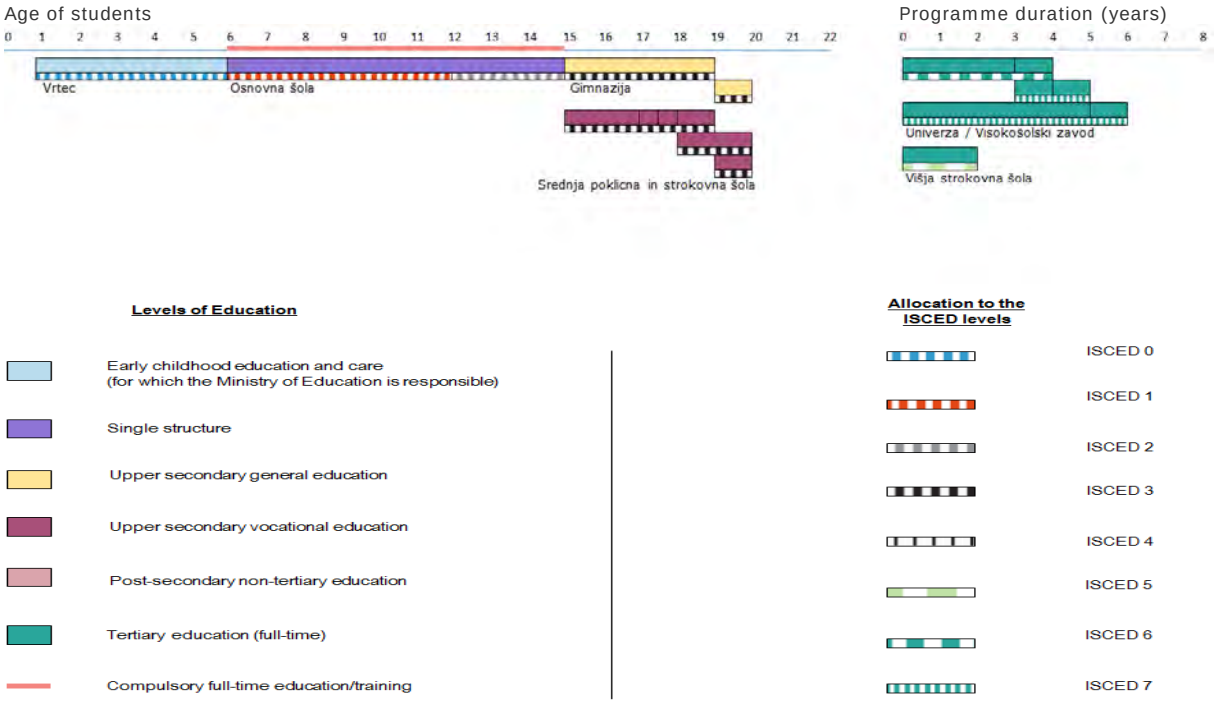
OECD (2017), *Skills Strategy Diagnostic Report, Slovenia 2017*. http://www.oecd.org/skills/nationalskillsstrategies/Skills-Strategy-Diagnostic-report-Slovenia.pdf

Statistical Office of Republic of Slovenia (2017), *Continuing vocational training in enterprises, Slovenia, 2015 (*28 June 2017). http://www.stat.si/StatWeb/News/Index/6769

9. Annex I. Key indicator sources

Indicator	Eurostat online data code
Early leavers from education and training	edat_lfse_02 + edat_lfse_14
Tertiary educational attainment	edat_lfse_03+ edat_lfs_9912
Early childhood education and care	educ_uoe_enra10
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	edu_uoe_mobg03

10. Annex II. The structure of the education system



Source: European Commission/EACEA/Eurydice, 2016. *The Structure of the European Education Systems 2016/17: 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:
Luka JUROS
luka.juros@ec.europa.eu
or
EAC-UNITE-A2@ec.europa.eu

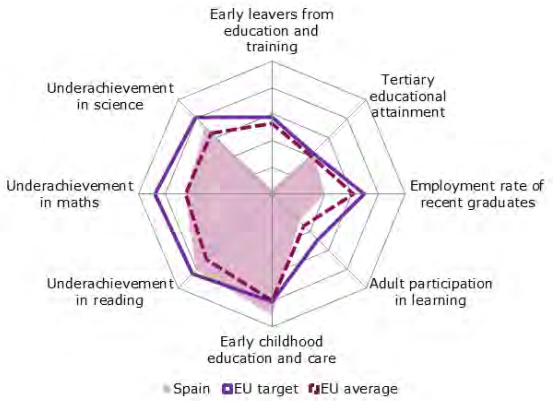
SPAIN

1. Key indicators

			Spain 2013	Spain 2016	EU average 2013	EU average 2016
ET 2020 benchmarks						
Early leavers from education and training (age 18-24)	Total		23.6%	19.0%	11.9%	10.7%
Tertiary educational attainment (age 30-34)	Total		42.3%	40.1%	37.1%	39.1%
Early childhood education and care (ECEC) (from age 4 to starting age of compulsory education)			97.4% [12]	97.7% [15]	93.9% [12]	94.8% [15]
Proportion of 15 year-olds with underachievement in:	Reading		18.3% [12]	16.2% [15]	17.8% [12]	19.7% [15]
	Maths		23.6% [12]	22.2% [15]	22.1% [12]	22.2% [15]
	Science		15.7% [12]	18.3% [15]	16.6% [12]	20.6% [15]
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-8 (total)		59.9%	68.0%	75.4%	78.2%
Adult participation in learning (age 25-64)	ISCED 0-8 (total)		11.4%	9.4%	10.7%	10.8%
Other contextual indicators						
Education investment	Public expenditure on education as a percentage of GDP		4.1%	4.1% [15]	5.0%	4.9% [15]
	Expenditure on public and private institutions per student in € PPS	ISCED 1-2	€5 476	€5 511 [14]	:	: [14]
		ISCED 3-4	€6 442	€6 445 [14]	:	: [14]
		ISCED 5-8	€9 302	€9 247 [14]	:	: [14]
Early leavers from education and training (age 18-24)	Native-born		20.6%	16.1%	11.0%	9.8%
	Foreign-born		38.3%	32.9%	21.9%	19.7%
Tertiary educational attainment (age 30-34)	Native-born		46.9%	44.8%	37.8%	39.9%
	Foreign-born		25.0%	22.4%	33.4%	35.3%
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-4		40.9%	56.8%	69.4%	72.6%
	ISCED 5-8		66.8%	72.3%	80.7%	82.8%
Learning mobility	Inbound graduates mobility (bachelor)		0.6%	0.6% [15]	5.5%	6.0% [15]
	Inbound graduates mobility (master)		4.7%	7.4% [15]	13.6%	15.1% [15]

Sources: Eurostat (see section 9 for more details); OECD (PISA). Notes: data refer to weighted EU average, covering a different numbers of Member States depending on the source; b = break in time series, d = definition differs, e = estimated, p = provisional, u = low reliability, 12 = 2012, 14 = 2014, 15 = 2015. On learning mobility, the EU average is calculated by DG EAC based on available country data in all years. Further information is found in the respective section of Volume 1 (ec.europa.eu/education/monitor).

Figure 1. Position in relation to highest (outer ring) and lowest performers (centre)



Source: DG Education and Culture calculations, based on data from Eurostat (LFS 2016) and OECD (PISA 2015). Note: all scores are set between a maximum (the strongest performers visualised by the outer ring) and a minimum (the weakest performers visualised by the centre of the figure).

2. Highlights

- The Spanish Parliament is consulting stakeholders before drafting a proposal for a Social and Political National Pact on Education that would set the terms for a long-lasting education reform. This has put on hold several parts of the Law to improve the quality of education and other pending reforms.
- Students' abilities as measured by PISA 2015 are stable at around the EU average and early school leaving continues to decrease. However, significant gaps between regions show that progress is uneven across the country.
- The increase in recruitment of teachers should help address the high levels of interim staff in schools, while reforming the teaching profession is one of the main features of the future pact.
- The Ministry of Education, Culture and Sport is making significant efforts to prevent violence and bullying in schools.
- Enrolment in higher education continues to fall and the education offer is very broad and not fully relevant to the job market. University-business cooperation has improved in the field of research and innovation but has yet to address education.

3. Tackling inequalities and promoting inclusion

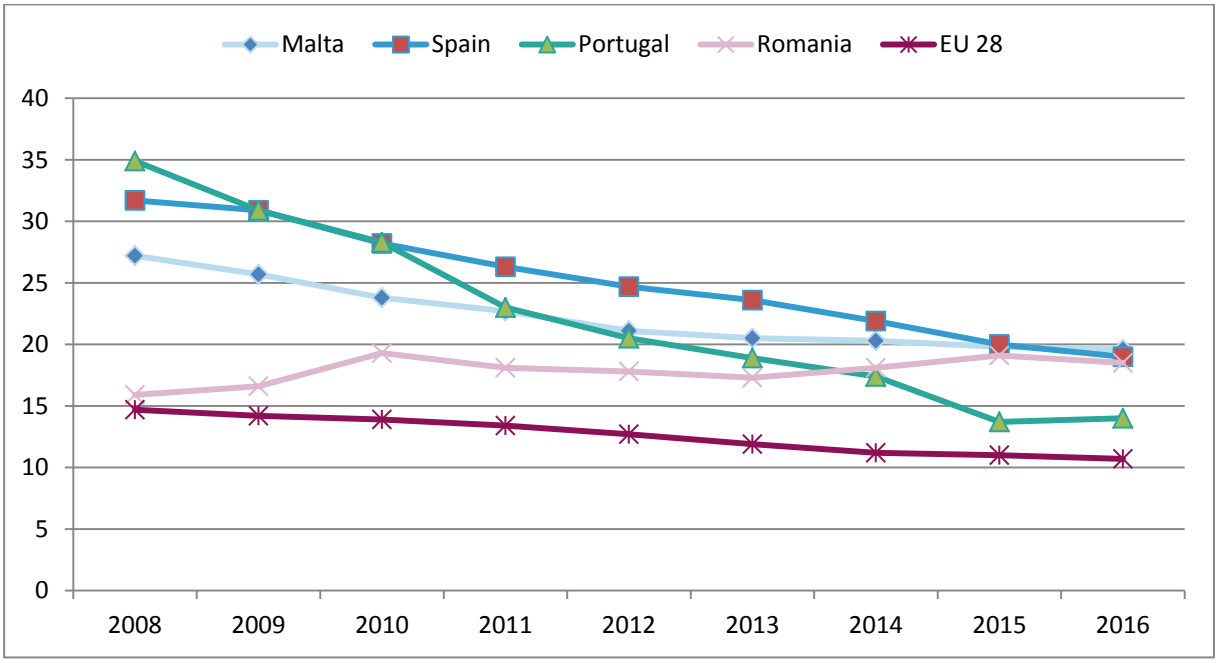
Students' performance in basic skills is stable at around the EU average; the skills gap between regions persists. According to the 2015 OECD Programme for International Student Assessment (PISA) survey, the proportion of low achievers in all three fields tested is around the EU average: 18 % in science, 16 % in reading and 22 % in mathematics. Compared to PISA 2012, this shows an improvement in reading and mathematics and a slight deterioration in science. The gap in low achievement between students from top and bottom socioeconomic quartiles — 6 % and 31.6 %, respectively, in science — is around the EU average. However, the difference between the highest and the lowest-performing regions in PISA in all three fields is over 40 mean score points — equivalent to more than 1 year of schooling. This reflects differences in their socioeconomic conditions but also suggests gaps in the effectiveness of education systems. In this context, the 2017 European Semester country-specific recommendations call on Spain to address regional disparities in 'educational outcomes' — the knowledge, skills and abilities that pupils and students attain. It should do so notably by strengthening teacher training and support for individual students (Council of the European Union, 2017). The performance gap between non-migrants and first-generation migrants is relatively small; second-generation immigrants further close the gap with non-migrants, especially in reading (OECD, 2016).

Spain has significantly reduced its rate of early school leaving (ESL), regional disparities, while narrowing, persist. ESL has decreased progressively over the past 8 years and reached 19 % in 2016, bringing Spain closer to its national Europe 2020 target of 15 %. Despite this positive trend, Spain's ESL rate is still the second highest in the EU. There are significant differences between regions: some still have rates over 25 % and struggle to maintain the downward trend, while others are already below 10 %. A variety of causes have been suggested, so policy responses need to be diverse. Factors linked to socioeconomic status and parents' level of education play a significant role (Canosa & Pérez, 2010). There is also a significant gender gap, with ESL rates 7.6 percentage points (pps.) higher among men. The extent to which regional labour markets generate high-skilled jobs is also relevant. Regions where growth is based on activities such as tourism and construction —with high demand for low-skilled people — risk seeing ESL increase again as growth recovers.

High rates of grade repetition can fuel ESL and reflect social inequalities. With more than 31 % of students having repeated a grade, Spain has the second-highest rate of grade repetition in the EU. This shows a slight improvement since 2012 (European Commission, 2017). A social gap is

evident, with rates of 53 % among disadvantaged students, against below 9 % for advantaged students (OECD, 2016). Repetition levels are especially high in primary and lower secondary education. The different levels of grade repetition across the regions broadly mirror differences in ESL rates. However, PISA 2015 shows there are also regions where students who have repeated a grade perform significantly better than the EU average. This suggests that the additional year can serve a good educational purpose.

Figure 2. Trends in EU countries with high early school leaving rates



Source: Eurostat (LFS, 2008 -2016). Online data code: edat_lfse_14.

The government is implementing its 2014-2020 national plan to reduce ESL (MECD, 2014). This is essentially a framework within which education stakeholders and institutions can propose specific programmes. While initially it had no budget, since December 2016 there is a EUR 13.5 million territorial cooperation programme to support targeted learning support measures. Regions can receive funding to implement measures to prevent ESL, for orientation and follow-up measures, and to develop plans for young people who drop out of the school system. The programme also funds measures targeting students with high potential. As part of the plan, the Ministry of Education (MECD) has created a number of online collaborative platforms where regional administrations can share experiences and learn from each other. A basic vocational education path was adopted in 2013 as a flagship to prevent ESL and help potentially poorly performing pupils to do better. It introduced a two-year alternative path for students in lower secondary education to reach medium vocational education and training. .Enrolment rates are so far low and several regions show poor transition and promotion rates which call into question the programme's effectiveness (European Commission, 2016). It is too soon to draw conclusions on its effectiveness.

Early childhood education and care is well developed and remains high on the national agenda. Almost all children aged between 4 and the compulsory school age (i.e. 6) attend early childhood education and care. At 97.7 % in 2015 the rate is above the EU average. Attendance by children aged 2 is 55.4 %. For children aged 0 to 2 participation rates show disparities between regions; participation in public centres remains low. The National Schools Council has highlighted the need to create more places for children aged 0 to 3 (CEE, 2014 & 2015). Further expansion of early childhood education is one of the priorities proposed by the MECD for the debate on the National Pact on Education.

Box 1: Castile-Leon: strategy to achieve performance improvements for all

Castile-Leon (CyL) is a region where people traditionally value education highly (Álvarez Guisasola, 2006). Shortage of jobs makes parents and young people highly aware of the advantages of education. PISA 2015 showed that students from CyL have a high overall performance (above 500 points) in reading, mathematics and science. The share of high performers is around 10 % while rates of low performance are low (10-15 %). CyL is not among the wealthiest regions — its GDP per capita is below the national average. However, it has developed a series of measures to help students perform well regardless of their socioeconomic status:

- The programme for improving education success (Programa para la Mejora del Éxito Educativo) is running since 2007-2008 for students of primary and secondary education. It provides primary students with support during school hours. Students in lower and upper secondary school get extracurricular lessons to prepare exams, including the exam to access higher vocational training. Support measures include individualised help, early detection of learning difficulties and initial evaluation of basic abilities.

- To improve literacy, under the regional Reading Plan 2016-2020 all schools should adopt a public supported plan, including web pages to foster literacy, support to school libraries, activities on spelling and a Book Day. The plan must cover also continuing professional development for teachers. This is provided through the network of 'training and innovation' centres through courses, workshops, training projects at schools, innovation and research projects, and self-training. In 2014/2015, 45 095 teachers participated in 3 215 training activities: scientific and didactic updates; application of information and communication technologies (ICT); training in foreign languages; and educational values. The Intercultural Education Resource Centre also offers teachers technical and didactic advice.

4. Investing in education and training

Spending on education is increasing but remains below the EU average. In 2015 spending on education was equivalent to 4.1 % of GDP, below the EU average. From 2012 to 2015, the proportion of total public expenditure devoted to education increased to 9.3 %, still below EU average. Set against a steadily growing student population (up 13.3 % between 2005 and 2015), public expenditure in real terms (constant prices) increased by just 9.1 % over the decade. Spending rose fairly evenly across education levels, whereas student numbers did not. This favoured mainly secondary and, to a lesser extent, tertiary education.

Political agreements have unlocked new funding for specific needs in the education system and increased teachers' replacement rates. Negotiations in Parliament resulted in an allocation of EUR 115 million to improve training, competences and mobility of teachers at all education levels (including tertiary). This budget will also strengthen school activities. In December 2016, the MECD agreed to allocate EUR 325 million to support regional measures for new initial vocational education and training (VET) programmes, to implement new pathways in lower secondary education and to help socioeconomically vulnerable families in buying books and school material. The government significantly increased the regions' scope to recruit teachers. It increased the replacement rate for retiring teachers from 10 % to 50 %, and in 2016 doubled it to 100 % with the aim of reducing the high proportion of interim teachers.

5. Modernising school education

The national debate on a comprehensive education reform has left the implementation of the Law to improve the quality of education (LOMCE) on hold. The school year 2016/2017 was expected to see the full implementation LOMCE. However, several measures have been left on hold to facilitate the new political dialogue aimed at reaching consensus on a comprehensive education reform and a long-lasting legislative framework: the Social and Political National Pact on Education. In December 2016, the government agreed by Royal Decree 5/2016 to postpone

implementing the evaluation tests proposed by the LOMCE at the end of primary, lower secondary and upper secondary education. The outcome of the national debate is expected to bring new proposals for improving the quality of education by evaluating students' results and the performance of the overall system.

The Ministry of Education, Culture and Sports proposes 11 benchmarks for the national pact, covering a wide spectrum of issues from ECEC to higher education. The strategy is embedded in the EU education and training 2020 framework. The process was launched in November 2016 with the appointment of a parliamentary subcommittee to consult stakeholders and experts before drafting a proposal for a new legal framework. At least five of the objectives refer directly to the EU agenda for modernising schools. These include updating curricula and teaching methods to help schools better adapt to new demands and giving schools the capacity to innovate and adjust to changing socioeconomic conditions. One aim is to address the lower level of autonomy of Spanish schools compared to other OECD countries. Principals and teachers in Spain have less responsibility for resources, for the curriculum, for student assessments and for school admissions than the OECD average.

The outcome of the pact should also lay the groundwork for long-awaited reform of the teaching profession. One of the objectives proposed is to improve the social and professional recognition of teachers. The level of job satisfaction among Spanish teachers scores high in Europe but has declined over the past 10 years (European Commission, 2016). Cutbacks during the crisis eroded their working conditions and increased the proportion on interim contracts. Career and salary progression do not reflect teachers' performance; teachers feel they are continuously faced with new demands as a result of frequent reforms, and that they lack support to address them. The increased replacement rate approved in 2016 is expected to reduce the share of interim teachers in the system from 20 % in 2016 to 8 % in 2020. It should create up to 130 000 posts in 3 years, but the reform of teachers' professional status is still pending. Discussion under the pact will take into account the December 2015 white paper on the teaching profession (MECD, 2015). Among the envisaged measures is a major reform of the induction system that would introduce a two-year paid internship in a school before entering the profession. This proposal will require negotiation with trade unions who perceive a risk of underemployment for young teachers.

Spain is making efforts to promote digital skills. The use of ICT in the learning process is also on the pact´s agenda. In 2017 the government adopted, in collaboration with the regions, the 'digital competence framework' for teachers to improve teaching ICT skills. It draws on the work of the European Commission's Joint Research Centre as a basis for certifying teachers' digital competences and, ultimately, developing a broader 'professional competence framework' for teachers.

Multilingualism is strongly addressed in the education system but effective implementation remains a challenge. The seventh issue discussed under the pact is promoting multilingual teaching. In Spain, many students speak a language at home that is not the language they are taught in at school. This reflects regional variations in the school language. For example, 9.8 % of 15-year-olds who are non-migrants speak Spanish at home but have a regional language as the language of schooling, mostly Catalan (Eurydice, 2017). The First European Survey on Languages (European Commission, 2012) showed that only 14 % of Spanish students in the last year of low secondary education achieved a B1 level in a foreign language (English); 13 % achieved a B2 level. Today, 99 % of students enrolled in primary education in Spain learn one or more foreign languages, with compulsory learning starting at age 6 (Eurydice, 2017). Several regions encourage the use of 'content and language integrated learning' (CLIL). However, analysis of the performance of students learning through CLIL showed that there may be a decline in their results in subjects taught in the foreign language (FEDEA, 2013). There is a significant language-learning gap linked to education pathways: almost all students (97.5 %) study English in general upper secondary education while only 20.4 % do so in vocational education (Eurydice, 2017).

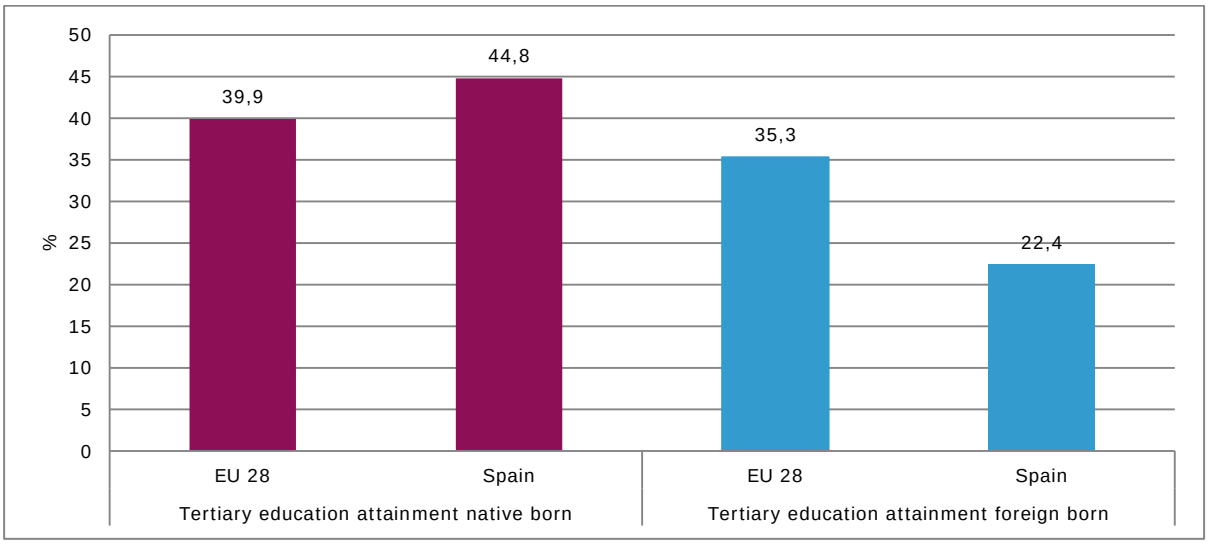
Spain is making efforts to address bullying and promote citizenship in schools. The PISA survey on students' wellbeing (OECD, 2017), shows that 14 % of students in Spain report having been bullied (against 19 % on average across the OECD). In October 2015 the MECD and the regional governments signed a territorial cooperation plan with funding of EUR 1.5 million to foster school well-being and prevent bullying and violence in schools. In March 2017, the MECD presented a strategic plan, later discussed with the regions, proposings among other things: a 24/7 telephone

helpline and a specific smartphone app; guides and handbooks for victims, parents and teachers; training courses for teachers, and a network of bullying-free schools to exchange experiences and resources.

6. Modernising higher education

Spain's tertiary educational attainment rate is high. In 2016 it was 40.1 %, above the EU average, but slightly some distance from the national Europe 2020 target of 44 %. The gender gap in tertiary attainment is increasing, with women surpassing men by almost 13 pps. (46.6 % compared with 33.5 %). There is a wider gap between native and foreign-born young people: the tertiary educational attainment rate of native-born (44.8 %) is double that of migrants (22.4 %) in 2016 (Figure 3).

Figure 3. Tertiary education attainment in Spain, native and foreign born (2016)



Source: Eurostat (LFS, 2016). Online data code: lfs_9912

The employment rate of recent graduates is increasing but remains below the EU average. Since 2013, the employment rate of recent tertiary graduates increased by 5.5 pps. to 72.3 % in 2016, but this is still significantly below the EU average and the national pre-crisis rate of 85.3 %. At 37 %, Spain also has the highest proportion in the EU of graduates working in occupations not requiring university education. In this context, the 2017 European Semester country-specific recommendations call on Spain to make tertiary education more relevant to the jobs market (Council of the European Union, 2017). In 2015, a graduate tracking system was set up to raise new students' awareness of future employment prospects. The graduate tracking questionnaire is currently being updated.

The National Pact on Education creates an opportunity to improve how Spain implements the Bologna Process and make higher education more effective. The Bologna reform was subject to criticisms and many in the higher education system were reluctant to implement it. It is formally considered to be fully implemented now. However, it is frequently argued that not all the human and financial resources needed to implement the reform well were provided, and that choices were made to minimise its impact rather than maximise its benefits. The national pact creates an opportunity to evaluate Bologna's impact and refocus on how to achieve the necessary transformation of higher education to strengthen quality, effectiveness and employability. The pact´s agenda includes four points on higher education: develop a university educational offer that matches the demands of local industry to improve competitiveness and students' employability; review the financing model in order to link public funding better to agreed objectives; favour a new model of university governance; and establish the category of research teaching staff as a means to promote university excellence.

The capacity of universities to cooperate with business is improving, but challenges remain. Business-university cooperation is supported by the 2013-2020 national strategy on science, technology and innovation. It mainly emphasises cooperation in research and development less so education or staff and student mobility involving business. Some regional administrations and universities are, nevertheless, being particularly proactive in responding to the EU recommendation to foster cooperation between universities and businesses. However, the limited mobility of students and academic staff, limited traineeship opportunities, lack of incentives and the rigidity of university governance remain obstacles to cooperation with business on education or research.

7. Modernising vocational education and training and promoting adult learning

Spain needs to better adapt young people's skills to the jobs market and increase the attractiveness of VET programmes. The proportion of Spain's upper secondary students (ISCED 3) in VET slightly increased from 34.4 % in 2014 to 35.2 % in 2015, but remains far below the EU average. The employment rate of recent upper secondary VET graduates in 2016 (61.3 %) was well below the EU average. Adult participation in learning is 9.4 % in 2016, also below the EU average. Spain finalised the reform of training for employment (the TES — *subsistema de formación para el empleo*). Its objectives for 2015-2018 include promoting training to upgrade the skills of trainers, teachers, assessors, career counsellors, managers and advisers. This is envisaged through the work of the national reference centres. Since 2015, 'joint sectoral structures' bring together sectoral business and unions to ensure that each sector's training needs are covered. Some regions have developed comprehensive modular approaches for apprenticeships. The law which regulates VET (Ley 30/2015) also covers training opportunities for all workers to improve their employability. It allows them to use the right to training and the opportunity to validate professional skills obtained through training and work. Particularly for adult learning, the modular approach is yielding positive results, such as partial qualification and certification. This allows people to attain a full qualification at their own pace.

Box 3: Integrated qualification and employment programme

The *Programa integral de cualificación y empleo* is implemented by chambers of commerce. It includes orientation and training activities and also creates partnerships with companies as potential employers. The programme is aligned with the Youth Guarantee's aim of providing a high-quality offer of employment, continuous education, training or apprenticeship to people under 30 who have finished formal education or become unemployed.

Each individual programme is developed on the basis of the person's profile, interests, level of education and personal skills. It also responds to demand from companies and takes account of the formal qualifications needed. The programme includes complementary training, mobility and 'dual training' plans.

The training plan can include consecutive actions designed as a complete training itinerary, with a career orientation decision and the necessary training to become employable in the chosen field. Basic general education as well as specific training are provided. Outreach to companies that are potential employers is undertaken. The plan is implemented within the shortest time possible.

The dual training plan can provide training that leads to accreditation with professional certificates, through training and apprenticeship contracts. It includes various phases, starting with mapping of companies, carrying out a training needs analysis, providing training to companies and developing training plans. All of this is coordinated by tutors within the chambers of commerce, who follow up individual participants.

The mobility plan includes opportunities for training and work experience in other EU countries.

8. References

Álvarez Guisasola (2006), *Aprender de los resultados de hoy para mejorar la educación del mañana* Revista de Educación, pp. 431-437.
http://www.revistaeducacion.mec.es/re2006/re2006_23.pdf

Canosa A, M.A., and Pérez B., R., (2010), *The factors of early school dropout. Spain in the European context (Los factores del abandono educativo temprano. España en el marco europeo)*, Revista de Educación, pp. 65-92.
www.revistaeducacion.mec.es/re2010/re2010_03.pdf

Consejo Escolar del Estado, CEE (2014), *Informe 2014*.
http://ntic.educacion.es/cee/i2014cee/

Consejo Escolar del Estado (2015), *Informe 2015*.
http://ntic.educacion.es/cee/informe2015/i2015cee.pdf

Council of the European Union (2017*), Council Recommendation of 11 July on the 2017 National Reform Programme of Spain and delivering a Council opinion on the 2017 Stability Programme of Spain.*
http://data.consilium.europa.eu/doc/document/ST-9313-2017-INIT/en/pdf

European Commission (2012), *First European Survey on Language Competences*
http://www.surveylang.org/media/ExecutivesummaryoftheESLC_210612.pdf

European Commission (2016), *Education and Training Monitor — Volume 2, Spain country report*.
https://ec.europa.eu/education/sites/education/files/monitor2016-es_en.pdf

European Commission (2017), *European Semester, Spain Country Report*.
https://ec.europa.eu/info/files/2017-european-semester-country-report-spain_en

Eurydice (2014a), *Key data on early childhood education and care education in Europe*.
http://eacea.ec.europa.eu/education/eurydice/documents/key_data_series/166en.pdf

Eurydice (2014b), *Tackling early leaving from education and training*.
http://eacea.ec.europa.eu/education/eurydice/documents/thematic_reports/175en.pdf

Eurydice (2015a), *The European Higher Education Area in 2015: Bologna Process Implementation Report.*
http://eacea.ec.europa.eu/education/eurydice/documents/thematic_reports/182EN.pdf

Eurydice (2015b), Country Report on ICT in education, Spain.
http://www.eun.org/c/document_library/get_file?uuid=f81e3194-6969-4382-b3bb-c3504bedf0be&groupId=43887

Eurydice (2017), *Key data on teaching language at school in Europe*.
https://webgate.ec.europa.eu/fpfis/mwikis/eurydice/index.php/Publications:Key_Data_on_Teaching_Languages_at_School_in_Europe_%E2%80%93_2017_Edition

Fundación de Estudios de Economía Aplicada FEDEA (2013*), Evaluation of a bilingual programme in Spain: The impact beyond the foreign language* (*Evaluación de un programa de educación bilingüe en España: El impacto más allá del aprendizaje del idioma extranjero*).
http://documentos.fedea.net/pubs/dt/2013/dt-2013-08.pdf

MECD Ministerio de Educación, Cultura y Deporte (2014), *Plan para la Reduccion del Abandono Educativo Temprano.*
http://www.mecd.gob.es/dms/mecd/educacion-mecd/areas-educacion/sistema-educativo/estudios-sistemas-educativos/espanol/especificos/estrategia-competencias-ocde/documentacion/Plan-para-la-reducci-n-del-abandono-eductivo-temprano.pdf

MECD Ministerio de Educación, Cultura y Deporte (2015), *Libro Blanco de la Profesion Docente y su entorno escolar*.
https://www.mecd.gob.es/mecd/dms/mecd/destacados/libro-blanco/libro-blanco-profesion-docente.pdf

OECD (2016a), *PISA 2015 Results*.
http://www.oecd.org/education/pisa-2015-results-volume-i-9789264266490-en.htm

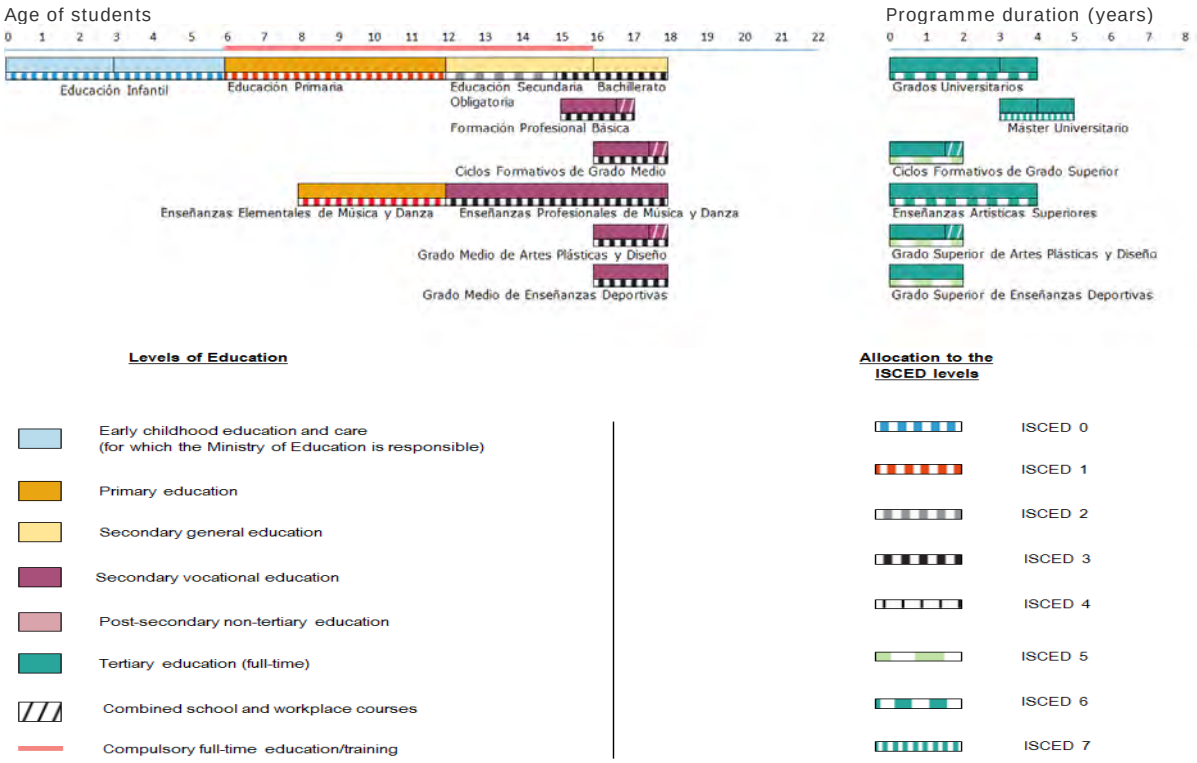
OECD (2016b), *Education at a glance 2016. Country note Spain*.
http://www.keepeek.com/Digital-Asset-Management/oecd/education/education-at-a-glance-2016/spain_eag-2016-81-en#page4

OECD (2017), *Country Note Spain– Results from PISA 2015 (Volume III): Students' Well-Being*
https://www.oecd.org/pisa/PISA 2015-Students-Well-being-Country-note-Spain.pdf.

9. Annex I. Key indicator sources

Indicator	Eurostat online data code
Early leavers from education and training	edat_lfse_02 + edat_lfse_14
Tertiary educational attainment	edat_lfse_03 + edat_lfs_9912
Early childhood education and care	educ_uoe_enra10 + tps00179
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

10. Annex II. Structure of the education system



Source: European Commission/EACEA/Eurydice, 2016. *The Structure of the European Education Systems 2016/17: 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:
Antonio Garcia Gomez
Antonio.GARCIA-GOMEZ@ec.europa.eu
or
EAC-UNITE-A2@ec.europa.eu

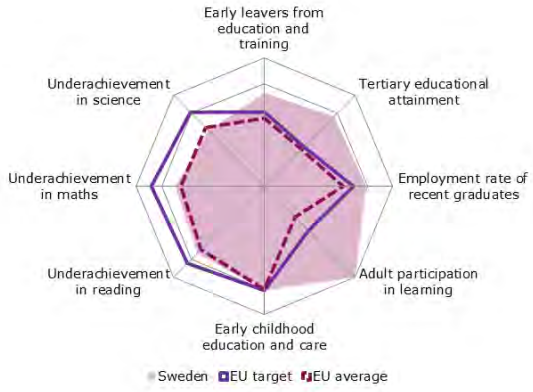
SWEDEN

1. Key indicators

			Sweden		EU average	
			2013	2016	2013	2016
ET 2020 benchmarks						
Early leavers from education and training (age 18-24)	Total		7.1%	7.4%	11.9%	10.7%
Tertiary educational attainment (age 30-34)	Total		48.3%	51.0%	37.1%	39.1%
Early childhood education and care (ECEC) (from age 4 to starting age of compulsory education)			95.9% [12]	95.0% [15]	93.9% [12]	94.8% [15]
Proportion of 15 year-olds with underachievement in:	Reading		22.7% [12]	18.4% [15]	17.8% [12]	19.7% [15]
	Maths		27.1% [12]	20.8% [15]	22.1% [12]	22.2% [15]
	Science		22.2% [12]	21.6% [15]	16.6% [12]	20.6% [15]
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-8 (total)		84.9%	86.7%	75.4%	78.2%
Adult participation in learning (age 25-64)	ISCED 0-8 (total)		28.4%	29.6%	10.7%	10.8%
Other contextual indicators						
Education investment	Public expenditure on education as a percentage of GDP		6.6%	6.5% [15]	5.0%	4.9% [15]
	Expenditure on public and private institutions per student in € PPS	ISCED 1-2	€8 114	€8 020 [14]	:	: [14]
		ISCED 3-4	€8 242	€7 995 [14]	:	: [14]
		ISCED 5-8	€17 461	€17 568 [14]	:	: [14]
Early leavers from education and training (age 18-24)	Native-born		6.3%	5.9%	11.0%	9.8%
	Foreign-born		12.2%	15.2%	21.9%	19.7%
Tertiary educational attainment (age 30-34)	Native-born		49.6%	51.9%	37.8%	39.9%
	Foreign-born		45.1%	49.2%	33.4%	35.3%
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-4		80.2%	81.6%	69.4%	72.6%
	ISCED 5-8		89.9%	91.4%	80.7%	82.8%
Learning mobility	Inbound graduates mobility (bachelor)		2.5%	2.2% [15]	5.5%	6.0% [15]
	Inbound graduates mobility (master)		24.0%	16.6% [15]	13.6%	15.1% [15]

Sources: Eurostat (see section 9 for more details); OECD (PISA). Notes: data refer to weighted EU average, covering a different numbers of Member States depending on the source; b = break in time series, d = definition differs, e = estimated, p = provisional, u = low reliability, 12 = 2012, 14 = 2014, 15 = 2015. On learning mobility, the EU average is calculated by DG EAC based on available country data in all years. Further information is found in the respective section of Volume 1 (ec.europa.eu/education/monitor).

Figure 1. Position in relation to strongest (outer ring) and weakest performers (centre)



Source: DG Education and Culture calculations, based on data from Eurostat (LFS 2016) and OECD (PISA 2015). Note: all scores are set between a maximum (the strongest performers visualised by the outer ring) and a minimum (the weakest performers visualised by the centre of the figure).

2. Highlights

- Sweden invests heavily in education, with general government expenditure on education among the highest in the EU.
- Sweden has one of the highest tertiary educational attainment rates in the EU and the employment rate of its recent tertiary graduates is very high.
- School education outcomes have improved after years of deteriorating performance, with particularly strong improvements in mathematics and reading.
- Inequalities are growing: tackling the increasing performance gap between foreign-born and native students is a challenge.
- The attractiveness of vocational education and training is being improved.

3. Tackling inequalities and promoting inclusion

Sweden's school system has been relatively equitable, but there are signs of growing inequalities in learning outcomes. According to the OECD's 2015 Programme for International Skills Assessment (PISA), the impact of socioeconomic background on students' performance in science at age 15 is around the OECD average. However, where in 2006 a socioeconomically advantaged student scored 77 points higher in science than a disadvantaged one, in 2015 the difference increased to 94 points (equivalent to more than 3 years of schooling).

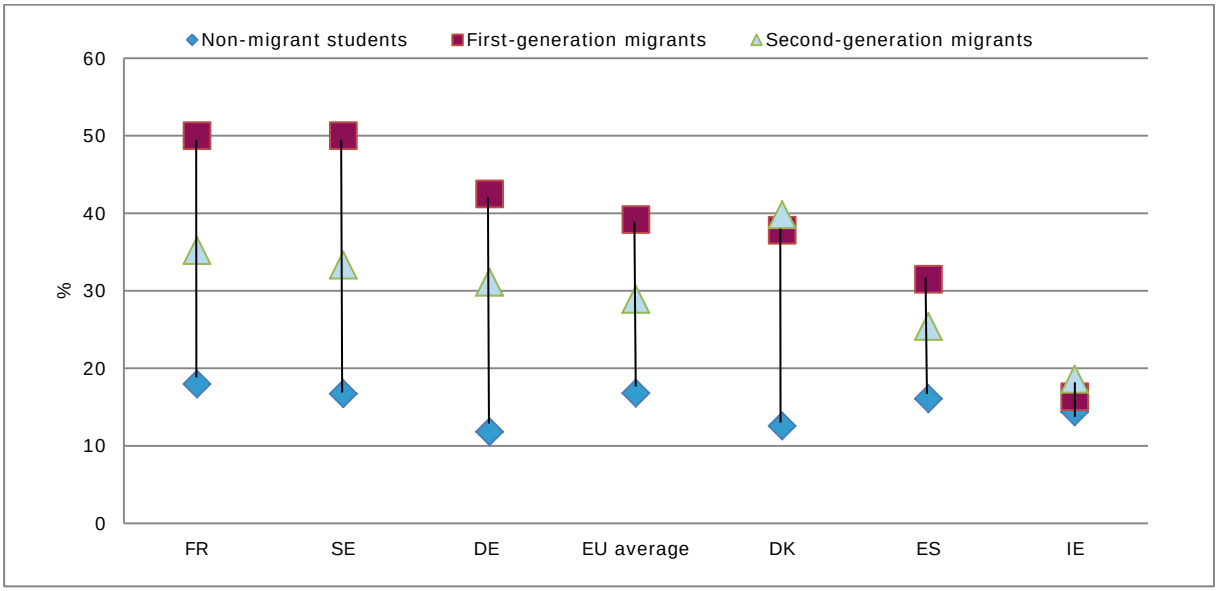
The performance gap between foreign-born and native students remains high and is of growing importance as the numbers with a migrant background rise. In PISA 2015, one in two foreign-born students performed below the baseline level in science. Although the proportion of low performers is smaller among the second generation (i.e. native with foreign-born parents), it remains high at 33.3 %. The proportion among non-migrant background students is by comparison 16.7 % (Figure 2). These results are important given the sharp rise in students from a migrant background. They made up 17.4 % of the 2015 PISA population, compared to 11 % in PISA 2006 (OECD, 2016c).

The transition from compulsory to upper secondary school is a hurdle for many foreign-born students. On reaching the end of compulsory schooling after grade 9 (age 16), one in two students who migrated after the age of 7 do not qualify for an upper secondary 'national programme'.[98] This very high proportion compares to less than 10 % for native students (NAE, 2015b). The figure jumps to 72 % among those who arrive in the last 4 years of compulsory schooling. Students who are not eligible for a 'national programme' are directed to one of the five 'introductory programmes'.[99] These were originally designed to provide tailored support for small numbers of struggling students and help them bridge the gap to the labour market or further education. In practice, however, these programmes, in particular the 'individual alternative', accommodate students with skills gaps and act as a holding bay until students leave the education system. 31 % of all 'individual alternative' students are foreign-born, often trapped in courses alongside weakly motivated native students (OECD, 2016d). Guidelines are lacking on how to organise these programmes, and links between 'national' and 'introductory programmes' are underdeveloped (SOU, 2016a).

[98] Since 1 July 2011 there have been 18 'national' upper secondary programmes: 6 higher education preparatory programmes and 12 vocational programmes.

[99] These are: preparatory education, programme-oriented individual options, vocational introduction, individual alternative and language introduction.

Figure 2. Proportion of low achievers in science by migrant background in 2015 (%)



Source: OECD (PISA 2015). Online data code: Table I.7.5a.

The achievement gap between foreign-born and native students has widened since 2008. This probably reflects changes in the composition of foreign-born students. A higher proportion of recent migrants have arrived at an older age; those who migrated after the age of 7 have increasingly come from countries with weaker school systems. Students born in Africa and unaccompanied minors run the highest risk of failing at school (NAE, 2016a; Grönqvist et al., 2017). Although the early school leaving rate is below the EU average (7.4 % v 10.7 % in 2016), there is a growing difference between native students (5.9 %) and those born abroad (15.2 %).

High-quality early childhood education and care (ECEC), delayed tracking and low grade repetition, favour equity. But school choice may hinder it. ECEC is well developed, with a curriculum ensuring both academic and socio-emotional development. Participation rates are high: 93 % of 3-year-olds are in an ECEC programme and participation from age 4 is 95 %. Compulsory education — primary and lower secondary education — is organised into a single structure and tracking takes place at the end of compulsory schooling. Grade repetition rates are low: only 4 % of 15-year-olds have repeated a grade, against the OECD average of over 11 % (OECD, 2017b). However, the distribution of school resources varies between municipalities and does not guarantee equal learning opportunities. There is also a strong relationship between performance and the types of school that students attend (OECD, 2017b). The concentration of students of low socioeconomic status in disadvantaged schools is largely a result of residential segregation. Nevertheless, evidence also suggests that school choice, which was part of the 1990s comprehensive school reforms, has exacerbated school segregation (Kallstenius, 2010).[100]

Getting newly arrived pupils into the school system remains a priority. In the 2016/2017 school year, close to 80 000 pupils in compulsory schools were newly arrived,[101] 17 000 more than a year before. Although admission to schools is still largely left to the discretion of the local municipality and the head teacher, central government guidelines have started to set standards. From 1 January 2016 skills mapping is the basis for placing students in a grade and for planning their instruction. Newly arrived students may be offered introductory classes for up to 2 years to ensure their phased transition to regular schooling. Nevertheless, structured assessment of students' knowledge in various subjects is still inadequate. Their progress is not systematically

100 The school choice policy was intended to create incentives for schools to offer better quality to all. In practice, socioeconomically advantaged students with well-informed parents tend to opt out of schools dominated by socioeconomically disadvantaged students, thus contributing to school segregation.

101 Newly arrived students are students aged 7-18, who have migrated to Sweden without a basic knowledge of Swedish. A student is considered newly arrived for up to 4 years after starting school.

tracked and documentation on their abilities may not be passed on if they move to another municipality (National School Inspectorate, 2017). Bridging the gap between schools and newly arrived parents is a further challenge (Bunar, 2016). In addition, the distribution of newly arrived pupils remains unequal, both between municipalities and between schools (NAE, 2017a).[102]

The government has boosted resources to tackle inequalities. In the 2017 spring budget the most disadvantaged compulsory schools received an additional SEK 500 million (EUR 52 million). SEK 150 million (EUR 15.6 million) was allocated to improve the quality of the 'introductory programmes'. In the 2018 draft budget a further SEK 1.5 billion (EUR 153 million) has been earmarked to improve equity across schools. The government's increased focus on inequality is in line with the proposal made by the Swedish School Commission, which called for an additional SEK 6 billion (EUR 613 million) to be invested in the coming 3 years to tackle inequality (SOU, 2017). In January 2017, the government also announced a long-term investment plan (covering 2017-2025) to support municipalities and independent school providers in offering high quality education to newly arrived students (MoER, 2017).

Box 1: 'Plug In 2.0' prevents young people from leaving school early

The 'Plug In 2.0' project (2015-2018) aims at improving the quality of upper secondary education and increasing the number of young people who successfully complete it. The target group is students aged 15-24, either in compulsory or upper secondary school or in an introductory programme at upper secondary level, who are at risk of interrupting their studies or have already dropped out of school. Newly arrived students are an important target group.

Eighty of Sweden's 290 municipalities have participated in activities including:

- mentoring and coaching to build positive relationships with students;
- identifying obstacles which prevent students from going to school;
- developing individualised study plans and more effective study paths for the newly arrived.

Plug In 2.0 is implemented by the Swedish Association of Local Authorities and Regions in cooperation with eight Swedish regions. It is co-financed by the participating municipalities and regions and the European Social Fund (ESF). With a budget of SEK 160 million (EUR 16.4 million) and close to 11 000 young people benefiting, Plug In 2.0 is the largest cooperation project in Sweden that tackles early school leaving.

The digital platform 'Pluginnovation' at http://pluginnovation.se/eng follows projects, shares methods, research findings and lessons learnt. More information is at https://skl.se/english-plugin/.

4. Investing in education and training

Investment in education has been stable over the past decade. General government expenditure on education was among the highest in the EU in 2015, as a proportion both of GDP (6.5 %) and of total general government expenditure (13 %). The financing of both compulsory and upper secondary education has been fully decentralised since the early 1990s. Education takes a major proportion of municipalities' total expenditure, representing on average 40 % of a municipality's budget (OECD, 2016b). The majority of school funding comes from municipal tax revenues while about 10 % is direct central government investment.[103] There are variations between municipalities in how they allocate resources to schools, with some weighting funding by socioeconomic criteria. All schools are publicly funded regardless of whether they are municipal or independent.[104]

102 10 % of municipalities have accommodated 41 % of all newly arrived pupils. 9 % of the pupils in municipal schools are newly arrived compared to 3 % in independent schools.

103 In 2017, the total direct central government investment in education amounted to SEK 11 billion (EUR 1.14 billion).

104 In 2015/2016, one in seven compulsory school students and more than one in four upper secondary students attended an independent school.

Sweden invests more in tertiary education than the EU average. Total expenditure on the higher education sector, including research, the costs of the central government managing agencies and study support to students, corresponds to 1.81 % of GDP. The largest proportion of funding (80 %) comes from public sources. Private funding is mainly additional funding for research undertaken. A further 5 % consists of funding from the EU, other international sources and financial revenues (Swedish Higher Education Authority, 2017).

5. Modernising school education

School education outcomes in terms of basic skills proficiency have improved after years of deteriorating performance. In PISA 2015, student performance improved significantly in mathematics and reading compared to 2012, and remained broadly stable in science. The proportion of low-achievers is now close to the EU average in all three core domains. 3.9 % of 15-year-olds are top performers in all three subjects, just above the EU average of 3.7 %. In mathematics, Sweden has managed to raise excellence by increasing the proportion of top performers to around 10 %. This is higher than in 2012, but the trend since 2003 still shows a decline in the proportion of top performers in mathematics. The proportion of top performers has not changed significantly in science compared to 2006, or in reading compared to 2009. Girls and boys perform similarly in science and mathematics, but in reading twice as many boys (24 %) as girls (12 %) are low achievers (OECD, 2016), a wider gap than the EU average.

Measures aim at improving students' basic skills. The government is prioritising 'early intervention', i.e. the first years of schooling, and continues to allocate a central grant of SEK 2.3 billion (EUR 0.2 billion) per school year for the pre-school class and grades 1-3 (age 7-9). Education providers and schools can use the grant to reduce class sizes and employ more primary or special needs teachers. Under the 'reading-writing-arithmetic guarantee', due to enter into force in July 2018, all students should have achieved a baseline level in reading, writing and mathematics on finishing grade 3. To make the guarantee work, a mandatory mapping of pupils' competences in the pre-school class and further diagnostic tests in grades 1 and 3 are proposed. They will also have a right to support in mathematical, reading and writing development (SOU, 2016b).

Recruiting and retaining talented professionals in the teaching profession remains a challenge. Teachers are leaving the profession (SOU, 2016c) and 39 % of teachers are 50 or older (OECD, 2017a). Close to 60 000 new full-time teachers and over 24 000 pre-school teachers would need to be recruited by 2019 to meet demand (NAE, 2015a). At the start of the 2016/2017 school year there was a shortfall of 5 000 teachers, according to the National Union of Teachers. Recruitment is hindered by the low perceived status of teachers and by wages below both the OECD and EU-22 averages later in the career (OECD, 2014 and OECD, 2016a).

The government is increasing financing incentives to make the teaching profession more attractive. The government has earmarked SEK 3 billion (EUR 0.31 billion) per year to increase teacher salaries. Since the start of the 2016/2017 academic year, one in three teachers and pre-school teachers, 65 369 in total, have benefited from the government's 'Boost for Teacher Salaries' initiative. This has given them a monthly salary increase of SEK 2 600 (EUR 271) on average. Since autumn 2016, SEK 1.4 billion (EUR 0.15 billion) has been passed on to teachers and pre-school teachers, representing 90 % of the budget earmarked (NAE, 2017b). The career development reform, launched in 2013, also provides a salary raise linked to career advancement steps for one in six teachers. This amounts to SEK 5 000 (EUR 528) per month for 'first-class teachers'[105] and SEK 10 000 (EUR 1 056) per month for 'senior lecturers'.[106] The government continues to support teachers' continuing professional development (Box 2) and will finance around 3 600 new study places, with a focus on teachers of Swedish as a second language.

105 Teachers who stand out in their teaching practice.
106 Teachers with a licentiate degree.

Box 2: Innovative professional development in mathematics and reading

'Boost for Mathematics' ('Matematiklyftet') and 'Boost for Reading' ('Läslyftet') are the most significant collaborative learning programmes targeting the teaching workforce ever developed in Sweden. The programmes are based on research in school improvement and take place locally in schools. They focus on peer learning between teachers on how they plan, conduct and evaluate their teaching — a different approach from traditional individual-based professional development. The 'Boosts' provide teachers with new tools to develop their own teaching and ultimately improve the skills of their students (NAE, 2016d).

By the end of 2016, 35 580 teachers of mathematics — three out of four maths teachers in compulsory and upper secondary schools — had participated in the 'Boost for Mathematics' (2012-2016) for at least 1 year. In addition, 1 668 tutors and 2 961 head teachers were trained. The didactic material was developed by the National Agency for Education, together with over 20 universities and the National Centre for Mathematics Education. According to surveys (NAE, 2016b), teachers have embraced the initiative and believe that they are now more aware of their role, communicate better in the classroom and manage to tailor their teaching to students' different needs. The cost of the programme is estimated at EUR 56 million.

20 000 teachers and 1 600 schools have been taking part in the 'Boost for Reading' (2015-2018). While the main target group is teachers in compulsory and upper secondary schools, the programme has been extended to pre-schools to improve the teaching of Swedish to non-mother tongue children. Total funding of the programme is being increased from EUR 6.2 million to EUR 9.5 million, while pre-schools will receive EUR 0.62 million in 2017-2019.

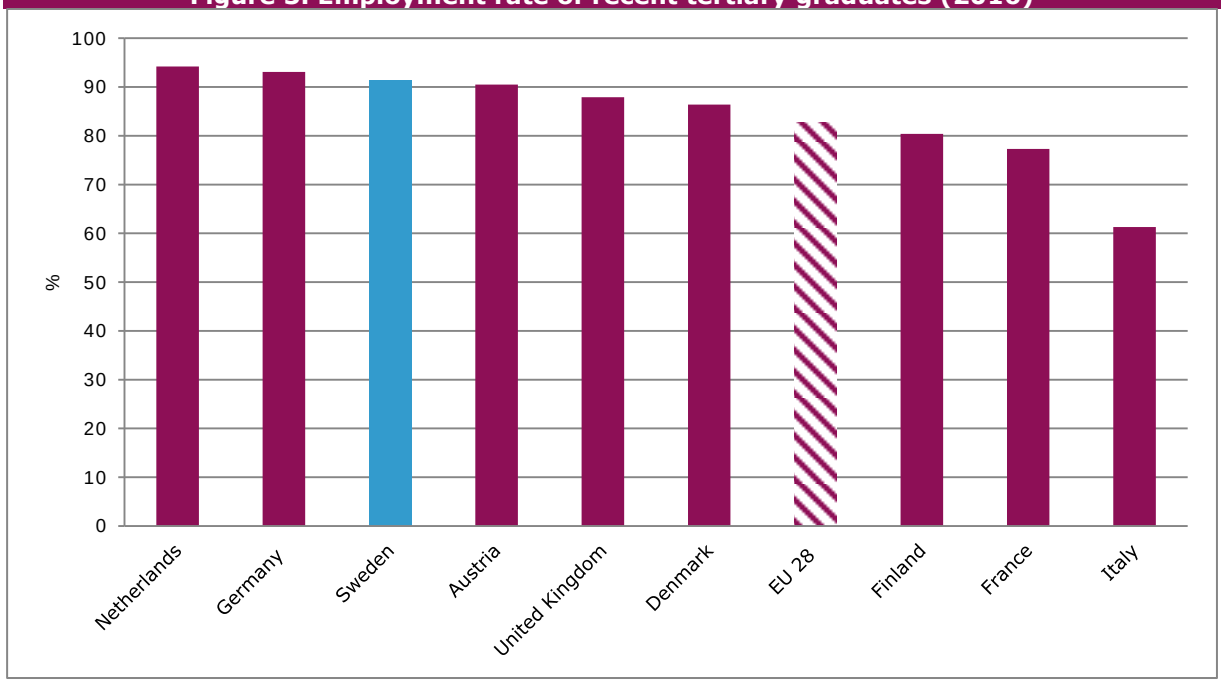
In PISA 2015, student performance in mathematics improved markedly compared to 2012. Although it is early to say what reversed the previous negative trend, the 'Boost for Mathematics' may have played a role.

6. Modernising higher education

Sweden's tertiary educational attainment rate is at an all-time high and the employment rate of recent tertiary graduates is one of the highest in the EU (Figure 3). 51 %[107] of 30- to 34-year-olds completed tertiary education, above both the EU average of 39.1 % and the national Europe 2020 target of 45-50 %. The current upward trend may slow as the number of higher education entrants declined each year between the peak in 2009/2010 (107 000 entrants) and 2015/2016 (86 000 entrants). One quarter of all entrants come from abroad, over half of them from countries in the EU/EEA and Switzerland. Following a heavy drop in 2011/2012 when tuition fees were introduced for students from outside the EU/EEA and Switzerland, the total of foreign students, including fee-paying ones, has now started to increase (Swedish Higher Education Authority, 2017). The average age of university entrants has traditionally been high but the proportion of 21-year-old or younger entrants has grown in recent years, with one in two now 21 or below. This is partly due to the size of the 19- to 21-year-old cohort, but mainly to changes in the admission regulations which favour younger applicants.

[107] In 2016, the rate was 59.2 % for women and 43.4 % for men. The number of women in higher education has risen faster than the number of men over the past 30 years.

Figure 3. Employment rate of recent tertiary graduates (2016)



Source: European Commission elaboration on Eurostat data. Online data code: edat_lfse_24.

Sweden's student support system is highly equitable. The majority of students finance their studies with the financial support, a combination of study grants and study loans, they receive from the state. In 2016, the maximum financial support for an academic year of 40 weeks, for a student pursuing full-time studies, amounted to SEK 99 040 (EUR 10 305).[108] Students may receive financial support for a maximum of 12 semesters or 6 academic years and can apply for the support until they turn 56. Repayment of the loan is based on an annuity system and the debt is to be repaid within 25 years or before the borrower reaches the age of 60.

The government is putting resources into widening participation. It will finance around 14 600 new study places by 2019 and has also allocated an additional SEK 250 million (EUR 25.56 million) for 2016 and 2017 to humanities, social sciences, law, theology, and teacher and pre-school teacher education. The government has earmarked the same amount for 2018 for the same subjects. The additional funding will support more teacher-led instruction aiming at improving students' chances of successfully completing higher education. Since 2017 a new quality assurance system is in place, developed by the Swedish Higher Education Authority in conjunction with the higher education sector. In April 2017 the government launched an inquiry into the governance and financing of higher education. The objectives are to develop a system that allows more people from socioeconomically disadvantaged backgrounds to enter higher education and to enhance links between research, study programmes and the society.

108 In 2016, the study grant for an academic year was SEK 28 160 (EUR 2 930) and the loan ceiling amounted to SEK 70 880 (EUR 7 375).

7. Modernising vocational education and training and promoting adult learning

The government aims at increasing the attractiveness of vocational education and training (VET), yet challenges remain. The participation of upper secondary students in VET is decreasing. By contrast, the employment rate of recent upper secondary VET graduates, at 83.9 % in 2016, is well above the EU average. The number of apprenticeships at upper secondary level has increased every year since appricticeship was introduced in 2011.[109] The government is working towards VET programmes granting again eligibility to higher education.[110] The Parliament has also endorsed a 5−year pilot sceme creating so-called 'branch-schools'. Students will follow specialised VET-courses in 'branch-schools', located around the country, as part of their training in an upper secondary school in their home municipality.

Access to adult education is being widened, primarily to improve labour market outcomes for the low-skilled. Participation by adults (25-64) in learning is high and growing: in 2016 the rate was 29.6 % compared to the EU average of 10.8 %. However, participation by the low-educated, who stand to benefit the most, is lagging behind (19.3 % in 2016). From 2017, at an estimated cost of SEK 537 million (EUR 56 million) a year, all adults have the right to education at upper secondary level. This is a significant extension of the previous entitlement to complete compulsory schooling. Around 70 000 adults are expected to complement their previous studies and obtain an upper secondary qualification that gives access to higher education and improves their chances in the jobs market. To help curb skills mismatches among newly arrived adults, a Swedish Tuition for Immigrants (SFI) course is offered to migrant residents aged 16 or older, in combination with employment, vocational education or other studies.

8. References

Bunar, N. (2016), *Hållbar skolutveckling för alla*, Stockholm: Stockholms stad.

Grönqvist, H., Niknami S. (2017), *Ankomst och härkomst — en ESO-rapport om skolresultat och bakgrund*, Rapport till Expertgruppen för studier i offentlig ekonomi, 2017:3. http://eso.expertgrupp.se/wp-content/uploads/2014/12/ESO-2017_3.pdf

Kallstenius, J. (2010), *De mångkulturella innerstadsskolorona*, Stockholm: Stockholmuniversitetet.

Ministry of Education and Research (MoER) (2017*), Uppdrag att genomföra insatser för att stärka utbildningens kvalitet för nyanlända barn och elever och vid behov för barn och elever med annat modersmål än svenska*, Diarienummer: U20 17/00300/S. Stockholm: Regeringskansliet. http://www.regeringen.se/regeringsuppdrag/2017/02/uppdrag-att-genomfora-insatser-for-att-starka-utbildningens-kvalitet-for-nyanlanda-barn-och-elever-och-vid-behov-for-barn-och-elever-med-annat-modersmal-an-svenska/

National Agency for Education (NAE) (2015), *Redovisning av uppdrag om prognos över behovet av olika lärarkategorier*, Dnr U20 14/4128/S.

National Agency for Education (NAE) (2015), *Skolverkets lägesbedömning 2015*, Rapport 421. http://www.skolverket.se/om-skolverket/publikationer/visa-enskild-publikation?_xurl_=http%3A%2F%2Fwww5.skolverket.se%2Fwtpub%2Fws%2Fskolbok%2Fwpubext%2Ftrycksak%2FBlob%2Fpdf3432.pdf%3Fk%3D3432

National Agency for Education (NAE) (2016a), *Invandringens betydelse för skolresultaten.* http://www.skolverket.se/om-skolverket/publikationer/visa-enskild-publikation?_xurl_=http%3A%2F%2Fwww5.skolverket.se%2Fwtpub%2Fws%2Fskolbok%2Fwpubext%2Ftrycksak%2FBlob%2Fpdf3604.pdf%3Fk%3D3604

109 In autumn 2015 the number of apprentices was 8 400, up from 6 000 in autumn 2013, representing around 9 % of all VET students (NAE, 2016c).

110 Before the 2011 upper secondary school reform, all vocational 'national' programmes had courses that granted eligibility to higher education.

National Agency for Education (NAE) (2016b), *Lärare nöjda med Matematiklyftet*, Pressmeddelande 2016-11-25. https://www.skolverket.se/om-skolverket/press/pressmeddelanden/2016/larare-nojda-med-matematiklyftet-1.255383

National Agency for Education (NAE) (2016c), *Samlad redovisning och analys inom yrkesutbildningsområdet*, Rapport 442. https://www.skolverket.se/om-skolverket/publikationer/visa-enskild-publikation?_xurl_=http%3A%2F%2Fwww5.skolverket.se%2Fwtpub%2Fws%2Fskolbok%2Fwpubext%2Ftrycksak%2FRecord%3Fk%3D3690

National Agency for Education (NAE) (2016d), *Slutredovisning: Uppdrag att svara för utbildning*, Regeringsuppdrag, DNR 2011:643, Skolverket, Stockholm. https://www.skolverket.se/om-skolverket/publikationer/visa-enskild-publikation?_xurl_=http%3A%2F%2Fwww5.skolverket.se%2Fwtpub%2Fws%2Fskolbok%2Fwpubext%2Ftrycksak%2FRecord%3Fk%3D3701

National Agency for Education (NAE) (2017a), *17 000 fler nyanlända i grundskolan*, Pressmeddelande 2017-03-23. https://www.skolverket.se/om-skolverket/press/pressmeddelanden/2017/17-000-fler-nyanlanda-i-grundskolan-1.259336

National Agency for Education (NAE) (2017b), *Många lärare får höjd lön från flera statsbidrag*, Pressmeddelande 2017-03-07. https://www.skolverket.se/om-skolverket/press/pressmeddelanden/2017/manga-larare-far-hojd-lon-fran-flera-statsbidrag-1.258455

National School Inspectorate (2017), *Skolhuvudmännens mottagande av nyanlända elever i grundskolan*, Stockholm: Skolinspektionen. https://www.skolinspektionen.se/sv/Beslut-och-rapporter/Publikationer/Granskningsrapport/Kvalitetsgranskning/skolhuvudmans-mottagande-av-nyanlanda-elever/

OECD (2014), *TALIS 2013 Results: An International Perspective on teaching and Learning*. OECD Publishing, Paris.

OECD (2016a), *Education at a Glance 2016: OECD Indicators*, OECD Publishing, Paris.

OECD (2016b), *OECD Review of Policies to Improve the Effectiveness of Resource Use in Schools (School Resources Review), Country Background Review: Sweden,* OECD Publishing, Paris. http://www.oecd.org/edu/CBR_OECD_SRR_SE-FINAL.pdf

OECD (2016c), *PISA 2015 Results, (Volume I), Excellence and Equity in Education,* OECD Publishing, Paris. http://www.oecd.org/publications/pisa-2015-results-volume-i-9789264266490-en.htm

OECD (2016d), *Working Together: Skills and Labour Market Integration of Immigrants and their Children in Sweden*, OECD Publishing, Paris.

OECD (2017a), *Education at a Glance 2017: OECD Indicators*, OECD Publishing, Paris.

OECD (2017b), *Education Policy Outlook: Sweden,* OECD Publishing, Paris. http://www.oecd.org/edu/Education-Policy-Outlook-Country-Profile-Sweden.pdf

SOU (Statens offentliga utredningar) (2016a), *En gymnasieutbildning för alla — åtgärder för att alla unga ska påbörja och fullfölja en gymnasieutbildning*, SOU 2016:77, Stockholm.

SOU (Statens Offentliga Utredningar) (2016b), *På goda grunder — en åtgärdsgaranti för läsning, skrivning och matematik*. SOU 2016:59, Stockholm

SOU (Statens Offentliga Utredningar) (2016c), *Samling för skolan: nationella målsättningar och utvecklingsområden för kunskap och likvärdighet: delbetänkande*. SOU 2016:38, Stockholm.

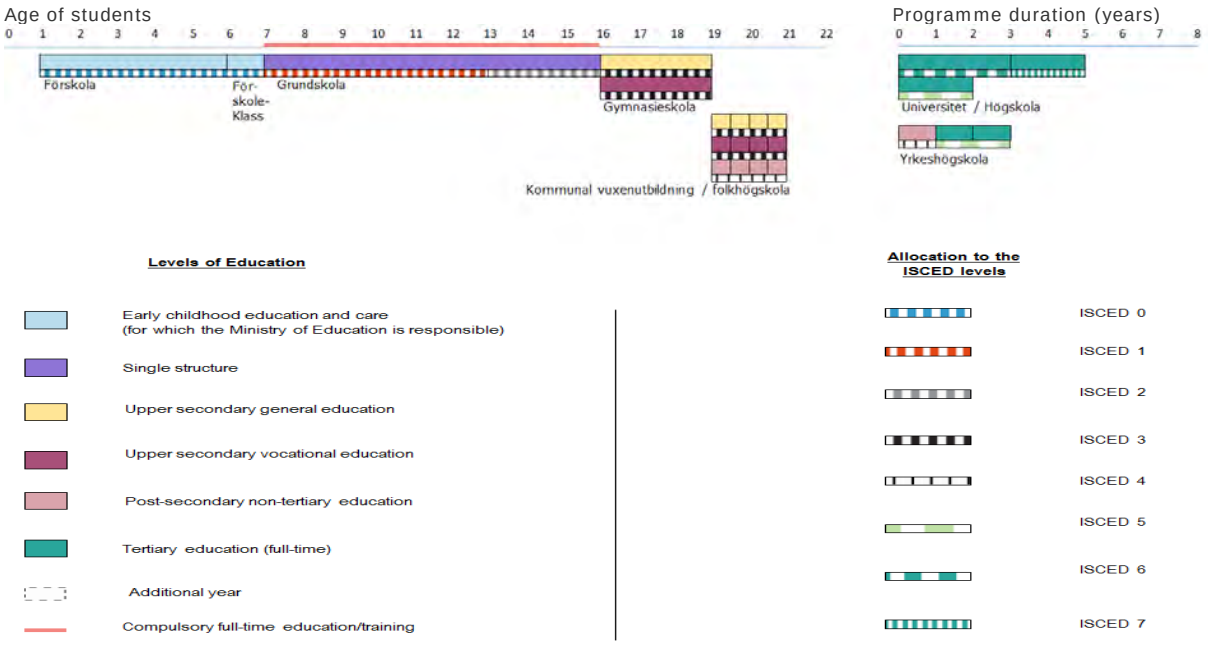
SOU (Statens offentliga utredningar) (2017), *Samling för skolan: nationell strategi för kunskap och likvärdighet*, SOU 2017:35, Stockholm. http://www.sou.gov.se/wp-content/uploads/2017/04/SOU_2017_35_webb_Final-version.pdf

Swedish Higher Education Authority (2017), *Universitet och högskolor*, Årsrapport 2017, Rapport 2017:8. http://www.uka.se/download/18.667441fa15af4fb7b21126b3/1497612948871/arsrapport-2017.pdf

9. Annex I. Key indicator sources

Indicator	Eurostat online data code
Early leavers from education and training	edat_lfse_02 + edat_lfse_14
Tertiary educational attainment	edat_lfse_03 + edat_lfs_9912
Early childhood education and care	educ_uoe_enra10 + tps00179
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	educ_uoe_mobg03

10. Annex II. Structure of the education system



Source: European Commission/EACEA/Eurydice, 2016. *The Structure of the European Education Systems 2016/17: 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:
Mónika KÉPE-HOLMBERG
monika.kepe@ec.europa.eu
or
EAC-UNITE-A2@ec.europa.eu

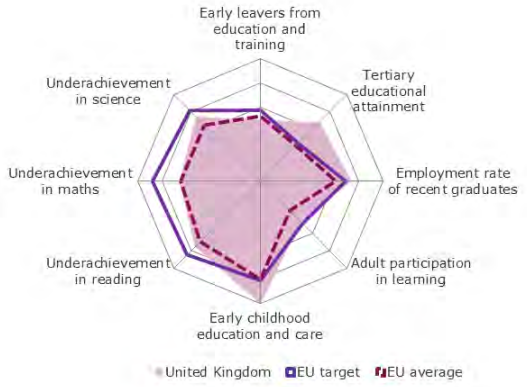
UNITED KINGDOM

1. Key indicators

			United Kingdom 2013	United Kingdom 2016	EU average 2013	EU average 2016
ET 2020 benchmarks						
Early leavers from education and training (age 18-24)	Total		12.4%	11.2%	11.9%	10.7%
Tertiary educational attainment (age 30-34)	Total		47.4%	48.1%	37.1%	39.1%
Early childhood education and care (ECEC) (from age 4 to starting age of compulsory education)			97.3% [12]	100.0% [15]	93.9% [12]	94.8% [15]
Proportion of 15 year-olds with underachievement in:	Reading		16.6% [12]	17.9% [15]	17.8% [12]	19.7% [15]
	Maths		21.8% [12]	21.9% [15]	22.1% [12]	22.2% [15]
	Science		15.0% [12]	17.4% [15]	16.6% [12]	20.6% [15]
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-8 (total)		83.8%	84.4%	75.4%	78.2%
Adult participation in learning (age 25-64)	ISCED 0-8 (total)		16.6%	14.4%	10.7%	10.8%
Other contextual indicators						
Education investment	Public expenditure on education as a percentage of GDP		5.4%	5.1% [15]	5.0%	4.9% [15]
	Expenditure on public and private institutions per student in € PPS	ISCED 1-2	€8 488	€8 652 [14]	:	: [14]
		ISCED 3-4	€8 581	€9 167 [14]	:	: [14]
		ISCED 5-8	€18 999	€18 093 [14]	:	: [14]
Early leavers from education and training (age 18-24)	Native-born		12.7%	11.5%	11.0%	9.8%
	Foreign-born		9.9%	9.4%	21.9%	19.7%
Tertiary educational attainment (age 30-34)	Native-born		44.8%	45.6%	37.8%	39.9%
	Foreign-born		54.8%	54.7%	33.4%	35.3%
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-4		78.1%	77.8%	69.4%	72.6%
	ISCED 5-8		87.8%	87.9%	80.7%	82.8%
Learning mobility	Inbound graduates mobility (bachelor)		15.7%	16.9% [15]	5.5%	6.0% [15]
	Inbound graduates mobility (master)		46.1%	47.8% [15]	13.6%	15.1% [15]

Sources: Eurostat (see section 9 for more details); OECD (PISA). Notes: data refer to weighted EU average, covering a different numbers of Member States depending on the source; b = break in time series, d = definition differs, e = estimated, p = provisional, u = low reliability, 12 = 2012, 14 = 2014, 15 = 2015. On learning mobility, the EU average is calculated by DG EAC based on available country data in all years. Further information is found in the respective section of Volume 1 (ec.europa.eu/education/monitor).

Figure 1. Position in relation to strongest (outer ring) and weakest performers (centre)



Source: DG Education and Culture calculations, based on data from Eurostat (LFS 2016) and OECD (PISA 2015). Note: all scores are set between a maximum (the strongest performers visualised by the outer ring) and a minimum (the weakest performers visualised by the centre of the figure).

2. Highlights

- The UK performs comparatively well in most of the Education and Training 2020 indicators.

  PISA 2015 shows that UK students' basic skills in science, maths and reading are stable since 2006, comparatively high and reasonably equitable.
- Equity is a principal policy goal across all four parts of the UK, with high levels of debate around policy approaches notably in England.
- Disparities in school funding are at the centre of the current restructuring of funding for schools in England.
- Low retention rates in the teaching profession impose a significant strain on teacher recruitment and training and generate high costs.
- The UK has one of the highest rates of tertiary attainment in the EU.

3. Tackling inequalities and promoting inclusion

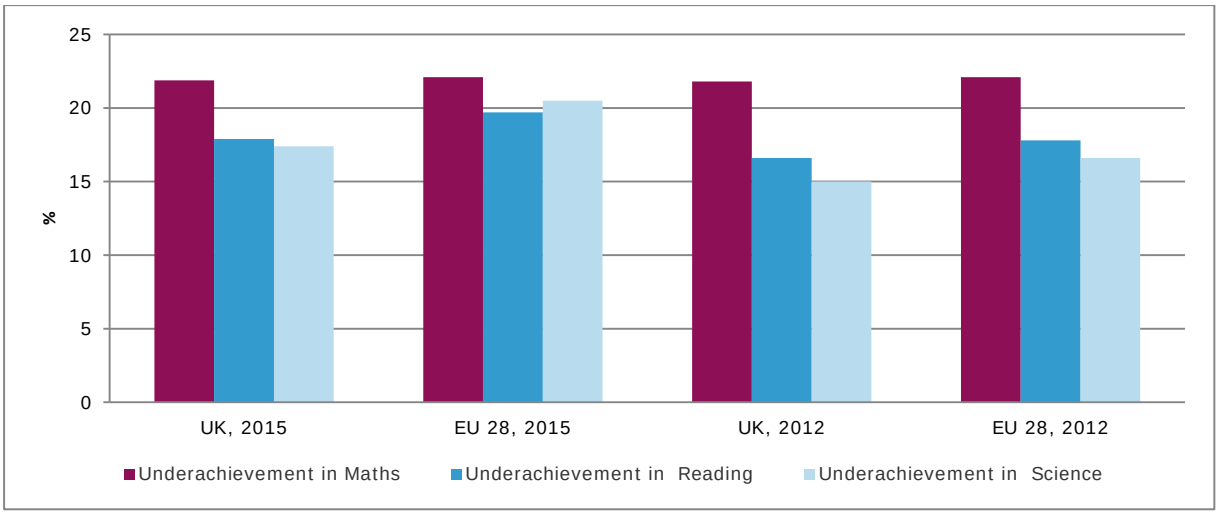
The early school leaving rate in the UK dropped from 14.9 % in 2011 to 11.2 % in 2016, despite a small increase of 0.4 pp. over 2015. It remains slightly above the EU average of 10.7 %. Unusually among EU countries, early school leaving is lower among students born outside the country (9.4 %) than those born in the UK (11.5 %). The gender difference recently increased, with boys now more likely to leave school early by 3.3 pps. in 2016, above the EU average (3 pps.).

The rate of 4-year-olds and older enrolled in early childhood education and care has reached 100 %. This puts the UK among the three best providers in the EU with France and Malta.[111] Around a quarter of children under the age of three — 26.1 % — are covered by early education and childcare, the second best in the EU.[112] The OFSTED annual report for 2015-2016 notes that investment in early years education in England has led to improvements in quality, as measured by the proportion of nurseries, pre-schools and childminders rated as 'good or outstanding' (91 %) including in socioeconomically deprived areas. However, it has not yet led to clear improvement in the earliest signs of unequal educational attainment. Statistics for England for 2015-2016 show that nearly 200 000 children from poorer backgrounds do not meet the expected literacy, numeracy and learning standards in early primary school (DFE, 2016a). The Childcare Act increases free childcare provision for children aged 3 to 4 from 15 hours a week to 30 hours to children of parents working at least 16 hours a week from September 2017. There are some concerns that increased hours demand from working parents could reduce part-time places available to the detrminent of the most disadvantaged children. (Brown, 2016).

UK students' basic skills in science, mathematics and reading are stable, high and fairly equitable according to the PISA 2015 survey. The average science, mathematics and reading performance of 15-year-olds has remained stable since 2006. Compared to 2012, the proportion of low achievers has remained stable in maths (22 %) but slightly worsened in reading (18 %) and science (17 %) These rates are better than the EU average in all three fields (Figure 2). The impact of socioeconomic status on performance is relatively small. Only 11 % of the variation in student performance in science is attributed to differences in students' socioeconomic status. The gap in performance between non-immigrants and first-generation immigrants is small and second-generation immigrants perform similarly to non-immigrants.

111 Latest data from 2015, Eurostat online data code: educ_uoe_enra10.
112 Eurostat, 2015. Online data code: ilc_caindformal.

Figure 2. Underachievement in PISA basic skills, UK & EU average 2012, 2015 (%)



Source: OECD (PISA 2015, Volume I). Online data codes: table 1.5.2a, table 1.4.2a, table 1.2.2a.

There are gaps in performance between the UK's different nations. Students in England and Northern Ireland score above the OECD average. Students in Scotland score around the OECD average, while students in Wales score below it. EU-level indicators show comparatively good performance on equity. Nevertheless, according to the Sutton Trust review of the attainment gap in PISA 2015 results, the gap in England and Scotland between top performers from an economically disadvantaged background and their 'well off' peers was equivalent on average to more than two years of schooling.

4. Investing in education to address demographic and skills challenges

The UK's general government expenditure on education as a proportion of GDP stood at 5.1 % in 2015, above the EU average of 4.9 %. Similarly, in 2015 the UK spent a higher proportion of total government expenditure on education — 12.0 % — than the EU average of 10.3 %. These are the lowest proportions the UK has seen since 2007, representing a significant drop from 6.5 % of GDP in 2010

Employment rates in the UK are higher than those of most EU countries, at all qualification levels. The difference in the employment rates between upper secondary and tertiary graduates in the UK —9 pps. — is relatively small compared to the average 11.6 pps. across the EU.

As part of the broader drive to cut public deficits, 2015 saw budget cuts in pre-primary, further and higher education in England. The 2016 budget compensated for some of these by announcing additional investments, for example of GBP 20 million a year in a Northern Powerhouse (an economic development strategy for northern England) schools strategy (Northern Powerhouse strategy, November 2016). This and other strategies aim to close the area-based educational performance gaps.

There will be a new funding formula for school in England, implemented progressively until 2019-20, with around GBP 500 million of additional core funding.This will be a major change, using a single across the board in place of the current formula under which funding per school pupil could vary by up to 50 % reflecting different local criteria (Box 1).

The government will protect the funding for special needs and disabilities education allocated to local authorities and the pupil premium payable to schools in respect disadvantaged puips. It will also provide funding to develop strategic plans and capital funding where there is a need to expand provision.

Box 1: New school funding formula in England

Currently, the government assigns the Dedicated Schools Grant (DSG) to local education authorities, who in turn distribute it to schools. There are three blocks: schools, high needs[113] and early years education. Local authorities, in consultation with their schools forum (DFE, 2015), are responsible for deciding how to distribute the funding between the blocks and set formulas for allocation to each school and early years provider. Local authorities receive direct funding for special schools and units.

From 2019-2020, the government proposes to set funding nationally through 'a hard national funding formula' that will apply to all 'mainstream schools.' Special schools will continue to be funded as at present. This will do away with the high degree of variability in school funding.

Thirteen factors will determine the DSG for schools:
A. Basic per-pupil funding based on an age-weighted pupil unit (1)
B. Additional needs funding based on indicators of deprivation (2), low prior attainment (3), English as an additional language (4) and mobility (5).
C. School-led funding based on lump sum (6), sparsity (7), premises related costs — rates (8), private finance initiative (PFI) (9), split sites (10) and exceptional circumstances (11) — and growth (12)
D. Geographic funding based on area cost adjustment (13)

The government undertook a consultation until March 2017 on how the new weighting factor would operate and on transition arrangements to mitigate the effects on schools set to lose funding. The political and public debates have been wide ranging. Most criticism concerned, not the funding formula as such, but the adequacy of overall funding relative to needs — for example, related to maintenance costs in an ageing set of school buildings. (DFE, 2017c)

5. Modernising school education

The White Paper 'Educational Excellence Everywhere' of March 2016 outlined a radically changed schools strategy for England 2016-2021. It sought in particular to address issues such as low basic skills on entry into secondary schools and the underperformance of schools in socially disadvantaged areas, to increase parental choice and to allow schools to focus on specialisations in line with employment prospects. It proposed that all state-funded schools would be run by new academy trusts with minimum involvement of local authorities, and often with input from outside sponsors. It envisaged the creation and expansion of grammar schools. However, during 2016, the government responded to concerns by envisaging a more limited academisisation. In 2017, the new government's legislative programme suggested that the commitment to the new school structures outlined in the White Paper may not be maintained.

Irrespective of the choices made on school structures, challenges remain in meeting key targets. Infant school class sizes – covering children aged 4 to 7 - are meant to be no larger than 30 pupils but statistics from January 2016 show that 5.8 % of these pupils are in classes larger than 30, the same level as 2014 (DFE, 2016b).

The supply and retention of teachers is a serious constraint on the system in England. A total of 30 000 new teachers per year are needed to maintain supply in England, but this target has not been achieved for the last four years. There are shortages also in Scotland. The number accepting places in teacher training courses in the 2016/2017 academic year has fallen by 6.9 %, to 26 000 (Richardson, H. 2017), compared to previous academic year. The problem of low supply is compounded by decreasing retention rates. A survey by the National Foundation for Educational Research in 2016 found that the proportion of teachers considering leaving the profession had increased from 17 % in 2015 to 23 % in 2016 (Busby, 2016). Likewise, a 2017 survey by the

[113] Special tailored support for individual pupils with special educational needs.

Education Support Partnership showed that 27 % of senior school leaders across the UK do not expect to be working in education beyond the next one to two years and 44 % of teachers and school leaders do not expect to be doing so beyond five years. Surveys point at the heavy workload in the teaching profession, teachers' exposure to abuse and the 'pace of policy reform' as the main reasons behind this phenomenon.
The Institute for Fiscal Studies estimates that the high number of teachers who leave the profession within five years of qualifying is equivalent to GBP 312 million of public expenditure wasted on their initial training (Ward, 2017). The level of qualifications needed to be a teacher in a nursery school has also been the subject of public debate. In March 2017 (DFE, 2017, a) the government announced that in order to ease recruitment difficulties for early years educators, it would in effect ease qualifications[114] requirements which had been introduced in 2014.

The government has increased support for teachers' continuous professional and leadership development. It set up the Teaching and Leadership Innovation Fund[115] worth GBP 75 million (over three years) to support teachers' continuous professional and leadership development in England. The new College of Teaching[116] will support teachers' professional development and create career professional pathways[117] leading to the status of 'Chartered Teacher.'

ICT is widely used in classrooms. The 2013 OECD Teaching and Learning International Survey (OECD, 2014) showed that in England information and communications technology (ICT) is widely used in classrooms — by 37.1 % of teachers against 34 % in the EU as a whole. This is in line with the percentage of teachers having been trained in ICT (38.9 %). In 2014, England was the first EU country to introduce computer coding in the primary and secondary curricula. Despite initiatives to help increase teachers' skills, a lack of qualified teachers and IT resources remains a challenge - only 70 % of the required number of ICT teachers has been recruited. A June 2016 report from the House of Commons noted that 22 % of IT equipment in schools was 'ineffective;' that 65 % of teachers do not have any relevant IT qualifications; and that computer science teachers are still in short supply despite the fact that 13 % of computer science graduates are unemployed six months after graduation. The government response relies on the UK Digital Strategy presented in March 2017 which allocates funding for the Computing at School Network of Teaching Excellence in Computer Science. This network of over 350 master teachers can provide continuing professional development for teachers to support the implementation of the computing curriculum. The stategy also aims to encourage computing graduates into teaching, through generous bursaries, and, in partnership with the British Computing Society, scholarships for those training to be a teacher in 2017/18.

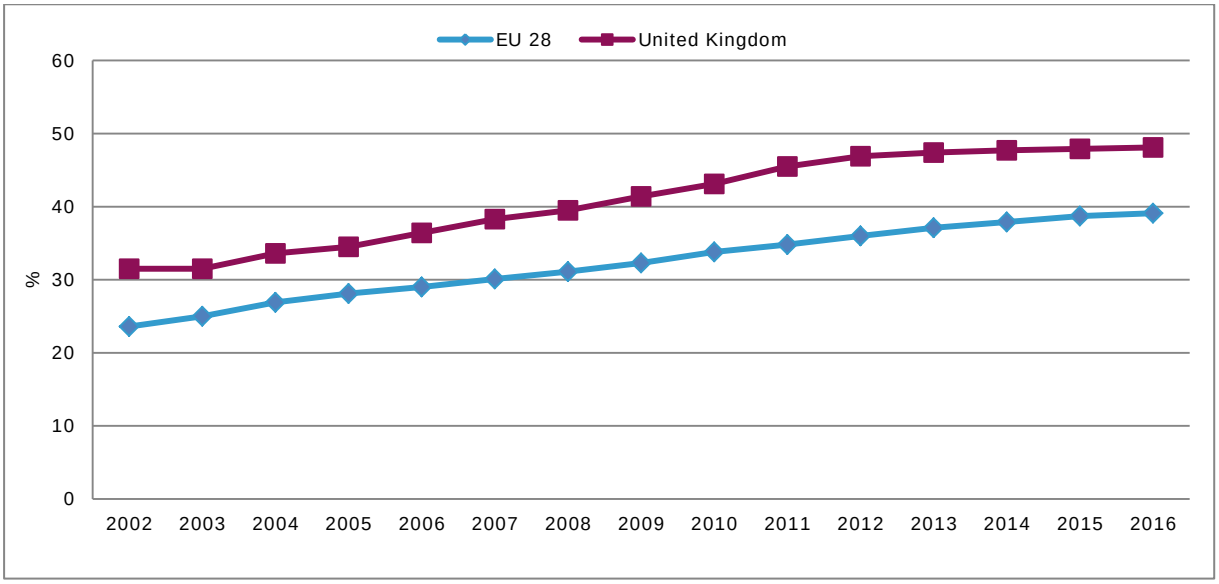
The National Teaching Service — a policy initiative in England to move excellent teachers and middle leaders into failing schools in return for better pay - was cancelled in December 2016 due to the poor take-up rate.

6. Modernising higher education

The UK tertiary educational attainment rate has increased continually since 2002. It reached 48.1 % in 2016.[118], one of the highest in the EU, well above EU-28 average (39.1 % in 2016) and the EU benchmark for 2020 (Figure 3). The introduction of tuition fees (other than in Scotland where no fees are charged) and student loans has not had a noticeable downward effect on overall participation. Nevertheless, applications to higher education in January 2017 did in fact decrease by 5 % (England 6 %, Scotland 2 %, Wales 7 %, and Northern Ireland 5 %) compared to the previous year. Applications by 18-year olds were stable; applications from students over the age of 25 were 23 % lower.

114 Functional skills are detailed at https://www.gov.uk/government/collections/functional-skills-qualifications-requirements.
115 URL: https://www.gov.uk/guidance/teaching-and-leadership-innovation-fund.
116 URL: https://www.collegeofteaching.org/.
117 URL: https://www.collegeofteaching.org/membership/professional-pathway.
118 The proportion of the population aged 30-34 having completed tertiary or equivalent education.

Figure 3. Tertiary educational attainment rate in UK and EU-28, from 2002 to 2016



Source: Eurostat (LFS 2002 - 2016). Online data code: edat_lfse_03.

The UK is one of the few EU countries where the proportion of tertiary graduates among the foreign-born population is higher than among the native-born. In January 2017 applications from non-UK EU students fell by 7 %, possibly reflecting concerns related to Brexit. The Higher Education Statistics Agency (HESA, 2017b) reported that 29 % of UK academics are from outside the UK (42 % in disciplines such as engineering and technology), of whom 20 % are from other EU countries (38 % in disciplines such as mathematics, physics and biology) (Coughan, 2017).

Widening third-level participation for disadvantaged students remains a political priority across the UK. Although young people from disadvantaged backgounds are now 60 % more likely to participate in higher education than was the case in 2006, the participation gap remains large — they are 2.5 times less likely to attend higher education than average. Initially, disadvantaged students went more to 'lower ranking' universities, but there has been a 6 % increase since 2014 in such students attending the Russell Group of leading universities (the Economist, 2017). A study on regional differences in inequality within England published in March 2017 found wide differences in what are cited as barriers to participation: poor transport links; lack of local higher education provision; perceptions of job prospects; cost; and the different levels of information (Wiseman et al., 2017). The Office for Fair Access[119] has annual access agreements with each higher education institute and, from 2018/2019 academic year, will agree arrangements with colleges and universities which are proposing a fee rise to secure places for talented students from disadvantaged backgrounds (OFFA, 2017). Loans for doctoral students (alternatively, supplementary studentships that are awarded by Research Councils) will be available through the Student Loans Company[120] as a means of ensuring that funded research projects provide not just research outputs but study/career opportunities for talented researchers (DFE, 2017b).

The employability of recent tertiary graduates[121] in 2016 rose above pre-crisis 2008 levels. At 87.9 % it is one of the highest in the EU. Statistics on graduate outcomes show that wage progression has continued and that 2003/2004 graduates enjoy sustained employment after 10 years. However, the 'graduate wage premium' has been reduced (Blundell, et al, 2016). In effect, as the proportion of graduates has increased employers recruit more of them, but for jobs

119 URL: https://www.offa.org.uk/.
120 URL: http://www.slc.co.uk/.
121 people aged 20-34 who left tertiary education between 1 and 3 years before the reference year.

that are less well paid. High levels of student debt, particularly in England where full fees are charged to all, have become a concern. Research by the Institute of Fiscal Studies estimates that 70 % of new graduates will be in their 50s before they pay off their debt (Tetlow, 2016). In August 2016, the National Union of Students (Coughlan, 2016) reported that 52 % of 2015 graduates were dissatisfied with the cost-benefit of their degree; 76 % were worried about long-term debt risks (NUS, 2016). Likewise, the 2016 Student Academic Experience Survey noted that only 27 % of students in 2016 (compared to 52 % in 2012) are convinced about the value-for-money of their degrees. Students in England where fees are highest were most critical. The Money Charity estimates that 2016 graduates will end up owing over GBP 41 000 (tuition loans, maintenance loans, and other accrued debt), which is one third of the average mortgage debt in England (Burns, 2016).

7. Modernising vocational education and training and promoting adult learning

Skills supply, utilisation and progression are the main chllanges in vocational education and training in the UK. The proportion of upper secondary students (ISCED 3) in VET in 2015 was 40.1 %, below the EU average of 47.3 %. The employment rate of recent VET graduates in 2016, at 77 %, was slightly higher than the EU average of 75 %. Quality in apprenticeships needs to focus on both the qualification level undertaken and the subject area in which it is taken. Developing other funded routes for skills enhancement, particularly for people over 25, would expand the skills offer available to businesses and to individuals seeking career progression.

In England, the Technical and Further Education ActBill 2017 reforms technical education to help boost productivity by addressing skill shortages and ensuring high quality technical education. In its March 2017 budget, the government announced the introduction of new 16-19 'T-Levels' to replace thousands of current technical qualifications with 15 new career-focused pathways. The apprenticeship levy under which large employers pay into an account from which apprenticeships can then be funded - began in April 2017. Degree apprenticeships and apprenticeships for entrepreneurs are to be further developed, while a network of institutes of technology has been proposed. In Scotland, the government is reviewing the learning experiences of all 15- to 24-year-olds. The Education Bill includes a National Improvement Framework to provide robust, consistent and transparent data across Scotland so that what works and drives improvements can be better understood. In Wales, in February 2017, a new apprenticeship policy has been launched. This aims to create 100 000 high quality apprentices over the term of the current Assembly. Qualifications Wales has launched a long-term strategy to ensure that vocational qualifications meet the needs of learners, higher education providers and employers in a wide range of careers. A new strategic authority is to be created to oversee skills, funding for research and the higher and further education sectors in Wales. In Northern Ireland, a new traineeships and apprenticeships system will be offered from September 2017. The 2016 'Further Education Means Success' strategy includes recommendations for standardised approaches to receiving and analysing feedback from learners and employers. It also focuses on further developing provision at level 3 (EQF 4) and above; emphasises literacy, numeracy, and ICT competence; and provides for a new teacher education framework.

Adult participation in learning is higher than the EU average, but challenges remain. Adult participation in learning at 14.4 % in 2016 is above the EU average of 10.8 % but has been declining. Challenges include: to improve learners' winningness to participate; to increase employers' investment in learning; to improve equality of access; to provide learning that meets the needs of employers and learners; and to ensure a coordinated and effective lifelong learning policy.

In England, the March 2017 budget announced new lifelong learning pilots to test different approaches to retraining and upskilling throughout people's working lives, given the changing nature of work. Government will work with business and public sector organisations to identify how best to provide return-to-work support ('returnships') to people who have taken lengthy career breaks. The Education Funding Agency and the Skills Funding Agency have been merged to form the Education and Skills Funding Agency, to be the sole agency responsible for funding adult

learning. In March 2017, the Education and Training Foundation updated its implementation guidance for teaching qualifications in the lifelong learning sector. In December 2016, the government launched its strategy to keep the UK at the forefront of digital technology developments with an emphasis on skills development through a new Digital Skills Partnership. In Scotland, a new GBP 12 million Transition Training Fund (announced in early 2016) will help move people who face losing their jobs in oil and gas into other energy industry and manufacturing jobs through practical (re-) training and education. In Wales, the 'Taking Wales Forward 2016-2021' plan includes a priority to pilot new Community Learning Centres to provide extended services including family learning. In Northern Ireland, a careers strategy, 'Preparing for Success 2015-2020,' jointly agreed between the Departments for the Economy and for Education, was launched in March 2016. It aims to ensure that young people seek guidance before remaining in general education, taking up further education, an apprenticeship, or moving into training or employment; and that more people of working age use a new web-chat and telephone careers guidance centre to find suitable upskilling and reskilling opportunities. The 'Employment Strategy for People with Disabilities' launched in March 2016 aims to help disabled people of all ages achieve their full employment and career potential though enhanced working partnership arrangements between government departments and the local disability sector.

Box 2: Tees Valley Routeways

The Tees Valley Routeways project, led by Hartlepool Borough Council and delivered by a Tees Valley wide consortium, provides tailored routeways for young people aged 15- to 29 to support their movement into employment within local priority sectors. The project, which receives a combined ESF and Youth Employment Initiative investment, targets the top 15 youth unemployment hotspots in Tees Valley, and will support a total of up to 575 participants, by providing work experience, volunteering, apprenticeships, and enterprise activity. The project consults employers who provide industry knowledge based on current and emerging skills needs. This knowledge, along with employer partnerships, enables the project to design routeways for young people to receive training and work experience in priority areas. The aim is to capitalise on the estimated 120 000 replacement jobs and 25 000 new jobs to be created by a variety of industries across the sub-region in the next decade. 248 young people had signed up to the project by the end of March 2017, of which 90 have progressed into education, employment or training.

8. References

Brown, J. (2016), *Free childcare expansion could disadvantage poorer children, warns think-tank. Children & Young People Now*. Published June 20. http://www.cypnow.co.uk/cyp/news/1157837/free-childcare-expansion-could-disadvantage-poorer-children-warns-think-tank.

Blundell, R. GREEN, D. A. & JIN, W. M. (2016), *The UK wage premium puzzle: how did a large increase in university graduates leave the education premium unchanged?* Institute for Fiscal Studies. https://www.ifs.org.uk/publications/8322

Busby, E. (2016), *A quarter of teachers are considering leaving the profession, study finds*. Times Educational Supplement. Published September 9. https://www.tes.com/news/school-news/breaking-news/a-quarter-teachers-are-considering-leaving-profession-study-finds.

Burns, J. (2016), *Graduate debt 'a third of average mortgage', says charity*. British Broadcasting Corporation (BBC). http://www.bbc.co.uk/news/education-37011886.

Coughlan, S. (2017), *Almost third of university academics from outside UK*. British Broadcasting Corporation (BBC). http://www.bbc.co.uk/news/education-39068863.

Coughlan, S. (2016), *Higher fees allowed for current students*. British Broadcasting Corporation (BBC). http://www.bbc.co.uk/news/education-37275628.

DFE (2017a), *Early years workforce strategy*. Department for Education (UK). https://www.gov.uk/government/publications/early-years-workforce-strategy

DFE (2017b), *Postgraduate doctoral loans: Government Consultation Response*. Department for Education (UK). https://www.gov.uk/government/consultations/postgraduate-doctoral-loans.

DFE (2017c), *The national funding formula for schools and high needs*. Department for Education (UK). https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/644746/National_funding_formula_for_schools_and_high_needs_Policy_document.pdf

DFE (2016a), *Early years foundation stage profile results: 2015 to 2016*. Department for Education (UK). Published November 24. https://www.gov.uk/government/statistics/early-years-foundation-stage-profile-results-2015-to-2016.

DFE (2016b), *Schools, pupils and their characteristics*. Department for Education (UK). https://www.gov.uk/government/statistics/schools-pupils-and-their-characteristics-january-2016.

DFE (2015), *Schools forum: a guide for schools and academies*. Department for Education (UK). https://www.gov.uk/guidance/schools-forum-a-guide-for-schools-and-academies

HESA (2017), *Departmental demographics of academic staff*. Higher Education Statistics Agency (UK). https://www.hesa.ac.uk/news/23-02-2017/departmental-demographics-academic-staff.

NUS (2016), *Double Jeopardy: Assessing the dual impact of student debt and graduate outcomes on the first £9k fee paying graduates*. National Union of Students (UK). http://www.nusconnect.org.uk/resources/double-jeopardy.

OFFA (2017), *OFFA access agreement guidance — universities must play their part to raise school attainment.* Office for Fair Access (UK). Published February 7. https://www.offa.org.uk/press-releases/offa-access-agreement-guidance-universities-must-play-part-raise-school-attainment/.

Richardson, H.(2017), *Drop in teacher training recruits revealed*. British Broadcasting Corporation (BBC). http://www.bbc.co.uk/news/education-39355165

Tetlow, G. (2016), *Two-thirds of UK students 'will never pay off debt'.* Financial Times (London). https://next.ft.com/content/55f4a6f6-3eab-11e6-9f2c-36b487ebd80a.

The ECONOMIST (2017), *Class warfare: Growing competition between universities is changing student life.* Economist. http://www.economist.com/news/britain/21717402-universities-must-now-battle-each-other-attract-students-how-changing-them-growing.

UK Government (2016), *Northern Powerhouse strategy*, November 2016. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/571562/NPH_strategy_web.pdf

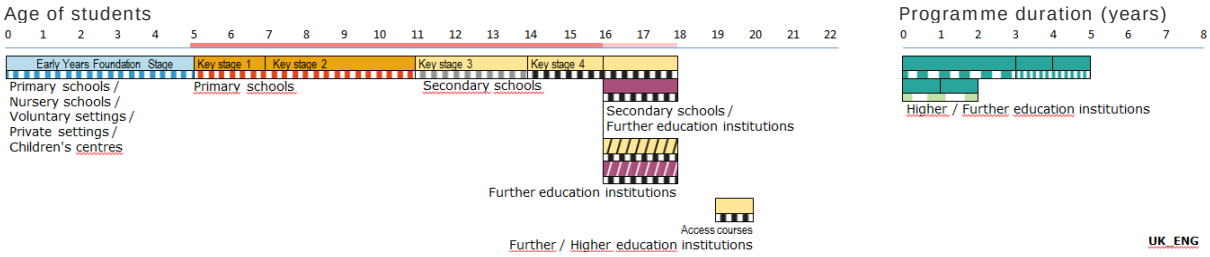
Ward, H. (2016), *Study reveals huge variations in teacher training costs*. Times Educational Supplement. https://www.tes.com/news/school-news/breaking-news/study-reveals-huge-variations-teacher-training-costs.

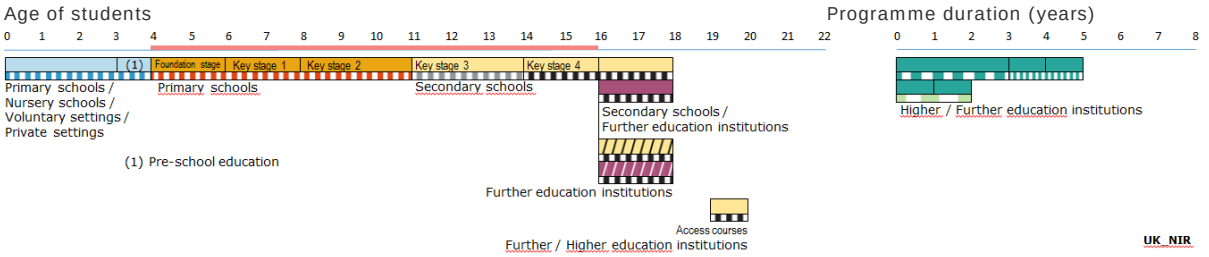
Wiseman, J., davies, E., duggal, S., et al. (2017), *Higher education: understanding participation gaps*. Department for Education (UK). https://www.gov.uk/government/publications/higher-education-understanding-participation-gaps.

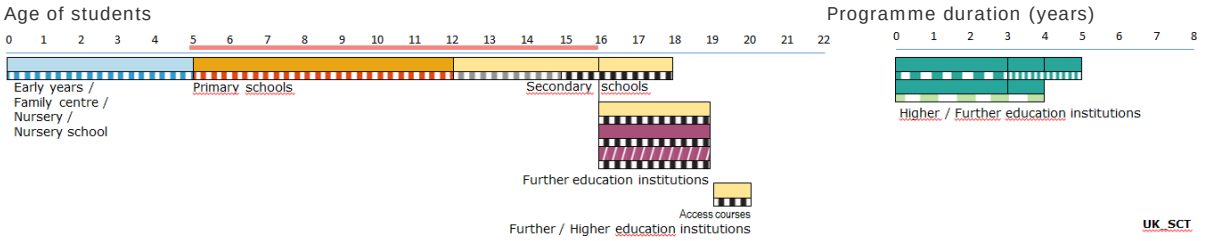
9. Annex I. Key indicator sources

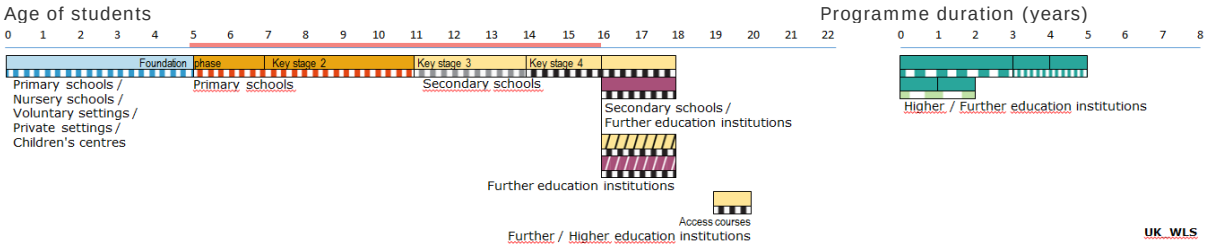
Indicator	Eurostat online data code
Early leavers from education and training	edat_lfse_02 + edat_lfse_14
Tertiary educational attainment	edat_lfse_03 + edat_lfs_9912
Early childhood education and care	educ_uoe_enra10 + tps00179
Employment rate of recent graduates	edat_lfse_24
Adult participation in 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	educ_uoe_mobg03

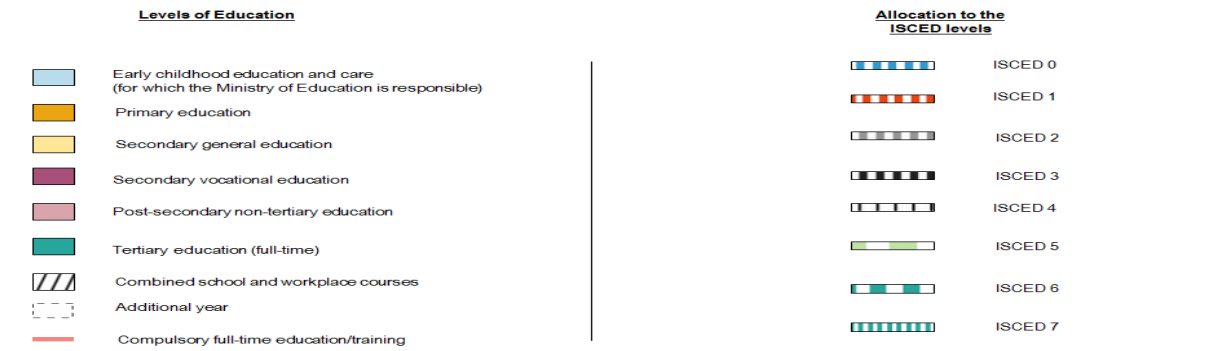
10. Annex II. Structure of the education system











Source: European Commission/EACEA/Eurydice, 2016. The Structure of the European Education Systems 2016/17: 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:
Antonio Garcia Gomez
Antonio.GARCIA-GOMEZ@ec.europa.eu
or
EAC-UNITE-A2@ec.europa.eu