



Education and Training Monitor 2016

Country analysis

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Luxembourg: Publications Office of the European Union, 2016

Print ISBN 978-92-79-58617-0 ISSN 2466-9903 doi:10.2766/377716 NC-AL-16-001-EN-C
PDF ISBN 978-92-79-58616-3 ISSN 2466-9911 doi:10.2766/680110 NC-AL-16-001-EN-N

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Printed in Luxembourg

Printed on elemental chlorine-free bleached paper (ecf)

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This publication is based on document SWD(2016)334. The Education and Training Monitor 2016 was prepared by the Directorate-General of Education and Culture (DG EAC), with contributions from the Directorate-General of Employment, Social Affairs and Inclusion (DG EMPL) and the Eurydice Network. DG EAC was assisted by the Education and Youth Policy Analysis Unit from the Education, Audiovisual and Culture Executive Agency (EACEA), the JRC's Centre for Research on Education and Lifelong Learning (CRELL) and Institute of Prospective Technological Studies (IPTS), Eurostat and Cedefop. The Members of the Standing Group on Indicators and Benchmarks (SGIB) were consulted during the drafting phase.

Manuscript completed in September 2016

Additional contextual data can be found online (ec.europa.eu/education/monitor)

Data underlying tables and figures in this document can be requested through eac-monitor@ec.europa.eu

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Introduction

Volume 2 of the Education and Training Monitor 2016 includes twenty-eight individual country reports. It builds on the most up-to-date quantitative and qualitative evidence to present and assess the main recent and ongoing policy measures in each EU Member State, with a focus on developments since mid-2015. It therefore complements the existing sources of information which offer descriptions of national education and training systems.

The structure of the country reports is as follows. Section 1 presents a statistical overview of the main education and training indicators. Section 2 briefly identifies the main strengths and challenges of the country's education and training system. Section 3 looks at expenditure on education, and demographic and skill challenges. Section 4 focuses on early school leaving, early childhood education and care, and basic skills as important areas related to tackling inequalities and promoting inclusion. Section 5 deals with policies to modernise school education, covering, inter alia, the teaching profession and digital and language skills. Section 6 discusses measures to modernise higher education. Finally, section 7 covers vocational education and training, as well as adult learning.

Austria



1. Key indicators

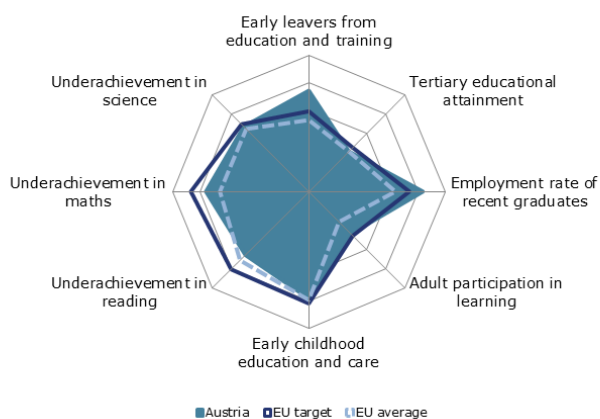
		Austria		EU average		
		2012	2015	2012	2015	
ET 2020 benchmarks						
Early leavers from education and training (age 18-24)	Total	7.8%	7.3%	12.7%	11.0%	
Tertiary educational attainment (age 30-34)	Total	26.1%	38.7%	36.0%	38.7%	
Early childhood education and care (ECEC) (from age 4 to starting age of compulsory education)		94.3% ¹¹	94.0% ¹⁴	93.2% ¹¹	94.3% ¹⁴	
Proportion of 15 year-olds with underachievement in:	Reading	19.5%	:	17.8%	:	
	Maths	18.7%	:	22.1%	:	
	Science	15.8%	:	16.6%	:	
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-8 (total)	90.6%	86.9%	75.9%	76.9%	
Adult participation in lifelong learning (age 25-64)	ISCED 0-8 (total)	14.2%	14.4%	9.2%	10.7%	
Other contextual indicators						
Education investment	Public expenditure on education as a percentage of GDP	5.0%	5.0% ¹⁴	5.0%	4.9% ^{14,p}	
	Expenditure on public and private institutions per student in € PPS	ISCED 1-2	€8.831	€9.199 ¹³	:	: ¹³
		ISCED 3-4	€10.254	€10.467 ¹³	:	: ¹³
ISCED 5-8		€11.934	€11.996 ¹³	:	: ¹³	
Early leavers from education and training (age 18-24)	Native-born	6.2%	5.5%	11.6%	10.1%	
	Foreign-born	17.7%	19.0%	24.9%	19.0%	
Tertiary educational attainment (age 30-34)	Native-born	26.7%	41.0%	36.7%	39.4%	
	Foreign-born	24.2%	33.2%	33.8%	36.4%	
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-4	89.4%	83.7%	69.7%	70.8%	
	ISCED 5-8	93.8%	90.3%	81.5%	81.9%	
Learning mobility	Inbound graduates mobility (bachelor)	13.3% ¹³	15.4% ¹⁴	5.5% ¹³	5.9% ¹⁴	
	Inbound graduates mobility (master)	16.2% ¹³	18.5% ¹⁴	13.6% ¹³	13.9% ¹⁴	

Sources: Eurostat (see section 9 for more details); OECD (PISA).

Notes: data refer to weighted EU averages, covering different numbers of Member States depending on the source; b = break in time series, d = definition differs, p = provisional, u = low reliability, 11 = 2011, 13 = 2013, 14 = 2014.

Further information can be found in the relevant 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 2015) and OECD (PISA 2012).

Note: all scores are set between a maximum (the strongest performers, represented by the outer ring) and a minimum (the weakest performers, represented by the centre of the figure).

2. Highlights

- The early school leaving rate is markedly better than the EU average, and participation in early childhood education and care has increased.
- National and international tests show deficiencies in basic skills, and a strong impact of socioeconomic and migrant backgrounds on education results.
- Implementation of the November 2015 education reform has started. Additional resources are generated from a bank levy.
- Austria is taking various measures to ensure the integration of the high number of recently arrived refugees into education and training.
- Against the background of increasing student numbers, the 2016-2021 plan for higher education sets strategic objectives and emphasises better teaching, but the funding available falls short of the identified needs.
- Participation in vocational education and training is high and provides relevant skills.

Box 1: The 2016 European Semester country-specific recommendation on education and training

The 2016 European Semester country-specific recommendations to Austria (Council of the European Union 2016) included a recommendation on education and training:

Take steps to improve the educational achievements of disadvantaged young people, in particular those from a migrant background

3. Investing in education to address demographic and skill challenges

General government expenditure on education as a proportion of GDP remained stable over 2011-2014 at 5.0 %.¹ This is around the 2014 EU average of 4.9 %. Expenditure on education as a percentage of overall government spending slightly decreased, to 9.6 % in 2015 from 9.9 % in 2013, and is a little above the EU average of 9.2 %.

A special levy on banks should generate EUR 1 billion in the next 4 years that will be fully dedicated to education. EUR 750 million will be spent on further increasing the number of all-day schools to 225 000 by 2021. EUR 50 million are founding capital for a foundation on innovation in education, EUR 100 million are to be used to create 5 000 additional study places for applied sciences and a further EUR 100 million to support the national foundation for basic research.

Austria spends less on pre-primary education than other EU countries (OECD 2015: Table B1. 1a) but spending on the other levels of general education is above the EU-21 average. Nordic countries, by comparison, spend more at primary level but significantly less at secondary level. Austria's spending on higher education again trails behind the majority of comparable EU countries.

Austria is aiming at a reform of education governance aimed at making the share-out of responsibilities between the federal and regional levels more efficient and effective.. To improve higher education would require significant additional funding. The need for savings in all budget chapters means very limited additional funds are available to implement the planned reforms. For the second year running the Ministry of Education has had difficulty meeting running expenses for (government owned) school buildings.

¹ Source: Eurostat, General government expenditure by function (COFOG) database.

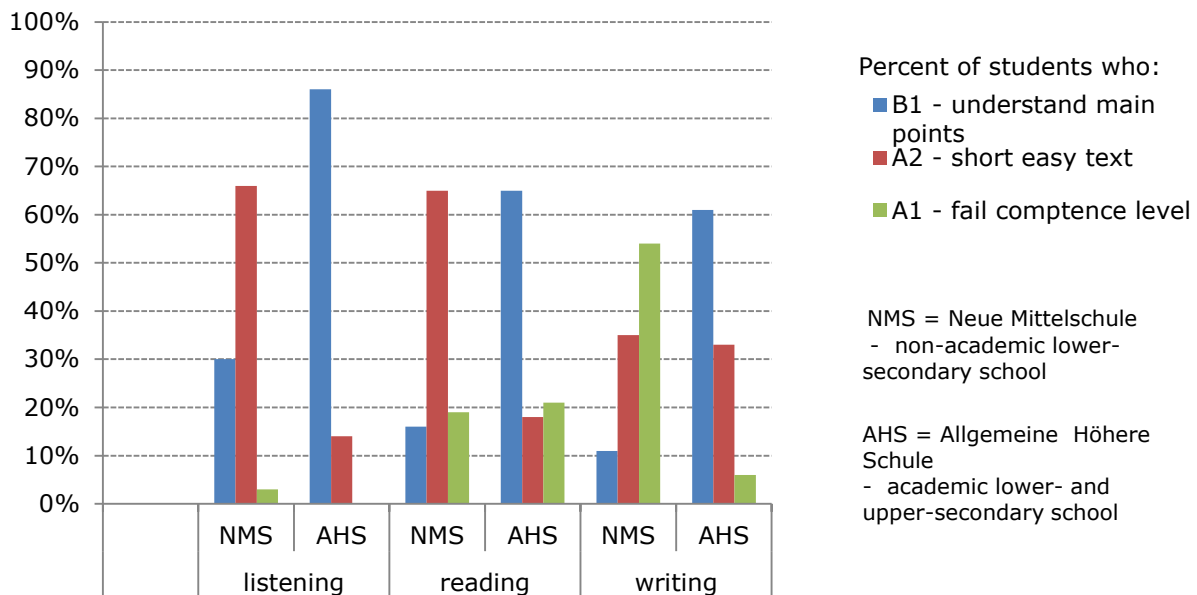
4. Tackling inequalities and promoting inclusion

Austria's early school leaving rate continued to decline in 2015 to 7.3 %. This is well below the EU average of 11 % and the national Europe 2020 target, which is also 9.5 %. Rates between boys and girls differ by only 1 percentage point (pp.), one of the smallest gender gaps in the EU. Migrants are almost four times more likely to leave school early than native-born students (19 % compared to 5.5 %). This challenge actually concerns first generation migrants as well as the second generation, i.e. also people born in Austria whose parents were born outside the country.

German language competence is considered a key issue. The 2012 OECD Programme for International Student Assessment (PISA) showed the proportion of low achievers in reading was above the EU average (19.5 % compared to 17.8 %). It also showed the relatively high impact of socioeconomic background on education outcomes. National competence tests confirmed the results of the international testing. A German language competence test for all 10 year-olds published in March 2016 showed 4 out of 10 pupils were not able to read and/or fully comprehend a short text (13 % not at all and 25 % only partially) and thus not fully meeting national reading comprehension targets.² Overall results improved by 23 points on a scale of 500 compared to the reference year 2010.

The PISA 2012 results, which show a gap of about 2 years of instruction for first-generation migrants and only slightly better results for second-generation migrants, were also confirmed by the recent national German language testing. One quarter of 10 year-olds with a migrant background do not meet national education standards, compared to 10 % of native-born pupils. Another third achieves the standards only partially, against less than 10 % of the native born. A big difference remains even after adjusting for socioeconomic background (BIFI 2016).

Figure 2. National testing 2015 – German



Source: BIFIE BIST-Ü E8 (2013) Bundesergebnisbericht

In 2014 94 % of pupils between 4 and the school starting age attended early childhood education and care (ECEC), in line with the EU average of 94.3 %. The numbers of children under 3 attending ECEC increased by about 50 % to 30 558 between 2009/2010 and 2014/2015 (Kaindl/Schipfer, 2015).

² This test also required pupils to reproduce a text and tested listening and language comprehension as well as grammar. Overall 29 % scored well in all four areas, 25 % in at least three areas, and 14 % in two areas. However, 17 % did not meet the minimum requirements. See https://www.bifie.at/system/files/dl/BiSt_UE_D4_2015_Bundesergebnisbericht.pdf.

In November 2015 the Austrian Government agreed on a package of reforms to tackle these challenges. While ECEC attendance is already compulsory and free of charge for 5 year-olds, the Government announced it was extending compulsory participation to 4 year-olds, with an option to opt out after 3 months for those showing no particular support needs. The agreement with the regions needed to implement this has not yet been reached, however. The initial training of ECEC staff will become part of the professional schools system (*Berufsbildende Höhere Schulen*) which has been reclassified at the tertiary short cycle level in ISCED 2011. Improved pedagogical training will include how to deal with both 4 to 6 year-olds and under-1 to 3 year-olds. Reformed ECEC staff training will however not be raised to bachelor or master level as requested by Austria's social partners (Salzer B. 2015). The November 2015 reform also includes the development of common standards and a quality framework jointly with the regions by end-2016.

This first package of laws implementing the 2015 education reform plan was adopted in June 2016. It introduces a transition phase linking the last compulsory year of ECEC with the first 2 years of primary school. This would allow more individually flexible transitions and the exchange of information between ECEC and primary schools. The main goal is to screen for deficiencies early, with special attention to language, in order to devise appropriate strategies to help the children affected. This legislation also grants primary schools more autonomy to form classes stretching over two or more grades and to introduce other assessment methods than simple numerical grades for the first three levels in primary schools. Another important element is to strengthen learning of the language of instruction, directed at those who do not speak German at home.

Research shows that besides early intervention, high-quality all-day schools have also been a useful instrument in improving the education outcomes of those from a disadvantaged background. All-day schools systematically integrating morning and afternoon teaching have proven most effective at this. The number of all-day school places almost doubled between 2007 and 2014 from 76 979 to 140 102. About 40 % of school locations offer all-day schooling but only 5 % of schools are integrated ones (OECD 2015). Austria already has a EUR 375 million investment programme to increase the number of all-day schools between 2015 and 2019. An additional EUR 750 million from the bank levy will be made available in the coming years, but so far the regions have not used all the funds allocated.

Box 2: Integrating refugees into education and training

Some 88 912 people applied for asylum in Austria in 2015, three times the 2014 figure. In 2015 9 331 were aged under 18, of whom 663 were under 14. This represents a fivefold increase (Federal Ministry of Interior statistics). The inflow of refugees slowed in the first 5 months of 2016 to 22 435, of which 540 were under 14 and 2 426 between 14 and 18 years old.

Integrating over 9 000 pupils (about 1 % of the total school population) into compulsory schools is a challenge, particularly since refugees tend to concentrate in metropolitan areas, with a focus on Vienna. Available places are not sufficient everywhere so additional classes need to be created. And not all institutions, particularly in the countryside, have the necessary competencies to teach German as a second language and integrate pupils from a variety of cultural backgrounds. They also lack experience of dealing with traumatised children.

Special attention is required at different stages:

1. those below the compulsory school age need to attend ECEC to prepare them for school;
2. children in compulsory schooling require help in learning German and to catch up in other subjects;
3. young people above the compulsory school age need support in obtaining professional training or continuing their schooling;
4. young adults also need support to learn German and eventually to be motivated to embark on vocational training and to catch up.

At all stages, getting acquainted with local cultural norms is part of the learning and integration process.

Integrating young people with migrant backgrounds into ECEC as early as possible is a clear policy goal in Austria. This includes convincing parents who hesitate to enrol their children. Currently, 73

pilot projects are developing and evaluating comprehensive models of language support. Additional measures include teacher training, information on German as a second language, instruction in the first language and specific language support in vocational education and training (VET) (National Reform Programme 2016).

Integrating young refugees with basic educational needs beyond the compulsory school age (15 yrs. and above) into education is a particular challenge. Legislation, generally, does not allow schools to have pupils beyond the compulsory schooling age attending classes. However students with sufficient knowledge of German may take a voluntary tenth year of general compulsory schooling.

Since school year 2016/17 language support is expanded from compulsory schools to upper secondary level education institutions. EUR 2 million are employed to finance one year transition levels (*Übergangsstufen*) in VET schools and colleges allowing refugees to catch up on language and other skills.

Austrian schools also make an effort to provide language education to migrants in their languages of origin. Some 33 016 pupils took such lessons in 2014/2015, about the same number as in the previous year. Teaching staff contracted by 5 % to 400. Teachers taught in 27 languages, the most common being Turkish, Bosnian/Croatian/Serbian and Albanian. Like other European countries, Austria faces a serious lack of language teachers. Vienna, for instance, needs to hire immediately 108 teachers for German as a second language.

Eight out of nine regions have created a total of 45 specific transition classes for refugees. To help 1 000 people, in the second half of 2016 Vienna plans to establish private colleges that use public facilities outside office hours. A clear focus of the recently developed curriculum for welcome classes is learning the language of instruction. However, it also includes English, history, geography, mathematics and more. The estimated additional costs for 900 pupils amount to EUR 2 million annually. This is 20 % of the EUR 24 million provided in 2015 for integration.

The Austrian Court of Auditors has analysed how the Austrian education system has dealt with pupils with a migration background (Rechnungshof 2013/6). In 2015 it reviewed measures taken to address the recommendations it had issued. It noted that the Ministry of Education had implemented very few of the recommendations whereas Vienna, as a region, fulfilled all of a much more limited number of recommendations (Rechnungshof 2016/5).

In a recent report on the new lower secondary school (*Neue Mittelschule* – NMS) the Austrian Court of Auditors noted some progress on several issues, such as evaluation and reducing spending. But it requested, among other things, more cooperation between NMS and academic secondary schools. An important feature of this reform is to strengthen individualised teaching and learning and to supplement class teachers in key subjects (German, foreign languages and mathematics) with an additional teacher in the classroom ('team teaching'). These additional teachers are meant to be recruited from the academic secondary schools which were supposed to improve the academic profile of NMS and to facilitate the transition to the upper secondary level. However it has proven difficult to find enough academic secondary teachers as the system is about 1 000 teachers short. This role is therefore being filled by lower secondary teachers who do not have a university education as teachers. The Government is trying to motivate regions to be more forceful in recruiting teachers from academic schools by not refunding the costs of inadequately prepared staff.

While an evaluation of the introductory phase of the NMS failed to identify significant improvements in education outcomes, national statistics show that more students pass to the advanced track of upper secondary education than was the case with the previous 'Hauptschule'. Even if those who pass also repeat the 1st grade in upper secondary education more often, there is still a certain net gain (Austrian Education Report 2016).

Of students with identified special education needs, 38.7 % attend special schools. The rest attend either special classes in regular schools or are placed in regular classes while still receiving dedicated support. The rate varies between 18.8 % or 54 % by region. 'Inclusive regions' have been formed to explore better teaching concepts for integrating pupils with special needs into

regular schools. These pilots should allow the federal Government, the regions and municipalities to agree on a detailed development concept to be implemented by 2020. The 2015 teacher education scheme made inclusive pedagogy part of the curriculum of all future teachers.

A new curriculum provides for a compulsory module of civic education, added to the topic 'history and social studies.' This course will start in 6th grade and in all types of school from the school year 2016/2017. This should in particular prepare young citizens for exercising their right to vote from age 16. Pedagogical Higher Education Institutions will support this by offering continuous education courses.

5. Modernising school education

The responsibility for compulsory general education in Austria is split between the federal and the regional level. Primary and non-academic secondary level are organised by the regions, and lower secondary academic level and upper secondary level by the federal Ministry for Education. This split has been criticised by the Austrian Court of Auditors and by international studies (OECD 2016) as being complicated, making the system difficult to govern and not always efficient.

A comprehensive 2013 reform of initial teacher training (*PädagogInnenausbildung NEU*) applies to all new primary school teachers from 2015/2016 and all new secondary teachers from 2016/2017. The institutional division between university colleges of teacher training (*Pädagogische Hochschulen*), which used to be responsible for educating primary teachers and some lower secondary teachers, and universities, which used to train the rest of the lower secondary and all upper secondary teachers, is maintained. However, both types of institutions are now required to cooperate closely on teacher training at secondary level. The teacher training reform is meant to enhance the quality of teaching by improving both the academic and practical training of future teachers. From 2029 all teachers will need a master's qualification to be engaged. In the interim period they can already start teaching but must obtain a master degree within the following 5 years. This has already started to create more uniform teacher education, but will only start to have a practical impact from 2020.

Digitalisation is generally well embedded in Austrian policies. Europe's Digital Progress Report 2016 observes faster progress in Austria than in other EU countries. However, Austrian teachers do not make sufficient use of digital teaching tools yet. According to the Austrian Education Report 2015 nearly all teachers (90 %) — irrespective of their age — use digital means and the internet for preparing lessons but much less often during the lessons themselves. The report finds that teachers do not know enough about relevant digital pedagogical methods. It appears that in-work education of teachers does not provide sufficient and relevant training.

6. Modernising higher education

Austria's tertiary attainment rate was 38.7 % in 2015, the same as the EU-28 average. This is also close to the Europe 2020 national target of 40 %.³ In Austria slightly more women graduate than men, at 40 % compared to 37.5 %. The 2.5 pps. difference is nearly four times smaller than the EU average of 9.6 pps. The tertiary attainment rate of foreign-born students trails that of native-born ones by 7.8 pps., well above the 3 pps. EU average gap. The employment rate of those with tertiary education was 90.3 % in 2015, 8.4 pps. above the EU average.

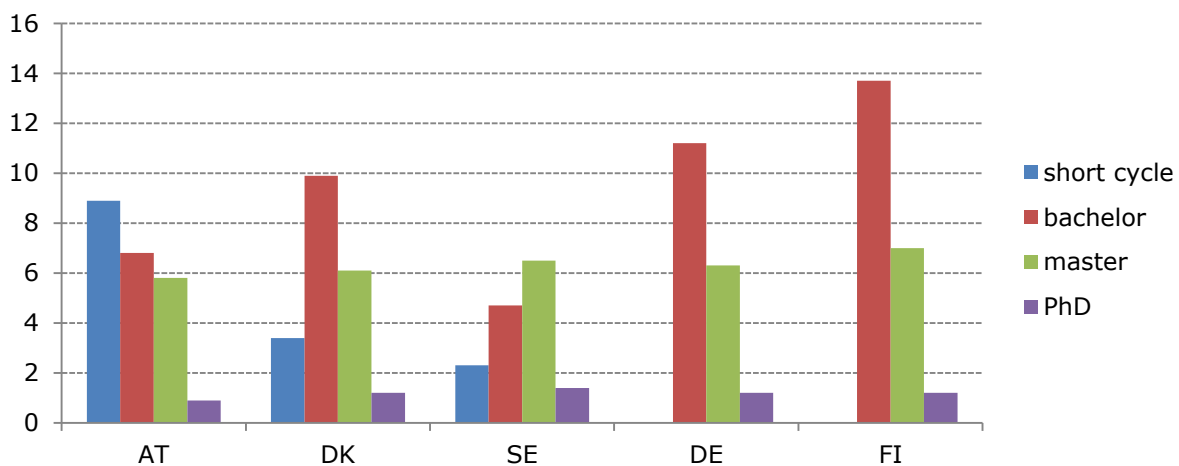
Austrian students study for a median duration of 8 semesters in bachelor studies, 5.3 semesters in master studies and 8.8 semesters for PhDs. Study time at bachelor and master level has fallen from the 13.2 semesters in 'diplom studies', the pre-Bologna study format. Women study for a slightly shorter time than men for bachelor degrees but markedly longer for PhDs (Hochschulstatistik 2013/14). Still the completion rate 3 years after the minimum duration remains

³ The drop of 1.3 pps. compared to 2014 can be among other explained by statistical adjustments in 2014. The 2014 rate increased from 27.1 % to 40 % due to classification changes following the introduction of ISCED 2011. These changes responded to the particular characteristics of Austria's upper secondary professional education, the last two years of which were qualified as vocational tertiary education (short cycle) under the new system.

at 58% for bachelors and 61% for master degrees, which in both cases is below the OECD average (OECD 2016).

In 2014, Austria had 20.8 % graduates in engineering, manufacturing & construction (STEM), above the EU average of 14.4 %. This was the second-highest proportion after Romania. However, while 5.8 % are master degrees and 0.9 % PhDs, 8.9 % are so-called short-cycle graduates and 6.8 % bachelor degrees. This reflects the predomination of lower qualification levels in Austria compared to other EU countries with similar economies (see figure below). Fewer graduates in the higher qualification levels (master, PhD) could have a negative impact on research and innovation in Austria, and could be a limiting factor in its ambition to join the most innovative of the industrialised nations.

Figure 3: Proportion of STE graduates (% of total)



Source: Eurostat. Online data code: *educ_uoe_grad04*

The big increases in student numbers over recent years have resulted in very disadvantageous teacher/student ratios. In 2014/2015 there were 122.9 students per teacher, about twice as many as in 1980/1981.⁴

Following its 2015 evaluation, the study introduction and orientation phase (STEOP) is to be improved by strengthening its function of orienting students towards the most appropriate studies and by improving teaching quality. Universities remain the main providers of tertiary education. However, Austria is continuously expanding the number of places in Universities of Applied Sciences (*Fachhochschulen*), with 320 new places planned for 2016/2017.

Austria's university development plan for 2016-2021, published in December 2015, concentrates on improving teaching. It prepares for linking financing to student numbers and is based on five principles: differentiated higher education; strong coherence; balanced access; a balanced relationship between vocational and higher education; and sufficient funding. In addition to the EUR 600 million available for 2016-2018, a further funding need of EUR 500 million was identified. The additional EUR 116 million granted to higher education in 2016 falls short of covering this.

7. Modernising vocational education and training and promoting adult learning

In 2014, 70 % of upper secondary students (ISCED 3) were following VET programmes. This is one of the highest rates in Europe and well above the EU average of 48 %. The employment rates of VET graduates are also very high, currently at 83.7 %. Adult participation in lifelong learning has remained at around 13-14 % over the last 6 years (14.4 % in 2015, against an EU average of 10.7 %). Participation rates rise with education levels. For people with a tertiary-level qualification they averaged 26 %, for upper/post-secondary level 10.7 % and for lower secondary level 4.5 %.

⁴ Statistik Austria, Hochschulstatistik 2014/15.

Austria continues to intensify youth coaching to help young people select an education path that suits them. It is introducing a transition year (*Übergangsstufe*) to facilitate transitions to vocational schools or colleges. From the 2016/2017 school year all young people under 18 will be required to attend education or training even after completing general compulsory schooling. This may include attending an academic or vocational upper secondary school, completing a dual education/training programme, or attending a recognised vocational or training institution which prepares them for reintegration into continuing education and training offers (National Reform Programme 2016).

In February 2016, the Austrian National Council adopted the Federal Act on the National Qualifications Framework (NQF). The NQF will make the Austrian education system, in particular qualifications in vocational education, more easily comparable with the rest of Europe. It will also promote formal, non-formal and informal lifelong learning. This will also bring substantial benefits for young people who are subject to disadvantages in education.

8. References

Berger et al. (2016) Ökonomische Analyse der Zuwanderung von Flüchtlingen nach Österreich, Donau Universität Krems,
http://www.donau-uni.ac.at/imperia/md/content/departement/migrationglobalisierung/forschung/schriftenreihe/berger_2016_oekonomische_analyse_flucht.pdf

Council of the European Union (2016), Council recommendation of 12 July 2016 on the 2016 national reform programme of Lithuania and delivering a Council opinion on the 2016 stability programme of Austria,
http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.C_.2016.299.01.0057.01.ENG&toc=OJ:C:2016:299:TOC

Der Rechnungshof (2016) Schüler mit Migrationshintergrund — Antworten des Schulsystems; Follow-up-Überprüfung,
http://www.rechnungshof.gv.at/fileadmin/downloads/_jahre/2016/berichte/teilberichte/bund/Bund_2016_05/Bund_2016_05_3.pdf

European Commission (2016) Country Report Austria,
http://ec.europa.eu/europe2020/pdf/csr2016/cr2016_austria_en.pdf

Federal Chancellery (2016), National Reform Programme, Austria 2016,
http://ec.europa.eu/europe2020/pdf/csr2016/nrp2016_austria_en.pdf

Federal Ministry for Education/bifie (2016), Nationaler Bildungsbericht Österreich 2016,
<https://www.bifie.at/nbb>

Federal Ministry for Science, Research and Economy (2014), Statistisches Jahrbuch 2014

Federal Ministry of Interior, statistics of asylum seekers,
http://www.bmi.gv.at/cms/bmi_asylwesen/statistik/start.aspx

Kaindl M, Schipfer R (2015), Familien in Zahlen 2015, Statistische Informationen zu Familien in Österreich Austrian Institute for Family Studies, University of Vienna,
http://www.oif.ac.at/fileadmin/OEIF/FiZ/fiz_2015.pdf

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

OECD (2015), Reviews of school Resources: Austria,
<https://search.oecd.org/education/oecd-reviews-of-school-resources-austria-2016-9789264256729-en.htm>

Salzer B. (2015), Sozialpartner:10-Punkte-Programm zu Qualität, Finanzierung und Chancengerechtigkeit der Kindergärten,
https://www.wko.at/Content.Node/iv/presse/wkoe_presse/presseaussendungen/pwk_bs_15_Sozialpartner-und-IV-wollen-Kindergarten-und-Co.html

Statistik Austria (2015), Bildung in Zahlen 2014/15,
http://www.statistik.at/web_de/nomenu/suchergebnisse/index.html

Thaler B., Unger M. (2014), Dropouts ≠ Dropouts, Wege nach dem Abgang aus der Universität, Studie im Auftrag der Österreichischen Universitätenkonferenz,
http://www.equi.at/dateien/IHS_Dropoutstudie2014.pdf

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_ipart (2011), educ_uoe_enra10 (2014)
Employment rate of recent graduates	edat_lfse_24
Adult participation in lifelong learning	trng_lfse_01
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

Comments and questions on this report are welcome and can be sent by email to:
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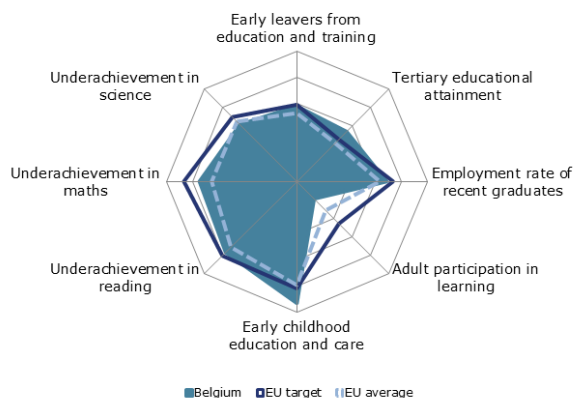
1. Key indicators

		Belgium		EU average		
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ET 2020 benchmarks						
Early leavers from education and training (age 18-24)	Total	12.0%	10.1%	12.7%	11.0%	
Tertiary educational attainment (age 30-34)	Total	43.9%	42.7%	36.0%	38.7%	
Early childhood education and care (ECEC) (from age 4 to starting age of compulsory education)		98.1% ¹¹	98.1% ¹⁴	93.2% ¹¹	94.3% ¹⁴	
Proportion of 15 year-olds with underachievement in:	Reading	16.1%	:	17.8%	:	
	Maths	19.0%	:	22.1%	:	
	Science	17.7%	:	16.6%	:	
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-8 (total)	80.9%	79.5%	75.9%	76.9%	
Adult participation in lifelong learning (age 25-64)	ISCED 0-8 (total)	6.9%	6.9%	9.2%	10.7%	
Other contextual indicators						
Education investment	Public expenditure on education as a percentage of GDP	6.3%	6.3% ¹⁴	5.0%	4.9% ^{14,p}	
	Expenditure on public and private institutions per student in € PPS	ISCED 1-2	€7.801	€7.748 ¹³	:	: ¹³
		ISCED 3-4	€9.285	€9.431 ¹³	:	: ¹³
		ISCED 5-8	€11.406	€11.525 ¹³	:	: ¹³
Early leavers from education and training (age 18-24)	Native-born	10.6%	9.0%	11.6%	10.1%	
	Foreign-born	22.6%	18.2%	24.9%	19.0%	
Tertiary educational attainment (age 30-34)	Native-born	46.5%	44.8%	36.7%	39.4%	
	Foreign-born	33.6%	35.6%	33.8%	36.4%	
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%	70.0%	69.7%	70.8%	
	ISCED 5-8	87.6%	85.3%	81.5%	81.9%	
Learning mobility	Inbound graduates mobility (bachelor)	6.4% ¹³	7.5% ^{14,d}	5.5% ¹³	5.9% ¹⁴	
	Inbound graduates mobility (master)	16.1% ¹³	14.9% ^{14,d}	13.6% ¹³	13.9% ¹⁴	

Sources: Eurostat (see section 9 for more details); OECD (PISA).

Notes: data refer to weighted EU averages, covering different numbers of Member States depending on the source; b = break in time series, d = definition differs, p = provisional, u = low reliability, 11 = 2011, 13 = 2013, 14 = 2014. Further information can be found in the relevant 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 2015) and OECD (PISA 2012).

Note: all scores are set between a maximum (the strongest performers, represented by the outer ring) and a minimum (the weakest performers, represented by the centre of the figure).

2. Highlights

- Major schools reforms have been launched which aim to improve equity, key competences and vocational education and training. New modes of governance should increase efficiency and enhance collaborative approaches.
- Measures are taken to address shortages in educational infrastructure.
- Belgium faces significant equity challenges. Pupils' performance is strongly linked to their socioeconomic background, particularly for those of migrant origin. This is all the more serious because the disadvantaged groups within the school population are those forecast to increase the most.
- The early school leaving rate is slightly better than the EU average, but disparities across the Communities and Regions persist.
- Disadvantaged schools lack experienced teachers and heads. Teachers need support to teach in an increasingly diverse environment.
- The higher education attainment rate is above average. Initiatives are taken to address the low proportion of students and graduates in science and technology which is a concern for future innovation capacity.

Box 1: The 2016 European Semester country-specific recommendation on education and training

The 2016 European Semester country-specific recommendations to Belgium (Council of the European Union 2016) included a recommendation on education and training:

Move forward with education and vocational training reforms and provide training support for disadvantaged groups, in particular people from a migrant background

3. Investing in education to address demographic and skill challenges

General government expenditure on education as a share of GDP in Belgium was, at 6.3 %, one of the highest in the EU in 2014.⁵ The French ('BE fr') and Flemish ('BE nl') communities invest relatively more in (upper) secondary education than in (pre-) primary education (OECD 2015a, OECD 2015b, Mc Kinsey 2015). The main reasons are the higher teacher salaries and smaller classes in (upper) secondary education. Moreover, costs are particularly high in initial vocational education and training (IVET), which is largely linked to an overly fragmented offer and the highest number of repetition years.

The proportion of public annual education expenditure dedicated to human resource costs, close to 80 %, lies far above the 60 % EU average. The share of public expenditure for school infrastructure is just 6.6% below the 7.4 EU average (European Commission 2016b). A geographical shift in the concentration of enrolments, demographic pressure and insufficient planning, coupled with long delays in renovating and building, have led to capacity and quality issues in educational infrastructure.

⁵ Source: Eurostat, General government expenditure by function (COFOG) database.

Growth in the school population over the next decade will be highest among disadvantaged groups, particularly among students with a migrant background who are largely concentrated in big cities. Growth disparities⁶ between the language communities, regions and educational levels are forecast. Overall budgetary constraints and the ongoing federal reform of civil servants' pensions⁷ are putting additional pressure on effective and efficient spending in the area of education.

The communities are reinforcing investments in infrastructure.⁸ They are also revising their funding policy, including equal opportunities policy⁹ for the most disadvantaged schools. It is however difficult to monitor the impact of these policies as schools do not report on how the funding is spent (OECD 2015b, OECD 2016a).

In BE fr, the increase of the higher education budget is limited by the funding system which does not take into account the increase in student numbers. The government approved a significant additional increase of EUR 107.5 million between 2016 and 2019.

The communities have also taken or are planning measures to improve the efficiency of spending. This encompasses giving more attention to early intervention in (pre-) primary education and promoting new pedagogical approaches, among others to reduce the high repetition rates in compulsory and higher education. This also involves rationalising the IVET and higher education offer, managing schools' operating costs more efficiently and achieving greater synergy between educational networks (Eurypedia BE nl, 2016) or between education and training providers.

4. Tackling inequalities and promoting inclusion

After falling to 9.8 % between 2011 and 2014, the early school leaving (ESL) rate stood at 10.1 % in 2015, 0.6 percentage points (pp.) above the national target for 2020 and slightly below the EU average of 11 %. Disparities persist however between the regions, with ESL rates of 7.0 % in Flanders, 12.9 % in Wallonia and 14.4 % in Brussels in 2014. There is also a wide gap in the rates for foreign- and native-born students, at 18.2 % and 9.0 % respectively. The gender gap has narrowed due to lower ESL rates for boys coupled with higher ones for girls. The proportion of pupils at risk of leaving education with at most lower secondary education is estimated at over 20 % in BE fr (Lambert, 2014).

As attested by the results of the 2012 OECD Programme for International Student Assessment (PISA), Belgium remains one of the OECD countries with the highest disparities in basic skills achievement linked to socioeconomic background. This is particularly true for those with an immigrant background,¹⁰ who make up a larger share of the student population than the OECD average¹¹. In spite of an overall improvement, Belgium still has one of the largest performance gaps between pupils born in the country and first- and second-generation immigrants after taking their socioeconomic background into account. The family structure also matters, with students from single-parent families underperforming more than in other countries (OECD, 2013). Increasing poverty amongst the school population and greater diversity in language

⁶ According to a forecast, between 2015 and 2025 the growth of the school population will accelerate in BE fr to reach 7 % (+13 % in Brussels and +5 % in Wallonia) (Mc Kinsey, 2015). In BE nl (Flanders and Brussels), the school population is expected to increase by 4 % between 2015/2016 and 2020/2021 (OECD 2015b). Between 2016 and 2026, the Flemish school population in pre-primary, primary and secondary is expected to grow by 5 %, 2 % and 11 %, respectively.

⁷ The legal retirement age will increase. As a result, senior teachers with higher salaries will remain longer at the charge of the Community education budget.

⁸ For details see European Commission (2015).

⁹ GOK policy (BE nl), Encadrement différencié (BE fr)

¹⁰ First-generation immigrant pupils are pupils born outside Belgium whose parents were also born outside the country; second general immigrants are pupils born in Belgium, but whose parents were born outside.

¹¹ There are however differences between the communities. For details see European Commission 2015.

(Studiedienst van de Vlaamse Regering 2015¹², Mc Kinsey 2015), culture and family structure are increasing the equity challenges.

While participation in early childhood education and care (ECEC) may be helping to prevent early school leaving, in particular for socioeconomically disadvantaged groups, Belgium combines a very high participation rate in ECEC with an average performance in ESL. Figures on participation in ECEC show close to full participation at age three and four, and is as high as 51 % for children less than three years old. There is however variation in the quality of provision (European Commission 2014) and specific target groups have lower participation rates. In BE nl, enrolment gaps between nationals and non-nationals show little difference at age five, but significant gaps at age three. The gaps in regular attendance¹³ are even larger. Obstacles include language and cultural barriers, teachers not being well prepared to cope with pupils' diversity, and insufficient teaching capacity (Vlaams Ministerie van Onderwijs en Vorming, 2016). Similar trends are observed in BE fr. Language difficulties are already observed for children less than three years old (BE fr, Fondation Roi Baudouin 2016).

In Belgium school segregation goes beyond residential segregation and reflects academic, socioeconomic, language and migrant background (Belgian Court of Auditors 2015, OECD 2015b, Pacte pour un enseignement d'Excellence 2015). Schools with the most disadvantaged pupils are unable to attract the most experienced teachers and heads and face greater turnover in the teaching staff. Equal opportunities policies for disadvantaged schools seem not have delivered the results expected despite the student-to-teaching-staff ratio in socioeconomically disadvantaged schools being one of the lowest by international comparison (OECD 2013). Little attention is paid to the performance of individual schools (OECD 2016b).

The increased number of refugees since 2015 has raised new challenges in integrating their children into education. The communities have taken measures to increase the capacity of reception classes, the number of language teachers and the budget to support newly arrived students. 3 900 newcomers were received in Flemish schools during the first half of 2015/16. In BE fr, since September 2015, 13 additional reception classes ('Daspa') were set-up. Currently 4000 children are hosted in 69 'Daspa'. Efforts are made to spread the refugees across the country. However, past experience shows that they tend to move towards big cities to join existing communities.

In terms of policy responses, all three language communities are engaged in major schools reforms (see sections 5 and 7) aimed at providing more 'inclusive' education. Specific measures target ESL. In early 2016 the Flemish government approved a revised concept note on the new integrated ESL approach, including an action plan. It is positive that this policy involves three ministries: Education, Welfare and Employment. The downside is that it lacks information on the budget. In BE fr, there is still no specific policy on ESL. The focus is on the ongoing implementation of the 2014 reform of lower secondary education, under which schools have to draw up plans to tackle low achievement.

The communities are currently also revising their priority education policies and enrolment decrees. Other measures aim to provide schools with data to help improve their governance and teaching. However, there is little information on how such data are used. Government agreements for 2014-2019 refer to the need to attract qualified teachers to disadvantaged schools, but measures have not yet been announced.

For early childhood education, current measures¹⁴ focus mainly on the participation of vulnerable groups (Be nl) or improving the quality of the education (BE fr, Milquet 2015). Further evidence has been gathered to inform policymaking (Ministerie van Onderwijs, 2016a). Flemish child benefits will be reformed. A part should be linked to the enrolment and attendance rate at age three and four.

¹² In BE nl the risk that children are born into a disadvantaged family increased from 6.5 % in 2005 to 11.4 % in 2014.

¹³ In BE nl at age three (cohort 2006, data on 1.2.2015), 96.4 % of children of Belgian nationality attend regularly, against 31.6 % of non-Belgians from EU countries, 36.3 % of non-EU non-Belgians. The attendance rate of children from low-income families is 92 %.

¹⁴ For details see European Commission (2015) and Crevits (2016b).

In Belgium, the steering of pupils from disadvantaged groups remains poor from ECEC onwards. Disadvantaged pupils, particularly those with a migrant background, are overrepresented in special needs education and vocational pathways. The proportion of pupils in special needs education is at worryingly high levels.

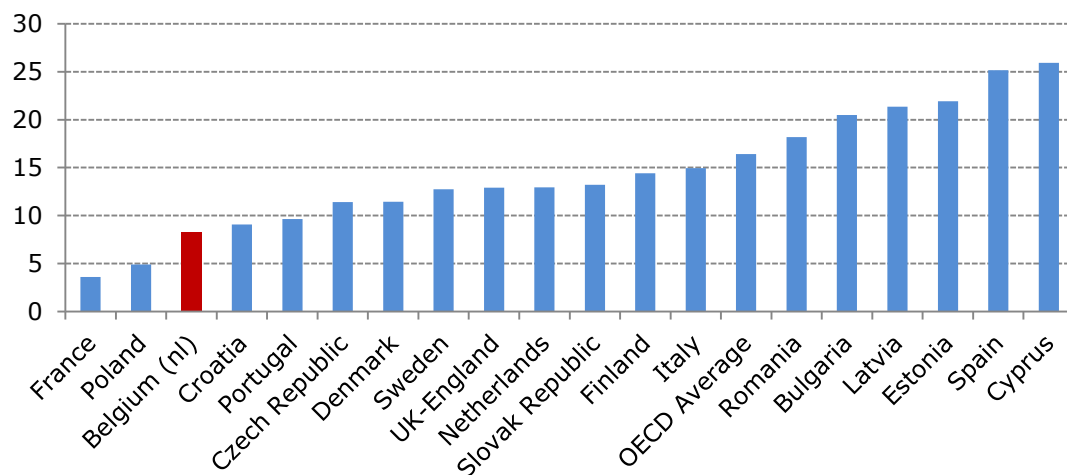
For children with special needs, the entry into force in 2015/2016 of the Flemish 'M-decree' is a major step towards increasing inclusion in the mainstream system. From September 2015, every child, including those with special needs, has the right to enrol in a mainstream school, provided this is possible with reasonable adaptations. Around 180 full-time staff specialising in special education provide support to teacher teams in regular education (Crevits 2015a). Initial results show a greater proportion of students with special needs participating in mainstream rather than special education. As there is still a need for more staff from special schools to support mainstream schools and for preparing all teachers to address special needs (OECD 2015b), the staff arrangements will be increased in 2016/2017.

Violent radicalisation is a major concern. Belgium is the EU country with the highest proportion of people, mostly youngsters, leaving the country to fight in Syria and Iraq. Belgium has taken measures across all levels of compulsory education to prevent violent radicalisation (Eurydice 2016). All the communities aim to support schools and teachers and to share specific resources, for example to train teachers on this subject and stimulate intercultural and interreligious competences/dialogue. Key measures encompass setting up a network of experts on Islamic discourse (BE nl), introducing a citizenship course (BE fr) and dedicating the year 2016 to intercultural and interreligious dialogue (BE de). Coordination with regional measures varies greatly. There is awareness that inclusive education is a prerequisite to successful action in education to prevent radicalisation.

5. Modernising school education

Belgian teachers are not well prepared to cope with an increasingly poor and diverse school population or to take full advantage of digital opportunities. In-work teacher training is not well used to develop competences nor recognised for career development. Participation in training for teaching in a multicultural or multilingual setting is significantly below the EU average (Figure 2). Collaborative teaching is not well developed (OECD 2014, Pacte pour un enseignement d'Excellence 2015). Teachers need support to adopt new pedagogical approaches, e.g. in order to reduce repetition years.

Figure 2. Percentage of lower secondary education teachers who report participation in professional development relating to teaching in a multicultural or multilingual setting in the 12 months prior to the survey.



Source: OECD (2014)¹⁵

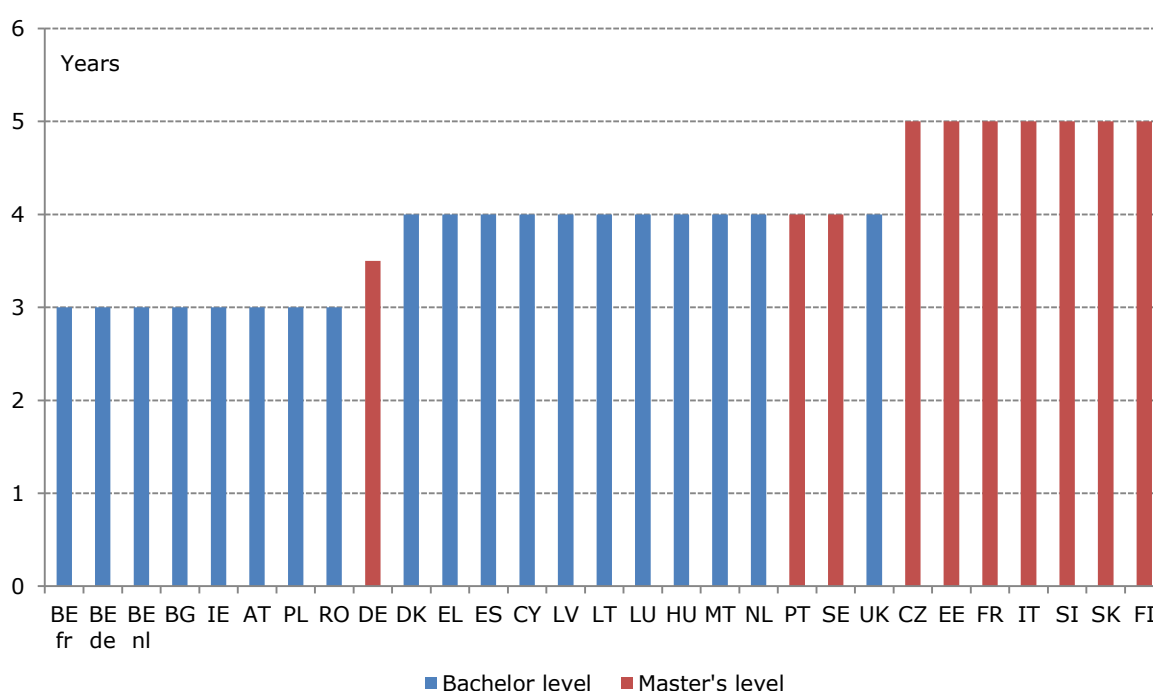
¹⁵ TALIS covers the Flemish Community. The other Communities did not participate.

Despite a higher enrolment rate of students in 'Education' than the EU and OECD average, Belgium faces a shortage of qualified teachers. The main reasons are the difficulty of attracting the most suitable students and candidates to the profession; the high exit rate of starting teachers; retirement conditions; the unavailability of a proportion of teachers for teaching; and the low student-to-teaching staff ratio.¹⁶ Barriers include the big difference in status and employment conditions of starting teachers compared with those of (not very mobile) established teachers (OECD 2015b, Delvaux et al. 2013). Teachers will retire later from 2019, which calls for a reorganisation of the work at the end of their career. Salaries of school teachers in Belgium remain above the OECD average (OECD 2016b) with however differences between the communities. Those differences count among the obstacles to teacher's mobility between them, including for language teachers.

Both communities are pursuing the preparation of their reform of initial teacher education launched under the previous governments. In early 2016, the Flemish Government approved a concept note which includes: 1) generalising a non-binding entrance test for students, including a pilot in 2016; 2) introducing a specific master's in education; 3) higher education institutes remaining the only providers of teacher training; and 4) an obligation to offer career paths for adults wanting to become teachers (Crevits 2016a). A draft decree is planned in early 2017 in view of finalising the reform by 2020.

The French Community aims to adopt a draft decree by end-2016.¹⁷ Debate is ongoing over an increase in the course length for initial teacher training — at 3 years currently, this is relatively short in Belgium (Figure 3) — and over consistency with the compulsory education reform. Given the budgetary outlook (Thonet et al. 2016), however, opting for a 5-year master's for all teachers is not an option. The costs would be so high that it would leave no scope to finance other education reforms.

Figure 3. Level and minimum length of initial teacher education of primary teachers (2011/2012)



Source: Eurydice (2013), p 26

¹⁶ This ratio differs from the average class size. For instance it takes into account teachers who are not available for teaching.

¹⁷ This also has an impact for secondary education teachers of the German-speaking Community as they are mainly trained in BE fr (Eurydice 2016).

On teachers' careers, the Flemish education minister and social partners are still pursuing their negotiations on a 'career pact' (*Loopbaanpact*; Crevits 2015b).¹⁸ However, these are complicated by the pension reform. The communities have also taken or plan to boost measures on inter-professional and community mobility. Recent initiatives also focus on training teachers to cope with poverty and diversity (Fondation Roi Baudouin 2016, Crevits 2016b).

On its plans to modernise secondary education, the Flemish Government has reached agreement on long-awaited measures which should take effect in 2018. Two concept notes adopted in May 2016 serve as a starting point for the consultative and legislative process. At the first stage, the separate pathway for those without a primary certificate would be strengthened, with new measures to improve their transition to the general pathway.¹⁹ The next stage would consist in introducing a new structure of the educational offers, in addition to the current general, technical and vocational tracks. The new structure would be defined by destination (educational track leading either to direct transition into the labour market, or to tertiary education, or to both the labour market and further studies) and by domain (field of study). The number of study domains would decrease from 29 to 8 (Crevits 2016c) and the number of courses from 196 to 46. A 'domain school' would offer one or more of the eight domains and for each of them will provide the three different types of educational tracks. A 'campus school' would offer the three educational tracks but in different domains. Schools would receive financial incentives if they move towards these new types of organisation. Critics fear that the compromise was reached at the expense of greater equity, as ambitious measures to address this were abandoned (e.g. 'broad first grade', suppression of the three tracks). The possible risks include creating a more complex system with even greater difficulties for pupils from disadvantaged backgrounds to make an informed choice of schools and study.

A shortage of skilled professionals, mainly in sciences and engineering, could become a major barrier to innovation in Belgium (European Commission 2016a). In Flanders an interministerial science, technology, engineering and mathematics (STEM) action plan for 2012-2020 aims to increase the number of pupils and students in sciences or technology. At secondary education level current results are limited. Moreover, a strong fall in STEM students in vocational training is observed, particularly girls. New measures focus, for example, on the professional development of STEM teachers (EU STEM Coalition 2016).

Box 2: Reform of compulsory education in the French Community (*Pacte pour un Enseignement d'Excellence, 2015-2025*)

BE fr has launched a process to reform its compulsory education system. This aims to reduce educational inequalities, raise the average performance and overall efficiency of the system, and adapt to the needs of the 21st century. Building on a wide participatory process and in-depth analytical work, the reform should be adopted by 2017. Its main elements are:

- **A systemic reform around four key axes:** 1) the student and his/her pathway; 2) the teachers and actors involved in education; 3) education provision, knowledge and competences; and 4) governance.
- **Equity, effectiveness and efficiency at the heart of an evidence-based policy:** a prospective view and a broad analysis of the current situation are available since mid-2015.
- **A participatory process to identify key challenges and propose guidelines for the reform:** In May 2016 the Government endorsed the second report of the central steering group set up to accompany the reform and announced it would establish its key priorities for action in autumn 2016.
- **Impact assessment and definition of Government priorities:** by end-2016, short-, medium- and long-term priorities should be established based on equity, effectiveness and efficiency, and taking into account the budgetary implications of different measures.

¹⁸ The focus of the minister is on passion for the occupation, working conditions, guidance for starting teachers, creating more flexible career opportunities, continuous professional development and reduction of workload.

¹⁹ The first two years of secondary education should focus more on guidance by combining a general curriculum with optional courses. For students who need additional support, the optional courses can be used for remedial teaching to prevent dropout.

Key points put forward by the steering group:

Overhaul the governance system: The different actors, individual schools and teachers should be given greater autonomy and responsibility. Steering would be done by setting objectives at system level and specific ones for schools by geographical area. These objectives would be implemented through contracts concluded between a school and the central level and will benefit from the support of the school's umbrella organisation. Contracts with the central level cover the school strategy, plan and objectives. The central authorities would decentralise responsibility by geographical area for monitoring the contracts, with measures for low-performing schools. At central level, the education ministry would be reorganised and the roles (e.g. of the school inspectorate) redefined. A 2016 decree already foresees that each school will establish by 2018/2019 a 6-year pilot plan with objectives in more than 10 key areas. The heads of underperforming schools have to draw up a remedial action plan with the support of their umbrella organisation.

Heads and teachers: The role of the heads should be reinforced with less administrative work and a greater focus on teaching, shared leadership and their own professional abilities. The teaching profession should evolve towards a stronger engagement and collaboration between teachers and with external actors. Teachers are also to be equipped for social, cultural and pedagogical diversity. In-work teacher training should become more relevant to the school and to individual needs with the introduction of a training plan at school and individual level. Teachers' careers would become differentiated with the introduction of a specific status for starting, and senior teachers in addition to the standard teacher one. Mandatory support to starting teachers has been introduced in September 2016.

A common comprehensive pathway, a one-track IVET, better guidance and easier transitions: The common pathway would start from ECEC and go up to lower secondary education (15 years) which would be extended by 1 year. Its possible extension by an additional year might be considered later. The common set of knowledge and skills to be taught at that level would include seven domains, including one on manual, technical and technological competences. IVET would be reduced to one track with fewer study options and apprenticeships integrated into the education system.

Inequity: Eight areas for action have been identified in view of a global response, addressing among others low-performing schools and social mix (see also section 4). Further analysis is ongoing. Other proposals discussed in the context of the 'Pacte' could also contribute, such as the organisation of schooling time, 'home-work' and extra-curricular activities at school).

Coordination with the reform of initial teacher training: It will be crucial to ensure consistency between the school reform headed by the Minister of Education and the initial teacher education reform led by the Minister of Higher Education. Progressive implementation that enables teachers to be empowered and gives them appropriate training and support to cope with the changes will be key to the success of the reform.

The reform process so far attests a positive shift towards a transparent, participatory and evidence-based policy. Under a tight calendar, progress has been made in identifying innovative approaches to longstanding weaknesses. The reform is now in a critical phase. The government will have to set priorities and make choices under strong budgetary constraints. Moreover, work on important subjects, like the fair distribution of teachers in disadvantaged schools, special needs education and vocational education and training, is still under development. For more information see: <http://www.pactedexcellence.be>.

6. Modernising higher education

Belgium's tertiary education attainment rate for 30-34 year-olds, at 42.7 %, remains above the EU average of 38.7 % in 2015. However, it is 4.3 pps. short of the 47 % national target set for 2020, with no improvement seen since 2008. Women outperform men by 48.7 % to 36.7 % — a gender gap wider than the EU average. Whilst narrowing, the gap between native-born and

foreign-born students is still large at 44.8 % to 35.6 %. The employment rate of recent tertiary graduates²⁰ remains above the EU average.

Institutions need to cope with steadily rising numbers of students and high dropout and repetition rates and to ensure quality in a context of budget constraints. International students make up 14 % of new entrants in tertiary education. At doctoral level, they represent 38% of graduates considerably above the 26% OECD average (OECD 2016) —In BE fr half of all international students is French (Jauniaux and Dieu 2016).

By international comparison, the proportion of science, engineering and technology students and graduates remains low. Women are largely underrepresented in particular among bachelor's graduates (OECD 2016b). In comparison with its neighbouring countries, the EU-21 and OECD averages, the 2012 Belgian enrolment rates for new entrants was lower in sciences (5 % against 11 % in EU-21) and engineering (10 % against 15 % in EU-21). This is paired with higher than average enrolment rates in 'Health and welfare' and 'Education'. However, the study choice of Belgian university students differs significantly across the communities: Flemish students opt more often for engineering and sciences whilst those from the French Community choose health, in particular medicine. Differences could be explained by the introduction of different admission tests (Lambert 2015) and by the positive results of the Flemish STEM action plan (see section 5).

Relatively low tuition fees and open access to higher education remain guiding principles. Measures have been taken or are planned to improve the transition between secondary and tertiary education through earlier and more efficient guidance. This includes 1) gradually introducing a compulsory guidance test at the end of secondary education (BE nl); 2) piloting or extending non-binding higher education entrance tests in 2016/17 (BE nl: pilot in teacher education and STEM fields, BE fr: dentistry and health); and 3) limiting the possibility to re-sit exams and introducing early reorientation mechanisms. The education ministries aim to support higher education institutions by equipping them with data on the study results of students across institutions and study programmes (BE nl Higher education database). Measures aimed at increasing employability are being pursued (see European Commission 2015), in particular by rationalising the number of courses and developing further short cycle programmes (BE nl) and dual or work-based education programmes at bachelor level (BE fr).

7. Modernising vocational education and training and promoting adult learning

The participation of upper secondary students in vocational education and training remains above the EU average. However, the proportion of work-based learning stands at only 5.9 %. The employment rate of recent upper secondary vocational education and training graduates reached 75.6 % in 2014, slightly above the EU average of 73 %. Adult participation in lifelong learning is low and decreased in 2015 to 6.9 %, well below the EU average of 10.7 %.

A recent decree strengthens dual learning in secondary education. As part of this process the variety of existing contracts is reduced with the objective to have a unique contract, as is the incentive structure for companies. The new Flemish contract also aims for consistency with the unique dual learning contract recently implemented in BE fr. The Flemish Government has approved several pilot projects enabling 33 educational institutions to experiment with dual learning for 3 years, starting in 2016-2017. The pilots provide room to further develop the curriculum provided that it fulfils certain conditions. For example, the programme must lead to a formal qualification, about 60 % of the total programme must be dedicated to work-based learning and the relevant economic sectors must be committed to the project. The objective is to roll out dual learning on a wider scale from the school year 2017/2018.

In the Walloon Region, measures to further develop dual training are part of the 'Marshall Plan 4.0'. They aim to increase the number of apprenticeship places, improve regulation around apprenticeships and improve the quality of the training given in the framework of dual learning.

²⁰ People aged 20-34 who left tertiary education between one and three years before the reference year.

Regarding adult learning, a recent report (BE nl Lavrijsen and Nicaise, 2015) pointed to the lack of learning culture to explain the low participation rate. The Flemish Government presented a concept note in mid-2016 on reforming the adult education sector. The aim is to better respond to the needs of both the sector and learners. BE nl is striving for a more unified framework for all providers, including a more stable and predictable financial framework for education providers. Staff regulations for staff working in the adult sector are being adapted. In the 'guidance and orientation for adult learners' (GOAL) project, support centres have opened to provide guidance and counselling services to adults in BE nl (GOAL 2016). In BE fr, a single service in charge of providing guidance to citizens on lifelong learning has been created. Information campaigns will raise awareness about occupations of the future.

8. References

Belgian Court of Auditors (2015), *Werkingsbudgetten voor het Gewoon Basis en Secundair Onderwijs: Toekenning en Aanwending*,
https://www.ccrek.be/docs/2015_22_Werkingsbudgetten.pdf

Crevits, H. (2015a), *Minister Crevits vervroegt vaste benoemingen, past vervangingsvoorwaarden leerkrachten aan en versterkt ondersteuning in kader M-decreet*,
<http://www.hildecrevits.be/nl/minister-crevits-vervroegt-vaste-benoemingen-past-vervangingsvoorwaarden-leerkrachten-aan-en>

Crevits, H. (2015b), *Mededeling aan de Vlaamse Regering. Betreft: opstart van de onderhandelingen in het kader van een loopbaanpact*,
https://encrypted.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0ahUKEwi9np_V9c_MAhUiAZoKHclSB4cQFggcMAA&url=http%3A%2F%2Fwww.coc.be%2Ffiles%2Fnewsitems%2F.800%2F20151009%2520opstarttekst%2520Crevtis.pdf&usq=AFQjCNG2b_3IOQ7qjdyBFBMBfOgjQ8z3kA&sig2=rVZwi4qfG5iYGFkduObIeA

Crevits, H. (2016a), *Lerarenopleiding versterken: Wervende en kwalitatieve lerarenopleidingen als basispijler voor hoogstaand onderwijs*,
<https://www.vlaamsparlement.be/parlementaire-documenten/parlementaire-initiatieven/1052381>

Crevits H. (2016b), *'Kleine Kinderen, Grote Kansen': omgaan met armoede en diversiteit in de klas, samen sterke kleuterleraren opleiden*,
<http://onderwijs.vlaanderen.be/nl/kleine-kinderen-grote-kansen%E2%80%99-omgaan-met-armoede-en-diversiteit-in-de-klas-samen-sterke>

Crevits, H. (2016c), *Modernisering secundair onderwijs: versterken, verdiepen & verkennen*,
<http://www.hildecrevits.be/nl/krachtlijnen-modernisering-secundair-onderwijs-goedgekeurd-versterken-verdiepen-verkennen>

Council of the European Union (2016), *Council recommendation of 12 July 2016 on the 2016 National Reform Programme of Belgium and delivering a Council opinion on the 2016 Stability Programme of Belgium (2016/C 299/09)*
http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.C_.2016.299.01.0036.01.ENG&toc=OJ:C:2016:299:TOC

Decree (2016) of the French Community 'portant diverses dispositions en matière d'enseignement' (décret dit fourre-tout') (3 février 2016),
<http://archive.tabellio.pcf.be/10000000202e030>

Delvaux B. Desmarez B., Dupriez V., Lothaire S, Veinstein M. (2013), *Les enseignants débutants en Belgique francophone. Les cahiers du Girsef*

EU STEM Coalition (2016), *STEM skills for a future-proof Europe: Fostering innovation, growth and jobs by bridging the EU STEM skills mismatch*,
http://www.csreurope.org/eu-stem-coalition-publishes-new-stem-skills-future-proof-europe-brochure#.V0a6i_7VyUI

European Commission (2014c) *Study on the effective use of early childhood education and care in preventing early school leaving*,
<http://bookshop.europa.eu/en/study-on-the-effective-use-of-early-childhood-education-and-care-eccec-in-preventing-early-school-leaving-esl--pbNC0414322/>

European Commission (2015), *Education and Training Monitor 2015*,
http://ec.europa.eu/education/tools/docs/2015/monitor2015-belgium_en.pdf

- European Commission (2016a), Country Report Belgium 2016, http://ec.europa.eu/europe2020/pdf/csr2016/cr2016_belgium_en.pdf
- European Commission (2016b), Education and Training Monitor 2016 – Volume 1, http://ec.europa.eu/education/policy/strategic-framework/et-monitor_en
- Eurydice (2013), Key data on teachers and school leaders in Europe, http://eacea.ec.europa.eu/education/eurydice/documents/key_data_series/151en.pdf
- Eurydice (2015), The teaching profession in Europe: Practices, perceptions, and policies, http://bookshop.europa.eu/is-bin/INTERSHOP.enfinity/WFS/EU-Bookshop-Site/en_GB/-/EUR/ViewPublication-Start?PublicationKey=EC0115389
- Eurydice (2016), Overview of education policy developments in Europe following the Paris Declaration of 17 March 2015, http://eacea.ec.europa.eu/education/eurydice/ mailing/17_March_2016.html
- Eurypedia/European Commission (2016), Country – Flemish Community, <https://webgate.ec.europa.eu/fpfis/mwikis/eurydice/index.php/Belgium-Flemish-Community:Overview>
- Fondation Roi Baudouin (2016), Zoom L'école maternelle une chance à saisir, <https://www.kbs-frb.be/fr/Activities/Publications/2016/20160209ND>
- GOAL (2016), GOAL: Guidance and Orientation for Adult Learners, <http://www.projectgoal.eu/index.php/aboutus/belgium>
- Juniaux Natalie et Dieu Philippe (2016), L'enseignement supérieur en Fédération wallonie Bruxelles à la lumière des indicateurs internationaux: Méthodologie, collecte et périmètre des données , <http://www.ares-ac.be/fr/midis-de-l-ares/153-04-02-16-midis-statistiques-regard-sur-l-education-a-partir-du-rapport-de-l-ocde>
- Lambert Jean-Paul (2014), Stratégie de Lisbonne et niveau de formation. Pourquoi l'ascenseur social ne fonctionne plus en Fédération Wallonie-Bruxelles, Reflets perspectives de la vie économique, De Boeck Supérieur
- Lambert Jean-Paul (2015), « Choix des orientations d'études et besoins de la société », *Reflets et perspectives de la vie économique* 4/2015 (Tome LIV), p. 121-152, <http://www.cairn.info/revue-reflets-et-perspectives-de-la-vie-economique-2015-4-page-121.htm>
- Lavrijsen and Nicaise (2015), 'Systemic obstacles to lifelong learning' by; Leuven, Steunpunt Studie- en Schoolloopbanen Steunpunt Studie- en Schoolloopbanen, <https://lirias.kuleuven.be/handle/123456789/514084>
- Mc Kinsey (2015), Contribuer au diagnostic du système scolaire en FWB, Rapport à la Vice-Présidente, Ministre de l'Éducation, de la Culture et de l'Enfance, <http://www.pactedexcellence.be/wp-content/uploads/2015/01/Rapport-final-FWB.pdf>
- Milquet, J. (2015), Press release – 'Pacte pour un Enseignement d'excellence les premières réalisations et nouveautés de la rentrée scolaire', 31 August 2015
- OECD (2013), PISA 2012 Results: Excellence through Equity. Giving every student the chance to succeed, http://www.oecd-ilibrary.org/education/pisa-2012-results-excellence-through-equity-volume-ii_9789264201132-en
- OECD (2014), TALIS 2013 Results: An International Perspective on Teaching and Learning, Paris: OECD Publishing
- OECD (2015a), Education at a Glance 2015: OECD Indicators, <http://www.oecd.org/edu/education-at-a-glance-19991487.htm>
- OECD (2015b), Reviews of School Resources: Flemish Community of Belgium, <http://www.oecd.org/edu/oecd-reviews-of-school-resources-flemish-community-of-belgium-9789264247598-en.htm>
- OECD (2016a), Reviews of School Resources: Country report of the French Community of Belgium, to be published

OECD (2016b), Education at a Glance 2016, Country note Belgium,
http://www.keepeek.com/Digital-Asset-Management/oecd/education/education-at-a-glance-2016/belgium_eag-2016-43-en#.V9rEdP7Vyzk

Pacte pour un enseignement d'Excellence (2015),
<http://www.pactedexcellence.be/documents-a-telecharger>

Studiedienst van de Vlaamse Regering (2015), Vlaamse Armoedemonitor,
<http://www.vlaanderen.be/dar/svr/monitoring/pages/2010-04-vlaamse-armoedemonitor.aspx>

Thonet S., Lecuivre E., Podgornik C. and Deschamps R. (2016), Les perspectives budgétaires de la Wallonie de 2016 à 2026,
<https://www.unamur.be/eco/economie/cerpe/cahiers/cahiers/cahier82>

Vlaams Ministerie van Onderwijs and Vorming (2016) — Departement — Afdeling BDK, Kleuterparticipatie: inschrijvingen and aanwezigheden kwantitatief,
<http://www.onderwijs.vlaanderen.be/hoge-kleuterparticipatie-maar-extra-maatregelen-nodig>

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_ipart (2011), educ_uoe_enra10 (2014)
Employment rate of recent graduates	edat_lfse_24
Adult participation in lifelong learning	trng_lfse_01
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

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



1. Key indicators

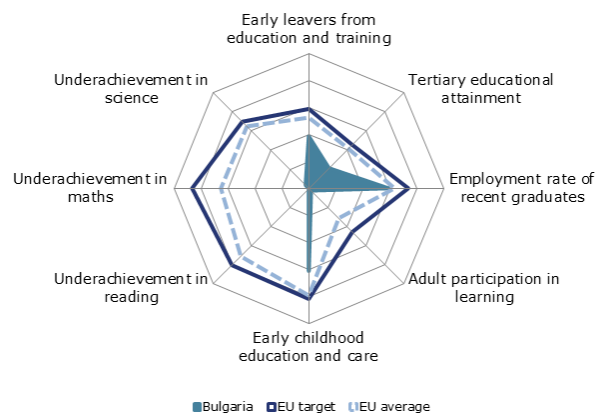
		Bulgaria		EU average		
		2012	2015	2012	2015	
ET 2020 benchmarks						
Early leavers from education and training (age 18-24)	Total	12.5%	13.4%	12.7%	11.0%	
Tertiary educational attainment (age 30-34)	Total	26.9%	32.1%	36.0%	38.7%	
Early childhood education and care (ECEC) (from age 4 to starting age of compulsory education)		86.6% ¹¹	89.3% ¹⁴	93.2% ¹¹	94.3% ¹⁴	
Proportion of 15 year-olds with underachievement in:	Reading	39.4%	:	17.8%	:	
	Maths	43.8%	:	22.1%	:	
	Science	36.9%	:	16.6%	:	
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-8 (total)	67.3%	74.6%	75.9%	76.9%	
Adult participation in lifelong learning (age 25-64)	ISCED 0-8 (total)	1.7%	2.0%	9.2%	10.7%	
Other contextual indicators						
Education investment	Public expenditure on education as a percentage of GDP	3.4%	4.1% ¹⁴	5.0%	4.9% ^{14,p}	
	Expenditure on public and private institutions per student in € PPS	ISCED 1-2	€2.024	€2.178 ¹³	:	: ¹³
		ISCED 3-4	€2.122	€2.293 ¹³	:	: ¹³
		ISCED 5-8	€3.834	€4.104 ¹³	:	: ¹³
Early leavers from education and training (age 18-24)	Native-born	12.6%	13.5%	11.6%	10.1%	
	Foreign-born	:	:	24.9%	19.0%	
Tertiary educational attainment (age 30-34)	Native-born	26.8%	32.0%	36.7%	39.4%	
	Foreign-born	:	:	33.8%	36.4%	
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-4	56.6%	54.6%	69.7%	70.8%	
	ISCED 5-8	78.5%	87.1%	81.5%	81.9%	
Learning mobility	Inbound graduates mobility (bachelor)	3.9% ¹³	3.4% ^{14,e}	5.5% ¹³	5.9% ¹⁴	
	Inbound graduates mobility (master)	2.7% ¹³	2.7% ^{14,e}	13.6% ¹³	13.9% ¹⁴	

Sources: Eurostat (see section 9 for more details); OECD (PISA).

Notes: data refer to weighted EU averages, covering different numbers of Member States depending on the source; b = break in time series, d = definition differs, p = provisional, u = low reliability, 11 = 2011, 13 = 2013, 14 = 2014.

Further information can be found in the relevant 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 2015) and OECD (PISA 2012).

Note: all scores are set between a maximum (the strongest performers, represented by the outer ring) and a minimum (the weakest performers, represented by the centre of the figure).

2. Highlights

- Bulgaria is taking the first steps in the implementation of the Pre-school and School Education Act with the adoption of several state educational standards.
- The early school leaving rate increased and shows large regional variations.
- In terms of educational outcomes, vulnerable groups such as Roma and pupils from rural areas perform significantly below average.
- In tertiary education, attainment rates continue to increase and a model for performance-based financing was introduced, but several challenges remain including insufficient labour market relevance.
- General government expenditure on education remains among the lowest in the EU.

Box 1: The 2016 European Semester country-specific recommendation on education and training

The 2016 European Semester country-specific recommendations (CSRs) to Bulgaria (Council of the European Union 2016) included a recommendation on education and training:

Increase the provision of quality education for disadvantaged groups, including Roma

3. Investing in education to address demographic and skill challenges

General government expenditure on education in Bulgaria is among the lowest in the EU. In 2014, it accounted for 4.1 % of GDP (below the EU average of 4.9 %) and for 9.7 % of total general government expenditure.²¹ While the system is underfunded at all levels, the authorities estimate that – in relative terms – spending on education will decrease as a result of measures to increase the transparency and efficiency of spending and optimisation of the school system network. According to the 2016-2019 Convergence Programme for Bulgaria, educational expenditure is projected to decrease to 3.2 % of GDP in 2019 and to 8.7 % of total public spending. Nevertheless the authorities have announced that spending on education will be a priority in the 2017 budget. Bulgaria has already introduced changes to the funding model at all educational levels, including the use of delegated budgets and unified cost standards since 2007.²² A further improvement of the funding formula is part of the Pre-school and School Education Act. Finally, performance-based funding in higher education was recently introduced (see section 6).

The school population is dropping as a consequence of demographic trends. In the 2015/2016 school year, the total number of pupils and students was 1,24 million, 2.7 % less on to the previous year. The number of students in pre-primary (-3,7 %) and tertiary education (-4.3 %) decreased, but remained stable for primary and lower secondary education (National Institute for Statistics 2016).

The employment rate (25-64) for those with upper secondary (ISCED 3-4) and tertiary education (ISCED 5-8) is around the EU average,²³ but it is significantly lower for those with primary or lower secondary education at most (ISCED 0-2). Skills shortages remain a challenge, with most bottlenecks vacancies in high-skilled occupations, such as management, engineering,

²¹ Source: Eurostat, General government expenditure by function (COFOG) database.

²² The reform resulted in money savings and increases in teachers' salary (World Bank 2009), but recent evidence suggests that the results were mixed, and that the funding principle may have disadvantaged students from vulnerable groups (World Bank 2014).

²³ In 2015, ISCED 0-2: 40.3 % vs an EU average of 53.2 %; ISCED 3-4: 73 % vs an EU average of 73.9 %; ISCED 5-8: 84.9 % vs 84.1 %.

the medical professions and IT. There is also an unmet demand in sectors such as tourism, trade and textiles where lower skills qualifications are required (European Commission 2014).

4. Tackling inequalities and promoting inclusion

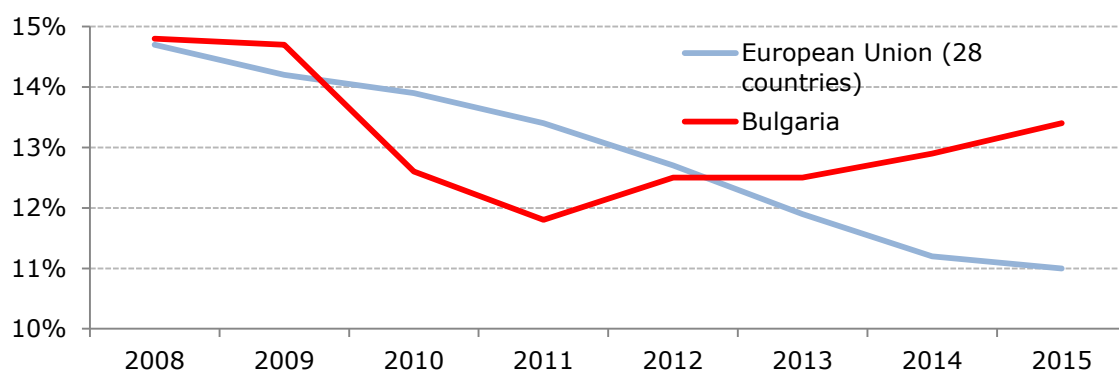
Contrary to the overall EU trend, the early school leaving rate (ESL) in Bulgaria has been increasing since 2011, reaching 13.4 % in 2015. The ESL rate shows large differences between regions, between urban and rural areas, and for minority groups. The ESL is low in only one region – the South-West region (5.7 %) – which includes the capital Sofia. In all the other five regions, the proportion is above the national average, reaching an alarming 23.1 % in the North-West.

As from the 2013/2014 school year, an ‘all-day school programme’ was introduced for all students in primary education (grades 1 to 4). The 2015 Pre-school and School Education Act provides for an extension of this programme until the 7th grade. Recently, the authorities defined the all-day school programme as one of the main measures to improve educational outcomes and reduce the number of drop-outs.²⁴ Furthermore, in 2013 Bulgaria adopted a Strategy for Reducing the Share of Early School Leavers. Its interim evaluation reports point to some progress in achieving the Strategy milestones, but an early-warning system has yet to be developed (Ministry of Education and Science 2015a).

Bulgaria has the highest inequality of educational opportunities and social stratification in the EU, as defined by the correlation between the PISA student’s socioeconomic status and the average school’s socioeconomic status (World Bank 2014). At the same time, there are gaps in the quality of education between elite schools in regional centres and vocational schools in small towns.

Participation in early childhood education and care (age four to mandatory school age) remains below the EU average (94.3 %), but is increasing, and reached 89.3 % in 2014. As of 2012/2013, a mandatory two-year pre-school education programme was introduced. For children who come from areas without a kindergarten, free transport is provided within the municipality or to an adjacent municipality.

Figure 2 Early school leaving rate



Source: European Commission elaboration on Eurostat data. Online data code: *edat_ifse_14*

In general, the enrolment rates, completion rates and the educational outcomes for disadvantaged groups remain significantly below the national average. Socio-economic status has a major impact on educational opportunities, and there are important regional differences in terms of participation and performance, as well as between urban and rural areas. Language is often a barrier for Roma children. This results in lower educational performance and lower access to quality education. Other barriers are hidden educational costs, poor infrastructure, the

²⁴ Updated Medium Budget Forecast for the 2016-2018 period (Motives for the State Budget of the Republic of Bulgaria, 2016), draft.

lack of kindergarten capacity (in towns), lack of trained staff, the need to better cooperate with parents and NGOs.

Data from the 2011 national census show that 93 % of Roma did not complete upper secondary education, compared to 30 % of ethnic Bulgarians. The data also show that almost a quarter of Roma children aged 7-15 were outside the education system (European Commission, 2016). The proportion of NEETs²⁵ (aged 16-24) among Roma is very high (61 %) (European Union Agency for Fundamental Rights 2014). Drop-out rates are higher among children of Roma ethnicity while around 26 % of Roma children receive education in *de facto* segregated schools, as defined in the Roma Inclusion Index (2015). The 2015 implementation report of the National Roma Integration Strategy (2012-2020) points to the need for stronger political commitment, accompanied by increased cooperation between different levels of public administration and other stakeholders, systematic monitoring and the provision of integrated measures. Challenges remain in terms of discrimination, negative stereotypes, and socio-economic and cultural factors, which contribute to marginalisation.

More efforts are also needed for desegregation measures and intercultural education in an ethnically mixed environment. The educational integration of children and young people from disadvantaged groups features prominently in several recently adopted strategies and legislative acts, primarily the Strategy for Educational Integration of Children from Ethnic Minorities (2015-2020), which sets out four strategic aims: (i) the comprehensive socialisation of children and pupils from ethnic minorities; (ii) ensuring equal access to quality education for children and students from ethnic minorities; (iii) promoting intercultural education as an integral part of the process of modernising the Bulgarian educational system; and (iv) preserving and developing the cultural identity of children and students from ethnic minorities. The adoption of the Strategy (and its action plan) is a positive sign of continuous political attention to Roma integration on behalf of the Ministry of Education. Nevertheless, considering that no additional budget has been allocated for its implementation,²⁶ it's even more crucial to ensure consistency between the strategy's aims, the new educational standards and the programmes in the field of education financed from the European Social Fund.

5. Modernising school education

The Bulgarian education system has been characterised by low quality (as measured by PISA 2012), outdated curricula and inequalities between pupils in different types of schooling. To address these challenges, Bulgaria embarked on an important educational reform by adopting the Pre-School and School Education Act, which entered into force in August 2016. The new law defines education as a national priority and puts forward a series of changes to the educational system (see Box 2). As a first step of implementation, several state educational standards were adopted, such as the standards on pre-school education, the curriculum, use of literary Bulgarian language, and textbooks. The new curricula for general subjects are being developed with a view to gradually entering into force. Other educational standards defined by the reform are still to be approved, such as the standards on professional qualifications, inclusive education, evaluation of learning outcomes, inspection of kindergartens and schools, financing of institutions or intercultural education.

Additional challenges of the Bulgarian school system relate to the relatively low attractiveness of the teaching profession and a steady trend of ageing among teaching staff²⁷. Bulgaria is also implementing a National Strategy for the Development of Pedagogical Staff (2014-2020) with the aim of creating conditions for attracting young specialists in pre-primary and school education and improving retention. It aims to create a framework of national policies for the education, training and career development of pedagogical staff, thereby improving the quality of education. Teachers' salaries were increased by 12.6 % in October 2015.

²⁵ Young people not in Education, Employment, or Training (NEETs)

²⁶ Except a modest budget of the Centre for Educational Integration of the children from ethnic minorities

²⁷ Teachers in Bulgaria are on average older than in most other TALIS countries (47.4 years compared to an average of 42.9 among surveyed countries) (OECD 2014).

Box 2: Changes introduced by the Pre-School and School Education Act

1. A new education structure and new types of schools

A new structure came into force with the 2016/2017 school year. The school system will comprise first primary (grades 1-4), second primary (grades 5-7), first secondary (grades 8-10), and second secondary (grades 10-12). Basic education will be completed at the end of grade 7 instead of grade 8. School education will continue to be mandatory until the age of 16. The reform defines 'united schools' (grades 1-10). In practice, by the end of May 2017, municipal councils have to decide whether any basic schools in their municipalities are to be transformed into schools offering grades 1-7 or into 'united schools' offering grades 1-10, and which ones.

2. Increased school autonomy

'Innovative schools' will develop and implement innovative education methods to accommodate students with special talents who need a less standard approach. School autonomy is being strengthened at all levels of the teaching process and curriculum development to better adapt them to student needs and interests. Kindergartens are being given full autonomy in relation to the organisation of work, strategy for development, distribution of learning time and choice of educational books.

3. Emphasis on inclusive education

Individualised support based on assessment (including individual curricula and programmes) is to be provided to students with special educational needs, but also to students at risk or children with chronic diseases. The law prohibits the creation of separate classes for children with special educational needs or based on the ethnicity of pupils. Furthermore, schools accommodating students with special needs are to be transformed into personal development centres by August 2017. In addition to mandatory education programmes, students in these centres will be supported by special activities such as rehabilitation treatments, diagnostic and therapeutic procedures, psychological support and career guidance. These centres would only accommodate students who cannot be integrated into mainstream education.

4. Subsidies for private pre-school and school establishments

Private education establishments may receive public funding under certain conditions: 20 % of places must be offered free of charge and schools must charge fees for after-school activities not covered by public funding.

5. Improved monitoring

The newly established National Education Inspectorate will perform school inspections and school assessments and provide guidance on the quality of school education. At the same time, every pre-school and school will appoint a public council made up of stakeholders to scrutinise the education process and the school management.

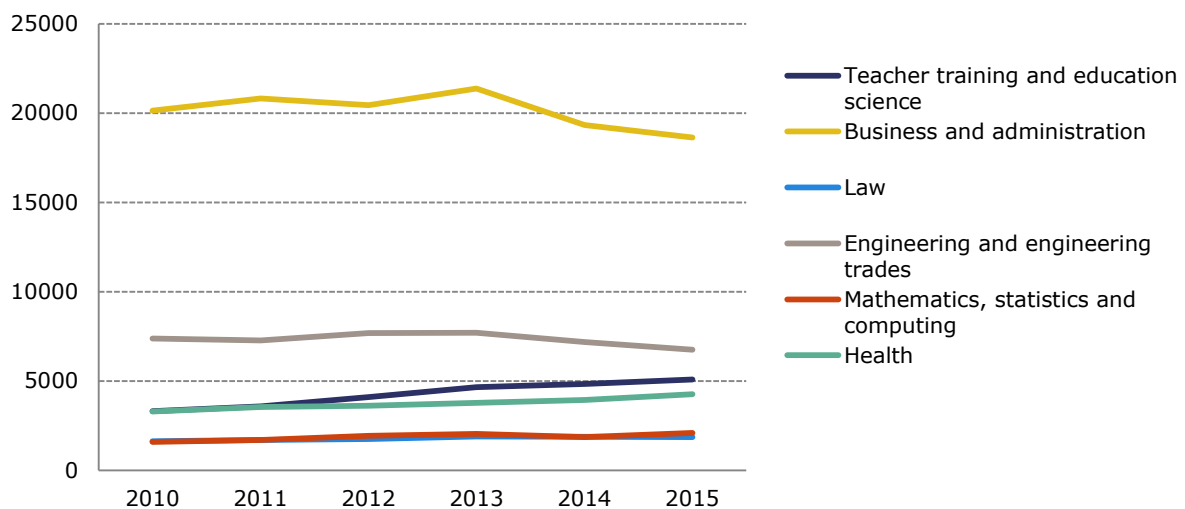
While implementation of the reform has started, success is contingent on key factors such as securing financial resources, and increasing capacity at national, local and school level. Financial support will also be provided from the Operational Programme Science and Education for Intelligent Growth 2014-2020, with support from the European Social Fund and the European Regional Development Fund (EUR 701 million in total, including the national co-financing).

6. Modernising higher education

The rate of tertiary educational attainment (for 30-34 year-olds) increased to 32.1 % in 2015 which means that Bulgaria is on track to reach its national Europe 2020 target of 36 %. There are however significant gender disparities: the attainment rate of women is around 15 percentage points higher than that of men.

The employment rate of recent tertiary graduates²⁸ increased significantly, reaching 87.1 % in 2015, and is now above the EU average of 81.9 %. This is largely due to improving labour market prospects. In 2015, the highest proportion of graduates had studied business and administration (29.7 %), followed by social and behavioural science (13.7 %), engineering and engineering trades (10.7 %), Teacher training and education science (8.12 %), and Health (6.81 %). One of the lowest proportion of graduates were recorded in computing (3.18 %), life sciences (0.83 %), and mathematics and statistics (0.16 %)(National Institute for Statistics 2016). The proportion of graduates in social science, business and law is one of the highest in the EU, but on a decreasing trend, whereas the proportion of graduates in science, mathematics and computing, as well as health and welfare is one of the lowest in the EU, but on the rise.²⁹

Figure 3 Number of graduates by major fields (all tertiary qualifications)



Source: Own calculations based on figures from the National Statistical Institute of the Republic of Bulgaria.

Note: "All tertiary qualifications" includes Professional bachelor's degrees, Bachelor's degrees, Master's degrees, and Doctoral degrees.

The Strategy for the Development of Higher Education (2014-2020) identifies a series of key challenges such as underfinancing, insufficient labour market relevance, insufficient links between training and research, difficulties in attracting lecturers and in the career advancement of lecturers, inadequate opportunities for lifelong learning, as well as access difficulties for vulnerable groups. The challenges of low labour market relevance are linked to the mismatch between graduates' competencies and labour market needs, shortages of personnel in the field of engineering, technical or educational training, limited connection between curricula and the labour market, the need for more practical training and insufficient career guidance (Ministry of Education and Science 2015b).

There are also challenges in respect of the quality of Bulgarian higher education and its compatibility with the European higher education system due to teaching methods that lag behind innovative trends, the low level of scientific results in some areas, complicated and inefficient procedures for accrediting and evaluating higher education universities, as well as insufficient outgoing and weak incoming mobility of students.

To address these challenges, the Strategy for Higher Education proposes a series of measures across seven objectives: 1) improving access to higher education and increasing the number of university graduates; 2) increasing the quality of higher education; 3) setting up a sustainable and efficient link between higher education institutions and the labour market; 4) promoting research; 5) updating the governing system and clearly defining higher education institutions;

²⁸ People aged 20-34 who left tertiary education between one and three years before the reference year.

²⁹ According to Eurostat (online data code: *educ_uoe_grad02*), in 2014, the proportion of graduates in science, mathematics and computing was 5 % (EU-average 10%, whereas the proportion of graduates in social science, business and law was 49%.

6) increasing the funding of higher education and science and 7) overcoming the negative trends in the career development of lecturers at higher education institutions and creating incentives for them.

In line with the Strategy, Bulgaria has recently introduced a performance-based financing model for higher institutions. Whereas in 2014, 14.6 % of state funding to public institutions was allocated based on criteria designed to measure quality and labour market relevance, the proportion will increase to 30 % in the 2016/2017 academic year, and then by 10 percentage points each year until it reaches 60 % in 2019/2020. State funding will no longer be based primarily on the number of students registered in a programme, but will be defined according to specific criteria on quality of training and compliance to labour market needs, such as an evaluation of accreditation and research activities and data about graduate employability, but also socio-economic priorities. As such, 32 specialties were defined as 'priority areas' and 12 others considered as 'protected' (i.e. important but not attractive to applicants). The list of priority areas includes mathematics, engineering, bio-technology, chemistry, energetics, food technology, as well as informatics, computer science and technology. Finally, the protected specialties defined are mostly in the field of philology (e.g. Korean studies, Greek philosophy and Japanese studies)

7. Modernising vocational education and training and promoting adult learning

The participation rate of upper secondary students in vocational education and training (VET) is above the EU average (52.4 % compared to an EU average of 48.9 % in 2013). The labour market outcomes (employment rates) of upper secondary VET graduates are better than those of general upper secondary graduates, but still below the EU average (61.5 % compared to 73 %). However, the quality and attractiveness of VET, and the provision of relevant skills for further training and employment, remain insufficient. Underfinancing, poor cooperation with the business sector, increasing drop-out rates and lack of a coherent system to assess the quality of VET continue to be a challenge (Court of Auditors 2016). Adult participation in lifelong learning is the second lowest in the EU (2 % in 2015 compared to the EU average of 10.7 %). It has increased by 0.4 percentage points since 2011. Project-based continuous vocational education and training (CVET) is provided through the European Social Fund and active labour market policies, but it is rather fragmented.

The 2014 reform of the law on vocational education and subsequent legislation pave the way for the introduction of dual education in Bulgaria. A series of pilot projects in secondary schools were launched in the 2015/2016 academic year. Other recent VET measures include an Action Plan (2015-2017) of the VET Strategy, and recently adopted amendments in VET legislation and by-laws/ordinances. Their aim is to boost quality, introduce work-based learning (WBL), adapt VET curricula to labour market needs and develop a system for validating non-formally and informally acquired learning outcomes.

The annual action plans of the Lifelong Learning Strategy (2014-2020) lays down concrete measures to increase the adult participation rate to 5 % by 2020 and to widen the coverage of the provision, including a focus on disadvantaged groups. At the moment, implementation of the measures is still at an early phase.

Progress in both VET and adult learning reforms will depend on:

- concrete follow-up and implementation;
- improved multilevel governance and stepping up cooperation with business and social partners, including shared school-business WBL;
- mainstreaming pilot project results in the education system;
- a fully-fledged information and monitoring system as well as feedback mechanisms to provide information on VET/adult learning provision.

8. References

Council of the European Union (2016), Council Recommendation of 12 July 2016 on the 2016 National Reform Programme of Bulgaria and delivering a Council opinion on the 2016 Convergence Programme of Bulgaria,
[http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32016H0818\(08\)&from=EN](http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32016H0818(08)&from=EN)

Court of Auditors (2016), Audit Report on the implementation of vocational education for employment,
<http://www.bulnao.government.bg/bg/articles/download/9690/od-prof-obraz-270516.doc>

European Commission (2014), Mapping and Analysing Bottleneck Vacancies in EU Labour Markets, Country fiche Bulgaria,
<http://ec.europa.eu/social/BlobServlet?docId=12645&langId=en>

European Commission (2015), Education and Training Monitor, Country fiche Bulgaria,
http://ec.europa.eu/education/tools/docs/2015/monitor2015-bulgaria_en.pdf

European Commission (2016) Country Report Bulgaria 2016 including an In-Depth Review on the prevention and correction of macroeconomic imbalances,
http://ec.europa.eu/europe2020/pdf/csr2016/cr2016_bulgaria_en.pdf

European Union Agency for Fundamental Rights (2014), Report on education 2014: The situation of Roma in 11 EU Member States,
http://fra.europa.eu/sites/default/files/fra-2014_roma-survey_education_tk0113748enc.pdf

Monitoring report of the implementation of the Strategy for Roma Integration (2015),
<http://www.strategy.bg/FileHandler.ashx?fileId=7208>

Ministry of Education and Science (2013), National Strategy for Reducing the Share of Early School Leavers 2013-2020,
http://www.mon.bg/opencms/export/sites/mon/left_menu/strategies/documents/strategy_napusnali_obr_si_stema_2013-2020.pdf

Ministry of Education and Science, Interim evaluation report of the Strategy for Reducing the Share of Early School Leavers (2015a),
<http://www.mon.bg/?h=downloadFile&fileId=8385>

Ministry of Education and Science (2015b), Strategy for the Development of Higher Education in the Republic of Bulgaria for the 2014-2020 period?
<http://www.mon.bg/?h=downloadFile&fileId=7474>

Ministry of Finance (2015), Updated Medium Budget Forecast for the Period 2016-2018 (Motives for the State Budget of the Republic of Bulgaria, 2016),
<http://www.strategy.bg/StrategicDocuments/View.aspx?lang=bg-BG&Id=958>

Ministry of Finance (2016), Convergence Programme of Bulgaria 2016-2019,
http://ec.europa.eu/europe2020/pdf/csr2016/cp2016_bulgaria_en.pdf National Institute for Statistics (2016), Education in the Republic of Bulgaria,
<http://www.nsi.bg/sites/default/files/files/publications/education2016.pdf>

OECD (2013), PISA 2012 results: What Students Know and Can do. Student Performance in Mathematics, Reading and Science (Volume I),
<http://www.oecd.org/pisa/keyfindings/pisa-2012-results-volume-I.pdf>

OECD (2014), TALIS 2013 Results: An International Perspective on Teaching and Learning, Paris: OECD Publishing, Country fiche Bulgaria,
<https://www.oecd.org/edu/school/TALIS-Country-profile-Bulgaria.pdf>

World Bank (2009). Bulgaria: Improving the quality and relevance of education for all Education. Sector Reform Policy Note,
<http://documents.worldbank.org/curated/en/2009/09/16280972/bulgaria-improving-quality-relevance-education-all>

World Bank (2014), How can Bulgaria improve its education system? An analysis of PISA 2012 and past results
<http://documents.worldbank.org/curated/en/2012/09/20278281/can-bulgaria-improve-education-system-analysis-pisa-2012-past-results>

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_ipart (2011), educ_uoe_enra10 (2014)
Employment rate of recent graduates	edat_lfse_24
Adult participation in lifelong learning	trng_lfse_01
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

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Croatia



1. Key indicators

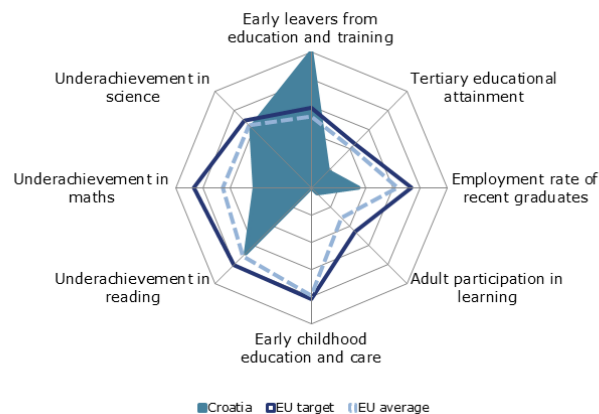
		Croatia		EU average		
		2012	2015	2012	2015	
ET 2020 benchmarks						
Early leavers from education and training (age 18-24)	Total	5.1%	2.8% ^u	12.7%	11.0%	
Tertiary educational attainment (age 30-34)	Total	23.1%	30.9%	36.0%	38.7%	
Early childhood education and care (ECEC) (from age 4 to starting age of compulsory education)		71.0% ¹¹	72.4% ¹⁴	93.2% ¹¹	94.3% ¹⁴	
Proportion of 15 year-olds with underachievement in:	Reading	18.7%	:	17.8%	:	
	Maths	29.9%	:	22.1%	:	
	Science	17.3%	:	16.6%	:	
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-8 (total)	60.2%	62.6%	75.9%	76.9%	
Adult participation in lifelong learning (age 25-64)	ISCED 0-8 (total)	3.3%	3.1%	9.2%	10.7%	
Other contextual indicators						
Education investment	Public expenditure on education as a percentage of GDP	4.9%	4.7% ¹⁴	5.0%	4.9% ^{14,P}	
	Expenditure on public and private institutions per student in € PPS	ISCED 1-2	:	: ¹³	:	: ¹³
		ISCED 3-4	:	: ¹³	:	: ¹³
		ISCED 5-8	:	: ¹³	:	: ¹³
Early leavers from education and training (age 18-24)	Native-born	5.1%	2.8% ^u	11.6%	10.1%	
	Foreign-born	:	:	24.9%	19.0%	
Tertiary educational attainment (age 30-34)	Native-born	23.2%	31.7%	36.7%	39.4%	
	Foreign-born	21.7% ^u	23.6% ^u	33.8%	36.4%	
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-4	54.2%	45.0%	69.7%	70.8%	
	ISCED 5-8	65.9%	76.2%	81.5%	81.9%	
Learning mobility	Inbound graduates mobility (bachelor)	0.2% ¹³	0.2% ¹⁴	5.5% ¹³	5.9% ¹⁴	
	Inbound graduates mobility (master)	0.5% ¹³	0.5% ¹⁴	13.6% ¹³	13.9% ¹⁴	

Sources: Eurostat (see section 9 for more details); OECD (PISA).

Notes: data refer to weighted EU averages, covering different numbers of Member States depending on the source; b = break in time series, d = definition differs, p = provisional, u = low reliability, 11 = 2011, 13 = 2013, 14 = 2014.

Further information can be found in the relevant 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 2015) and OECD (PISA 2012).

Note: all scores are set between a maximum (the strongest performers, represented by the outer ring) and a minimum (the weakest performers, represented by the centre of the figure)

2. Highlights

- The very low early school leaving rate and the high proportion of secondary vocational school graduates entering higher education are the main strengths of the system.
- International studies point to skills deficiencies among 15-year-olds in numeracy, literacy and reading skills.
- Political disagreements have slowed down the implementation of the landmark Strategy for Education, Science and Technology and the associated curricular reform.
- Participation in early childhood education and care and in adult education are extremely low compared to other EU countries.
- Aligning vocational, higher and adult education with the labour market needs by developing qualification standards in consultation with social partners is a praiseworthy but lengthy process that has not yet yielded tangible results.

Box 1: The 2016 European Semester country-specific recommendation on education and training

The 2016 European Semester country-specific recommendations (CSRs) to Croatia (Council of the European Union 2016) included a recommendation on education and training:

Provide appropriate up- and re-skilling measures to enhance the employability of the working-age population, with a focus on the low-skilled and the long-term unemployed.

3. Investing in education to address demographic and skill challenges

Between 2008 and 2014, due to the economic crisis, Croatia's GDP shrank by more than 12 % in real terms. The unemployment rate surged from below 9 % to more than 17 %. The situation finally started to improve at the end of 2014, and in the course of 2015 Croatia's real GDP expanded by 1.6 %, the first year of growth since 2008. The proportion of general government expenditure spent on education was generally stable between 2007 (10.5 %) and 2013 (10.7 %) but it fell significantly to 9.8 % in 2014.³⁰ Although general government expenditure on education as a proportion of GDP rose from 4.7 % of GDP in 2007 to 5.1 % in 2013, it also fell in 2014 back to 4.7 %. This figure places Croatia below the EU average of 4.9 % and among the bottom 10 EU Member States. In real terms, between 2007 and 2013 there has been only a small increase of 1.4 % in absolute expenditure on education, however there has been a drop of 7.8% between 2013 and 2014 - the second highest drop in the EU. A large proportion of government expenditure on schools goes on staff salaries.

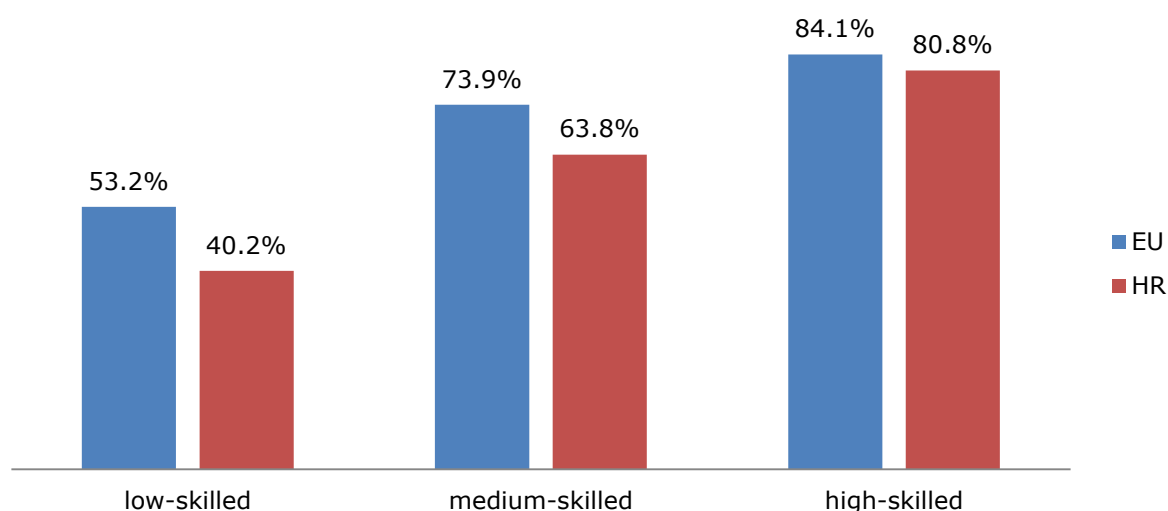
The 2016 national budget announced a 1.1 % budget cut for the Ministry of Education. The largest cuts are in travel subsidies for pupils (-28.9 %) and health insurance of vocational education and training (VET) students during work-based learning (completely discarded). Large cuts are also made in subsidies to agencies dealing with teacher training (around -10 %), raising questions about the commitment to deliver large teacher trainings to prepare the ground for the sweeping curricular reform. Furthermore, the 2016 Budget did not reflect any of the measures set out in the Strategy for Education, Science and Technology from October 2014 which required increases in government expenditure in education (Strategy Implementation Report 2016).

³⁰ Source: Eurostat, General government expenditure by function (COFOG) database.

The number of pupils has been dropping as a consequence of demographic trends. In primary schools, at the end of the 2014/2015 school year the overall number of students was 1.3 % lower and in secondary schools 2 % lower than the year before. The trend towards shrinking student populations continued in the school year 2015/2016 when 1 % fewer primary and 4.5 % fewer secondary students enrolled. The number of students entering higher education also experienced a significant drop in 2014/2015 when, after a period of fairly constant expansion, 3 000 fewer people chose to enrol than in the previous year (National Statistics Office 2015). The disbursement of scholarships for gifted students from poor socioeconomic backgrounds and for students of programmes needed on the labour market is typically executed towards the end of the academic year and this year it was further delayed.

The skills challenges in Croatia are substantial considering the demographics, the skills composition of the population and the respective employability rates. In 2014, 20.8 % of the adult population had at most lower secondary education, 60.7 % had completed upper secondary education as their highest level of education, and only 18.5 % had finished tertiary education. In 2015, over 80 % of highly educated people were employed, compared to only 63.8 % of people with at most secondary education. The most striking deviation from the EU average was for the poorly educated, with a 40.2 % employment rate against the 53.2 % EU average (Figure 2). This demonstrates a clear need for labour market activation measures and lifelong learning.

Figure 2. Employment rates by educational attainment level (2015)



Source: Eurostat, Online data code: *lfsa_ergaed*

4. Tackling inequalities and promoting inclusion

Croatia has the lowest early school leaving rate in the EU — 2.8 % in 2015, compared to the EU average of 11 %. It met its Europe 2020 national target of 4 % already back in 2013. However, this rate needs to be interpreted with caution, as challenges over the inclusiveness and quality of primary and secondary education continue to affect many students' educational performance and later labour market outcomes (see 2012 OECD Programme for International Student Assessment findings for Croatia)(OECD 2013).

The participation rate in early childhood education and care has steadily increased over the last decade but is still one of the lowest in the EU, at 72.4 % compared to the EU average of 94.3 % in 2014. An important factor is the insufficient number of kindergarten places in cities and smaller villages. This hinders access, despite a modest 6.4 % increase in the number of pre-school institutions in the past 5 years. The number of private institutions rose by nearly 10 % (National Statistics Office 2016). The number of Roma children attending early childhood education is reported to be on the increase from 769 in 2013/2014 to 873 the year after to 1026 Roma children in 2015/2016 school year (Government Office for Human Rights and Rights of National Minorities 2015). A recent comprehensive report commends major enhancements,

but it also identifies major challenges in Roma children's access to early childhood education and care. These include lack of information, poverty, shortage of places in kindergartens, and lack of Roma assistants (Šikić-Mičanović et al. 2015).

Following numerous previous attempts, the ongoing curricular reform (see Box 2) could be the vehicle for driving forward the introduction of citizenship education into Croatian schools as a standalone subject. Learning outcomes related to citizenship education are present in 11 subject curricula and 6 other cross-curricular subjects, although several weaknesses in the new curriculum have been identified. One of these is a weak European dimension (Bajkuša 2016). Past achievements include an experimental implementation of the subject in 12 schools between 2012 and 2014 (Spajić-Vrkaš 2014). On the basis of this, in 2014/2015 34 primary schools introduced citizenship as an optional subject in eighth grade (14-year-olds) and all primary and secondary schools introduced it as a cross-curricular and interdisciplinary topic. In 2015 alone, 92 national, inter-county and county expert panels were organized to train principals, primary and secondary school teachers and professional collaborators in the implementation of citizenship education (website of the Agency for Teacher Training).

5. Modernising school education

The ratio of teachers to pupils in Croatia, at 1:12.2, is in line with the EU average of 1:12.9. However, there is an above-average number of school teachers in the country: 3.1 % of the active population are teachers, a proportion only surpassed by Belgium, Luxembourg, Denmark and Greece, whereas the overall EU average is 2.6 %. Croatia also stands out for the high proportion of female primary school teachers (93.3 % in 2014) and the significant proportion of female teachers at lower and upper secondary levels (73.1 % and 61.3 % respectively).³¹

Box 2: Ongoing debate on the curricular reform

Policy developments in the education sector in Croatia in the past couple of years have been dominated by to the implementation of the Strategy for Education, Science and Technology, adopted in October 2014 by the Croatian Parliament. One of the most prominent priorities of the Strategy was the comprehensive curricular reform. It was set in motion at the beginning of 2015 with the appointment of the Expert Group for Implementation of the Curricular Reform, whose task was to oversee the process of drafting new curricular documents and gather public support for the reform. The actual drafting work was done by 430 seconded teachers and experts in 58 working groups.

The bottom-up approach taken to drafting curricular documents was very productive and by February 2016 yielded 52 curricula proposals and 3 methodological handbooks which aimed to unite all previously disconnected elements of education reform into one coherent whole based on agreed education outcomes. Transversal skills such as learning to learn, entrepreneurship, personal and social development, health, sustainable development, ICT use and citizenship education were elaborated in more detail and given new wind. The idea was to strip down curricula of a wealth of content that was overburdening students and remodel them to focus on age-appropriate outcomes in terms of transferable skills. To aid the reform and in order to enable earlier acquisition of key competences and later streaming of students, primary education was to be extended by one year and upper secondary education split into two consecutive cycles to allow for greater modularity and specialisation only in the final years of upper secondary education.

In spring 2016, expert consultations took place against a backdrop of a dissolving Croatian government. The high volume of expert consultations on curricula proposals with over 60 000 school heads, teachers, experts, institutions and organisations granted the process the necessary legitimacy. The expert consultation resulted in about 3 000 observations by more than 900 institutions and individual experts. Teacher unions, parents and the non-governmental sector expressed support for the reform. On the other hand, strong criticism

³¹ Eurostat, Female teachers — as % of all teachers, by education level, Online data code: *educ_uoe_perd03*.

was voiced by some parts of academia. The comments received during the consultations most frequently addressed the methodology used in drafting curricula and the ideological underpinning of the content. This prompted the parliament to intervene, the coordination body to resign with claims of political interference, a large public demonstration to take place and the technical government to announce a revision of the curricular documents under a new supervisory body and a delay in the experimental implementation. Finally, a public consultation on the final drafts of curricular documents went ahead between June and November 2016 and the timeline of further action is unclear at the time of writing.

First the change in government mid-way through the curricula drafting phase followed by the fall of the government and the ensuing period under technical government created a context in which the education reform did not survive in its original form. The lack of clear vision about the timeline and budget for implementation ultimately led to a loss of reform momentum. One of the positive side effects was the increased public interest in the topic of education. As a consequence, education featured much more prominently in the electoral manifestos of the main parties in the September 2016 parliamentary elections. Further steps in the national curricular reform will depend on the political priorities of the new government, when formed.

A report on the state of play of the implementation of the Strategy for Education, Science and Technology was published in May 2016 (Special expert committee 2016). It finds that 122 measures were initiated and 17 completed in the period between October 2014 and May 2016. The authors express regret for the general delay in implementation and identify several reasons for it: the political commitment to push for the curricular reform and less for other measures, a six-month period after the elections with a technical government that slowed down implementation, and the knock-on effect of the initial delay on follow-up measures.

One of the completed measures from the strategy is the first step towards professionalising the teaching profession in Croatia. To that end, a national qualification standard for teachers in primary and secondary schools was prepared (National Committee for Education 2016). The framework is drafted in line with the methodology of the Croatian Qualification Framework and identifies 8 units of learning outcomes that apply to all primary and secondary teachers regardless of their academic specialisation.³² Similarly, as part of the implementation of measures from the Strategy, another expert working group drafted the occupational and qualification standards for school leaders and developed a model of a licensing scheme for school principals. The proposals are in the process of revision and submission.

The digitalisation of schools in Croatia is progressing according to plan. The eSchools project (European Commission 2015) started in autumn 2015 with pilot implementation of information and communications technology in teaching and in the administrative processes of schools for 2 school years in 20 primary and secondary schools across the country. An additional 130 schools joined as of the 2016/2017 school year, raising the coverage to 10% of all primary and secondary schools in Croatia. Based on the experience of the pilot project, a strategy will be developed for implementing a system of digitally mature schools in the entire primary and secondary education system (2019-2022).

6. Modernising higher education

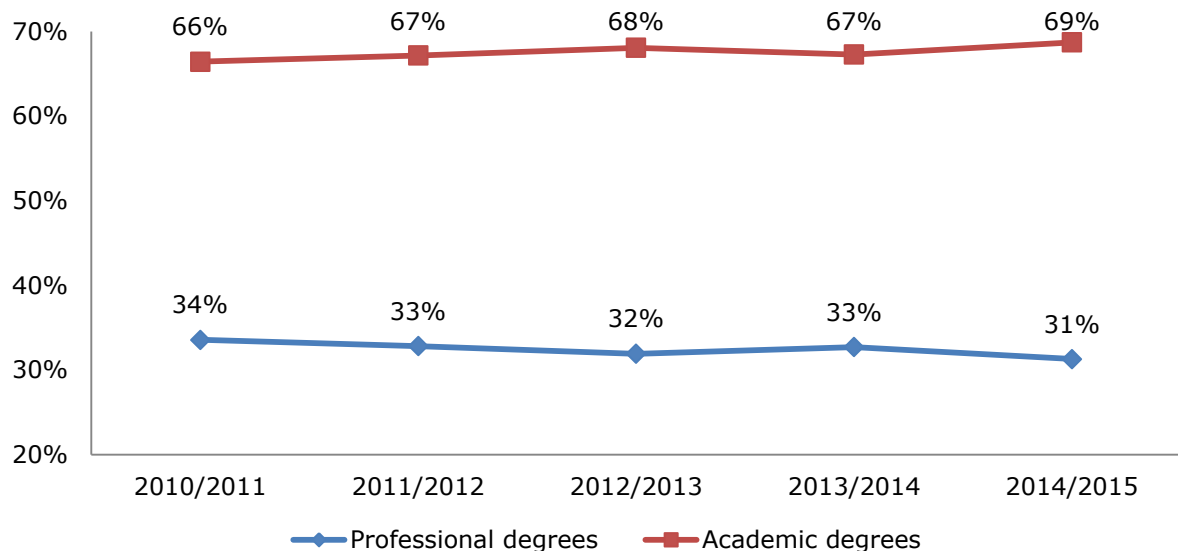
Tertiary educational attainment in Croatia has for many years been on a generally upward trend. The proportion of 30-34-year-olds with tertiary education in Croatia in 2015 returned to 30.9 % after a surge to 32.2 % in 2014. Compared to the EU average of 38.7 %, this is a relatively low percentage, but it is approaching Croatia's Europe 2020 target of 35 %. To a greater extent than their peers in other EU countries, students in Croatia mainly choose to study

³² They broadly include: Proficiency in the academic discipline; child-centred pedagogical and teaching competences; assessment and evaluation competences; organisation of the learning environment; effective collaboration with school, family and community; awareness of the education context (education and school system, laws); communication and social skills; and lifelong learning and continuous professional development.

social sciences and humanities. This is especially the case for economics, business and law degrees, which are studied by 41 % in Croatia compared to 34 % in the EU.³³ In the past 5 years, there has been a slow but steady increase in the proportion of students studying in universities (Figure 3) as opposed to polytechnics (*veleučilišta*) or schools of professional higher education (*visoke škole*). There has also been a steady increase in the proportion of students pursuing academic degrees and a slow drop in the proportion of those pursuing professional degrees.³⁴

Data on enrolments in higher education reveal a pattern of strong dropout among university students and a less pronounced dropout from professional studies. In the academic year 2014/2015, there were around 40 000 students enrolled in the first year of university studies, 35 000 in the second year and just above 20 000 in the third year (National Statistics Office 2015). By contrast, the number of students enrolled in professional studies is more constant across the years. Even though the progression rate from school into higher education is high,³⁵ the Ministry calculated the completion rate of students entering universities in 2013/2014 at a mere 45 % (MZOS 2016).

Figure 3. Trends in enrolments in academic vs professional higher education



Source: National Statistics Office, 14 August 2015, Number: 8.1.7.

Employability of graduates of professionally-oriented studies is quite high, as most students are already in employment when enrolling and then continue working for the same employers afterwards. Croatia is the only EU country that does not systematically run graduate surveys (EC/EACEA/Eurydice 2014). A recent graduate tracking pilot project commissioned by the Ministry of Science, Education and Sport showed that the highest employability was among the 'old' programmes that existed before the Bologna reform. This is allegedly due to their increased visibility over the years and greater confidence in the qualifications they issued. Overall, the employment rates of tertiary graduates in Croatia have not recovered to the pre-crisis levels. In 2008, 86.3 % of tertiary educated graduates found employment within 1-3 years of graduation while in 2015 this number was still as low as 76.2 %. This figure puts Croatia among the six worst performers in the EU, after Greece, Italy, Spain, Cyprus and Portugal. One of the causes of insufficient preparedness for the labour market may lie in the limited opportunities for work-based learning during studies.

³³ Eurostat (2014), Graduates by education level, programme orientation, sex and field of education, *educ_uoe_grad02*.

³⁴ Croatian universities also offer professional degrees.

³⁵ Between 2010/2011 and 2013/2014, on average 78 % of graduates of upper secondary vocational programmes gained access to higher education by successfully passing the 'matura' exams, and 60.7 % eventually enrolled.

The Croatian qualifications framework (CROQF) is a reform instrument for aligning higher education study programmes with labour market needs. 30 projects have been awarded through a recent grant scheme which funds the preparation of 122 standards of occupation and 149 standards of qualifications by consortia of higher education institutions. These were submitted in June 2016 for evaluation to the 15 sectoral councils representing the social partners and stakeholders, after which they will be entered into the CROQF Register. Out of 25 sectoral councils covering 25 economic sectors, 8 have been appointed and another 17 are in the process of being appointed. In addition, a recent ruling by the Constitutional Court of Croatia has ordered a revision of the law. The judgment was based on a request by the University of Zagreb which alleged a violation of the constitutionally guaranteed autonomy of universities to self-define qualification levels to which their studies lead. The university does not accept that both professional and academic graduate degrees can be classified on the same level of the qualifications framework — level 7. It is worth noting that the qualifications framework is voluntary and no institution is obliged to adhere to it.

To encourage higher education institutions to enrol and retain more STEM students, Croatia has reformed its higher education financing formula by introducing variable formula funding. In addition to subsidising only first-time enrolments and those who achieve 55 European credits (under the European credit transfer and accumulation system) within the first year of studying, it has linked the amount of funding (for material expenses) to the study field. Biomedicine, biotechnology, natural and technical sciences now receive a higher amount of funding per student than social sciences, humanities and interdisciplinary fields. The new funding formula also introduced a novelty in terms of widening access: at least 1 % of funds have to be spent on direct support for underrepresented groups — students from lower socioeconomic backgrounds or with disabilities.

The roll-out of performance-based agreements with higher education institutions did not run as planned. Three-year pilot performance-based agreements covering 10 % of funding ended in 2015. An unpublished evaluation has shown that the decentralised approach to choosing institutional goals and indicators for measuring success led to large differences in the level of ambition among institutions with consequences on the distribution of funds. Therefore, from 2015, there is one set of national goals and success indicators for all institutions. The World Bank is currently evaluating the readiness of 7 selected universities and 1 selected public research institute to launch full funding agreements in 2017.

7. Modernising vocational education and training and promoting adult learning

The level of participation in vocational education and training (VET) at upper secondary level in Croatia is one of the highest in the EU — 71.3 %, compared to the EU average of 48.3 % in 2015. However, the employment rate for recent upper secondary graduates,³⁶ at 46.1 % in 2014, is significantly below the EU average of 73 % and is the third lowest percentage in Europe after Italy and Greece. The employment gap between youth with upper secondary and tertiary education is more significant than in other EU countries, especially 1-3 years after gaining a qualification. A relatively small proportion of VET graduates find their first employment in the occupation that they trained for. On average, between 37 % and 47 % manage to do so, whereas some sectors stand out as less challenging for finding matching employment, such as the retail sector, hospitality and tourism and wood processing (HZZ 2011).

The difficult transition from vocational schools to the labour market has its roots in the outdated VET curricula and limited opportunities for quality work-based learning, leading to a skills mismatch. As a result, one third of employers report difficulties in recruiting suitable employees. Public sector employers highlight the shortage of candidates with the right level of qualifications (49 % of employers), while private sector employers struggle to find candidates with relevant work experience (43.5 %). Once they are employed, Croatian adults are also highly unlikely to

³⁶ People aged 20-34 who left upper secondary education between one and three years before the reference year.

keep updating their skills. In 2015, only 3.1 % of Croatian adults participated in education and training — compared to the EU average of 10.7 % — and even this proportion was slightly higher than the previous year.

In order to pave the way for the adult education reforms announced in the Strategy for Education, Science and Technology from 2014, Croatia has opted for replacing the 2007 law with entirely new adult education legislation, to be adopted by the end of 2016. Some of the goals include bringing the (re)accreditation criteria in line with labour market needs, setting up a database of adult education providers, training and relicensing of teachers and trainers in adult education institutions and establishing quality assurance. In terms of improving upskilling and the continuation of learning, in January 2016, the Ordinance on conditions and paths for continuing education in order to achieve a higher level of qualification was passed which enables pupils who have completed a lower level vocational programme to continue their education at a higher level free of charge in order to achieve a superior qualification or even gain access to higher education. On the other hand, there is little progress with the system for recognising prior learning and validating non-formal and informal learning, as it is dependent on progress made in developing qualification standards in the Croatian qualifications framework.

The Croatian government plans to adopt a programme to develop vocational education and training by the end of 2016 depending on the outcome of the autumn 2016 elections. The programme will initiate a systemic reform of vocational education and training, in line with the Croatian qualifications framework methodology. It will also unleash a significant amount of funding from the European Social Fund which will finance the reform in its entirety and which has been frozen due to delays in the adoption of the programme.

8. References

Agency for vocational and adult education (ASOO) (2011), Planning qualifications: Guide to using sector profiles version 3.1. for the purpose of planning qualifications in upper secondary vocational education

Bajkuša, M., Forum for Freedom of Education (2016), Citizenship education in the proposal for the comprehensive curricular reform: Research report with recommendations, <http://www.fso.hr/wp-content/uploads/2016/05/2016-04-29-GOOD-FSO-Analiza.pdf>

Council of the European Union (2016), Council Recommendation of 12 July 2016 on the 2016 National Reform Programme of Croatia and delivering a Council opinion on the 2016 Convergence Programme of Croatia, [http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32016H0818\(23\)&from=EN](http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32016H0818(23)&from=EN)

European Commission (2015), Education & Training Monitor 2015: Croatia, http://ec.europa.eu/education/tools/docs/2015/monitor2015-croatia_en.pdf

European Commission/EACEA/Eurydice (2014), Modernisation of Higher Education in Europe: Access, Retention and Employability 2014. Eurydice Report. Luxembourg: Publications Office of the European Union. http://eacea.ec.europa.eu/education/eurydice/documents/thematic_reports/165EN.pdf, p. 75

Government of the Republic of Croatia (2012), National Roma Inclusion Strategy from 2013 to 2020, Zagreb, <https://pravamanjina.gov.hr/UserDocsImages/arhiva/23102013/National%20Roma%20inclusion%20strategy%202013-2020.eng.pdf>

Government Office for Human Rights and Rights of National Minorities (2015) Annual report on the implementation of the National Strategy for Roma Inclusion for the period 2013-2015, for the year 2014? <https://ljudskaprava.gov.hr/UserDocsImages/arhiva/Izvjescje%20o%20provedbi%20Akcijskog%20plana%20za%20provedbu%20NSUR%202014.pdf>

Ministry of Science, Education and Sport (MZOS) (2016), Introducing Performance Agreements in Croatia: conference presentation, World Bank Workshop on Investing Strategically in Higher Education: Aligning Public Funding with Policy Objectives, Zagreb

National Committee for Education (Nacionalno Vijeće za Odgoj i Obrazovanje) (2016), National qualification standard for teachers in primary and secondary schools: Proposal, <http://nvo.hr/wp-content/uploads/2016/03/Okvir-standarda-kvalifikacije-final..pdf>

National Statistics Office (2015), Students enrolled on professional and university study, winter semester of 2014/2015, academic year 2014/2015, published 14 August 2015, Number: 8.1.7., <http://www.dzs.hr/>

National Statistics Office (2016), Kindergartens and other legal entities implementing preschool education programmes: beginning of 2015/2016 pedagogic year, published 3 June 2016, Number: 8.1.8? <http://www.dzs.hr/>

OECD (2013), Programme for International Student Assessment 2012 Results, <http://www.oecd.org/pisa/keyfindings/pisa-2012-results.htm>

Republic of Croatia (April 2016), National Reform Programme 2016, http://ec.europa.eu/europe2020/pdf/csr2016/nrp2016_croatia_en.pdf

Šikić-Mičanović, L. et al. (2015), Roma Early Childhood Inclusion+: Croatia Report, http://www.romaeducationfund.hu/sites/default/files/publications/reci_croatia_report_eng-final_web.pdf

Spajić -Vrkaš, V. (2014), Experimental implementation of citizenship education curriculum: Research report, http://www.mmh.hr/files/ckfinder/files/Izvjestaj%20MMH_screen.pdf

Special expert committee for implementation of the Strategy for Education, Science and Technology (2016), Strategy for Education, Science and Technology: Implementation report 24 October 2014- 31 March 2016, http://novebojeznjanja.hr/UserDocsImages/Dokumenti%20za%20web/Izvje%C5%A1%C4%87e%20o%20pravedbi%20SOZT_do%2031.3.2016..pdf

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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_ipart (2011), educ_uoe_enra10 (2014)
Employment rate of recent graduates	edat_lfse_24
Adult participation in lifelong learning	trng_lfse_01
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

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Cyprus



1. Key indicators

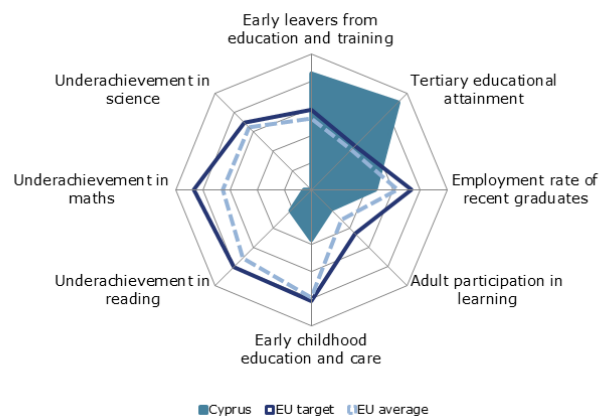
		Cyprus		EU average		
		2012	2015	2012	2015	
ET 2020 benchmarks						
Early leavers from education and training (age 18-24)	Total	11.4%	5.3%	12.7%	11.0%	
Tertiary educational attainment (age 30-34)	Total	49.9%	54.6%	36.0%	38.7%	
Early childhood education and care (ECEC) (from age 4 to starting age of compulsory education)		85.0% ¹¹	82.6% ¹⁴	93.2% ¹¹	94.3% ¹⁴	
Proportion of 15 year-olds with underachievement in:	Reading	32.8%	:	17.8%	:	
	Maths	42.0%	:	22.1%	:	
	Science	38.0%	:	16.6%	:	
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-8 (total)	73.0%	68.8%	75.9%	76.9%	
Adult participation in lifelong learning (age 25-64)	ISCED 0-8 (total)	7.7%	7.5%	9.2%	10.7%	
Other contextual indicators						
Education investment	Public expenditure on education as a percentage of GDP	6.1%	5.8% ¹⁴	5.0%	4.9% ^{14,p}	
	Expenditure on public and private institutions per student in € PPS	ISCED 1-2	€9.162	€8.589 ¹³	:	: ¹³
		ISCED 3-4	€10.795	€10.188 ¹³	:	: ¹³
ISCED 5-8		€10.174	€10.667 ¹³	:	: ¹³	
Early leavers from education and training (age 18-24)	Native-born	8.0%	3.1%	11.6%	10.1%	
	Foreign-born	20.7%	16.7%	24.9%	19.0%	
Tertiary educational attainment (age 30-34)	Native-born	56.5%	62.1%	36.7%	39.4%	
	Foreign-born	39.8%	36.7%	33.8%	36.4%	
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-4	65.5%	53.2%	69.7%	70.8%	
	ISCED 5-8	74.7%	73.6%	81.5%	81.9%	
Learning mobility	Inbound graduates mobility (bachelor)	14.6% ¹³	14.3% ¹⁴	5.5% ¹³	5.9% ¹⁴	
	Inbound graduates mobility (master)	4.6% ¹³	5.7% ¹⁴	13.6% ¹³	13.9% ¹⁴	

Sources: Eurostat (see section 9 for more details); OECD (PISA).

Notes: data refer to weighted EU averages, covering different numbers of Member States depending on the source; b = break in time series, d = definition differs, p = provisional, u = low reliability, 11 = 2011, 13 = 2013, 14 = 2014.

Further information can be found in the relevant 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 2015) and OECD (PISA 2012).

Note: all scores are set between a maximum (the strongest performers, represented by the outer ring) and a minimum (the weakest performers, represented by the centre of the figure).

2. Highlights

- Cyprus has considerably improved its performance on early school leaving and has maintained a very high rate of tertiary educational attainment.
- It has also initiated a strategic reform of the vocational education and training sector, both at upper-secondary and post-secondary levels. This effort aims to achieve a better balance between that sector and mostly private higher education, which strongly predominates at present.
- However, the persistence of relatively low levels of basic skills and the continued lack of efficiency of public spending in the education system are still major challenges for the country.
- Cyprus has established a new Agency of Quality Assurance and Accreditation in higher education. The question of ensuring proper quality assurance and accreditation of institutions and programmes— and particularly in private colleges — will constitute a test case for Cyprus in the future.

3. Investing in education to address demographic and skill challenges

Cyprus features a relatively high, though visibly decreasing level of general government expenditure on education. It was 6.5 % of GDP in 2013 and 5.8 % in 2014.³⁷ The share of education spending in total general government expenditure has also been considerably reduced, from 15.7 % in 2013 to 11.8 % in 2014, converging towards the EU-28 average of 10.2 %.

Cyprus exited its protracted economic adjustment programme on 30 March 2016, showing that its fiscal situation is improving again after the crisis that has characterised the last few years. Figure 2 shows changes in education's share of total public spending in Cyprus and in other present or past economic adjustment programme countries for 2008-2014. The annual expenditure per pupil/student in purchasing power standard (PPS) was at EUR 8 589 for ISCED level 1-2, at EUR 10 187 for ISCED 3-4 and at EUR 10 677 for ISCED 5-8 in 2013. It remained relatively higher than for other countries with a similar level of socio-economic development.

In Cyprus employment rates vary strongly in line with the level of education. For lower qualifications (ISCED 0-2 level) the employment rate was 54.5 % in 2014 and 55.5 % in 2015, only slightly above the EU-28 average. For medium qualifications (ISCED 3-4) the rate was 69.4 % in 2014 and 69.6 % in 2015, this time slightly below the EU average. For higher qualifications (ISCED 5-8) it stood at 79.7 % in 2014 and 80.2 % in 2015, but below the EU-28 average. A major challenge is to address increased unemployment, particularly youth and long-term unemployment. As regards systematic employment forecasting and the identification of skills gaps, the Human Resource Development Authority (HRDA) provides 10-year employment forecasts on a regular basis.³⁸

In December 2015 the House of Representatives approved a bill on the student grant, in line with the requirements of the then economic adjustment programme and the Memorandum of Understanding (European Commission 2016).³⁹ It provides for new eligibility criteria and allows students to apply for all kinds of student welfare through a single application process. According to the new eligibility criteria a student is eligible for grant or allowance if the total value of

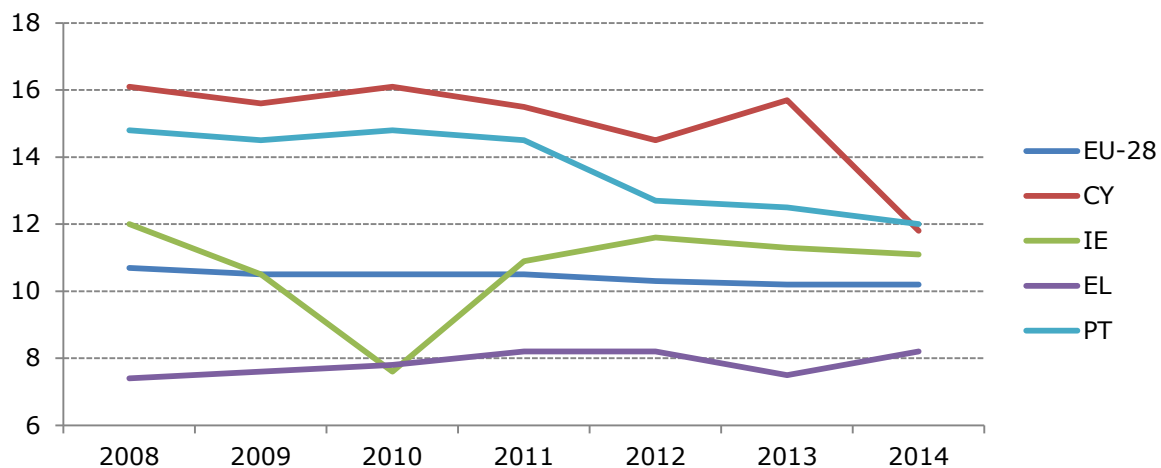
³⁷ Source: Eurostat, General government expenditure by function (COFOG) database.

³⁸ According to national skills forecasts, by 2024 around half of employed people will continue to be in middle-level occupations, while almost 2 in 5 employed persons will be in high-level occupations. Hence, there is a need to develop more vocationally oriented education provision on the island, both at secondary and post-secondary level (Human Resources Development Authority 2016).

³⁹ The MoU said the following: '*I.32 Ensure a reduction in total outlays for social transfers (...) to be achieved through streamlining and better targeting of child benefits and educational grants, and the abolition of social cohesion benefits provided by welfare services*'.

his/her family property does not exceed the amount of EUR 1 200 000 (in 2013 prices). A student is also eligible for allowance if his/her family annual income does not exceed the amount of EUR 39 000 (EUR 59 000 for families with four or more children). Students who are enrolled in accredited programmes of study in private tertiary education can now also receive an allowance. The number of eligible applicants is therefore set to increase considerably in the near future (European Commission 2016a).

Figure 2: Share of education in total public expenditure in Cyprus and other present or past economic adjustment programme countries



Source: Eurostat. Online data code: gov_10a_exp.

4. Tackling inequalities and promoting inclusion

The early school leaving (ESL) rate decreased significantly from 6.8 % in 2014 to 5.3 % in 2015, well below the EU-28 average of 11.2 % and 11.0 % respectively. However, the gender gap remains significant, with an ESL rate of 7.7 % for boys and 3.2 % for girls in 2015. At the same time the gap has narrowed significantly, from 8.3 pp. in 2014 to 4.5 pp. in 2015, while also getting closer to the EU-28 average difference. For foreign-born students the situation remains quite worrying: their ESL rate is more than five times higher than for native-born students (16.7 % vs 3.1 % in 2015), and still well above the EU-28 average. Nevertheless, this gap is also slightly diminishing from 14.9 pp in 2014 to 13.6 pp in 2015. These results also reflect a particularly weak performance of boys with an immigrant background in the 2012 OECD Programme for International Student Assessment (PISA).⁴⁰

On early childhood education and care Cyprus had a participation rate of 82.6 % in 2014, 11.7 pps. below the EU average of 94.3 %.⁴¹

As of September 2015 the number of weekly teaching periods increased from 37 to 38 for secondary schools. The need to improve pupils' language and mathematical skills is emphasised for all levels of school education. There is also provision for the operation of special interest schools, for instance for music, athletics or arts. An intensive programme of Greek language tuition of at least 1 year is provided for foreign pupils at any level of entry into the educational system. New changes are also provided with the modernised Lyceum system which provides for six concrete streams of specialisation (combinations of subjects) and a thorough reorganisation

⁴⁰ Nonetheless, it is worth noting that Cyprus's results in PISA 2012 were disappointing overall, with very high percentages of low achievers in mathematics, reading, and science.

⁴¹ A significant percentage of children below the age of 4 years and 8 months (that is before compulsory education), attend public and private day-care nursery schools. These schools are under the competence of the Social Welfare Services of the Ministry of Labour, Welfare and Social Insurance, and therefore these students are not calculated under the ECEC figure.

of the provision of the numerous optional courses of study (Ministry of Education and Culture 2015).

The 'Actions for social and school inclusion' project is continuing the good practice of the 'Zones of Educational Priority' project, but with a more flexible approach (e.g. networks of schools and not designated particular areas as such). It tackles issues of low performance, truancy and early school leaving in primary and secondary education through a series of positive actions. The project is also set to contribute to alleviating inequalities in the schools participating.

The Ministry of Education and Culture (MoEC) has also proclaimed the school year 2015/2016 as the year of 'raising awareness in schools about racism and intolerance and promoting equality and respect'. The main message of this initiative is that marginalisation, exclusion or discrimination against individuals or groups with different characteristics not only hurt the victims, both as individuals and as members of the group they belong to, but also have serious implications for the whole school community. To raise awareness of these issues among students, teachers, parents and the local community, a 'code of practice against racist behaviour' has been developed. It defines key concepts — e.g. racism, racist incidents, homophobia, transphobia, bullying, discrimination, stereotypes, diversity, etc. — and sets out the responsibilities and commitments expected from each member of the school community. The code also provides schools with a practical guide for managing related incidents. Presenting diversity as a complex phenomenon, which includes various aspects of human identity, is expected to help reduce all types of bullying and discrimination, whether on grounds of religion, ethnicity, language, appearance, disability or gender (European Commission 2016a).

5. Modernising school education

Although Cyprus invests significantly in education and training in budgetary terms, educational outcomes are insufficient, as reflected in its disappointing performance in international surveys such as PISA and the relatively low employability of recent graduates. The slow responsiveness of the education system to the country's changing economic structure and its adaptation to future skills needs are still major sources of concern (European Commission 2016b).

The long-term policy goals of the MoEC, set out in the 2016-2018 strategic plan, are as follows:

- developing, training and increasing the professionalisation of educational staff;
- modernising the administrative structures of the educational system and of schools;
- enhancing the quality of education by upgrading educational content, introducing evaluation and increasing effectiveness;
- providing support to every pupil, while also acknowledging diversity; and
- improving the transition to tertiary education.

The related action plan for upgrading the educational sector contains a set of proposals for a new system for appointing and evaluating teachers and their in-service training. This was also a requirement of the economic adjustment programme (MoEC 2016). A new system for teacher appointment in public primary, secondary and technical schools is being established, aiming to modernise the existing one. The provision for a written examination with an increased weight (up to 50 %) is the core new element of this scheme. The first written examinations will be held between September 2017 and December 2017, and the first list of results be released by February 2018⁴² (European Commission 2016a).

A new professional learning system for teachers and teaching both in elementary and secondary education was approved by the Council of Ministers in August 2015. It has been piloted in several schools since September 2015 and has been evaluated with positive results. Its review took place at the end of the 2015/2016 school year. The system, based on the individual needs of the teachers and the requirements of their schools, is set to better provide for the professional development of teachers. An ongoing social dialogue is also taking place between the MoEC and the relevant stakeholders on a new initiative which will introduce a system of evaluation for teachers and for school performance (Cyprus Government 2016).

⁴² According to Law 127(I)/2015 dated 20 July 2015.

In terms of digitally proficient human capital, Cyprus's performance is below the EU average but some progress is being made. In 2015 around 70 % of the Cypriot population used the internet regularly, compared with the EU average of 76 %, and only 43 % possessed at least basic levels of digital skills. Moreover, Cyprus has a low share of science, technology, engineering and mathematics (STEM) graduates (ranking 27th in the EU) and a lower share of information and communication technology specialists in the workforce than the EU average. The digital skills deficit may impede the potential of the island's digital economy (European Commission 2016c). This is a major issue for the Cypriot education system and requires an appropriate response from the authorities.

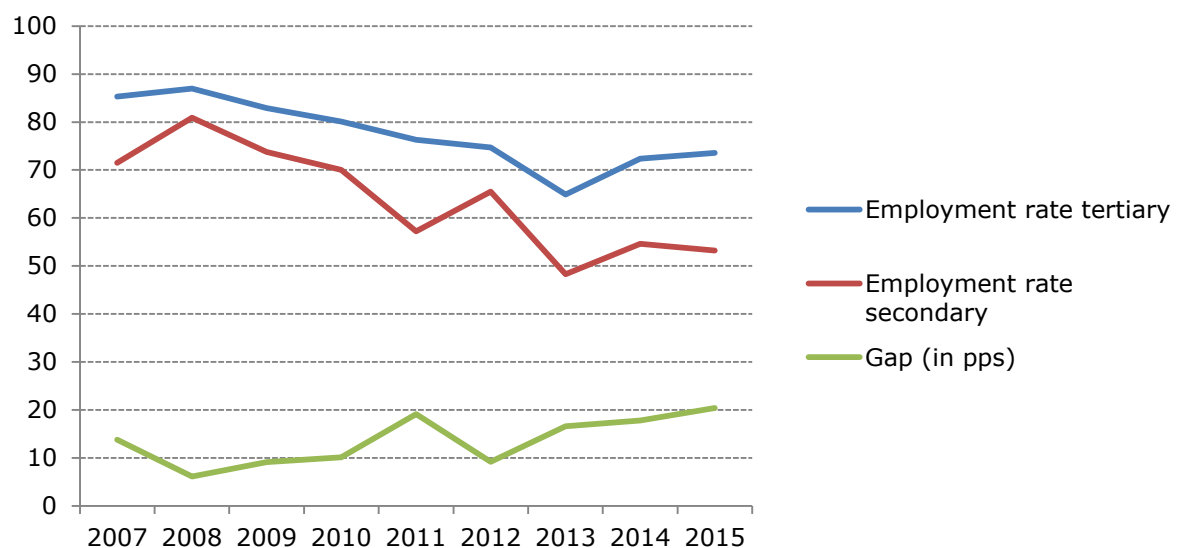
For the first time Cyprus is introducing entrepreneurship education in school curricula. This is being done by implementing the 2016 work plan set out under the National Policy Statement for the enhancement of the entrepreneurship ecosystem.

6. Modernising higher education

Cyprus has a very high tertiary educational attainment rate at 52.5 % in 2014 and 54.6 % in 2015, well above the respective EU averages. However, a widening gender gap persists, with women outperforming men by 12.2 pps. in 2014 and 14.9 pps. in 2015. At the same time, foreign-born students have a much lower participation rate than native-born ones; in 2014 the gap was 18.9 pps. and it widened to 25.4 pps. in 2015.

The employment rate of recent tertiary graduates⁴³ remained relatively high and improved slightly, from 72.4 % in 2014 to 73.6 % in 2015. However, this was still 8.1 pps. below the EU-28 average in 2014 and 8.3 pps. in 2015. In Cyprus 44 % of students were in the fields of social science, business and law in 2014, one of the largest shares of students in all Member States (Eurostat 2016). Figure 3 shows the employment rates for upper-secondary and tertiary graduates and the related gap for 2007-2015. It visualises a constant decrease in the employability of all types of graduates and a large difference (up to 20 pps.) between tertiary and secondary ones.

Figure 3: Employment rates for recent graduates and the related gap between upper-secondary and tertiary levels in Cyprus



Source: Eurostat. Online data code: *edat_ifse24*.

⁴³ People aged 20-34 who left tertiary education between 1 and 3 years before the reference year.

In February 2016 the government approved a proposal for an alternative system of admission to public universities in Cyprus through special classification tests. All secondary-level students in public and private schools will have the same right to request admission to public universities (Cyprus Government 2016).

Following the publication of the HRDA's recent job forecast reports, the authorities have encouraged tertiary education institutions to offer more short vocationally-oriented programmes, which are presently lacking. These are needed in areas of strong demand, especially in the natural resources sector (European Commission 2016b).

A scheme to employ and train tertiary education graduates aims to provide opportunities for former students below 30 years of age and with less than 8 months' work experience. Its goal is to enable graduates to secure a suitable job and acquire work experience as well as specialised knowledge and skills. The HRDA is implementing the scheme. To link academia and businesses more closely, 'industry liaison offices' have been set up in all seven of Cyprus's universities (three public and four private ones). To date 36 agreements have been signed between universities and businesses to promote better mutual communication and cooperation. So far, the industry liaison offices have succeeded in placing 2 472 students in the business sector. They have also undertaken dissemination activities and promotion through a designated website.

Box 1: The new quality assurance and accreditation system for higher education

After a long period of consultation, which began in 2007, the Cypriot Parliament adopted in July 2015 a law setting up an Agency of Quality Assurance and Accreditation in Higher Education.⁴⁴ The Agency aims to be instrumental both in ensuring the quality of the higher education offered by Cypriot institutions and in establishing Cyprus as a regional higher education centre of excellence.

The Agency will periodically evaluate and certify the public and private universities, higher education colleges and their study programmes. In addition, Cypriot higher education institutions will have the opportunity to confer degrees abroad through cross-border education.

In the longer run the Agency is supposed to help achieve better quality by evaluating not only the content of higher education programmes but also the actual learning outcomes. It should also evaluate the quality of the research carried out in each institution, as well as to its impact (scientific citations), etc. This is a key factor for success as research is considered fundamental to promoting university attractiveness.

In this context the following challenges faced by the Agency should be addressed in the future:

- The evaluation process should be designed in a way that makes it possible to compare the performance of institutions based on the quality of the study programmes they offer. This may also create useful peer pressure, which is key to improving higher education institutions. Universities will be able to develop policies and take measures to improve their study programmes based on the actual evaluation.
- The Agency should ensure that it assesses not only the quality of the proposed study programmes but also the actual results achieved (i.e. based on learning outcomes).
- It is important that the Agency also evaluates the quality of research undertaken at higher education institutions, but the evaluation criteria to be used by the Agency have not yet been announced.

More on with www.dipae.ac.cy

⁴⁴ Law N.136(I)/2015 dated 21 July 2015.

7. Modernising vocational education and training and promoting adult learning

Participation in vocational education and training (VET) in Cyprus was modest in 2013 at 13.6 %, slightly higher than a year earlier, but 35.3 pps. below the EU average (European Commission 2016b). Participation in adult learning has also continued to rise, from 12.6 % in 2014 to 13.4 % in 2015. It nonetheless remained respectively 13.3 and 13.1 pps. below the EU-28 averages in those years. Finally Cyprus has an average employment rate for upper-secondary level VET graduates. In 2015 it stood at 70.3%, close to the EU-28 of 73%.

Efforts are under way to improve the quality, attractiveness and relevance of VET in Cyprus. The Council of Ministers approved a Strategic Plan for the System of Technical and Vocational Education and Training 2015-2020 in April 2015. This includes measures and activities that cover all the public VET programmes, namely:

- secondary technical and vocational education (STVE),
- the evening technical schools (second chance schools),
- the Apprenticeship Scheme,
- the afternoon and evening classes of technical schools, and
- the post-secondary institutes of VET (PSIVET).

The proposal to upgrade STVE was approved by the government in December 2015. The Council of Ministers assigned full responsibility for operating the Apprenticeship Scheme to the Directorate of STVE of the MoEC in April 2016 and approved a comprehensive proposal to upgrade the scheme in August 2016. One of the MoEC's top priorities is to ensure the classification of PSIVET programmes at level 5 of the European Qualifications Framework. This would upgrade its status to tertiary VET, which is a novelty for Cyprus.

The EU structural funds, in particular the 2014-2020 European Social Fund (ESF)-supported Operational Programme, will finance measures to help improve access to lifelong learning for all age groups and strengthen VET provision. Most of the measures to be financed are a continuation of those started under the 2007-2013 ESF-financed Operational Programme.

They aim in particular to:

- improve the quality, attractiveness and performance of VET in Cyprus
- ensure the functioning of the system of professional qualification in Cyprus;
- establish a mechanism for validating formal, non-formal and informal learning and pilot implementation;
- apply more broadly the 'new modern apprenticeship', which is mostly a 'back-to education' or second chance scheme at present; and
- link universities with the business sector.

8. References

Agency of Quality Assurance and Accreditation in Higher Education (2016), http://www.highereducation.ac.cy/en/cy_agency_quality_assurance_aaccre.html

Cyprus Government (2016), National Reform Programme, http://ec.europa.eu/europe2020/pdf/csr2016/nrp2016_cyprus_en.pdf

European Commission (2015), The Economic Adjustment Programme for Cyprus — 7th Review — Summer 2015, http://ec.europa.eu/economy_finance/publications/eaip/ip009_en.htm

European Commission (2015), Eurydice, Structural Indicators for Monitoring Education and Training Systems in Europe — 2015, http://eacea.ec.europa.eu/education/eurydice/documents/thematic_reports/190EN.pdf

European Commission (2016a), Eurydice, Eurypedia, https://webgate.ec.europa.eu/fpfis/mwikis/eurydice/index.php/Main_Page

European Commission (2016b), Country Report for Cyprus,
http://ec.europa.eu/europe2020/pdf/csr2016/cr2016_cyprus_en.pdf

European Commission (2016c), Digital Economy and Society Index 2016,
<https://ec.europa.eu/digital-single-market/en/news/european-digital-progress-report-edpr-country-profiles>

Human Resource Development Authority (2015), Προβλέψεις Απασχόλησης στην Κυπριακή Οικονομία 2014-2024,
http://www.hrdauth.org.cy/easyconsole.cfm/page/project/p_id/221

Ministry of Education and Culture (2016), Strategic Plan 2016-18,
http://www.moec.gov.cy/en/annual_reports/annual_report_2015_en.pdf

9. Annex. Key indicator sources

Indicator	Eurostat online data code
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Adult participation in lifelong learning	trng_lfse_01
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

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Czech Republic



1. Key indicators

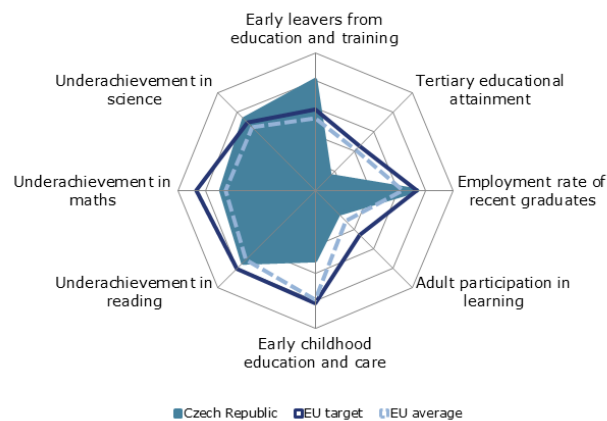
		Czech Republic		EU average		
		2012	2015	2012	2015	
ET 2020 benchmarks						
Early leavers from education and training (age 18-24)	Total	5.5%	6.2%	12.7%	11.0%	
Tertiary educational attainment (age 30-34)	Total	25.6%	30.1%	36.0%	38.7%	
Early childhood education and care (ECEC) (from age 4 to starting age of compulsory education)		87.8% ¹¹	86.4% ¹⁴	93.2% ¹¹	94.3% ¹⁴	
Proportion of 15 year-olds with underachievement in:	Reading	16.9%	:	17.8%	:	
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Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-8 (total)	82.3%	82.2%	75.9%	76.9%	
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Other contextual indicators						
Education investment	Public expenditure on education as a percentage of GDP	5.1%	5.2% ¹⁴	5.0%	4.9% ^{14,p}	
	Expenditure on public and private institutions per student in € PPS	ISCED 1-2	€4.588	€4.526 ¹³	:	: ¹³
		ISCED 3-4	€5.278	€5.297 ¹³	:	: ¹³
ISCED 5-8		€7.768	€7.430 ¹³	:	: ¹³	
Early leavers from education and training (age 18-24)	Native-born	5.5%	6.1%	11.6%	10.1%	
	Foreign-born	9.3% ^u	10.7% ^u	24.9%	19.0%	
Tertiary educational attainment (age 30-34)	Native-born	25.5%	30.4%	36.7%	39.4%	
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	ISCED 5-8	87.1%	82.7%	81.5%	81.9%	
Learning mobility	Inbound graduates mobility (bachelor)	7.4% ¹³	7.4% ¹⁴	5.5% ¹³	5.9% ¹⁴	
	Inbound graduates mobility (master)	9.6% ¹³	8.6% ¹⁴	13.6% ¹³	13.9% ¹⁴	

Sources: Eurostat (see section 9 for more details); OECD (PISA).

Notes: data refer to weighted EU averages, covering different numbers of Member States depending on the source; b = break in time series, d = definition differs, p = provisional, u = low reliability, 11 = 2011, 13 = 2013, 14 = 2014.

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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 2015) and OECD (PISA 2012).

Note: all scores are set between a maximum (the strongest performers, represented by the outer ring) and a minimum (the weakest performers, represented by the centre of the figure).

2. Highlights

- Educational outcomes and the employability of school and higher education graduates are generally good. But the national early school leaving rate, although still outperforming the EU average, has been worsening over the past years.
- Pupils' socioeconomic background strongly influences educational performance, and the participation of Roma in mainstream education needs to increase. Authorities have taken major measures to support the implementation of the pro-inclusive legislation adopted in 2015.
- Teachers' salaries remain low compared to other countries and the teacher population is ageing, requiring further measures to increase the attractiveness of the profession to talented young people.
- Levels of tertiary educational attainment continue to increase rapidly and the long-awaited reform of higher education was adopted.
- On-going reforms have been subject to extensive consultations and awareness-raising campaigns. These aim to make best use of the knowledge and expertise of subject experts and stakeholders and increase ownership by actors on the ground.

Box 1: The 2016 European Semester country-specific recommendation on education and training

The 2016 European Semester country-specific recommendations (CSRs) to the Czech Republic (Council of the European Union 2016) included a recommendation on education and training:

Raise the attractiveness of the teaching profession and take measures to increase the inclusion of disadvantaged children, including Roma, in mainstream schools and pre-schools.

3. Investing in education to address demographic and skill challenges

General government expenditure on education as a share of GDP was 5.2 % in 2014, surpassing the 4.9 % EU average.⁴⁵ The relatively high employment rates of adults aged 25-64 who had completed upper secondary and post-secondary non-tertiary education (78.9 % in 2015) and tertiary education (84.8 %) decrease sharply for those who had completed lower secondary education at best (41.9 %).⁴⁶

Teachers' salaries increased by 3.3 % from November 2015 and again by 8% from September 2016. Nevertheless teachers' salaries remain relatively very low. This is the case both relative to salaries of other workers with similar educational levels — teachers at primary and secondary level earn less than half of other workers' salaries — and in comparison with their counterparts in other countries (OECD 2015).⁴⁷ These factors are part of the reason that talented young people are not attracted to the profession. The Minister for Education does support requests from the sector that salaries be increased up to at least 70 % of salaries of workers with similar qualifications. Additional budget was also allocated to strengthen capacity in early childhood and care and primary education.

⁴⁵ Source: Eurostat, General government expenditure by function (COFOG) database, table gov_10a_exp.

⁴⁶ Source: Eurostat, Employment rates by sex, age and educational attainment level (%), table lfsa_ergaed.

⁴⁷ The ratio of primary, lower and upper secondary teachers' salaries to the earnings of full-time workers with similar educational levels were the lowest among OECD and partner countries in 2014 (latest data).

The Government has approved a long-standing reform of funding for regional education to support the optimisation of the school network is progressing. The reform is necessary to:

- reduce current regional differences in funding levels;
- react to decreasing numbers of students in the relevant cohorts; and
- better support vocational education and training (VET) programmes that best meet labour market needs.

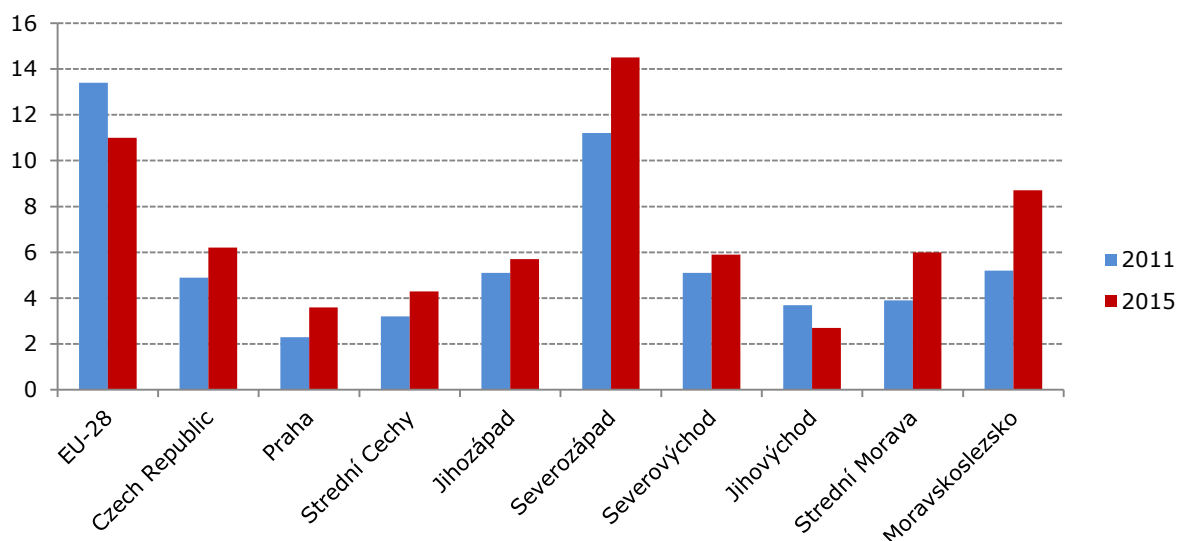
The idea is to shift from per capita financing to funding per number of hours taught and other parameters. The reform also allow for teachers to be paid for extra-curricular activities, to enable schools to offer these free of charge, which is likely to bring benefits in terms of equity. The reform is being supported by an ongoing OECD review on the effectiveness of resource use in schools.

On-going reforms to improve inclusive education and introduce a new career system for teachers will need to be supported with substantial increases in the corresponding budgets to realise their full potential. Currently, there is disagreement over the level of additional funding needed to ensure appropriate implementation of these measures in the medium term.

4. Tackling inequalities and promoting inclusion

The national early school leaving rate remains low. However, it increased from 4.9 % in 2010 to 6.2 % in 2015, exceeding the country's 5.5 % national target for 2020. Regional disparities are high, with regional rates ranging between 2.7 % and 14.5 % (see Figure 2 below). Of particular concern are the estimated 72 % of Roma children who leave school early, which has a significant impact on their future labour market and social inclusion prospects (European Agency for Fundamental Rights 2014).

Figure 2. Early leavers from education and training by NUTS 2 regions in the Czech Republic



Source: Eurostat, online data code: *edat_lfse_16*.

The participation rate in early childhood education and care (ECEC) is low but increasing, at 86.4 % in 2014 compared to the EU average of 94.3 %. Latest figures estimate that only 26 % of Roma children attend ECEC, the second-lowest rate among countries surveyed. This low rate negatively impacts Roma children's future educational outcomes. The number of ECEC places is insufficient and effective coordination for matching supply and demand is made difficult as a result of responsibility being shared between central, regional and local levels of government (Institute for Democracy and Economic Analysis, Economic Institute of the Czech Academy of Sciences 2016).

The results of the 2012 OECD Programme for International Student Assessment (PISA) were good at national level (OECD 2013). They nevertheless highlighted that students' socioeconomic background had a very strong impact on educational outcomes. In particular, the proportion of Roma children being placed in 'practical schools' (which have lower learning standards) is much higher than the corresponding proportion of non-Roma children (The Decade of Roma Inclusion Secretariat Foundation, 2015). Data from the Czech School Inspectorate does note a decreasing proportion of Roma in special/'practical' education over the past years, however. This is likely due to measures taken by the authorities (see box 2) (Open Society Justice Initiative). More generally, the Czech Republic has the lowest rate for intergenerational mobility in education in the OECD, with 71 % of 25-34 year olds having the same level of education as their parents, compared to an OECD average of 52 % (OECD 2015). The OECD's recent economic review confirmed the negative impact of early streaming on inequalities linked to a student's social background in terms of educational outcomes⁴⁸ (OECD 2016).

The proportion of teachers participating in professional development activities related to teaching heterogeneous groups or student guidance and counselling is one of the lowest among countries surveyed by the 2013 OECD Teaching and Learning International Survey (TALIS): 23.8 %, compared to the OECD average of 31.7 % (OECD 2014).

Further amendments to the Education Act were adopted in 2016, in line with the Roma Integration Strategy 2020, the Action Plan for Inclusive Education and the pro-inclusive legislation adopted in 2015 (see box 2). The amendments introduced compulsory early childhood education from the age of five from September 2017 and allowed for the gradual entitlement to a place for younger children in future years. Since the PISA survey confirmed the impact of participating in ECEC and of socioeconomic background on educational outcomes, the measure is likely to bring particular benefits for disadvantaged students. Appropriate targeted measures to ensure actual attendance and genuinely inclusive ECEC will maximise these impacts.

The Fund for the Development of the Capacities of Kindergartens and Primary Schools continues to fund projects to increase and modernise capacity in pre-school and primary school education in 2016, with co-financing from EU funds. The Ministry of Labour and Social Affairs is piloting a project to care for children aged 6 months to 4 years in 'micro-crèches'.

Box 2: Education of Roma children and inclusive education

Inclusive education of children with special educational needs, which in the Czech Republic includes children from disadvantaged socioeconomic backgrounds, is currently subject to major reform.⁴⁹ The reform affects children from socially disadvantaged or culturally different backgrounds, disabled children, those with a health disadvantage, and exceptionally gifted pupils. It was triggered by growing inequalities and international criticism of unequal treatment of Roma children. This includes infringement proceedings against the Czech Republic, launched in September 2014 by the European Commission, concerning discrimination against Roma children in education, in breach of Directive 2000/43/EC on Racial Equality. The reform is being supported by an expert team that brings together representatives of the education sector, civil society and teaching faculties.

The Education Act was amended in 2015. It now guarantees the right of pupils with special needs to free individual support measures in mainstream education. Gradual implementation started in September 2016.

Authorities have taken implementing measures since 2015 to:

- identify five types of individual support measures (related to staff, organisation and methodology);
- improve the assessment of pupils' cognitive abilities by educational advisory facilities;

⁴⁸ Initial tracking takes place when pupils are aged 11, when some of them leave regular schools for 'long' programmes in grammar schools.

⁴⁹ The Czech expression used for 'inclusive education' translates into 'common or shared education'.

- prepare methodological guidance for advisory facilities on how to assign support measures in a harmonised way throughout the country;
- abolish the framework/national curriculum for pupils with mild mental disabilities, in favour of individual educational plans (schools or classes affected will have a transitional period of two years to adapt their school curriculum).

They also organised numerous awareness-raising and training activities across the country, together with intense communication via the websites of the relevant Ministry and Agencies. These focused on school representatives, regional and local authorities, pedagogical and advisory staff, and the general public. They are being supported by EU-funded projects.

Funding for inclusive education in 2016 will be provided through traditional channels, namely specific allowances and developmental programmes. The latter support the recruitment of teaching assistants for socially disadvantaged and disabled students, the purchase of supplementary aids, and free meals. Additional funding needed as of 2017 is subject to intra-governmental negotiations. Authorities are planning to amend the funding legislation by 2018. There are some concerns regarding the amount of funding estimated to be required and the availability of sufficient funding to support the reform.

While this is a very promising reform, the short deadline for implementation is challenging. One concern raised among Czech stakeholders is whether there will be sufficient and timely training of teachers in mainstream schools regarding teaching classes including pupils with special needs. It is also not clear at this stage if/to what extent specialised staff in special and 'practical' schools and regular teachers in mainstream schools will work together to make best use of their existing expertise. Another concern is that counselling facilities would not provide individual measures consistently across the country. More generally, overcoming resistance to inclusive education will be a challenge, as will the risk that non-Roma parents will withdraw their children from schools with large numbers of Roma pupils.

If specific measures to encourage the recruitment of teaching assistants from the Roma community are adopted, these could also usefully help:

- improve educational outcomes for Roma children — partly as a result of offering role models;
- increase participation in ECEC;
- reduce dropout and repetition (World Bank 2016); and
- support the success of the reform.

Strong career guidance and mentoring at transitional phases of education, in particular prior to entering upper secondary education, could support pupils in making better informed choices and help reduce the high early-school leaving rate among Roma students. Measures to incentivise the best and most experienced teachers to teach in challenging schools could bring additional positive impacts for equality and inclusive education.

If the new compulsory year in ECEC is mainstream, inclusive and non-segregated, the measure may also help bring about more inclusive education at higher levels of education. It may bring particular benefit to disadvantaged children, especially Roma children, and positively affect both their integration and their future educational outcomes.

5. Modernising school education

In addition to highlighting the low attractiveness of the teaching profession for talented young people (see section 3 above), the OECD TALIS Survey (OECD 2014) notes that teachers themselves perceive their status to be very low. This is a challenge for future recruitment, as more than a third of primary and lower secondary school teachers were older than 50 in 2014, rising to 47.3 % of teachers at upper secondary level.⁵⁰

⁵⁰ Source: Eurostat, Distribution of teachers at education level and programme orientation by age groups, table educ_uae_perd01.

The Czech Republic is one of the few EU Member States that still do not have a structured induction programme for new teachers. Authorities are piloting a project and adapting legislation to introduce a long-awaited new career system for teachers. The system aims to link professional development, career and remuneration. It introduces three standards for the profession and three possible career paths (based on roles, specialisations such as ICT coordination, and improving skills). The planned support for beginning teachers may help reduce the current high proportion of teachers who leave the profession. For the new system to produce tangible results, sufficient and sustainable funding to meet the cost of increased salaries will be essential. Funding plans for the period after 2016 remain unclear at this stage. Since January 2016, a new minimum length of 12 months for fixed-term contracts for teachers has been set by legislation, helping to improve conditions.

Against the background of a largely decentralised sector, the Ministry is adopting measures to strengthen central governance of evaluation. From 2016/2017, a new unified entrance examination for upper secondary schools will be implemented and the common parts of the school leaving examination will be strengthened and evaluated externally. From 2016, the Czech School Inspectorate will work on improving the evaluation of educational outcomes and linking internal and external evaluation of schools. Options to support low-performing schools will be explored (Office of the Government of the Czech Republic 2016).

In 2015, criteria for 'quality schools' were developed. They aim to help school managers create a positive environment in schools by encouraging cooperation between teachers, pupils and families. Encouraging teachers to work together may increase the quality and attractiveness of the profession.

Following a change to the curricula for secondary education, which made learning a second foreign language compulsory, the proportion of students at upper secondary level learning two or more foreign languages increased from 47.2 % in 2013 to 57.3 % in 2014.

EU-funded projects aim to:

- increase use of modern digital technologies in education;
- develop teachers' and pupils' digital skills
- improve infrastructure; and
- support innovative practices.

6. Modernising higher education

The tertiary educational attainment rate continued its rapid increase, reaching 30.1 % in 2015. This narrows the gap with the EU average of 38.7 %, as shown in Figure 3 below. The increase is particularly noticeable for women (35.9 %, compared to 24.7 % for men). The 32 % national target for 2020 seems within reach. The absolute number of students entering tertiary education is decreasing, due to a demographic decline, which has put pressure on higher education institutions that are fighting for students. The employment rate of recent tertiary graduates⁵¹ has reversed its negative trend, rising to 82.7 % in 2015, compared to the 81.9 % average at EU level. Czech adults with tertiary education qualifications earn on average 75 % more than those who left education after completing upper secondary school (OECD 2015).

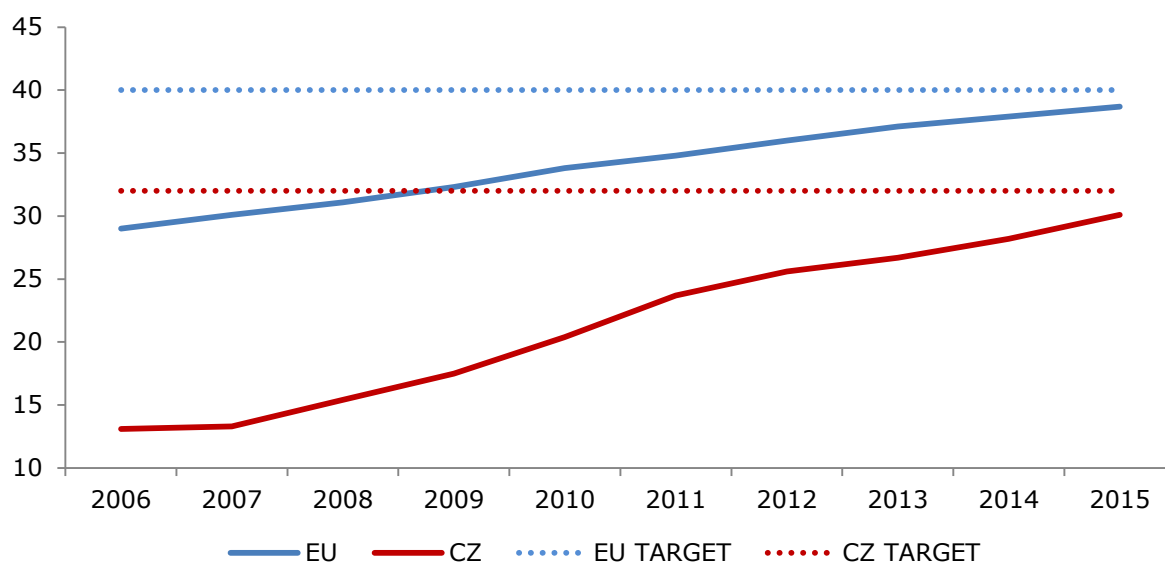
The Framework for the Development of Higher Education until 2020 notes increasing numbers of students dropping out of university and estimates that less than half of bachelor degrees started in 2012 will be completed successfully (comprehensive data on dropout and success rates is still unavailable). This delays any increase in the attainment rate and wastes resources. There is no national policy directly focusing on study success or dropout prevention. This is apparently partly due to the fact that some higher education representatives consider that high dropout rates may be linked to high quality standards. Interestingly, the 2 % of students who receive a scholarship designed to support socioeconomically disadvantaged students do show significantly lower dropout rates than other students (European Commission 2015).

⁵¹ People aged 20-34 who left tertiary education between one and three years before the reference year.

The long-awaited higher education reform was adopted in early 2016. Its main objectives are to raise the accreditation and internal quality assurance standards and to support the diversification of study programmes by creating distinct academic and professional profiles for bachelor and masters programmes. An independent accreditation authority will be set up. Institutional accreditation will be introduced for universities with a functional system of internal quality assurance, providing more freedom for institutions while ensuring appropriate quality control. Grants to students in need will be increased, which is likely to help widen the social make-up of tertiary education graduates.

The Ministry of Education is working to improve quality-based funding for higher education institutions. It aims to use more output indicators linked to quality and labour market relevance. This could increase efficiency in using resources and help improve the offer of professionally-oriented programmes. If employers recognise future professionally-oriented degrees, then more and more students are likely to choose these programmes. This may help reduce the drop-out rate.

Figure 3. Tertiary education attainment in the Czech Republic



Source: Eurostat.

In line with documents adopted in 2015, detailing the strategy for the sector until 2020, EU-funded projects will provide support for increasing the accessibility of higher education for diverse groups, more internationalisation, and better profiling of institutions. A new portal aims to provide prospective students with better information about their options, so as to reduce future programme switching (European Commission 2015).

The Strategy for Research and Development Information Systems, adopted by the government in early 2016, is a positive step towards bringing academia and companies closer together. To date, the evaluation framework for public research institutions has not taken into account the level of cooperation with business. This has weakened links between academia and companies.

7. Modernising vocational education and training and promoting adult learning

The proportion of upper secondary⁵² students in the Czech Republic in vocational education and training (VET) slightly decreased in 2014, to 73.4 %. The employment rate of recent VET

⁵² ISCED level 3.

graduates⁵³ was well above the EU average in 2015 (81.5 %, compared to the EU average of 73.0 %). While employers complain about skills mismatches at times, there is no coherent system for forecasting labour market needs. Adult participation in learning (8.5 % in 2015) remains below the EU average (10.7 %).

In order to further promote technical and vocational programs, the Ministry of Education, Youth and Sport is working on changing the funding system for regional education, so as to better reflect the long-term employability of graduates in the labour market. The Government will amend framework educational programmes in secondary education to provide an emphasis on practical training in a real work environment, so that these programmes are more effective at improving the quality of VET and the long-term employability of graduates. Following the approval of the amendment to the Education Act, schools are required to use centrally prepared assignments for the final examinations in those secondary education fields that are completed with an apprenticeship certificate. For graduates from apprenticeship schemes, the new idea of a master examination is being developed. The role of employers in career counselling will also be strengthened. This will aim to increase students' motivation to study and put into practice professional skills, while increasing pupils' and teachers' awareness of the requirements for professions, work environments and job opportunities.

The Czech Republic continues to develop the concept of lifelong learning, particularly in further education. Tools to verify and recognise prior learning (Act 179/2006 Coll. on Recognition of Further Education) are being developed. A project to develop a national system of qualifications, under the responsibility of the Ministry of Education, Youth and Sport, finished in 2015. In October 2015, other standards of professional qualifications were approved. To address disproportions in individual segments of the labour market, sectoral agreements verified by a pilot project are being used.

8. References

Council of the European Union (2016), Council Recommendation of 12 July 2016 on the 2016 National Reform Programme of the Czech Republic and delivering a Council opinion on the 2016 Convergence Programme of the Czech Republic, 2016/C 299/06,
[http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32016H0818\(06\)&from=EN](http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32016H0818(06)&from=EN)

European Commission (2015), Dropout and Completion in Higher Education in Europe, annex 2: Short Country Report,
http://ec.europa.eu/education/library/study/2015/annex-2-country-reports_en.pdf

European Union Agency for Fundamental Rights (2014), Roma survey — Data in Focus: Education: the situation of Roma in 11 EU Member States,
http://fra.europa.eu/sites/default/files/fra-2014_roma-survey_education_tk0113748enc.pdf

Institute for Democracy and Economic Analysis, Economic Institute of the Czech Academy of Sciences (2016), Cost-benefit analysis of public support for places in kindergartens,
http://idea.cerge-ei.cz/files/IDEA_Studie_3_2016_Verejna_podpora_mist_ve_skolkach/files/downloads/IDEA_Studie_3_2016_Verejna_podpora_mist_ve_skolkach.pdf

OECD (2013), PISA 2012 results: What Students Know and Can do. Student Performance in Mathematics, Reading and Science (Volume I),
<http://www.oecd.org/pisa/keyfindings/pisa-2012-results.htm>

OECD (2014), TALIS 2013 Results: An International Perspective on Teaching and Learning, Paris: OECD Publishing,
<http://www.oecd.org/edu/school/talis.htm>

OECD (2015), Education at a Glance 2015, OECD indicators,

⁵³ The indicators show the employment rate of graduates aged 20-34, whose highest educational attainment is an upper secondary (ISCED 3) or post-secondary non-tertiary (ISCED 4) qualification, who graduated one to three years before the reference year and who are not currently enrolled in any further formal or non-formal education or training.

http://download.ei-ie.org/Docs/WebDepot/EaG2015_EN.pdf

OECD (2016), Economic Survey of Czech Republic 2016,
<http://www.oecd.org/czech/economic-survey-czech-republic.htm>

Office of the Government of the Czech Republic (2016), National Reform Programme of the Czech Republic 2016,
http://ec.europa.eu/europe2020/pdf/csr2016/nrp2016_czech_en.pdf

Open Society Justice Initiative (2016), Strategic litigation impacts — Roma school desegregation,
<https://www.opensocietyfoundations.org/sites/default/files/strategic-litigation-impacts-roma-school-desegregation-20160407.pdf>

The Decade of Roma Inclusion Secretariat Foundation (2015), Roma Inclusion Index 2015,
http://www.romadecade.org/cms/upload/file/9810_file1_roma-inclusion-index-2015-s.pdf

The World Bank (2016), Being fair, faring better — Promoting equality of opportunity for marginalised Roma,
http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2016/01/27/090224b084103a5f/2_0/Rendered/PDF/Being0fair00fa0or0marginalized0Roma.pdf

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_ipart (2011), educ_uoe_enra10 (2014)
Employment rate of recent graduates	edat_lfse_24
Adult participation in lifelong learning	trng_lfse_01
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

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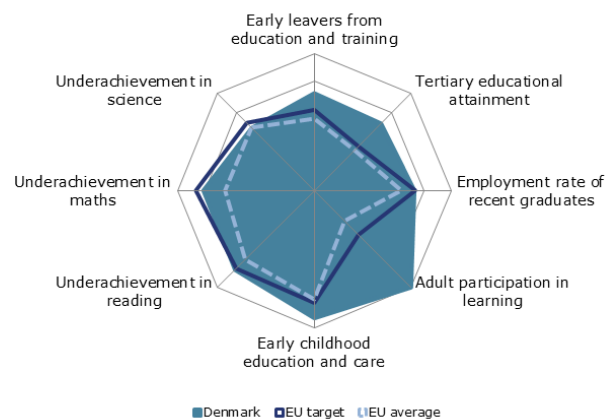
1. Key indicators

		Denmark		EU average		
		2012	2015	2012	2015	
ET 2020 benchmarks						
Early leavers from education and training (age 18-24)	Total	9.1%	7.8%	12.7%	11.0%	
Tertiary educational attainment (age 30-34)	Total	43.0%	47.6%	36.0%	38.7%	
Early childhood education and care (ECEC) (from age 4 to starting age of compulsory education)		97.9% ¹¹	98.1% ¹⁴	93.2% ¹¹	94.3% ¹⁴	
Proportion of 15 year-olds with underachievement in:	Reading	14.6%	:	17.8%	:	
	Maths	16.8%	:	22.1%	:	
	Science	16.7%	:	16.6%	:	
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-8 (total)	84.1%	81.7%	75.9%	76.9%	
Adult participation in lifelong learning (age 25-64)	ISCED 0-8 (total)	31.6%	31.3%	9.2%	10.7%	
Other contextual indicators						
Education investment	Public expenditure on education as a percentage of GDP	7.0%	7.2% ¹⁴	5.0%	4.9% ^{14,p}	
	Expenditure on public and private institutions per student in € PPS	ISCED 1-2	:	€8.519 ¹³	:	: ¹³
		ISCED 3-4	:	€7.502 ¹³	:	: ¹³
		ISCED 5-8	:	€12.148 ¹³	:	: ¹³
Early leavers from education and training (age 18-24)	Native-born	9.0%	7.7%	11.6%	10.1%	
	Foreign-born	10.1% ^u	8.7% ^u	24.9%	19.0%	
Tertiary educational attainment (age 30-34)	Native-born	43.5%	46.6%	36.7%	39.4%	
	Foreign-born	39.3%	51.1%	33.8%	36.4%	
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-4	82.4%	79.5%	69.7%	70.8%	
	ISCED 5-8	85.5%	83.8%	81.5%	81.9%	
Learning mobility	Inbound graduates mobility (bachelor)	7.4% ¹³	6.9% ¹⁴	5.5% ¹³	5.9% ¹⁴	
	Inbound graduates mobility (master)	18.1% ¹³	17.7% ¹⁴	13.6% ¹³	13.9% ¹⁴	

Sources: Eurostat (see section 9 for more details); OECD (PISA).

Notes: data refer to weighted EU averages, covering different numbers of Member States depending on the source; b = break in time series, d = definition differs, p = provisional, u = low reliability, 11 = 2011, 13 = 2013, 14 = 2014. Further information can be found in the relevant 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 2015) and OECD (PISA 2012).

Note: all scores are set between a maximum (the strongest performers, represented by the outer ring) and a minimum (the weakest performers, represented by the centre of the figure).

2. Highlights

- Denmark has low early school leaving rates, but the gender gap is higher than in neighbouring countries. The tertiary educational attainment rate is one of the highest in the EU.
- Denmark has the highest proportion of vocational education and training (VET) students in work-based programmes of all the EU countries; also adult participation in lifelong learning is one of the highest in the EU.
- In view of the fact that Denmark's expenditure on education is the highest in the EU and to reduce costs and improve efficiency in the public sector, the financial bill for 2016 made budgetary cuts across the education sector.
- The 'Growth and Development Strategy' (*Vækst og Udvikling i hele Danmark*) announces the intention to support quality of teaching and online learning in school education and tertiary education.
- The 2016 reform of general upper secondary education aims to raise academic standards, provide a solid preparation for higher education and encourage more young people to choose a VET pathway.

Box 1: The 2016 European Semester country-specific recommendation on education and training

The 2016 European Semester country-specific recommendations (CSRs) to Denmark (Council of the European Union 2016) included a recommendation on education and training:

Incentivise the cooperation between businesses and universities.

3. Investing in education to address demographic and skill challenges

Denmark is one of the biggest investors in education in the EU. General government expenditure on education as a proportion of GDP was 7.2 % in 2014 (compared to an EU average of 4.9 %). It has increased slightly from 7 % in 2013 and 6.1 % in 2008.⁵⁴ General government expenditure on education as a share of total public expenditure in 2014 was 12.8 %, a slight increase on 2008 (12.1 %).⁵⁵ While the employment rate of medium-qualified workers was well above the EU average in 2015 (80.3 % compared to 73.9 %) and the same was true for the employment of low-qualified workers (60.5 % compared to 53.2 %), the employment of highly qualified workers was only slightly above the EU average (85.9 % compared to 84.1 %).⁵⁶

The Danish Government introduced budgetary cuts across the education sector in the 2016 Budget Act. The cuts have the dual aim of reducing the overall cost of the public sector whilst improving the efficiency of the public sector as a whole, including the education sector. The 2017 budget for the municipality sector was agreed between the Association of Municipalities (*Kommunernes Landsforening*) and the Government in June 2016 (Finansministeriet 2016).

⁵⁴ Source: Eurostat, General government expenditure by function (COFOG) database.

⁵⁵ Source: Eurostat, General government expenditure on education as a share of total public expenditure.

⁵⁶ Source: Eurostat, Labour Force Survey. Online code *lfsa_ergaed*. Low-qualified = ISCED 0-2; medium-qualified = ISCED 3-4; highly qualified = ISCED 5-8.

According to the agreement, the Government will propose to the Parliament that the centrally defined 're-prioritisation contribution' (*omprioriteringsbidrag*) of 1 % of the budget from the municipalities to the central government will not be applied from 2018 onwards.⁵⁷

The Danish Economic Council for the Labour Movement (*Arbejderbevægelsens Erhvervsråd*) estimates that cuts to the education sector could result in a reduction of up to 2 000 teachers in the compulsory education system by 2019.⁵⁸ If the Parliament approves the proposal agreed between the Association of Municipalities (*Kommunernes Landsforening* - KL) and the Government, this is likely to reduce teacher lay-offs (*Kommunernes Landsforening* 2016).

The higher education institutions have indicated that the cuts will impact their future programmes. The Danish Economic Council for the Labour Movement estimates that the proposed cuts until could impact the vocationally-oriented higher education programmes, particularly outside the big cities (because institutions in smaller cities tend to have a lower number of applicants for their courses than those in the bigger cities, and some programmes will probably no longer be profitable (*Arbejderbevægelsens Erhvervsråd* 2015)). The national 'Growth and Development Strategy' (*Vækst og Udvikling i hele Danmark*) proposes that tertiary institutions can overcome some of these challenges by offering online programmes. Some universities already offer online and blended learning programmes. Others have, as a result of lower budgets, laid off staff and closed study programmes. This has affected specialised studies, in particular languages.

4. Tackling inequalities and promoting inclusion

The early school leaving rate has been improving since 2008 when it was 12.5 %, and remains well below the EU average (7.8 % in 2015 compared with an EU average of 11 %). While foreign-born students perform well in Denmark as regards early school leaving (8.7 % compared to an EU average of 19 % for foreign born students and 7.7 % for those born in Denmark), the results of the OECD Programme for International Student Assessment (PISA 2012) showed a significant gap between native-born and foreign-born students on average maths performance (OECD 2013).⁵⁹ Furthermore, there is a significant gender gap, as boys are almost twice as likely as girls to leave school early (9.7 % compared to 5.7 %; see Figure 2).

Participation in early childhood education and care is almost universal (98.1 % in 2014) at the age of four. The participation rate of foreign and native-born children is almost identical. There are, however, differences in enrolment for three year-olds and below — with first- and second-generation immigrants participating to a lesser degree. Nonetheless participation rates are very high (Eurydice 2014).⁶⁰ Recent research identified refugees with young children as a target group for awareness-raising of the benefits of participating in early childhood education (KORA 2016). The municipalities have estimated that the number of refugee children who need a place in early childhood education and care has increased from 109 in 2006 to an estimated 2 318 in 2015 (see also Box 2).⁶¹

⁵⁷ For the 2016 budget, the municipalities' budgets were cut by 1 %, corresponding to DKK 2.4 billion, to give the Government the opportunity to prioritise investment in core welfare centrally. With effect from 2018, the Government and the Association of Municipalities have agreed that a multi-annual efficiency improvement programme will be implemented with a DKK 1 billion annual financial framework (*Kommunernes Landsforening* 2016).

⁵⁸ In August 2015 there were 47 765 full-time teachers employed in the compulsory public education sector (*folkeskolen*) (*Danmarks Lærforening* 2016).

⁵⁹ The overall proportion of low achievers in science was around the EU average (16.7 % compared to 16.6 %), but this figure was lower in maths (16.8 % compared to 22.1 %) and reading (14.6 % compared to 17.8 %). The difference between the proportion of low achievers among native-born (13.2 %) and first- and second-generation immigrants was 35.2 and 25.6 percentage points respectively (*Folkeskolen* 2014).

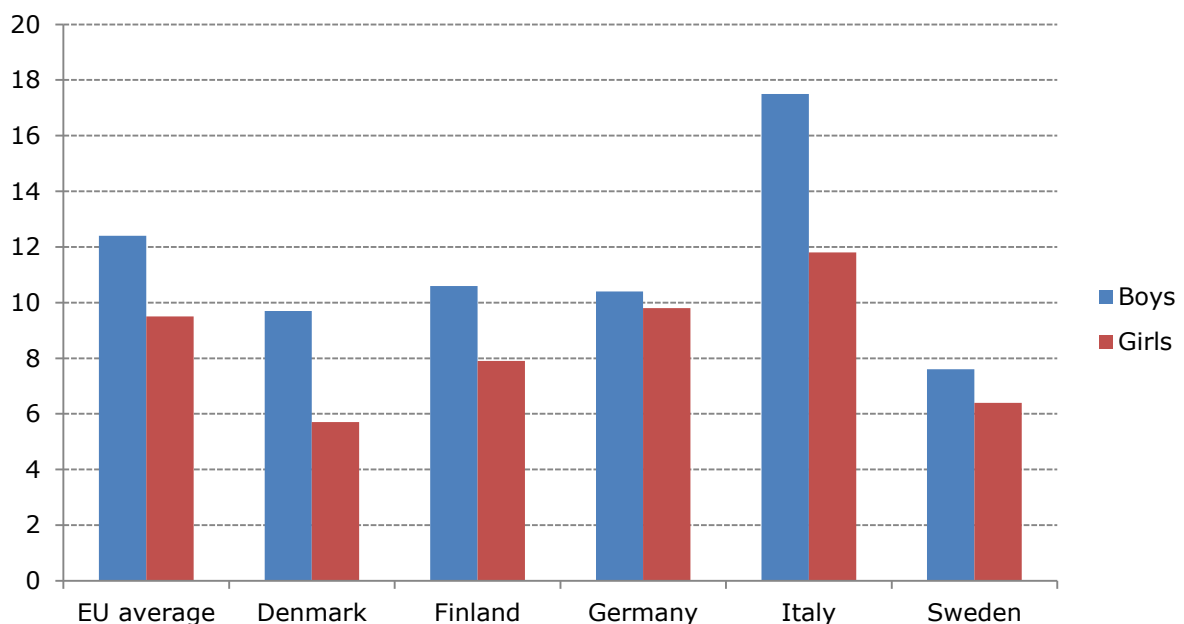
⁶⁰ In Denmark, the participation rate in early childhood education and care for children from immigrant families is 19 percentage points lower than that for non-immigrant children; the difference in PISA reading results between those who participated in early childhood education and care for more than three years and those who did, or participated for more than one year, is 36 points; in mathematics it is 43.5 points.

⁶¹ This compares to 8 692 children aged 0-3 years enrolled in early childhood education and care in 2014, and 53 942 children aged 3-6 in early childhood education and care (*Danmarks Statistik* 2014).

In November 2015 the Government established a forum, 'Kvalitetsforum for dagtilbud', for quality development in early childhood and pre-school education involving stakeholders from the sub-sector. The aim is to provide a practice-based forum for quality improvements in pre-school education, such as improving the transition from pre-school to the school sector and developing a new curriculum.

In November 2015, an expert group was formed to review the effects of the inclusion reform adopted in 2012. The group handed over their recommendations to the Minister of Children, Education and Gender Equality in May 2016. The proportion of all students enrolled in mainstream education (as opposed to special schools for students with special needs) has increased from 94.2 % in the 2010/11 school year to 95.2 % in 2014/2015 (Ministeriet for Børn, Undervisning og Ligestilling 2015). The Danish public school sector (*folkeskolen*) is thus close to reaching the formulated policy target of 96 % of pupils in compulsory education participating in ordinary schooling. However, the group recommended abandoning this target and focusing instead on the academic progress and well-being of the individual student. Furthermore, they recommended that schools work towards an inclusive learning environment for all students.

Figure 2. Early school leaving by gender in 2015



Source: Eurostat. Online data code: *edat_lfse14*.

A new agreement in June 2016 between the Association of Municipalities and the Government in June 2016 followed in general these recommendations. Furthermore, the agreement leaves the municipalities free to organise tailored education programmes lasting up to two years for children and young people with special needs, e.g. heavily traumatised children or children who need extra language support. The purpose of tailored programmes is to ensure that pupils are quickly and efficiently provided with the personal, social and educational competences to participate in ordinary schooling under the Act of Public Compulsory Education (*Folkeskoleloven*). The learning outcomes of the specially organised programmes should correspond to the learning outcomes in compulsory education. The law will come into effect in August 2016.

In December 2015 the Ministry for Children, Education and Gender Equality initiated several initiatives to prevent radicalisation and extremism (Eurydice 2015):

- A theme week on community, democracy and citizenship in the Danish educational system where pupils obtain practical experience with democracy in practice;

- The provision of materials on preventing radicalisation and extremism; dissemination of existing material from the Agency for International Recruitment and Integration, presented in a way that is useful for teachers and other school stakeholders;
- Updates of the existing guidance on safety and emergency response;
- Further education for selected learning consultants who are tasked with providing guidance to teachers and other people in the education system on how to prevent young people and adults being exposed to radicalisation and extremism.

Box 2: Integration of refugees and asylum seekers through education

In 2015, Denmark received 21 000 asylum seekers, the highest number in over 20 years. Recently-arrived children who do not yet have refugee status participate in education offered by Red Cross refugee centres. Municipalities assess whether such children are ready to be enrolled in the Danish compulsory education system 6-11 months after they have arrived in Denmark at the latest. If so, the child will typically start in a regular class, often with some additional support for some of the classes and depending upon their Danish language skills. The Association of Municipalities estimates that the number of reception classes has increased from 24 in 2006 to 288 in 2015.

A refugee integration agreement between the Government and the Association of Municipalities was reached in March 2016. It allows municipalities to increase the number of refugees in reception classes from 12 to 15, especially if the pupils have the same language background. As part of the agreement and to ensure better and early integration, refugees are to have their formal and informal competences assessed when they are in the process of applying for refugee status and with the use of more standardised methods (Folkeskolen 2016).

Recent legislation also provides that foreign young people — including refugees over the compulsory school age and less than 25 years old — may participate in compulsory school education if it is considered to be the most relevant option to ensure their integration and enable them to enrol in education or find employment in the future (*Ministeriet for Børn, Unge og Ligestilling* 2016a). If refugees are assessed to be labour-market ready, they must participate in a scheme of combined work placement and labour market training, including teaching in Danish as a foreign language. This is to ensure that the refugees can find employment as quickly as possible. (Ministeriet for Udlændinge, Integration og Boligområdet 2016).

5. Modernising school education

In April 2016 the Government proposed a reform of general upper secondary education with the aim of raising academic standards and providing a solid preparation for higher education. One specific objective was to boost the learning of maths and natural sciences in order to reverse the trend of decreasing numbers of students choosing natural science subjects, and the increasing number of general upper secondary graduates needing to take supplementary courses in maths and natural sciences to meet entry requirements for tertiary education studies (Leffland 2014, Produktivitetskommission 2013).

The reform maintains an emphasis on general competences traditionally associated with general upper secondary education while, in parallel, making new competences such as digital literacy more prominent. The students that choose one of the general upper secondary pathways should do so with the aim of continuing their studies in the higher education system — either the vocationally-oriented short-cycle and medium-cycle programmes or a university degree. The reform will also reduce the number of specialisations within the three main general upper secondary programmes to 49 in all. The higher preparatory examination (HF programme) will specifically target students that prefer vocationally-oriented academic studies. A political agreement was reached on 3 June 2016 between the government and a broad group of political parties (Ministeriet for Børn, Unge og Ligestilling 2016b). The bill on the reform is expected to be adopted by Parliament in the autumn of 2016 and implemented as from 2017. The reform allocates DKK 400 million, in the period 2017-2024, for the continuing education of teachers and high school principals.

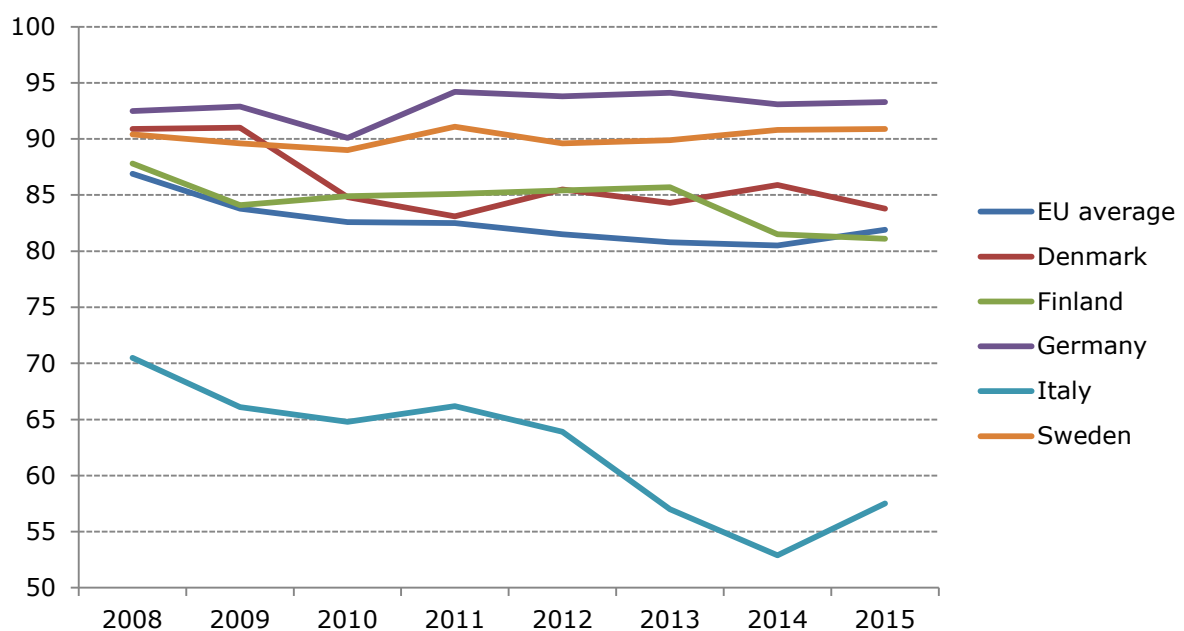
The educational readiness assessment, which is compulsory for all students in lower secondary education, defines a minimum grade students in the eighth and the ninth form must attain to be assessed as 'education ready'. In the school-leaving exam, students should not obtain grades that are lower than these minimum grades. The access criteria will be implemented from the summer of 2019.

The Government's 'Growth and Development Strategy' (*Vækst og Udvikling i hele Danmark*) of November 2015 also includes pilot measures in the school sector. These include improving opportunities for teaching students through distance education and establishing campus environments with local centres of provision to improve access for upper secondary education students.

6. Modernising higher education

The tertiary educational attainment rate for the 30-34 age group is one of the highest in the EU – 47.6 % in 2015 – and well above the EU-28 average of 38.7 %. However a gender gap exists, as 55.9 % of women have a tertiary degree compared to 39.6 % of men. The employment rate of recent tertiary graduates⁶² is high: 83.8 % compared to an EU average 81.9 % in 2015.

Figure 3. Employment rate of recent tertiary graduates (ISCED 5-8)



Source: European Commission elaboration on Eurostat data. Online data code: *edat_ifse_24*.

The Eurostudent survey suggests that the study intensity of Danish full-time students is one of the lowest in the EU. Only 72.8 % of full-time students devote more than 21 hours per week to their studies (Eurostudent 2015), which may partly be explained by the fact that many Danish students have jobs during their studies.

The final report of a higher education Expert Committee in 2015 (Uddannelses- og Forskningsministeriet 2015) proposes improving the quality and labour market relevance of higher education. The proposals call for making tertiary pathways more flexible, reforming the admission system, deregulating programme content and organisation, and improving the quality and relevance of programmes.

In November 2015, an amendment to the 2013 Study Progress Reform came into force giving the higher education institutions more autonomy in finding solutions to meeting targets for the

⁶² People aged 20-34 who left tertiary education one to three years before the reference year.

faster completion of tertiary studies. The amendment also improves the offering of supplementary courses for bachelor and professional bachelor students seeking admission to master's programmes. Short-cycle and medium-cycle professionally-oriented study programmes are a central feature of higher education provision due to the large number of small and medium-sized enterprises in the private sector. The short- and medium-cycle, practice-based tertiary programmes may, due to their practical focus, be more immediately suited to the needs of small and medium-sized enterprises, particularly in traditional sectors of the economy (Shapiro et. al. 2014).

The funding system for higher education is also being reformed to stimulate the quality of programmes and their relevance to the labour market. Institutions and other stakeholders were invited to provide recommendations for the design of the future financing system of higher education up until the end of January 2016, after which meetings with the institutions and other stakeholders took place (Uddannelses- og Forskningsministeriet 2016).

The 'Growth and Development Strategy' (Erhvervs- og Vækstministeriet 2015) entails a proposal to pilot vocationally-oriented tertiary education with the aim of better supporting local offers of tertiary education, including continuing further education through digital and online learning. The National Centre for Evaluation has recently mapped the use of project-oriented cooperation to improve employment opportunities for university students. 29 % of students, most of whom are in master's programmes, have participated in at least one such project-oriented cooperation venture with companies during their studies⁶³ (Danmarks Evalueringsinstitut 2016a). The evaluation shows that students regard the cooperation initiatives as a way of applying their competences, thereby improving their employability competences, their networks and employment (Danmarks Evalueringsinstitut 2016b).

Transferring the results of university research to innovation by businesses remains a challenge. There are significant barriers to the utilisation of university research due to inadequate cooperation between universities and the business sector. To address this challenge, a report published by the Government in 2014 made recommendations on how to boost university-business collaboration and the utilisation of university research. Furthermore, a strategic objective of the new Government's 'Growth and Development Strategy' is to strengthen the interaction between higher education institutions and businesses (Danish Government 2016).

In August 2016, the Government unveiled its economic strategy for 2025 which if adopted, will mean substantial changes in the grant and loan system for students in Denmark.

7. Modernising vocational education and training and promoting adult learning

The employment rate of recent upper secondary graduates was 79.5 % in 2015 compared with an EU average of 70.8 %, a significant decrease on the 2008 figure of 90.2 %.⁶⁴ At the same time, the number of 15-29 year-olds in Denmark who are neither in employment nor in education or training is only 10.7 %. Participation in adult learning in Denmark is one of the highest in the EU and was 31.3 % in 2015, well above the EU average of 10.7 %.

Denmark has almost all VET students in work-based programmes — 99.7 % in 2014. However, more apprenticeship places in companies are still needed. In January 2015, a joint report from the Government and social partners estimated that the supply of apprenticeships could still be increased by 59 % compared with the 2012 level. In October 2015 some 5 % of VET students were actively seeking an apprenticeship place, while about 8 % were only in school-based internships.

⁶³ The analysis of project-oriented cooperation shows that the majority of the initiatives involve a placement in a company. 67 % of bachelor and master's programmes offer opportunities for project-based cooperation. There are large variations in how the placement programmes and the nature of cooperation are organised, as well as in the degree of formalisation of these arrangements.

⁶⁴ People aged 20-34 who left upper secondary education one to three years before the reference year.

The aim of the 2015 reform, 'Better and more attractive vocational education and training programmes' was to increase the proportion of young people starting a VET programme from the current level of 19 % to 25 % in 2020 and 30 % in 2025. A second target is to increase the completion rate from 52 % in 2012 to at least 60 % in 2020 and 67 % in 2025. The reform took effect in the school year 2015/2016. The most recent data from the Ministry of Children, Education and Gender Equality show an improvement in the drop-out rate of 15-17 year-old students during the basic programme, from 15 % in 2014 to 11 % in April 2016 (these data, however, do not show whether or not the drop-outs continue in another education pathway, Ministeriet for Børn, Undervisning og Ligestilling 2016a). The additional funding in 2016 targets activities that improve the quality of the education and should aid the implementation of the reform.⁶⁵

Over the last few years, 50 placement centres have been established, which are responsible for cooperating with local businesses on creating apprenticeships and offering school-based internships. The Government's November 2015 'Growth and Development Strategy' includes initiatives to increase the chances of students in vocational education finding practical training providers.

Encouraging more young people to choose a VET pathway is also one of the main elements of the 2015 VET reform. This includes extending the new VET pathway called EUX to more VET programmes, which offers a dual qualification — as a skilled worker and access to general tertiary education.

8. References

Arbejderbevægelsens Erhvervsråd (2015), Regeringens besparelser på uddannelse, http://www.ae.dk/sites/www.ae.dk/files/dokumenter/analyse/ae_regeringen-tager-milliarder-fra-uddannelse-og-giver-til-boligejere.pdf

Council of the European Union (2016), Council recommendation of 12 July 2016 on the 2016 National Reform Programme of Denmark and delivering a Council opinion on the 2016 Convergence Programme of Denmark, http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.C_.2016.299.01.0087.01.ENG&toc=OJ:C:2016:299:TOC

Danish Government (2016), Denmark National Reform Programme 2016

Danmarks Evalueringsinstitut (2016a), Projektorienterede forløb- delnotat 1, Uddannelsesministeriet

Danmarks Evalueringsinstitut (2016b), Projektorienterede forløb. Delnotat 2: 2: Overblik over udbredelsen af og rammerne for projektoreinterede forløb, Uddannelsesministeriet.

Danmarks Lærerforening (2016), Analyseenotat, Danmarks Lærerforening

Danmarks Statistik (2014), <http://www.dst.dk/da/Statistik/NytHtml?cid=19245>

Erhvervs- og Vækstministeriet (2015), Vækst og Udvikling i hele Danmark- Growth and Development in all of Denmark, <https://www.evm.dk/publikationer/2015/15-11-23-vaekst-og-udvikling-i-hele-danmark>

Eurostudent (2015), Eurostudent survey V 2012-2015. Social and Economic conditions of student life in Europe, http://www.eurostudent.eu/download_files/documents/EVSynopsisofIndicators.pdf

Eurydice (2014), Key Data on Early Childhood. Education and Care, 2014 Edition Eurydice and Eurostat Report, http://eacea.ec.europa.eu/education/eurydice/documents/key_data_series/166EN.pdf

⁶⁵ The agreement on the 2016 financial bill includes DKK 150 m in 2016 for activities to improve the quality of VET. VET is only excluded from the 2 % per year reductions in funding for youth education in 2016.

- Eurydice (2015), National Reforms in School Education, https://webgate.ec.europa.eu/fpfis/mwikis/eurydice/index.php/Denmark:National_Reforms_in_School_Education
- Finansministeriet (2016), Aftale om kommunernes økonomi for 2017, <https://www.fm.dk/nyheder/pressemeddelelser/2016/06/aftale-om-kommunernes-oekonomi-for-2017>
- Folkeskolen (2014), Brøns Riise A. 1 April 2014, Press article, Ethnic PISA, <https://www.folkeskolen.dk/543083/pisa-etnisk-elever-med-indvandrerbaggrund-halter-stadig-efter>
- Folkeskolen (2015), Bangild C., 30 March 2016, Press article; Fra 12 til 15 elever. Modtageklasselærere får mindre tid til flygtningebørn, Copenhagen: Folkeskolen.dk, <https://www.folkeskolen.dk/584563/fra-12-til-15-elever-modtageklasse-laerere-faar-mindre-tid-til-flygtningeboern>
- Kommunernes Landsforening (2016), Det indeholder økonomaftalen 2017 også, 13.06.2016, <http://www.kl.dk/Okonomi-og-dokumentation/Det-indeholder-okonomaftalen-2017-ogsaa-id206355/?n=0-2017-ogsaa-id206355/?n=0>
- KORA -Danish Institute for Local and Regional Government Research (2016), Den kommunale styring forud for Folkeskolereformen, s.l.: KORA, <http://www.emu.dk/sites/default/files/2016%20-%20KORA%20-%20Rapport%20om%20den%20kommunale%20styring%20forud%20for%20folkeskolereformen.pdf>
- Leffland L. (2014), 28 May 2014, Choktal fra gymnasierne: Tusinder af elever fravælger naturfagene, <http://ing.dk/blog/choktal-fra-gymnasierne-tusinder-af-elever-fravaelger-naturfagene-168696>
- Ministeriet for Børn, Undervisning og Ligestilling (2015), Statistical data
- Ministeriet for Børn, Undervisning og Ligestilling (2016a). Færre unge elever falder fra efter erhvervsuddannelsesreformen, 19 April 2016, <http://www.uvm.dk/Aktuelt/~UVM-DK/Content/News/Udd/Erhvervs/2016/Apr/160418-Faerre-unge-elever-falder-fra-efter-erhvervsuddannelsesreformen>
- Ministeriet for Børn, Unge og Ligestilling (2016b), Kommunale særlige tilbud om grundskoleundervisning til visse udenlandske børn og unge, <https://www.uvm.dk/Uddannelser/Anden-uddannelse-og-undervisning/Kommunale-saerlige-tilbud-om-grundskoleundervisning-til-visse-udenlandske-born-og-unge?allowCookies=off&remember=on>
- Ministeriet for Udlændinge, Integration og Boligområdet (2016), Tre-parts aftale på plads om integration, <http://uibm.dk/nyheder/2016-03/trepartsaftale-pa-plads-om-integration>
- OECD (2013), PISA 2012 results: What Students Know and Can do. Student Performance in Mathematics, Reading and Science (Volume I), <http://www.oecd.org/pisa/keyfindings/pisa-2012-results-volume-I.pdf>
- Produktivitetskommission (2013). Uddannelse og Innovation- Analyserapport 4, [http://produktivitetskommissionen.dk/media/159656/Analyserapport%204,%20Uddannelse%20og%20innovation%20\(web\).pdf](http://produktivitetskommissionen.dk/media/159656/Analyserapport%204,%20Uddannelse%20og%20innovation%20(web).pdf)
- Shapiro, H., Østergaard, S., Secher, J. O. (2014), Matchet mellem nyuddannede bachelorer og kandidaters kompetencer og SMV'ernes behov for højtuddannet arbejdskraft, Udvalg for Kvalitet og Relevans i de Videregående Uddannelser
- Uddannelses- og Forskningsministeriet (2015), <http://ufm.dk/en/education-and-institutions/councils-and-commissions/the-expert-committee-on-quality-in-higher-education-in-denmark>
- Uddannelses- og Forskningsministeriet (2016), <http://ufm.dk/uddannelse-og-institutioner/indsatsomrader/nyt-bevillingssystem-for-de-videregaende-uddannelser>

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_ipart (2011), educ_uoe_enra10 (2014)
Employment rate of recent graduates	edat_lfse_24
Adult participation in lifelong learning	trng_lfse_01
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

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



1. Key indicators

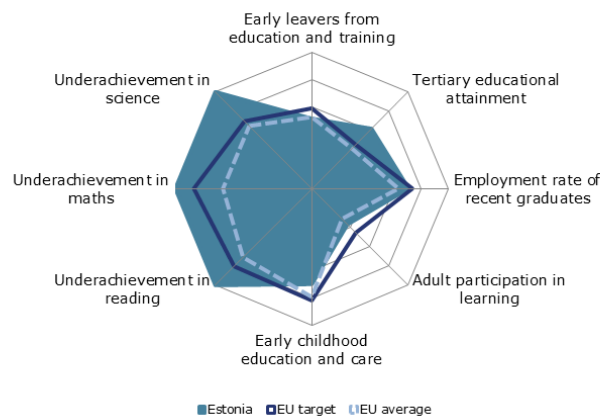
		Estonia		EU average		
		2012	2015	2012	2015	
ET 2020 benchmarks						
Early leavers from education and training (age 18-24)	Total	10.3%	11.2%	12.7%	11.0%	
Tertiary educational attainment (age 30-34)	Total	39.5%	45.3%	36.0%	38.7%	
Early childhood education and care (ECEC) (from age 4 to starting age of compulsory education)		89.9% ¹¹	91.7% ¹⁴	93.2% ¹¹	94.3% ¹⁴	
Proportion of 15 year-olds with underachievement in:	Reading	9.1%	:	17.8%	:	
	Maths	10.5%	:	22.1%	:	
	Science	5.0%	:	16.6%	:	
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-8 (total)	74.9%	80.6%	75.9%	76.9%	
Adult participation in lifelong learning (age 25-64)	ISCED 0-8 (total)	12.8%	12.4%	9.2%	10.7%	
Other contextual indicators						
Education investment	Public expenditure on education as a percentage of GDP	6.2%	5.6% ¹⁴	5.0%	4.9% ^{14,P}	
	Expenditure on public and private institutions per student in € PPS	ISCED 1-2	€4.622	€5.237 ¹³	:	: ¹³
		ISCED 3-4	€5.513	€4.526 ¹³	:	: ¹³
ISCED 5-8		€6.371 ^d	€8.566 ¹³	:	: ¹³	
Early leavers from education and training (age 18-24)	Native-born	10.4%	11.3%	11.6%	10.1%	
	Foreign-born	:	:	24.9%	19.0%	
Tertiary educational attainment (age 30-34)	Native-born	39.6%	44.7%	36.7%	39.4%	
	Foreign-born	36.0% ^u	59.2% ^u	33.8%	36.4%	
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-4	65.5%	74.4%	69.7%	70.8%	
	ISCED 5-8	84.3%	86.1%	81.5%	81.9%	
Learning mobility	Inbound graduates mobility (bachelor)	1.2% ¹³	1.5% ¹⁴	5.5% ¹³	5.9% ¹⁴	
	Inbound graduates mobility (master)	5.0% ¹³	5.1% ¹⁴	13.6% ¹³	13.9% ¹⁴	

Sources: Eurostat (see section 9 for more details); OECD (PISA).

Notes: data refer to weighted EU averages, covering different numbers of Member States depending on the source; b = break in time series, d = definition differs, p = provisional, u = low reliability, 11 = 2011, 13 = 2013, 14 = 2014.

Further information can be found in the relevant 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 2015) and OECD (PISA 2012).

Note: all scores are set between a maximum (the strongest performers, represented by the outer ring) and a minimum (the weakest performers, represented by the centre of the figure).

2. Highlights

- Estonia continues to have a well-performing education system combining a low proportion of under achievers with a low impact of socio economic status on education outcomes.
- Tertiary educational attainment is one of the highest in the EU. The employment rate of recent graduates has recovered after the economic crisis.
- Estonia is implementing a comprehensive Lifelong Learning Strategy. This brings a new approach to learning by emphasising individual and social development, and the acquisition of skills at all levels and in all types of education.
- The main challenges are to adapt to demographic trends, increasing the attractiveness of the teaching profession, further reducing early school leaving, and narrowing the performance gap between Estonian-speaking and Russian-speaking students.

Box 1: The 2016 European Semester country-specific recommendation on education and training

The 2016 European Semester country-specific recommendations (CSRs) to Estonia (Council of the European Union 2016) included a recommendation on education and training:

Promote private investment in research, development and innovation, including by strengthening cooperation between academia and businesses

3. Investing in education to address demographic and skill challenges

General government expenditure on education as a percentage of GDP decreased from 6.2 % in 2011 to 5.6 % in 2014, but remained above the EU average of 4.9 %.⁶⁶ Spending on education also decreased as a share of public expenditure — from 16.6 % in 2011 to 14.7 % in 2014, but remained well above the EU average (10.2 %). According to the 2016 draft budgetary plan (Ministry of Finance 2016), public spending on education was 5.6% of GDP in 2015 (14.1% of public expenditure) and is set to reach 5.2% of GDP in 2016 (13.3% of public expenditure).

Estonia's demographic trends are having a deep impact on education. Data from the National Institute for Statistics shows that the number of children in pre-school education was on the rise until 2015 and can be expected to fall in the following years as children born in the years with the highest birth rates are reaching school age. The last time the number of first-grade students exceeded 15 000 was in 2000. At the same time, the number of gymnasium students (general upper secondary) fell and that of basic school students (lower secondary) grew. In 2015, there were 51 000 students in higher education (8% less compared to the previous year) (National Institute for Statistics 2016).

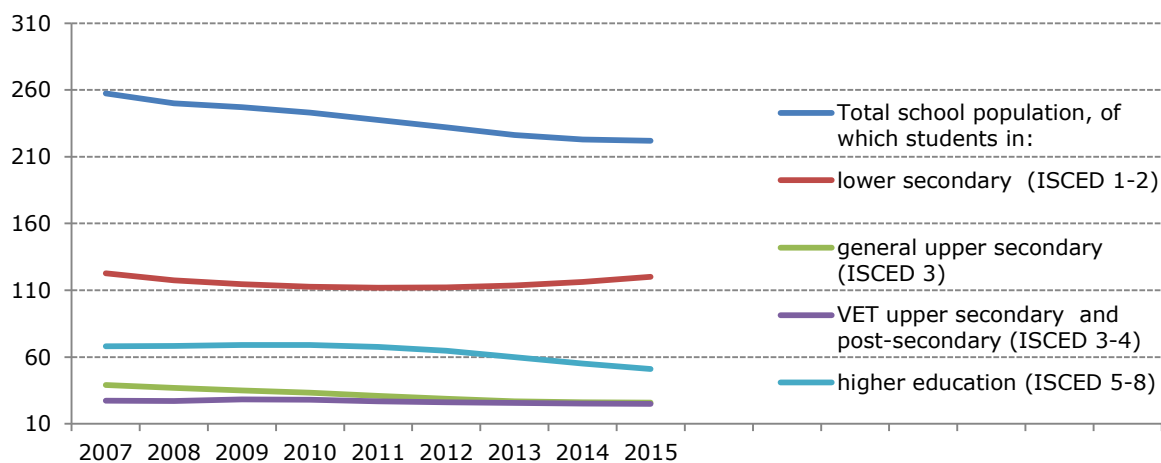
According to Estonia's 2016 National Reform Programme, the most important reforms planned for the near future are optimising the network of general education schools, a clearer separation of basic and upper secondary schools and increasing the quality of vocational education and its relevance to labour market needs.

Estonia is updating its education funding model in order to increase its spending effectiveness and efficiency. For example, the principles for differentiation of the salary levels are being worked out. A new vocational education and training (VET) funding model is under development. In higher education the new financing model based on performance-based

⁶⁶ Source: Eurostat, General government expenditure by function (COFOG) database.

contracts has recently been updated to provide more flexibility and better targeting of disadvantaged students. In addition, consolidating school networks has become a policy priority and many schools have been closed down. Nevertheless, a recent OECD review on the effective use of school resources recommended further consolidation of the school network in order to adapt to current demographic trends, along with targeting extra resources at students with special educational needs and Russian-speaking students. Against the backdrop of an oversupply of teachers, the review points to the need to develop strategies for reallocating, redeploying and retiring teachers currently employed in schools that will be affected by the consolidation process, while ensuring the continuous entry of talent into the teaching profession (OECD 2016).

Figure 2. School population



Source: National Institute for Statistics.

Finally, employment rates have recovered following the economic crisis and are above EU averages. The employment rate of those with tertiary education (ISCED 5-8) continued to increase, reaching 85.7 % (EU average 84.1 %). It was 76.9 % for those with upper secondary education (ISCED 3-4), above the EU average of 73.9 %. Despite a slight decrease in 2015, the employment rate of those with lower educational attainment (ISCED 0-2) remained above the EU average (58.1 % vs 53.2 %).

4. Tackling inequalities and promoting inclusion

In 2015, the early school leaving rate stood at 11.2 %, after decreasing significantly between 2007 and 2013 (when the rate dropped to 9.7 %). This figure is around the EU average but above Estonia's national Europe 2020 target of 9.5 %. The rate also masks significant differences between rural and urban areas (4.9 % in cities, 12.5 % in towns and suburbs and 16.8 % in rural areas).⁶⁷ Although the considerable gap between men and women has decreased significantly over time, the early school leaving rate remains much higher for men than for women (13.2 % vs 9 %). Drop-out is a particularly a problem in the first year of upper secondary VET education (24.7% in 2015).

Estonia has taken a series of measures to reduce early school leaving, such as developing counselling centres, facilitating inclusive education and additional support for teacher training. Ongoing measures are largely part of the Lifelong Learning Strategy, which aims to reduce the early school leaving rate to below 9 %, dropout rates in lower secondary compulsory education to less than 1 % and dropout rates in upper secondary general education to less than 0.8 % by 2020. The aim is to increase equal opportunities and decrease early school leaving by taking account of students' individual development needs in school organisation, including by creating language acquisition opportunities for Russian speaking students.

⁶⁷ Source: Eurostat. Online data code: *edat_ifse_30*.

Participation in early childhood education and care (ECEC) is slightly below the EU average, but is increasing. In 2014, 91.7 % of children aged between 4 and the mandatory school age were enrolled in ECEC, compared to an EU average of 94.7 %. In Estonia it is compulsory for municipalities to guarantee a place in ECEC for children between 1.5 years and the compulsory schools age - at the request of parents- , but there are some shortages, particularly in large urban areas. The unmet need for childcare was estimated at 2 335 places (3 % of the total number of children aged 1-6) in 45 local governments (about 21 % of all local governments) (National Audit Office, 2015). Since 2014, children aged 1.5 to 3 years may be placed in non-educational institutions if there are no other available places. In general, municipalities are allowed to charge fees for pre-primary education, and most do. The maximum level of fees paid by families may not exceed 20 % of the national minimum wage. To address the challenges of availability, the Estonian authorities aim to streamline the system of childcare and day-care provision. The concept was developed in December 2015. A legislative proposal will be developed by March 2017 following discussions. New childcare places will be created from 2016 until 2023 with support from the European Structural and Investment Funds (ESIF).

Estonia ranks very high among the EU countries participating in PISA (OECD 2013). The proportion of low achievers in reading, maths and science is small and the impact of socio-economic background on results is low. However, there are performance differences between Russian-speaking and Estonian-speaking students, and between rural and urban schools. The average performance of Russian-speaking students is lower, although the skills gap has decreased.

The Ministry of Education and Research proposed a set of measures to address performance gaps between the Estonian and Russian-speaking population, including mentorships for Russian medium-school teachers, additional support for underperforming schools, new teaching materials, innovative language learning and teaching methodologies.

The number of children with educational needs attending mainstream schools has been increasing, even though the shift is slower than envisaged by authorities (OECD 2016). In the 2015/2016 school year, 95% of SEN students with mild special needs studied in mainstream schools, as well as 27% of students with severe special educational needs (compared to a target of 35% by 2020). The number of special education schools decreased from 45 in 2008 to 36 in 2015. Recently, the procedure of allocation of a study place in a special school was changed. Although parents have the final choice, the decision will be made in consultation with specialists at the regional counselling centres established (OECD 2016).

5. Modernising school education

Against the backdrop of high performance, the Estonian school system is faced with some challenges, such as the need to continue adapting to demographic changes. Other challenges are differences in the quality of educational services across regions and between urban and rural areas. The proportion of young people, particularly men, in the teaching profession is low, and interest in enrolling in teacher education programmes remains limited. Teachers' salaries are low when compared to those of people with tertiary education in Estonia, and compared with other OECD countries (OECD 2016). Only about 60 % of those who have trained to become teachers actually start working in schools.

Authorities seek to raise the average salary of teachers to at least the same level as that of the average wage of a specialist with a tertiary education degree in Estonia by 2020. Already, in real terms, salaries for lower secondary teachers with 15 years of experience increased by 30 % between 2005 and 2012. The minimum teacher salary was raised each year since 2014, and reached EUR 958 in 2016. Since January 2016, a new structural change in the education grant paid per student to school owners will serve to bolster increases in teachers' salaries. Campaigns to popularise the teaching profession will also be supported in schools and universities.

Other measures planned under the programme 'Competent and motivated teachers and school leadership', adopted in 2015 as one of the main measures of the Lifelong Learning Strategy, include:

- developing a training system for school teachers and headmasters in primary, general and vocational education;
- facilitating cooperation in order to support the implementation of the new study approach;
- developing competence centres at two major universities;
- implementing a competence model for school principals and carrying out evaluations on a regular basis; and
- popularising the teaching profession through special programmes (targeting both young people and adults who intend to change profession).

The Estonian language skills of Russian medium-school teachers are sometimes low. Teachers who wish to improve their language skills can participate in state-funded language courses (at B2 or C1 level). New Estonian language-teaching activities were launched in 2015 under the Estonian Language Strategy, with funding from the state budget. In August 2015, B2-level and C1-level Estonian language courses were launched in the Ida-Viru county, which has a large Russian speaking population, for more than 200 kindergarten, general education and vocational education teachers.

A particular challenge arises from the fact that the Estonian language skills of students graduating from schools with Russian as a medium of instruction often fail to meet the requirements of upper secondary education, where at least 60 % of the subjects are taught in Estonian. In 2015, only 64 % of Russian basic school graduates from these schools had reached the B1 level (Ministry of Education 2016), but the goal is to reach at least 82 % by 2019. In order to facilitate access to further education, higher education institutions provide Estonian language courses to non-Estonian speakers. Estonian is generally not a prerequisite for applying to study programmes (i.e. Russian speaking students can apply with exams taken in Russian). Students are also allowed to take up to a year of extra study time at higher education level to achieve the required skill level in Estonian, and some higher education institutions allow students to start their studies in Russian, while learning Estonian in parallel.

Provisions concerning ICT competencies are included in the 2020 Lifelong Learning Strategy and the Estonian Development Plan of Information Society 2020, such as:

- improving information technology studies in basic schools, upper secondary schools and vocational curricula to guarantee the basic level of graduates' digital skills; arranging for students' digital competencies to be assessed at the end of different stages of school;
- offering training courses for teaching personnel;
- supporting the acquisition of better ICT skills among different professional curricula (ensuring professional knowledge of ICT skills);
- applying ICT competency requirements to professional standards;
- access to informal education in the field of very specific IT skills (i.e. robotics, 3D printing, etc.) for children in pre-school and primary education.

With regard to the state of implementation, the authorities reported that the approach and understanding of digital competence are agreed upon by schools, while the process of elaborating e-assessment instruments for digital competences of students in general secondary education and teachers is ongoing. Regarding teachers' skills, the challenge is to prepare and encourage teachers to use tools for subject related tasks more often and in areas where this is uncommon. The Estonian authorities are also planning additional measures to amend the curricula and qualification standards, as well as in teachers' career programme development. This measure aims to address the need to increase IT competences and technological literacy beyond the IT sector.

The Lifelong Learning Strategy 2020 outlines a new learning approach that supports each learner's individual and social development, the acquisition of learning skills, creativity and entrepreneurship at all levels and in all types of education. The Strategy also aims for 100 % of students to use computers at school, 100 % of basic education graduates to have their ICT skills assessed and certified and for 100 % of year 8 students to be in digitally supportive

schools and in schools with a virtual learning environment. With regards to entrepreneurship, planned measures include developing leadership, teamwork and financial literacy skills in entrepreneurial studies, developing entrepreneurship issues in teacher training, and organising various events and activities to popularise and support the development of entrepreneurial studies.

Box 2. Upper secondary school network reform

Estonia has recently started a process of recentralising general upper secondary schools due to quality concerns and the slow and incomplete adjustment by municipalities to demographic trends. A 2014 study commissioned by the Ministry of Education and Research concluded that by 2020 less than 1/3 of the current number of gymnasiums would be needed to accommodate students at that level of education (Praxis Centre for Policy Analysis 2014). In practice, a large number of small upper secondary schools owned by municipalities were in operation. Some of these, mostly in rural areas, did not provide high quality, inclusive and diverse education.

The recentralisation process entails establishing a network of 24 state-owned upper secondary schools (grades 10 to 12) by 2020, while reducing the number of facilities operated by municipalities.⁶⁸ By the start of the 2015/16 school year, nine state-owned gymnasiums had been opened, with three new ones opening in September 2016. Between 2014 and 2020, funding for this project will total EUR 241 million, including EUR 204.8 million from the European Regional Development Fund.

The new School Network Programme was launched in 2015 as part of the Lifelong Learning Strategy. In addition to establishing state-owned upper secondary schools, the programme also aims to modernise/reconstruct basic schools to help local governments improve the efficiency of the school network and reduce costs, so that municipalities can concentrate and invest more in improving the quality of basic education.

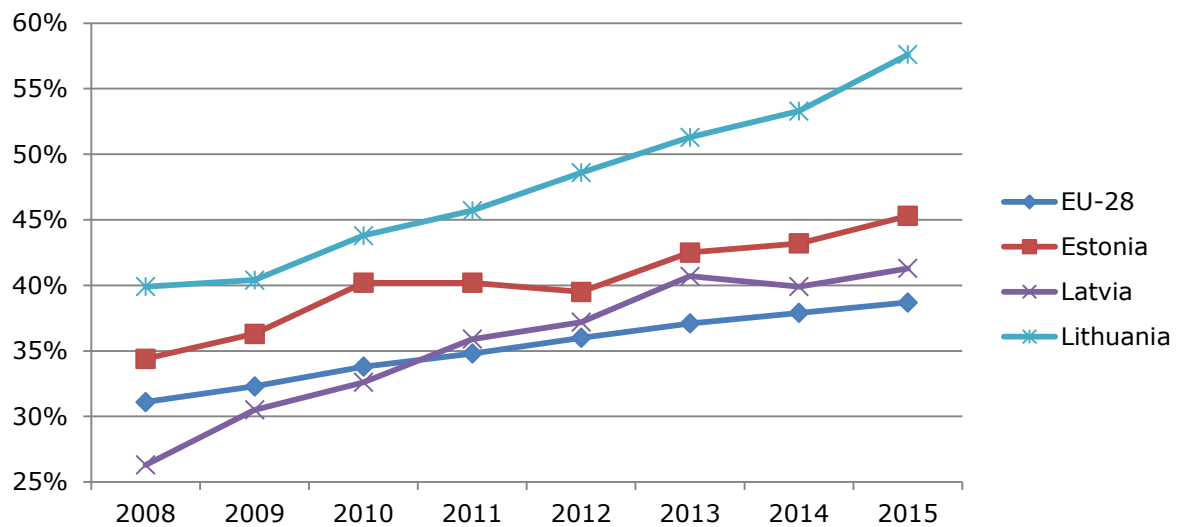
6. Modernising higher education

Estonia's tertiary educational attainment rate for the 30-34 age group is well above the EU average (45.3 % compared to 38.7 % in 2015). It increased by 17 percentage points between 2004 and 2015, and already exceeds the national Europe 2020 target of 40 %. In 2015, women continued to perform significantly better than men (56.7 % vs 34.5 %). The employability of recent tertiary graduates⁶⁹ continues to be high: 86.1 %, above the EU average of 81.9 % in 2015. The admission of foreign students to Estonian universities has also increased. The goal for 2015 – to admit 2 000 foreign students was achieved, while in the 2015/2016 academic years almost 3.500 foreign students were studying at Estonian universities, 6.8% of the total student body at Estonian universities (National Institute for Statistics 2016).

⁶⁸ The number of schools that provide upper secondary education decreased from 202 in 2013 to 171 in 2015. The goal is to further decrease their number to about 100 by 2020 (Ministry of Education and Research 2016).

⁶⁹ People aged 20-34 who left tertiary education between one and three years before the reference year.

Figure 3. Tertiary educational attainment



Source: Eurostat.

The tertiary educational reform, adopted in 2013, focused on problems of access, quality and the mismatch with the labour market needs. The funding system was changed — higher education became free for those studying full time and in Estonian, provided they meet the requirements for their curriculum in full each semester – which means they have to earn 30 ECTS credits per semester. Discussions are ongoing on whether the funding system should be changed again. In order to improve accessibility for disadvantaged students, a needs-based grant system was developed. To improve take up, the system was made more flexible (and is now accessible to students fulfilling at least 75 % of the required semester curriculum). An additional support scheme has been introduced for students who do not qualify for the main support, but whose socio-economic situation has worsened considerably in recent months.

According to the 2016 National Reform Programme, one key priority for the next period is better differentiation of competencies and tasks between higher education institutions, in order to respond to regional needs and labour market developments. Moreover, the forecasting of skills needs will be made more effective and efficient through development of the coordination system for monitoring and forecasting labour market trends and skills development (OSKA).

Several fields of priority specialisation have been identified to better align the skills of higher education graduates with labour market developments, particularly in strategically important or rapidly developing sectors such as ICT and health technologies/services. Students interested in these fields can benefit from a merit-based scholarship offered at bachelor and master's level and in post-secondary professional education. The scholarship scheme is available at seven higher education institutions and covers 86 study programmes, and supported from the European Structural and Investment Funds (ESIF). As from 2016 smart specialisation scholarships will be provided to PhD students as well.

7. Modernising vocational education and training and promoting adult learning

The employment rate of recent upper secondary VET graduates⁷⁰ is above the EU average (83.5 % compared to 73 % in 2015), but drop-out rates remain high despite a decrease in the past years. Opportunities to engage in work-based learning are increasing and have become compulsory in all VET curricula.

⁷⁰ People aged 20-34 who left upper secondary VET between one and three years before the reference year.

The Estonian Government has set a national target of 20 % for adult participation in lifelong learning by 2020. Actual participation in lifelong learning has increased significantly, from 6.6 % in 2004 to 12.4 % in 2015, but is significantly lower for people aged 55+ and people with lower levels of education.

The Government is taking measures to modernise the work placement system in education, extend the apprenticeship programme and develop entrepreneurship training, with ESIF support. In the 2015-2016 school year, more than 1 000 students were enrolled in apprenticeships programmes, significantly more compared to the previous years. The majority of students in apprenticeships are adult learners, and the challenge is to attract young people to participate in the scheme. New partnerships with employers were launched. The Estonian Employers' Confederation and the Estonian Chamber of Commerce and Industry have taken on the responsibility to inform employers about apprenticeship training possibilities.

Moreover, a public system for monitoring and forecasting labour market trends and skills developments (OSKA) has now been implemented at all levels of education, including VET and adult education. OSKA results will support the updating of qualifications, assist in curriculum development in educational institutions and inform the career counselling service. Sectorial analyses were completed for ICT, forestry and wood, and accounting, and are under preparation for the metal and engineering industry, and for social work.

8. References

Council of the European Union (2016), Council recommendation of 2 July 2016 on the 2016 National Reform Programme of Estonia and delivering a Council opinion on the 2016 Stability Programme of Estonia, 2016/C 299/11,

http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.C_.2016.299.01.0045.01.ENG&toc=OJ:C:2016:299:TOC

Estonian Government (2014), Lifelong Learning Strategy (2014-20),
<http://www.kogu.ee/wp-content/uploads/2014/05/Lifelong-Learning.pdf>

Ministry of Education and Research (2015), Haridus- ja Teadusministeeriumi aasta-analüüs. Tartu: HTM,
<https://www.hm.ee/sites/default/files/aastaanalys2015.pdf>

Ministry of Education and Research (2016), Performance reports of the development plans of the Ministry of Education and Research 2015,
https://www.hm.ee/sites/default/files/htm_tulemusvaldkondade_aruanded_2015_loplik_29_04_16.pdf

Ministry of Finance (2016), 2016 Draft Budgetary Plan of Estonia,
http://ec.europa.eu/economy_finance/economic_governance/sgp/pdf/dbp/2015/2015-10-15_ee_dbp_en.pdf

National Institute for Statistics (2016), Statistical Yearbook of Estonia,
<http://www.stat.ee/277640>

OECD (2012), OECD Economic Surveys: Estonia 2012,
http://www.oecd-ilibrary.org/economics/oecd-economic-surveys-estonia-2012_eco_surveys-est-2012-en

OECD (2013), PISA 2012 results: What Students Know and Can do. Student Performance in Mathematics, Reading and Science (Volume I),
<http://www.oecd.org/pisa/keyfindings/pisa-2012-results-volume-I.pdf>

OECD (2016), Reviews of School Resources: Estonia,
<http://www.oecd.org/publications/oecd-reviews-of-school-resources-estonia-2016-9789264251731-en.htm>

Praxis Centre for Policy Analysis (2014), Estonian basic and Secondary School Network Analysis 2020,
http://mottetohmik.praxis.ee/wp-content/uploads/2014/06/koolivorgu_prognos2020.pdf

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_ipart (2011), educ_uoe_enra10 (2014)
Employment rate of recent graduates	edat_lfse_24
Adult participation in lifelong learning	trng_lfse_01
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

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Finland

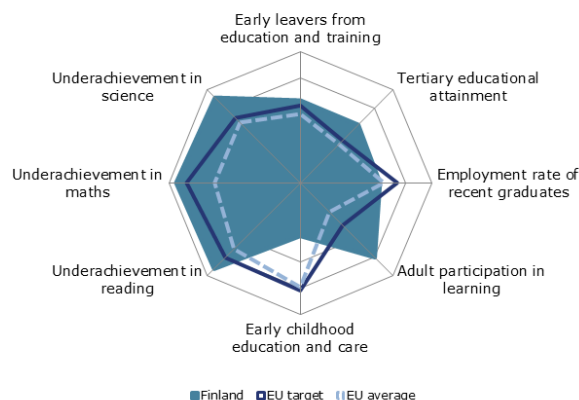


1. Key indicators

		Finland		EU average		
		2012	2015	2012	2015	
ET 2020 benchmarks						
Early leavers from education and training (age 18-24)	Total	8.9%	9.2%	12.7%	11.0%	
Tertiary educational attainment (age 30-34)	Total	45.8%	45.5%	36.0%	38.7%	
Early childhood education and care (ECEC) (from age 4 to starting age of compulsory education)		74.0% ¹¹	83.6% ¹⁴	93.2% ¹¹	94.3% ¹⁴	
Proportion of 15 year-olds with underachievement in:	Reading	11.3%	:	17.8%	:	
	Maths	12.3%	:	22.1%	:	
	Science	7.7%	:	16.6%	:	
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-8 (total)	80.7%	75.5%	75.9%	76.9%	
Adult participation in lifelong learning (age 25-64)	ISCED 0-8 (total)	24.5%	25.4%	9.2%	10.7%	
Other contextual indicators						
Education investment	Public expenditure on education as a percentage of GDP	6.4%	6.4% ¹⁴	5.0%	4.9% ^{14,p}	
	Expenditure on public and private institutions per student in € PPS	ISCED 1-2	€7.529	€7.512 ¹³	:	: ¹³
		ISCED 3-4	€6.540	€6.502 ¹³	:	: ¹³
		ISCED 5-8	€13.585	€13.223 ¹³	:	: ¹³
Early leavers from education and training (age 18-24)	Native-born	8.7%	8.7%	11.6%	10.1%	
	Foreign-born	14.9% ^u	18.1% ^u	24.9%	19.0%	
Tertiary educational attainment (age 30-34)	Native-born	47.0%	47.2%	36.7%	39.4%	
	Foreign-born	33.0%	32.7%	33.8%	36.4%	
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-4	77.4%	72.0%	69.7%	70.8%	
	ISCED 5-8	85.4%	81.1%	81.5%	81.9%	
Learning mobility	Inbound graduates mobility (bachelor)	5.1% ¹³	5.4% ¹⁴	5.5% ¹³	5.9% ¹⁴	
	Inbound graduates mobility (master)	8.9% ¹³	9.5% ¹⁴	13.6% ¹³	13.9% ¹⁴	

Sources: Eurostat (see section 9 for more details); OECD (PISA). Notes: data refer to weighted EU average, covering a different number of Member States depending on the source; b= break in time series, d= definition differs, p= provisional, u= low reliability. 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 2015) and OECD (PISA 2012).

Note: all scores are set between a maximum (the highest performers visualised by the outer ring) and a minimum (the lowest performers visualised by the centre of the figure).

2. Highlights

- The Government identified six key 'knowledge and education' projects in its strategic 'Vision: Finland 2025' and has to implement these in a fiscal consolidation environment.
- The educational outcomes of 15-year-olds are still some of the best in the EU, but have decreased recently across all groups.
- Curricula are being modernised at all levels of education.
- The tertiary educational attainment rate is amongst the highest in the EU. Higher education is undergoing reform to increase its efficiency and relevance.
- The proportion of students in vocational education and training, and of adults in lifelong learning, is amongst the highest in the EU.

Box 1: The 2016 European Semester country-specific recommendation on education and training

The 2016 European Semester country-specific recommendations to Finland (Council of the European Union 2016) included a recommendation on education and training:

Take measures to reduce regional and skills mismatches

3. Investing in education to address demographic and skill challenges

In 2014 general government expenditure on education as a proportion of GDP (6.4 %)⁷¹ was among the highest in the EU, and was also above the EU average as a proportion of total general government expenditure (11 %). Finland's education budget was consistently both high and stable over the past decade, but has declined markedly in recent years. Finland has seen a reduction in education expenditure in real terms since 2011, with the biggest drop in 2012 (-0.7 % in 2011, -3.0 % in 2012 and -0.8 % in 2013). In 2014 the national education budget of EUR 6.59 billion was 0.2% smaller than in 2013. The need for budgetary consolidation meant that previous governments had already cut education expenditure by EUR 0.8 billion. The current Government envisages similar savings of EUR 0.5 billion up until 2020.⁷²

Upper secondary education expenditure fell by over 4 % in 2013 alone. 2016 is a difficult year for higher education that is faced with up to 4 % budget cuts, and significant cuts in public funding of every university.

Under the Government's 'Vision: Finland 2025', EUR 300 million is being invested in six knowledge and education key projects. These are well targeted investments which need to be seen in the context of past and current overall cuts in educational expenditure.

These education budget cuts are not supported by demographics. Finland has seen a continuous but small population increase since 2009 by about half a per cent to 5.42 million in 2015. The number of under-15s has increased annually over the past 4 years. But the number of 15 to 19-year-olds continued to decrease more rapidly by about 2 per cent per annum.

⁷¹ General government expenditure on education as a proportion of GDP remained relatively stable at 6.4 % between 2012 and 2014, a slight decrease compared to 6.6 % in 2010. This shows that the education budget shrank in line with GDP on account of the very weak Finnish economy. Source: Eurostat, General government expenditure by function (COFOG) database.

⁷² The Prime Minister's Office (2016) action plan for implementing key projects and reforms set out in the Strategic Government Programme.

Employment rates have been slipping recently. For the low-qualified they fell from 59.8 % in 2011 to 53.1 % in 2015, but have remained relatively stable over the past three years. Medium qualifications do better but have also lost about 5 percentage points (pps), dropping to 72.7 %. Employment rates for tertiary graduates fell from 87.8 % in 2008 to only 81.1 % in 2015.

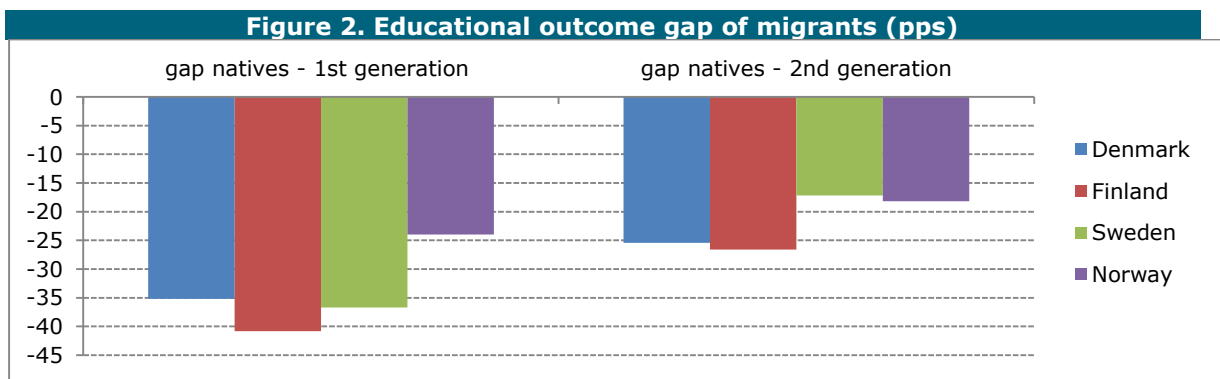
4. Tackling inequalities and promoting inclusion

The early school leaving rate has decreased from 10.3 % in 2010 to 9.2 % in 2015, which is below the 11 % European average. Finland has therefore reached its Europe 2020 national target of 10 %. Foreign-born early school leavers however significantly outnumber those born in Finland (18.1 % and 8.7 % respectively). Women continue to outperform men by 2.7 pps, which is close to the European average of 2.9 pps.

Participation in early childhood education and care in Finland has traditionally been lower than in other EU countries. Due to a change of methodology in the statistics, the percentage of children aged over 4 increased considerably between 2011 and 2014 from 74 % to 84 %, compared to an EU average of 94.3 %.

Growing differences in educational outcomes were one of the main findings for Finland in the 2012 OECD Programme for International Student Assessment. Even though Finland remains among the EU top performers, its overall performance worsened compared to 2009, particularly in numeracy and in terms of increasing differences in learning outcomes between pupils. One of the reasons researchers are finding worsening educational outcomes is because Finnish society is becoming more heterogeneous.

PISA 2012 showed a skills gap of about two years for first-generation immigrants, depending on the subject.⁷³ This is one of the largest performance gaps between native-born and first-generation migrants of participating EU countries. Second-generation migrants however perform significantly better than first-generation migrants, but there is still a gap of one and a half years. Studies not related to PISA show that the main reason for this might be the lack of parental resources (Kilpi-Jakonen 2012).



Source: OECD PISA (2012)

14.4 % of Finnish teachers responded to the study on training in teaching in a multicultural/multilingual environment (OECD 2014). This is on par with Italy and the Netherlands. However, research shows that educational practices are still mainly monolingual and that unprepared, overloaded teachers lack the motivation to deal with immigrants by adapting their approach (Sunni and Latomaa 2014; Voipio-Huovinen and Martin 2014).

The 2016 report 'Finnish as a second language syllabus learning outcomes in the 9th grade of basic education in 2015' from the Finnish Education Evaluation Centre (FINEEC), showed that the language proficiency of both migrants and refugees is only fairly good. 66 % of the 1 530 pupils participating in the study had received additional or special support.

⁷³ <http://www.oecd.org/pisa/keyfindings/pisa-2012-results.htm>; see also Harju-Luukkainen et al. (2014).

Measures taken to prevent underachievement include strengthening early childhood education and care (ECEC). The new National Core Curriculum for ECEC will be finalised in 2016 with implementation starting in August 2017. As of August 2016 the child-educator ratios for children aged over 3 will be increased. The new locally developed curricula for pre-primary education will be implemented from August 2016.⁷⁴

Box 2: Integrating refugees into the education system

Educating newly arrived refugees is also a challenge for the Finnish education system. The basic principle of the Finnish Constitution to provide equal access for every child to free, high-quality education extends to refugees or immigrants.⁷⁵ Finland saw the arrival of 32 500 refugees in 2015. This is about 9 times the figure for 2014 and equates to 10 % of the number of immigrants already resident in Finland.

In line with the Finnish bottom-up system, how the reception of refugees in education is organised is largely up to the education providers and schools. Municipalities receive additional public funding for a maximum of one year per person to set up preparatory classes or organise additional support in regular classes. Preparatory education for attending general upper secondary education for migrants and refugees was introduced by law in 2014.

For instance, the City of Helsinki has established preparatory classes with a specific curriculum for immigrants and refugees. They provide instruction in the Finnish/Swedish language and all other core school subjects for one year. Those under 10 receive 900 hours of instruction and those over 10 receive 1 000 hours of instruction (City of Helsinki 2016; Demos 2016). At national level the programme "The educational tracks and integration of immigrants – problematic areas and proposals for actions", was launched in 2016. A report identifies 56 actions to be undertaken.⁷⁶

As regards Finnish teacher education, it had already become increasingly important to integrate immigrants into mainstream education even before the refugee crisis of 2015. Many programmes based on multicultural and intercultural issues, social justice and/or global teacher education aim at preparing teachers for working with and for immigrant students (Dervin and Hahl 2015; Jokikokko 2010).

The working group on immigration of the Ministry of Education, established in 2016, has identified the needs and costs of immigrants in education to be around EUR 80 million for 2017-2020. EUR 2 million annually is to be used to advance them along the education path. A major part of these costs is targeted at teacher training (2017: EUR 2.4 million per year; 2018: EUR 3.2 million and EU 3.9 million for each of 2019 and 2020).

5. Modernising school education

Finland continues a comprehensive curriculum reform. The aim of the curriculum reform is to modernise teaching and learning through new pedagogies, a new learning environment as well as a new school culture.

The national core curriculum for pre-primary and basic education was renewed in 2014, and involved all stakeholders, particularly education providers and educational personnel. That for general upper secondary schools was renewed in 2015. The national core curriculum provides strategic guidance for developing local curricula that determine the exact education content. For

⁷⁴ The local curricula are based on a core curriculum that was updated under the wider curriculum reform in general education adopted in December 2014.

⁷⁵ The Basic Education Act and the Early Childhood Education and Care Act stipulate that immigrants and refugees are entitled to free access to ECEC and education. The National Curriculum Guidelines on Early Childhood Education and Care of 2005 take into account children's diverse cultural backgrounds. Each child's culture, customs and background are valued and supported in ways that are specified in an individual plan drawn up jointly by parents and ECEC staff.

⁷⁶ http://www.minedu.fi/OPM/Julkaisut/2016/maahanmuuttajien_koulutuspolut_integrointi.html?lang=fi

example, the reform for upper secondary education aims to achieve broad-based general knowledge and ability acquired through:

- teaching and learning activities that support the development of broad competences;
- familiarising students with science beyond single school subjects;
- capacity-building for sustainable lifestyles, lifelong learning and active citizenship.

The curriculum development process at local level in 2015/2016 involved preparing local curricula and was intensive. Again these were developed with all local stakeholders and teachers, and will be implemented from August 2016. The Finnish National Board of Education established the so-called Lighthouse network to support the local curriculum work at municipality level through meetings and a web platform.

The design of the new curricula takes into account the EU's key competences.⁷⁷ The Finnish approach to key competences is holistic and takes place through the study of individual subjects. Some competences, such as digital literacy and collaborative skills, have been developed in much more detail than in the previous national core curricula. Learning goals for transversal competences are also described in seven competence areas (Soby 2015).

While developing the new local curricula, teachers are presented with questions such as: (1) what will education mean in the future; (2) how can education prepare young people for the future; and (3) what competences will be needed for work and for everyday life. This should enable them to teach the learning of 21st-century competences across various school subjects. Schools will become learning communities, where pupils and adults learn from each other. The core aim of the curriculum is to help pupils grow both as human beings as well as citizens. Publishing houses are designing teaching and learning materials in a way to help teachers to personalise teaching and to integrate subjects beyond their traditional competences and to increase interdisciplinary teaching.

The Government's strategic 'Vision: Finland 2025' has identified five priority areas, one of which is knowledge and education (Prime Minister's Office 2016). It describes six key projects: (1) New learning environments and digital materials for basic education; (2) Reform of vocational upper secondary education; (3) Accelerated transition to working life [in higher education]; (4) Access to art and culture [for children and young people]; (5) Intensified cooperation between higher education and business life to commercialise innovations; and (6) Youth guarantee towards community guarantee.

The first key project is 'New learning environments and digital materials for basic education schools'. By international comparison, only 18.8% of students reported using ICT for projects or class work (OECD 2014: table 6.1). This compares to 73.9% in Denmark or 44.7% in the Slovak Republic. A recent government report⁷⁸ shows that 70 % of basic education school teachers have a positive attitude to ICT. About half of teachers feel they have basic digital skills and 20 % report significant shortcomings. About half of teachers use ICT on a weekly basis, but students use it less often for educational purposes. Digital literacy is well embedded in the curriculum reform.

Teacher education in Finland remains very competitive and is one of the most attractive educational programmes at tertiary level.⁷⁹ For example, at the University of Helsinki only 7 % of applicants were accepted onto the primary school teacher programme in 2016. Teachers are key implementers of the important quality processes and policies devolved to local level in the country.

⁷⁷ Official Journal L 394 of 30.12.2006.

⁷⁸ Report on Digitalisation in the learning environments of comprehensive schools and teachers' skills in exploiting digital learning environments (2016), http://valtioneuvosto.fi/en/article/-/asset_publisher/10616/selvitys-perusopetuksen-digitalisaatiosta-valmistunut

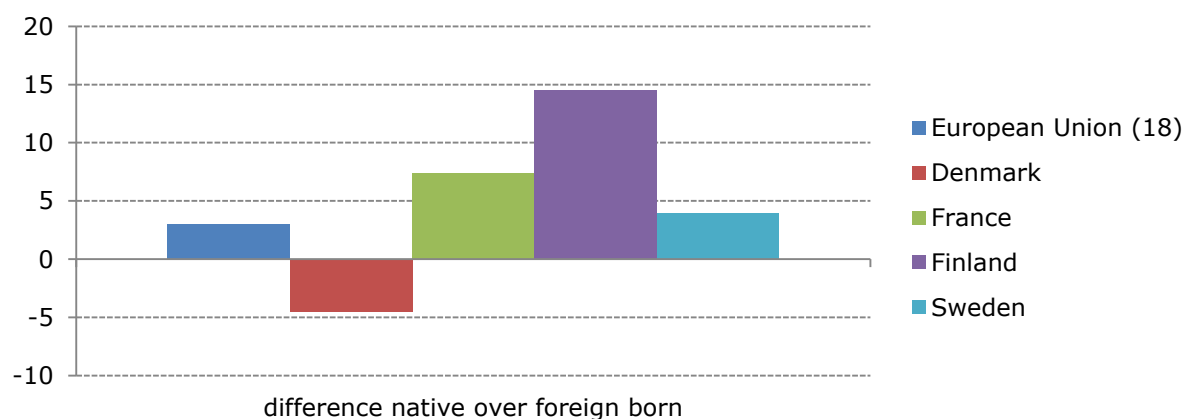
⁷⁹ Teaching remains an attractive profession even if teachers earn only between 70 % (pre-primary and primary) and 90 % (upper secondary) of similarly educated workers in Finland. This is the OECD average for upper secondary teachers and close to the average for primary and primary teachers (OECD 2015, Table D3.2a).

A Finnish Teacher Education Forum established in February 2016 will help in renewing teacher education at all levels by preparing a development programme for teachers' pre- and in-service education, and support its implementation. It will, in particular, support teacher education institutes to create courses to enable student teachers to become familiar with new pedagogy, learning environments and digitalisation of teaching, as well as learning for life-long professional development. Renewing curricula and investing more in teacher education is a forward-looking approach. The final results will also depend on the reforms aimed at making schools more effective and efficient, and available funding.

6. Modernising higher education

At 45.5 % in 2015, Finland has one of the highest tertiary educational attainment rates in the EU. Women clearly outnumber men. The 15.3 pps advantage of women in attainment rates is well above the EU average of 9.4 pps. Foreign-born students attend higher education significantly less. 31 % of foreign-born students obtain a tertiary degree compared to 46.9 % of native Finns (see figure 3 below). The economic slump in Finland caused the employment rates of tertiary graduates⁸⁰ to drop from 87.7 % in 2008 to 81.1 % in 2015.

Figure 3. Difference in tertiary attainment between foreign-born and native-born students



Source: European Commission extraction of Eurostat data. Online data code: *edat_ifs_9912*.

The main goal of the current government reform in the area of higher education is to make the system more efficient and effective while increasing the transfer of research output to business opportunities. An important objective is to shorten the time it takes to enter higher education and to move from graduation to work. Higher education institutions will reform their student selection procedures in order to have students faster admitted after secondary education. The system of study grants was reformed in August 2016. The indexation of allowances has been changed — the entitlement time has been reduced by 10 months and support for studying abroad tightened. This should also result in savings in higher education.

The higher education institutions reacted in many different ways to the recent cuts to public budgets. The University of Helsinki, that was one of the hardest hit with a budget cut of nearly 20 % by the year 2020, is massively reducing its staff (a reduction in staff of up to 1 000 staff out of 7 000 by the year 2017). The University and the University of Applied Sciences in Tampere are preparing to merge operations.

The latter is in line with the currently discussed policy aimed at increasing efficiency and effectiveness by concentrating on a number of larger higher education institutions, including perhaps even universities and polytechnics (universities of applied sciences), and developing more distinct research and teaching profiles. The main tool is periodic performance agreements that, in particular, support a clearer strategic focus and development of their study processes.

⁸⁰ People aged 20-34 who left tertiary education one to three years before the reference year.

Institutions are also invited to develop clearer profiles of the fields of study they offer. Universities Finland (UNIFI) and the Rectors' Conference of Finnish Universities of Applied Sciences (ARENE) facilitate this process.⁸¹

An important trend at universities is the emphasis on learning generic skills at bachelor level. These types of skills are needed in working life and support employability and the learning of new skills. As part of this, bachelor-level studies are becoming more general and suited to several careers, with specialisation taking place at master's level. The bachelor degrees granted by universities of applied sciences continue to prepare graduates directly to working life.

The main challenge currently for Finnish higher education reform is whether the envisaged increases in efficiency will outbalance the recent major budget constraints while also supporting better outputs in terms of graduate skills, research and innovation.

7. Modernising vocational education and training and promoting adult learning

Close to one third of Finns between the ages of 15 and 19 were 2014 enrolled in an upper secondary vocational programme. The number of participants in vocational programmes which combine school- and work-based learning has traditionally been relatively low in Finland. The minimum percentage of learning at a real work place is about 20 %, but can be much more in some cases. 14.5 % of vocational students participated in such programmes in 2014, down from 15.3 % in 2013.

The level of adult participation in lifelong learning in 2015 is the third highest in the EU (25.4 %), well above the EU average of 10.7 %. Participation rates for older and low-skilled adults are also higher than the EU average, but considerably lower than those of the general adult population⁸². Unlike many other Member States, participation rates of people born outside Finland were actually higher (28 %) than those born in Finland (24.3 %).

Finland is an exception to the general EU trend of the labour force becoming more highly qualified. By 2025, the proportion of Finland's labour force with high-level qualifications is forecast to fall to 37.1 % from 39.2 % in 2013, but it will still be higher than the 34.9 % recorded in 2005. The employment rate of recent upper secondary graduates⁸³ (71.6 % in 2014) is above the EU average, but significantly lower than in 2012 (77.4 %).

The amended Vocational Education and Training Act, which entered into force on 1 August 2015, was aimed at strengthening the learning-outcome approach of vocational qualification. Furthermore it strengthened a modular structure to support the creation of flexible and individual learning paths and to promote the validation of prior learning. The workplace was given a more important role, e.g. in the learning process and assessment of the students. The new legislation now requires all vocational qualifications to have at least 30 instead of 20 credits of work-based learning (out of a total 180 credits). There is however still scope to further increase work-based learning opportunities, such as apprenticeship schemes, which have been efficient in providing the skills needed in the labour market. This will become more difficult in the future as the vocational training budget will be cut by EUR 190 million from the beginning of 2017. Reducing funding available per capita reduces funding available to vocational upper secondary education and training by EUR 59 million in 2016 alone. Apprenticeship training faces budget cuts of EUR 19 million.

8. References

Chiu, R. (2012), Entrepreneurship education in the Nordic countries: Strategy implementation and good practices: Nordic Innovation Report, Nordic Innovation Publication 2012:24.

⁸¹ For more information, see <http://www.unifi.fi/in-english/> and <http://arene.fi/en>

⁸² The estimated participation rate in 2015 for those aged 55-64 was 15.6 %, and 12.8 % for the low-skilled.

⁸³ People aged 20-34 who left upper secondary education one to three years before the reference year.

City of Helsinki (2016). Preparatory education,

<http://www.hel.fi/www/helsinki/en/administration/administration/services/service-description?id=3086>

Council of the European Union (2016), Council recommendation of 12 July 2016 on the 2016 national reform programme of Finland and delivering a Council opinion on the 2016 stability programme of Finland,

http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.C_.2016.299.01.0079.01.ENG&toc=OJ:C:2016:299:TOC

Dervin, F and Hahl, K. (2015), Developing a Portfolio of Intercultural Competences in Teacher Education: The Case of a Finnish International Programme, *Scandinavian Journal of Educational Research*, 59(1), 95-109

Demos (2016), *Valmistavasta opetuksesta inklusiiviseen kouluun*, Helsinki: Demos Helsinki

European Commission (2016), Country Report Finland, http://ec.europa.eu/europe2020/pdf/csr2016/cr2016_finland_en.pdf

Hartsmar N. (2013), Some Aspects of Early School Leaving in Sweden, Denmark, Norway and Finland, *European Journal of Education*, Vol. 48, No 3

Jokikokko, K. (2010), *Teachers' Intercultural Learning and Competence*, Oulu: Universitatis Ouluensis

Kilpi-Jakonen, E. (2014), Citizenship and educational attainment amongst the second generation: An analysis of children of immigrants in Finland, *Journal of Ethnic and Migration Studies*, 40(7), pp. 1079-1096

Ministry of Education and Culture (2015), Tomorrow's comprehensive school, http://www.minedu.fi/OPM/Julkaisut/2015/tulevaisuuden_peruskoulu.html?lang=fi&extra_locale=en.

NCCBE (2014), The National Core Curriculum for Basic Education. Helsinki: National Board of Education, <http://www.oph.fi/ops2016>

NCCBE (2015), The National Core Curriculum for Upper Secondary Education, Helsinki: National Board of Education, http://www.oph.fi/download/172121_lukion_opetussuunnitelman_perusteet_2015.docx

OECD (2014), TALIS 2013 Results: An International Perspective on Teaching and Learning, Paris: OECD Publishing

Prime Minister's Office (2016), Action plan for the implementation of the key project and reforms defined in the Strategic Government Programme,

<http://valtioneuvosto.fi/documents/10616/1986338/Action+plan+for+the+implementation+Strategic+Government+Programme+EN.pdf/12f723ba-6f6b-4e6c-a636-4ad4175d7c4e>

Soby M (2015), *Nordic Journal of Digital Literacy*, vol 10, no 2, pp. 64-68
https://www.idunn.no/dk/2015/02/finnish_education_system

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_ipart (2011), educ_uoe_enra10 (2014)
Employment rate of recent graduates	edat_lfse_24
Adult participation in lifelong learning	trng_lfse_01
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

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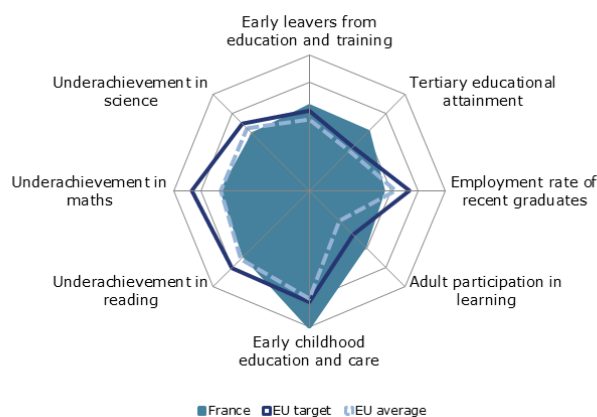
1. Key indicators

		France		EU average		
		2012	2015	2012	2015	
ET 2020 benchmarks						
Early leavers from education and training (age 18-24)	Total	11.8%	9.3%	12.7%	11.0%	
Tertiary educational attainment (age 30-34)	Total	43.3%	45.1%	36.0%	38.7%	
Early childhood education and care (ECEC) (from age 4 to starting age of compulsory education)		100.0% ¹¹	100.0% ¹⁴	93.2% ¹¹	94.3% ¹⁴	
Proportion of 15 year-olds with underachievement in:	Reading	18.9%	:	17.8%	:	
	Maths	22.4%	:	22.1%	:	
	Science	18.7%	:	16.6%	:	
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-8 (total)	76.4%	72.3%	75.9%	76.9%	
Adult participation in lifelong learning (age 25-64)	ISCED 0-8 (total)	5.7%	18.6%	9.2%	10.7%	
Other contextual indicators						
Education investment	Public expenditure on education as a percentage of GDP	5.5%	5.5% ¹⁴	5.0%	4.9% ^{14,p}	
	Expenditure on public and private institutions per student in € PPS	ISCED 1-2	€6.199	€6.095 ¹³	:	: ¹³
		ISCED 3-4	€9.856 ^d	€9.800 ¹³	:	: ¹³
ISCED 5-8		€11.620	€11.724 ¹³	:	: ¹³	
Early leavers from education and training (age 18-24)	Native-born	11.0%	8.7%	11.6%	10.1%	
	Foreign-born	23.2%	16.5%	24.9%	19.0%	
Tertiary educational attainment (age 30-34)	Native-born	44.3%	46.1%	36.7%	39.4%	
	Foreign-born	37.1%	38.7%	33.8%	36.4%	
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-4	66.9%	62.5%	69.7%	70.8%	
	ISCED 5-8	83.1%	79.2%	81.5%	81.9%	
Learning mobility	Inbound graduates mobility (bachelor)	: ¹³	: ¹⁴	5.5% ¹³	5.9% ¹⁴	
	Inbound graduates mobility (master)	: ¹³	: ¹⁴	13.6% ¹³	13.9% ¹⁴	

Sources: Eurostat (see section 9 for more details); OECD (PISA).

Notes: data refer to weighted EU averages, covering different numbers of Member States depending on the source; b = break in time series, d = definition differs, p = provisional, u = low reliability, 11 = 2011, 13 = 2013, 14 = 2014. Further information can be found in the relevant 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 2015) and OECD (PISA 2012).

Note: all scores are set between a maximum (the strongest performers, represented by the outer ring) and a minimum (the weakest performers, represented by the centre of the figure).

2. Highlights

- France is engaged in three major reforms across all sectors and levels of education and training. Reforms in compulsory education, higher education and vocational training aim to improve equity and efficiency through early prevention, collaborative teaching and new governance models.
- Pupils' performance is strongly linked to their socioeconomic background. Too many young people leave education with few or no qualifications.
- There are large performance gaps between schools. Disadvantaged schools benefit less from experienced teachers, and school segregation reflects socioeconomic, academic and migrant backgrounds as well as residential segregation.
- The tertiary educational attainment rate is high. However, the university system, with its relatively low tuition fees and open access, is under pressure from steadily rising student numbers.
- Despite greater priority given to primary education, spending remains uneven between the different education stages. By international comparison, spending per student is significantly higher for upper secondary education.

3. Investing in education to address demographic and skill challenges

In 2014 general government expenditure on education as a proportion of GDP, at 5.5 %, remained above the EU average of 4.9 %.⁸⁴ Most of the extra expenditure as a percentage of GDP compared to the euro area is due to the number of students (European Commission 2016). However, spending on education is uneven between the different education stages. Compared to the OECD average, in 2013, spending per student is low in early childhood education, and in primary education (15 % below the average), but significantly higher for upper secondary education (37 % above) (Figure 2). Public expenditure per student in tertiary education decreased between 2010 and 2014 by 3.5 %. This is mainly due to a steady rise in the number of students⁸⁵ which was not accompanied by a proportional budget increase. The increasing trend in student numbers is forecast to continue during the next decade (MENESR 2015a). Education and research are among the three priorities of the draft 2017 French national budget, which proposes a EUR 2.9 billion increase for them (Minister of Education 2016).

The employment rate of 25 to 64 year-olds in 2015 was somewhat below the EU average for low-qualified and medium-qualified workers: 52.2 % compared to 53.2 % and 72.6 % against 73.9 %, respectively. It was close to the average for the highly qualified, at 83.9 %.⁸⁶

The 2013-2017 reform of compulsory education aims to invest more and better at an early stage, starting with preschool education. With an increased focus on prevention, the reform is expected to improve the efficiency of public spending in the medium term. In June 2016, the Government announced an overhaul of teachers' and staff salaries (see section 6) to make the profession more attractive. The Court of Auditors has called for a cut in the costs of upper secondary education 'Lycées' (Court of Auditors 2015a). An increasing proportion⁸⁷ of students graduate from upper secondary education with a professional diploma (*baccalauréat professionnel*) (Ministry of Education 2016a), where the average cost per student of vocational training is high.

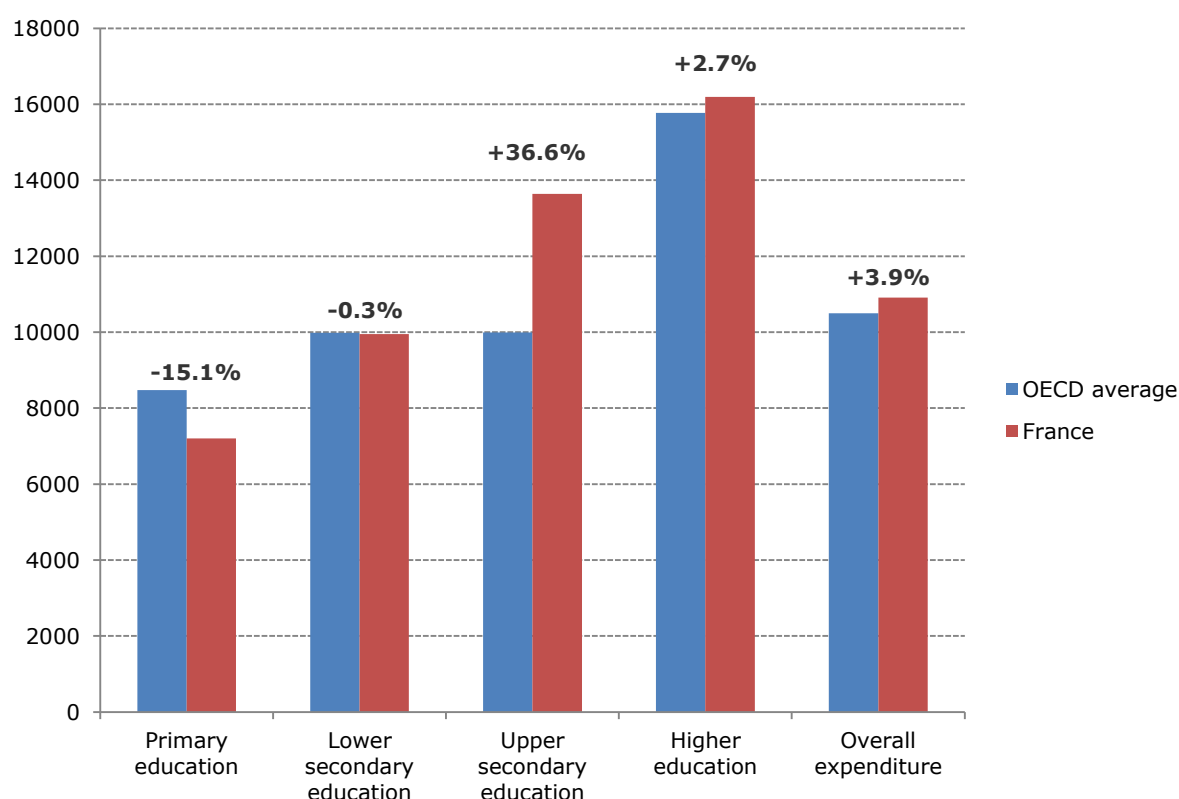
⁸⁴ Source: Eurostat, General government expenditure by function (COFOG) database.

⁸⁵ Compared to the previous year, the enrolment of students in universities increased by 2.4 % in 2015/2016.

⁸⁶ Source: Eurostat, Labour Force Survey. Online data code: *lfsa_ergaed*. Low-qualified = ISCED 0-2; medium-qualified = ISCED 3-4; high-qualified = ISCED 5-8.

⁸⁷ From 14.2 % in 2010 (before the reform of the vocational pathway) to 22.9 % in 2015/2016.

Figure 2. Annual expenditure per student by educational level (2013): France vs OECD average



Source: OECD 2015a.

4. Tackling inequalities and promoting inclusion

In 2015, France's early school leaving (ESL) rate⁸⁸ remained below the EU average (9.3 % against 11 %) and close to the 9.5 % Europe 2020 national target. Foreign-born students are significantly more at risk of ESL than native-born people (16.5 % against 8.7 %). Contrary to the EU trend, the female rate increased to 8.5 % (compared with the EU average of 5.7 %), thus contributing to a reduction in the gender gap (France's ESL rate for boys was 10.1 %). National statistics show that, at 15 % between 2011 and 2013, the share of youngsters leaving education with no qualifications⁸⁹ remains significant.

All 4 to 6 year-olds attend early childhood education and almost all 3 year-olds do as well. After a dramatic fall from 35 % in 2000 to 12 % in 2012, the rate among 2-3 year-olds has stabilised at around 12 % in metropolitan France (DEPP 2016 a). This is likely due to the strong priority given to pre-primary education by the 2013 reform in particular the participation rate of children under 3 years.⁹⁰

The OECD Programme for International Student Assessment (PISA) and national surveys point to big educational inequalities linked to students' socioeconomic background. Students who are socioeconomically disadvantaged, are female, speak a different language at home from the language of assessment, had no pre-primary education⁹¹ and are enrolled in a vocational programme are overrepresented among low performers in mathematics (OECD 2016b).

⁸⁸ The ESL rate relates to metropolitan France.

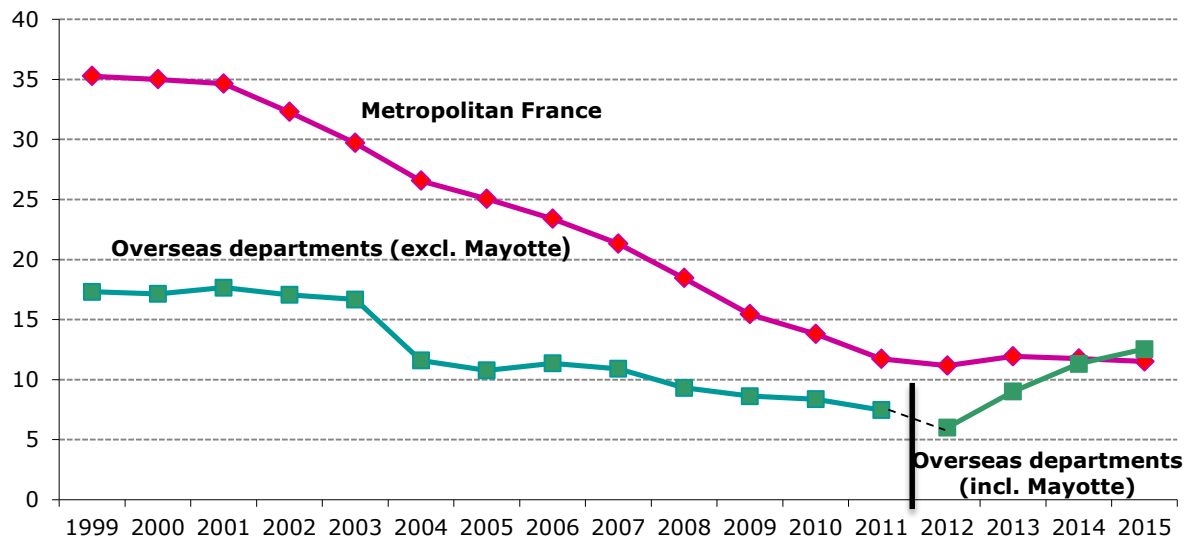
⁸⁹ Without at least an upper secondary qualification (BAC, CAP, BEP). The percentage relates to metropolitan France.

⁹⁰ For more details see European Commission 2015.

⁹¹ According to PISA, France is one of four OECD countries where participation in early childhood education has the greatest benefit for pupils with a migrant background.

There are significant gaps between schools in basic skills performance. This is accompanied by an uneven distribution of experienced teachers⁹² and great variations between the guidance academies offer to less well performing students (DEPP 2016b). The risk of being a low achiever in mathematics for students of a comparable socioeconomic status is close to four times higher than the OECD average in socioeconomically disadvantaged schools compared to advantaged schools (OECD 2016a). School segregation reflects socioeconomic, migrant and academic background as well as residential segregation (CNESCO 2015, IGEN 2015, DEPP 2016b).

Figure 3. Participation rate in early childhood education of two year-old children in metropolitan France and overseas departments (DOM)



Source: DEPP (2016a).

Note: Data include public and private (under contract) schools.

In terms of response, inclusive education is central to the comprehensive 2013 reform of compulsory education. In addition, specific measures address inequalities.

A large part of the 2015 ESL action plan has been implemented in 2015/2016, but the much-needed adaptation of information and communications technology systems to interlink data on youngsters from different sources will require more time. A key measure in 2015 is the 'legal right to get back into training': any young adult (aged between 16 and 25) having left school without a certificate or a qualification may qualify for training to get a diploma.

Other measures aim to promote a *whole school approach*, under which the school community engages in a collective and collaborative action with close cooperation with external stakeholders, which should also help to prevent ESL. Most regions are now engaged in 'regional educational projects'. Efforts related to pre-primary education are pursued. A recent interministerial initiative (Ministry of Education 2016b) seeks to mobilise the different actors involved in education, social and family policies at local levels to increase the numbers of children under 3 attending quality early childhood education.

The 2014 'priority education' plan⁹³ targeting schools in disadvantaged areas should be implemented by 2017 and will be evaluated in 2018/2019. In 2016/2017, efforts will focus on further implementing the '*More teachers than classrooms*' and '*Open schools*' schemes

⁹² 37.4 % of the teachers in priority education are under 35 and 7.7 % are not titular. This compares with, respectively, 25.7 % and 4.8 % of those not in priority education (OECD 2015).

⁹³ For more details, see European Commission (2015).

introduced by the reform, increasing participation in early childhood education by children under 3⁹⁴ and managing the plan better.

In 2014/2015, there were 52 500 newly arrived students, whose mother tongue is not French, in the French education system (DEPP 2015a). The French approach to the inclusion of newly arrived students encompasses providing good information, with a booklet available in many languages, assessing prior schooling and French language competence, and providing linguistic support for learning French as a second language. The '*Opening schools to parents to make integration a success*' scheme is a good practice⁹⁵ which consists in organising courses for parents at school. The objective is to teach them the values of the French Republic, how the school system functions and what it expects from pupils' families.

Box 1: Mobilising French education and research to fight violent radicalisation

In May 2016 France adopted its second interministerial action plan against violent radicalisation.⁹⁶ The plan encompasses 80 measures, of which 50 are new and for which an additional EUR 40 million of funding is envisaged by 2018. It includes measures from the '*Grand Mobilisation of Schools for the Values of the Republic*' initiative⁹⁷ launched in 2015 in response to the Paris terrorist attacks of January 2015.

Key measures introduced comprise:

- A national radicalisation green number which anyone in need can call to be listened to and to receive information. Families can then be directed to the relevant authorities for further support.
- The appointment of a person responsible for monitoring radicalisation in education at regional/departmental level. This 'anti-radicalisation officer' is part of an interministerial cell.

The contribution of education and research is organised under five headings:

- Prevention: A new 'citizens' pathway' (*Parcours citoyen*) focuses on civic education, media literacy and critical thinking. It is taught from elementary school onwards.
- 'Spot and report': Education professionals should detect early signs of radicalisation at schools,⁹⁸ report them using well-defined circuits and seek support. Support tools for teachers include a 'booklet to prevent radicalisation'. In 2014/2015, 857 students, out of more than 12 million, were reported.
- Support and follow-up of students at risk: a comprehensive approach is taken in contact with the family. A school cell on radicalisation is also set up if needed. School heads work in cooperation with the dedicated 'anti-radicalisation officer'.
- Training of educational actors: documentation, training and online resources are available since 2015.⁹⁹ The authorities encourage the school community and the 'anti-radicalisation officer' to work with external actors at the local level, in particular — and this is new — with representatives of Islam (N' Gahane P¹⁰⁰.2016).

⁹⁴ At the beginning of 2015/2016, their participation rate was 19.3 % in priority education areas, still far below the objective of 30 % by 2017 and of 50 % in 'reinforced priority education' areas (REP+). An increase in their participation is forecast in 2016/2017 and 2017/2018.

⁹⁵ See Van Driel et al. (2016).

⁹⁶ This new plan replaces the first one adopted in 2014.

⁹⁷ It plans for 11 measures organised under 4 headings: 1) secularism and republican values, 2) citizenship, 3) the fight against inequalities and for a better social mix, and 4) higher education and research.

⁹⁸ Checks on pupils taught at home and on education institutions without a contract with the state are also reinforced.

⁹⁹ <http://eduscol.education.fr/cid100811/prevention-de-la-radicalisation.html>.

¹⁰⁰ Secretary General of the Interministerial Committee for prevention of delinquency and radicalisation 2014-2016.

- **Research:** a report on the contribution of research to fighting radicalisation calls for research results to be better reflected in policymaking (Athena 2016). In 2016/2017, research programmes in this field will receive subsidies totalling EUR 650 000.

The contribution of education to prevent violent radicalisation enjoys strong political support. There also is awareness that to be successful, actions targeted at preventing radicalisation need to be embedded in education that is inclusive. This includes preparing French teachers for a multicultural school population and for controversial debates with their pupils. The 2013 education reform aims to address these challenges. Ongoing public debates concern in particular the lack of data on ethnicity and teaching religion without seeing this as a threat to secularism.

5. Modernising school education

The quality of teachers affects the quality of schooling, yet in-work teacher training is neither used well to develop their competencies nor recognised for their career development. According to the 2013 OECD Teaching and Learning International Survey (TALIS), in France teachers are not used to engaging in collaborative teaching and participation in training for teaching in a multicultural or multilingual setting (at 3.6 %) is significantly below the EU average (OECD 2014). Attracting the best-suited and most experienced teachers to disadvantaged schools is challenging.

The reform of compulsory education puts a strong emphasis on new approaches to teaching, in particular collaborative teaching, pedagogical training for better inclusion, and appropriate use of information and communication technologies in education. This is accompanied by an overhaul of the initial and in-work training of teachers. According to a recent evaluation (IGEN-IGAENR 2015), the daily operation of the 30 accredited institutions¹⁰¹ ('ESPE') for educating and training educational staff, set up in 2013, is now running smoothly. However, to achieve their goals further improvements are needed to in-work training and in translating research results into training. On new pedagogical approaches, key measures in 2016/2017 will focus on implementing the 'digital school' plan (Eurypedia 2016).

The lower secondary (*collège*) school reform,¹⁰² the last key component of the compulsory education reform, came into force in September 2016. Compared to previous lower secondary school reforms this one is the broadest as it entails new programmes, new collaborative and pedagogical approaches and a reorganisation of instruction time with greater school autonomy. Its success will depend particularly on the ability of heads and teachers to develop their collaboration and on their ability to adopt new working methods.

The 'priority education' plan provides for measures¹⁰³ to attract and support teachers in the most disadvantaged schools. However, the school reform does not cover the system for allocating teachers to schools (which does not give school heads autonomy in recruitment), nor teacher evaluation or career management.

To make the teaching profession more attractive, in June 2016 the Government announced an overhaul of the salaries of teachers and staff to be rolled out between 2017 and 2020. This includes a EUR 1 billion increase in the budget available and should help fill the vacant posts.¹⁰⁴ It remains to be seen whether this will be accompanied by a change in the very centralised and linear career management, and whether participation in in-work training will become a real lever for human resource management as recommended by the Court of Auditors.

¹⁰¹ These 'Ecoles Supérieures du Professorat et de l'Éducation' 'ESPE' (one by *academy*) are affiliated to universities and prepare the new masters in education (MEES) and the competition to select teachers.

¹⁰² For more details refer to European Commission 2015.

¹⁰³ For more details refer to European Commission 2015.

¹⁰⁴ Since 2013 the teaching profession seems to be more attractive, with the number of applicants for the competition to become teachers increasing.

The reform of compulsory education is under way but has yet to be implemented fully (Comité de suivi 2015). Implementation in three key areas analysed by the committee tasked with monitoring the reform — (pre)primary education, initial teacher training, and the involvement of parents — is far from being achieved on the ground (European Commission 2016). The committee calls for teachers to take ownership of the reform and for national authorities to continue to support them.

6. Modernising higher education

France's tertiary education attainment rate for 30-34 year-olds further increased to 45.1 % in 2015, well above the EU average of 38.7 %. Women clearly outperformed men, by 49.6 % to 40.3 %. In 2014, France was 1.5 percentage points of its national target of having 50 % of 17-33 year-olds¹⁰⁵ attain higher education at bachelor level in 2017. The attainment rate for foreign-born people is lower than that of the native-born population (38.7 % against 46.1 % in 2015).

At 80 % the tertiary education completion rate is above the OECD average of 68 % in 2011 (OECD 2013a) but the entry rate is low by international comparison. Despite the high tertiary attainment rate and an improvement in social mobility, equity in accessing and succeeding in higher education remains an issue¹⁰⁶ (MENESR 2015b).

The employment rate of recent tertiary graduates¹⁰⁷ has continued to decline and is now below the EU average (79.2 % against 81.9 %). The employability of doctoral students and their limited integration into the private sector (Court of Auditors 2016) is a concern. In general, the link between education and the labour market has been identified as an area for improvement.¹⁰⁸ A good qualification is not sufficient to guarantee students with a migrant background a smooth entry into the labour market. On average it will still be more difficult for them, but there are differences depending on their country of origin (INED 2015).

The higher education and research reform (2013-2017) is now entering its fourth year of implementation. In addition to measures to support equity,¹⁰⁹ digital education is being promoted as a tool to help increase the students' success.

To improve students' employability, measures to develop work-based learning and student entrepreneurship are continuing, with positive initial results. However, a report calls for significantly upscaling the link between education and the world of work at an earlier stage of compulsory education. This should be steered by stronger interministerial monitoring led by the education ministry and based on stronger regional partnerships (Demontès 2015) between the different actors. For doctoral students, a pilot national survey on their integration into the labour market was launched in December 2015. Measures for enrolling and integrating newly arrived migrants into higher education are mostly taken by the individual institutions. National grants are also available to such students.

The steady increase in the number of students is forecast to continue during the next decade. In a context of budget constraints (see section 2) this puts the universities' low tuition fees and open access model under pressure as most of the tertiary students enrol in universities. There is also criticism of new mechanisms introduced to regulate the number of students in over-subscribed faculties or specialisations. The new multiannual contract between the state and the 'communities of universities and institutions' (COMUE) should help improve the quality of spending and of governance although universities still lack autonomy in human resource

¹⁰⁵ For details on the French indicator see http://www.performance-publique.budget.gouv.fr/sites/performance_publique/files/farandole/ressources/2015/rap/html/DRGPG_MOBJINDPGM150.htm

¹⁰⁶ Access to and success in higher education varies greatly according to prior educational pathways: on the basis of the '2009 generation', while 33.2 % of students with a general baccalaureate finish the first cycle of studies in the scheduled time, only 3 % of those with a vocational baccalaureate and 8.7 % of those with a technological baccalaureate do so.

¹⁰⁷ People aged 20-34 who left tertiary education between 1 and 3 years before the reference year.

¹⁰⁸ For more details see European Commission (2016).

¹⁰⁹ For more details refer to European Commission (2015).

management (Court of Auditors 2015b). An ongoing public debate on the future of higher education (France stratégie 2016) is striving to address these questions and draft recommendations.

While the lack of overarching monitoring of the reform makes it hard to assess progress, its implementation seems to be progressing in many areas, whilst far from being completed on the ground.

7. Modernising vocational education and training and promoting adult learning

In 2014, the share of upper secondary students¹¹⁰ in vocational education and training (VET) fell slightly to 42.7 % from 43 % in 2013. In 2015, the employment rate of recent VET graduates,¹¹¹ at 61.6 %, was well below the EU average of 73 %. However, the number of students obtaining a VET qualification (*'baccalauréat professionnel'*) increased from 156 063 in 2011 to 190 773 in 2014 (MENSER 2015). Despite the rate of adults participating in lifelong learning, France ranks low in adult basic competencies and entrepreneurial skills.¹¹² The level of adult literacy and numeracy for those with at most lower secondary education is among the weakest in the EU (OECD 2013b). Access to continuing vocational training remains more difficult for older people, the unemployed, smaller companies' employees and the low skilled.

During 2014/2015, the number of young people enrolled in apprenticeship training decreased by 4 % to 405 882 apprentices, far below the 2017 national objective of 500 000 apprentices. The trend is negative for low-level qualifications (below *'baccalauréat'*) while it rises for apprenticeship at higher education level. Since the end of 2015 there have been first signs of improvement in the numbers of apprenticeship contracts. This is likely due to the introduction in 2015 of a premium for small companies that recruit an employee under the age of 18 and to the increasing number of apprentices working in the public sector.

Those who have completed an apprenticeship training show significantly better labour market results than graduates from school-based VET (*lycées professionnels*)¹¹³ (DEPP 2016c and 2016d). Yet, the apprenticeship system has been criticised for its lack of adaptability to economic needs (CAE 2014), as well as for regional divergences (DARES 2015, CNEFOP 2014). To ease access to apprenticeships and respond to the labour market needs, the possibility to enrol in apprenticeship training has been opened to 85 vocational qualifications.

School-based VET has also been criticised for its poor labour market integration in some tertiary economy activities, with curricula out of sync with labour market developments (CNESCO 2016). In response, the Ministry of Education will open 500 additional VET pathways¹¹⁴ by 2017 in sectors with good employment prospects. In parallel, a recent report (IGEN-IGAENR 2016) suggests reducing the high number of initial VET pathways, considering that the vast majority of trainees is enrolled in only a few of them. The state and the regions have agreed to create synergies between school-based and work-based VET to enable more flexible pathways for VET students.

The 2014 reform of lifelong learning and (in-work) vocational training is continuing to be implemented. For in-work vocational training, additional measures have targeted the unemployed and the low-qualified. A 2016 initiative worth EUR 1 billion envisages 500 000 additional training opportunities for jobseekers¹¹⁵ in sectors with positive labour and economic prospects. The state and most of the regional councils, which share responsibility for the plan,

¹¹⁰ ISCED level 3.

¹¹¹ People aged 20-34 whose highest educational attainment is upper secondary (ISCED 3) or post-secondary non-tertiary (ISCED 4) qualification, who graduated 1 to 3 years before the reference year and who are not currently enrolled in any further formal or non-formal education or training.

¹¹² For more details see European Commission (2015).

¹¹³ There is an almost 20-percentage point difference in their employment status.

¹¹⁴ Both school-based and apprenticeships

¹¹⁵ This would bring the total training capacity for jobseekers to 1 million. 300 000 training courses should be specifically targeted to long-term jobseekers or those without a qualification.

have already signed implementation conventions. The El Khomri labour bill also aims at improving access to training for non-qualified employees and introducing a database to monitor training undertaken and its potential employment outcome.

8. References

ANR (2015), Investissements d'avenir. Initiatives d'Excellence En Formations Innovantes. Synthèse du suivi (2012 - 2015). Relevés de dépenses Compte-rendu d'activités Indicateurs, <http://www.agence-nationale-recherche.fr/fileadmin/documents/2015/ANR-rapport-IDEFI-suivi-2012-2015.pdf>

Athena (2016), Recherches sur les radicalisations, les formes de violence qui en résultent et la manière dont les sociétés les préviennent et s'en protègent. Etat des lieux, propositions, actions. Rapport remis à M. Thierry MANDON, Secrétaire d'État chargé de l'Enseignement Supérieur et de la Recherche, http://www.allianceathena.fr/sites/default/files/Rapport_Radicalisation_ATHENA.pdf

Campus France (2016), Journée mondiale des réfugiés, <http://www.campusfrance.org/fr/actualite/journee-mondiale-des-refugies-le-20-juin-2016>

Court of Auditors (2015a), Le coût du Lycée, <https://www.ccomptes.fr/Actualites/A-la-une/Le-cout-du-lycee>

Court of Auditors (2015b), Rapport sur l'autonomie des universités, 30 September 2015, <https://www.ccomptes.fr/Actualites/A-la-une/L-autonomie-financiere-des-universites-une-reforme-a-poursuivre>

Court of Auditors (2015c), Référé sur la formation continue des enseignants, 14 April 2015, <https://www.ccomptes.fr/Publications/Publications/La-formation-continue-des-enseignants>

Court of Auditors (2016), Référé sur l'intégration professionnelle des jeunes docteurs, <https://www.ccomptes.fr/Publications/Publications/L-insertion-professionnelle-des-jeunes-docteurs>

CAE (Conseil d'Analyse Economique) (2014), L'apprentissage au service de l'emploi, Note du CAE n°19 (décembre 2014), <http://www.cae-eco.fr/L-apprentissage-au-service-de-l-emploi.html>

Demontès C. (2015), Évaluation du partenariat de l'Éducation nationale et de l'Enseignement supérieur avec le monde économique pour l'insertion professionnelle des jeunes, http://cache.media.enseignementsup-recherche.gouv.fr/file/Insertion_professionnelle/30/4/rapportdemondes_491304.pdf

CNEFOP (Conseil national de l'emploi, de la formation et de l'orientation professionnelles) (2015), Rapport apprentissage 2015 (January 2015, data 2012), <http://www.cnefop.gouv.fr/rapports-et-avis/rapports/rapport-apprentissage-2015.html>

CNESCO (Conseil national d'évaluation scolaire) (2015), Mixités sociale, scolaire et ethnoculturelle à l'école: quelles politiques pour la réussite de tous les élèves? Dossier de synthèse, <http://www.cnesco.fr/wp-content/uploads/2015/12/Dossier-de-synthese.pdf>

Comité de suivi de la Loi de refondation de l'école (2015), Rapport annuel au parlement, 13 novembre 2015, http://www2.assemblee-nationale.fr/static/14/comaffcult/suivi_loi_%C3%A9cole_synthese.pdf

DEPP (2015a), La scolarisation des élèves allophones, Note d'information No 35, October 2015, <http://www.education.gouv.fr/cid58968/annee-scolaire-2014-2015-52-500-eleves-allophones-scolarises-dont-15-300-l-etaient-deja-l-annee-precedente.html>

DEPP (2016a), La scolarisation à deux ans: en éducation prioritaire, un enfant sur cinq va à l'école dès deux ans, Note d'information n° 19, June 2016, <http://www.education.gouv.fr/cid80263/la-scolarisation-a-deux-ans-en-education-prioritaire-un-enfant-sur-cinq-va-a-l-ecole-des-deux-ans.html>

DEPP (2016b), Parcours scolaires, diplômes, insertion, Note d'information n° 17, June 2016, <http://www.education.gouv.fr/cid101813/parmi-les-eleves-qui-etaient-en-difficulte-scolaire-en-troisieme-un-sur-deux-a-obtenu-son-baccalaureat.html>

DEPP (2016c), Le niveau de formation et de diplôme pour obtenir un emploi: déterminant dans l'insertion des lycéens professionnels, Note d'information, n°12, May 2016

DEPP (2016d), Le niveau de formation et de diplôme demeure toujours déterminant dans l'insertion des apprentis, Note d'information, n°13, May 2016

European Commission (2015a), Education and Training Monitor 2015 – Volume 2, France,
http://ec.europa.eu/education/tools/docs/2015/monitor2015-france_en.pdf

European Commission (2016), Country Report France 2016 including an In-Depth Review on the prevention and correction of macroeconomic imbalances,
http://ec.europa.eu/europe2020/pdf/csr2016/cr2016_france_en.pdf

Eurypedia/European Commission (2016), Country – France,
<https://webgate.ec.europa.eu/fpfis/mwikis/eurydice/index.php/France:Overview>

France stratégie (2016), France stratégie 2017-2027, Quelles priorités éducatives,
<http://francestrategie1727.fr/>

IGEN (2015), Grande pauvreté et réussite scolaire, May 2015,
<http://www.education.gouv.fr/cid88768/grande-pauvrete-et-reussite-scolaire-le-choix-de-la-solidarite-pour-la-reussite-de-tous.html>

IGEN-IGAENR (2015), Rapport sur le suivi de la mise en place des ESPE au cours de l'année 2014-2015 (IGEN-IGAENR), October 2015,
<http://www.education.gouv.fr/cid95171/rapport-sur-le-suivi-de-la-mise-en-place-des-espe-au-cours-de-l-annee-2014-2015-igen-igaenr.html>

IGEN-IGAENR (2016), Rapport Cartographie de l'enseignement professionnel, July 2016,
<http://www.education.gouv.fr/cid105977/cartographie-de-l-enseignement-professionnel-rapport-igen-igaenr.html>

INED (2015), Trajectoires et origines. Enquête sur la diversité des populations en France,
<https://www.ined.fr/fr/publications/grandes-enquetes/trajectoires-et-origines/>

MENESR (2015a), Note d'information 15.02, Projections des effectifs dans l'enseignement supérieur pour les rentrées de 2014 à 2023,
http://cache.media.enseignementsup-recherche.gouv.fr/file/2015/86/8/NI_ESR_15_02_410868.pdf

MENESR (2015b), Repères & Références Statistiques (RERS), Enseignements, la formation et la recherche,
<http://www.education.gouv.fr/cid57096/reperes-et-references-statistiques.html>

Minister of Education, N.Vallaud-Belkacem (2015), compte rendu No 47 2015-2016, Commission d'enquête sur la surveillance des filières et des individus djihadistes,
<http://www2.assemblee-nationale.fr/14/autres-commissions/commissions-d-enquete/surveillance-des-filieres-et-des-individus-djihadistes>

Minister of Education (2016), Budget 2017, Hausse historique pour l'éducation nationale et la recherche,
<http://www.enseignementsup-recherche.gouv.fr/cid104597/budget-2017-hausse-historique-pour-l-education-nationale-l-enseignement-superieur-et-la-recherche.html>

Ministry of Education (2015b), La grande mobilisation de l'école pour les valeurs de la République. La concrétisation de ces mesures, Fiche 25,
http://cache.media.education.gouv.fr/file/DP_rentree/32/2/2015_rentreescolaire_fiche_25_456322.pdf

Ministry of Education (2015c), Press file for the 2015-16 academic year, Fiche 21,
http://cache.media.education.gouv.fr/file/DP_rentree/31/4/2015_rentreescolaire_fiche_21_456314.pdf

Ministry of Education (2016a), Résultats de la session de juin du baccalauréat 2016,
<http://www.education.gouv.fr/cid104721/resultats-de-la-session-de-juin-du-baccalaureat-2016.html>

Ministry of Education (2016b), Réussir le développement de la scolarisation des enfants de moins de trois ans,
<http://www.education.gouv.fr/cid100706/mobilisation-de-tous-les-acteurs-pour-reussir-le-developpement-de-la-scolarisation-des-enfants-de-moins-de-trois-ans.html>

Ministry of Higher Education and Research (2015), Response to the publication of EAG 2015,
<http://www.enseignementsup-recherche.gouv.fr/cid95879/rapport-de-l-ocde-sur-l-enseignement-superieur.htm>

N'Gahane, P. (2016), Présentation et enjeux de la formation au pilotage de la prévention de la radicalisation des jeunes en milieu scolaire,
http://www.esen.education.fr/fileadmin/user_upload/Modules/Ressources/Conferences/15-16/ngahane_p/co/ngahane_p_radicalisation.html

OECD (2013a), Education at a Glance 2013. OECD Indicators,
[http://www.oecd.org/edu/eag2013%20\(eng\)--FINAL%2020%20June%202013.pdf](http://www.oecd.org/edu/eag2013%20(eng)--FINAL%2020%20June%202013.pdf)
 OECD (2013b), OECD Survey of Adult Skills (PIAAC), <http://www.oecd.org/site/piaac/>

OECD (2013c), PISA 2012 results: What Students Know and Can do. Student Performance in Mathematics, Reading and Science (Volume I),
<http://www.oecd.org/pisa/keyfindings/pisa-2012-results-volume-I.pdf>

OECD (2014), TALIS 2013 Results: An International Perspective on Teaching and Learning, table 4.10 Paris: OECD Publishing,
http://www.keepeek.com/Digital-Asset-Management/oecd/education/talis-2013-results_9789264196261-en#.V-Uav_77Wcw

OECD (2015), Débats sur les politiques migratoires No 6. L'école est-elle (encore) un des principaux vecteurs d'intégration en France?,
<http://www.oecd.org/migration/mig/is-school-still-one-of-the-main-routes-of-integration-in-france.pdf>

OECD (2016a), Education at a Glance: OECD Indicators,
http://www.oecd-ilibrary.org/education/education-at-a-glance-2016_eag-2016-en

OECD (2016b), Low-Performing Students: Why They Fall Behind and How to Help Them Succeed - country note France,
<http://www.oecd.org/pisa/keyfindings/PISA-2012-low-performers-France-ENG.pdf>

Van Driel, B., Darmody, M., Kerzil, J. (2016), Education policies and practices to foster tolerance, respect for diversity and civic responsibility in children and young people in the EU', *NESET II report*,
http://ec.europa.eu/education/library/study/2016/neset-education-tolerance-2016_en.pdf

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_ipart (2011), educ_uoe_enra10 (2014)
Employment rate of recent graduates	edat_lfse_24
Adult participation in lifelong learning	trng_lfse_01
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

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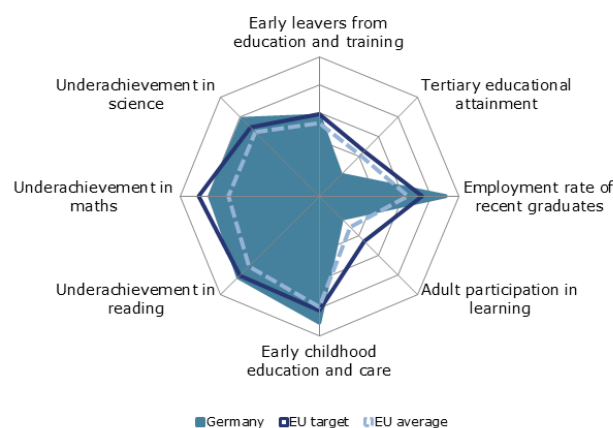
1. Key indicators

		Germany		EU average		
		2012	2015	2012	2015	
ET 2020 benchmarks						
Early leavers from education and training (age 18-24)	Total	10.5%	10.1%	12.7%	11.0%	
Tertiary educational attainment (age 30-34)	Total	31.8%	32.3%	36.0%	38.7%	
Early childhood education and care (ECEC) (from age 4 to starting age of compulsory education)		96.4% ¹¹	97.4% ¹⁴	93.2% ¹¹	94.3% ¹⁴	
Proportion of 15 year-olds with underachievement in:	Reading	14.5%	:	17.8%	:	
	Maths	17.7%	:	22.1%	:	
	Science	12.2%	:	16.6%	:	
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-8 (total)	88.9%	90.4%	75.9%	76.9%	
Adult participation in lifelong learning (age 25-64)	ISCED 0-8 (total)	7.9%	8.1%	9.2%	10.7%	
Other contextual indicators						
Education investment	Public expenditure on education as a percentage of GDP	4.3%	4.3% ¹⁴	5.0%	4.9% ^{14,p}	
	Expenditure on public and private institutions per student in € PPS	ISCED 1-2	€6.743	€6.839 ¹³	:	: ¹³
		ISCED 3-4	€9.160	€9.231 ¹³	:	: ¹³
ISCED 5-8		€13.086	€12.492 ¹³	:	: ¹³	
Early leavers from education and training (age 18-24)	Native-born	9.3%	8.6%	11.6%	10.1%	
	Foreign-born	:	:	24.9%	19.0%	
Tertiary educational attainment (age 30-34)	Native-born	33.1%	33.1%	36.7%	39.4%	
	Foreign-born	:	:	33.8%	36.4%	
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-4	85.6%	88.2%	69.7%	70.8%	
	ISCED 5-8	93.8%	93.3%	81.5%	81.9%	
Learning mobility	Inbound graduates mobility (bachelor)	3.3% ¹³	3.3% ¹⁴	5.5% ¹³	5.9% ¹⁴	
	Inbound graduates mobility (master)	10.0% ¹³	10.2% ¹⁴	13.6% ¹³	13.9% ¹⁴	

Sources: Eurostat (see section 9 for more details); OECD (PISA).

Notes: data refer to weighted EU averages, covering different numbers of Member States depending on the source; b = break in time series, d = definition differs, p = provisional, u = low reliability, 11 = 2011, 13 = 2013, 14 = 2014. Further information can be found in the relevant 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 2015) and OECD (PISA 2012).

Note: all scores are set between a maximum (the strongest performers, represented by the outer ring) and a minimum (the weakest performers, represented by the centre of the figure).

2. Highlights

- Participation in all forms of education increased and outcomes improved, including for disadvantaged groups. Socioeconomic background however still has a major impact on education outcomes.
- Integrating the high number of recently arrived refugees is a major challenge. A large proportion of the refugees are young and poorly qualified.
- Almost half of a youth cohort start higher education. Higher education is also attracting an increasing number of international students, in particular in science, technology, engineering and mathematics (STEM) disciplines.
- The well-established dual training system is struggling to attract enough apprentices in certain regions and sectors. Combined with negative demographic trends, this may lead to a lack of skilled workers.
- Addressing the key challenges will require additional investment in education, which remains low by international comparison.

Box 1: The 2016 European Semester country-specific recommendation on education and training

The 2016 European Semester country-specific recommendations to Germany (Council of the European Union 2016) included a recommendation on education and training:

Achieve a sustained upward trend in public investment, especially in infrastructure, education, research and innovation, while respecting the medium term objective

3. Investing in education to address demographic and skill challenges

Germany's general government expenditure on education remains below the EU average. This is the case both as a proportion of GDP, which was 4.3 % in 2014 compared to the 4.9 % EU average, and as a share of total public expenditure, at 9.7 % against 10.2 %.¹¹⁶ Germany ranks ninth in the EU for spending on public educational institutions per pupil.¹¹⁷

In 2014/15 about 17 million children and adults participated in education in Germany. This is 300 000 less than in 2005/2006 and results mainly from negative demographics. At the same time a higher percentage of the population is taking part in education, with early childhood education and care (ECEC) and tertiary education showing the most marked increases (Autorengruppe Bildungsberichterstattung 2016).

About 21 % of the German population has a migrant background (2013 data). Among under-10s the proportion is 35 % and among those aged 10 to 20 about 30 %. Generally, both the participation rate and the education outcomes of those with migrant background have improved over the last decade. But major disparities remain both for first- and second-generation migrants,¹¹⁸ often linked to their socioeconomic status (see section 4).

Germany still faces significant medium- and long-term challenges from the overall ageing of the population, in the form of potential labour and skills shortages. Its working-age population is projected to decline by 11.4 % by 2030 (European Commission 2016a).

¹¹⁶ Source: Eurostat, General government expenditure by function (COFOG) database.

¹¹⁷ Germany spent EUR 8 715 in 2013, a 2.6 % increase on 2012. BE, LU, MT, NL, AT, FI, SE and the UK spent more. Source: Eurostat. Online data code: *educ_uae_fini04*.

¹¹⁸ About two thirds belong to the first generation and more than one third to the second generation.

Integrating new migrants into education and training and further expanding ECEC as well as all-day schools will require substantial additional resources (Autorengruppe Bildungsberichterstattung 2016, OECD 2016a). The estimate of education costs for refugees is EUR 3 billion for 2016 alone.

The strict separation of education funding between the federal and regional levels introduced in 2006 was abolished again in 2015. This constitutional change makes it easier to prolong beyond 2015 the 'Excellence Initiative' that, with an annual budget of EUR 535 million, is providing additional funding to excellent higher education institutions. The change will also help to create additional posts at post-doctorate level with EUR 1 billion of federal funding.

4. Tackling inequalities and promoting inclusion

Germany's early school leaving rate of 18-24-year-olds in 2015 stands at 10.1 %, in line with its Europe 2020 national target of 10 %. Girls drop out less often than boys (9.8 % against 10.4 %), but this difference is much smaller than the EU average of 0.6 compared to 2.9 percentage points. The results of the 2012 OECD Programme for International Student Assessment (PISA) had confirmed an improvement in the performance of low achievers in Germany, even if socioeconomic status still had a strong influence (OECD 2016c). This is confirmed by the biennial national education report (Autorengruppe Bildungsberichterstattung 2016).

The participation of 4 and 5 year-olds in ECEC stood at 97.4 % in 2014, surpassing the EU average of 94.3 %. Germany has continuously expanded the number of places for children under 3 as well, so that 32.3 % of this age group participates in ECEC. The participation of under-3s remains significantly higher in east Germany than in west Germany (51.9 % against 28.2 %). About 90 % of 4 to 5 year-olds with a migration background participate in ECEC, an increasing proportion that is getting close to that of the native population. Of these, 63 % do not speak primarily German at home. In metropolitan areas, in Hesse and North Rhine Westphalia, as well as in Berlin, this percentage is higher at over 75 %. About one quarter of 5 year-olds need additional language support, based on a language assessment prior to school entry. Participation in ECEC by under-3s with a migrant background has even doubled to 22 % since 2009. However, it still trails far behind the rate for native-born children of the same age, which also increased to 38 % in 2015 (Autorengruppe Bildungsberichterstattung 2016).

Students with a migrant background are however not a homogeneous group. Aggregate participation rates for young people with and without a migrant background have become similar at the pre-school age (4-6 years old) and for those aged 16-30 (even if in the latter group students with a migrant background tend to pursue education pathways of a lower level). Participation of students with a migrant background very much varies according to country of origin and socioeconomic background (Autorengruppe Bildungsberichterstattung 2016).

At the same time, the 2016 National Education Report identifies increasing educational segregation based on socioeconomic background. More than one third of children not speaking German at home attend ECEC institutions in which most pupils also do not have German as their family language. This ratio rises to more than half in urban areas. The situation is similar for schools. In this context, the increasing number of private schools (11 % of the overall offer) is being monitored. The observation that private schools often attract mainly pupils with a favourable socioeconomic background in urban areas can also be interpreted as a new sign of social segmentation in the education system (Autorengruppe Bildungsberichterstattung 2016).

Increasing participation in ECEC and a conceptual shift from caring to early education and language support, combined with an ever more heterogeneous population, has put a strain on the number and qualifications of ECEC teaching staff. Since 2013 the staff has increased by more than 56 000, or 12.3 %. The proportion of those with tertiary-level education and training is also increasing, albeit from very low levels, to 4 %. Their numbers more than doubled from 1 600 in 2013 to 3 700 in 2015 (Autorengruppe Bildungsberichterstattung 2016).

Another important instrument to reduce the dependence of education outcomes on socioeconomic conditions is all-day schooling. Germany has increased its share considerably. Close to 60 % of compulsory schools offer all-day classes, up from 16 % in 2002. However, only

38 % of pupils attend all-day schools. The highest share of all-day schooling can be found in comprehensive schools with 87 %, whereas the middle track of lower secondary schools ('*Realschulen*') and primary schools have the lowest. Hamburg has the highest share of pupils attending all-day schools, at 88 %; the lowest is in Bavaria, at 15 %. Several regions offer afternoon care facilities ('*Horte*'). The best results come from programmes that systematically link morning and afternoon teaching, but this is still not a standard model (Autorengruppe Bildungsberichterstattung 2016). Based on a 2014 provision EUR 260 million is budgeted until end-2017 for extending all-day schooling. This will allow more regular teachers to attend afternoon activities. To help students succeed, efforts are also being put into reforming curricula, intensifying analysis of each pupil's potential, and providing personalised counselling (NRP 2016).

In 2016 the German Government adopted the first cross-department federal strategy against radicalisation and to foster democracy.¹¹⁹ Under this, action is planned at the most decentralised level possible, in municipalities, associations and schools. The local action will be complemented by increased presence on the internet in order to (1) engage in discussions, (2) assist all concerned, in particular parents and teachers and (3) help those who want to de-radicalise. Attention to work in prisons will be intensified. A hotline is operating since 2012 to help stakeholders (parents, teachers, etc.) recognise signs of radicalisation in young people and to advise on counter-strategies. If needed there is personalised support and reference to specialists and self-help organisations active on this issue at regional or local level.¹²⁰

The regions are continuing efforts to implement a policy of including pupils with special needs in mainstream education. Consequently the proportion of young people with special needs being educated in separate institutions is falling and the proportion of those integrated into regular groups increasing (Autorengruppe Bildungsberichterstattung 2016). The inclusion rate among pupils with special needs is the highest in ECEC, with over two thirds attending mainstream institutions, but it drops to 47 % in primary schools and 29.9 % in secondary schools (Klemm 2015). About 5 % of teacher training is devoted to inclusion (Autorengruppe Bildungsberichterstattung 2016). In June 2015, the Standing Conference of Ministers of Education (Kultusministerkonferenz - KMK) updated its recommendations for teachers at primary schools and teacher training to reflect the pedagogic discussions and developments of recent years. These concern, for example, inclusion, digitalisation, the need for learning at different speeds, and smoothing transitions (Kultusministerkonferenz 2015b, 2015c).

Box 2: Integrating refugees into education and training

According to the first arrival register more than 1 million asylum seekers and refugees arrived in Germany in 2015. The age breakdown of those who arrived in the first half of 2016 shows a high share of young people: 24.7 % are below 18, 24.3 % between 18 and 25 and 14.3 % between 25 and 30.

According to the information provided by 2015 asylum seekers to German authorities, 13 % had attended tertiary, 17 % upper secondary, and 30 % lower secondary schools prior to arrival. 24 % had attended only primary education and 8 % had no education at all.

A study by the federal refugee agency (BAMF) based on 2014 data shows a less promising picture (Worbs 2016). In this study about 60 % (57.5 % of Syrians and 73.2 % of Iraqis) report not having received vocational training or finishing higher education before leaving their country of origin.

This illustrates the main challenges for education and training: all new arrivals have to learn German, and a significant percentage, including adults, also have to undergo education and training to become fit for the labour market. The high number of new arrivals is a challenge for

¹¹⁹ 'Strategie der Bundesregierung zur Extremismusprävention und Demokratieförderung', <http://www.bmfsfj.de/BMFSFJ/freiwilliges-engagement,did=226684.html>.

¹²⁰ Federal Office for Migration and Refugees (Bundesamt für Migration und Flüchtlinge, BAMF), <http://www.bamf.de/SharedDocs/Meldungen/DE/2016/2016061-broschuere-glaube-extremismus.html>.

institutions in ECEC and compulsory education, but also in vocational education and training as well as adult education.

Duration of school attendance of selected countries						
Country of origin ¹²¹	years					other/no reply
	no school	up to 4	5 to 9	10 to 14	15 +	
Afghanistan	18.3	7.1	7.1	48.9	2.8	2.2
Iraq	25.9	10.5	30.9	25.7	3.5	3.5
Syria	16.1	6.6	28.9	41.5	4.3	2.6
all analysed	16.4	6.9	22.7	47.9	3.5	2.6

Source: BAMF-Flüchtlingsstudie 2014

First, additional places and resources are required throughout the whole education cycle:

- in **ECEC** between 44 000 and 58 000 additional places and between 7 100 and 9 400 staff;
- in **compulsory schooling** (primary and lower secondary) between 90 000 and 120 000 supplementary places and 10 500 to 14 000 additional teaching staff, plus 600 to 800 social workers;
- for **preparing to enter dual vocational training** 66 000 to 88 000 places requiring 7 270 to 9 700 teaching staff and 1 650 to 2 210 social workers;
- in **dual vocational training** itself 72 000 to 96 000 additional places, requiring 2 080 to 2 770 teaching and 1 810 to 2 410 social staff.

Additional annual investment in education could amount to EUR 2-3 billion (Autorengruppe Bildungsberichterstattung 2016).

More specifically, adapting to the education needs of this target group is a challenge. It means creating sufficient opportunities for learning in German as a second language even while the system is facing a shortage of competent teachers. Complementary action, in particular language teaching, is currently carried out either in separate preparatory classes or through immediate integration into regular courses with additional language support (Massumi 2015). Moreover, educators and teachers need to be trained to better deal with a diverse student body, and require social and psychological assistance to deal with traumatised refugees.

Another key issue is to determine skills and competencies as early as possible in order to identify individual training needs. Several federal and many regional programmes combine language training with identifying competences and inserting new arrivals into dual training schemes.¹²²

For the area of vocational education and training, the federal Government has announced measures to speed up the recognition of professional qualifications and skills and further develop the required methods and tools. The regions organise preparatory course providing language training and professional guidance to make them fit for to participate in actual and adequate training. Refugees with an apprenticeship but unclear legal status will receive a guarantee that they will be allowed to stay in Germany until the end of the education and training they have started. A successful federal programme (KAUSA, Koordinierungsstelle Ausbildung und Migration) helps young immigrants find training places for which funding, including from the European Social Fund, is secured up until 2018-2019.

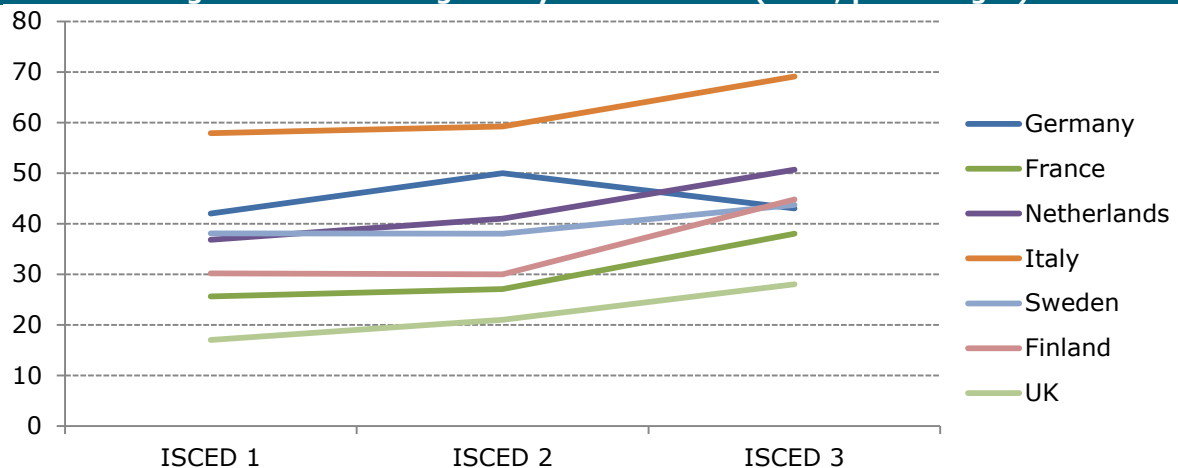
¹²¹ For the current inflow, Afghanistan, Iraq and Syria are particularly common countries of origin.

¹²² For example: the European Social Fund (ESF)-supported programme to learn German in a professional context for people with a migrant background; Federal support for German training linked to professions under § 45 a AufenthG, to start in 2016; the ESF 'IvAF' project aims at integrating asylum seekers into work, training or education; Bavaria has a comprehensive 'Integration through training and work' (*Integration durch Ausbildung und Arbeit*) programme aimed at providing an internship, dual training or a job for 20 000 people by end-2016 and 60 000 by 2019; North Rhine-Westphalia provides basic language courses of 300 hours; and Rhineland-Palatinate has created the innovative 'employment pilot' (*Beschäftigungspilot*) as a single platform bringing together all stakeholders and helping to identify existing competence levels and determine the best-suited support institution.

5. Modernising school education

Germany's teaching force is older than that of most other comparable EU countries except Italy (see Figure 2). The proportion of teachers aged 50 or older for academic and vocational schools is 45.9 % (Autorengruppe Bildungsberichterstattung 2016 Tab. B2-2A). The share of those over 60 had grown to 14 % in 2014 from 8 % in 2004. This means that about half the staff in general education will have to be replaced during the next 10-15 years. Estimates indicate there is an annual shortage of 1 600 teachers in east Germany compared to a surplus of 7 400 in west Germany. The percentage of teachers without recognised training increased to 7 % between 2004 and 2014. Until 20205 most teachers are needed in particular in chemistry, mathematics, physics, English and music (KMK 2015).

Figure 2. Teachers aged 50 years and older (2014, percentages)



Source: OECD (2016b), Table D5.1.

Though there are regional differences, German teachers on the whole do not actively participate in in-work training. One third of German and English teachers did not undergo any training in the past two years; another 28 % participated in only one or two events. But every third teacher participated in didactics training, most (42 %) from the academic secondary schools (Gymnasien) (Autorengruppe Bildungsberichterstattung 2016).

Most of the regions have transformed their school offer by making it more comprehensive and opening up multiple ways to access vocational training or tertiary education. This has meant abolishing single-track lower secondary schools like the 'Hauptschule' and 'Realschule' and creating schools combining multiple pathways instead.

Europe's Digital Progress Report 2016 (European Commission 2016b) describes Germany as making good progress on human capital, with internet usage, and thus also skills, above the EU average: 66 % of Germans have basic or above-basic digital skills, against the EU average of 55 %. The federal Government considers its 'Digital Agenda 2014-2017' as a policy framework (Federal Chancellery 2016). Education plays a role in this strategy, and is addressed mainly at regional level.

6. Modernising higher education

The tertiary educational attainment rate of Germany's 30 to 34 year-olds was 32.3 % in 2015, not much different from 31.4 % in 2014 and 32.9 % in 2013, but well below the EU average of 38.7 %. Germany is the only EU country with essentially the same attainment rates for women (32.4 %) and men (32.2 %, see Figure 3 below). While substantially more women (53.2 %) than men (42.6 %) obtain a qualification giving them the right to access higher education, proportionally less women that are entitled to actually do so. With almost half of recent cohorts starting higher education, it has in recent years become more popular than dual training.

The employment rate of recent tertiary graduates¹²³ remains high at 93.3 % in 2015, far above the EU average of 81.9 %. Employment patterns continue to differ between graduates from universities of applied sciences and those from other universities. Two thirds of graduates from the former take up a job after a bachelor degree, whereas most of the latter continue with master studies.

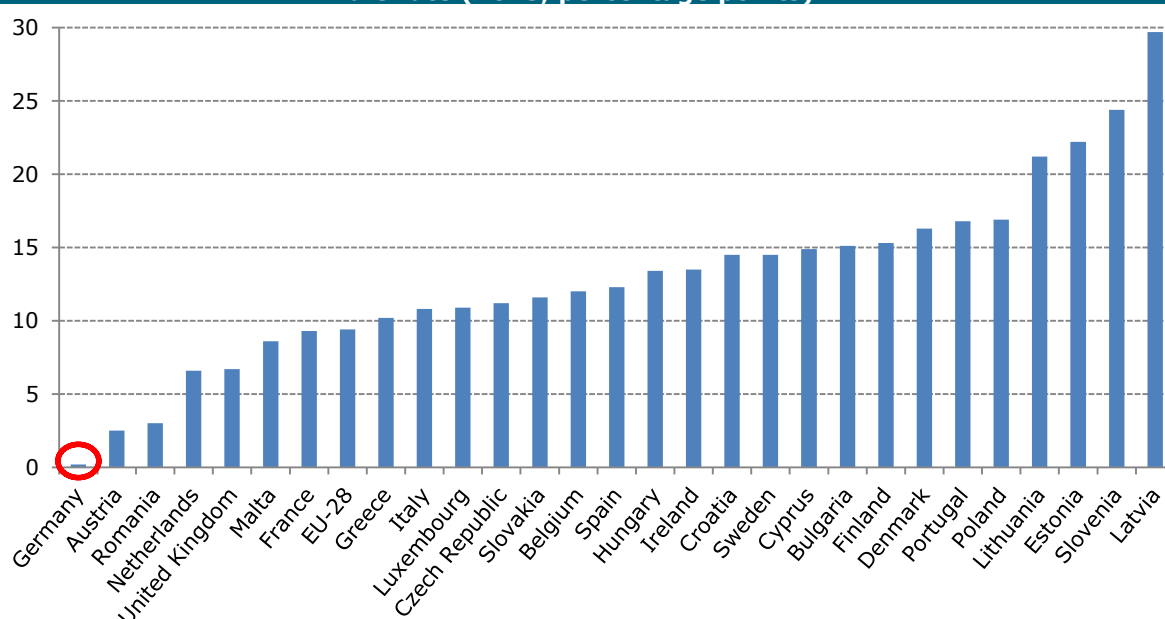
Germany is becoming an increasingly attractive destination for international students. Their share of those starting higher education reached 18 % or 93 000 in 2014; a 50% increase compared to 60 000 students in 2009 (Autorengruppe Bildungsberichterstattung 2016).

By international standards more students are entering the master level, and markedly more are starting PhD studies. The highest number of PhDs in 2014 is obtained in STEM disciplines with 8 969 per year. This is in line with Germany's status as an innovation leader. The proportion of students choosing STEM studies as their first study subject remains stable at 35 %.

The boundaries between vocational education and training (VET) and higher education are becoming less rigid. Already about one third of the new students enter not after graduating from the traditional academically oriented secondary schools (*Gymnasien*).

Nevertheless, overall developments have led to a debate. This concerns, firstly, the pros and cons of an increasing number of students opting for higher education instead of vocational training. Secondly, there is discussion about the scientific foundation for the increasing number of professional bachelor degrees. Federal and regional policy measures are directed at making tertiary education easier to access and more international and more diverse, while at the same time trying to make VET more attractive.

Figure 3. Gender gap in tertiary educational attainment (30-34): female rate minus male rate (2015, percentage points)



Source: European Commission elaboration on Eurostat data. Online data code: *edat_ifse03*.

7. Modernising vocational education and training and promoting adult learning

In 2014 the proportion of upper secondary students pursuing VET stood at 47.8 % slightly below the EU average of 48.9 %. But a significantly higher proportion of students are enrolled in initial VET programmes combining in-company and school-based learning (dual VET) — 86.4 %,

¹²³ People aged 20-34 who left tertiary education between one and three years before the reference year.

against the EU average of 27 %. This contributes to the high employment rate of people with a medium-level qualification (ISCED levels 3-4) in 2015, which is 88.2 % compared with an EU average of 70.8 %.¹²⁴

Adult participation in lifelong learning stands at 8.1 %, below the EU average of 10.7 %. The impact of socioeconomic and migrant backgrounds on participation persists: most poorly qualified people report that they participate in such activities not voluntarily but because they are obliged to (Autorengruppe Bildungsberichterstattung 2016).

Demographic change and the increasing attractiveness of higher education make it increasingly difficult to recruit enough apprentices for dual training in some regions and sectors. Small and medium businesses continue to provide the bulk of dual training places but a growing number of small businesses often struggle to compete with medium-sized and large businesses for applicants. A new record of 40 893 training places (+ 10 %) remained unfilled (Federal Ministry for Education and Research 2016). Several initiatives¹²⁵ aim at attracting higher education dropouts into dual training (Federal Chancellery 2016).

While the number of people seeking an apprenticeship place but unable to find one is decreasing (by 0.8 % to 20 712 in 2015), their proportion is still considered relatively high (Federal Ministry for Education and Research 2016). The "Educational Chains leading to vocational qualifications" (*Bildungsketten*) initiative is being expanded to strengthen counselling and coaching and extended to the 11th grade of grammar schools.¹²⁶ Municipal youth and social services are strengthening their cooperation with employment agencies to place disadvantaged young people in apprenticeships.

Within the agreed continuation of the Alliance for Initial and In-Work Vocational Training 2015-2018 (*Allianz für Aus- und Weiterbildung 2015-2018*), federal and regional government as well as the social partners have agreed to implement a series of measures to promote the attractiveness of vocational training and get more young people to take up in-company training.

8. References

Arbeits- und Ausbildungsmarkt in Deutschland (2016), Monatsbericht Juni 2016, <http://statistik.arbeitsagentur.de/Statistikdaten/Detail/201606/arbeitsmarktberichte/monatsbericht-monatsbericht/monatsbericht-d-0-201606-pdf.pdf>

Autorengruppe Bildungsberichterstattung (2016), Bildung in Deutschland 2016, <http://www.bildungsbericht.de/de/bildungsberichte-seit-2006/bildungsbericht-2016/pdf-bildungsbericht-2016/bildungsbericht-2016>

Council of the European Union (2016), Council recommendation of 12 July 2016 on the 2016 national reform programme of Lithuania and delivering a Council opinion on the 2016 stability programme of Germany, http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.C_.2016.299.01.0019.01.ENG&toc=OJ:C:2016:299:TOC

European Commission (2011), Special Eurobarometer 369. Attitudes towards vocational education and training, http://ec.europa.eu/public_opinion/archives/ebs/ebs_369_en.pdf

European Commission (2014), Special Eurobarometer 417. European Area of Skills and Qualifications, http://ec.europa.eu/public_opinion/archives/ebs/ebs_417_en.pdf

European Commission (2015), Education and Training Monitor — Volume 2, Germany, http://ec.europa.eu/education/tools/docs/2015/monitor2015-germany_en.pdf

¹²⁴ Source: Eurostat. Online data code: *edat_ifse_24*.

¹²⁵ Gewinnung von Studienabbrecherinnen und Studienabbrechern für die berufliche Bildung 2014-2018, SWITCH in Aachen and SPEED.it in Stuttgart.

¹²⁶ Since March 2015 full-time, 'career-start' advisors have provided personalised support to young people with difficulties achieving a school-leaving certificate and finding a way into vocational education and training.

European Commission (2016a), Country Report Germany 2016,
http://ec.europa.eu/europe2020/pdf/csr2016/cr2016_germany_en.pdf

European Commission (2016b), Europe's Digital Progress Report,
<https://ec.europa.eu/digital-single-market/en/news/europes-digital-progress-report-2016>

Federal Chancellery (2016), National Reform Programme (NRP) of Germany for the Implementation of the 'Europe 2020' Strategy,
http://ec.europa.eu/europe2020/pdf/csr2016/nrp2016_germany_de.pdf

Federal Ministry for Education and Research (2016), Berufsbildungsbericht 2016,
https://www.bmbf.de/pub/Berufsbildungsbericht_2016.pdf

Klemm, K. (2015), Inklusion in Deutschland, Daten und Fakten, Bertelsmann Stiftung,
https://www.bertelsmann-stiftung.de/fileadmin/files/BSt/Publikationen/GrauePublikationen/Studie_IB_Klemm-Studie_Inklusion_2015.pdf

Kultusministerkonferenz (KMK 2015a), Statistische Veröffentlichungen 208 – June 2015,
http://www.kmk.org/fileadmin/Dateien/pdf/Statistik/Dokumentationen/Dok_208_LEB_LEA_2015.pdf

Kultusministerkonferenz (KMK 2015b), Empfehlungen zur Arbeit in der Grundschule (Beschluss der Kultusministerkonferenz vom 02.07.1970 i. d. F. vom 11.06.2015,
http://www.kmk.org/fileadmin/Dateien/pdf/PresseUndAktuelles/2015/Empfehlung_350_KMK_Arbeit_Grunds chule_01.pdf

Kultusministerkonferenz (KMK 2015c), Lehrerbildung für eine Schule der Vielfalt,
http://www.kmk.org/fileadmin/Dateien/veroeffentlichungen_beschluesse/2015/2015_03_12-Schule-der-Vielfalt.pdf

Massumi et al. (2015), Neu zugewanderte Kinder und Jugendliche im deutschen Schulsystem, Mercator Institute,
<https://www.stiftung-mercator.de/de/publikation/neu-zugewanderte-kinder-und-jugendliche-im-deutschen-schulsystem/>

OECD (2016a), Economic Survey of Germany,
<http://www.oecd.org/germany/economic-survey-germany.htm>

OECD (2016b), OECD (2016), Education at a Glance 2016. OECD Indicators,
http://www.oecd-ilibrary.org/education/education-at-a-glance-2016_eag-2016-en

OECD (2016c), Low-Performing Students, Country Note Germany,
<https://www.oecd.org/germany/PISA-2012-low-performers-Germany-ENG.pdf>

Worbs S and Bund E (2016) Qualifikationsstruktur, Arbeitsmarkteteiligung und Zukunftsorientierungen, Kurzanalyse — Bundesagentur für Migration und Flüchtlinge,
https://www.bamf.de/SharedDocs/Anlagen/EN/Publikationen/Kurzanalysen/kurzanalyse1_qualifikationsstruktur_asylberechtigte.pdf?__blob=publicationFile

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_ipart (2011), educ_uoe_enra10 (2014)
Employment rate of recent graduates	edat_lfse_24
Adult participation in lifelong learning	trng_lfse_01
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



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Greece



1. Key indicators

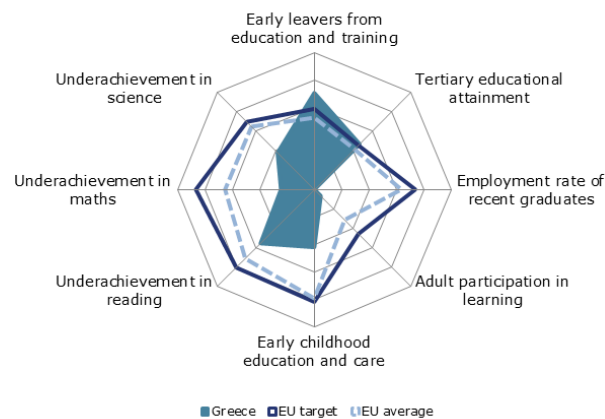
		Greece		EU average		
		2012	2015	2012	2015	
ET 2020 benchmarks						
Early leavers from education and training (age 18-24)	Total	11.3%	7.9%	12.7%	11.0%	
Tertiary educational attainment (age 30-34)	Total	31.2%	40.4%	36.0%	38.7%	
Early childhood education and care (ECEC) (from age 4 to starting age of compulsory education)		76.0% ¹¹	84.0% ¹⁴	93.2% ¹¹	94.3% ¹⁴	
Proportion of 15 year-olds with underachievement in:	Reading	22.6%	:	17.8%	:	
	Maths	35.7%	:	22.1%	:	
	Science	25.5%	:	16.6%	:	
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-8 (total)	43.0%	45.2%	75.9%	76.9%	
Adult participation in lifelong learning (age 25-64)	ISCED 0-8 (total)	3.3%	3.3%	9.2%	10.7%	
Other contextual indicators						
Education investment	Public expenditure on education as a percentage of GDP	4.5%	4.4% ¹⁴	5.0%	4.9% ^{14,p}	
	Expenditure on public and private institutions per student in € PPS	ISCED 1-2	:	: ¹³	:	: ¹³
		ISCED 3-4	:	: ¹³	:	: ¹³
		ISCED 5-8	:	: ¹³	:	: ¹³
Early leavers from education and training (age 18-24)	Native-born	8.2%	6.8%	11.6%	10.1%	
	Foreign-born	41.4%	24.1%	24.9%	19.0%	
Tertiary educational attainment (age 30-34)	Native-born	34.3%	44.2%	36.7%	39.4%	
	Foreign-born	10.5%	12.1%	33.8%	36.4%	
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-4	34.2%	35.8%	69.7%	70.8%	
	ISCED 5-8	47.7%	49.9%	81.5%	81.9%	
Learning mobility	Inbound graduates mobility (bachelor)	: ¹³	: ¹⁴	5.5% ¹³	5.9% ¹⁴	
	Inbound graduates mobility (master)	: ¹³	: ¹⁴	13.6% ¹³	13.9% ¹⁴	

Sources: Eurostat (see section 9 for more details); OECD (PISA).

Notes: data refer to weighted EU averages, covering different numbers of Member States depending on the source; b = break in time series, d = definition differs, p = provisional, u = low reliability, 11 = 2011, 13 = 2013, 14 = 2014.

Further information can be found in the relevant 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 2015) and OECD (PISA 2012).

Note: all scores are set between a maximum (the strongest performers, represented by the outer ring) and a minimum (the weakest performers, represented by the centre of the figure).

2. Highlights

- Early school leaving and tertiary educational attainment rates improved significantly and are now better than the EU average.
- Performance is disappointing on basic skills attainment by young people and adults, and on participation in vocational education and training as well as in adult learning.
- A national dialogue on education and a review of the education system are highlighting key problems such as serious underfunding, teacher staffing, equity and efficiency.
- The reversal of previous reforms aimed at increasing transparency, accountability and evaluation in schools and higher education is a matter of concern.
- Greece has adopted sectoral strategies on higher education, vocational education and lifelong learning. Their implementation will be a challenge.
- The impact of the refugee crisis on the Greek education sector remains fairly limited for the time being, but might have more far-reaching consequences in the future.

Box 1: The Memorandum of Understanding concluded in August 2015 under the economic adjustment programme¹²⁷

The Memorandum of Understanding concluded in August 2015 under the third economic adjustment programme (section 4.1, as updated in June 2016) considers education as part of a future national growth strategy. It calls for the OECD to undertake a review of the Greek education system by the third quarter of 2016. The review is to cover all levels of education, including:

- implementation of the 'new school' reform;
- scope for further rationalisation (of classes, schools and universities);
- the functioning and the governance of higher education institutions;
- the efficiency and autonomy of public educational units;
- linkages between research and education and collaboration between universities, research institutions and businesses to enhance innovation and entrepreneurship;
- the evaluation of schools and teachers as well as transparency at all levels.

The review is set to propose policy recommendations in line with best practices in EU and OECD countries to further modernise the Greek education sector. The recommendations are set to constitute a further basis for the necessary legislative and regulatory changes to be carried out by the Greek authorities and a new education action plan for 2016-2018, due in the autumn of 2016.

A second phase of the review is expected to carry out further in-depth policy analysis and engage a wide range of stakeholders. It is to be undertaken between the second half of 2016 and the second half of 2017, providing a solid basis of evidence for further proposals to improve Greece's education system.

¹²⁷ The full text of the MoU in the version of 16 June 2016 is to be found under the following link: http://ec.europa.eu/economy_finance/assistance_eu_ms/greek_loan_facility/pdf/smou_en.pdf

3. Investing in education to address demographic and skill challenges

General government expenditure on education in Greece was at 4.6 % of GDP in 2013 and 4.4 % in 2014, below the EU-28 average of respectively 5.0 % and 4.9 %.¹²⁸ The share of education spending in relation to total government expenditure improved slightly, from 7.5 % in 2013 to 8.8 % in 2014. However, this was again significantly lower than the 10.2 % EU-28 average. The central budget for education has suffered a sizeable reduction, from EUR 5.7 billion in 2014 to EUR 5.3 billion in 2015, or respectively 3.2 % and 3.0 % of GDP. The centrally managed education budget was reduced in absolute terms in comparison to previous years due to a general expenditure consolidation effort by the Greek Government (European Commission 2016a). These cuts also affected primary and secondary teachers' salaries: a reclassification of the pay scale of all public servants was introduced on 1 January 2016, and pay has been frozen until 31 December 2017 to save costs.¹²⁹

In an overall context of high unemployment, and especially persistent youth unemployment, employment rates in Greece vary strongly with the level of education. For lower qualifications (ISCED 0-2) the employment rate was 48.5 % in 2015, close to the EU-28 average. For medium qualifications (ISCED 3-4) it was 56.4 % in 2015, well below the EU average. For higher qualifications (ISCED 5-8) it stood at 68.7 % in 2015, also far away from the EU average. Greece also has the highest rate (40 %) of 15-29 year-olds with a tertiary degree who are not in employment, education or training. In addition, more young women in Greece continue to reach higher levels of education than their male counterparts, but their employment rates remain lower than for men (OECD 2015).

In parallel to the economic crisis, the number of births in Greece has fallen constantly in recent years: from 118 000 in 2008 to about 92 000 in 2014, a 22 % drop (ELSTAT 2016). The past few years have also seen net emigration and in the context of the recent refugee crisis Greece has so far mainly been a transit country. The decrease in the pupil population is already visible in pre-schools and is starting to be reflected at primary school level. In the next 6 years the number of pupils at primary level is expected to fall by around 25 %.

Box 2: The national dialogue on education

Greece's education system is at a crossroads and a public debate on its future is under way. The Government has set up a national dialogue on education, while in parallel the OECD is conducting a comprehensive country review of Greece as envisaged in the Memorandum of Understanding.

The National Social Dialogue for Education was launched with the aim of developing a national Education Action Plan.¹³⁰ Several committees were formed including stakeholders, practitioners and social partners. The topics discussed were: national education framework, reform of compulsory education, teacher training, digital education, admission to higher education, reform of higher education, vocational education and education funding. Members of the public, stakeholders and others could share their proposals on the digital platform 'Dialogos.'

The final report of the dialogue was published in May 2016 and calls for a new national Education Action Plan, more social justice, equity and access to education for all disadvantaged groups.

Based on the conclusions of the dialogue the Standing Committee for Education of the Greek Parliament proposed the following changes:

- introducing a second compulsory year of pre-school education in addition to the existing one; hence compulsory early childhood education and care in Greece would cover ages 4-6;

¹²⁸ Source: Eurostat, General government expenditure by function (COFOG) database.

¹²⁹ Law 4354/2015: 'Management of non-performing loans, wage settlements and other urgent regulatory provisions concerning the agreement of budgetary objectives and structural reforms'.

¹³⁰ Ministerial Decision 11803/18-12-2015.

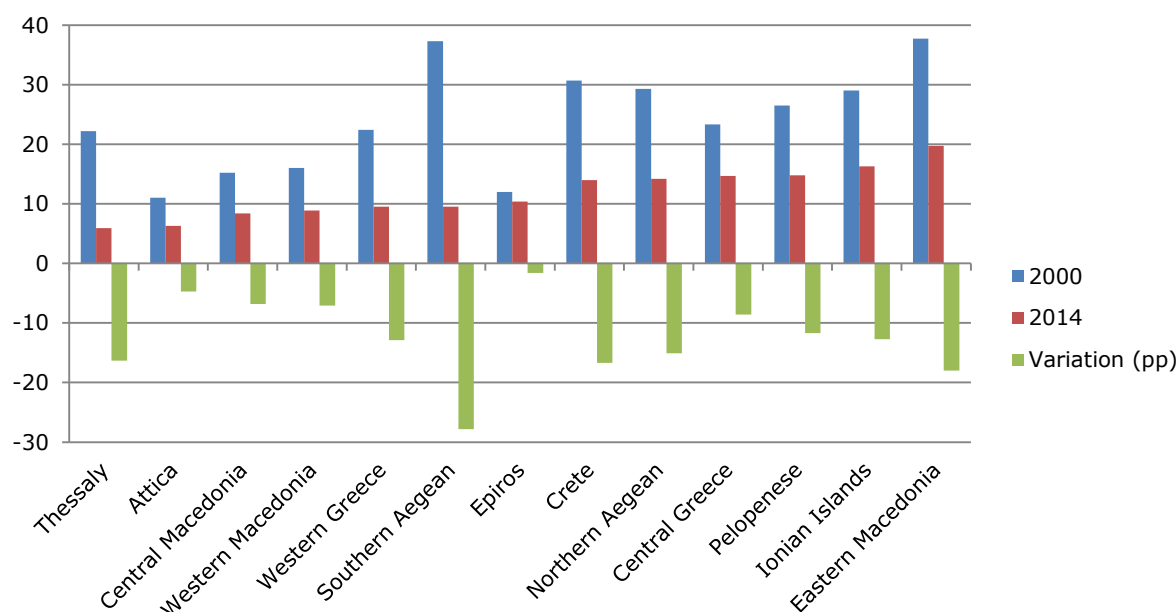
- a new '4+2' system for secondary education
- the possible abolition of the entry examination for higher education, to be replaced by a new 'selection process' at university, probably in the course of the first 2 years of studies.

The outcomes of the dialogue are likely to constitute, at least to a certain extent, the basis of future legislative proposals. More on: <http://dialogos.minedu.gov.gr/>

4. Tackling inequalities and promoting inclusion

Greece's early school leaving (ESL) rate fell from 9.0 % in 2014 to 7.9 % in 2015, well below the EU-28 average of 11.0 % in 2015. There is still a clear gender gap, with an ESL rate of 9.5 % for men and 6.4 % for women in 2015. However, the gap narrowed from 4.9 percentage points (pps.) in 2014 to 3.1 pps. in 2015, and is very close to the EU-28 average. For foreign-born students the situation remains difficult, with an ESL rate almost four times higher than for native-born pupils (24.1 % against 6.8 % in 2015). Figure 2 provides more information on regional ESL disparities across the country and how they have changed over time. It shows a noteworthy improvement in the northern and southern Aegean regions but a lack of progress in particular in Epirus (KANEP 2015).

Figure 2. Early school leaving rate by NUTS 2 regions in Greece (2000-2014)



Source: Eurostat. Online data code: *edat_lfse16*.

Greece is continuing to implement the national strategic policy framework for ESL. In particular, the system for collecting and analysing information on school drop-out is being further developed.¹³¹ The Institute of Educational Policy and its student drop-out observatory will analyse the data and indicators. The aim is to take remedial, compensatory and supportive measures at regional and national level (Hellenic Government 2016). On 31 August the Greek parliament adopted a new education reform bill including a number of provisions on the new state regulation of private schools.¹³² The bill includes a set of new rules governing industrial relations in the sector. Its critics argue that it limits the freedom of private education providers in the country.

¹³¹ The DIOFANTOS CTI will complete the implementation of the crucial MySchool information system and will streamline the data collection process.

¹³² Law. 4416/2016.

The new all-day school model ('cohesive all-day primary school') is supposed to be rolled out from the 2016-2017 school year for all primary schools¹³³ (Ministry of Education 2016). The law 4386/2016 which was adopted by the Parliament on 31 August introduces the notion of a uniform model nationwide. This new model is applied in a larger number of schools, but in fact it is a less ambitious version of the new all-day school envisaged previously. It does not provide i.e. for the full deployment of the extra-curricular afternoon activities as initially foreseen. It concerns 3 555 schools with more than 4 teachers, representing ca. 80% of Greek schools.¹³⁴

To support primary and secondary schools included in the pilot 'educational priority zones', various measures aimed at combating disadvantage are being implemented. These include introducing intercultural education activities in secondary schools, strengthening the operation of reception classes, and providing remedial teaching classes for pupils from socially vulnerable groups (such as foreign-born pupils, repatriated Greeks, Roma, members of the Muslim minority from Thrace, etc.).

Regarding migration, Greece has so far mainly been a transit country. It is now starting to address the education of refugees staying in Greece either temporarily (i.e. in camps) or for a longer period. On 30 August the Ministry presented together with major humanitarian NGO's the programme for the education of refugee children. For children between 4-7 years old, kindergarten subsidiaries will be established within the refugee reception centres. Children between 7-15 years of age will be integrated in reception classes at neighbouring public schools, where they will be taught Greek as a second language.

5. Modernising school education

Greece is faced with a generational turnover in the teaching profession. Almost half (49 %) of Greece's primary teachers are aged 50 or over and fewer than 1 % are under 30. A similar trend can be seen at secondary level, with 39 % of teachers aged between 40 and 49.

Teachers' salaries in Greece are lower in real terms than in many other OECD countries across all levels of education (OECD 2015). Due to the economic situation and public sector cuts they have fallen to 76 % of their 2008 level.

At the same time, classes are comparatively small, especially in primary schools. The average primary class size in Greece in 2013 was 17 students compared to an OECD average of 21 students. The average lower secondary class has 22 students compared to an OECD average of 24 (OECD 2015). However, in the case of Greece the ratio of students to teachers is strongly influenced by the geographical situation of the country. To tackle a shortage of school staff in remote islands and mountainous parts of the country, and as part of the support for local communities, in 2015 the Ministry of Education introduced special incentives for permanent and substitute teachers who choose to serve in these areas. These take the form of a salary premium. In addition, the effective teaching time of teachers in such areas is half that of those in the rest of the country.

On 8 September 2016 the Ministry of Education announced the hiring of 5 179 temporary substitute teachers in the pre-school, primary and special education sectors, which is by far the highest number since 2008. Recently the restructuring of the school network has stopped and practically no further steps have been taken to bring the system into line with the needs at primary and secondary level. There is therefore a need to further quantify current staffing needs, and possible scope to increase the efficiency of the teaching force.

Given the positive influence that autonomy and accountability can have on education performance, it is worrying that the procedures for evaluating schools and teachers have been suspended (self-evaluation for schools and individual evaluation of teachers), even in private education (OECD 2016). The administrative authority responsible (ADIPPDE) is therefore not fully carrying out its mission of quality assurance and evaluation. The regulation on school

¹³³ Ministerial decision (Φ12/657/70691/Δ1) of 26 April 2016.

¹³⁴ Law 4386/2016 from 31 August 2016, more on http://www.hellenicparliament.gr/Nomothetiko-Ergo/Anazitisi-Nomothetikou-Ergou?law_id=e373a4cd-87fe-493c-b750-a6500109225a

heads from May 2015 introduces a new selection procedure and new weightings for various professional and personal aptitude criteria, which may limit head teachers' independence (European Commission 2016d). The adoption of an average of 9.5 out of 20, instead of at least 10, as the passing grade for pupils in general upper secondary schools could also be seen as a lowering of standards (European Commission 2016b).

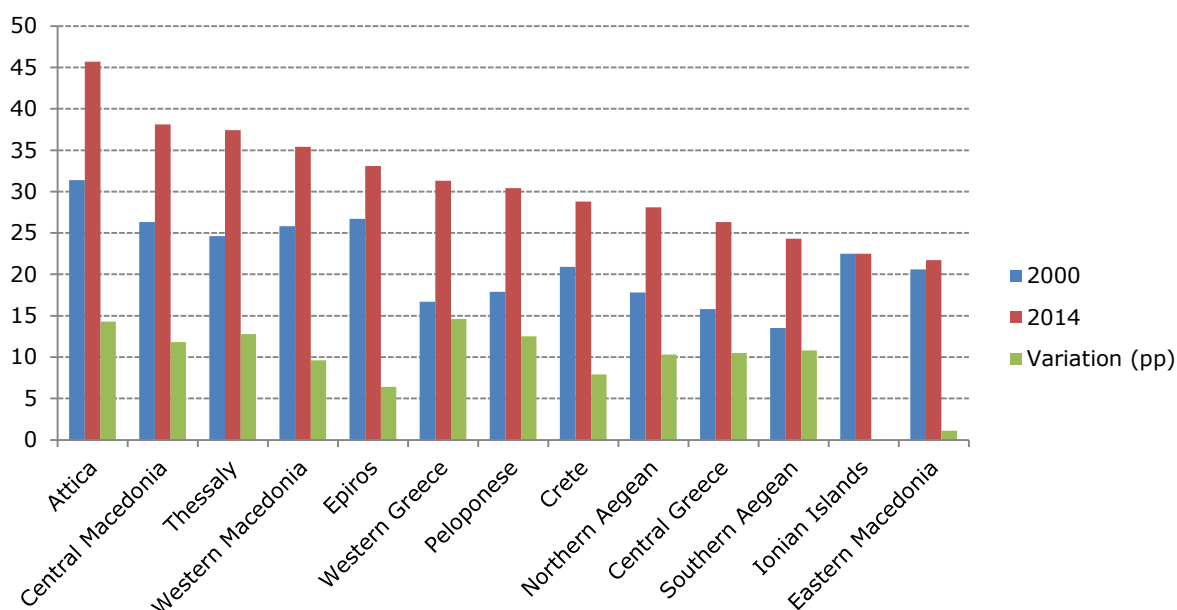
Greece ranks 26th out of the 28 EU Member States in the Digital Economy and Society Index for 2016. With an increasing number of talented, well-educated individuals emigrating in search of better pay or living and working conditions, Greek ICT companies are having difficulty finding people with the right digital skills (European Commission 2016c). The proportion of science, technology, engineering and mathematics graduates is increasing, creating potential for the take-up of new professions. On 1 September the Ministry of Education has proposed the creation of Open Technology Workshops (*edulabs*) at primary and secondary schools, in the framework of the "act4Greece" crowd-funding platform. The platform is supported by the National Bank of Greece and has strategic partnerships with a number of well-known institutions, such as the Onassis Foundation, the Latsis Foundation, the Bodossaki Foundation, the Hellenic National Commission for UNESCO, and the Hellenic Network for Corporate Social Responsibility.

6. Modernising higher education

Greece has a fairly high tertiary education attainment rate at 40.4 % in 2015, slightly above the EU average of 38.7 %. However, a large gender gap persists, with females outperforming males by 10.2 pps. in 2015. Foreign-born students have a much lower participation rate than native-born ones; in 2015 the difference was 32.1 pps. Figure 3 provides more information on regional tertiary attainment disparities and how they have changed over time. It shows, for example, that there has not been any significant improvement in the Ionian Islands or eastern Macedonia (KANEP 2015).

The employment rate of recent tertiary graduates¹³⁵ remained very low. It improved only marginally, from 47.4 % in 2014 to 49.9 % in 2015, but was still very far away from the EU-28 average at 80.5 % in 2014 and 81.9 % in 2015.

Figure 3. Tertiary attainment rate by NUTS 2 regions in Greece (2000-2014)



Source: Eurostat. Online data code: *edat_ifse_12*.

¹³⁵ People aged 20-34 who left tertiary education between one and three years before the reference year.

On governance in higher education, a legislative act adopted in October 2015 changed the way rectors and deans are elected, significantly diminishing the autonomy of higher education. The act reduced the role of university councils and made the eligibility criteria for candidates more restrictive and e.g. faculty members from abroad are no longer eligible. Under the previous regime, higher education institutions could also make their own statutes and regulations.

The 2012-2014 *Athina* project has not had a significant impact so far. It was aimed at increasing efficiency gains and consolidating the network of higher education institutions in Greece. Its main objective was to rationalise scientific fields and strengthen leading departments and institutions. The intention was also to make universities more innovative, create regional excellence hubs and better connect the academic sector with regional development needs. In theory the project contributed to the merger of over 120 university departments. But in practice it has not produced the financial rationalisation expected, as many departments which were consolidated did not in fact have any academic staff and/or any students. The four universities abolished have in practice merged with other tertiary institutions (European Commission 2016). Currently, the most pressing issues of lack of organisational efficiency concern Technological Institutes (TEIs).

Students are no longer automatically deleted from the university register if they fail to complete their studies within the normal period of study. This period corresponds to the minimum number of semesters necessary for the award of a diploma according to the curriculum, plus four additional ones.¹³⁶ This change may lead to a new increase in the average duration of studies, which is already quite high in Greece. However, according to the Ministry those inactive students bear no cost for the system as they cannot claim any educational benefits. On 31 August the Greek Parliament passed a new law in this field. According to this act students are to register for each semester and make a declaration in case they wish to interrupt their studies.

In June 2016 the Greek authorities presented a new higher education strategy for 2016-2020 (Hellenic Government 2016). This document attempts to provide the country with a long-term strategic vision and future direction for the tertiary sector. The strategy includes several important general elements, such as improving the quality of education and learning and strengthening equity and access to the sector. It also includes the aim of improving quality assurance in higher education. The strategy contains fairly broad measures to increase participation, attainment levels and completion of higher education by all population groups. It also aims at supporting research and enabling innovation. The strategy is however short on specific and targeted measures, which poses difficulties for its full and effective implementation.

7. Modernising vocational education and training and promoting adult learning

Participation in vocational education and training (VET) in Greece remained broadly stable in 2014 at 31 %, but it was 17 pps. below the EU average. Participation in adult learning, at 5.7 % in 2015, also remained low and far away from the 10.7 % EU average. Greece has an alarmingly low employment rate for recent VET upper-secondary graduates.¹³⁷ In 2015 it was at 37.5 %, virtually half the EU average of 73.0 %.

According to the 2016 OECD Adult Skills Survey (PIAAC) for Greece, overall the country performs reasonably well on both literacy and numeracy, but is slightly below the OECD average. However, it has a worryingly low level of achievement in problem-solving, highlighting the need for more provision of transversal and digital skills. The survey also found that the proportion of adults in Greece who score the highest levels of proficiency in literacy and numeracy is considerably smaller than the OECD average, while the proportion of adults with poor skills in literacy and numeracy is much larger than average. In contrast to the pattern in other countries, where younger generations tend to outperform older ones, 25-34 year-olds in Greece perform as well in literacy as 55-65 year-olds. Tertiary-educated adults in Greece have

¹³⁶ According to the Law 4327/2015.

¹³⁷ People aged 20-34 who left education between one and three years before the reference year.

relatively low proficiency in literacy, numeracy and problem-solving in technology-rich environments (OECD 2016b).

Greece is in the process of developing two key sectoral strategies, on lifelong learning (LLL) and VET, respectively (Hellenic Government 2016). The national strategic policy framework for LLL will include measures to:

- increase the provision of LLL for adults;
- intensify cooperation with stakeholders;
- ensure the complementarity of LLL with other sectors of education (initial and in-work VET);
- develop the skills of priority target groups (e.g. older workers);
- implement transparency tools effectively; these include the European and national qualifications framework, the European Credit System for Vocational Education and Training, and the European Framework for Assurance Quality in VET.

The national strategic policy framework to improve the quality and effectiveness of VET will include measures to:

- better match VET provision with labour market needs and improve cooperation with stakeholders;
- adapt curricula, enhance the syllabus and draw up new textbooks;
- promote the acquisition of work experience mechanisms to anticipate future skills shortages;
- establish a national approach to quality assurance and to applying transparency principles;
- increase the number of students and graduates participating in apprenticeships by redesigning the apprenticeship programmes for 150 specialisations and professions;
- develop and implement the apprenticeship programmes for secondary and post-secondary VET (EPAL and IEK schools) graduates and practical training in maritime academies.

Both strategies are primarily intended to comply with the pre-conditions for receiving financial support from EU Structural and Investment Funds. However, if fully implemented, they could constitute a first attempt to give a strategic steer to the country's education and training sector.

8. References

ΔΙΑΡΚΗΣ ΕΠΙΤΡΟΠΗ ΜΟΡΦΩΤΙΚΩΝ ΥΠΟΘΕΣΕΩΝ ΤΗΣ ΒΟΥΛΗΣ (2016), ΔΙΑΠΙΣΤΩΣΕΙΣ, ΠΡΟΤΑΣΕΙΣ ΚΑΙ ΧΡΟΝΟΔΙΑΓΡΑΜΜΑΤΑ ΥΛΟΠΟΙΗΣΗΣ,
http://www.minedu.gov.gr/publications/docs2016/morfotikwn_porisma.pdf

ΕΘΝΙΚΟΣ ΚΑΙ ΚΟΙΝΩΝΙΚΟΣ ΔΙΑΛΟΓΟΣ ΓΙΑ ΤΗΝ ΠΑΙΔΕΙΑ (2016), ΠΟΡΙΣΜΑΤΑ,
http://dialogos.minedu.gov.gr/wp-content/uploads/2016/04/PORISMATA_DIALOGOU_2016.pdf

European Commission (2015a), Eurydice, Structural Indicators for Monitoring Education and Training Systems in Europe — 2015,
http://eacea.ec.europa.eu/education/eurydice/documents/thematic_reports/190EN.pdf

European Commission (2015b), Memorandum of Understanding between the European Commission, acting on behalf of the European Stability Mechanism, and the Hellenic Republic and the Bank of Greece,
http://ec.europa.eu/economy_finance/assistance_eu_ms/greek_loan_facility/pdf/01_mou_20150811_en.pdf

European Commission (2016a), Eurydice, National Sheets on Education Budgets in Europe — 2015,
<https://webgate.ec.europa.eu/fpfis/mwikis/eurydice/images/8/8f/194EN.pdf>

European Commission (2016b), Eurydice, Eurypedia,
https://webgate.ec.europa.eu/fpfis/mwikis/eurydice/index.php/Main_Page

European Commission (2016c), Digital Economy and Society Index (DESI) 2016,
<https://ec.europa.eu/digital-single-market/en/news/european-digital-progress-report-edpr-country-profiles>

European Commission (2016d), Compliance Report; the Third Economic Adjustment Programme for Greece – First Review,

http://ec.europa.eu/economy_finance/assistance_eu_ms/greek_loan_facility/pdf/cr_full_to_ewg_en.pdf

ΚΕΝΤΡΟ ΑΝΑΠΤΥΞΗΣ ΕΚΠΑΙΔΕΥΤΙΚΗΣ ΠΟΛΙΤΙΚΗΣ της ΓΣΕΕ (2015), Ετήσιας Έκθεσης για την Εκπαίδευση 2015,

<http://www.kanep-gsee.gr/content/etisia-ekthesi-gia-tin-ekpaideysi-2015>

Hellenic Government (2016), National Reform Programme.

http://ec.europa.eu/europe2020/pdf/csr2016/nrp2016_greece_en.pdf

OECD (2015), Education at a Glance,

<http://www.oecd.org/edu/education-at-a-glance-19991487.htm>

OECD (2016a), Country review of education in Greece (forthcoming).

OECD (2016b), Skills Matter: Further Results from the Survey of Adult Skills,

<http://www.oecd.org/edu/skills-matter-9789264258051-en.htm>

ΥΠΟΥΡΓΕΙΟ ΠΑΙΔΕΙΑΣ, ΕΡΕΥΝΑΣ ΚΑΙ ΘΡΗΣΚΕΥΜΑΤΩΝ (2016), Η στρατηγική της Ανώτατης Εκπαίδευσης στην Ελλάδα, 2016-2020,

<http://www.minedu.gov.gr/aei-9/stratigiki-aei/21342-06-06-16-i-anagki-gia-ethniki-stratigiki-sta-ae>

ΥΠΟΥΡΓΕΙΟ ΠΑΙΔΕΙΑΣ, ΕΡΕΥΝΑΣ ΚΑΙ ΘΡΗΣΚΕΥΜΑΤΩΝ (2016), Dialogos,

<http://dialogos.minedu.gov.gr/>

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_ipart (2011), educ_uoe_enra10 (2014)
Employment rate of recent graduates	edat_lfse_24
Adult participation in lifelong learning	trng_lfse_01
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

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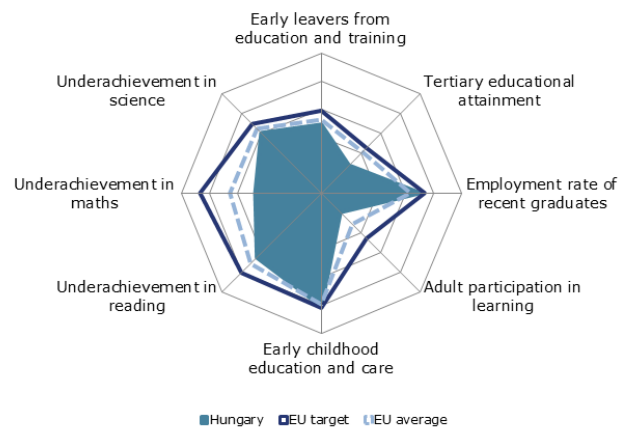
1. Key indicators

		Hungary		EU average		
		2012	2015	2012	2015	
ET 2020 benchmarks						
Early leavers from education and training (age 18-24)	Total	11.8%	11.6% ^b	12.7%	11.0%	
Tertiary educational attainment (age 30-34)	Total	29.8%	34.3%	36.0%	38.7%	
Early childhood education and care (ECEC) (from age 4 to starting age of compulsory education)		94.5% ¹¹	94.7% ¹⁴	93.2% ¹¹	94.3% ¹⁴	
Proportion of 15 year-olds with underachievement in:	Reading	19.7%	:	17.8%	:	
	Maths	28.1%	:	22.1%	:	
	Science	18.0%	:	16.6%	:	
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-8 (total)	73.3%	80.4% ^b	75.9%	76.9%	
Adult participation in lifelong learning (age 25-64)	ISCED 0-8 (total)	2.9%	7.1% ^b	9.2%	10.7%	
Other contextual indicators						
Education investment	Public expenditure on education as a percentage of GDP	4.7%	5.2% ¹⁴	5.0%	4.9% ^{14,p}	
	Expenditure on public and private institutions per student in € PPS	ISCED 1-2	€3.356	€3.481 ¹³	:	: ¹³
		ISCED 3-4	€3.276	€3.253 ¹³	:	: ¹³
ISCED 5-8		€6.747	€7.370 ¹³	:	: ¹³	
Early leavers from education and training (age 18-24)	Native-born	11.7%	11.6% ^b	11.6%	10.1%	
	Foreign-born	:	:	24.9%	19.0%	
Tertiary educational attainment (age 30-34)	Native-born	29.7%	34.5%	36.7%	39.4%	
	Foreign-born	36.0%	26.1% ^u	33.8%	36.4%	
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-4	62.4%	75.6% ^b	69.7%	70.8%	
	ISCED 5-8	84.0%	86.7% ^b	81.5%	81.9%	
Learning mobility	Inbound graduates mobility (bachelor)	2.8% ¹³	3.0% ¹⁴	5.5% ¹³	5.9% ¹⁴	
	Inbound graduates mobility (master)	7.0% ¹³	8.5% ¹⁴	13.6% ¹³	13.9% ¹⁴	

Sources: Eurostat (see section 9 for more details); OECD (PISA).

Notes: data refer to weighted EU averages, covering different numbers of Member States depending on the source; b = break in time series, d = definition differs, p = provisional, u = low reliability, 11 = 2011, 13 = 2013, 14 = 2014. Further information can be found in the relevant 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 2015) and OECD (PISA 2012).

Note: all scores are set between a maximum (the strongest performers, represented by the outer ring) and a minimum (the weakest performers, represented by the centre of the figure).

2. Highlights

- From 2015/2016 the compulsory starting age for early childhood education and care was lowered from five to three years to better prepare children for school and so reduce the risk of children dropping out later on.
- Dual study programmes were introduced in higher education in 2015/2016 to improve the labour market relevance of degree programmes.
- The government announced the transfer of the operation of public schools from the municipalities to the state and the decentralisation of the state school maintainer organisation as of January 2017.
- A new core curriculum was introduced for vocational grammar schools in 2016/2017, under which the teaching hours for vocation-specific subjects were increased.
- Hungarian education faces equity challenges. Students' performance is linked to their socioeconomic background, and the participation of disadvantaged groups, in particular Roma people, in inclusive mainstream education needs to increase.
- Hungary increased its public expenditure in education by 12.5% in 2014.

Box 1: The 2016 European Semester country-specific recommendation on education and training

The 2016 European Semester country-specific recommendations (CSRs) to Hungary (Council of the European Union, 2016) included a recommendation on education and training:

Take measures to improve educational outcomes and to increase the participation of disadvantaged groups, in particular Roma, in inclusive mainstream education.

3. Investing in education to address demographic and skill challenges

General government expenditure on education as a proportion of GDP was 5.2 % in 2014, slightly above the EU average (4.9 %).¹ Following a decrease in the previous three years, public expenditure on education increased by 12.5 % in 2014. This spending includes the use of EU funds in the sector. For the period 2014-2020, under the Human Resource Development Operational Programme of the European Structural and Investment Funds (ESIF), EUR 344 million has been allocated to tackling early school leaving and improving the quality of compulsory education (Government 2015a).

Employment rates in Hungary indicate an above the EU average proportion of highly skilled workers (83 %) as compared with medium-skilled workers (73.7 %) and, in particular, low-skilled workers (48.1 %). Higher salaries in other parts of Europe are driving growing numbers of highly skilled and medium-skilled workers abroad, leading to rising labour shortages in a number of sectors (European Commission 2016).

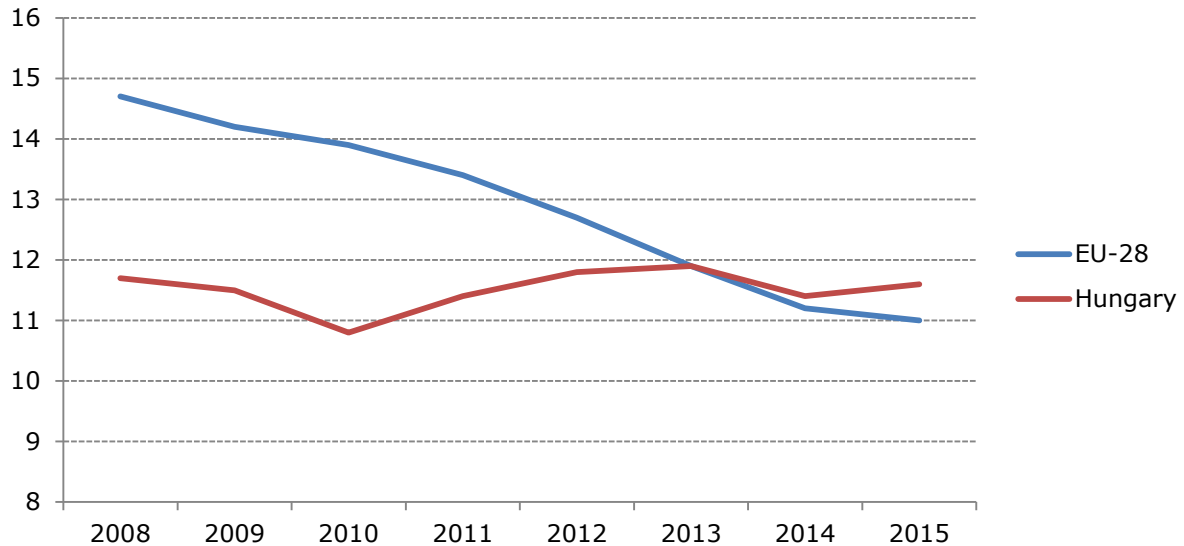
4. Tackling inequality and promoting inclusion

The early school leaving (ESL) rate in 2015 is 11.6 %, close to the EU average, but unlike the EU average, it has not fallen in the last five years (see Figure 1 below). ESL is particularly high among Roma people, at 57 % compared with 10.3 % among the non-Roma population (Central Statistical Office 2015). The level of ESL varies by region, with the highest rates in the north-east of the country, the region most affected by poverty. National data indicates strong variations according to school type, too: 46.9 % of all early school leavers drop out from

¹ Source: Eurostat, General government expenditure by function (COFOG) database.

vocational schools, 33 % from vocational upper secondary schools and 12.9 % from general upper secondary schools (Fehérvári 2015).

Figure 2. Early school leaving in Hungary and the European Union 2008-2015



Source: Eurostat. Online data code: *edat_ifse_14*.

The proportion of children participating in early childhood education and care is 94.7 %, close to the EU average (94.3 %) and the EU target (95 %).

Students' performance in the Programme for International Student Assessment (PISA) was below the OECD average in 2012 and has deteriorated in comparison with 2009 in all three core subjects tested: mathematics, science and reading (OECD 2013). Moreover, PISA data indicate that educational outcomes in Hungary's education system are strongly linked to socioeconomic status, despite the country's relatively low income inequality.² One factor in this is that pupils are tracked into different schools according to their performance starting from the age of 10, leading to significant variations in performance by school type – general upper secondary, vocational upper secondary and vocational schools. The choice of school type is in turn heavily influenced by the parents' socioeconomic background (PISA 2012). Large performance gaps are already present in the sixth grade and become prominent in the tenth grade (Education Authority 2016).

The uneven distribution of disadvantaged pupils between schools leads to large proportions of disadvantaged pupils at certain schools, which impacts heavily on the quality of teaching. According to the Hungarian Academy of Sciences, school segregation, calculated on the basis of possible contact between disadvantaged and non-disadvantaged pupils in primary schools, is growing (Hungarian Academy of Sciences 2015). This development has also an ethnic dimension: the Roma Inclusion Index shows that 20 % of Roma children attend segregated schools, and separate education exists both in towns with several schools and in remote settlements (Kertesi-Kézdi 2013). Although successful pedagogical models for inclusive education exist in Hungary, the number of schools introducing such models is limited, and the number of Roma-majority schools has risen significantly since 2008 (Nahalka 2016). In May 2016, the European Commission launched infringement proceedings against Hungary concerning discrimination against Roma children in education in Hungary in breach of Directive 2000/43/EC on equal treatment irrespective of racial or ethnic origin.

² In PISA 2012, students' reading performance had the second highest variation according to economic, social and cultural status in the EU. Income inequality as measured by the GINI-index was below average in Hungary in 2013 (28.9 against an EU-average of 30.5). Source: <https://data.oecd.org/inequality/income-inequality.htm>

The risk of children dropping out of school has risen, partly due to increasing child poverty,³ as disadvantaged young people are increasingly tempted to leave school to take jobs that require no qualifications. Their income under the so called public work scheme is below the minimum wage but still substantially higher than the family allowance for staying at school. The proportion of young people aged 25 or under participating in the public work scheme was 16 % in December 2015 (Government 2016b).

Hungary adopted a strategy in 2014 for discouraging young people from leaving school without qualifications. The related implementation plan has not yet been published, however. The strategy included an early warning system to identify students at risk of dropping out based on data from the central school information system. Risks are calculated based on the number of absences and trends in the student's score average. There is no monitoring system for young people who have already dropped out, either at the level of the school, the local authorities or social services. Given the lack of information on the paths of these young people, it is not possible to offer them systematic assistance to integrate them into society and the labour market.

From 2015/2016 the compulsory age for participation in early childhood education and care was lowered from five to three years. The aim is to better prepare disadvantaged children to start school and so reduce the risk of them dropping out in the future. This measure is accompanied by a training programme for kindergarten teachers on how to reduce disadvantages through activities in the kindergarten and family day care. The number of kindergarten places was increased through an infrastructure development programme (Government 2014a). To enforce compulsory participation in kindergarten, pre-school support was abolished and the family allowance was made conditional on pre-school attendance from September 2015.

In May 2015 the age limit for enrolling in formal education was raised from 21 to 25 years. This may increase the chances of disadvantaged learners obtaining a qualification.

Specific catch-up programmes and scholarships for disadvantaged children, including Roma children, and dedicated teacher training programmes are still available. These programmes should, however, be complemented by additional structural measures to increase the inclusiveness of mainstream education.

To enhance students' social responsibility and to help their career choice, from 2016, students wishing to sit the school leaving exam will have to certify a total of 50 hours of voluntary work in grades 9 to 11 (Ministry of Human Capacities 2012).⁴

5. Modernising school education

Teachers' salaries increased slightly in 2013 but are still among the lowest in the EU and correspond to around 71 % of the salaries of other tertiary graduates (OECD 2016). Salaries are linked to the four different categories of the new career model for teachers. In parallel with the introduction of this model, salary supplements for replacement and supplementary hours were abolished, reducing the impact of the raise on the base salary. Significant net salary increases appeared in the highest teaching category (level 2). The number of teacher training applicants is still insufficient to replace retiring teachers in particular in science subjects despite dedicated scholarships for trainee teachers.

According to the 2012 PISA survey, Hungarian students had the weakest performance in Europe in the digital competence test and their results had deteriorated since 2009. The lack of digital skills limits their future employment prospects and reduces the potential pool of student applicants to engineering and IT, sectors in which there is already a significant labour shortage (IVSZ 2015). In June 2015 the annual national competence test in mathematics and literacy included, for the first time, a foreign language assessment. The test is compulsory for all pupils learning English or German as a first foreign language in grades 6 and 8. In the first language test, that assessed reading comprehension, the proportion of 8th graders reaching the required level A2 was 70 % for English and 60 % for German (Education Authority, 2016). The language

³ Child poverty affected 41.5 % of children in 2014 (European Commission 2016).

⁴ See: <http://www.kozossegi.ofi.hu/>

skills of secondary graduates have a direct impact on their later study options: holding a foreign language certificate at level B2 will become an admission criterion to bachelor programmes as of 2020 (Government 2014b).

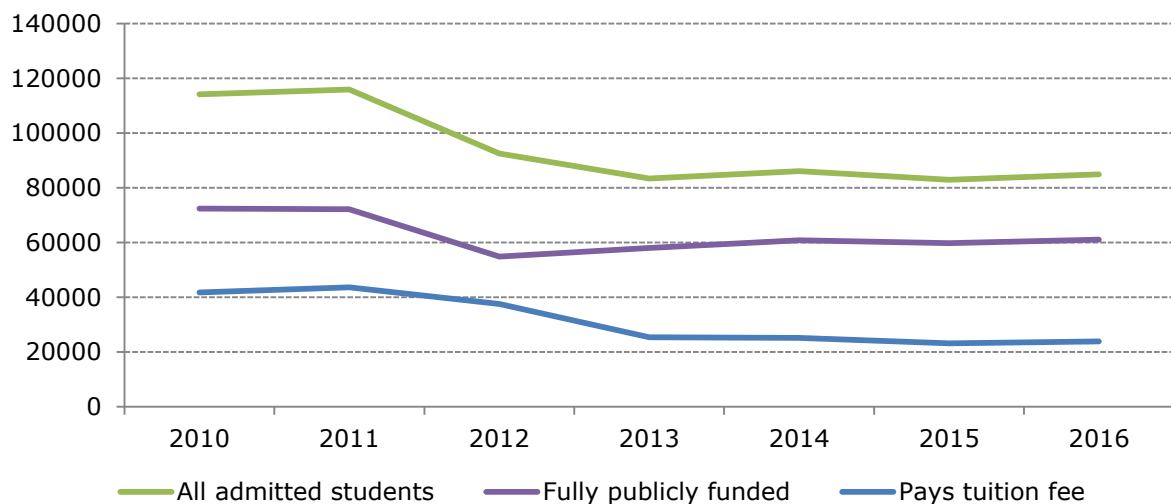
Legislative changes introduced since 2011 in school education have increased teaching hours and restricted schools' freedom in a number of areas: teaching content, textbook choice and the management of financial and human resources. Teachers are appointed and paid by the state maintenance centre — the KLIK —, which also manages school procurement. A lack of financial autonomy and excessive administrative requirements for everyday expenses have led to tension between schools and the state maintenance centre in recent years. The teachers' compulsory self-appraisal and the assessment by the newly established inspectorate directly affect teachers' promotion and salaries, so these instruments are viewed negatively by teachers.

In response, the minister responsible for education submitted an amendment package in May 2016. The government's implementing decree of June 2016 reorganises the management structure of schools in such a way that the operation of all schools will be taken over from the municipalities by the state.⁵ The central state maintenance will be complemented by 58 district-level centres. Schools will be allowed to manage a certain part of their financing allowing them some autonomy regarding their everyday expenses. The amendment will also authorise school heads to distribute the salary supplement increments of 2016 and 2017 with a performance-based differentiation between teachers.

6. Modernising higher education

Hungary's tertiary educational attainment rate for 30- to 34-year-olds stood at 34.3 % in 2015 compared with the EU average of 38.7 %. The 2015 rate is close to the objective of 35 % set by the Hungarian higher education strategy for 2023.⁶ However, there has been a decline in applications and enrolment rates for tertiary programmes since 2011 (Figure 3) and a high drop-out rate from higher education,⁷ which may negatively affect tertiary attainment rates in Hungary over the next decade.

Figure 3. Change in the number of tertiary students 2010-2016



Source: Felvi database 2016

⁵ Operating and maintaining roles of schools used to be separated. The operation (e.g. reparation works) of schools in settlements under 3000 inhabitants was done by the state, above 3000 inhabitants by the municipalities. From 2017 onward the state maintainer will take over this role from all municipalities.

⁶ The EU2020 national target for tertiary attainment is 34 % until 2020.

⁷ The drop-out rate from higher education was at 47% in 2011 according to UNESCO-IIS/OECD/EUROSTAT data collection in OECD Education at a Glance 2013. National data from 2015 indicates drop-out rates of 36.4 % in the first cycle, 17.8 % in the second cycle and 38.7 % in undivided programmes.

While science, technology, engineering and mathematics (STEM) programmes are a priority, the number of entrants to these programmes is falling. Drop-out rates are particularly high among students of STEM subjects. The rate of graduates of maths, computer science, technology, manufacturing and construction, in particular at master's and doctoral levels, is one of the lowest in the EU.

The higher education strategy of 2014 included plans to introduce competence tests for students in their first and final year of study from 2016/2017. The aim is to obtain a better picture of the efficiency and added-value of the study programmes. It should also make it possible to identify low-performing students in their first year and offer them mentoring support to improve their chances of completing their studies. To measure the employability of graduates, a graduate tracking system was established, connecting the higher education information system, the student loan centre, the national tax office, the labour office and some other databases. Surveys are carried out three and five years after graduation.⁸

As an incentive to reduce the duration of their study periods, as of 2015/2016 students need to acquire an average of at least 18 credits a semester — instead of 15 — to maintain their state-funded place. Also, state-funded students need to sign a student declaration at the start of their studies stating they will obtain their diploma within one and a half time the estimated study time. Beyond that, students must repay 50 % of the state support.

A number of changes announced in the higher education strategy of 2014 have been implemented:

- The government amended the decree on organising doctoral schools and programmes (Government 2015a) with the aim of improving the outcomes of doctoral programmes and increasing the number of students who obtain a PhD. The doctoral process is split into two phases: a two-year programme with a complex examination at the end, and a two-year research phase culminating in a PhD thesis. The decree also increased state allowances for doctoral students.
- The government appointed the members of the newly established boards (*konzisztórium*) in all state-owned higher education institutions. Each board consists of three government-appointed members, the chancellor and the rector. The 'chancellor' is nominated by the Minister for Human Capacities, takes decisions on strategic, financial and economic matters and represents the maintainer of the higher education institution.
- 15 % of study programmes were axed in 2016/2017 by government decision.
- The existing types of higher education institution — colleges and universities — were complemented by two new sub-structures. The first is the 'university of applied sciences', which offers at least two degree programmes in dual form. Unlike a university, a university of applied sciences is not required to offer doctoral programmes. The other new sub-structure is the 'community-based higher education centre' where an existing higher education institution delivers a tertiary programme in small settlements.
- The first dual higher education programmes began in 2015/2016 (Box 2).

Box 2: Dual programmes in higher education

Dual programmes are specific practice-oriented courses delivered by a higher education institution in cooperation with corporate partners or other organisations. They consist of academic studies at the participating university and work-based learning at a partner company that is qualified to deliver this training. Students spend approximately the same time with each training partner and are paid by the company on a contractual basis.

⁸ According to the latest survey published in October 2015, 15 % of recent graduates had started further tertiary programmes; 10 % had participated in a mobility period during their studies; 7 % had had work experience abroad and 28 % were planning to work abroad in the next five years. 80 % of graduates in employment held a position matching their study profile to some extent, of which 20 % were doing work closely related to their studies. 17 % felt that their current employment did not require a tertiary degree.

The objective is to increase the relevance of higher education and to respond to rising demand for highly skilled workers in a number of areas. Dual training is seen as benefiting all parties. Companies receive a tax deduction and can recruit future employees trained according to their specific profiles. Higher education institutions are able to modernise their curriculum in collaboration with their training partners and use the companies' expertise and equipment to offer high-level training to their students. Students gain work experience alongside their training, earn a salary and have a good chance of being offered a job at their training company upon graduation.

The legal basis for dual higher education was created by an amendment of the Act on higher education of July 2014. A dual training council was established in January 2015. It grants permission to launch the programmes and accredits the companies offering training places. Study programmes began in 2015/2016. Companies providing practical placements can deduct the cost of the trainee from their vocational training tax contribution and can apply for financial support for training equipment. HUF 2.2 billion (around EUR 7.1 million) was allocated to support this measure from ESIF 2014-2020 (Government 2015d).

The following criteria were set:

- Dual programmes consist of academic studies provided at the participating university and 20-24 weeks of work-based learning per year with a company; the duration of work-based learning corresponds to at least 80 % of the duration of the study periods.
- The degree programme is in one of the fields established by law, e.g. agriculture or engineering.
- The company/organisation is qualified by the Dual Training Council to deliver the training.
- A cooperation agreement is signed between the higher education institution and the company partner(s), setting out the roles and responsibilities of each party.
- The curriculum delivered by the higher education institution is the same as the curriculum for the corresponding course that does not involve work-based learning.
- The company pays the student a wage. The amount is defined in the training contract and corresponds to at least 15 % per week of the monthly minimum wage.

In its launch year, dual training met with a strong interest from higher education institutions and companies. However, only around 40 % of the available training places were filled and companies reported difficulties finding motivated and sufficiently skilled candidates. The competences of secondary school graduates were found to be particularly weak in STEM subjects, crucial for engineering and information technology in which there is already a shortage of graduates. Greater flexibility in the organisation of dual training, making it adaptable to the needs of the different regions, sectors and company types, could possibly attract more training partners to the programme (EJMSZ 2016).

7. Modernising vocational education and training and promoting adult learning

Participation in upper secondary vocational education and training (VET) is below the EU average (26.5 % compared with 48.9 % in 2013). The proportion of VET students in work-based learning is about 70 %, one of the highest rates in Europe.⁹ The employment rate of recent upper secondary graduates¹⁰ is above the EU average (77.3 % compared with 73.0 %). Adult participation in lifelong learning (7.1 %) is below the EU average (10.7 %).

Vocation-specific content — and with that, the choice of profession — was brought forward to grade 9, the first year of initial vocational education and training (IVET) programmes in 2013. The government announced that it would further restructure VET in 2016/2017 (Government

⁹ It should be noted that this includes all programmes with a practical element regardless of whether it takes place at a company or at a school.

¹⁰ People aged 20-34 who left upper secondary education between one and three years before the reference year.

2015c). The names of all three types of IVET programme were upgraded: secondary vocational schools (International Standard Classification of Education (ISCED) 344-454) became vocational grammar schools (*szakgimnázium*), vocational schools (ISCED 353) became vocational secondary schools (*szakközépiskola*), while special vocational schools that train students with special needs are now called vocational schools (*szakiskola*).

The new vocational secondary school has a structure of 3+2 years. Vocation-specific content was increased, while the teaching hours of general education content were drastically reduced. This restricts the possibility of transition between various IVET programmes, and may ultimately increase the risk of early school leaving (Mártonfi 2015). In the optional additional two years, learners can automatically continue their studies in the same school as part of a general education programme leading to the secondary school leaving exam (*matura*), the entry requirement for higher education. However, with the strong reduction in the basic skills content of the three-year curriculum, students are unlikely to acquire the level of key competences needed to master subjects for the *matura*.

As regards the 4+1 year vocational grammar schools, students now receive a certificate that entitles them to take up certain jobs on passing the secondary school leaving exam in a vocational subject at the end of the fourth year. In summer 2016, a new core curriculum was adopted for this type of school, under which the teaching hours for vocation-specific subjects were increased at the expense of science subjects. It needs to be monitored whether these changes do not limit transition options between study programmes.

8. References

Central Statistical Office (2015), Labour Force Survey 2014,
<https://www.ksh.hu/docs/hun/xftp/stattukor/munkaeropiac14.pdf>

Council of the European Union (2016), Council Recommendation of 12 July 2016 on the 2016 National Reform Programme of Hungary and delivering a Council opinion on the 2016 Convergence Programme of Hungary,
[http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32016H0818\(12\)&from=EN](http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32016H0818(12)&from=EN)

Educatio (2015), Educatio Nonprofit Kft. Felsőoktatási Osztály – Diplomás Pályakövetési Rendszer országos kutatás,
https://www.felvi.hu/pub_bin/dload/DPR_tanulmanyok/frissdiplomasok_2014_zarotanulmany.pdf

Education Authority (2016), Országos kompetenciamérés 2015 – Országos jelentés,
https://www.kir.hu/okmfit/files/OKM_2015_Orszagos_jelentes.pdf

European Commission (2016), Country Report Hungary 2016,
http://ec.europa.eu/europe2020/pdf/csr2016/cr2016_hungary_en.pdf

Fehérvári (2015), Lemorzsolódás és a korai iskolaelhagyás trendjei,
http://nevelestudomany.elte.hu/downloads/2015/nevelestudomany_2015_3_31-47.pdf

Government (2014a), Ministry of Human Capacities,
<http://www.kormany.hu/hu/emberi-eroforrasok-miniszteriuma/hirek/3-8-milliard-a-kotelezo-ovodaztatas-es-az-egeszsegugyi-kepzes-tamogatasara>

Government (2014b), Change of Pace in Higher Education. Guidelines for Performance Oriented Higher Education Development,
<http://www.kormany.hu/download/d/90/30000/fels%C5%91oktat%C3%A1si%20konceptci%C3%B3.pdf>

Government (2015a), Amendment of Government decree No 387/2012 [XII.19.],
http://net.jogtar.hu/jr/gen/hjegy_doc.cgi?docid=A1200387.KOR

Government (2015b), Human Resources Development Operational Programme 2014-2020,
http://ec.europa.eu/regional_policy/en/atlas/programmes/2014-2020/Magyarorsz%C3%A1g/2014hu05m2op001

Government (2015c), Amendment of the Act on Vocational Education and Training,
<http://www.kozlonyok.hu/nkonline/MKPDF/hiteles/MK15077.pdf>

Government (2015d), Útjára indul a duális felsőoktatási képzés,
<http://www.kormany.hu/hu/emberi-eroforrasok-miniszteriuma/felsooktatasert-felelos-allamtitkarsag/hirek/utjara-indul-a-dualis-felsooktatasi-kepzes>

Government (2016a),
<http://www.kormany.hu/hu/emberi-eroforrasok-miniszteriuma/hirek/benyujtottak-az-oktatasi-torvenyeket-modosito-csomagot>

Government (2016b),
<http://kozoglalkoztataskormany.hu/>

Hungarian Academy of Sciences (2015), A közoktatás indikátorrendszere 2015
<http://econ.core.hu/file/download/kozoktatasi/indikatorrendszer.pdf>

Hungarian Rectors' Conference (2014), Magyar Felsőoktatás 2014 — Stratégiai helyzetértékelés,
<http://pedagogiai-tarsasag.hu/wp-content/uploads/2015/02/MF2014-Strat-helyzetert-1.pdf>

IVSZ (2015), Szövetség a Digitális Gazdaságért 2015,
<http://ivsz.hu/projektek/digitalis-oktatasi-kialtvany/>

Kertesi G. and Kézdi G. (2013), School segregation, school choice and education policies in 100 Hungarian towns, Institute of Economics, Centre for Economic and Regional Studies Hungarian Academy of Sciences, Department of Human Resources, Corvinus University of Budapest,
<http://www.econ.core.hu/file/download/bwp/bwp1312.pdf>

Mártonfi (2014), Korai iskolaelhagyás — Hullámzó trendek. *Educatio*, 1. 36-49,
http://epa.oszk.hu/01500/01551/00067/pdf/EPA01551_educatio_14_01_036-049.pdf

Mártonfi (2015), A törvényi változások hatása a hátrányos helyzetű és roma fiatalok iskolázására, unpublished manuscript, Budapest, Roma Education Fund

Ministry of Human Capacities (2012), 20/2012. (VIII. 31.) Ministerial decree
http://net.jogtar.hu/jr/gen/hjegy_doc.cgi?docid=A1200020.EMM

Nahalka (2016), Tények, adatok,
<http://nahalkaistvan.blogspot.be/2016/02/tenyek-adatok-3.html>

OECD (2013), PISA 2012 Results: Excellence Through Equity: Giving Every Student the Chance to Succeed (Volume II), PiSa oECd Publishing,
<http://dx.doi.org/10.1787/9789264201132-en>

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

ReferNet (2016), Hungary - VET restructuring continues,
<http://www.cedefop.europa.eu/en/news-and-press/news/hungary-vet-restructuring-continues>

Roma Inclusion Index (2015),
http://www.romadecade.org/cms/upload/file/9810_file1_roma-inclusion-index-2015-s.pdf

EJMSZ (2016), Együtt a jövő mérnökeiért szövetség — Duális képzés vállalati szemmel,
<http://ejmsz.hu/dualis-kepzes-vallalati-szemmel-konstruktiv-vitanap-es-workshop/>

World Bank (2015), Hungary: Skilling up the next generation,
http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2015/12/04/090224b083ad1fca/1_0/Rendered/PDF/Hungary000Skil0I0student0assessment.pdf

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_ipart (2011), educ_uoe_enra10 (2014)
Employment rate of recent graduates	edat_lfse_24
Adult participation in lifelong learning	trng_lfse_01
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

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Ireland



1. Key indicators

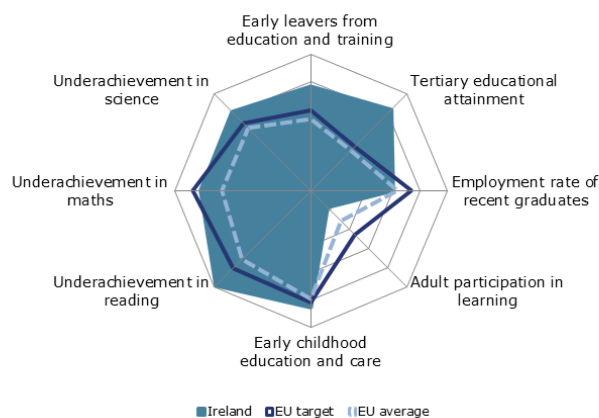
		Ireland		EU average		
		2012	2015	2012	2015	
ET 2020 benchmarks						
Early leavers from education and training (age 18-24)	Total	9.7%	6.9%	12.7%	11.0%	
Tertiary educational attainment (age 30-34)	Total	51.1%	52.3%	36.0%	38.7%	
Early childhood education and care (ECEC) (from age 4 to starting age of compulsory education)		98.6% ¹¹	96.0% ¹⁴	93.2% ¹¹	94.3% ¹⁴	
Proportion of 15 year-olds with underachievement in:	Reading	9.6%	:	17.8%	:	
	Maths	16.9%	:	22.1%	:	
	Science	11.1%	:	16.6%	:	
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-8 (total)	69.3%	75.3%	75.9%	76.9%	
Adult participation in lifelong learning (age 25-64)	ISCED 0-8 (total)	7.4%	6.5%	9.2%	10.7%	
Other contextual indicators						
Education investment	Public expenditure on education as a percentage of GDP	4.8%	4.3% ¹⁴	5.0%	4.9% ^{14,p}	
	Expenditure on public and private institutions per student in € PPS	ISCED 1-2	€7.084	€6.552 ¹³	:	: ¹³
		ISCED 3-4	€9.177	€8.859 ¹³	:	: ¹³
ISCED 5-8		€11.385	€10.536 ¹³	:	: ¹³	
Early leavers from education and training (age 18-24)	Native-born	9.2%	7.0%	11.6%	10.1%	
	Foreign-born	12.3%	6.8%	24.9%	19.0%	
Tertiary educational attainment (age 30-34)	Native-born	49.7%	50.9%	36.7%	39.4%	
	Foreign-born	55.0%	55.2%	33.8%	36.4%	
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-4	50.6%	60.4%	69.7%	70.8%	
	ISCED 5-8	80.2%	83.4%	81.5%	81.9%	
Learning mobility	Inbound graduates mobility (bachelor)	4.6% ¹³	5.1% ¹⁴	5.5% ¹³	5.9% ¹⁴	
	Inbound graduates mobility (master)	9.3% ¹³	15.7% ¹⁴	13.6% ¹³	13.9% ¹⁴	

Sources: Eurostat (see section 9 for more details); OECD (PISA).

Notes: data refer to weighted EU averages, covering different numbers of Member States depending on the source; b = break in time series, d = definition differs, p = provisional, u = low reliability, 11 = 2011, 13 = 2013, 14 = 2014.

Further information can be found in the relevant 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 2015) and OECD (PISA 2012).

Note: all scores are set between a maximum (the strongest performers, represented by the outer ring) and a minimum (the weakest performers, represented by the centre of the figure).

2. Highlights

- Ireland performs very well on early school leaving and tertiary educational attainment and has made significant progress in improving the provision of basic skills.
- The growing fiscal space created by the recent and rapid economic recovery lessens pressure on public expenditure on education and allows for substantially increased capital investment, i.e. in developing educational infrastructure.
- The affordability and full-time provision of quality early childhood education and care remain a challenge.
- Equity and access to higher education for disadvantaged groups are still issues.
- There are emerging skills shortages in certain sectors of the economy (e.g. ICT) and a need to further up-skill and reskill the adult population, in particular by increasing participation in further education and training.

3. Investing in education to address demographic and skill challenges

The level of public spending on education in Ireland slightly decreased as a share of GDP from 4.5 % in 2013 to 4.3 % in 2014. It also remained somewhat below the EU-28 average of 4.9 % in 2014. However, the proportion of education spending as a total of government expenditure remained slightly above the EU average, at 11.1 % in 2014, as against 10.2 % in the EU-28.¹⁴⁸ It is noteworthy that Ireland's national education budget has recently increased in absolute terms, in a context of robust economic recovery and more readily available fiscal space, from EUR 8 402 billion in 2014 to EUR 8 585 billion in 2015 (Eurydice 2016). The annual expenditure per pupil/student in purchasing power standard (PPS) was at EUR 6 551 for ISCED level 1-2, at EUR 8 859 for ISCED 3-4 and at EUR 10 535 for ISCED 5-8 in 2013. It remained generally comparable to other nations with a similar level of socio-economic development, except for third level education.¹⁴⁹

The vigorous present and future demographic trends will further increase demand for education in Ireland. Enrolment in primary education is set to be highest in 2018, with a peak in secondary education in 2025. Demand for tertiary education should also increase beyond 2025, particularly if Ireland further progresses towards its ambitious national tertiary education attainment target (European Commission 2016). The latest estimates indicate that the population of Ireland will grow by somewhere between 500 000 and 1 million people by 2035, with around 600 000 as the most likely scenario (Irish Government 2016).

In Ireland employment rates vary strongly in line with the level of education. For low-qualified persons (ISCED 0-2 level) the employment rate was 48.8 % in 2015, below the EU-28 average. For the medium-qualified (ISCED 3-4) it was 68.9 % in 2015, again somewhat below the EU average. For the highly qualified (ISCED 5-8) it stood at 82.2 % in 2015, this time very close to the EU-28. The situation is also improving for young people not in employment, education or training: the proportion of persons in that situation dropped to 17.6 % in 2015. It is however still 1.5 percentage points above the EU average.

The recent infrastructure and capital investment plan indicates that Ireland will require additional investment in schools and related facilities due present and future demographic trends which are strongly positive. The plan estimates investment needs at EUR 3.8 billion in 2016-2021 at primary, secondary and tertiary levels. The robust recovery has been accompanied by strong job creation in most sectors, in particular in information and communications technology (ICT), services and construction. Further education and training facilities are in need of investment to respond to the necessity to upskill and reskill workers and

¹⁴⁸ Source: Eurostat, General government expenditure by function (COFOG) database.

¹⁴⁹ For instance the UK spending level was at EUR 19,249.4 in 2013

to fill skills gaps and adapt to new jobs. The May 2016 Programme for Government contains a number of policy measures which will entail significant budgetary costs. It indicates that the new Government plans to make additional spending commitments of around EUR 3.2 billion. There are thus prospects for boosting spending on education and recruiting more teachers in the future (Irish Government 2016). Finally, on 15 September 2016 the Irish government launched a very comprehensive Action Plan for Education (2016-2019). It contains a set of actions to be implemented with particular focus on disadvantage, skills, and continuous improvement within the education sector. Its ultimate and very ambitious goal is to make Irish education one of the best performers in Europe by 2026.¹⁵⁰

Box 1. The new 'National Skills Strategy 2025 – Ireland's Future'

The new strategy is a key pillar in the Government's plan to make the economic recovery more sustainable and ensure that growth is socially inclusive (Department of Education and Skills 2016). The strategy, launched on 27 January 2016, identifies Ireland's current skills profile and provides a strategic vision as well as specific objectives for future skills requirements. It also sets out a roadmap on how its vision and objectives are to be achieved.

The strategy has been developed around six key objectives and a comprehensive set of measures aimed at improving the development, supply and use of skills over the next 10 years. Key actions in the plan include:

- establishing a new National Skills Council (in addition to existing regional Skills Fora) to oversee research, forecasting and prioritisation of skills needs in the economy;
- further developing regional skills fora across the country to support increased employer engagement with education and training providers, in order to meet each region's skills needs;
- as many as 50 000 apprenticeship and traineeship places to be supported over the period up to 2020;
- further education and training (FET), with higher education providers to produce employability statements for courses;
- developing an 'entrepreneurship education policy statement' which will inform the development of entrepreneurship guidelines for schools;
- making sure that all students in schools and full-time students in further education and training and higher education have the opportunity to benefit from work placements, and tracking of this initiative;
- reviewing guidance services, tools and careers information for school students and adults in order to identify options for improvement;
- reviewing the compulsory school leaving age with a view to increasing it in the future;
- increasing the focus on lifelong learning and targeting an increase in participation in lifelong learning up to 15 % by 2025 (from only 6.7 % in 2014).

The Department of Education and Skills is meant to provide strong leadership to ensure the strategy is successfully implemented and these actions are achieved by 2025. The strategy will aim to ensure that Ireland's current and future workforce needs are met through increased participation, more educational attainment, better skills development and skill use to achieve greater productivity and support economic and social prosperity, as well as long-term inclusive growth.

The full strategy report is available at: http://www.education.ie/en/Publications/Policy-Reports/pub_national_skills_strategy_2025.pdf

¹⁵⁰ More on <http://www.education.ie/en/Publications/Corporate-Reports/Strategy-Statement/Department-of-Education-and-Skills-Strategy-Statement-2016-2019.pdf>

4. Tackling inequalities and promoting inclusion

Ireland's early school leaving (ESL) rate remained stable at 6.9 % in 2015, well below the EU-28 average of 11 %. However, the gender issue is notable, with an ESL rate of 8.4 % for men and 5.4 % for women in 2015. Interestingly, foreign-born students, with an ESL rate of only 6.8 % in 2015, perform slightly better than native ones at 7 %. The migrant population in Ireland is mainly composed of EU citizens, primarily from the United Kingdom and central Europe (Poland and the Baltic States).

The country is performing well on early childhood education and care, with a participation rate of 96 % in 2016, against the EU-28 average of 94.3 %. At the same time, with 98 % Ireland has the highest rate of all OECD countries for children attending pre-primary education in private, non-government-dependent institutions (OECD 2015). However, Ireland is still confronted with the issue of affordability as well as the need for more full time provision of ECEC.

Despite visible progress the Irish school system still faces major social inequalities. For instance research shows that young people who attended socially mixed schools and students from a middle-income background were significantly more likely to go on to some form of post-secondary or third-level education and training than those from more disadvantaged schools (ESRI 2014).

The 'Delivering equality of opportunity in schools' (DEIS) plan targets schools serving the most disadvantaged communities in the country. There are 836 participating schools in 2015/2016. A report 'Learning from DEIS — A Report on the Implementation over 10 years of delivering Equality of Opportunity in Schools' was published by the Economic and Social Research Institute (ESRI) in April 2015. It indicates that there has been a significant improvement in schools' planning of teaching and learning as well as their setting of achievement targets.

A further report, 'Review of the School Completion Programme' (an element of DEIS), published by ESRI in October 2015 showed similar improvements in school attendance and completion, but highlighted that past budgetary cuts had affected levels of support for DEIS schools (ESRI 2016).. A review of the DEIS programme is currently underway and a New Action Plan on Educational Inclusion will be published by the end of 2016. The review is looking at all aspects of DEIS, including the identification process for the inclusion of schools in the programme.

As part of the 2016 budget a slightly lower pupil-teacher ratio for DEIS schools was announced, together with a smaller reduction in pupil-teacher ratios across all of the other ones. DEIS remains the Government's main policy initiative to ensure that the educational needs of children and young people from disadvantaged communities are prioritised and effectively addressed. The new plan, which will constitute an updated DEIS scheme, will draw on international best practice for using the education system to increase opportunities and outcomes for children from disadvantaged backgrounds.

The country is continuing to roll out the childcare reforms announced in the 2016 budget, based on the report of the Interdepartmental Group on Investment in Childcare. Additional funding of EUR 85 million has been allocated in 2016 for early years care and education, an increase of 30 % from 2015. This is a first step in achieving affordable and accessible childcare for all. The free pre-school year will be extended from September 2016 to enable children to attend from age three through to the start of primary school, providing some 23 weeks of additional coverage for each child. It is intended that the new model will start to operate in 2017 and replace a range of existing funding mechanisms. In November 2015 a package of disability support was announced, aimed at providing quality early years education for children with special education needs (Eurypedia 2016). It will begin in the course of 2016. If these measures are fully implemented this would constitute a major improvement for the early years sector in Ireland.

In January 2016 the Minister for Education and Skills launched a new consultative forum on developing an updated literacy and numeracy strategy for the period up to 2020, given that some targets set in the original strategy have already been met. The review outcomes support

further emphasis on tackling disadvantage for students for whom English is a foreign language and other groups.

The Education Admission to Schools Bill was published in 2015. It is designed to provide a regulatory framework to ensure that the criteria laid down by schools for enrolling pupils are consistent, reasonable and applied equitably across the board. It will be a requirement for all schools to make an explicit statement in their admissions policy that they will not discriminate against an applicant for admission on the basis of disability, special education needs, sexual orientation, family status, membership of the Traveller community or race. The Bill will also enable the National Council for Special Education and the Child and Family Agency to make a school placement for a child for whom no place would otherwise be available. The Bill is expected to have a marginal impact on the 80 % of schools which have places available, but a significant one on the other 20 % of schools which are oversubscribed. It specifies a number of criteria for dealing with oversubscription, which will not be permissible. The Bill provides for an appeal procedure to a local school board of management, and requires schools to cooperate with each other on admissions (Eurypedia 2016). Its adoption would be a major step forward in fostering equity and access in the Irish school system.

As regards migrants, in 2015 a pilot support scheme was introduced for applicants who are in the protection process or at the 'leave to remain' stage of their application. The scheme is targeted at students in the asylum-seeking process who have been in the Irish school system for 5 years or more. It is being operated on a pilot basis for 1 year and will be reviewed in 2016 (Irish Government 2016). Schools receive additional funding for students who have been identified as coming from the Traveller community.

On civic education a new subject, 'politics and society,' will be implemented beginning in September 2016. It will be rolled out first in 25-30 schools, expanding thereafter on a phased basis. The new subject has four main strands of study: power and decision-making, active citizenship, human rights and responsibilities, and globalisation and localisation. At lower secondary level citizenship education is being strengthened through incorporation as a core component of 'Wellbeing' programmes for students, beginning formally in 2017.

5. Modernising school education

There is some progress on introducing the reform of the junior cycle (lower secondary level) despite the opposition of teachers' trade unions. Pupils studying the new English programme are currently in their second year of the course, with new programmes in science and business to begin in September 2016. Consultations are under way on developing revised programme specifications for the remaining subjects.

The National Council for Curriculum and Assessment (NCCA) has developed nine short courses for use by schools, which may also develop their own programmes in accordance with NCCA guidelines and templates (NCCA 2016). This is still only a very partial deployment of this major and comprehensive initiative, mainly due to the strong resistance of various interest groups, including teachers' unions.

Teachers in Ireland at all levels of education are among the ones with the best compensation packages in the OECD. At the same time class sizes are larger than the OECD average and teachers in Ireland work a higher net average of teaching hours than their OECD counterparts. The difference is greatest at the primary level (915 hours v the OECD average of 772). Ireland has also the highest rate of working time spent teaching of all OECD countries (OECD 2015). Recently, 2 260 additional teaching posts were announced in the 2016 budget, reversing some of the cuts made during the economic crisis.¹⁵¹

¹⁵¹ In fact 300 additional posts will be provided in primary schools to reduce average class size from 28 to 27. There will be 440 primary teachers to address increased enrolment, and 445 to provide extra resource posts. At post-primary level, 550 additional posts will be provided to partially reverse the previous guidance cuts (300 posts), enhance the role of deputy principals and improve pupil/teacher ratios. Post-primary schools will also get 155 additional resource posts and 370 posts to deal with increased enrolment.

In March 2016 ESRI published a 'Review of the *Droichead* Teacher Induction Pilot Programme' in primary and post-primary education. The evaluation showed that newly qualified teachers, principals and professional development staff were highly satisfied with the effectiveness of the programme in providing a structured approach to mentoring, professional support and performance assessment. The programme also helped to introduce a more collaborative culture within schools and among staff (ESRI 2016).

Also in March 2016, the Teaching Council launched the pilot phase of *Cosán*, the first national framework for teachers' learning. This sets out the professional standards required in terms of values and principles, learning processes, professional development areas, and standards to guide continuous learning. The intention is to implement the framework fully by 2020.

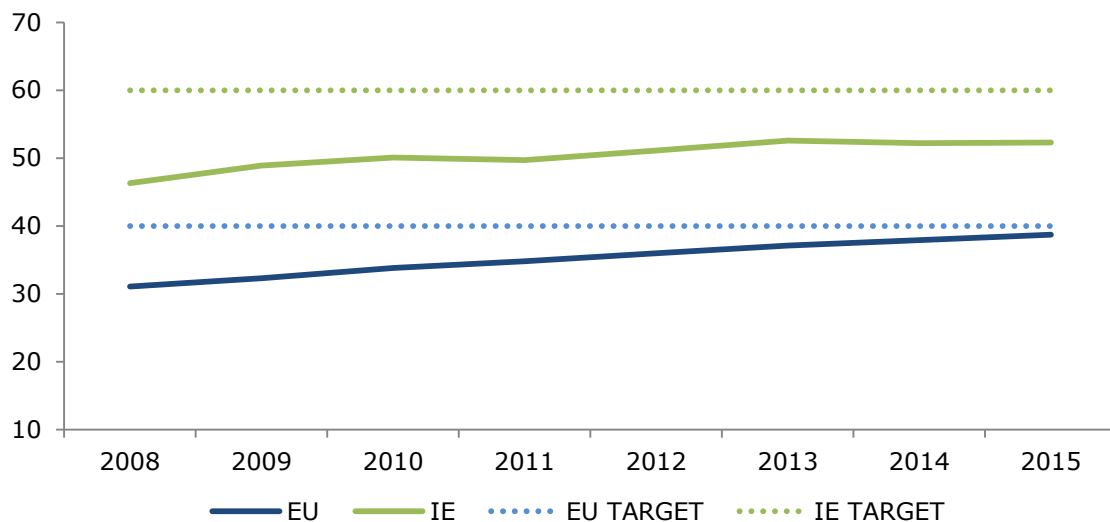
The new primary language curriculum is being phased in to schools for pupils in the second grade with effect from September 2016, with a focus on oral expression. In 2017/2018 this will extend to reading and writing strands, with all strands being implemented from 2018. Specific professional development for teachers and schools leaders is under way. A revised language curriculum for pupils in third to sixth class is also under development, together with a review of other areas of the curriculum.

In addition, the new 2015-2020 digital strategy for schools sets out a plan to embed ICT in teaching, learning and assessment over the next 5 years (Irish Government 2016).

6. Modernising higher education

Ireland has a very high tertiary attainment rate at 52.3 % in 2015, well above the EU average of 38.7 % (Figure 2). However, a wide gender gap persists, with females outperforming males by 13.5 pps. in 2015. As with ESL (see section 4), foreign-born students have a better tertiary attainment rate than native ones: the difference widened from 1.9 pps. in 2014 to 4.3 pps. in 2015. The employment rate of recent tertiary graduates,¹⁵² at 83.4 % in 2015, is slightly above the EU-28 average. The earnings of 25-64 year-olds are more than 70 pps. higher for those with tertiary education than only upper secondary education (OECD 2015). At 8 %, Ireland also has one of the largest proportions in the OECD of citizens studying abroad (OECD, 2015).

Figure 2: Tertiary educational attainment and Europe 2020 targets



Source: Eurostat. Online data code: *edat_ifse_03*.

The new 'national plan of equity of access to higher education (2015-2019)' was launched in December 2015. It is part of the wider reform agenda that is being rolled under the national strategy for higher education to 2030. The plan contains five key goals and more than

¹⁵² People aged 20-34 who left tertiary education between one and three years before the reference year.

30 measures intended to assist under-represented groups and increase their participation in third-level education. It also contains a number of targets for specific categories of students, including disadvantaged students, students with disabilities, mature students, and members of the Traveller community. The new plan will target the issue of non-completion within higher education institutions and also develop a new data set for monitoring future progress. There is also a related 'access plan' (Higher Education Authority 2016). However, the very limited funding for this initiative could prove to be insufficient given its fairly ambitious goals.

The findings of the Expert Group on Future Funding of Higher Education made public in June 2016 are also an important element of modernisation of the sector in Ireland.¹⁵³ There are currently plans for future funding of higher education to include a significant increase in access to higher education for students from disadvantaged areas.

As the labour market recovery continued throughout 2015-2016, a greater number of occupations and sectors suffered skills shortages than in recent years. The National Skills Bulletin highlights that skills shortages are intensifying in previously identified areas such as ICT and engineering. While this is an EU-wide phenomenon, Ireland is one of the countries particularly affected. In 2015, over 50 % of businesses that recruited – or tried to recruit – ICT professionals reported difficulties in doing so, one of the highest rates in Europe. With improved job prospects across all sectors of the economy, issues with attracting and retaining staff are also emerging (European Commission 2016).

In June 2016 the new Irish Government launched the latest Springboard+ programme offering 5 825 free higher education places for jobseekers, including 699 new part-time two-year ICT conversion courses. Springboard is designed to provide free higher education upskilling and reskilling opportunities for jobseekers in areas of identified skills shortages.

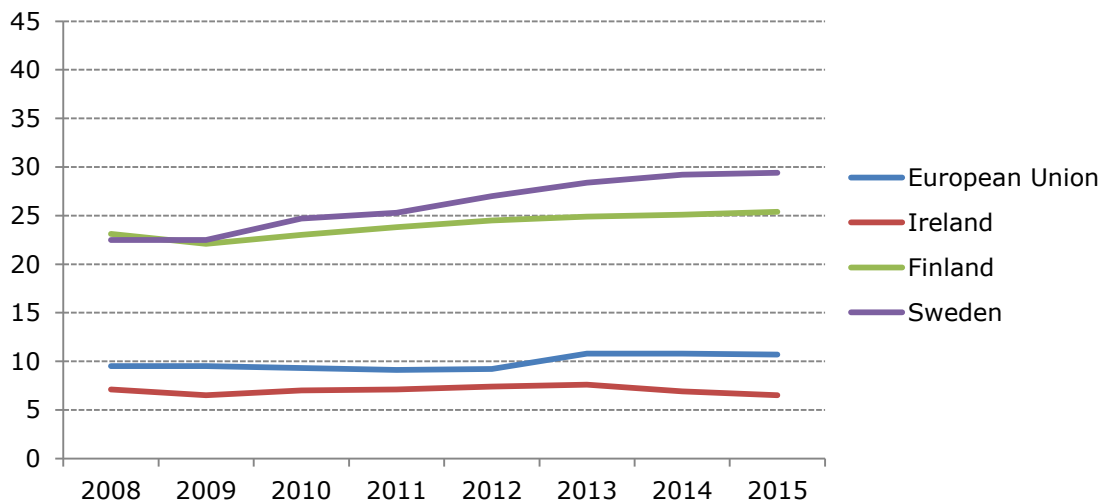
7. Modernising vocational education and training and promoting adult learning

The employability of recent upper-secondary VET graduates in Ireland was relatively low,¹⁵⁴ at 59.4 % in 2015, as against the EU average of 73.0 %. Participation in adult learning continued to be relatively modest, falling from 6.9 % in 2014 to 6.5 % in 2015 (Figure 3). It also remained far below the EU-28 average, by 3.9 pps. in 2014 and 4.2 pps. in 2015.

¹⁵³ More on <http://www.education.ie/en/Press-Events/Press-Releases/2016-Press-Releases/PR2016-07-11.html>

¹⁵⁴ People aged 20-34 who left upper secondary education between one and three years before the reference year.

Figure 3: Adult participation rate in lifelong learning



Source: Eurostat. Online data code: *trng_lfse_01*.

In July 2015 Irish authorities announced proposals for 25 new apprenticeship programmes. These will expand the existing range of programmes offered under the apprenticeship system and are part of ongoing work to ensure the system remains responsive to economic and employment needs. The proposals are focused on a wide range of skills and sectors, including manufacturing and engineering, tourism and sport, financial services, information technology, transport distribution and logistics, as well as business administration and management. The new types of apprenticeships proposed are also flexible, ranging in length from 2 to 4 years, and will be offered at levels 5 to 9 of the national qualifications framework.

As part of the Government's National Skills Strategy, a national network of regional skills fora is being created by the Department of Education and Skills to provide a more systematic way for employers and the education and training system to work together. Its intention is to build the supply of skills to help create jobs and stimulate the growth and development of each region. It is intended that a National Skills Council will be established to complement this initiative (see also section 3). An additional EUR 10.5 million has been provided in the 2016 budget to fund the expansion of apprenticeships (Irish Government 2016).

Finally, the 'back to education allowance' has been considered ineffective as an active labour market measure (ESRI 2015). Individuals who took up courses while unemployed had lower levels of employment up to 6 years later than those who did not. The Government has already taken forward some measures to address shortcomings identified in ESRI's evaluation of this scheme (European Commission 2016).

8. References

Department of Education and Skills (2016), National Skills Strategy 2025 — Ireland's Future, http://www.education.ie/en/Publications/Policy-Reports/pub_national_skills_strategy_2025.pdf

Economic and Social Research Institute (2014); Selina McCoy, Emer Smyth, Dorothy Watson, Merike Darmody Leaving School in Ireland: A Longitudinal Study of Post-School Transitions, <https://www.esri.ie/pubs/RS36.pdf>

Economic and Social Research Institute (2015), Learning from DEIS — A Report on the Implementation over 10 years of delivering Equality of Opportunity in Schools, <https://www.esri.ie/pubs/RS39.pdf>

Economic and Social Research Institute (2015), An Evaluation of the Back to Education Allowance, <https://www.esri.ie/publications/an-evaluation-of-the-back-to-education-allowance-2/>

- Economic and Social Research Institute (2015), Review of the School Completion Programme, <https://www.esri.ie/publications/review-of-the-school-completion-programme/>
- Economic and Social Research Institute (2016), Review of the Droichead Teacher Induction Pilot Programme, Dublin 2016, <https://www.esri.ie/publications/review-of-the-droichead-teacher-induction-pilot-programme/>
- European Commission (2015), Eurydice, Structural Indicators for Monitoring Education and Training Systems in Europe – 2015, http://eacea.ec.europa.eu/education/eurydice/documents/thematic_reports/190EN.pdf
- European Commission (2016), Eurydice, National Sheets on Education Budgets in Europe – 2015, <https://webgate.ec.europa.eu/fpfis/mwikis/eurydice/images/8/8f/194EN.pdf>
- European Commission (2016), Eurydice, Eurypedia, https://webgate.ec.europa.eu/fpfis/mwikis/eurydice/index.php/Main_Page
- European Commission (2016), Digital Economy and Society Index 2016, <https://ec.europa.eu/digital-single-market/en/news/european-digital-progress-report-edpr-country-profiles>
- European Commission (2016), Country Report for Ireland, http://ec.europa.eu/europe2020/pdf/csr2016/cr2016_ireland_en.pdf
- Higher Education Authority (2015), National Plan of Equity of Access to Higher Education, http://www.hea.ie/sites/default/files/national_plan_for_equity_of_access_to_higher_education_2015-2019_single_page_version_0.pdf and <http://www.hea.ie/en/policy/national-access-office/national-plans-equity-access-higher-education/2015-2019-access-plan>
- Irish Government (2016), National Reform Programme for Ireland, http://ec.europa.eu/europe2020/pdf/csr2016/nrp2016_ireland_en.pdf
- National Council for Curriculum and Assessment (2015), Assessment Research and Development Programme 2015-16, http://www.ncca.ie/en/News_Press/Introduction-AR-D.pdf
- OECD (2015), Education at a Glance, <http://www.oecd.org/edu/education-at-a-glance-19991487.htm>
- OECD (2016), Education at a Glance, http://www.oecd-ilibrary.org/education/education-at-a-glance-2016_eag-2016-en

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_ipart (2011), educ_uoe_enra10 (2014)
Employment rate of recent graduates	edat_lfse_24
Adult participation in lifelong learning	trng_lfse_01
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

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Italy



1. Key indicators

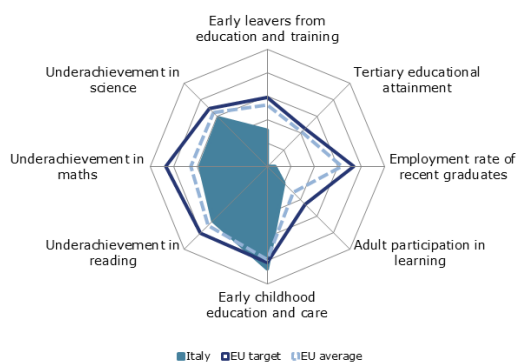
		Italy		EU average		
		2012	2015	2012	2015	
ET 2020 benchmarks						
Early leavers from education and training (age 18-24)	Total	17.3%	14.7%	12.7%	11.0%	
Tertiary educational attainment (age 30-34)	Total	21.9%	25.3%	36.0%	38.7%	
Early childhood education and care (ECEC) (from age 4 to starting age of compulsory education)		99.1% ¹¹	96.5% ¹⁴	93.2% ¹¹	94.3% ¹⁴	
Proportion of 15 year-olds with underachievement in:	Reading	19.5%	:	17.8%	:	
	Maths	24.7%	:	22.1%	:	
	Science	18.7%	:	16.6%	:	
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-8 (total)	54.1%	48.5%	75.9%	76.9%	
Adult participation in lifelong learning (age 25-64)	ISCED 0-8 (total)	6.6%	7.3%	9.2%	10.7%	
Other contextual indicators						
Education investment	Public expenditure on education as a percentage of GDP	4.1%	4.1% ¹⁴	5.0%	4.9% ^{14,p}	
	Expenditure on public and private institutions per student in € PPS*	ISCED 1-2	€6.326	€6.303 ¹³	:	: ¹³
		ISCED 3-4**	€6.608	€6.761 ¹³	:	: ¹³
ISCED 5-8		€7.662	€8.234 ¹³	:	: ¹³	
Early leavers from education and training (age 18-24)	Native-born	14.8%	12.7%	11.6%	10.1%	
	Foreign-born	38.9%	31.3%	24.9%	19.0%	
Tertiary educational attainment (age 30-34)	Native-born	24.1%	28.1%	36.7%	39.4%	
	Foreign-born	11.4%	14.4%	33.8%	36.4%	
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-4	46.0%	40.7%	69.7%	70.8%	
	ISCED 5-8	63.9%	57.5%	81.5%	81.9%	
Learning mobility	Inbound graduates mobility (bachelor)	2.9% ¹³	4.0% ¹⁴	5.5% ¹³	5.9% ¹⁴	
	Inbound graduates mobility (master)	5.1% ^{13,d}	4.9% ¹⁴	13.6% ¹³	13.9% ¹⁴	

Sources: Eurostat (see section 9 for more details); OECD (PISA).

Notes: data refer to weighted EU averages, covering different numbers of Member States depending on the source; b = break in time series, d = definition differs, p = provisional, u = low reliability, 11 = 2011, 13 = 2013, 14 = 2014, * = public institutions only except for ISCED 5-8; ** = ISCED 3 only.

Further information can be found in the relevant 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 2015) and OECD (PISA 2012).

Note: all scores are set between a maximum (the strongest performers, represented by the outer ring) and a minimum (the weakest performers, represented by the centre of the figure).

2. Highlights

- The 2015 school reform and the national system for the evaluation of schools are being implemented and could improve school outcomes.
- Although still above the EU average, the early school leaving rate is steadily declining. Participation in early childhood education is high for four- to six-year-olds.
- More attention is being paid to the quality of higher education and the framework for allocating public funding to universities has significantly improved in recent years.
- Italy has the lowest tertiary educational attainment rate in the EU for 30- to 34-year-olds. The higher education system is underfunded and faces the problem of ageing and declining teaching staff.
- Transition from education to work is difficult, even for highly qualified people. This is causing a 'brain drain'.

3. Investing in education to address demographic and skill challenges

General government expenditure on education, both as a proportion of GDP (4.1 %) and as a proportion of total general government expenditure (7.9 %), was among the lowest in the EU in 2014.¹⁵⁵ On a positive note, the 2015 Stability Law created a specific fund to finance the school reform. In 2015 EUR 1 billion was invested in it and from 2016 EUR 3 billion a year will be invested. The employment rate of 25- to 64-year-olds in 2015 was somewhat below the EU average for low-qualified and medium-qualified workers: 50.2 % compared to 53.2 % and 70.1 % compared to 73.9 % respectively. At 78.5 %¹⁵⁶, it was the lowest in the EU for highly qualified workers

The number of Italian citizens with a tertiary education degree leaving the country has been rapidly increasing since 2010. This has not been compensated by inflows of equally well qualified Italians returning to the country (ISTAT, various years). Official statistics also underestimate emigration flows. This is because not all citizens leaving Italy register with the Italian consular authorities in the destination country. The increasing emigration reflects better job opportunities and conditions abroad. Survey data show that compared with their peers working in Italy, young Italian graduates working abroad earn higher and more rapidly increasing salaries, work more frequently under open-ended contracts and consider their formal qualification more appropriate for their job (Consorzio Interuniversitario AlmaLaurea 2016). Italians with a doctoral degree working abroad report having both better job opportunities and significantly higher earnings (ISTAT 2015). This may explain why highly qualified Italian workers have very little inclination to return to their home country (Biondo et al. 2012). The emigration of highly qualified Italian workers therefore does not qualify as 'brain circulation' (i.e. when people temporarily go abroad to study or work, but then go back to their home country).

The emigration of highly qualified young Italians cannot be considered a 'brain exchange' either. Many Italian workers leave the country, but few highly qualified individuals from other countries choose Italy as a destination. The proportion of foreign citizens living in Italy aged 25 to 64 with a tertiary education degree is much lower than that of Italian citizens (11.5 % compared to 17.5 % in 2014). In the EU as a whole the proportions of highly qualified EU citizens and non-EU citizens are similar (29.4 % and 28.1 % respectively). The resulting 'brain drain' can thus cause a permanent net loss of highly qualified human capital, which would harm Italy's competitiveness (European Commission 2016a).

¹⁵⁵ Source: Eurostat, General government expenditure by function (COFOG) database.

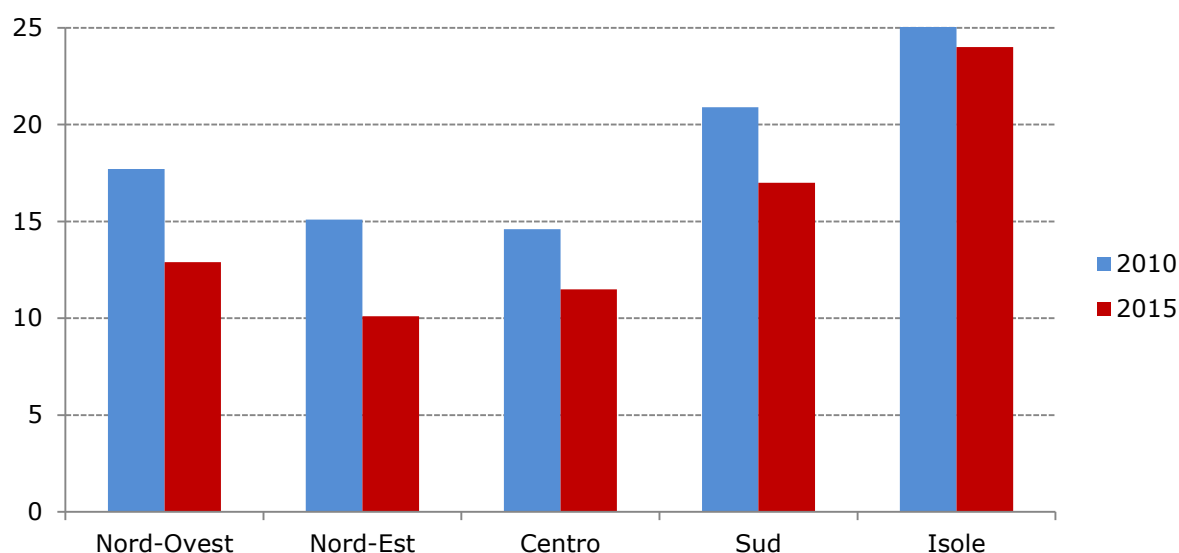
¹⁵⁶ Source: Eurostat, Labour Force Survey, online code *lfsa_ergaed*. Low-qualified = ISCED 0-2; medium-qualified = ISCED 3-4; highly qualified = ISCED 5-8.

4. Tackling inequalities and promoting inclusion

The early school leaving rate has been on a downward trend since 2008 and Italy has reached the Europe 2020 national target of 16 %. However, the rate remains above the EU average, at 14.7 % in 2015 compared to 11 %. The gap is particularly high among foreign-born students, with a rate of 31.3 % compared to the EU average of 19 %. There is also a significant gender gap, with the rate for boys at 17.5 %, compared to 11.8 % for girls, and a widening of the north-south divide over the last five years (Figure 2). The participation of four- to six-year-olds in early childhood education is above the EU average, at 96.5 % compared to 94.3 % in 2014. This can help prevent early school leaving in the long term.

There are also marked regional differences in basic skills proficiency, as measured by the 2012 OECD Programme for International Student Assessment (PISA) and the annual standardised student tests by the National Agency for School Evaluation (INVALSI 2016). Integrating students with an immigrant background is a relatively recent issue in Italy, but it is gaining importance. The proportion of foreign pupils¹⁵⁷ in state schools reached 9.5 % in 2015/2016, ranging from 6.3 % in upper secondary education to 11.4 % in early childhood education (Ministero dell'Istruzione, dell'Università e della Ricerca 2015b).

Figure 2. Early school leaving rate by NUTS 1 regions (2015)



Source: Eurostat. Online data code: *edat_lfse16*.

According to the 2015 school reform, one of the possible activities of the additional teachers hired in 2015/2016 is improving migrant students' proficiency in Italian (see section 5). The Ministry has also provided schools with proposals and guidelines on how to deal with the 10 most common critical issues they face as regards the inclusion of migrant students. Teachers specialised in teaching Italian to migrant students are being recruited for the first time in the 2016 open competition for permanent posts. This is expected to be the practice in future open competitions as well. The 2015 school reform also emphasises citizenship education and the role of education in helping students develop social and civic competences (European Commission 2016c). All these measures show that awareness is growing of the need for a comprehensive approach to the inclusion of migrant students and to citizenship education.

¹⁵⁷ Students who do not have Italian citizenship.

5. Modernising school education

Italian teachers have limited career prospects. This is because the teacher career system offers only a single career pathway with fixed salary increases based solely on seniority.¹⁵⁸ Teachers' statutory salary levels are lower than the OECD average at every career stage. The seniority-based career system means that the maximum salary can only be reached after 35 years of service, while the OECD average is 25 years. Teachers' salaries are also lower than the earnings of other workers with tertiary education (OECD 2016).¹⁵⁹ Limited career prospects, coupled with relatively low salaries compared to those of other highly qualified professions, make it difficult to attract the best-qualified graduates (European Commission 2012). Recent surveys show that both the general public (Dolton and Marcenaro-Gutierrez 2013) and teachers themselves (OECD 2014) have a low opinion of the status of the teaching profession.

Parliament approved a major school reform in July 2015 (Parlamento Italiano 2015), the implementation of which is ongoing. Its main points about teachers and principals concern:

(i) School autonomy: school heads now have greater autonomy in managing human, technological and financial resources and will be subject to external evaluation every year from 2016/2017 (Ministero dell'Istruzione, dell'Università e della Ricerca 2016c). International evidence shows that autonomy only works if coupled with accountability (Hanushek and Woessmann 2011) and that better school management is closely associated with better educational outcomes (Bloom et al. 2015). The success of this measure will therefore depend on the proper implementation of the system of evaluation of school heads.

(ii) Introduction of merit-based components for teachers' salaries and compulsory continuous professional development for all teachers: from 2016, each year the best-performing teachers in each school will receive a one-off bonus (for a total of EUR 200 million a year). Positive as this is, because based on the principle of assessing teachers' work and rewarding good performance, it might have only a limited impact on increasing teachers' motivation and the financial attractiveness of the profession, since the reform does not change the career system.

(iii) Recruitment of teachers: approximately 90 000 teachers, who had been employed on short-term contracts, were recruited on a permanent basis in 2015/2016. While around 45 % of these filled existing positions, the others entered new posts. The role of the latter is to strengthen the educational programme each school offers according to its three-year school development plan. The recruitment plan is intended to fix the long-standing problem of 'waiting lists' (*graduatorie ad esaurimento*) of qualified teachers. Overall it is a positive measure, provided the government honours its commitment to only allow access to the profession through open competitions from 2016 onwards. During the initial implementation phase, the competences of these additional teachers have not always fitted individual schools' needs. However they allow for enhanced educational and organisational flexibility in line with real school autonomy. For example, the increased number of teachers in schools could facilitate the organisation of further school activities and initiatives addressed to students and families beyond the statutory timetable. For the future, new recruitment and in-service development plans will be provided. A new open competition to recruit around 64 000 teachers on a permanent basis is taking place during spring-summer 2016. This can help to better match the supply of and demand for teachers. It is also an important step in implementing the school reform, which provides for open competitions every three years.¹⁶⁰

The school reform makes provision for further legislative decrees, empowering the government to legislate on a number of issues, including initial teacher education and the creation of a single integrated system of early childhood education and care for children aged 0-6. The legislative decrees should be issued by January 2017.

¹⁵⁸ Extra salary allowances are provided to teachers undertaking particular tasks in schools, on the basis of criteria determined at the school level.

¹⁵⁹ All figures are in purchasing power parity.

¹⁶⁰ Recruitment through open competitions is the standard way of entering the teaching profession under the Italian Constitution, but in the last 20 years only two competitions took place (in 1999 and 2012). This means that most teachers have been recruited into permanent posts without passing any competition, usually after working on short-term contracts for a number of years.

The implementation of the national system for the evaluation of schools¹⁶¹ will support the reform by increasing school accountability. In spring 2015, each school received a wide set of data on its resources, processes and outcomes. It was then asked to produce a self-assessment report identifying strengths and weaknesses, based on a standardised template. Each school also had to identify areas for improvement and targets to meet over the following years. The reports were published in November 2015. Evaluation by external teams, coordinated by an inspector, started in spring 2016. In the 2015/2016 school year the external teams' aim was to visit up to 5 % of all schools (INVALSI 2015). This percentage should increase to 10 % from the 2016/2017 school year. The key to the success of this system is ensuring that all relevant actors and stakeholders are involved.

In October 2015, the Ministry of Education, University and Research launched an ambitious National Digital School plan, also part of the school reform (Ministero dell'Istruzione, dell'Università e della Ricerca 2015c). The plan is endowed with EUR 1.1 billion from existing sources, including the European Structural and Investment Funds. EUR 650 million are being spent on digital infrastructure, broadband and wi-fi connection. The rest will be spent on encouraging the acquisition of digital competences, teacher training for innovative practices and other accompanying measures. The plan also aims to give all students and professors a digital identity. This should simplify and dematerialise the relationship with the Ministry of Education. The implementation of 60 % of its 35 measures was underway within the first six months from the launch and the remaining ones should be in place by December 2016 (Ministero dell'Economia e delle Finanze 2016, p. 81).

6. Modernising higher education

Despite recent increases, Italy's tertiary educational attainment rate is still the lowest in the EU, at 25.3 % in 2015 for 30- to 34-year-olds, slightly below the Europe 2020 national target of 26-27 %. At 14.4 % compared to the EU average of 36.4 %, the attainment rate is particularly low among foreign-born people. Inbound graduate mobility remains rather low at Master's level, but is on the rise at Bachelor's level (4 % of bachelor graduates came from abroad in 2014, compared to 2.9 % in 2013). Moreover, the number of incoming and outgoing Erasmus students is increasing (European Commission 2016b), thanks to the work Italy has done on internationalisation in the past few years.

It is difficult for highly qualified people to enter the labour market (Montanari et al. 2015). For example, the employment rates of recent tertiary graduates¹⁶² fell sharply during the economic crisis, from 70.5 % in 2008 to only 52.9 % in 2014. It subsequently rebounded to 57.5 % in 2015, but remains well below the EU average of 81.9 %. Student support is low. Only 8 % of first-cycle students receive a public grant, one of the lowest proportions in the EU (European Commission 2015b). A quarter of eligible students do not receive a grant due to the lack of available funding.¹⁶³

In a context of low and decreasing public funding (see Box 1 below), more attention has been paid in recent years to the quality of higher education and the framework for funding allocation. The proportion of performance-related funding allocated to tertiary education institutions rose from 20 % of total funding in 2015 to 23 % in 2016 (Ministero dell'Istruzione, dell'Università e della Ricerca 2016b) and is set to gradually increase to 30 %. Standard costs were established and are being rolled out gradually as a criterion for allocating the remaining part of public funding. The ministry has also started the third round of evaluation of the research results of universities and public research institutes (*Valutazione della Qualità dei prodotti della Ricerca, VQR*) for the period 2011-2014.

Regarding vocationally-oriented tertiary education, the 2015 school reform included several measures to boost the performance of the Higher Technical Institutes (*Istituti Tecnici Superiori*).

¹⁶¹ See European Commission (2015a) for a description of the system.

¹⁶² People aged 20-34 who left education between one and three years before the reference year.

¹⁶³ Source: Ufficio di Statistica, Ministero dell'Istruzione, dell'Università e della Ricerca.

They include:

- simplifying procedures;
- increasing the proportion of performance-based funding;¹⁶⁴
- granting access to students with only a four-year upper secondary vocational qualification on certain conditions;
- increasing permeability between Higher Technical Institutes and academic higher education institutions.

These are positive steps, although the Higher Technical Institutes remain a niche provider of education. Only around 6 000 students studied there in 2014. Data on the employability of recent graduates are encouraging. After one year 81 % are employed, 90 % of whom in a job commensurate with their degree (Ministero dell'Istruzione, dell'Università e della Ricerca 2016a).

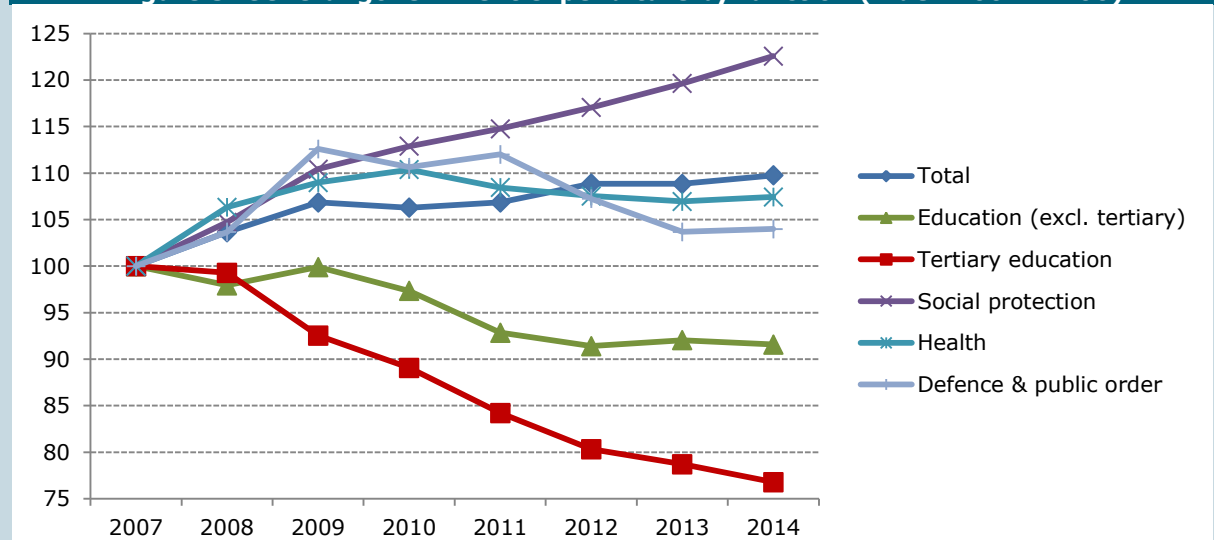
Box 2: Addressing the decline in funding and teaching staff

Underfunding has a negative impact on the higher education system. At only 0.3 % of GDP and 0.7 % of total general government expenditure, general government expenditure on higher education was the lowest in the EU in 2014. Higher education suffered the largest funding cuts in percentage terms among all areas of Italy's public sector during the economic crisis (Figure 2). In 2015 and 2016 the government kept public funding broadly at the same level as in 2014 in nominal terms (ANVUR 2016).

Funding cuts to higher education coincided with a partial freeze on recruitment. This has increased the time required to enter academia, resulting in an increase in the average age of academics. This has resulted in the following situation.

- The number of teaching staff decreased by 12 % between 2008 and 2015¹⁶⁵ (ANVUR 2016).
- The average age of permanent teaching staff is 53 (ANVUR 2016) and around 17 % of 2013 staff (i.e. almost 9 300 people) could retire between 2014 and 2018 (ANVUR 2014).

Figure 3. General government expenditure by function (index 2007 = 100)



Source: European Commission elaboration on Eurostat COFOG data. Online data code: *gov_10a_exp*.

¹⁶⁴ Severely underperforming Higher Technical Institutes will not receive public funding. If they receive a negative assessment for three years, they will not be able to issue any diploma.

¹⁶⁵ Including temporary positions introduced from 2009 (*ricercatori a tempo determinato*). Looking at permanent teaching staff only, the drop is 20 %.

The 2016 Stability Law provides funding for hiring around 500 new full and associate professors through a simplified procedure (the 'Giulio Natta chairs'), and 861 young researchers¹⁶⁶ on 'tenure-track' positions.¹⁶⁷ It also makes it easier to hire young researchers on fixed-term contracts, not leading to a tenure track.

These one-off measures are a first positive step, because they signal an attempt to reverse previous staff policies. They remain rather limited in scope however and are not sufficient to address the issue of ageing teaching staff. This would require a more strategic approach, for instance a multiannual recruitment plan backed by a significant increase in public funding. The Italian Rector's Council (CRUI 2016) has recently proposed to restore the same level of public funding as in 2008. This would mean an increase of around EUR 900 million compared to the present level. This would make it possible not only to implement a comprehensive recruitment plan, but also to improve student support and university infrastructure.

7. Modernising vocational education and training and promoting adult learning

At 40.7 % in 2015, the employment rate of recent upper secondary graduates¹⁶⁸ is the second lowest in the EU. This is partly due to insufficiently developed work-based learning. Only 10.4 % of upper secondary students participated in traineeships (*alternanza scuola-lavoro*) in the 2014/2015 school year, although this figure has been on the increase in the last few years (Ministero dell'Istruzione, dell'Università e della Ricerca 2015a). Adult participation in lifelong learning decreased by 0.8 percentage points in 2015. At 7.3 % in 2015, it remains below the EU average of 10.7 %.

As part of the 2015 school reform, traineeships have become compulsory for students in the last three years of upper secondary education. This measure is a step in the right direction, as it could help education and training to better fulfil labour market needs.

The existing types of apprenticeships have been revised. Three- and four-year apprenticeships involving schools and companies in a dual system and leading to a professional certificate or a diploma will be integrated into regional vocational education and training systems. An additional year of apprenticeship will give access to vocational tertiary education. Professional apprenticeships previously aimed only at young people (aged 18-29) have been expanded to include adult workers who have been made redundant. A third typology of apprenticeship is targeted at young people willing to get a university degree or a tertiary level qualification. Apprenticeships may also be set up to carry out research activities at academic and non-academic level and to undertake the compulsory traineeship to access regulated professions.

The reform is a good step towards a more integrated and attractive apprenticeship system. No specific quality criteria have been set for the companies offering apprenticeships, except for the respect of minimum standards.¹⁶⁹ Quality criteria have however been set for company tutors/mentors and specific training for them is provided and financed by the Ministry of Labour and Social Policy.

Italy faces the challenge of integrating different levels of lifelong learning systems into a coherent national qualification system (Cedefop 2015). Despite the adoption in 2012 and 2013 of several packages setting out a national strategy for adult learning, implementation is slow. A first release of the national qualification framework should be implemented by mid-2016 and draft national guidelines on validating non-formal and informal learning and certifying competence should be produced by the end of 2016.

¹⁶⁶ This corresponds to 1.6 % of the overall teaching staff of Italian universities.

¹⁶⁷ These researchers may become associate professors after three years if they fulfil certain qualitative criteria.

¹⁶⁸ People aged 20-34 who left education between one and three years before the reference year.

¹⁶⁹ This approach aims at simplifying the legal framework and increasing the supply of apprenticeships by business representatives and providers.

8. References

- ANVUR (2014), Rapporto sullo stato del sistema universitario e della ricerca 2013, http://www.anvur.org/attachments/article/644/Rapporto%20ANVUR%202013_UNIVERSITA%20e%20RICE RCA_integrale.pdf
- ANVUR (2016), Rapporto biennale sullo stato del sistema universitario e della ricerca 2016, http://www.anvur.it/attachments/article/1045/ANVUR_Rapporto_INTEGRALE_~.pdf
- Biondo A.E., Monteleone S., Skonieczny G., Torrissi B. (2012), The propensity to return: Theory and evidence for the Italian brain drain, *Economics Letters*, 115, pp. 359-62
- Bloom N., Lemos R., Sadun R., Van Reenen J. (2015), Does Management Matter in Schools?, *The Economic Journal*, Vol. 125 Issue 584, pp. 647-674
- Cedefop (2015), Analysis and overview of national qualifications framework developments in European countries, <http://www.cedefop.europa.eu/en/publications-and-resources/publications/6127>
- Consorzio Interuniversitario AlmaLaurea (2016), XVIII Indagine Condizione occupazionale dei Laureati, http://www.almalaurea.it/sites/almalaurea.it/files/docs/universita/occupazione/occupazione14/almalaurea_c ondizione_occupazionale_indagine2015.pdf
- CRUI (2016), Università e ricerca. Pilastri su cui fondare lo sviluppo economico e sociale del Paese, https://www.crui.it/images/documenti/2016/Primavera_Universit__PILASTRI_SU_CUI_FONDARE_LO_SVILU PPO_SOCIALE_ED_ECONOMICO_DEL_PAESE.pdf
- European Commission (2012), Supporting the Teaching Professions for Better Learning Outcomes, http://ec.europa.eu/education/policy/school/doc/teachercomp_en.pdf
- European Commission (2015a), Education and Training Monitor — Volume 2, Italy, http://ec.europa.eu/education/tools/docs/2015/monitor2015-italy_en.pdf
- European Commission (2015b), National Student Fee and Support Systems in European Higher Education 2015/16, <http://eacea.ec.europa.eu/education/eurydice/img/covers/189EN.pdf>
- European Commission (2016a), Country Report Italy 2016, http://ec.europa.eu/europe2020/pdf/csr2016/cr2016_italy_en.pdf
- European Commission (2016b), Erasmus+ Country Factsheet Italy, http://ec.europa.eu/education/library/statistics/2014/italy_en.pdf
- European Commission (2016c), Promoting citizenship and the common values of freedom, tolerance and non-discrimination through education, http://bookshop.europa.eu/is-bin/INTERSHOP.enfinity/WFS/EU-Bookshop-Site/en_GB/- /EUR/ViewPublication-Start?PublicationKey=EC0216217
- INVALSI (2015), Conferenza per il coordinamento funzionale del sistema nazionale di valutazione. Seduta N. 2 del 23 dicembre 2015 — Sintesi delle decisioni assunte, http://www.invalsi.it/snv/docs/ccfsnv/ConferenzaSNV_Verbale_2_Sintesi_Decisioni.pdf
- INVALSI (2016), Rilevazioni nazionali degli apprendimenti 2015-16. Rapporto Risultati, http://www.invalsi.it/invalsi/doc_evidenza/2016/07_Rapporto_Prove_INVALSI_2016.pdf
- Hanushek E. A. and Woessmann L. (2011), The economics of international differences in educational achievement. In Hanushek E. A., Machin S., Woessmann, L., *Handbook of the Economics of Education*, Vol. 3, Amsterdam: North Holland, pp. 89-200
- ISTAT (2015), L'inserimento professionale dei dottori di ricerca. Anno 2014, <http://www.istat.it/it/archivio/145861>
- ISTAT (various years), Migrazioni internazionali e interne della popolazione residente, <http://www.istat.it/it>

Ministero dell'Economia e delle Finanze (2016), Documento di Economia e Finanza. Sezione III Programma Nazionale di Riforma,
http://www.dt.tesoro.it/modules/documenti_it/analisi_progammazione/documenti_programmatici/W_-_DEF-2016-Sez_III-PNR_2016.pdf

Ministero dell'Istruzione, dell'Università e della Ricerca (2015a), Focus 'Alternanza Scuola Lavoro', 30 Novembre 2015, <http://hubmiur.pubblica.istruzione.it/web/ministero/focus301115>
 Ministero dell'Istruzione, dell'Università e della Ricerca (2015b), Focus 'Anticipazione sui principali dati della scuola statale' A.S. 2015/2016,
http://www.foe.it/Resource/Avvio_Anno_Scolastico2015_2016.pdf

Ministero dell'Istruzione, dell'Università e della Ricerca (2015c), Piano nazionale scuola digitale,
http://www.istruzione.it/scuola_digitale/allegati/Materiali/pnsd-layout-30.10-WEB.pdf

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), Decreto Ministeriale 6 luglio 2016, n.552. Criteri di ripartizione del Fondo di Finanziamento Ordinario (FFO) per l'anno 2016,
http://attiministeriali.miur.it/media/281244/dm%20ffo%202016_6_7_2016%20n%20552.pdf

Ministero dell'Istruzione, dell'Università e della Ricerca (2016c), Direttiva Ministeriale 25/2016,
http://www.istruzione.it/allegati/2016/Direttiva_Valutazione_Dirigenti.pdf

Montanari M., Pinelli D., Torre R. (2015), From tertiary education to work in Italy: a difficult transition, ECFIN Country Focus, Vol. 12 Issue 5, European Commission, Directorate-General for Economic and Financial Affairs,
http://ec.europa.eu/economy_finance/publications/country_focus/2015/pdf/cf_vol12_issue5_en.pdf

OECD (2014), TALIS 2013 Results: An International Perspective on Teaching and Learning, Paris: OECD Publishing

OECD (2016), Education at a Glance 2016: OECD Indicators,
http://www.oecd-ilibrary.org/education/education-at-a-glance-2016_eag-2016-en

Parlamento Italiano (2015), Legge 13 luglio 2015, n.107, Riforma del sistema nazionale di istruzione e formazione e delega per il riordino delle disposizioni legislative vigenti,
<http://www.normattiva.it/uri-res/N2Ls?urn:nir:stato:legge:2015;107>

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_ipart (2011), educ_uoe_enra10 (2014)
Employment rate of recent graduates	edat_lfse_24
Adult participation in lifelong learning	trng_lfse_01
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

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Latvia



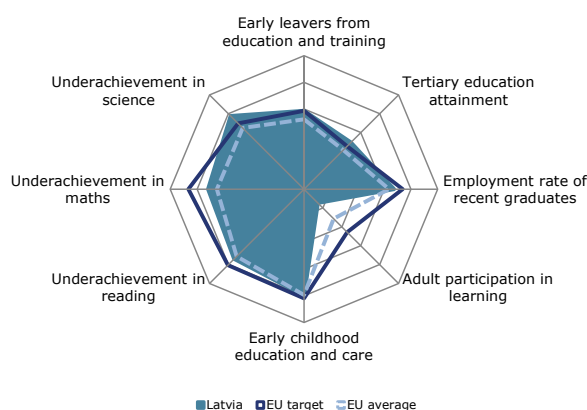
1. Key indicators

		Latvia		EU average		
		2012	2015	2012	2015	
ET 2020 benchmarks						
Early leavers from education and training (age 18-24)	Total	10.6%	9.9%	12.7%	11.0%	
Tertiary education attainment (age 30-34)	Total	37.2%	41.3%	36.0%	38.7%	
Early childhood education and care (ECEC) (from age 4 to starting age of compulsory education)		92.7% ¹¹	94.4% ¹⁴	93.2% ¹¹	94.3% ¹⁴	
Proportion of 15 year-olds with underachievement in:	Reading	17.0%	:	17.8%	:	
	Maths	19.9%	:	22.1%	:	
	Science	12.4%	:	16.6%	:	
Employment rate of recent graduates by education attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-8 (total)	74.3%	78.8%	75.9%	76.9%	
Adult participation in lifelong learning (age 25-64)	ISCED 0-8 (total)	7.2%	5.7%	9.2%	10.7%	
Other contextual indicators						
Education investment	Public expenditure on education as a percentage of GDP	5.7%	5.9% ¹⁴	5.0%	4.9% ^{14,p}	
	Expenditure on public and private institutions per student in € PPS	ISCED 1-2	€2,618	:	:	:
		ISCED 3-4	€2,773	€3,118 ¹³	:	:
		ISCED 5-8	€3,938 ^d	€4,249 ^{13,d}	:	:
Early leavers from education and training (age 18-24)	Native-born	10.8%	10.0%	11.6%	10.1%	
	Foreign-born	:	:	24.9%	19.0%	
Tertiary education attainment (age 30-34)	Native-born	37.5%	40.8%	36.7%	39.4%	
	Foreign-born	31.7% ^u	54.6%	33.8%	36.4%	
Employment rate of recent graduates by education attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-4	57.2%	70.0%	69.7%	70.8%	
	ISCED 5-8	86.9%	84.4%	81.5%	81.9%	
Learning mobility	Inbound graduates mobility (bachelor)	1.7% ¹³	1.8% ¹⁴	5.5% ¹³	5.9% ¹⁴	
	Inbound graduates mobility (master)	3.0% ¹³	3.5% ¹⁴	13.6% ¹³	13.9% ¹⁴	

Sources: Eurostat (see section 9 for more details); OECD (PISA).

Notes: data refer to weighted EU average, covering different numbers of Member States depending on the source; b = break in time series, d = definition differs, p = provisional, u = low reliability, 11 = 2011, 13 = 2013, 14 = 2014. Further information can be found in the relevant 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 2015) and OECD (PISA 2012).

Note: all scores are set between a maximum (the strongest performers, represented by the outer ring) and a minimum (the weakest performers, represented by the centre of the figure).

2. Highlights

- In recent years, Latvia has made remarkable progress in reducing its early school leaving rate and improving basic skills attainment.
- Latvia is gradually introducing a new financing model in the higher education system, with elements to reward quality. Measures on accreditation are promising, although implementation is still at an early stage.
- The tertiary educational attainment rate is high, but supplying graduates to knowledge-intensive sectors and attracting international students remain a challenge.
- Vocational education and training is undergoing significant reform, but there is still considerable scope for expanding the work-based learning components and updating the curricula.
- The gender gap in education is a challenge across the board, with women outperforming men significantly both in terms of qualifications and basic skill proficiency.

Box 1: The 2016 European Semester country-specific recommendation on education and training

The 2016 European Semester country-specific recommendations (CSRs) to Latvia (Council of the European Union 2016) included a recommendation on education and training:

Speed up the curricula reform in vocational education, establish – with the involvement of social partners – a regulatory framework for work-based learning and increase their offer.

3. Investing in education to address demographic and skill challenges

Latvia's general government expenditure on education was well above the EU average in 2014, in terms both of proportion of GDP (5.9 % as compared with 4.9 %) and proportion of total public expenditure (15.8 % as against 10.2 %).¹⁷⁰

Due to high emigration and negative natural growth, the working-age population has dropped by 15 % in the last 10 years, which is the biggest decline in the EU. Youth outward migration is considerable – over 40 % of emigrants are in the 20-35 age group (European Commission 2016). During the crisis, labour mobility alleviated the unemployment problem in Latvia, but continued outward migration in normal growth conditions limits the country's labour supply. According to the OECD, the demographic decline will require Latvia to adapt the size of its education system, in particular as regards numbers of schools, tertiary education institutions and teaching staff (OECD 2016).

Latvia is introducing a new model for higher education financing, with elements that reward quality (performance-related components were lacking until 2015). The new financing model, developed in 2015 on the basis of World Bank recommendations (World Bank 2014), is geared to improving the efficiency of public expenditure on higher education, enhancing the integration of higher education with research and ensuring greater quality, accessibility and international competitiveness. It comprises three pillars:

1. basic funding allocated per study place and per full-time equivalent of academic staff;
2. performance-related funding (based on a number of indicators for performance in research and internationalisation); and

¹⁷⁰ Source: Eurostat, General government expenditure by function (COFOG) database.

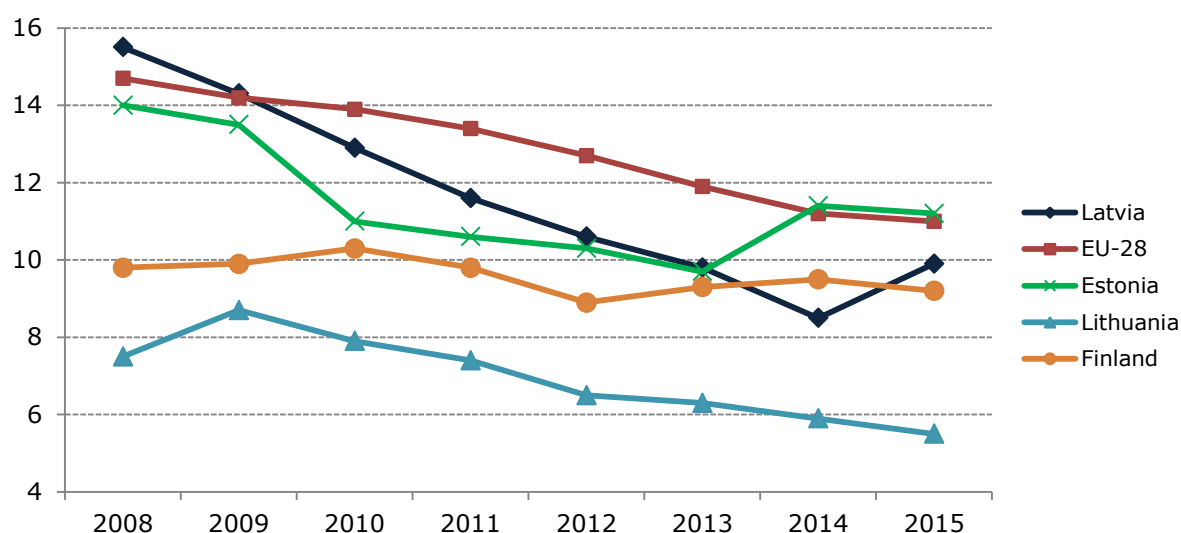
- targeted funding for innovation and development, currently supported by the European Structural and Investment Funds.

For the second pillar, the government made EUR 5.5 million in performance-related funding available on a pilot basis in 2015. For 2016 and 2017, it has allocated EUR 6.5 million per year. Although this is welcome, the amounts are lower than those required to deliver the optimal model of development suggested in the World Bank study. Also, the international dimension of the new model is limited. The only parameter relating to internationalisation is the amount of research funding attracted from abroad. For the third pillar, no additional national funding was allocated in 2016, due to budget restrictions.

4. Tackling inequalities and promoting inclusion

The participation of four- to five-year-olds in early childhood education has increased somewhat in recent years and is now around the EU average. Latvia's early school leaving rate fell steadily between 2008 and 2014, when it reached 8.5 %. It then rose to 9.9 % in 2015, but remains below the EU average of 11 % (Figure 2). Having exceeded the Europe 2020 national target of 13.4 %, Latvia has set a new 2020 target of 10 %. The figure for female pupils was less than half that for males: 6.2 % and 13.4 % respectively in 2015.

Figure 2. Early school leaving rate (%)



Source: Eurostat. Online data code: *edat_ifse14*.

In terms of basic skills, 15-year-olds' performance in the 2012 OECD Programme for International Student Assessment (PISA) in reading, mathematics and science improved as compared with 2009 and continues to outperform the EU average. However, Latvia shows a very wide gender gap in reading, where 25.7 % of boys are low achievers, compared with just 8.2 % of girls (OECD 2013). There are also marked differences in student performance between rural and urban schools (OECD 2016). The disparity in learning outcomes between secondary general schools and vocational schools is particularly pronounced. For instance, the centralised mathematics examination score in the latter is on average 22.5 percentage points below that in the former (National Centre for Education 2015).

A single procedure stipulates how educational institutions should inform parents, local government or public institutions when a pupil is absent without a justified reason. The number of children of compulsory school age who are not registered in any educational institution and about whom municipalities have no information dropped by 77 % between 2012 and 2015. The 2016 National Reform Programme (Latvian Government 2016) includes several measures to address early school leaving, such as:

- identifying students at risk of early school leaving and providing prevention and intervention measures for them;

- improving career guidance to students; and
- improving quality assurance in general and vocational education.

Box 2: Making special needs education more inclusive

In 2003, the Cabinet of Ministers adopted new regulations on the setting-up of 'special needs education development centres'. The aim was to convert the best-performing special education institutions into centres of expertise for mainstream schools integrating special needs students on the basis of licensed special education programmes.

The number of special education institutions has nevertheless remained broadly constant. In the 2015/2016 school year, there were 60 such institutions in Latvia, with almost 6 000 students. Around 51 % of special needs students were integrated in mainstream schools (under general and special education classes). This proportion is rather low, but it increased from 23 % in the 2011/2012 school year (Ministry of Education and Science 2015, 2016).

Currently, there are nine special education institutions with the status of special education development centres. Starting from September 2016, the status of special education development centre will be additionally granted to two special education institutions. These centres aim to provide methodological and consultative support for special needs students integrated in mainstream schools. In 2015, the Ministry of Education and Science reviewed the work of seven special education development centres, evaluating the extent to which they met the standards set in the legal acts. It found that it was difficult to evaluate whether the support they provide is adequate (Cabinet of Ministers 2016). The centres do not keep track of the support they provide to mainstream schools (e.g. advising teachers on how to meet students' individual learning needs). Also, the legal criteria for evaluating their work are not clear.

The review formed the basis for a new regulation on the functions, governance and operations of development centres, which was adopted in March 2016 and sets targets for the centres' main outputs, e.g. each centre should:

- give pedagogical and methodological support to at least 50 teachers from the region per year;
- provide at least 50 special needs students (or their legal representatives) per year with advice; and
- organise at least two information events per year on inclusive education and ensure that highly qualified staff are involved in providing advice and running information events.

From June 2017, the Ministry will be evaluating whether centres are meeting their targets. Underperforming institutions may lose their development centre status.

The success of the reform will depend on whether mainstream schools receive sufficient resources to be able to give individual attention to students with special needs. This is key to integrating them in the classroom environment and learning processes. Encouragingly, the 2016 National Reform Programme involves plans to scale up support for schools integrating students with special needs (Latvian Government 2016). A model of the costs of the services for children with special needs is planned to be developed by October 2018.

A related issue concerns the quality of teaching for special needs students. National studies suggest that teacher-training programmes are not preparing teachers sufficiently (Austers *et al.* 2008; Nimante and Tubele 2010).

5. Modernising school education

Latvia is introducing a new teacher remuneration model from September 2016. Under the previous system, based on the 'money follows student' principle, municipalities were allocated

government funding on the basis of the number of students enrolled at the beginning of the school year. Municipalities and school principals had substantial discretion as to how they handled the funds. Also, teachers' tasks outside contact hours (e.g. marking homework, working as a class supervisor) were remunerated separately, with a complex system of tariffs making up part of the salary formula. As a result, teachers' salaries varied considerably from one municipality to another for the same amount of work (European Commission 2015; OECD 2014).

The new model is based on a clear definition of teachers' base salaries. It recognises the differences in class sizes in Latvian schools (e.g. the rural/urban divide). The model provides for a 30-hour working week (40 hours for pre-school education pedagogues), including contact hours and preparatory work and maintains quality-related bonuses based on the assessment of teachers' performance. It also allows school principals to pay additional salary bonuses at their discretion (Government of Latvia 2016a).

On a positive note, the model introduces more stringent criteria as regards minimum student numbers per class and per school. Schools failing to meet these criteria will receive lower state funds for teachers' salaries. This may lead to a reduction in the number of small schools in which students of different ages are taught together in one classroom.

On the downside, the model implicitly allows for teachers to work more than 40 hours per week, provided that the additional hours are not in the same school. This could encourage teachers to work extra hours to increase their salary, without paying sufficient attention to the quality of teaching. Also, the model still allows municipalities to top up teachers' salaries. There is thus a continued risk of teachers receiving different salaries for the same amount of work.

The new Framework Curriculum is an important step in the transition to a competence-based curriculum in general education. It will be piloted in 80 schools in 2016/2017 (rather than 2015/2016, as originally planned). Its success depends largely on teachers' ability and motivation to implement it.

6. Modernising higher education

Latvia's tertiary educational attainment rate of 30- to 34-year-olds rose from 39.9 % in 2014 to 41.3 % in 2015, i.e. above the EU average (38.7 %) and the national Europe 2020 target (34-36 %). Women strongly outperform men, with figures of 56.5 % and 26.8 % respectively. This is the largest gender gap in the EU (Figure 3). The proportion of tertiary graduates in science, technology, engineering and mathematics (STEM) grew from 17.9 % in 2013 to 20.3 % in 2014, but is still among the lowest in the EU. This may be amplified to some extent by gender biases: there is a higher proportion of women in tertiary education overall, but men are often more likely to opt for STEM courses. In 2014, only 1.8 % of bachelor graduates and 3.5 % of master graduates came from a foreign country. However, the number of foreign students has been on the rise and reached 8 % of total students in 2015/2016.

Latvia is facing a steady decline in student numbers. Its low birth rates in the 1990s, combined with an ageing population, resulted in a 30 % drop in the student population between 2008 and 2014. The employment rate of recent tertiary graduates¹⁷¹ recovered quickly after the 2008-2010 crisis, but has fluctuated somewhat over the last three years, though remaining above the EU average, at 84.4 % as compared with 81.9 % in 2015.

To improve the accreditation system of higher education institutions, the government designated the Academic Information Centre as an independent national accreditation agency as from July 2015. 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.

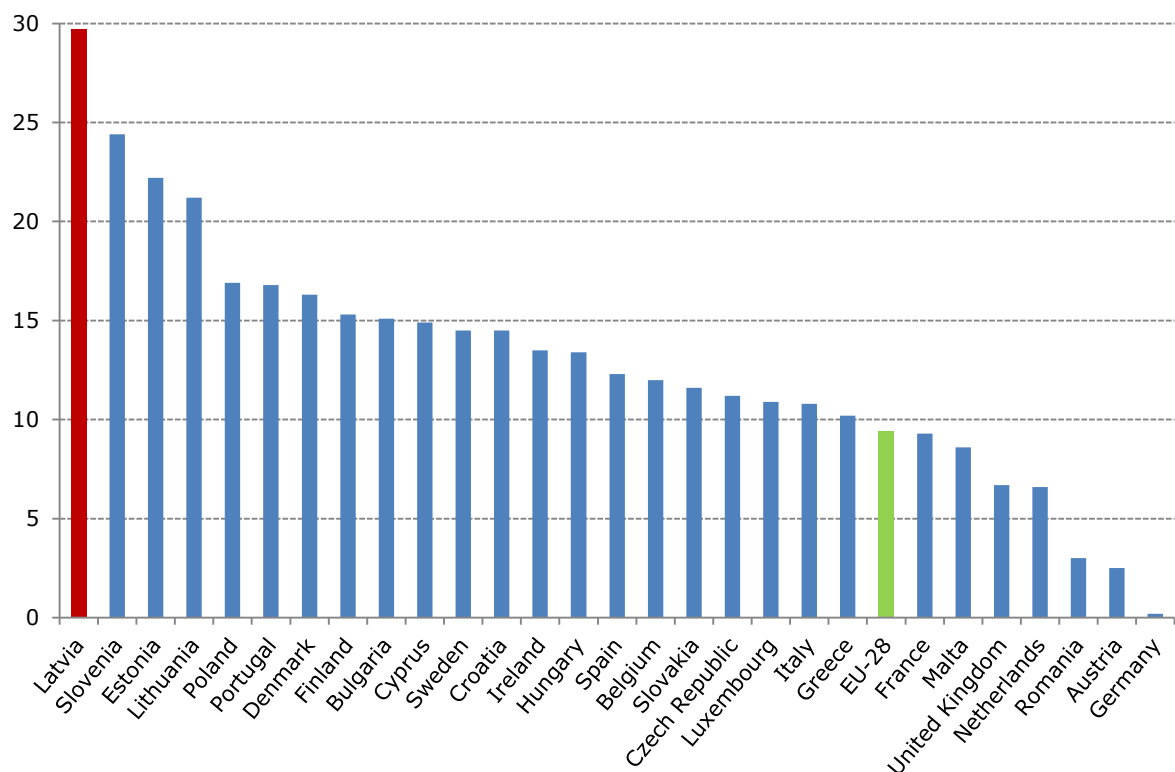
The quality of higher education is also related to improvements in the governance of institutions. A World Bank study has been commissioned in 2016 to assess how to make governance structures more conducive to internal reforms and more responsive to the demands

¹⁷¹ People aged 20-34 who left tertiary education between one and three years before the reference year.

of the economy, and to ensure greater academic integrity. This will serve as an *ex ante* evaluation of higher education institutions' internal governance and funding systems and human resources policies, and make recommendations for the design of structural fund programmes. To improve the quality of academic staff, the rules for assessing professors' qualifications are being amended. Under the new compulsory criteria, professors will be required to have a minimum number of international publications and sufficient knowledge of foreign languages.

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. This may help steer demand towards study fields linked to high added-value economic sectors.

Figure 3. Gender gap in tertiary educational attainment: female rate minus male rate (2015, percentage points)



Source: European Commission calculations based on Eurostat data. Online data code: *edat_ifse03*.

7. Modernising vocational education and training and promoting adult learning

Since 2010, in the aftermath of the economic crisis, the proportion of young people not in education, employment or training has decreased and the 2015 figure (10.5 % of 15- to 24-year-olds) was below the EU average (12 %). The employment rate of recent upper secondary graduates¹⁷² rose by almost five percentage points between 2014 and 2015 and is now close to the EU average. Adult (25- to 64-year-olds) participation in lifelong learning is low, at 5.5 % in 2015, as against 10.7 % for the EU as a whole, but is comparable to that in other countries in the region.

¹⁷² People aged 20-34 who left upper secondary education between one and three years before the reference year.

Vocational education and training (VET) reforms have been ongoing for several years and significant progress has been achieved in consolidating the school network and modernising infrastructure and equipment.

A pilot project was implemented in 2013-2015 to test different approaches to work-based learning. Legislative amendments in 2015 established that work-based learning was one means of acquiring VET. The Cabinet of Ministers adopted a Regulation on work-based learning implementation in July 2016. At the same time, it also approved a Regulation on EU funds support for implementing work-based learning. Within a European Social Fund (ESF) project, the government plans to involve 3 150 students in work-based learning and ensure participation of 11 025 students in practical training in enterprises. Motivating companies to provide quality work-based learning and practical training placements is a challenge.

The reform of vocational education curricula is progressing. It is expected to be finalised in 2020 in the frame of an ESF project. Only 80 of 240 occupational standards/occupational qualification basic requirements have been completed to date. Similarly, progress has been slow in introducing modular programmes (around a third introduced to date) and developing examination content (13 % complete). The social partners are significantly involved in curriculum reform. Parliament adopted amendments to the vocational education law which entered into force in May 2015. The Cabinet of Ministers adopted secondary legislation on procedures for curricula update in July 2016.

There is scope to step up action to improve adult learning. Public support for adult learning has been funded mostly by the ESF and there is no evidence that this will change in the near future. The first draft of the adult learning action plan (implementation model for life-long learning), which was planned for the end of 2014, was produced and approved only in mid-2016. As a consequence, implementation of ESF-financed activity has been delayed. An adult education supervisory council is currently being established. The council, which includes ministries and organisations involved in adult education, will aim to provide a comprehensive adult education monitoring system.

8. References

Austers I., Golubeva M. and Strode I. (2008), *Tolerances Jautājumi Skolā*, Riga: Sabiedriskās Politikas Centrs PROVIDUS.

Cabinet of Ministers (2016), Noteikumu projekts 'Noteikumi par kritērijiem un kārtību, kādā speciālās izglītības iestādei piešķir speciālās izglītības attīstības centra statusu'. Anotācija, <http://tap.mk.gov.lv/lv/mk/tap/?pid=40382021&mode=mk&date=2016-03-29>

Council of the European Union (2016), Council recommendation of 12 July 2016 on the 2016 national reform programme of Latvia and delivering a Council opinion on the 2016 stability programme of Latvia, [http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32016H0818\(20\)&from=EN](http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32016H0818(20)&from=EN)

European Commission (2015), Education and Training Monitor — Volume 2, Latvia, http://ec.europa.eu/education/tools/docs/2015/monitor2015-latvia_en.pdf

European Commission (2016), Country Report Latvia 2016, http://ec.europa.eu/europe2020/pdf/csr2016/cr2016_latvia_en.pdf

Government of Latvia (2016a), Cabinet of Ministers Regulation on Teachers Remuneration, <http://likumi.lv/doc.php?id=195578>

Government of Latvia (2016b), National Reform Programme of Latvia for the Implementation of the 'Europe 2020' Strategy, http://ec.europa.eu/europe2020/pdf/csr2016/nrp2016_latvia_en.pdf

Ministry of Education and Science (2015), Statistics, http://izm.gov.lv/images/statistika/viis/Izglitojamo_skaits_01092015_statist_dati.pdf

Ministry of Education and Science (2016), Speciālās izglītības iestādes — attīstības centri veicina kvalitatīvas iekļaujošās izglītības īstenošanu, <http://www.izm.gov.lv/lv/aktualitates/1642-specialas-izglitibas-iestades-attistibas-centri-veicina-kvalitativas-ieklausosas-izglitibas-istenosanu>

National Centre for Education (2015), Valsts pārbaudes darbi 2014./2015, m.g., http://visc.gov.lv/vispizglitiba/eksameni/statistika/2015/dokumenti/MAT_visi_sal_tipi.png

Nimante D. and Tubele S. (2010), Key challenges for Latvian teachers in mainstream schools: A basis for preparing teachers for inclusion, *Journal of Research in Special Educational Needs*, Vol. 10/1, pp. 168-176.

OECD (2013), PISA 2012 Results,
<http://www.oecd.org/pisa/keyfindings/pisa-2012-results.htm>

OECD (2014), Teacher Remuneration in Latvia: An OECD Perspective,
http://www.oecd.org/edu/OECD%20Review%20of%20Teacher%20Remuneration%20in%20Latvia OPS_FIN AL.pdf

OECD (2016), Reviews of National Policies for Education. Education in Latvia,
<http://www.oecd.org/education/education-in-latvia-9789264250628-en.htm>

World Bank (2014), Higher Education Financing in Latvia: Final Report,
http://viaa.gov.lv/files/news/24067/lv_hef_r3vsub_190922014_c_final.pdf

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_ipart (2011), educ_uoe_enra10 (2014)
Employment rate of recent graduates	edat_lfse_24
Adult participation in lifelong learning	trng_lfse_01
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

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Lithuania



1. Key indicators

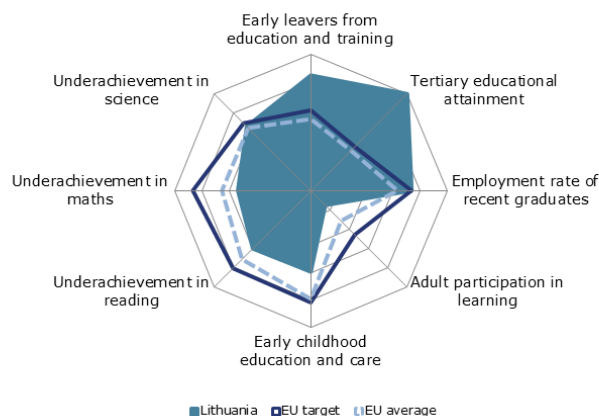
		Lithuania		EU average		
		2012	2015	2012	2015	
ET 2020 benchmarks						
Early leavers from education and training (age 18-24)	Total	6.5%	5.5%	12.7%	11.0%	
Tertiary educational attainment (age 30-34)	Total	48.6%	57.6%	36.0%	38.7%	
Early childhood education and care (ECEC) (from age 4 to starting age of compulsory education)		84.2% ¹¹	88.8% ¹⁴	93.2% ¹¹	94.3% ¹⁴	
Proportion of 15 year-olds with underachievement in:	Reading	21.2%	:	17.8%	:	
	Maths	26.0%	:	22.1%	:	
	Science	16.1%	:	16.6%	:	
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-8 (total)	75.6%	82.1%	75.9%	76.9%	
Adult participation in lifelong learning (age 25-64)	ISCED 0-8 (total)	5.4%	5.8%	9.2%	10.7%	
Other contextual indicators						
Education investment	Public expenditure on education as a percentage of GDP	5.8%	5.4% ¹⁴	5.0%	4.9% ^{14,p}	
	Expenditure on public and private institutions per student in € PPS	ISCED 1-2	€3.569	€1.795 ¹³	:	: ¹³
		ISCED 3-4	€2.386	€2.226 ¹³	:	: ¹³
ISCED 5-8		€6.230	€3.320 ¹³	:	: ¹³	
Early leavers from education and training (age 18-24)	Native-born	6.4%	5.5%	11.6%	10.1%	
	Foreign-born	:	:	24.9%	19.0%	
Tertiary educational attainment (age 30-34)	Native-born	48.2%	57.6%	36.7%	39.4%	
	Foreign-born	:	:	33.8%	36.4%	
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-4	61.3%	72.2%	69.7%	70.8%	
	ISCED 5-8	85.3%	88.5%	81.5%	81.9%	
Learning mobility	Inbound graduates mobility (bachelor)	1.2% ¹³	1.5% ¹⁴	5.5% ¹³	5.9% ¹⁴	
	Inbound graduates mobility (master)	2.2% ¹³	3.3% ¹⁴	13.6% ¹³	13.9% ¹⁴	

Sources: Eurostat (see section 9 for more details); OECD (PISA).

Notes: data refer to weighted EU averages, covering different numbers of Member States depending on the source; b = break in time series, d = definition differs, p = provisional, u = low reliability, 11 = 2011, 13 = 2013, 14 = 2014.

Further information can be found in the relevant 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 2015) and OECD (PISA 2012).

Note: all scores are set between a maximum (the strongest performers, represented by the outer ring) and a minimum (the weakest performers, represented by the centre of the figure).

2. Highlights

- Lithuania is reforming the teacher profession to improve its attractiveness, the quality of initial teacher training and continuous professional development.
- Lithuania has a very low early school leaving rate, but pupils' reading and maths skills are below the EU average. According to national tests, almost one fifth of 16-year-olds lack basic knowledge and skills.
- The participation rate in early childhood education and care is low when compared to the EU average, and there are significant disparities between urban and rural areas. The Government has taken several measures to increase participation rates and quality.
- Lithuania has the highest tertiary educational attainment rate in the EU. The quality and innovation outcomes of higher education, in particular the quality of teaching and provision of soft skills, and practical training in higher education remain challenges.
- Only a small percentage of adults participate in lifelong learning. As vocational education and training remains an unattractive option for students and their parents, there is a need to improve its quality and cooperation with companies.

Box 1: The 2016 European Semester country-specific recommendation on education and training

The 2016 European Semester country-specific recommendations (CSRs) to Lithuania (Council of the European Union 2016) included a recommendation on education and training:

Strengthen investment in human capital and address skills shortages, by improving the labour market relevance of education, raising the quality of teaching and adult learning.

3. Investing in education to address demographic and skill challenges

General government expenditure on education as a percentage of GDP steadily decreased in recent years from 6.1 % in 2008 to 5.4 % in 2014 (compared to an EU average of 4.9 %).¹⁷³ At the same time, general government expenditure on education as a share of total public expenditure was 12.8 % in 2014, which is slightly higher than in 2008 when it was 12.1 %.¹⁷⁴

The employment rate for medium-qualified workers in 2015 was somewhat below the EU average (70.8 % in 2015 compared to 73.9 %) and that for low-qualified was significantly lower (45 % compared to 53.2 %). The employment rate for highly qualified people on the other hand was above the EU average (89.6 % compared to 84.1 %).¹⁷⁵

Lithuania is among the countries that has witnessed considerable emigration in recent years. In 2015, the number of people emigrating was twice that of those immigrating (44 500 compared to 22 100, Statistics Lithuania 2015a).

¹⁷³ Source: Eurostat, General government expenditure by function (COFOG) database.

¹⁷⁴ Source: Eurostat, General government expenditure on education as a share of total public expenditure.

¹⁷⁵ Source: Eurostat, Labour Force Survey, online code *lfsa_ergaed*. Low-qualified = ISCED 0-2; medium-qualified = ISCED 3-4; highly qualified = ISCED 5-8.

At the beginning of 2016, following teacher trade unions strikes, the salaries of teachers were increased for the poorest earners, by raising the minimum coefficient¹⁷⁶ (Ministry of Education and Science 2016d). The Ministry of Education and Science prepared a 5-year programme to increase teacher salaries. According to this programme, the salaries of teachers in early childhood education and care (ECEC) must be increased by 32.6 % compared with 2016 salaries until 2020 (Ministry of Education and Science 2016c). The programme has been presented to the Government for approval.

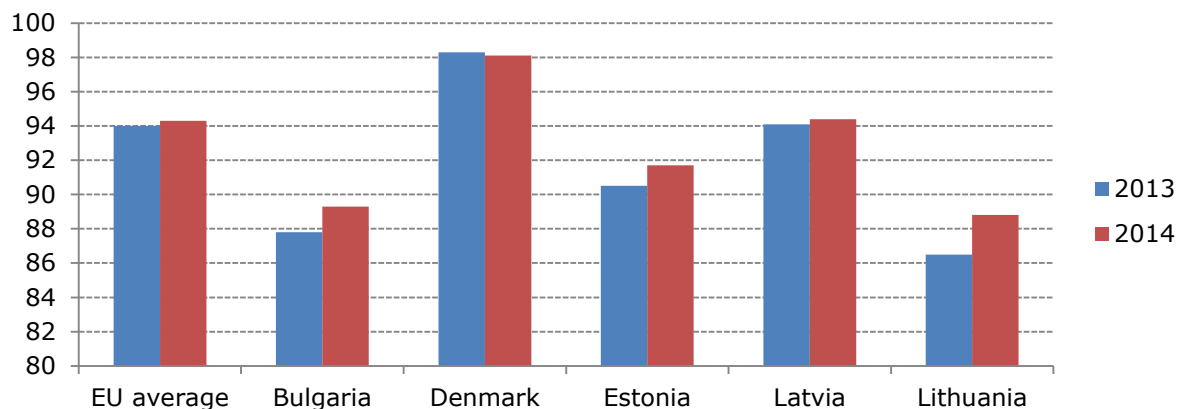
On 1 June 2016 the national human resources monitoring framework plan came into force. This framework lays down the purpose and coordination of the monitoring system, and the institutions responsible. The monitoring system covers all levels of education, including the observation of the labour market outcomes of education graduates and forecasting of future skills needs.

4. Tackling inequalities and promoting inclusion

The early school leaving rate remains well below the EU average (5.5 % in 2015 compared with the EU average of 11 %)¹⁷⁷ and has been declining since 2008 when it was 7.5 %. There is a gender gap — the rate is 6.9 % for boys compared with 4 % for girls — but the gap is still one of the lowest rates in the EU.

ECEC participation is low compared to other EU countries.¹⁷⁸ The participation of four-year-olds in ECEC was 86.5 % in 2013, noticeably below the EU average of 93.1 %.¹⁷⁹ The enrolment in ECEC differs greatly between urban and rural areas (97.4 % and 44.5 % respectively for children aged 3-6 in 2014, compared to the total number of children of a particular age) (Statistics Lithuania 2014). One reason for this is a lack of appropriate transport services (Education supply centre 2015).

Figure 2. Participation in early childhood education and care (2013-2014)



Source: Eurostat. Online data code: *educ_uoe_enra10*.

The most recent results of the Programme for International Student Assessment (PISA 2012) showed that the proportion of low achievers in reading and maths in Lithuania was above the EU-average. The figure was particularly high for boys and for children in rural areas (OECD

¹⁷⁶ In Lithuania, teacher salaries have to be calculated by applying coefficients which vary depending on experience and teaching category. They were increased by 7 % for teachers in early childhood education and care; by 5 % for young teachers, who still do not fall into any pedagogical category; by 3 % on average for other educators; and by 2.5 % for pedagogical employees such as special pedagogues, psychologists and social pedagogues.

¹⁷⁷ Source: Eurostat.

¹⁷⁸ Early childhood education and care covers children from the age of four up to the starting age of compulsory education, which is seven years.

¹⁷⁹ Evidence from the PIRLS survey (IEA 2012) shows that students who have spent longer periods of time in early childhood education and care are better prepared to enter and succeed in primary education.

2013b). The 2015 results of the national test PUPP¹⁸⁰ organised by the National Examination Centre indicated that the proportion of low achievers is 15-20 % and more, i.e. almost one fifth of 10th graders (16-year-olds) lack basic knowledge and skills.¹⁸¹ The national tests also showed that 4th graders (10-year-olds) have problems in reading and writing and that these problems in mathematics become evident in 8th grade (14-year-olds). Trends over the last four years have been similar (Pukenė R. 2016).

The Government took several measures to increase participation in, and the quality of, early childhood education and care. Pre-primary education became compulsory for all six-year-olds from September 2016. The 'Description of the Achievements of Pre-school Children' was prepared in 2015 in order to renew and improve pre-school education and its curricula (Eurydice 2015). In 2015, 452 new pre-primary groups were founded and it is planned to create over 80 such groups in 2016.

Lithuania intends to increase the diversity and availability of non-formal education for children.¹⁸² In 2015 and 2016, EUR 3.24 million and EUR 9.72 million respectively were allocated to such activities according to the 'basket' principle whereby money follows the pupil (Lithuanian Government 2016b).

In order to improve pupils' writing and reading skills, new programmes for Lithuanian Language Primary Education and Lithuanian Language and Literature Basic Education were approved in January 2016 by the Ministry of Science and Education.¹⁸³ Standardised instruments were created and offered to schools to enable them to compare their pupils to pupils across the country, and to receive a detailed analysis of the results of each child. In 2017, a national system for evaluating school students' learning outcomes in general education will be fully rolled out.

It is also intended to gradually reform special education and social institutions with the aim of reducing the number of children educated in special institutions and of creating new models.

5. Modernising school education

Reforming the teaching profession is one of the main challenges in Lithuania. There is a need to:

- strengthen the overall quality of teaching (to tackle the low performance in PISA and national tests);
- make the teaching profession attractive to young talented people (due to the low numbers of candidates for initial teacher training); and
- tackle potential teacher shortages in science subjects (Lithuania has the oldest teaching community in mathematics and physics) while at the same time dealing with the overall surplus of teachers (see Box 2 for details).

The 'Concept of Good School' was approved in December 2015. It serves as a guideline to schools in their development and improvement of education quality. The 'Description of Primary, Lower and Upper Secondary Education Programmes' document embodies the agreements on education objectives and learning outcomes of the national education community. The

¹⁸⁰ Pagrindinio ugdymo pasiekimų patikrinimas (Test of Basic Education Learning Achievements). It is organised annually and evaluates learning achievements in lower secondary education and is obligatory for all those who wish to acquire a certificate of basic education.

¹⁸¹ There were big differences in the results of different schools and of different counties. Girls performed much better than boys, the results of students in urban areas were much better than in rural, and students from gymnasiums performed better than those from basic, secondary or VET schools.

¹⁸² Non-formal children's education is defined in the Law on Education: (http://www3.lrs.lt/pls/inter3/dokpaieska.showdoc_l?p_id=407836). Non-formal education — education whose programmes are varied and geared to satisfying educational needs, providing in-service training and obtaining an additional competency, with the exception of formal education programmes. The purpose of non-formal education of children is to satisfy learners' cognition, development and self-expression needs, and to help them become active members of society.

¹⁸³ <http://www.upc.smm.lt/naujienos/lituanistai/programa.php>.

implementation of this document will facilitate the systematic development of teachers' qualification and ensure the creation of a modern educational environment (Ministry of Education and Science 2015b).

In 2015 Lithuania took steps to improve the system of final examination and evaluation of learning achievements at upper secondary level. As from the 2017/2018 school year students will be offered the choice between the *Brandos darbas* ('Matura project') and one of the final examinations. The 'Matura project' will enable key and subject-specific competencies, creativity and responsibility to be evaluated, and will stimulate analytical thinking (Ministry of Education and Science 2016a).

Lithuania plans to establish 10 STEAM (Science, Technology, Engineering, the Arts and Mathematics)¹⁸⁴ education centres with the support of ESF money. The aim is to foster a culture of innovation in education and to respond to local needs. The decision to include the arts is based on an analysis of best practices in foreign countries (Kaunaitė et al. 2015). Partnership between municipalities, science and business is necessary for creating STEAM centres (Ministry of Education and Science 2016b).

Box 2: Making the teaching profession more attractive

Main challenges:

- The teacher population is ageing. In primary school, 37.1 % of all teachers are older than 50; in secondary school the proportion is 42.4 %. At the same time, only about 10 % of graduates from pedagogical studies enter the profession. Older teachers do not want to retire because pensions are low and the teaching profession is unattractive to students. Teacher salaries are the lowest in the EU, when compared with GDP per capita (Eurydice 2015).¹⁸⁵ This could result in future shortages of teachers, for example in physics and chemistry (MOSTA 2015, Lithuanian Education Council 2015 a).
- The student-teacher ratio is low for demographic reasons (OECD 2013a). At secondary level there are fewer than eight students per teacher. A review of regional education indicates that the proportion of high quality teachers in large general education schools is considerably greater than in small schools (Ministry of Education and Science 2015c).
- Obligatory teaching practice in schools during teachers' initial training is inadequate, and there is no formal induction programme for newly qualified teachers. Innovative teaching methods remain underutilised, and there are limited rewards for good quality teaching (Nacionalinis egzaminų centras, 2014).
- The current teacher attestation system does not encourage teachers to improve their qualifications, because teachers are not obliged to repeatedly demonstrate their ability in the acquired qualification category (Lithuanian Education Council 2015). There are large discrepancies in the funding of teacher qualification development with some municipalities receiving three times as much as others.
- Most teachers indicate that they need special knowledge to work with children who have special needs and with those who lack the motivation to learn (Ministry of Education and Science 2014). When assessing preparedness for working life, young teachers rate their theoretical knowledge of a particular subject as very good. However, they feel they lack pedagogical competencies, such as the ability to individualise teaching and differentiate education (Ministry of Education and Science 2015a).

¹⁸⁴ STEAM aims to foster a culture of innovation and creativity in education. The arts and design component of STEAM is intended as an interdisciplinary creative process which links creativity, technologies and management.

¹⁸⁵ The basic gross statutory salary of teachers in lower secondary education in Lithuania as a share of GDP per capita was the lowest in the EU in 2014/2015 (minimum salary: 32.3 %, maximum salary: 59.4 %). Between 2009 and 2014, the minimum basic statutory salary of teachers was frozen in real terms.

Government measures to improve the attractiveness of the teaching profession:

- *Additional funds for teachers:* The Government has raised salaries for novice teacher, and allocated funding for early retirement compensation in order to create more vacancies and provide more employment opportunities for young teachers.
- *Support for talented student teachers:* A teacher education scholarship has been created to support the acquisition of teaching qualifications targeted at students who have demonstrating good academic achievement.
- *Measures to improve the competencies and qualifications of teaching staff:* In 2015, a new set of requirements for initial teacher education were included in the Descriptor of the Study Field of Education and Training. The requirements will be compulsory for all teacher training institutions in higher education from 2017.
- *Measures to attract graduates to the teaching profession:* A business-initiated programme 'I choose to teach' is being implemented to attract recent university graduates from different disciplines to work in schools.
- *Initiatives to support young teachers:* A mentoring programme for teachers is being set up.

These measures are comprehensive as they aim to increase both the attractiveness of the teaching profession to young people as well as improve the employment and training conditions for current teachers. The measures are supported by the European Structural Funds. A particular challenge will be to handle disparities between rural and urban areas.

6. Modernising higher education

Lithuania's tertiary education attainment rate among 30-34 year olds is the highest in the EU. It increased yet further in 2015 from 51.3 % in 2013 to 57.6 % (compared with an EU average of 38.7 %). However, there is a gender gap — significantly more women (68.4 %) than men (47.2 %) possess a tertiary attainment certificate.

There are weaknesses in the quality and innovation outcomes of higher education. Low salaries, complicated and bureaucratic procurement procedures and language barriers make it difficult to attract foreign experts and steer local talent into academia. Little use is made of innovative teaching methods and low salaries and a high workload affect teaching quality (Aleksandraviciute 2014). There is no systematic development of the competencies of teaching staff (Pauliukaitė et al. 2015a).

Although employment for recent higher education graduates was above the EU average in 2015 (88.5 % compared with 81.9 %),¹⁸⁶ Lithuania's employers report problems in finding job candidates with the necessary or matching skills (Eurofound 2013). In particular, there are significant shortages in the ICT sector, transport and logistics, manufacturing and the health care sector (European Commission 2014). Employers also report that graduates lack soft skills such as critical thinking, problem solving and teamwork (Pauliukaitė 2015b).

A series of measures has been taken recently to improve the quality of higher education and its relevance to the labour market. On 1 October 2015 the Research and Higher Education Monitoring and Analysis Centre (MOSTA) presented the results of its nationwide graduate tracking research. This study shows whether graduates are employed in the first year after finishing their studies, where they are employed and what their salaries are (MOSTA 2015). The 2015 regulation¹⁸⁷ lays down that only graduates who have successfully passed the national mathematics final exam in schools are eligible to receive a government-funded place.

Parliament adopted the new law on higher education and research on 29 June 2016. The law lays down minimum admission standards for all universities and compulsory pre-entry career guidance. Furthermore, it provides for more cooperation on curriculum development with social partners and the expansion of work-based learning opportunities in tertiary education. New

¹⁸⁶ People aged 20-34 years old having graduated 1-3 years before the reference year.

¹⁸⁷ <https://www.e-tar.lt/portal/en/legalAct/25381bf045a611e5a38cd6cdb94b0c51>.

pathways from professionally-oriented programmes to traditional master's programmes will be opened up. 2016 will probably see the launch of calls for proposals for improving the qualifications of higher education lecturers.

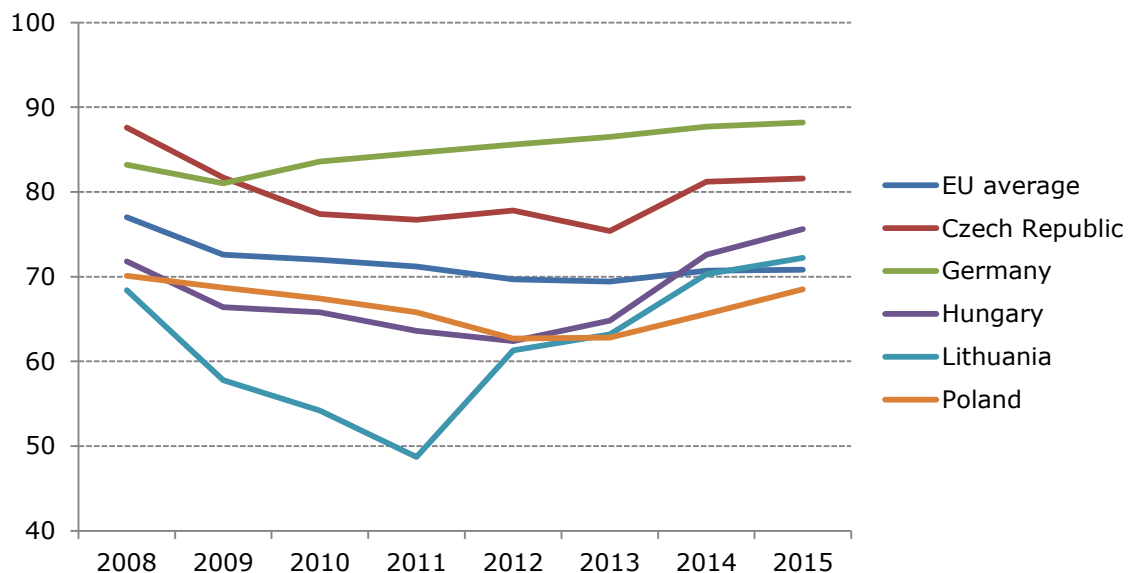
7. Modernising vocational education and training and promoting adult learning

While the total number of students admitted to VET has increased from 20 000 in the 2011-2012 school year to 23 000 in 2014-2015¹⁸⁸ (Statistics Lithuania 2015b), the proportion of upper secondary¹⁸⁹ VET students in Lithuania has remained low and decreased yet further in 2014 to 26.7 % from 27.6 % in 2013. Despite the relatively low national early school leaving rate, national statistics show that the proportion of students who drop out of VET is high (Qualifications and Vocational Education and Training Development Centre 2014).

The employment of recent upper secondary graduates¹⁹⁰ is returning to pre-crisis levels (72.2 % in 2015 compared to an EU average of 70.8 % in 2015 and 48.7 % in 2011). The employment rate for recent VET graduates is also quite strong, standing at 75.6 % compared to an EU average of 73 % in 2015. By comparison, the employment rate for recent general education graduates with an upper secondary and post-secondary non-tertiary qualification is 67.2 % while that for recent higher education graduates is 88.5 %.

Despite a small increase in participation in adult learning compared to 2014, the rate remains low (5.8 % compared with the EU average of 10.7 % in 2015). Recent results from the OECD survey on adult skills (PIAAC) show that adults in Lithuania have average proficiency in literacy, above-average proficiency in numeracy and below-average proficiency in problem solving in technology-rich environments compared with adults in participating OECD countries. Proficiency in literacy among young adults aged 16-24 in Lithuania is higher than that for the total adult population. They have above-average proficiency compared with young adults in participating OECD countries (OECD 2016).

Figure 3. Evolution of the employment rate of upper secondary graduates (ISCED 3-4)



Source: European Commission elaboration on Eurostat data. Online data code: *edat_ifse_24*.

¹⁸⁸ The number of students admitted to higher education in the same period has been steadily decreasing, i.e. in universities it decreased from 33,400 in 2011-2012 to 29,700 in 2014-2015 and in colleges it decreased from 16,400 to 13,600 in the same period.

¹⁸⁹ ISCED level 3.

¹⁹⁰ People aged 20-34 who left upper secondary and post-secondary non-tertiary education (levels 3 and 4) 1-3 years before the reference year.

Measures to improve the labour-market relevance of VET include adopting 17 sectoral qualifications standards and setting up modular VET programmes in accordance with these standards, which will be implemented up to 2022. An action plan for developing and implementing apprenticeships will be prepared at the end of 2016. The provision of counselling and guidance services in real and virtual environments will be developed further.

The main aims of adult education development in the period 2016-2023 are to create a sustainable adult education system and to adapt lifelong learning to the needs of the national economy and society. A methodology to finance non-formal adult education and the long-term programme for developing non-formal adult education will provide the basis for further improvements in the field. The Government also announced that it will be amending the law on non-formal adult education and continuing training (Lithuanian Government 2016a, 2016b).

8. References

- Aleksandraviciute B. et al. (2014), Lietuvos Studiju Bukles Apžvalga, MOSTA, http://www.mosta.lt/images/leidiniai/Lietuvos_studiju_bukles_apzvalga_2014.pdf
- Council of the European Union (2016), Council recommendation of 12 July 2016 on the 2016 national reform programme of Lithuania and delivering a Council opinion on the 2016 stability programme of Lithuania, http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.C_.2016.299.01.0069.01.ENG&toc=OJ:C:2016:299:TOC
- Education supply centre (2015), Ministry of education and science, Research report of the EU funded project 2012-2013, The development of pre-school and pre-primary education, <http://www.ikimokyklinis.lt/index.php/ipup-projektas/apie-projekta/11671>
- Eurofound (2013), Third European Company Survey, <http://www.eurofound.europa.eu/surveys/2013/european-company-survey-2013-00>
- European Commission (2014), DG Employment Country fiche — Overview report: Mapping and Analysing Bottleneck Vacancies in EU Labour Markets — Lithuania, <http://ec.europa.eu/social/main.jsp?catId=993&langId=en&newsId=2131&moreDocuments=yes&tableName=news>
- Eurydice (2015), Teachers' and School Heads' Salaries and Allowances in Europe 2014/15, http://eacea.ec.europa.eu/education/eurydice/documents/facts_and_figures/188EN.pdf
- IEA (2012), TIMSS and PIRLS 2011: Achievement Results in Reading, Mathematics, and Science, <http://timssandpirls.bc.edu/data-release-2011/pdf/Overview-TIMSS-and-PIRLS-2011-Achievement.pdf>
- Kaunaitė. U, Valauskaitė L. (2015), Gamtos mokslų, technologijų, inžinerijos ir matematikos (STEM) ugdymas ir populiarinimas: geriausios užsienio praktikos ir jų taikymas Lietuvoje, http://www.slideshare.net/Kompiuterininku_dienos/dr-svetlana-kauzonien-vietimo-ir-mokslo-viceministr-steam-mokslas-technologijos-ininerija-krybikumas-ir-matematika-inovacij-kultros-formavimas
- Lithuanian Education Council (2015a), Dėl pedagogų rengimo politikos tobulinimo, http://www3.lrs.lt/pls/inter/w5_show?p_r=9495&p_k=1
- Lithuanian Education Council, (2015b), Lietuvos švietimo taryba, Dėl bendrojo ugdymo politikos: problemos ir jų sprendimai, http://www3.lrs.lt/pls/inter/w5_show?p_r=9495&p_k=1
- Lithuanian Government (2016a), Neformaliojo suaugusiųjų švietimo ir tęstinio mokymosi 2016-2023 metų plėtros programa, <https://www.e-tar.lt/portal/lt/legalAct/3a34e780007811e6b9699b2946305ca6>
- Lithuanian Government (2016b), The National Reform Programme 2016, http://ec.europa.eu/europe2020/pdf/csr2016/nrp2016_lithuania_en.pdf
- Ministry of Education and Science (2014), Inovatyvių pedagogų kvalifikacijos tobulinimo formų tyrimo ataskaita, <http://www.upc.smm.lt/projektai/pkt/rezultatai.php>
- Ministry of Education and Science, (2015a), Švietimo problemos analizė, Kaip rengiami mokytojai? December 2015, Nr. 15 (139)

Ministry of Education and Science, (2015b), Geros mokyklos koncepcija, 2015,
<https://www.e-tar.lt/portal/lt/legalAct/f2f65120a7bb11e5be7f919a1ebe>
Ministry of Education and Science (2015c), Lietuva. Švietimas regionuose (2015), Mokykla,
[https://www.smm.lt/uploads/documents/svietimas/Svietimas%20regionuose%202015%20\(3\).pdf](https://www.smm.lt/uploads/documents/svietimas/Svietimas%20regionuose%202015%20(3).pdf)

Ministry of Education and Science (2016a), Lietuvos Respublikos Švietimo ir mokslo ministerijos 2015 metų veiklos ataskaita,
<http://www.smm.lt/web/lt/veikla/ministerijos-veiklos-ataskaitos>

Ministry of Education and Science (2016b), 10-yje regionų steigiami STEAM centrai sudarys Lietuvos moksleiviams galimybes iš arčiau susipažinti su mokslu, Communication Unit, Press release: 26 April 2016,
http://www.smm.lt/web/lt/pranesimai_spaudai/naujienos_1/10-yje-regionu-steigiami-steam-centrai-sudarys-lietuvos-moksleiviams-galimybes-is-arciu-susipazinti-su-mokslu

Ministry of Education and Science (2016c),
<http://www.delfi.lt/news/daily/education/smm-siulo-del-mokytoju-algu-perziureti-valstybes-biudzeta.d?id=70183022>

Ministry of Education and Science, (2016d),
https://www.smm.lt/web/lt/pranesimai_spaudai/naujienos_1/nuo-sausio-1-d-didejo-maziausiai-uzdirbanciu-pedagogu-algos-kiek-ir-kam.

MOSTA — Research and Higher Education Monitoring and Analysis Centre (2015), Bendrojo priėmimo į Lietuvos aukštąsias mokyklas 2015 m. apžvalga (the Overview of the Admission to Higher Education Schools in 2015),
<http://www.mosta.lt/lt/leidiniai>

Nacionalinis egzaminų centras (2014), Trumpos 2014 metų Nacionalinio mokinių mokymosi pasiekimų tyrimo išvados (Short Conclusions of National research of students' achievements in 2014),
<http://nec.lt/434/>

OECD (2013a), Education at a Glance,
<http://www.oecd.org/edu/eag2013%20%28eng%29--FINAL%2020%20June%202013.pdf>

OECD (2013b), PISA 2012 results: What Students Know and Can do. Student Performance in Mathematics, Reading and Science (Volume I),
<http://www.oecd.org/pisa/keyfindings/pisa-2012-results-volume-I.pdf>

OECD (2016), Skills matter. Lithuania,
<http://www.oecd.org/countries/lithuania/Skills-Matter-Lithuania.pdf>

Pauliukaitė Ž et al. (2015a), Lietuvos studijų būklės apžvalga, MOSTA,
http://www.mosta.lt/images/leidiniai/Lietuvos_studiju_bukles_apzvalga_2015.pdf

Pauliukaitė Ž (2015b), Studijų kokybė Lietuvoje: suinteresuotų šalių požiūris 2014, MOSTA,
http://www.mosta.lt/images/leidiniai/Studiju_kokybe_suinteresuotuju_saliu_pozuris._Santrauka.pdf

Pukenė R. (2016), Patikrinko dešimtokų žinias: pasiekėm dugną, 26 February 2016, DELFI LT,
<http://www.delfi.lt/news/daily/education/patikrinko-desimtoku-zinias-pasiekem-dugna.d?id=70514090>

Qualifications and Vocational Education and Training Development Centre (2014), Early leaving from vocational education and training in Lithuania,
http://www.kpmpc.lt/refernet/wp-content/uploads/2012/12/LT_2013_Article-early-leavers.pdf;
http://www.kpmpc.lt/refernet/?page_id=305.

Statistics Lithuania (2014),
<http://osp.stat.gov.lt/en/rodikliai25>

Statistics Lithuania (2015a),
<https://osp.stat.gov.lt/en/temines-lenteles1>

Statistics Lithuania (2015b), Lietuvos Statistikos metraštis 2015,
<http://www.osp.stat.gov.lt/web/guest/statistikos-leidiniu-katalogas>

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_ipart (2011), educ_uoe_enra10 (2014)
Employment rate of recent graduates	edat_lfse_24
Adult participation in lifelong learning	trng_lfse_01
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

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

Luxembourg



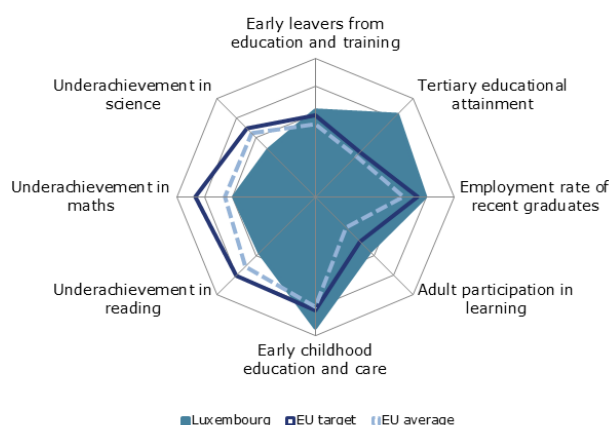
1. Key indicators

		Luxembourg		EU average		
		2012	2015	2012	2015	
ET 2020 benchmarks						
Early leavers from education and training (age 18-24)	Total	8.1%	9.3% ^b	12.7%	11.0%	
Tertiary educational attainment (age 30-34)	Total	49.6%	52.3% ^b	36.0%	38.7%	
Early childhood education and care (ECEC) (from age 4 to starting age of compulsory education)		95.6% ¹¹	98.4% ¹⁴	93.2% ¹¹	94.3% ¹⁴	
Proportion of 15 year-olds with underachievement in:	Reading	22.2%	:	17.8%	:	
	Maths	24.3%	:	22.1%	:	
	Science	22.2%	:	16.6%	:	
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-8 (total)	84.6%	84.7% ^b	75.9%	76.9%	
Adult participation in lifelong learning (age 25-64)	ISCED 0-8 (total)	14.2%	18.0% ^b	9.2%	10.7%	
Other contextual indicators						
Education investment	Public expenditure on education as a percentage of GDP	5.6%	5.2% ¹⁴	5.0%	4.9% ^{14,p}	
	Expenditure on public and private institutions per student in € PPS	ISCED 1-2	€15.293	:	:	:
		ISCED 3-4	€15.415	:	:	:
ISCED 5-8		:	:	:	:	
Early leavers from education and training (age 18-24)	Native-born	7.1%	6.9% ^b	11.6%	10.1%	
	Foreign-born	10.6%	15.6% ^b	24.9%	19.0%	
Tertiary educational attainment (age 30-34)	Native-born	41.7%	48.5% ^b	36.7%	39.4%	
	Foreign-born	55.4%	57.4% ^b	33.8%	36.4%	
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-4	83.8%	77.8% ^b	69.7%	70.8%	
	ISCED 5-8	85.1%	89.6% ^b	81.5%	81.9%	
Learning mobility	Inbound graduates mobility (bachelor)	20.9% ¹³	23.9% ¹⁴	5.5% ¹³	5.9% ¹⁴	
	Inbound graduates mobility (master)	58.8% ¹³	49.6% ¹⁴	13.6% ¹³	13.9% ¹⁴	

Sources: Eurostat (see section 9 for more details); OECD (PISA).

Notes: data refer to weighted EU averages, covering different numbers of Member States depending on the source; b = break in time series, d = definition differs, p = provisional, u = low reliability, 11 = 2011, 13 = 2013, 14 = 2014. Further information can be found in the relevant 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 2015) and OECD (PISA 2012).

Note: all scores are set between a maximum (the strongest performers, represented by the outer ring) and a minimum (the weakest performers, represented by the centre of the figure).

2. Highlights

- In Luxembourg virtually all children participate in early childhood education and care from age four. Recent measures aim at improving the quality of these services, particularly to reduce socio-economic disadvantages.
- The proportion of early school leavers is still below the EU average but increased in 2015.
- All students learn two foreign languages in lower-secondary education. Trilingual education, however, represents a challenge for many students and affects their success in all school subjects.
- Luxembourg has the EU's second-highest tertiary educational attainment rate among 30-34 year-olds and has significantly increased funding in this sector in recent years.

3. Investing in education to address demographic and skill challenges

General government expenditure on education as a share of GDP was at 5.2 % in 2014, slightly above the EU average of 4.9 %.¹⁹¹

Luxembourg has a very mixed population, 46 % of which is foreign-born.¹⁹² Immigrants tend to be highly educated and 45.7 % of adult immigrants have a tertiary degree. Due to the high proportion of highly skilled migrants, the employment rate among immigrants (75.1 %) is higher than across the EU (71.6 %) and even than the native-born population (66.7 %). Migration background however is one of the challenges to be tackled in the Luxembourgish education system (see section 4).

Funding for higher education has increased substantially in recent years. The budget increase covers the University of Luxembourg's move to its new site in the south of the country from 2015/2016. A total of EUR 800 million were earmarked for related infrastructural development for the period 2010-2019. Funding for the university's operational costs has more than doubled from EUR 72 million in 2009 to EUR 154.1 million in 2016.

4. Tackling inequalities and promoting inclusion

Luxembourg's early school leaving rate rose by 3 percentage points in 2015, to 9.3 %, though part of the variation may be due to the small size of the sample. While the rate is still below the EU average of 11 % and Luxembourg's Europe 2020 national target of 10 %, the increase from the previous year is still substantial. The trend is even more worrying as national data for 2013/2014, the latest year available, also indicate an increase from the previous year and estimate the rate at more than 13 %¹⁹³ (Ministry of Education 2016).

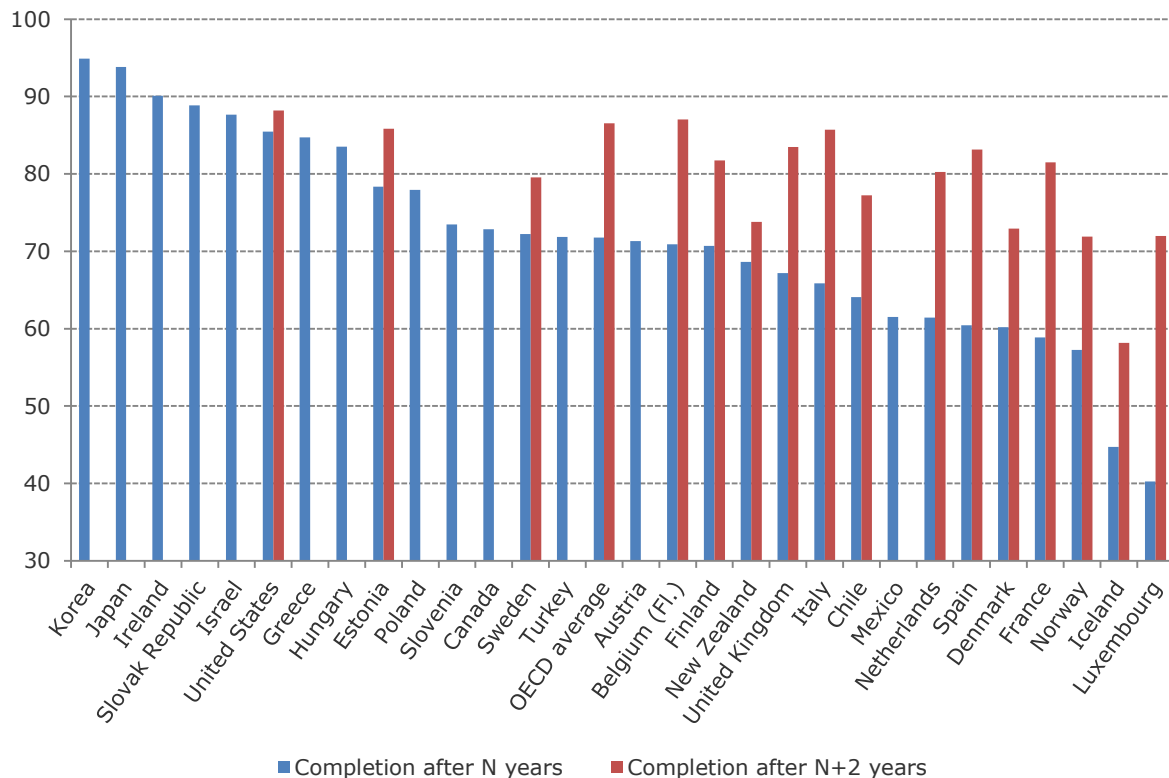
On the positive side, virtually all children — 98.4 % — participate in early childhood education and care (ECEC) from age four. This can help prevent early school leaving in the long term.

Luxembourg has a high frequency of grade repetitions. The graduation rate in the minimum period of a secondary school programme is only 41 %, the lowest among the OECD countries and far below the OECD average of 72 % (OECD 2014). The difference in the proportion of students completing secondary school within the minimum period and those completing it within two additional years is 30 %, which is the highest rate across the OECD countries (OECD 2014).

¹⁹¹ Source: Eurostat, General government expenditure by function (COFOG) database.

¹⁹² Source: Eurostat, online table code: *lfsa_argan*.

¹⁹³ National surveys on early school leaving are based on the number of young people aged between 16-25 who have interrupted their education in the Luxembourg school system without obtaining a degree.

Figure 2. Successful completion of upper secondary programmes


Source: OECD (2014)

Grade repetition is high in all secondary school types but particularly in the lower cycles of the technical secondary school — the preparatory regime (77 %) and lower technical secondary education (57 %) (Klapproth and Schaltz 2015). Data shows that the probability of repeating a grade is almost 50 % higher for students of Portuguese nationality than for Luxembourgish students with similar school scores.

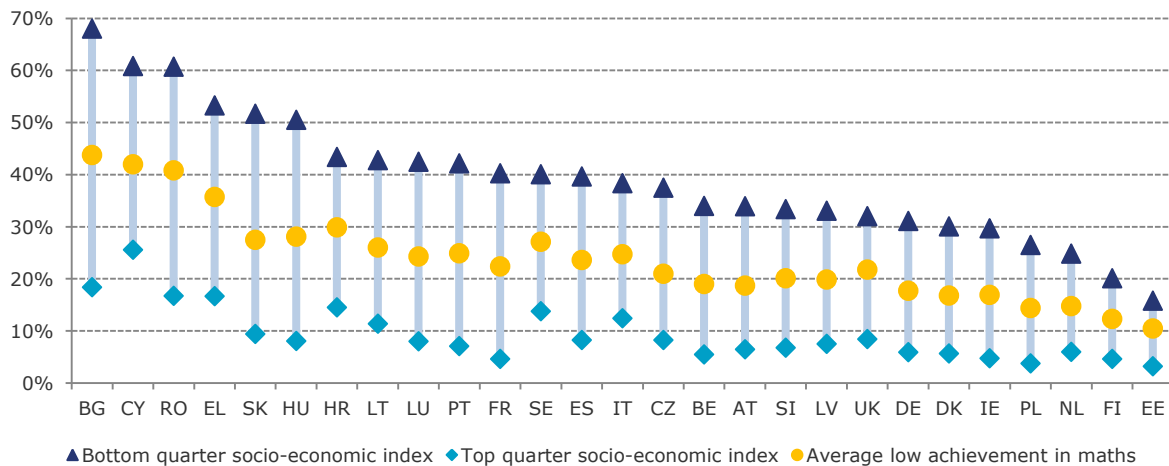
Repeating years is costly and demotivating for students: a survey among early school leavers has shown that school failure was one of the major reasons given for interrupting their studies (Ministry of Education 2015). The adverse effect of grade repetition increases with the number of grades repeated: more than half of early school leavers who have repeated a grade only once interrupt their education only temporarily. Students who repeat two or more grades are less likely to return to any form of education and training later on.

15-year-olds in Luxembourg perform below the EU average in the Programme for International Student Assessment (PISA) in all three components: mathematics, reading and science. Students' performance is largely influenced by the school type. 93 % of the variation in performance between schools is explained by the study programmes and socioeconomic status.

PISA surveys between 2003 and 2012 show some deterioration, both in terms of equity and performance. In the same period the proportion of students with an immigrant background grew by more than 10 pps. (OECD 2013). In 2014/2015, students speaking a different language than Luxembourgish at home were already in the majority, at 62 % (Ministry of Education 2016b).

Students from families where another language than Luxembourgish is spoken are more likely to fall behind in all subjects and be oriented to the technical tracks of secondary school, together with students who are less good in French.¹⁹⁴ Research shows that teachers' tracking recommendations are biased by the immigrant backgrounds of the students (Glock et al. 2013). The difference in the language regimes of the general and technical tracks of secondary education narrows the scope for switching from technical to general education.

Figure 3. Proportion of low-achievers by socio-economic status



Source: OECD (2013)

In 2013/2014 47.4 % of Luxembourgish students completing primary education were oriented to general secondary school, while this was the case for only 11.4 % of Portuguese students and 33.6 % of students of other nationalities (MENJE/University of Luxemburg 2015). The proportion of Portuguese students oriented to the preparatory regime — the lowest form of secondary education — is 21 %, which is particularly high compared to other nationalities. By comparison, only 8 % of Luxembourgish students and 14 % of those of other nationalities enter this track.

The government tabled some reforms to address the root causes of early school leaving and aim at improving equity in the Luxembourg school system. A February 2015 amendment of the government bill on youth introduces mandatory quality standards for all education and childcare services, parental assistants and youth centres. The Parliament will vote on it in autumn 2016.

Quality assurance has become important given the rapid expansion of nurseries and day care services since 2000 without proper quality standards. Financial support for participation in ECEC, the 'childcare-service' voucher, has been extended to children of commuting workers on condition that the institution meets the necessary quality requirements. From September 2018 participation in early childhood education and care is planned to become free for children from one to four years.

It is planned to complete the quality management system by focussing more on developing language skills in children from one to four years. The intention is to prepare children better for their schooling through linguistic immersion activities in Luxembourgish and French. Eight childcare institutions are taking part in a pilot phase of language preparation activities from

¹⁹⁴ At the end of primary education — in grade 6 — teachers orient students to either general secondary schools, technical secondary schools or so-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 Luxemburg, 2015). As of 2016/2017, parents are to be involved in the orientation decision.

March to December 2016. Based on the report on the pilot phase, it is planned to extend the system to all childcare institutions from 2017/2018 (Ministry of Education 2016d).

The proportion of children with officially diagnosed special needs is relatively low in Luxembourg, at 1 %. Under an agreement signed in February 2016 between the Minister of Education and the national trade union of teachers, 150 special education teachers will be recruited over the next four years. They will assist students with learning difficulties and behaviour problems at their schools (Ministry of Education 2016c).

Preliminary data indicates a sharp increase in the number of students who are applicants for international protection in 2015/2016 from the previous year. At 268, the number of refugee children enrolled in primary and secondary school alone in the first quarter of 2015/2016 was higher than in the whole school year 2014/2015 (Ministry of Education 2016b pp. 78-80). A 'Refugees Task Force' was set up in 2015 to coordinate the various measures undertaken by the Ministry of Education, Childhood and Youth for the children of refugees.

At primary level, these children are enrolled in classes 'attached' to the school cycle corresponding to their age and previous schooling. The languages used at school as well as other subjects are taught to them in specific welcome classes, which last at least one year. Applicants for international protection are also assisted by intercultural mediators who facilitate communication between the teachers and the families. Half of the students who complete the welcome class at the end of 2015/2016 are expected to start at a regular secondary school (Ministry of Education 2016e). Students beyond the compulsory school age (16) can join a welcome class for young adults, enter upper-secondary education in French or follow vocational training.

Box 1: The challenges of trilingual education

Luxembourg's trilingual education system is both an asset and a challenge for its highly diverse student population. Differences between the languages spoken at home and the first language used at school, Luxembourgish, are made more complex by the use of German for teaching children to read and write and gradually also for all other subjects in primary school. French is added as a third language in grade two. In general secondary education, French is used for teaching mathematics and gradually extended to the other subjects, becoming the language of tuition in all subjects from the fourth year of secondary. In addition, English is introduced in secondary education. The dominant language in technical secondary education is German, with French used in mathematics.

The use of French in teaching mathematics at secondary school may explain some of students' difficulties with mathematics. Research has shown that switching between German and French, which have clearly different number-naming structures, interferes with students' ability to solve arithmetic problems (Van Rinsveld et al. 2015). Bilingual students in Luxembourg perform both simple and complex additions faster and better in German than in French.

Learning languages account for half of the time students are taught over their whole education. Their success in all subjects largely depends on their command of the languages in which these are taught (Government of Luxembourg 2015, p. 50).

To better prepare children for trilingual schooling, immersion-type activities for French and Luxembourgish are being introduced in ECEC. Students can also choose to enrol in one of the international schools in Luxembourg with a simplified language regime. These private schools, however, charge tuition fees and admission is limited, with preference mostly given based on nationality. The opening in September 2016 of the International School of Differdange (*Ecole Internationale de Differdange — EIDD*), the first international state school offering primary and secondary education free of charge, is therefore an important step in extending school choice. EIDD students will be able to do their classes in either French or English throughout the 12 years of their schooling.

The EIDD is unique in that it combines the Luxembourgish state syllabus with that of the European Schools. Following a 5-year European primary cycle, students can follow a 7-year

European secondary cycle leading to the European Baccalaureate, which is recognised throughout the EU. Alternatively, students leaving the primary cycle can choose to enrol in the Luxembourgish preparatory courses. Upon completion of the three grades of preparatory courses they may either join the European secondary cycle or follow the vocational training offered in the school. Classes will be introduced gradually and the school will eventually have some 1 400 students.

5. Modernising school education

Class sizes are small in Luxembourg and teachers receive the highest salaries in the EU. The teaching profession is attractive and the teaching workforce is the youngest in the OECD (OECD 2015b). School autonomy is below the OECD average as regards resource allocation and decisions on curriculum and assessment (OECD 2016). School evaluations are based on internal evaluations with strong national standards and support mechanisms.

The reform of secondary education (first tabled in 2009 and reintroduced in 2013) is still blocked at government level following strong opposition from teachers' trade unions. In January 2016, the Minister of National Education, Children and Youth announced that a new bill would be finalised by the end of the year.

As of September 2015, the newly created National Education Training Institute (*Institut de formation de l'Education nationale*) took over the initial training of teacher trainees from the University of Luxembourg. The institute will also be in charge of in-work training of teachers (Ministry of Education 2016b).

As part of a civil service reform, a three-year professional training period is being introduced for all new civil servants, including teachers, from 2016. A training period did not exist before at primary education level. According to the new regulation proposal, teacher trainees will need to pass an entrance exam to be admitted to the three-year training period.

In February 2016 the Minister signed an agreement with a national teacher trade-union (SEW) on measures to develop the quality of fundamental (i.e. primary) education. The measures include further developing teacher training, strengthening the autonomy of schools, reforming the 'school success plan' (*Plan de la réussite scolaire*), reorganising the transition from primary to secondary education and increasing parents' participation.

In June 2016 the ministry in charge of education signed a cooperation agreement with the University of Luxembourg for the creation of the Luxembourg Centre for School Development within the university. The new centre will coordinate the university research programmes in the field of education. One of its tasks will be to draft a 5-yearly report on the quality of the education system (*Bildungsbericht*). The centre will also assist schools with developing their school programmes and create teaching materials.

There have also been some changes in the curriculum. As of 2016/2017 a new common 'values education' (*Vie et société*) course replaces the previous 'moral and social education' and 'religious and moral instruction' courses in primary and secondary education. In parallel, a time-limited opportunity for professional reorientation is being offered to teachers who have been working for at least 5 years as religion teachers or as supply teachers at elementary schools. They will be able to follow a 2-year training programme (instead of 4 years) leading to a Bachelor in Educational Sciences. This will enable them to be employed as fully qualified elementary school teachers.

6. Modernising higher education

Luxembourg has the EU's second-highest tertiary educational attainment rate among 30-34 year olds, at 52.3 % in 2015. To strengthen its knowledge economy, Luxembourg has set the target of further increasing the rate to 66 % by 2020. The employment rate of recent tertiary

graduates¹⁹⁵ is 89.6 %, well beyond the EU average (81.9 %). Luxembourg has both the largest proportion of international students (44 %) and the largest proportion of national students enrolled in institutions abroad (68 %) among OECD countries (OECD 2016).¹⁹⁶

High tertiary attainment is partly due to the high proportion of the immigrant population with a tertiary degree. To facilitate cross-border mobility of workers in the region, Luxembourg, Belgium and the Netherlands signed an agreement in May 2015 to automatically recognise higher education diplomas issued in the Benelux countries.¹⁹⁷

To meet the strong demand for high-skilled workers, Luxembourg has increased its investment in higher education substantially in recent years. In addition to doubling the funding of the University of Luxembourg between 2009 and 2016 and the additional infrastructure investments in the new site (see section 3), the system for financing studies has also been restructured. This reform followed a ruling by the European Court of Justice that children of commuting workers are also eligible for state support for their studies. As a result, the number of students benefiting from state support grew by 62 % between 2012/2013 and 2013/2014.

Following the reform of the financial aid system for students (*Loi concernant l'aide financière de l'Etat pour études supérieures*, 2014) the base grant was reduced but complemented by a top-up subject to eligibility criteria and means testing. State support is available for all students regardless of the country they study in. Following the changes in the financing rules, the total amount of grants paid to students decreased by 41 % in 2014/2015 from the previous year. In parallel, the total amount students obtained in the form of loans to support their studies increased by 73 % between 2012/2013 and 2014/2015 (Government of Luxembourg 2016).

7. Modernising vocational education and training and promoting adult learning

In Luxembourg a larger share of students — 59.9 % in 2015 — participate in vocational education and training (VET) than the EU average of 48.9 %. Completion rates in VET are low, however: only 29 % of students complete their education in the expected time, against an OECD average of 64 %. Due to the high frequency of grade repetition in VET, completion rates within 2 years after the expected graduation time are much higher, at 64 %, but still below the OECD average of 79 % (OECD 2014, p. 73).

In upper-secondary vocational education, dual learning with work-based elements accounts for 22.7 % of enrolments, which is below the EU average of 26.5 % (Cedefop 2015). The employment rate for recent upper secondary graduates stands above the EU average: it was 78.5 % in 2014, compared to an EU average of 73 % in 2015¹⁹⁸. However, the youth unemployment rate of 16.2 % is still relatively high compared to the low overall unemployment rate of 6.2 %.

In October 2015, an evaluation of the VET system commissioned by the Government identified the areas where modification in the regulation was necessary. An amendment of the VET law was voted by the Parliament in July 2016 and became applicable at the beginning of the school year 2016/2017¹⁹⁹.

The overall rate of adult participation in lifelong learning, at 18 % in 2015, is well above the EU average of 10.7 %. However, greater participation by adults with lower educational attainment in lifelong learning is needed for keeping skills up-to-date and to help prevent early retirement. This currently stands at only 7 % (ISCED levels 0-2) (European Commission 2014), compared

¹⁹⁵ People aged 20-34 who left tertiary education between one and three years before the reference year.

¹⁹⁶ An international study period forms an integral and compulsory part of Bachelor studies at the University of Luxembourg.

¹⁹⁷ http://www.benelux.int/files/1914/3201/9435/basis_tekst_web_FR.pdf

¹⁹⁸ People aged 20-34 who left upper secondary education between one and three years before the reference year.

¹⁹⁹ http://www.ilo.org/dyn/natlex/natlex4.detail?p_lang=en&_isn=102638

to 15.5 % of adults with medium-level educational attainment (ISCED 3-4) and 25.9 % of people with high attainment (ISCED 5-8).

A campaign was started to raise public awareness about adults' lack of basic skills, to create a positive image of basic instruction, and to encourage participation in adult education programmes. Complementary measures promoting the acquisition of basic skills in a professional context have been implemented in cooperation with the social partners.

8. References

Glock, S., Krolak-Schwerdt, S., Klapproth, F., Boehmer, M. (2013). Beyond judgment bias: How students' ethnicity and academic profile consistency influence teachers' tracking judgments. *Social Psychology of Education*, 16:555-573,
https://www.researchgate.net/publication/257823157_Beyond_judgment_bias_how_students'_ethnicity_and_academic_profile_consistency_influence_teachers'_tracking_judgments_Social_Psychology_of_Education_16_555-573

Government of Luxembourg (2015), National Reform Programme of the Grand Duchy of Luxembourg under the European Semester 2015,
http://ec.europa.eu/europe2020/pdf/csr2015/nrp2015_luxembourg_en.pdf

Government of Luxembourg (2016), Plan national de réforme 2016,
http://ec.europa.eu/europe2020/pdf/csr2016/nrp2016_luxembourg_fr.pdf

OECD (2011), Education at a Glance,
<https://www.oecd.org/education/skills-beyond-school/48631582.pdf>

OECD (2013), PISA 2012 Results: Excellence Through Equity: Giving Every Student the Chance to Succeed (Volume II),
<https://www.oecd.org/pisa/keyfindings/pisa-2012-results-volume-ii.htm>

OECD (2014), Education at a Glance 2014: OECD Indicators, OECD Publishing. P.60
<http://dx.doi.org/10.1787/eag-2014-en>

OECD (2015a), Education at a Glance — Country note for Luxembourg,
<http://www.oecd.org/edu/Luxembourg-EAG2014-Country-Note.pdf>

OECD (2015b), Economic Surveys Luxembourg,
<http://www.oecd.org/economy/economic-survey-luxembourg.htm>

OECD (2016), Education Policy Outlook Luxembourg,
<https://www.oecd.org/luxembourg/Education-Policy-Outlook-Country-Profile-Luxembourg.pdf>

Ministry of Education (2012), L'Enseignement luxembourgeois en chiffres. Taux réussite scolaire. Analyse sur base de données de cohortes effectives, p. 14,
<http://www.men.public.lu/catalogue-publications/secondaire/statistiques-analyses/autres-themes/tx-reussite/fr.pdf>

Ministry of Education (2015), Le décrochage scolaire au Luxembourg: Parcours et caractéristiques des jeunes en rupture scolaire,
<http://www.men.public.lu/catalogue-publications/secondaire/statistiques-analyses/dcrochage-scolaire/dcrochage-11-12/fr.pdf>

Ministry of Education / University of Luxembourg (2015), Bildungsbericht Luxemburg 2015. Band 1: Sonderausgabe der Chiffres Clés de l'éducation nationale 2013/2014. pp. 42-46 and pp. 34-56,
<http://www.men.public.lu/catalogue-publications/themes-transversaux/statistiques-analyses/bildungsbericht/2015/band-1.pdf>

Klapproth, F. and Schaltz P. (2015), Klassenwiederholungen in Luxemburg, in Ministry of Education / University of Luxembourg: Bildungsbericht Luxemburg 2015. Band 2: Analysen und Befunde, pp 76-83,
<http://www.men.public.lu/catalogue-publications/themes-transversaux/statistiques-analyses/bildungsbericht/2015/band-2.pdf>

Ministry of Education (2016a), Luxembourgish Education System Key Figures 2014/2015,
<http://www.men.public.lu/catalogue-publications/themes-transversaux/statistiques-analyses/enseignement-chiffres/2014-2015-depliant/en.pdf>

Ministry of Education (2016b), Rapport d'activités 2015,
<http://www.men.public.lu/catalogue-publications/themes-transversaux/rapport-activites-ministere/2015/1-fr.pdf>

Ministry of Education (2016c), Dossier de presse. Investir dans la qualité scolaire à l'enseignement fondamental — Accord entre le gouvernement et le Syndicat national des enseignants,
<http://www.men.public.lu/catalogue-publications/themes-transversaux/dossiers-presse/2015-2016/160222-accord-SNE.pdf>

Ministry of Education (2016d), Le concept d'éducation plurilingue de la petite enfance,
<http://www.gouvernement.lu/5831028/23-education-plurilingue>

Ministry of Education (2016e), Réponse du Ministre de l'Éducation nationale, de l'Enfance et de la Jeunesse à la question parlementaire N° 1984 du Député Georges Engel, May 2016,
<http://www.men.public.lu/fr/actualites/articles/questions-parlementaires/2016/05/03-qp-1984/engel.pdf>

Van Rinsveld, A., Brunner, M., Landerl, K., Schiltz C. and Ugen, S. (2015), The relation between language and arithmetic in bilinguals: insights from different stages of language acquisition in *Front Psychol*,
<http://journal.frontiersin.org/article/10.3389/fpsyg.2015.00265/full>

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_ipart (2011), educ_uoe_enra10 (2014)
Employment rate of recent graduates	edat_lfse_24
Adult participation in lifelong learning	trng_lfse_01
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

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Malta



1. Key indicators

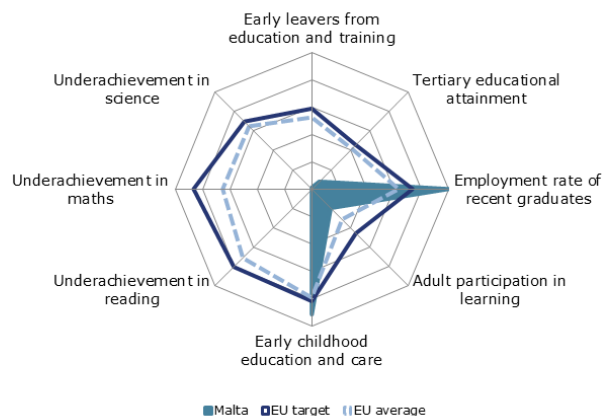
		Malta		EU average		
		2012	2015	2012	2015	
ET 2020 benchmarks						
Early leavers from education and training (age 18-24)	Total	21.1%	19.8%	12.7%	11.0%	
Tertiary educational attainment (age 30-34)	Total	24.9%	27.8%	36.0%	38.7%	
Early childhood education and care (ECEC) (from age 4 to starting age of compulsory education)		100.0% ¹¹	97.7% ¹⁴	93.2% ¹¹	94.3% ¹⁴	
Proportion of 15 year-olds with underachievement in:	Reading	:	:	17.8%	:	
	Maths	:	:	22.1%	:	
	Science	:	:	16.6%	:	
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-8 (total)	92.4%	95.1%	75.9%	76.9%	
Adult participation in lifelong learning (age 25-64)	ISCED 0-8 (total)	7.1%	7.2%	9.2%	10.7%	
Other contextual indicators						
Education investment	Public expenditure on education as a percentage of GDP	5.7%	5.8% ¹⁴	5.0%	4.9% ^{14,p}	
	Expenditure on public and private institutions per student in € PPS	ISCED 1-2	€20.677	€13.226 ¹³	:	: ¹³
		ISCED 3-4	€8.308	€8.499 ¹³	:	: ¹³
ISCED 5-8		€10.712	€11.092 ¹³	:	: ¹³	
Early leavers from education and training (age 18-24)	Native-born	21.1%	19.9%	11.6%	10.1%	
	Foreign-born	:	:	24.9%	19.0%	
Tertiary educational attainment (age 30-34)	Native-born	24.0%	27.1%	36.7%	39.4%	
	Foreign-born	41.0%	35.1%	33.8%	36.4%	
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-4	89.1%	91.6%	69.7%	70.8%	
	ISCED 5-8	94.6%	96.9%	81.5%	81.9%	
Learning mobility	Inbound graduates mobility (bachelor)	3.2% ¹³	3.1% ¹⁴	5.5% ¹³	5.9% ¹⁴	
	Inbound graduates mobility (master)	12.6% ¹³	11.0% ¹⁴	13.6% ¹³	13.9% ¹⁴	

Sources: Eurostat (see section 9 for more details); OECD (PISA).

Notes: data refer to weighted EU averages, covering different numbers of Member States depending on the source; b = break in time series, d = definition differs, p = provisional, u = low reliability, 11 = 2011, 13 = 2013, 14 = 2014.

Further information can be found in the relevant 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 2015) and OECD (PISA 2012).

Note: all scores are set between a maximum (the strongest performers, represented by the outer ring) and a minimum (the weakest performers, represented by the centre of the figure).

2. Highlights

- Malta is investing heavily in its education and training system.
- Recent positive measures on school education aim to modernise curricula, improve teaching quality and promote digital skills.
- Transition from education to the labour market is easier than in most other EU countries.
- Despite recent progress, the early school leaving rate remains the second highest in the EU and the tertiary educational attainment rate is still low.
- Participation of low-skilled adults in lifelong learning is rather low.

Box 1: The 2016 European Semester country-specific recommendation on education and training

The 2016 European Semester country-specific recommendations (CSRs) to Malta (Council of the European Union 2016) included a recommendation on education and training:

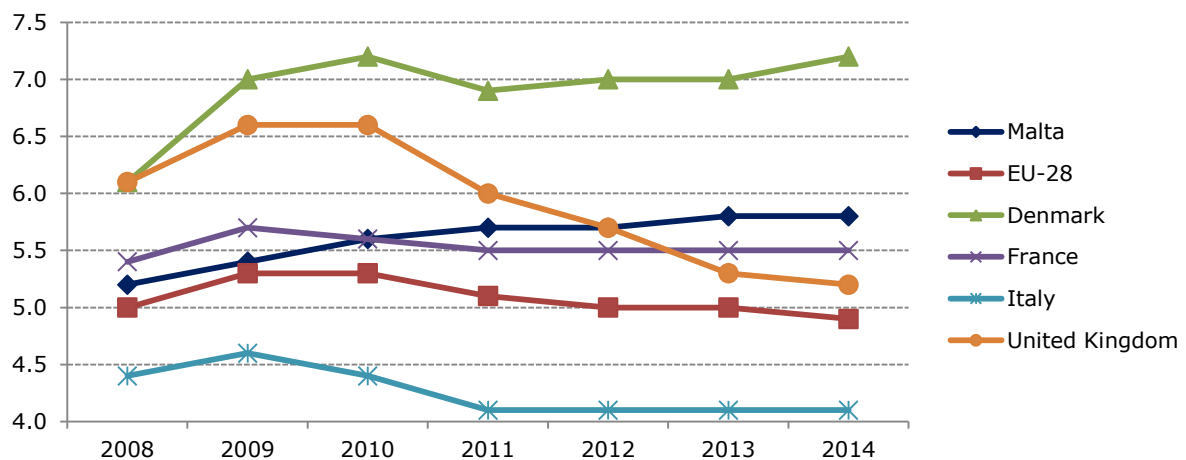
Take measures to strengthen labour supply, in particular through increased participation of low-skilled persons in lifelong learning.

3. Investing in education to address demographic and skill challenges

General government expenditure on education, both as a proportion of GDP (5.8 % in 2014, see Figure 2) and as a proportion of total public expenditure (13.5 % in 2014), is well above the EU average (4.9 % and 10.2 %, respectively).²⁰⁰

Employment rates are above the EU average at all qualification levels, but overall Malta's workforce remains relatively low-qualified. Despite recent improvements, Malta still has the highest proportion of low-qualified adults in the EU, as 56.5 % of population aged 25-64 has at most a level of education equivalent to lower secondary education (ISCED 0-2).

Figure 2. General government expenditure on education as a proportion of GDP (%)



Source: Eurostat COFOG. Online data code: gov_10a_exp.

²⁰⁰ Source: Eurostat, General government expenditure by function (COFOG) database.

4. Tackling inequalities and promoting inclusion

The early school leaving rate has fallen significantly in recent years, from 27.2 % in 2008 to 19.8 % in 2015, but is still the second highest in the EU. It is also well above the ambitious Europe 2020 national target of 10 %. The gender gap (male rate minus female rate) is above the EU average, at 6.3 percentage points compared to the EU average of 2.9 percentage points. Participation in early childhood education for children aged four and five is universal, which may help prevent early school leaving in the long term. Available international studies show that basic skills attainment among young people is rather poor (European Commission 2015). However, the data are quite old, as Malta did not participate in the 2012 OECD Programme for International Student Assessment (PISA), but only in the 2009 round. The publication of the PISA 2015 results in December 2016 will provide a more up-to-date picture of Malta's performance compared to other countries.

The proportion of non-Maltese pupils is increasing. 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;²⁰¹ they came from around 70 different countries, the largest communities being from the UK, Italy, Libya and Bulgaria.

The number of students who register for the Secondary Education Certificate (SEC) examination has increased, from 82.8 % of 16-year-olds in 2013 to 85.4 % in 2015. Similarly, the percentage of those who obtain a Malta qualifications framework (MQF) level 2 or 3 in at least five different subjects has increased from 72.2 % in 2013 to 78.9 % in 2015 (Matsec Examinations Board, various years). Through the Foundation College of the Malta College of Arts, Science and Technology (MCAST) a significant number of other students achieve a full MQF level 2 or 3 qualification in subsequent years after compulsory schooling. This enables them to continue into further and higher education programmes.

A national study on early school leavers was published in December 2015 (National Observatory for Living with Dignity 2015). Its results show strong negative associations between early school leaving and many aspects of wellbeing. Early school leavers, regardless of their age, are less happy and less satisfied with their lives than their counterparts with higher educational attainment. They also feel socially excluded more frequently and experience greater health problems. A report on the implementation of the 2014 early school leaving strategy (Ministry for Education and Employment 2014b) was completed in early 2016. The Ministry for Education and Employment will revise the strategy by the end of 2016, including by removing measures that have already been completed and adding new ones focusing on new vulnerable groups.

The 'Alternative Learning Programme' (ALP) has been offered for the third 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. This 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. Following implementation of the ALP, the programme's effectiveness in ensuring that students remain in the education and training system is currently being assessed.

Besides the ALP programme, two other programmes are offered to students who at the end of compulsory education manage to acquire no or minimum qualifications, giving the opportunity of a 'second chance education'. 'Youth Inc.' is an inclusive education programme based on applied learning offered by Malta's National Youth Agency to people between 16 and 21 years of age. It seeks to strengthen the complementary role of formal and non-formal learning, and to assist young person in gaining key competences and sectoral skills. The second programme offered is 'GEM16+', launched by the Ministry for Education and Employment in October 2015. This programme is aimed at students who lack the necessary qualifications to continue their studies, and focuses on preparing its students in Maltese, English, mathematics and physics at SEC level.

²⁰¹ Data include both state and non-state (i.e. Church and independent) schools.

As part of the national literacy strategy (Ministry for Education and Employment 2014a), the National Literacy Agency is offering the 'Nwar Programme'. It is a family literacy programme for pupils who have not reached the required basic skills level by the end of the third year of primary school. In 2016, the National Literacy Agency will set up two additional Nwar centres and more children will therefore benefit from such programmes. A language policy for the early years²⁰² was published in 2015 (Ministry for Education and Employment 2015a). Its main emphasis is on encouraging bilingualism by promoting exposure to both English and Maltese in the early years.

The biggest challenge in integrating foreign pupils is for those groups whose first language is not English. 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. Work is being done by trained teachers, language support assistants and parent leaders, who support both students and parents. As from 2015/2016 too, 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.

The reform of the national curriculum framework has led to the development of learning outcomes for all subjects within all the 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. During 2016, the government will prepare a plan to gradually implement the learning outcomes framework by September 2017. The Institute for Education will start to provide specific training to teachers (Ministry for Finance 2016).

5. Modernising school education

Continuous professional development for Maltese educators is a key policy area for further work, in relation to early school leaving and basic skills attainment. Recent international research highlights the central role of teaching quality in determining student outcomes (Chetty et al. 2014; Hanushek and Rivkin 2012). As some major changes have been introduced in Malta's education system (i.e. the introduction of mixed ability classes, benchmarking examination and e-learning tools), high-quality initial teacher education and continuous professional development are necessary, so as to promote student-centred learning. A legal notice establishing an institute for continuous professional development of all educators, the 'Institute for Education', was approved in 2015. The institute is now becoming operational (see Box 2 below).

The Ministry for Education and Employment published a green paper on digital literacy in 2015 to raise awareness of the importance of digital skills and competencies (Ministry for Education and Employment 2015b). A 'Technology in Education' task force has been set up within the Ministry for Education and Employment to coordinate strategic projects within the Ministry and with key stakeholders. A pilot project for using mobile technology in primary schools was completed in 2015, as part of the 'One Tablet per Child' initiative. Following positive evaluation by the teachers involved in the pilot, by October 2016, every child in Year 4 (i.e. nine years old) will receive a tablet. Tablets will be used to promote better reading, writing, numeracy and digital literacy skills. Teachers assigned to Year 4 are to receive a 12-hour training course in September 2016 before the start of the school year.

Box 2: Improving initial teacher education and continuous professional development

A reform of initial teacher education will come into force as of 2016/2017. A two-year Master's degree in Teaching and Learning will represent the route towards obtaining a teacher's warrant. It can be pursued after obtaining a Bachelor's degree in a subject area or a related area of the curriculum. To date, the current initial teacher training has required a

²⁰² The expression 'early years' refers to children aged three to seven.

Bachelor of Education degree in Primary Education for primary teachers. For secondary level teachers, there are currently two routes: a Bachelor of Education degree over four years or a one-year postgraduate Certificate in Education following a Bachelor's degree in the subject area. The Master's degree also includes a mentoring system. Students will be assigned to a school that they will attend twice a week, and a teacher-mentor will act as a critical friend at school and support them throughout their tasks and practice. The reform aligns initial teacher education to the Bologna system²⁰³ and may help improve the quality of teaching in the long run. The main challenge is in finding an appropriate number of teachers to implement the mentoring scheme.

The newly established Institute for Education is an autonomous body and will carry out functions related to continuous professional development and training of educators. The main objectives of the institute are to:

- provide educators with skills to be used in their daily professional activities;
- provide relevant and accessible accredited courses in a variety of areas;
- act as a hub for teachers to meet and share common experiences;
- promote educational leadership.

The Institute received the licence by the National Commission for Further and Higher Education (NCFHE) to operate as a further education institution since it has developed a number of accredited learning programmes. A quality assurance document is being compiled to ensure quality of learning programmes, process and procedures. An accompanying internal quality assurance document is being compiled. Lasting commitment and a strategic approach to future years will be important, as measures to improve the quality of teaching require a long-term policy perspective. The fact that the teaching force is quite young may make this easier (European Commission 2016).

In addition, the 'Paid Study Leave Scheme' gives teachers the possibility of benefiting from study leave grants covering their salary for a maximum of one school year. The aim of this scheme is to assist teachers in pursuing their studies in the field of education and facilitate their professional development.

The Directorate for Lifelong Learning and Early School Leavers in the Ministry of Education and Employment has organised a Diploma in Teaching Adults. Approximately 100 current and prospective adult educators are following the diploma course, which is accredited at level 5 of the MQF. The participants are expected to carry out practical training in order to graduate. This diploma course aims to raise the professional profile of adult educators and consequently improve the quality of adult education in Malta.

6. Modernising higher education

The tertiary educational attainment rate of people aged 30-34 is still among the lowest in the EU (27.8 % in 2015) and well below the Europe 2020 national target of 33 %. However the rate increased by 5.6 percentage points over the last five years. The gender gap (female rate minus male rate) is slightly below the EU average: 8.6 percentage points against 9.4 percentage points. Inbound graduate mobility is rather high at Master's level. The employment rate of recent tertiary graduates²⁰⁴ increased by 3.8 percentage points between 2013 and 2015 and is now the highest in the EU, at 96.9 % (Figure 3).

The government is increasing its allocation of both human and technical resources to the NCFHE to better fulfil its regulatory function in education. In 2016, the NCFHE issued a licence to a Jordanian company to start operating as a higher education institution under the name of 'American Institute of Malta'. The University of Malta is also setting up a new body to monitor the quality of services it offers through each department, and another body to provide a comprehensive service to support staff's research activities.

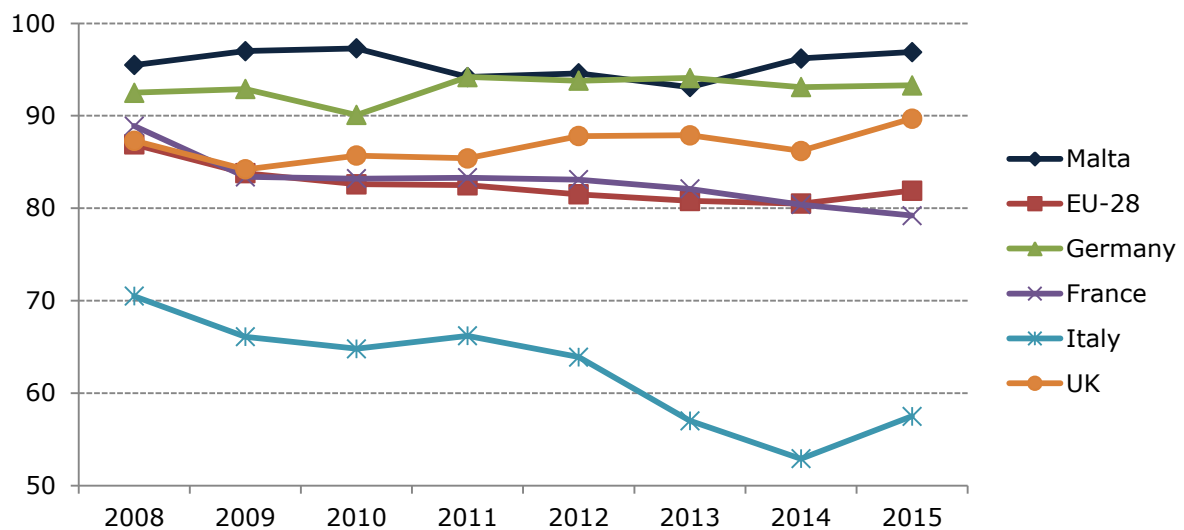
²⁰³ The Bologna system is, in most countries, based on a three-year Bachelor's degree followed by a two-year Master's degree.

²⁰⁴ People aged 20-34 who left tertiary education between one and three years before the reference year.

A new Post-Doctoral Centre will be built on campus at the University of Malta to house post-doctoral researchers and provide an interim space for business incubation facilities. The University of Malta has continued with its initiatives to promote entrepreneurship, mainly through its new Centre for Entrepreneurship and Business Incubation. The centre's objective is to promote the development of an entrepreneurial culture in Malta, so as to foster the country's social and economic development. It currently focuses on knowledge-intensive sectors, such as science, technology, engineering and creative media.

MCAST has reviewed and updated all its MQF level 5 Higher Diploma programmes and integrated them within its MQF Level 6 undergraduate degrees, while also developing new courses. As from academic year 2016/2017, MCAST will also start offering Master's programmes at MQF level 7. The national quality assurance framework for further and higher education was published in July 2015, at the end of the European Social Fund project 'Making Quality Visible'. This measure will benefit students, who will, as a result, receive quality education and qualifications recognised by the NCFHE. Quality assurance audits are expected to start in 2016. The challenge that NCFHE currently faces is how to ensure that current and prospective further and higher education providers respect quality standards. NCFHE has already carried out the first External Quality Assurance Audits in 2016 among the main public further and higher education institutions in Malta – the University of Malta, MCAST and the Institute of Tourism Studies. This was done in line with the Commission's legal role for ensuring quality assurance in further and higher education in Malta.

Figure 3. Employment rate of recent tertiary graduates (%)



Source: Eurostat. Online data code: *edat_lfse24*.

7. Modernising vocational education and training and promoting adult learning

As the economic crisis had only a limited impact on Malta's economy, both the youth unemployment rate (11.8% in 2015) and the proportion of young people not in employment, education or training (10.4% of 15-24 year-olds in 2015) are well below the EU average. The employment rate of recent upper secondary graduates²⁰⁵ increased by about 4 percentage points between 2014 and 2015. It is now the highest in the EU, at 91.6%. Adult participation in lifelong learning is relatively low, at 7.2% compared to an EU average of 10.7% in 2015. This is due to the very low level of participation by people with low educational attainment (2.4%), who still represent the majority of the Maltese adult population.

²⁰⁵ People aged 20-34 who left upper secondary education between one and three years before the reference year.

Vocational Education and Training (VET) subjects have now also been introduced at secondary school level. VET subjects at MQF level 3 have been piloted successfully within a number of secondary schools and have now been introduced within all the state and most of the non-state secondary schools. The choice of subjects (engineering technology, information technology, hospitality, health & social care and agribusiness) was inspired by needs expressed by the local industry. The percentage of students enrolling in one of these 5 VET subjects in secondary schools has increased from 9 % in 2014/2015 to 15 % in 2015/2016 and up to 25% in 2016/2017. A teacher training programme on the content, pedagogy and assessment of these vocational subjects has been offered to secondary school teachers who expressed an interest in teaching vocational subjects. The intention is to have this teacher training programme accredited as an MQF Level 6 or 7 qualification and to have initial teacher-training courses in place to cater also for these VET subject areas.

The supply and quality of apprenticeships is increasing. As of June 2016, 829 students were following apprenticeships under courses offered by MCAST. The minimum proportion of on-the-job training in the overall apprenticeship programme is not yet set out in legislation. Apprenticeship programmes with separate provision of off-the-job and on-the-job learning have often resulted in learning experiences that are disconnected from each other (Cedefop 2015). MCAST has started addressing this issue. MCAST lecturers are assigned to visit students at the work place and liaise with employers to link the work experience of students with the learning experience of the respective courses.

A sufficient supply of apprenticeships will be a good way to accelerate the adjustment of skills supply to specific labour market demand in Malta, thereby equipping graduates with relevant occupational skills. Malta has made efforts to reform and strengthen apprenticeship governance (European Commission 2015) and to create a culture for apprenticeships which aims to attract large number of students (including foreign students) and employers. The government acknowledges that there is scope to increase the number of sectors and the qualification levels offered and to develop their quality and labour market relevance (Cedefop/Refernet 2014). The authorities intend to develop a harmonised legal framework on apprenticeships which would also set out the employment status of apprentices. Further measures were announced in the 2016 budget – e.g. 'Job Practice', which offers students a chance to increase their skills portfolio – but the extent to which these will be sufficient remains to be assessed.

Traineeships are also being offered by Malta's Public Employment Service (*Jobsplus*). The Traineeship Scheme is intended to provide jobseekers with initial vocational training (pre-employment training) that will help individuals obtain the knowledge, skills and competence required to find and retain employment. Traineeships are based on the dual system of vocational training providing a combination of on-the-job and off-the-job training. The duration of a traineeship varies between 10 to 26 weeks, on an average of 40 hours per week.

Malta is working to increase access to second chance education for those with no formal secondary education certificate, through the Foundation College of MCAST. As from October 2016 the MCAST Foundation College has developed Skills Kits courses which offer more flexible, customised pathways for persons not attracted to the present format of Foundation courses. These Skills Kits courses consist of short 20 hour programmes which students can achieve at their own pace and according to their needs. Further upskilling of adults with low qualifications could boost Malta's labour force and respond to some of the skills shortages.

Delivery of adult learning courses is divided between public and private providers. There seems to be an overlap in training offered by public and private providers, although in practice they cater for different audience.²⁰⁶ ICT, business and commerce and courses in human resources tend to be the most popular with students. Initiatives to improve adult career guidance to cater for the lifelong career needs of the population have been developed within the Public Employment Services, but further improvements should be sought, particularly for low skilled and older persons. Although the Lifelong learning strategy does set out relevant policy responses, the results need to be evaluated over more time.

²⁰⁶ Fees charged by private institutions are much higher than those charged by public ones. Therefore public institutions provide courses followed by those who may not afford to participate in private sector courses.

8. References

- Cedefop (2015), Apprenticeship Review: Malta,
<http://www.cedefop.europa.eu/en/publications-and-resources/publications/4139>
- Cedefop/Refernet (2014), Malta: VET in Europe — Country Report,
http://cumulus.cedefop.europa.eu/files/vetelib/2014/2014_CR_MT.pdf
- Chetty R., Friedman J. N. and Rockoff J. (2014), Measuring the impacts of teachers II: Teacher value-added and student outcomes in adulthood, *American Economic Review*, vol.104, n.9, pp. 2633-79
- Council of the European Union (2016), Council recommendation of 12 July 2016 on the 2016 national reform programme of Malta and delivering a Council opinion on the 2016 stability programme of Malta,
[http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32016H0818\(25\)&from=EN](http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32016H0818(25)&from=EN)
- European Commission (2015), Education and Training Monitor — Volume 2, Malta,
http://ec.europa.eu/education/tools/docs/2015/monitor2015-malta_en.pdf
- European Commission (2016), Country Report Malta 2016,
http://ec.europa.eu/europe2020/pdf/csr2016/cr2016_malta_en.pdf
- Hanushek E. A. and Rivkin S. G. (2012), The distribution of teacher quality and implications for policy, *Annual Review of Economics*, vol.4, pp. 131-57
- Matsec Examinations Board (various years), SEC Examinations: Statistical Report
- Ministry for Education and Employment (2014a), A national literacy strategy for all in Malta and Gozo 2014-2019,
<http://education.gov.mt/en/Documents/Literacy/ENGLISH.pdf>
- Ministry for Education and Employment (2014b), A strategic plan for the prevention of early school leaving in Malta,
<http://education.gov.mt/ESL/Documents/School%20Leaving%20in%20Malta.pdf>
- Ministry for Education and Employment (2014c), Malta National Lifelong Learning Strategy 2020,
<http://education.gov.mt/en/Documents/Malta%20National%20Lifelong%20Learning%20Strategy%202020.pdf>
- Ministry for Education and Employment (2015a), A Language Policy for the Early Years in Malta and Gozo: A consultation document,
<http://education.gov.mt/en/Documents/A%20Language%20Policy%20for%20the%20Early%20Years%20Consultation%20Document.pdf>
- Ministry for Education and Employment (2015b), Digital Literacy. 21st Century Competences for Our Age,
<https://education.gov.mt/elearning/Documents/Green%20Paper%20Digital%20Literacy%20v6.pdf>
- Ministry for Finance (2016), Malta National Reform Programme,
<https://mfin.gov.mt/en/Library/Documents/NRP/NRP2016.pdf>
- National Observatory for Living with Dignity (2015), Early School Leaving and Wellbeing in Malta and Beyond: a statistical analysis,
<https://www.um.edu.mt/library/oar/bitstream/handle/123456789/8308/Early%20School%20Leavers%20-%202016DEC.pdf?sequence=1&isAllowed=y>

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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

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Netherlands



1. Key indicators

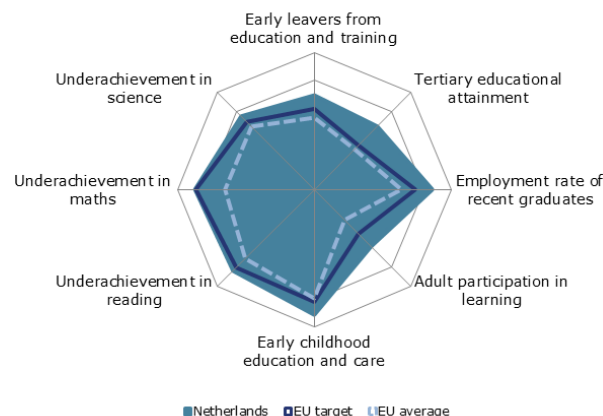
		Netherlands		EU average		
		2012	2015	2012	2015	
ET 2020 benchmarks						
Early leavers from education and training (age 18-24)	Total	8.9%	8.2%	12.7%	11.0%	
Tertiary educational attainment (age 30-34)	Total	42.2%	46.3%	36.0%	38.7%	
Early childhood education and care (ECEC) (from age 4 to starting age of compulsory education)		99.6% ¹¹	97.6% ¹⁴	93.2% ¹¹	94.3% ¹⁴	
Proportion of 15 year-olds with underachievement in:	Reading	14.0%	:	17.8%	:	
	Maths	14.8%	:	22.1%	:	
	Science	13.1%	:	16.6%	:	
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-8 (total)	88.1%	88.2%	75.9%	76.9%	
Adult participation in lifelong learning (age 25-64)	ISCED 0-8 (total)	16.9%	18.9%	9.2%	10.7%	
Other contextual indicators						
Education investment	Public expenditure on education as a percentage of GDP	5.5%	5.4% ^{14,p}	5.0%	4.9% ^{14,p}	
	Expenditure on public and private institutions per student in € PPS	ISCED 1-2	€7.418	€7.315 ¹³	:	: ¹³
		ISCED 3-4	€9.407	€8.977 ¹³	:	: ¹³
ISCED 5-8		€14.664	€13.944 ¹³	:	: ¹³	
Early leavers from education and training (age 18-24)	Native-born	8.7%	8.0%	11.6%	10.1%	
	Foreign-born	12.4%	9.7%	24.9%	19.0%	
Tertiary educational attainment (age 30-34)	Native-born	44.2%	48.2%	36.7%	39.4%	
	Foreign-born	32.4%	36.2%	33.8%	36.4%	
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-4	85.2%	84.7%	69.7%	70.8%	
	ISCED 5-8	90.3%	90.9%	81.5%	81.9%	
Learning mobility	Inbound graduates mobility (bachelor)	9.4% ¹³	9.5% ¹⁴	5.5% ¹³	5.9% ¹⁴	
	Inbound graduates mobility (master)	20.4% ¹³	19.7% ¹⁴	13.6% ¹³	13.9% ¹⁴	

Sources: Eurostat (see section 9 for more details); OECD (PISA).

Notes: data refer to weighted EU averages, covering different numbers of Member States depending on the source; b = break in time series, d = definition differs, p = provisional, u = low reliability, 11 = 2011, 13 = 2013, 14 = 2014.

Further information can be found in the relevant 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 2015) and OECD (PISA 2012).

Note: all scores are set between a maximum (the strongest performers, represented by the outer ring) and a minimum (the weakest performers, represented by the centre of the figure).

2. Highlights

- The Dutch education system is among the best performing in the EU as regards participation in early childhood education and care, the share of low achievers among 15-year-olds and tertiary educational attainment.
- The changes in the funding system for higher education provide room for investment in improving quality, but the impact on accessibility and educational inequality will need careful monitoring.
- Measures taken to increase the attractiveness of the teaching profession are especially important because a shortage of teachers is expected.
- Differentiating teaching methods according to students' learning needs in increasingly diverse classrooms, in order to help and motivate all students to reach their full potential, remains a challenge.

3. Investing in education to address demographic and skill challenges

General government expenditure on education as a proportion of GDP remained stable at 5.4 % in 2014 compared to 2013 and is above the EU average of 4.9 %.²⁰⁷ In 2013 the annual expenditure per student using purchasing power parities (PPS) was EUR 7 315 in primary education, EUR 8 977 in secondary education and EUR 13 944 in tertiary education. For primary education, expenditure was slightly below the EU average and for secondary and tertiary education, spending was above the EU average (OECD 2016a).

Since September 2015, 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 government states that the structural savings resulting from this reform will be invested in higher education, starting with EUR 200 million in 2018 and gradually increasing to an additional budget of more than EUR 600 million annually from 2025. In addition, the higher education institutions have also agreed to invest EUR 200 million per year in 2015-2017 (Ministry of Education, Culture and Science 2015a).

The employment rate for people aged 25 to 64 is higher than the EU average but this varies greatly by qualification level similarly to other EU countries. In 2015, the employment rate in the Netherlands was 60.0 % for individuals with at most lower secondary education (ISCED 0-2), 78.2 % for individuals with upper secondary or post-secondary non-tertiary education (ISCED 3-4) and 88.2 % for individuals with tertiary education (ISCED 5-8).²⁰⁸

4. Tackling inequalities and promoting inclusion

The falling trend in early school leavers from recent years continued in 2015. In 2015, the rate of early school leaving stood at 8.2 %, very close to the Europe 2020 national target of 8 %. Figure 2 shows that ESL is one and a half times more frequent among boys than girls but a drop has happened for all groups of students.

National data shows that the number of early school leavers in 2014/2015 was 24 451, including young people who left school during 2014/2015. This is a significant decline from the 71 000 in 2001/2002, and is below the Ministry of Education's 2016 target of 25 000. The decline is at least partly the result of a successful regional approach launched by the Ministry of Education in 2007. Covenants were agreed with municipalities and educational institutions in 39 regions across the entire country. Key elements of this approach include:

- better collaboration between municipalities and educational institutions;

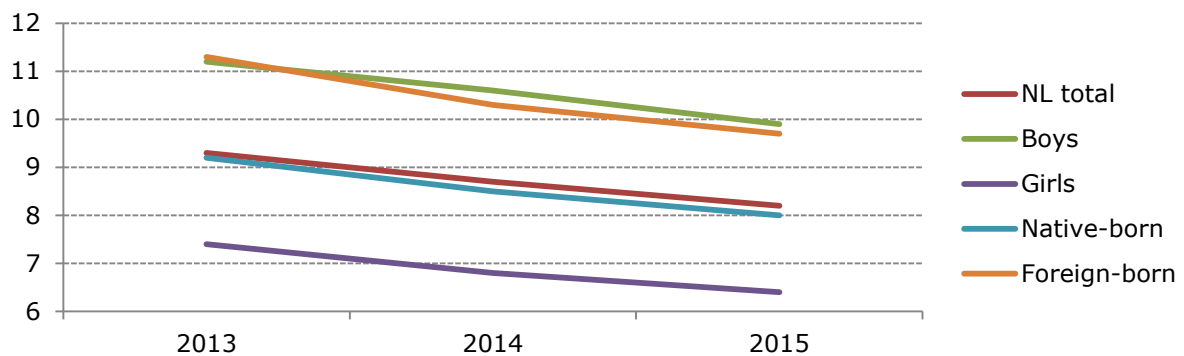
²⁰⁷ Source: Eurostat, General government expenditure by function (COFOG) database.

²⁰⁸ Source: Eurostat, Employment rates by sex, age and educational attainment level database.

- performance-based funding;
- a focus on preventive measures such as supporting students' transition from secondary to vocational education;
- regional autonomy with accountability through monitoring at the regional and school level (Dutch government 2016).

After the covenants ended in 2015, the federal government continued their support to the regions: financially, with monitoring and with account managers working together with vocational education institutions. A new target was set: at most 20 000 early school leavers in 2021 (Ministry of Education, Culture and Science 2016a).

Figure 2. Decline in early school leaving rate (%) in the Netherlands



Source: Eurostat. Online data code: *edat_ifse_02*.

Almost all children in the Netherlands participate in early childhood education and care (ECEC). From the age of four, 97.6 % of children participate, compared to an EU average of 94.3 %. The participation rate for children aged three (83 %) is also above the OECD average of 74 % (OECD 2016a). Improving the accessibility of ECEC is especially important because the majority of children not in ECEC come from low-income families (CBS 2015). A new measure has been launched to provide ECEC for parents currently not entitled to an ECEC allowance (Ministry of Social Affairs and Employability 2016). Ensuring broader access to ECEC may reduce educational inequality. Two reasons for concern about ECEC in the Netherlands are the lack of a curriculum and the low to medium educational quality (OECD 2016b). The report recommends: 1) developing a curriculum framework, 2) improving and standardising qualifications and training for staff and 3) moving towards a national approach with room for adaptation to local needs.

The results of the 2012 Programme for International Student Assessment (PISA) show that the Netherlands performs relatively well when it comes to educational equality in lower secondary education. The proportion of low achievers is clearly below the EU average, and 18.8 % of the difference in mathematics performance can be explained by socioeconomic status in the Netherlands, compared to an OECD average of 21 %. The influence of socioeconomic status on educational outcomes is thus lower than in many other countries (OECD 2013a). Despite this overall good performance, the Inspectorate of Education signalled an increase in educational inequality. In a sample of students with average cognitive performance, 55 % of students with highly educated parents completed higher education, compared to 26 % of students with low-educated parents (Inspectorate of Education 2016a). A reason for the increase in educational inequality may be early tracking, combined with decreased opportunities for students to change tracks (Van de Werfhorst et al. 2015; OECD 2016b).

In August 2014 'education that suits' (*passend onderwijs*) has been introduced. Since then, all schools have a duty of care (*zorgplicht*): they are responsible for placing every child, including those with special educational needs, in a suitable educational setting, preferably in mainstream education. Regional partnerships make arrangements for support and guidance within a region. This includes placement in special education if mainstream schools cannot provide appropriate support and guidance. Provisional data shows that there is a tendency towards more inclusion in

mainstream education. The proportion of primary and secondary school students in special education fell between 2014 and 2015 (Ministry of Education, Culture and Science 2015b).²⁰⁹

One of the findings from PISA is that the Netherlands has relatively few top-performing students. In response, the Netherlands launched a programme dedicated to promoting top-performers.²¹⁰ Other policies - such as 'education that suits' - also focus on supporting talented students.²¹¹

Until 2013, asylum seekers made up an average of approximately 2 400 new pupils per year in compulsory education. After this, the intake significantly increased, to 4 900 in 2014 and 12 700 in 2015 (Ministry of Education, Culture and Science 2016b). Municipalities are responsible for the education provided to asylum seekers and work with schools to deliver this. The trend is to provide part-time introductory classes focused on learning Dutch as a second language combined with part-time mainstream education. Schools with asylum seekers are eligible for several financial arrangements and can apply for additional funds (*Maatwerk bekostiging*) from the Ministry when these do not suffice. Additional support is provided by LOWAN²¹² and specific support for schools and teachers in dealing with traumatised children is provided by the *Tussenspel* and *Augeu* foundations (Ministry of Education, Culture and Science 2016c).

Anti-radicalisation is becoming an increasingly important topic and is a priority for the School and Safety Foundation (*Stichting School & Veiligheid*). Through their website and publications, the foundation provides information on anti-radicalisation and the important role schools play. Schools can request free training on anti-radicalisation provided by the foundation.

5. Modernising school education

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 rapidly changing society. A specially appointed committee included a wide range of stakeholders in a public dialogue. The main elements of the committees' final recommendations are:

- The curriculum should contain a small, stable core of knowledge and skills. Schools need freedom to further develop the curriculum based on their student population's needs. Three general areas of knowledge were identified: people and society, nature and technology, and language and culture.
- Transversal skills are vital for performing effectively in society and should be taught through different subjects.
- Schools will have to encourage transversal skills: learning to learn, creativity, critical thinking, problem-solving and cooperation (Platform Onderwijs 2032 2016).

Currently these recommendations are being developed further, in consultation with teachers and other stakeholders such as parents and researchers. The design process will be amended in light of these discussions (Ministry of Education, Culture and Science 2016d).

In line with the 2013-2020 Teachers Agenda, the Ministry of Education has implemented measures to improve the quality of teaching, teacher training and career prospects (European Commission 2015). Despite the positive impact of these measures on the quality of teacher

²⁰⁹ The latest progress report of the introduction of the 'education that suits' policy can be found at <https://www.passendonderwijs.nl/beleidsdoc/kamerkamerbrief-negende-voortgangsrapportage-passend-onderwijs>

²¹⁰ *Toptalentprogramma*: <https://www.rijksoverheid.nl/documenten/kamerstukken/2014/03/10/plan-van-aanpak-toptalenten-2014-2018>

²¹¹ Studies from the Inspectorate of Education (2015a, 2015b) show that recent graduates from teacher training are unsatisfied with their ability to differentiate between students in the classroom. The Teaching and Learning International Survey (TALIS) shows that only 20.2 % of teachers differentiate in the work they give to students, the lowest percentage out of all 33 participating countries (OECD 2014).

²¹² This organisation provides support on various aspects of education for asylum seekers including: financing, communication, materials, professional development and exchange programmes.

training, 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 8 000 to 10 000 full-time equivalent posts in 2025. In secondary education, a shortage is expected for specific subjects (such as mathematics, science and foreign languages; Fontein et al. 2015).

This shortage is mainly the result of a lack of students beginning initial teacher training. Measures to improve the quality of teacher training and better career prospects have not yet led to more enrolments in teacher training. In fact, enrolments in full-time primary education teacher training fell from 5 100 in 2014 to 3 400 in 2015. This is probably the result of stricter entry requirements focusing on cognitive skills introduced recently. In full-time secondary education teacher training, too, fewer students enrolled – 3 800 in 2015, compared to 4 200 in 2014 (Onderwijs in Cijfers 2016). Greater diversity in salary and career opportunities could help to draw excellent students into the teaching profession (OECD 2016).

PISA 2012 data shows that the Netherlands is one of the four OECD countries in which students make the most use of ICT in school (OECD 2015). More than 50 % of teachers in compulsory education indicate that digital learning materials help them to differentiate better between students (Kennisset 2015). To improve basic numeracy skills, a national numeracy test for secondary and vocational education was introduced in 2013/2014. Currently, the test is compulsory for all students and test results are reported on the diploma. For pre-university secondary education students, passing the test has been a requirement for obtaining their diploma since 2015/2016.

School head teachers also play an important role in improving the quality of education. Despite measures to strengthen the quality of school head teachers, many of them lack essential competencies such as educational leadership and the ability to develop human resource management policies (OECD 2016b). The Dutch government acknowledges the fact that a systematic leadership strategy is needed that promotes team work, establishes an induction programme for new school head teachers and improves continuous professional development (OECD 2016b).²¹³

Box 1: 'Excellent schools'

Since 2012 Dutch schools in primary, secondary and special education can apply for the title of 'excellent school'. The goal is to recognise high quality schools which distinguish themselves from other schools in a specific area. Schools can apply upon approval of their school board. The Inspectorate of Education is responsible for managing the procedure. They assess general educational quality and an independent panel appointed by the Inspectorate assesses the school's evidence of excellence. This initiative helps to encourage schools to pursue excellence, share good practice and demonstrate their high quality to the community.

Application and excellence profile:

Schools fill in an online application and self-evaluation forms, focusing on their excellence profile. Excellence profiles are not predetermined, schools decide in which area(s) they consider themselves an excellent school. Examples include:

- Excellence in educational content (e.g. an innovative approach to entrepreneurship education);
- An outstanding approach to dealing with differences between students, with special attention for a specific group of students and their development (e.g. an effective approach to supporting students with special education needs);
- An inspiring and motivating approach to teaching (e.g. special use of digital learning materials);
- An innovative way of fulfilling the school's societal role (e.g. special initiatives to increase parental involvement).

²¹³ <https://www.rijksoverheid.nl/documenten/kamerstukken/2016/05/25/kamerbrief-over-resultaten-doorlichting-nederlands-onderwijsstelsel>

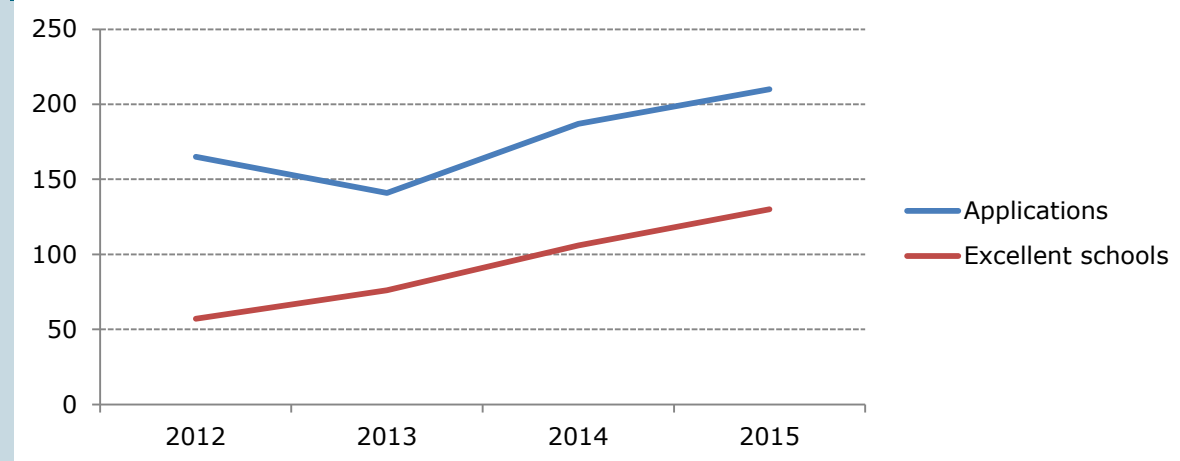
Assessment of educational quality and excellence profile:

A high level of general educational quality is a precondition for becoming an excellent school. Therefore the Inspectorate of Education will evaluate the overall quality of the school.²¹⁴ If general educational quality is satisfactory, the school's evidence of excellence is assessed by the panel, looking at quality, results, evaluation, concrete plans to further develop excellence, support for excellence inside and outside the school and sustainability. Two members of the panel also visit the school. The panel then writes a report based on all the information they have, acknowledging what is good or excellent and providing recommendations for further improvements.

Awarding the title 'excellent school':

The panel advises the Inspectorate whether or not the school should receive the title 'excellent school'. The title is granted by the Inspector General and valid for a period of three years. Even schools that are not granted the title can benefit from the process, as a result of to the panel's acknowledgements and recommendations. An overview of the number of applications and the number of excellent schools since 2012 is provided in Figure 3.

Figure 3. Number of applications and number of excellent schools 2012-2015



Source: Inspectorate of Education (2016b)

6. Modernising higher education

The tertiary educational attainment rate of individuals aged 30-34 in the Netherlands increased from 44.6 % in 2014 to 46.8 % in 2015. It is well above the Europe 2020 national target of 40 % and is expected to remain stable and above 40 % (Dutch government 2016). The employment rate of recent tertiary graduates²¹⁵ is also very high at 90.9 % in 2015, against an EU average of 81.9 %. The gap between the tertiary educational attainment rate of native- and foreign-born people is still considerably larger than the EU average, although this decreased between 2014 and 2015. The attainment rate among native people increased from 47.4 % to 48.2 % and that of foreign-born people from 31.0 % to 36.2 %.

National data shows that the unemployment rate among university students one and a half years after graduation fell from 10 % in 2013 to 7 % in 2015. Less than 5 % of graduates in the technical, healthcare, education and economic sectors are unemployed, compared to more than 10 % in the language and culture sector (VSNU 2016). Similar patterns can be observed in the universities of applied sciences: the unemployment rate one and a half years after graduation fell from 7.3 % in 2013 to 5.5 % in 2015.²¹⁶ There are differences between sectors but these

²¹⁴ Focusing on: outcomes of education; the educational process; a safe, supporting and stimulating school environment; quality control and future plans in the school and the school's financial situation.

²¹⁵ People aged 20-34 who left education 1-3 years before the reference year.

²¹⁶ The unemployment rate for universities includes all individuals working less than 12 hours per week. For universities of applied sciences individuals working less than 1 hour per week are considered unemployed.

are not as marked as for university graduates (Vereniging Hogescholen 2016). Most graduates from university and universities of applied science find a job with entry level requirements appropriate to their diploma (respectively 69 % and 77 %) and in a field related to their study (respectively 74 % and 75 %).

Following the transition from a partly grant-based system to low-interest loans (see section 3), enrolments in higher education dropped. Of all students eligible for higher education only 64 % started higher education immediately after their prior education in 2014/2015 against 71 % in 2013/2014 (ResearchNed 2016).²¹⁷ This can at least partially be explained by the effect of introducing the new funding system. The number of students that took a year out before starting higher education fell sharply in 2013/2014 in comparison to previous years, presumably to avoid the new funding system. In comparison to 2011/2012, student enrolment in higher education fell by 2 % overall. An additional concern is the fall in the proportion of students with parents with low educational attainment. This fell by 7 % in universities of applied sciences and 4 % in universities from 2014/2015 to 2015/2016 (ResearchNed 2016). The Ministry of Education is carefully monitoring whether the change in funding system has a long-term impact on the accessibility of higher education and on educational inequality.

A pilot for the new accreditation system (*accreditatiestelsel 3.0*) will start in 2017. A central element of the new accreditation system is giving more responsibility to educational institutions. In addition, the new system should lead to a clearer distinction between the two functions of accreditation: 1) evidence of reaching basic quality standards²¹⁸ and 2) improving educational quality.²¹⁹

7. Modernising vocational education and training and promoting adult learning

The employment rate of recent upper secondary graduates is also well above the 2015 EU average, 85.8 % compared to 74.1 %. Adult participation in lifelong learning further increased to 18.9 % in 2015, whilst the EU average was 10.7 %.

In recent years the qualification structure in upper secondary vocational education has been revised to improve usefulness, transparency, flexibility and innovation. The new structure consists of 'qualification records', containing one or more qualifications. These records set out the requirements necessary for obtaining a specific vocational education and training (VET) diploma. The number of qualification records has been reduced from 237 to 176 and the number of qualifications from 613 to 487. In addition, the content of the records and qualifications is reduced to the core of the profession and it is easier to update them. Optional subjects are now part of each qualification, allowing educational institutions to be responsive to regional and innovative approaches, as well as supporting students in the transition to higher education²²⁰ (Regieteam herziening mbo 2016).

In 2015, the preconditions of the Regional Investment Fund were expanded in order to give more opportunities for VET schools to create more innovative education, working closely with companies. This fund was created to encourage more innovative education in partnership with regional actors and interest from VET schools and companies in the fund has grown steadily over the last couple of years. A pilot project was launched in which VET schools can design a qualification working together with labour market stakeholders. The aim is to give schools more freedom to adapt VET programmes so that students obtain the most relevant knowledge and skills for their future occupations. Measures have been taken to improve the quality of examining in VET schools. These consist of stricter statutory requirements for examination committees to make them more objective and capable of carrying out their tasks more effectively.

²¹⁷ Including students who have finished vocational education of which 40 % to 50 % enters higher education.

²¹⁸ The responsibility of the accreditation organisation (NVAO).

²¹⁹ Through peer review evaluations.

²²⁰ Examples are German language courses in the border region, technical courses to prepare healthcare students for innovations or additional language/math courses for the transition to tertiary education.

A new adult education programme called 'Count on Skills' (*Tel mee met Taal*) was developed to follow up the Literacy Action Plan. This programme aims to improve language skills and social participation (including employment participation) for at least 45 000 Dutch residents during 2016-2018. The programme also aims to increase regional collaboration on preventing and combating illiteracy and to improve the quality and accessibility of both local and regional language education programmes. To achieve these objectives, the programme provides support for municipalities, training and employment help desks, language education providers, employers, schools, libraries and other social organisations, providing them with tools, methods, knowledge and expertise.

8. References

- CBS (2015), Peuters lage-inkomensgroepen blijven vaker thuis, <https://www.cbs.nl/nl-nl/nieuws/2015/39/peuters-lage-inkomensgroepen-blijven-vaker-thuis>
- Dutch Government (2016), Nederlands Nationaal Hervormingsprogramma 2016, http://ec.europa.eu/europe2020/pdf/csr2016/nrp2016_netherlands_nl.pdf
- European Commission (2015), Education and Training Monitor 2015: Netherlands, http://ec.europa.eu/education/tools/et-monitor_en.htm
- Fontein, P., Adriaens, H., Den Uijl, M., & De Vos, K. (2015), De toekomstige arbeidsmarkt voor onderwijspersoneel po, vo en mbo 2015-2025: Update oktober 2015, <http://www.voion.nl/publicaties/de-toekomstige-arbeidsmarkt-voor-onderwijspersoneel-po-vo-en-mbo-2015-2015>
- Inspectorate of Education (2015a), Beginnende leraren kijken terug: Onderzoek onder afgestudeerden. Deel 1: De PABO, <http://www.onderwijsinspectie.nl/publicaties/2015/03/beginnende-leraren-kijken-terug.html>
- Inspectorate of Education (2015b), Beginnende leraren kijken terug: Onderzoek onder afgestudeerden. Deel 2: De tweedegraads lerarenopleiding, <http://www.onderwijsinspectie.nl/publicaties/2015/10/beginnende-leraren-kijken-terug-deel-2-tweedegraads-lerarenopleiding.html>
- Inspectorate of Education (2016a), De Staat van het Onderwijs: Onderwijsverslag 2014/2015, <http://www.destaatvanhetonderwijs.nl/downloaden>
- Inspectorate of Education (2016b), Excellente Scholen 2016: Informatie over het traject Excellente Scholen in 2016 en een terugblik op 2015, <http://www.onderwijsinspectie.nl/binaries/content/assets/excellente-scholen/brochure-excellente-scholen-2016.pdf>
- Kennisnet (2015), Vier in balans-monitor 2015, <https://www.kennisnet.nl/publicaties/vier-in-balans-monitor/>
- Ministry of Education, Culture and Science (2015a), Rijksbegroting 2015: VII Onderwijs, Cultuur en Wetenschap, <https://www.rijksoverheid.nl/documenten/begrotingen/2014/09/16/viii-onderwijs-cultuur-en-wetenschap-rijksbegroting-2015>
- Ministry of Education, Culture and Science (2015b), Passend onderwijs: Achtste voortgangsrapportage december 2015, <https://www.rijksoverheid.nl/documenten/rapporten/2015/12/07/passend-onderwijs-achtste-voortgangsrapportage-december-2015>
- Ministry of Education, Culture and Science (2016a), Minder jongeren voortijdig van school, <http://www.aanvalopschooluitval.nl/actueel/bericht/minder-jongeren-voortijdig-van-school>
- Ministry of Education, Culture and Science (2016b), Nadere informatie over asielzoekerskinderen in het onderwijs, <https://www.rijksoverheid.nl/documenten/kamerstukken/2016/05/20/kamerbrief-met-nadere-informatie-over-asielzoekerskinderen-in-het-onderwijs>

Ministry of Education, Culture and Science (2016c), Informatiedocument voor gemeenten, scholen en schoolbesturen over onderwijs aan nieuwkomers bij de vestiging van een opvanglocatie of bij de komst van leerplichtige nieuwkomers,
http://www.lowan.nl/wp-content/uploads/2016/01/Informatiedocument_asielzoekers_en_nieuwkomers_PO_en_VO_doc.pdf

Ministry of Education, Culture and Science (2016d), Voorstel vervolg onderwijs 2032,
<https://www.tweedekamer.nl/kamerstukken/detail?id=2016D17271&did=2016D17271>

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>

OECD (2013a), PISA 2012 Results: Excellence Through Equity: Giving Every Student the Chance to Succeed (Volume II),
<http://www.oecd.org/pisa/keyfindings/pisa-2012-results-volume-ii.htm>

OECD (2013b), PISA 2012 Results: Ready to Learn Students' Engagement, Drive and Self-Beliefs (Volume III),
<https://www.oecd.org/pisa/keyfindings/pisa-2012-results-volume-iii.htm>

OECD (2014), TALIS 2013 Results: An International Perspective on Teaching and Learning,
http://www.oecd-ilibrary.org/education/talis-2013-results_9789264196261-en

OECD (2015), Students, Computers and Learning: Making the Connection,
<http://dx.doi.org/10.1787/9789264239555-en>

OECD (2016a), Education at a Glance 2016: OECD Indicators,
<http://www.oecd.org/education/skills-beyond-school/education-at-a-glance-2016-indicators.htm>

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

Onderwijs in Cijfers (2016), Lerarenopleidingen,
<http://www.onderwijsincijfers.nl/kengetallen/sectoroverstijgend/personeel/lerarenopleiding>

Regieteam herziening mbo (2016), Herziening mbo: Wat is het?,
<http://www.herzieningmbo.nl/de-herziening/inhoud/>

ResearchNed (2016), Monitor beleidsmaatregelen 2015: Studiekeuze, studiegedrag en leengedrag in relatie tot beleidsmaatregelen in het hoger onderwijs, 2006-2015,
<https://www.rijksoverheid.nl/ministeries/ministerie-van-onderwijs-cultuur-en-wetenschap/documenten/rapporten/2016/04/19/monitorrapportage-studievoorschot>

Van de Werfhorst, H., Elffers, L., & Karsten, S. (2015), Onderwijsstelsels vergeleken: Leren, werken en burgerschap,
http://www.didactiefonline.nl/images/stories/Nieuws/Werfhorst_definitief.pdf

Vereniging Hogescholen (2016), Feiten en cijfers: HBO-Monitor 2015: De arbeidsmarktpositie van afgestudeerden van het hbo,
<http://www.vereniginghogescholen.nl/actueel/actualiteiten/81-van-afgestudeerde-hbo-ers-heeft-binnen-3-maanden-baan>

VSNU (2016), Academici op de arbeidsmarkt: Rapport aansluiting arbeidsmarkt,
http://www.vsnu.nl/files/documenten/Feiten_en_Cijfers/Academici-op-de-arbeidsmarkt.pdf

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_ipart (2011), educ_uoe_enra10 (2014)
Employment rate of recent graduates	edat_lfse_24
Adult participation in lifelong learning	trng_lfse_01
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

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



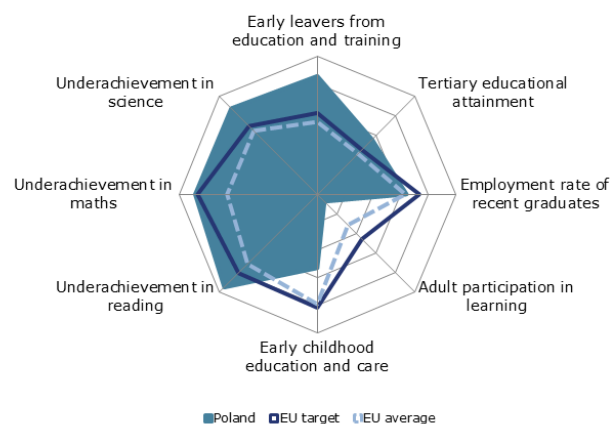
1. Key indicators

		Poland		EU average		
		2012	2015	2012	2015	
ET 2020 benchmarks						
Early leavers from education and training (age 18-24)	Total	5.7%	5.3%	12.7%	11.0%	
Tertiary educational attainment (age 30-34)	Total	39.1%	43.4%	36.0%	38.7%	
Early childhood education and care (ECEC) (from age 4 to starting age of compulsory education)		78.4% ¹¹	87.1% ¹⁴	93.2% ¹¹	94.3% ¹⁴	
Proportion of 15 year-olds with underachievement in:	Reading	10.6%	:	17.8%	:	
	Maths	14.4%	:	22.1%	:	
	Science	9.0%	:	16.6%	:	
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-8 (total)	73.3%	77.4%	75.9%	76.9%	
Adult participation in lifelong learning (age 25-64)	ISCED 0-8 (total)	4.5%	3.5%	9.2%	10.7%	
Other contextual indicators						
Education investment	Public expenditure on education as a percentage of GDP	5.4%	5.3% ¹⁴	5.0%	4.9% ^{14,p}	
	Expenditure on public and private institutions per student in € PPS	ISCED 1-2	€4.871	€5.094 ¹³	:	: ¹³
		ISCED 3-4	€4.453	€4.460 ¹³	:	: ¹³
ISCED 5-8		€6.442	€6.580 ¹³	:	: ¹³	
Early leavers from education and training (age 18-24)	Native-born	5.7%	5.3%	11.6%	10.1%	
	Foreign-born	:	:	24.9%	19.0%	
Tertiary educational attainment (age 30-34)	Native-born	39.1%	43.3%	36.7%	39.4%	
	Foreign-born	:	63.2% ^u	33.8%	36.4%	
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-4	62.7%	68.5%	69.7%	70.8%	
	ISCED 5-8	81.5%	85.1%	81.5%	81.9%	
Learning mobility	Inbound graduates mobility (bachelor)	0.6% ¹³	0.7% ¹⁴	5.5% ¹³	5.9% ¹⁴	
	Inbound graduates mobility (master)	1.3% ¹³	1.5% ¹⁴	13.6% ¹³	13.9% ¹⁴	

Sources: Eurostat (see section 9 for more details); OECD (PISA).

Notes: data refer to weighted EU averages, covering different numbers of Member States depending on the source; b = break in time series, d = definition differs, p = provisional, u = low reliability, 11 = 2011, 13 = 2013, 14 = 2014. Further information can be found in the relevant 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 2015) and OECD (PISA 2012).

Note: all scores are set between a maximum (the strongest performers, represented by the outer ring) and a minimum (the weakest performers, represented by the centre of the figure).

2. Highlights

- Poland is one of the best performing EU countries on early school leaving and basic skills achievement, but faces challenges in the teaching of transversal skills. The new government has launched a major reform of school education.
- Participation in early childhood education and care has increased significantly in recent years. However, quality of provision, particularly for children under the age of three, is a challenge and regional differences in access persist. The recent decision to raise the school entry age to seven is not following international evidence stressing the importance of early learning.
- While tertiary educational attainment is high, the quality of higher education and its labour market relevance remain challenges. The government launched a major consultation process on the future of the Polish higher education system.
- The quality and labour market relevance of vocational education and training is still limited. A new form of dual education is being introduced.
- Adult participation in lifelong learning is one of the lowest in the EU, and the basic skills levels among adults are comparatively poor, particularly in ICT. The introduction of the integrated qualifications system and national qualifications framework is a step forward.

Box 1: The 2016 European Semester country-specific recommendation on education and training

The 2016 European Semester country-specific recommendations (CSRs) to Poland (Council of the European Union 2016) included a recommendation on education and training:

Increase participation in the labour market, by [...] improving the labour market-relevance of education and training.

3. Investing in education to address demographic and skill challenges

General government expenditure on education in Poland remained stable over the last 5 years, both as a percentage of GDP (5.3 % in 2014, slightly higher than the EU average of 4.9 %) and as a share of total public expenditure (12.5 % in 2014).²²¹ Education and human capital development are one of the pillars of the future National Strategy for Responsible Development, which is due to be adopted by the Polish government by end October 2016.²²²

Most educational expenditure on primary, secondary and tertiary institutions comes from public sources, with the figure standing at 88.1 % (OECD average: 83.5 %). However, the share of private funds at primary, secondary and post-secondary non-tertiary level more than doubled between 2000 and 2012. The annual expenditure per pupil/student in purchasing power standard (PPS) remained broadly comparable to other countries with a similar level of socio-economic development (EUR 5,094 for ISCED level 1-2, EUR 4,460 for ISCED 3-4 and EUR 6,580 for ISCED 5-8 in 2013).

While the employment rate of low- and medium-qualified workers in 2015 was much below the EU average at 40.8 and 67.2 %, respectively), compared to 53.2 and 73.9 % for the EU, the

²²¹ Source: Eurostat, General government expenditure by function (COFOG) database.

²²² 'Strategia na rzecz Odpowiedzialnego Rozwoju', more on https://www.mr.gov.pl/media/14840/Plan_na_rzecz_Odpowiedzialnego_Rozwoju_prezentacja.pdf

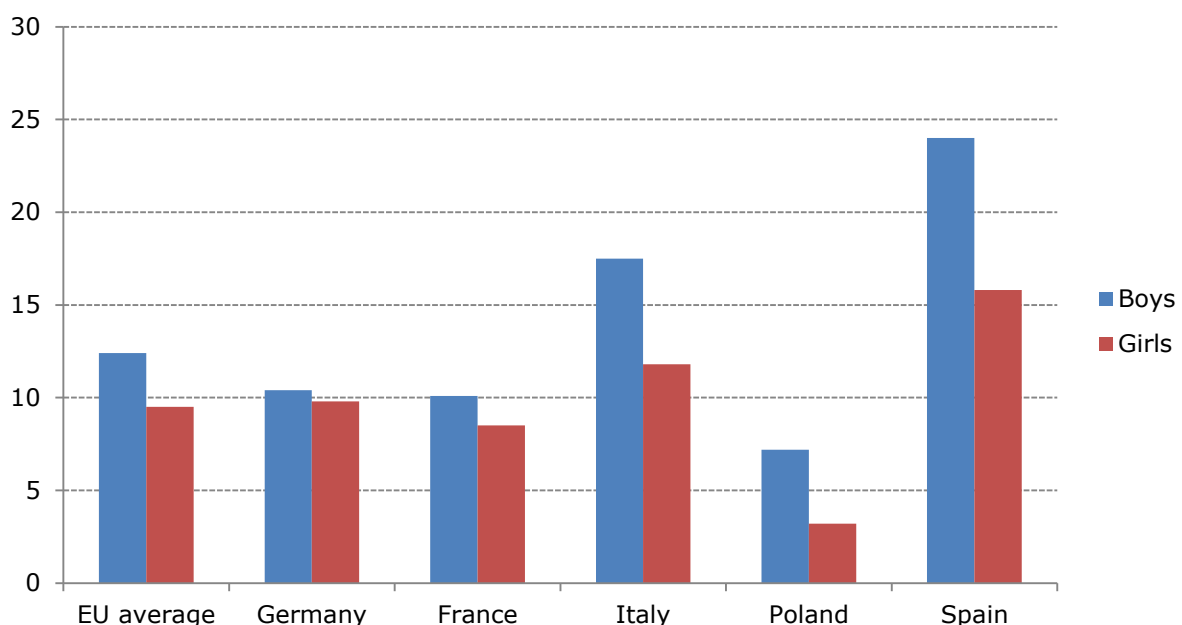
employment rate of the high-qualified was above the EU average at 87.1 % compared to 84.1 %.²²³

Poland's population is shrinking. This is due both to a low fertility rate (1.3) and to a negative balance in international migration. Since 2006 there were nearly 1.4 million less children in the age group 8-18, which resulted in the closure of some schools. At the same time, there were 250 000 more children aged 0-7 since 2006, which in turn presented a challenge for pre-school education.

4. Tackling inequalities and promoting inclusion

Poland is one of the best EU performers on early school leavers at 5.3 % in 2015, compared to the EU average of 11 %. However, there is a significant gender gap (Figure 2), with boys more than twice as likely as girls to leave school early (respectively at 7.2 % and 3.2 %).

Figure 2. Early school leaving rate by gender (2015)



Source: Eurostat. Online data code: *edat_lfse14*.

Poland scores very well on basic skills, as measured by the OECD 2012 PISA survey (OECD 2013c). However, there are still challenges in the development of critical thinking, synthesising texts and using mathematical models to solve complex problems (Biedrzycki and Hącia 2014; Białek et al 2015). This was also confirmed by the national test carried out in 2014 by IBE,²²⁴ which identified the areas where upper-secondary pupils need to improve. These include, among others: writing correct summary texts and prioritising information, formulating a coherent logical position and reasoning, developing well-defined and logical conclusions, as well as argumentation and interpretation.

The participation rate in early childhood education and care²²⁵ (ECEC) in Poland in 2014 was 87.1 %, compared to the EU average of 94.3 %. According to national data (System Informacji Oświatowej 2015), the participation rate in ECEC further increased in the 2015/2016 school

²²³ Source: Eurostat, Labour Force Survey, online data code *lfsa_ergaed*. Low-qualified = ISCED 0-2; medium-qualified = ISCED 3-4; high-qualified = ISCED 5-8.

²²⁴ IBE - *Instytut Badań Edukacyjnych* (Educational Research Institute). About 4 000 students in the second grade of upper secondary schools took part in the test (2 477 girls and 1 408 boys). This was a randomly chosen group, representative for the whole cohort of upper secondary students. <http://www.ibe.edu.pl/pl/media-prasa/aktualnosci-prasowe/404-jak-licealisci-sa-przygotowani-donowej-matury>

²²⁵ Children aged between four and the age at which school education becomes compulsory.

year, rising to 90.8 % from 83.8 % in 2012/2013. The participation of three-year-olds in the 2015/2016 school year was at 70.5 %, while the participation of five-year-olds was at 97.4 %. Since 2008, the number of kindergartens has increased by around 40 % (*System Informacji Oświatowej* 2015).

There is strong evidence that early learning is crucial for later school success. Against this background, it is positive that all four- and five-year-olds are entitled to a kindergarten place and that from September 2017 places in early childhood education will also be a legal entitlement for three-year-olds. In order to support higher numbers of children in kindergartens, the Government increased the subsidy per child for 2016 from PLN 1 305 to PLN 1 370. The 2016 edition of the Toddler programme²²⁶ has been announced by the Ministry of Family, Labour and Social Policy and PLN 151 million was earmarked for public and non-public crèches, kids' clubs and day carers (Eurydice 2016a).

As part of a general reform of secondary education the compulsory school entry age has been raised from 6 to 7 from 1 September 2016. The final decision on the actual entry age is however to be taken by parents, subject to certain conditions.²²⁷ The new compulsory school entry age may have an impact on the availability of places in kindergartens for 3-year-olds, as 6-year-olds will stay in kindergarten and take the places that could otherwise be available to 3-year-olds. The pre-primary school obligation for 5-year-olds was removed. This is likely to be detrimental to children from disadvantaged backgrounds as parents may choose not to send their children to kindergarten. The results of the 2015 IBE survey of *Pierwszoklasista* (first graders of primary school) showed that the difference in learning outcomes between six-year-olds and seven-year-olds is the largest for children from lower socioeconomic backgrounds. According to the teachers' trade union, the reform may also result in 15 000 teachers losing their jobs. However, according to the Ministry of Education the impact of the reform on the availability of places in pre-school should in fact be limited. In 2017 it plans to increase subsidy for six-year-old children in pre-school education from PLN 1 370 to PLN 4 300 per child. The Ministry does not expect lay-offs of teachers because those who teach in primary school (grades 1-3) are also qualified to teach in pre-school education and could be redeployed there.

5. Modernising school education

National studies (IBE 2015) have revealed that the school system is centred on transferring knowledge using passive learning methods and preparing students for testing by imposing ready-made solutions, rather than supporting independent problem solving, critical thinking and creativity. One of the reasons could be that teachers do not seem to be sufficiently equipped with appropriate, modern and innovative teaching methods.

A large survey of teachers' time use (Federowicz et al. 2013) shows that teachers spend most of their time on teaching, preparing classes and marking and evaluating students. Relatively little time is devoted to contacts with other teachers or talking to parents. Although continuous professional development is considered a pre-requisite for career advancement and salary increases, the system of career progression for teachers is relatively flat. Teachers can achieve the highest level of professional status (*nauczyciel dyplomowany*) after around 10 years of work. This is one of the factors that limit the readiness for professional development, given the lack of financial incentives related to the wage structure. There is a deficit of training in such areas as class management, cross-curricular teaching, teaching skills and the use of new technologies. Despite the high use of various forms of lifelong learning, teachers claim that they cannot fully use their new competences in the workplace because the training offered is not sufficiently adapted or because schools do not provide enough support, including financing.

²²⁶ The *Maluch* (Toddler) programme provides financial support for the creation of alternative forms of childcare for children up to the age of 3 and exceptionally up to the age of 4. Forms of alternative childcare include clubs, day-care centres and nurseries. The Programme also seeks to increase the quality of care. For the 2016 edition of the programme, see: <http://www.mpips.gov.pl/wsparcie-dla-rodzin-z-dziecmi/opieka-nad-dzieckiem-w-wieku-do-lat-trzech/resortowy-pogram-maluch/rok-2016/ogloszenie-o-konkursie/>

²²⁷ Early entry is possible when a child has participated in an ECEC program for at least one year or he/she received a positive opinion from the counselling and guidance center (*poradnia psychologiczno-pedagogiczna*).

Against this background, the curricular reform was completed in 2015 with the launching of the new form of Matura examination. The core curriculum in place since 2009 also introduced a number of didactical methods focused on solving problems, critical thinking and creativity, in preparation for the upper-secondary exit examination (*egzamin maturalny*). Also, in accordance with the Teachers' Charter (*karta nauczyciela*),²²⁸ teachers are expected to continuously improve their professional qualifications. Training aimed at developing pupils' key competences, innovative teaching methods, and developing tools for evaluating school quality will be supported by the European Social Fund during 2014-2020

At the beginning of 2016, changes were made to the Teachers' Charter. As part of a 40-hour work week, teachers will conduct classes with pupils in accordance with their needs and interests, as well as in line with arrangements made in a given school. The mandatory two hours of school activity beyond teaching were abolished. This may lead to a reduction in extra-curricular activities offered by schools. A central register of disciplinary ruling of teachers will also be introduced.

Since 1 September 2016 schools are able to take part in a pilot programme of computer programming. The aim is to examine the possibility of introducing coding as a teaching subject from the first grade of primary school. Widespread implementation of teaching computer programming from the first grade of primary school is planned as from 1 September 2017.

Box 2. The 2016 school education reform

Following the change of government in 2015, extensive reforms in the education sector were announced at the end of 2015. The aim of the reforms is to raise the quality of education in upper secondary schools, including vocational schools. In 2014, 30 % of pupils did not pass the final upper secondary school exam (*Matura*); in 2015 the figure was 25 %. At the same time the *Matura* pass threshold is regarded as too low, since only 30 % out of 100 % correct answers are required to pass the exam. As the *Matura* grants the right to access higher education and there is also a clear financial incentive for higher education institutions to increase enrolment (see section 6) universities tend to lower their score thresholds for admission. The quality of the *Matura* therefore has a direct impact on the quality of higher education.

In order to take stakeholders' views into account, the Government organised a nationwide debate that started at the beginning of 2016. The debate involved a wide range of experts, parents, pupils, employers and local authorities from general as well as vocational education.

In June, following the results of the debates and the work of experts, the Minister for Education presented a proposal for changes to the education structure and to content in compulsory education. The related legislative acts are to be adopted in the course of the autumn.

The main change will be the reform of the structure and content of primary, lower and upper secondary education starting from the 2017/2018 school year:

- primary school will last eight years instead of the current six years and will be divided into two four-year blocks (basic level and lower secondary level);
- lower secondary schools (*gimnazja*) will be gradually phased out;
- general upper secondary school will last four years instead of three, technical upper secondary school will last five years and a five-year 'sectoral vocational school' divided into two levels will be created (the first level will last three years and the second level two years).

²²⁸ This is a legal act dating from 26 January 1982 regulating key aspects of the profession of school teacher, including qualification requirements for teachers, their responsibilities, conditions of service, professional promotion rules and general rules for performance appraisal and assessment of professional achievements.

Career guidance for pupils will be strengthened, computer programming will be introduced from the early school grades and small schools will receive more support. Moreover, teacher evaluation will be compulsory, the length of in-service training will be increased and the quality of work will have an impact on career advancement.

Some aspects of this proposal (i.e. the phasing out of lower secondary schools) have raised concerns among many groups, including teachers and local governments. They fear that the significant changes in the organisation of the schools will have a disruptive effect. If lower secondary schools are phased out, teachers from those schools will need to find other jobs in primary and upper secondary schools and some of them may not be able to do so. There are also concerns about the expenditure previously made in lower secondary schools i.e. with EU structural funds, as well as future educational infrastructure investment, which is already programmed within the 2014-20 ESIF financing.

There is also a significant uncertainty over the outcomes of this a reform. The establishment of lower secondary schools and the resulting extension of common general education to nine school years (six years of primary school and three years of lower secondary school) are often seen as the major reason explaining the significant improvement of PISA results in Poland (IBE 2014).

6. Modernising higher education

The tertiary educational attainment rate for 30-34 year olds stood at 43.4 % in 2015, well above the EU average of 38.7 %. The rate has almost quadrupled in the last 15 years. However, a gender gap exists, as more women (52 %) than men (35.1 %) have a tertiary degree. There are also differences in access to higher education between urban and rural areas. While 40 % of young people live in rural areas, only 27.4% of students come from these regions. Furthermore, students from rural areas more frequently attend part-time fee paying studies in smaller cities, as they have less opportunity to study in full time public higher education financed by the Government (Marciniak 2014).

The employment of recent tertiary graduates was above the EU average in 2015, at 85.1 % compared with 81.9 %.²²⁹ At the same time, there are a substantial and increasing number of workers with tertiary education, performing medium or low-skilled jobs, which points to skills mismatches in the labour market (European Commission 2015).²³⁰ Nevertheless, the extent of 'over-qualification' in Poland remains significantly below the EU average, as evidenced by recent studies (Cedefop 2015b, OECD 2013b).

In May 2015 the Ministry of Science and Higher Education launched the national system for tracking graduates' employment based on administrative data from the social security system and information from the ministerial students' database POL-on.²³¹ The new tracking system aims to provide the general public, prospective students, public authorities and other relevant stakeholders with reliable data on graduates' situation on the labour market, including their employment and salaries. Additional tracking activities are carried out by universities themselves as part of their internal quality assurance systems. These gather qualitative data, such as the results of student surveys on teaching programmes.

The quality of tertiary education is affected by institutional and demographic factors. First, the existing per capita financing mechanism provides incentives for higher education institutions to keep student numbers at a high level. In an overall context of declining demographic trends, this leads to the lowering of the score required in the *Matura* exam in order to enter higher education. At the same time, as the most popular universities can keep their requirements at a higher level, there is a concern about increasing divergence of quality between various types of institutions and curricula.

²²⁹ People aged 20-34 who left tertiary education between one and three years before the reference year.

²³⁰ In 2013 the share of people with tertiary education aged 25-34 and employed in elementary occupations stood at 28.3 %. This percentage rose by 6.4 pps in comparison to 2010.

²³¹ The results of the first edition are available, see: <http://absolvenci.nauka.gov.pl/>

Poland has launched several calls for proposals to improve the quality of teaching in higher education. The aim is to improve the competences of university staff in innovative teaching, computer skills, the use of professional databases in the educational process and teaching in foreign languages. A programme launched by the National Centre for Research and Development aims to develop relevant skills for the labour market through certified classes and workshops, project work, study visits to enterprises, cooperation with foreign institutions, and social partners. Other contests financed through the European Social Fund aim to provide services for students, such as career coaching, helping graduates to set up their own businesses, and entrepreneurship education.

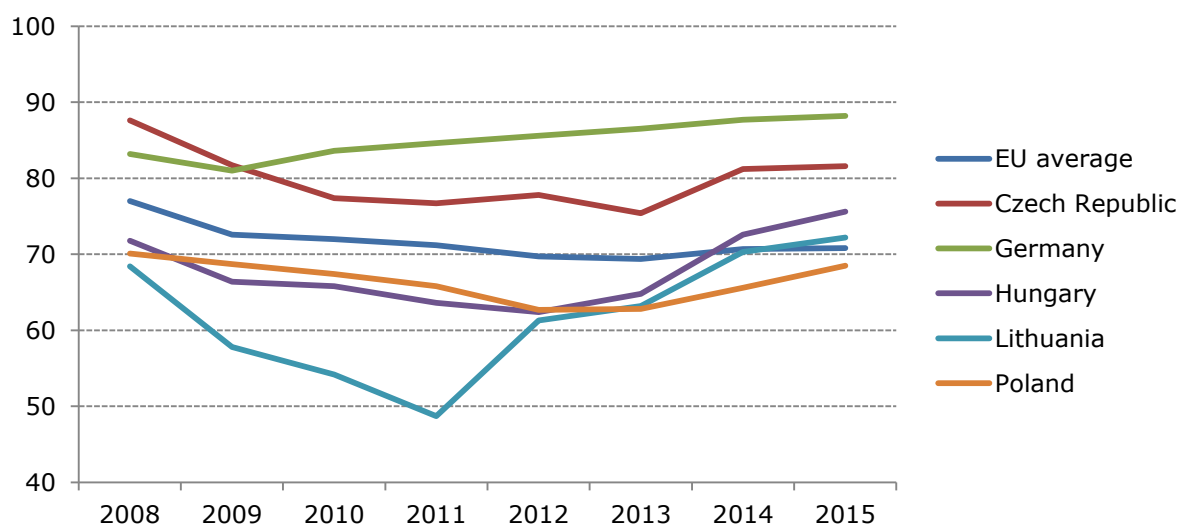
Making the Polish economy more innovative is one of the Government's main priorities. For this purpose, the Innovation Council was established in January 2016.²³² Currently, activities are conducted under the Operational Programme Knowledge Education Development 2014-2020 in support of university-business cooperation. Activities include adapting the programme of studies to meet labour market needs and increasing the quality of PhD studies.

At the beginning of 2016 the Minister for Science and Higher Education launched a consultation on the future of the Polish higher education system. A competition open to Polish academic teachers and researchers, seeks contributions to the drafting of a new act on higher education, adapting the sector to the needs of the academic environment and the Polish economy. The winning teams of experts will be put in charge of organising consultations in academic circles. Its results will form the basis for a new legislative act. The initiative was welcomed by the scientific community.

7. Modernising vocational education and training and promoting adult learning

The employment rate of recent upper secondary graduates was at 68.5 % in 2015 compared with the EU average of 70.8 %. It increased significantly since 2012, when it stood at 62.7 %.²³³ The rate of adult participation in lifelong learning in Poland decreased to 3.5 % in 2015, which is well below the EU average of 10.7 %. Participation tends to be lowest among people who most need to upgrade their skills, i.e. those with basic levels of education, those over the age of 50 and those who are inactive.

Figure 3. Employment rates of upper secondary education graduates



Source: Eurostat. Online data code: *edat_ifse_24*

²³² The Council consists of three deputy prime ministers (Development, Science and Higher Education as well as Culture and National Heritage) and Treasury, National Education, Health and Digital Affairs.

²³³ People aged 20-34 who left upper secondary education between one and three years before the reference year.

The quality and labour market relevance of initial vocational education and training (iVET) is still limited (Cedefop 2015a). The students opting for vocational education, especially students choosing basic vocational schools have a very low level of basic skills such as Polish language, mathematics and science. The employability of recent upper-secondary VET graduates in Poland is average, at 70 % in 2015, as against the EU-28 at 73.0 %.

Challenges remain regarding:

- the practical preparation of teachers of vocational subjects;
- the quality of teaching in general subjects such as Polish language and mathematics;
- the quality of career and educational counselling in secondary schools.

Systematic cooperation with companies to improve the link with the labour market is also an issue. The mismatch between qualifications required by the labour market and those provided by VET schools remains significant. The funding method for VET means that *powiat* authorities fund VET programmes even if qualifications are not in demand, while it discourages them from funding vocational qualifications that are costlier to provide and often more in demand (Cedefop 2015a). However, within the framework of the current reform of vocational education it is planned to strengthen actions aimed at closer linking education with the labour market.

The issue of the employability of people who are currently out of work can be illustrated by the rising proportion of employers finding it difficult to attract employees with the required skills. In 2014, 43 % of employers declared that their employees needed upskilling (PARP and Jagiellonian University 2015). Employers asked to identify the most necessary skills required of candidates for the job pointed to three categories of competences, regardless of the profession for which workers were needed: self-organisation, professionalism, and inter-personal skills.

The new VET core curriculum includes the development of soft skills (i.e. interpersonal and social competences) such as forward planning, openness to change, managing and coping with stress as well as the ability to work in team.

From September 2015 the new form of dual education has been introduced in vocational schools. It combines education at a vocational school with practical training. The practical training is based on agreement between a young employee and an employer or between a school and an employer. A minimum number of vocational practice classes is set and employers can influence the content of vocational training programmes carried out as part of practical training within the company.

In December 2015 the Law on an integrated qualifications system was adopted. The Act came into force in January 2016. It introduced the Polish Qualifications Framework (PQF), which means that qualifications in formal and non-formal education will be assigned to designated PQF levels. The integrated qualifications register was launched in July 2016 and is coordinated by the Minister for National Education. By extending the possibility to accumulate and transfer learning outcomes achieved in various contexts, these tools allow for greater flexibility in obtaining further qualifications and make it learning pathways more flexible.

8. References

Biedrzycki K. and Hącia A. (2015), Kompetencje polonistyczne piątoklasistów. Instytut Badań Edukacyjnych, <http://eduentuzjasci.pl/publikacje-ee-lista/raporty/257-raport-z-badania/ibe-ee-raport-k5-polon/1277-ibe-ee-raport-k5-polon.html>

Białek K., Biedrzycki K., Brożek A., Kozak W. and Przybylski B. (2014), Diagnostyka przedmaturalna z języka polskiego, Instytut Badań Edukacyjnych, <http://eduentuzjasci.pl/pl/becker/110-badanie/1005-diagnoza-przedmaturalna-z-jezyka-polskiego.html>

Cedefop (2015a), Poland. VET in Europe — Country report 2014, <http://www.cedefop.europa.eu/en/publications-and-resources/country-reports/poland-vet-europe-country-report-2014>

Cedefop (2015b), Skills, qualifications and jobs in the EU: the making of a perfect match?, <http://www.cedefop.europa.eu/en/publications-and-resources/publications/3072>

Council of the European Union (2016), Council Recommendation of 12 July 2016 on the 2016 National Reform Programme of Poland and delivering a Council opinion on the 2016 Convergence Programme of Poland, [http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32016H0818\(04\)&from=EN](http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32016H0818(04)&from=EN)

European Commission (2015), The European Higher Education Area in 2015; Bologna process Implantation Report, http://eacea.ec.europa.eu/education/eurydice/documents/thematic_reports/182EN.pdf

Eurydice (2015), Teachers' and School Heads' Salaries and Allowances in Europe 2014/15, http://eacea.ec.europa.eu/education/eurydice/documents/facts_and_figures/188EN.pdf

Eurydice (2016a), National Reforms in Early Childhood Education and Care, https://webgate.ec.europa.eu/fpfis/mwikis/eurydice/index.php/Poland:National_Reforms_in_Early_Childhood_Education_and_Care

Eurydice (2016b), Entrepreneurship Education at School in Europe. Eurydice Report, Luxembourg: Publications Office of the European Union, <https://webgate.ec.europa.eu/fpfis/mwikis/eurydice/images/4/45/195EN.pdf>

Eurydice (2016c), National Reforms in School Education, https://webgate.ec.europa.eu/fpfis/mwikis/eurydice/index.php/Poland:National_Reforms_in_School_Education

Federowicz Michał, Jacek Haman, Jan Herczyński, Kamila Hernik, Magdalena Krawczyk-Radwan, Karolina Malinowska, Mateusz Pawłowski, Paweł Strawiński, Dominika Walczak, Andrzej Wichrowski (2013), *Czas pracy i warunki pracy w relacjach nauczycieli*, Educational Research Institute, Warsaw, <http://eduentuzjasci.pl/badania/110-badanie/186-badanie-czasu-i-warunkow-pracy-nauczycieli.html>

Główny Urząd Statystyczny (2014), data from December 2014, <http://stat.gov.pl/>

IBE (2014), Raport o Stanie Edukacji 2013. Liczą się Nauczyciele, Educational Research Institute, Warsaw? <http://eduentuzjasci.pl/publikacje-ee-lista/raporty/150-raport-o-stanie-edukacji/1052-raport-o-stanie-edukacji-2013-licza-sie-nauczyciele.html>

IBE (2015a), Pierwszoklasista 2015, <http://www.ibe.edu.pl/en/publications-en/national-qualifications-framework-en/7-aktualnosci-ibe/524-szesciolatki-w-roku-szkolnym-2014-201>

IBE (2015b), Potrzeby nauczycieli edukacji wczesnoszkolnej i nauczycieli matematyki w zakresie rozwoju zawodowego, <http://eduentuzjasci.pl/images/stories/publikacje/IBE-raport-potrzeby-nauczycieli-edukacji-wczesnoszkolnej-i-matematyki.pdf>

Marciniak Z. (ed.) (2014), Self-Certification Report of the National Qualifications Framework for Higher Education, Educational Research Institute, Warsaw, http://www.kwalifikacje.edu.pl/images/download/Publikacje/Self_certification_report.pdf

OECD (2013a), Education at a Glance, <http://www.oecd.org/edu/eag2013%20%28eng%29--FINAL%2020%20June%202013.pdf>

OECD (2013b), OECD Skills Outlook 2013: First Results from the Survey of Adult Skills, <http://www.oecd.org/site/piaac/publications.htm>

OECD (2013c), PISA 2012 results: What Students Know and Can do. Student Performance in Mathematics, Reading and Science (Volume I), <http://www.oecd.org/pisa/keyfindings/pisa-2012-results-volume-I.pdf>

OECD (2014), TALIS 2013 Results: An International Perspective on Teaching and Learning, Paris: OECD Publishing

OECD (2015), Education at a Glance 2015, OECD indicators, http://download.ei-ie.org/Docs/WebDepot/EaG2015_EN.pdf

OECD (2016), Education at a Glance 2016,
http://www.oecd-ilibrary.org/education/education-at-a-glance-2016_eag-2016-en

PARP and Jagiellonian University, (2015), Study of Human Capital in Poland,
<https://bkl.parp.gov.pl/raporty.html>

System Informacji Oświatowej (2015), data on 30.9.2015 r. v.2,
<http://www.cie.men.gov.pl/index.php/sio.html>

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_ipart (2011), educ_uoe_enra10 (2014)
Employment rate of recent graduates	edat_lfse_24
Adult participation in lifelong learning	trng_lfse_01
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

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

Portugal



1. Key indicators

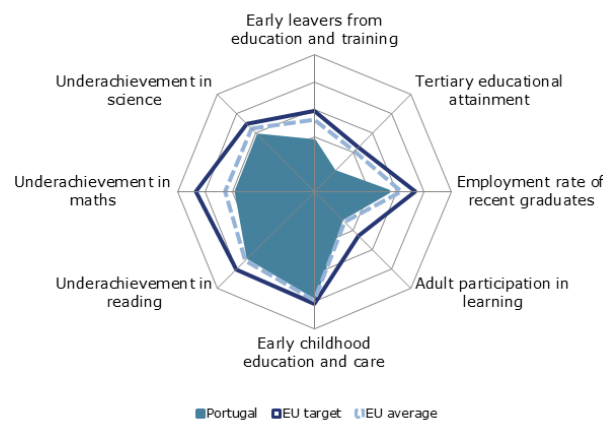
		Portugal		EU average		
		2012	2015	2012	2015	
ET 2020 benchmarks						
Early leavers from education and training (age 18-24)	Total	20.5%	13.7%	12.7%	11.0%	
Tertiary educational attainment (age 30-34)	Total	27.8%	31.9%	36.0%	38.7%	
Early childhood education and care (ECEC) (from age 4 to starting age of compulsory education)		93.8% ¹¹	93.5% ¹⁴	93.2% ¹¹	94.3% ¹⁴	
Proportion of 15 year-olds with underachievement in:	Reading	18.8%	:	17.8%	:	
	Maths	24.9%	:	22.1%	:	
	Science	19.0%	:	16.6%	:	
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-8 (total)	67.5%	72.2%	75.9%	76.9%	
Adult participation in lifelong learning (age 25-64)	ISCED 0-8 (total)	10.5%	9.7%	9.2%	10.7%	
Other contextual indicators						
Education investment	Public expenditure on education as a percentage of GDP	6.2%	6.2% ¹⁴	5.0%	4.9% ^{14,p}	
	Expenditure on public and private institutions per student in € PPS	ISCED 1-2	€5.628	€6.081 ¹³	:	: ¹³
		ISCED 3-4	€6.946	€7.852 ¹³	:	: ¹³
ISCED 5-8		€7.444 ^d	€8.302 ¹³	:	: ¹³	
Early leavers from education and training (age 18-24)	Native-born	20.5%	13.5%	11.6%	10.1%	
	Foreign-born	20.0%	16.2%	24.9%	19.0%	
Tertiary educational attainment (age 30-34)	Native-born	28.4%	32.0%	36.7%	39.4%	
	Foreign-born	23.0%	31.8%	33.8%	36.4%	
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-4	65.4%	68.6%	69.7%	70.8%	
	ISCED 5-8	69.9%	75.5%	81.5%	81.9%	
Learning mobility	Inbound graduates mobility (bachelor)	1.7% ¹³	1.9% ¹⁴	5.5% ¹³	5.9% ¹⁴	
	Inbound graduates mobility (master)	5.5% ¹³	6.7% ¹⁴	13.6% ¹³	13.9% ¹⁴	

Sources: Eurostat (see section 9 for more details); OECD (PISA).

Notes: data refer to weighted EU averages, covering different numbers of Member States depending on the source; b = break in time series, d = definition differs, p = provisional, u = low reliability, 11 = 2011, 13 = 2013, 14 = 2014.

Further information can be found in the relevant 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 2015) and OECD (PISA 2012).

Note: all scores are set between a maximum (the strongest performers, represented by the outer ring) and a minimum (the weakest performers, represented by the centre of the figure).

2. Highlights

- The Portuguese Government has announced a series of measures to improve equity in education and fight school failure.
- The 2016 budget for education does not provide for significant increases from the previous year: it is envisaged that financial support for the reforms will come from increased expenditure efficiency and a decline in grade repetition.
- Citizenship and intercultural education are becoming more relevant in the school curricula and the integration of migrants into the education system is being strengthened.
- The downward trend in university enrolment, together with the high rate of highly qualified Portuguese nationals migrating to other European countries, is aggravating the country's demographic crisis and could hamper its competitiveness.
- The new higher education technical vocational courses are raising enrolment in polytechnic institutes and opening up new avenues of cooperation with the business sector.

3. Investing in education to address demographic and skill challenges

General government expenditure on education as a proportion of GDP remained unchanged at 6.2 % from 2012 to 2014.²³⁴ GDP increased during the same period but remains below its 2011 level. Education expenditure as a proportion of total general government expenditure fell by 0.5 percentage point (pp.) to 12 % from 2013 to 2014.

During the past mandate, the Government took a number of measures to increase the efficiency of spending on education (European Commission 2015a). These included rationalising the schools network, reducing the number of teachers not dedicated to teaching activities and introducing a new funding formula for schools that includes performance criteria.

The Government in office since December 2015 has proposed an ambitious plan to foster social equality in education and improve students' performance. However, the 2016 budget for basic and secondary education will be 4.2 % lower than in 2015²³⁵. The resources needed to foster equality and improve students' performance would be provided by the savings from reducing the costly rate of grade repetition and school failure. The plan provides for measures such as expanding public provision of pre-school education, reducing the number of students per class, increasing tutoring and school opening times, and increasing support to socially vulnerable families. The budget allocated to the latter (in the form of books, school meals, family allocations and scholarships) will increase by 31.1 % and the budget dedicated to pre-school education will increase by 0.8 %. Regarding the financial allocation to private schools (*contratos de associação*), the Government has announced it will stop financing these in areas serviced by public schools.

Expenditure on higher education in the 2016 budget is increased by 2.6 %²³⁶ compared to the 2015 budget. The financial allocation to universities and polytechnic institutes will rise by around 3 % while scholarships will see an increase of around 15 %. The budgetary plan announces a modernisation and diversification plan for higher education that aims to expand higher education institutions' capacity to attract new funds and diversify existing resources. The plan also encourages the creation of consortia to allow collaborative use of resources and foster teachers' mobility in order to eventually improve financial efficiency.

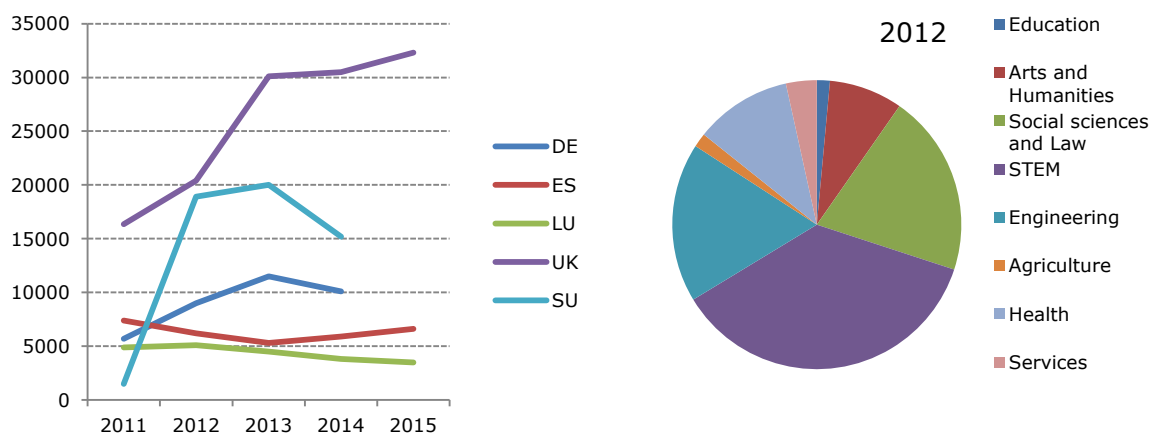
²³⁴ Source: Eurostat, General government expenditure by function (COFOG) database.

²³⁵ Source: Orçamento do Estado 2016 'Ensino Básico e Secundário a Administração Escolar'.

²³⁶ Source: Orçamento do Estado 2016 'Ciência, tecnologia e Ensino Superior'.

Portugal is one of the European countries with the highest rate of highly qualified individuals who emigrate (11 %). From 2001 to 2011, the proportion of Portuguese citizens with a tertiary education degree leaving the country increased by 87.5 %.²³⁷ The number of highly qualified emigrants increased further by 40 000 between 2012 and 2014. 63.1 % of the highly qualified²³⁸ Portuguese nationals registered as residents in other European countries emigrated between 2011 and 2014. The main reasons for emigrating are the low employment rate in Portugal during the economic crisis, low domestic salary levels,²³⁹ insufficient opportunity to adequately use their skills in the national working environment, and limited career prospects at home. Almost 20 % of the highly qualified Portuguese emigrants estimate their time abroad will last 6 to 10 years and 43 % assume it will last over 10 years (Rui Gomes 2016). If not compensated by inflows of equally qualified people, this 'brain drain' could hinder Portugal's competitiveness.

Figure 2. Destination countries for Portuguese migrants – Education background of qualified migrants (higher education)



Source: Observatório de Emigração.

Source: Projeto BRADAMO.

4. Tackling inequalities and promoting inclusion

Portugal has significantly reduced its early school leaving²⁴⁰ (ESL) rate: it fell from 30.9 % in 2009 to 13.7 % in 2015, getting closer to the Europe 2020 national target of 10 %. This positive trend gained speed with a decrease of 3.7 pp. from 2014 to 2015. The difference in ESL rates between students born in Portugal and students born outside the country is only 2.7 pp. in favour of the former. In contrast, there is a wider gender gap, with ESL rates of 11 % for women and 16.4 % for men.

The country continues to struggle with high levels of grade repetition and significant performance gaps within age groups, linked to the socioeconomic background of students (OECD 2013). The average rate of grade repetition increased by 50 % between 2011 and 2014. It is currently at 5 %, 11.4 % and 13.3 % respectively from the first to the third cycle of basic education²⁴¹ (European Commission 2016b).

²³⁷ Source: Observatório da Emigração, 'Emigração Portuguesa, relatório Estatístico 2014.'

²³⁸ 43 % have a Master's degree and 22.3 % completed a PhD. 35.2 % have studies in STEM and ICT, 19.4 % in engineering and 18.5 in law, trade and social sciences.

²³⁹ More than 60 % of the highly qualified individuals who have left the country earned less than EUR 1 000 in Portugal, and just 5 % earned more than EUR 2 000. While working abroad, 50 % of them earned between EUR 1 000 and 3 000 and 26.5 % earned more than EUR 3 000 (Rui Gomes 2016).

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

²⁴¹ Basic education lasts 9 years for students aged from 6 to 14 years and is divided into three cycles: 4 years + 2 years + 3 years.

Participation in early childhood education and care (ECEC) has increased dramatically over the last decade, for both the 0-3 and 4-5 age groups²⁴² (European Commission 2015). However, this upward trend has been reversed since 2013, as the participation of children aged 4-5 in ECEC fell from 93.9 % in 2013 to 93.5 % in 2014, just below EU average of 94.3 %. The network of public pre-schools offering ECEC has shrunk due to the recent budget cuts. It covered only around 50% of the enrolment of children aged 3-5 in 2014-2015, while 30 % were enrolled in publicly funded organisations, and a growing proportion relied on private centres.²⁴³ This situation is worse in urban areas.

Since 2012 Portugal has been implementing a comprehensive policy to tackle ESL that has proven effective. The strategy encompasses the continuation of proven initiatives such as the TEIPs²⁴⁴ (programmes targeted at priority regions), the introduction of a new student monitoring system, and the launch in 2012 of pilot programmes proposing alternative education paths in lower and upper secondary education to students at risk of dropping out (*Cursos Vocacionais*).²⁴⁵ The increase in the length of compulsory education to 12 school years in 2009 has generated favourable conditions as well. The current Government proposes to address grade repetition and performance gaps by improving tutoring support to students, reasserting the value of transversal skills in the curricula and reducing the number of students per class²⁴⁶. The 2012 early tracking system in lower secondary education will be terminated in 2016/2017 because it is considered discriminatory and ineffective in preventing ESL. The provision of sufficient support earlier in the education system will thus be crucial to reducing the existing performance gaps in mainstream education and avoiding an increase in school dropout.

The national examination to assess students' learning progress was extended in 2012 to grades 4 and 6 of basic education (9- and 11-year-old students respectively). At the beginning of 2016, the Ministry of Education replaced these summative assessments by new tests in the 2nd, 5th and 8th grades (7-, 10- and 13-year-old students) for Portuguese and mathematics with a higher formative value.²⁴⁷ The first ones took place in a number of schools in May 2016. The performance will not affect the student's final grade but will be used by schools and families to assess the level of completion of the student's learning process in an effort to address deficiencies and reduce school failure. For the first time in such national evaluations, oral communication skills are also assessed.

The new Government has made ECEC a key element to prevent school failure; it has set an ambitious objective to ensure public provision of pre-school education for all children aged 3-5 years in 2019. In the pedagogical field, it has launched the revision of the curriculum guidelines for pre-school education (*OCEPE*). This follows up on the working group created under the previous government to set the guidelines for nurseries and childcare centres.

Portugal is one of the EU countries with the lowest proportion of residents from foreign countries (4 %). Its immigrant population is mostly from its former colonies, eastern European countries and China, and more than 51 % is settled in Lisbon. In 2014 Portugal received 442 asylum requests. The Government has expressed its readiness to welcome refugees to help alleviate the current migration crisis and the country's migration and demographic deficit. Portugal has a legal framework that guarantees the integration of immigrants and their access to the national education system.

²⁴² Compulsory education starts at 6 in Portugal.

²⁴³ Source: Direção Geral de Estatísticas de Educação Ciências.

²⁴⁴ The present TEIP (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'.

²⁴⁵ VET paths for students having repeated a grade twice in lower and upper secondary education.

²⁴⁶ The reduction of class sizes will not be systematic but agreed on the basis of each school pedagogical project.

²⁴⁷ Summative assessments aim to measure the level of success or proficiency that has been obtained at the end of an instructional unit, by comparing it against some standard or benchmark. Formative assessments aim to gather feedback that can be used by the instructor and the students to guide improvements in the ongoing teaching and learning context.

Since January 2016 the MEC has launched new measures to strengthen support for migrant students, such as introductory classes, language mediators and awareness campaigns. It has also reinforced citizenship education in the curricula from pre-school to secondary education by proposing several guidelines on related subjects. These include 'education for development' and 'media education' which aim, respectively, at improving children's civic and intercultural competences and at enhancing critical thinking and media literacy, particularly for social media. The 'intercultural school' label encourages schools to commit further with intercultural dialogue and education. The next step envisages the establishment of a network of intercultural schools. Since this year a dedicated working group is preparing a comprehensive strategy to promote citizenship in education that should bring together in a coherent way the many different initiatives launched so far.

5. Modernising school education

Recruitment of fewer teachers over the past five years due to budget constraints has led to a significant fall in total teacher numbers and has contributed to an increase in teachers' average age. 41 % of the teaching force in public education is over 50, against only 17.3 % in private education where the highest proportion of teachers are 30 to 39 (Conselho Nacional de Educação 2015).

The 2011-2015 Government initiated a reform of the teachers' initial training system to improve the quality of teaching staff. The MEC increased the entry requirements to initial teacher training and revised its content. It also established a new entry exam to the profession that was largely contested by the teachers' associations and was finally suspended by the Constitutional Court. The way the exam was devised and set up had flaws that explain the strong controversies around it. However, it rightly intended to address a perverse effect of the current system. Permanent teachers are recruited solely on the basis of their final marks in the teacher training programme. The supply of these programmes is quite high, so teacher training institutions tend to inflate grades to increase their students' chances of finding a job (Conselho Nacional de Educação 2014). The current Government has announced its readiness to establish a regular dialogue with the unions and professional associations and to rethink the teacher recruitment policy. The professional development of teachers is also expected to be revised, as is the role of school management, which should give greater attention to developing teaching and learning.

As part of the strategy to address students' low performance, the MEC will provide schools with more pedagogical autonomy so that they can support experimental teaching projects and promote greater involvement of parents and local communities. To modernise learning models and tools, the MEC will launch a 'competitiveness and technology cluster' that will provide a collaborative platform for schools, businesses and civil society to support innovation in education.

Entrepreneurship in education is also supported through the Strategic Programme for Entrepreneurship and Innovation created in 2011 and the 'Youth Start' programme launched in 2015. The INOVA 'ideas competitions' in four areas – attitude, creativity, business and social – were its flagship initiative until the fourth edition in 2014-2015. The 2016 edition has not taken place.

Information and communication technology (ICT) is taught and assessed as a subject in its own right only in grades seven and eight, and in some ICT-specific subjects in grades 10 to 12 depending on the study area. Since 2012, budget constraints have slowed the continuous and significant increase in the use of computer facilities in compulsory education.²⁴⁸ However, 2014 and 2015 saw increasing support for the use of mobile technologies in schools and other contexts (Eurydice 2015c), through a number of initiatives such as the Creative Classrooms Lab project. Today, the new Digital Competences Initiative proposes to upskill the ICT competences of 20 000 people up to 2020 and to provide digital education resources to modernise teaching methods and the training of trainers.

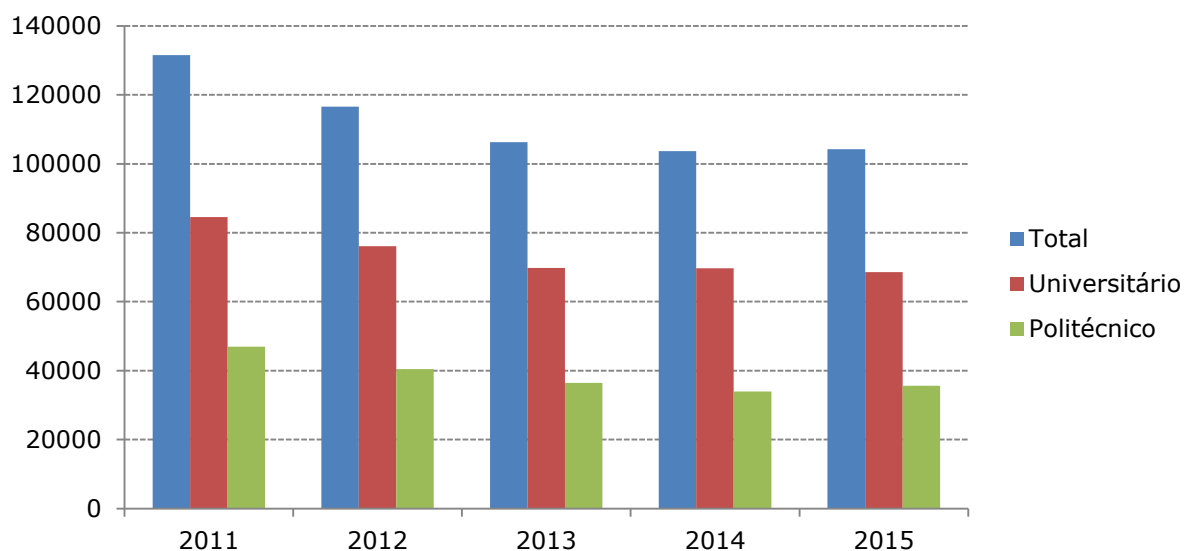
²⁴⁸ The student/computer ratio has gone from 19.1 in 2001/02 to 1.9 in 2010/11 and to 3 in 2013/14.

6. Modernising higher education

Portugal's tertiary education attainment rate for 30-34-year-olds has steadily increased over the past 8 years, from 21.6 % in 2008 to 31.9 % in 2015. However, it remains below the EU average of 37.9 % and the country's Europe 2020 national target of 40 %. Completion rates at 67 % are slightly below the OECD average. Women have a significantly better rate of completing their studies than men, at 73 % to 59 %, respectively (European Commission 2015b).

Since 2008, the economic crisis has dragged down the employability rate of recent tertiary graduates²⁴⁹ by almost 10 pp. In 2015 it was 75.5 %, below the EU average of 81.9 %. This downward trend has nonetheless been reversed since 2012 following the progressive fall in unemployment in Portugal. Tertiary-qualified individuals have kept their competitive advantage in the labour market over upper secondary graduates, who have a lower employability rate of 68.6 %. However, tertiary graduates are often faced with low salary prospects and inadequate use of their skills. This situation has contributed to sharp falls in higher education enrolment between 2011 and 2014: the decrease was 23 % for first university enrolments (28 % for the first cycle) and 30 % in the polytechnic institutes²⁵⁰, beyond the demographic decline. In 2015, however, enrolment stabilised.

Figure 3. Students' first enrolment in higher education



Source: DGEEC/MEd – MCTES, PORDATA.

Moreover, the weak ability of the national labour market to retain talents has encouraged the emigration of highly skilled people (see section 3). Since higher education institutions in Portugal are mainly state-funded, the return on public investment in terms of skills and competitiveness is a challenge. To attract a higher number of non-EU students to Portuguese universities, the Ministry of Education has amended the international student statute to make university entry requirements more flexible.

The new Government has also announced a set of new measures to increase the attractiveness of higher education and pick up speed towards the Europe 2020 national target of 40 %. To expand access they will increase social support to students through scholarships. At the international level, they will support thematic networks between universities and international partners and foster student mobility. To improve performance and completion rates they are proposing more curricular flexibility and to contract young PhDs to diversify the teaching profession and support new pedagogical and scientific projects.

²⁴⁹ People aged 20-34 who left education between one and three years before the reference year.

²⁵⁰ PORDATA 2016, Base de dados Portugal Contemporâneo.

The polytechnic institutes were at the centre of the strategy to modernise higher education over the past mandate and have finally experienced an upturn in enrolment since 2015. The launch of the new higher education technical vocational courses (*Cursos Técnicos Superiores Profissionais, CTeSP*) sector is expected to consolidate this new upward trend (see box below).

Since 2015, the MEC has been supporting the creation of regional clusters to rationalise the overly scattered education offer provided by higher education institutions. It also aims at improving financial efficiency and encouraging the exchange of best practices. So far two major state-funded universities in Lisbon have merged and three universities in the north have created the UniNord consortium. The proposal of a new funding formula based on a set of different criteria to promote higher institutional differentiation has been abandoned in 2016. However, the new Government acknowledges the need to keep pursuing greater financial efficiency. Its budgetary plan provides for incentives to create consortia but also greater autonomy for higher education institutions to look for non-state additional funding. All the new proposals should be included in a new multiannual financing framework for higher education for 2017-2019.

Box 2: Cooperation between higher education institutions and the business sector

Increasing cooperation between universities and businesses is important for improving the employability of graduates in all sectors and fostering innovation (European Commission 2016a). Current university governance and finance systems, as well as the academic career path, do not provide a favourable environment to foster university-business cooperation.

Portuguese academic and university representatives assess the barriers to such cooperation as being among the highest in Europe. The biggest barriers identified are the lack of either public or private funding, or excessive and too rigid bureaucracy (European Commission 2014). Academics claim not to know about the various cooperation arrangements, while universities consider that businesses are the only beneficiaries of these efforts. On the other hand, businesses often lack the capacity to take on internships or projects and perceive universities as being too bureaucratic to invest in.

The polytechnic institutes have started to open new paths to engage with local businesses, namely through the proposal of the new CTeSPs. These 4-semester courses include 6 months on-the-job training and propose programmes due to be embedded in the local economic growth strategy. So far, Over 7 900 companies, mostly small businesses, have proposed more than 19 500 internships. The number of CTeSPs proposed by public or private institutions increased from 92 in 2014 to 539 in June 2016, with a total of 16 771 students. The highest proportion has enrolled in business administration (24 %), engineering (16 %) and ITC (12 %).

The courses, situated at level 5 of the national qualifications framework and European qualifications framework, award 120 ECTS²⁵¹ credits. The Ministry of Science and Higher Education proposes that completion of CTeSPs will allow access to university, which could provide a new stimulus to cooperation between university students and the business sector. Moreover, the new budgetary plan envisages specific support for the polytechnic institutes to strengthen their action in research and innovation. This would be done through the Foundation for Science and Technology and by developing closer relations with the local business network.

Despite this progress, Portugal does not have a comprehensive set of measures or a strategy to address the economic and institutional barriers to university-business cooperation. Although the government has announced measures to make the recruitment of teachers more flexible and competitive and to increase public universities' freedom to attract private funding, no concrete incentives are anticipated to encourage academics to engage in cooperation with industry. Moreover most existing efforts are geared towards PhD programmes and ignore the need to better link graduate programmes to the economic environment.

The implementation of the second phase of the OECD-coordinated project to build a national skills strategy for Portugal could create a good opportunity to explore new avenues to encourage cooperation between universities and business.

²⁵¹ European Credit Transfer and Accumulation System.

7. Modernising vocational education and training and promoting adult learning

Upper secondary students' participation in vocational education and training (VET) in 2015 was 45.8 %, below the EU average of 48.9 %. Adult participation in lifelong learning in Portugal has remained stable over the past 3 years at 9.7 %, just below the EU average of 10.7 % in 2015. The employment rate for upper secondary education graduates²⁵² increased from 65.2 % in 2014 to 68.6 % in 2015.

The new VET strategy aims to mainstream the national offer in order to address duplications and increase efficiency. Since January 2016, the National Agency for Qualifications and VET (ANQEP) has been updating²⁵³ the National Qualification Catalogue²⁵⁴ through the reactivation of the 16 Sector Councils.²⁵⁵ The integration of upper secondary VET (*Cursos Profissionais*) in the National Qualification Catalogue has enabled schools to propose a new set of VET qualifications this year.

The national qualifications system created in 2007 establishes the principle of double certification.²⁵⁶ This enables transitions between academic and VET pathways, including in higher education, based on a national qualification framework and a national credit system. The ANQEP started developing such a system in 2013; it is expected to be approved at the end of 2016 and should eventually allow the national qualification framework to be completed. The ANQEP is also implementing a programme to help 231 training providers²⁵⁷ design their quality assurance systems and align them with European Quality Assurance for VET. The VET Ambassadors initiative involves road shows and VET fairs in an effort to make VET more attractive.

On adult learning, the network of Qualification and VET Centres (CQEP) will be terminated and replaced by 270 'Qualifica' Centres in 2016 with additional and upskilled staff. In 2017/2018 the Government will also launch the 'Qualifica passport'. This new online tool and platform is meant to upgrade the system for recognising, validating and certifying competences and helping people not in education to access adult learning programmes.

8. References

Conselho Nacional de Educação (2014), Estado da Educação 2013, http://www.cnedu.pt/content/edicoes/estado_da_educacao/Estado_da_Educacao_2013_VF.pdf

Conselho Nacional de Educação (2015), Estado da Educação 2014, http://www.cnedu.pt/content/edicoes/estado_da_educacao/Estado_da_Educacao_2014_VF.pdf

European Commission (2014), Report on the State of European University Business Cooperation, 2013, <http://www.ub-cooperation.eu/pdf/portugal.pdf>

European Commission (2015a), Education and Training Monitor — Volume 2, Portugal, http://ec.europa.eu/education/tools/docs/2015/monitor2015-portugal_en.pdf

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

European Commission (2016a), Country Report Portugal, http://ec.europa.eu/europe2020/pdf/csr2016/cr2016_portugal_en.pdf

²⁵² People aged 20-34 who left upper secondary education between one and three years before the reference year.

²⁵³ 10 new qualifications created, 10 qualifications restructured and 2 qualifications deleted.

²⁵⁴ The NQC has 40 areas of education and training.

²⁵⁵ The Sector Councils for Qualifications are working groups with technical and advisory competences created to ensure the link between qualifications and labour market needs in terms of skills.

²⁵⁶ Double certification means that students have a school certification and professional qualification.

²⁵⁷ 174 professional schools, 15 secondary education schools, 5 private schools, 10 tourism schools, 4 IEFP and 23 DGERT.

European Commission (2016b), Education policies and practices to foster tolerance, respect for diversity and civic responsibility in children and young people in the EU,
http://ec.europa.eu/education/library/study/2016/neset-education-tolerance-2016_en.pdf

Eurydice (2014), 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 (2015a), Tackling Early Leaving from education and Training,
http://eacea.ec.europa.eu/education/eurydice/documents/thematic_reports/175en.pdf

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

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

Eurydice (2016), Promoting citizenship and the common values of freedom, tolerance and non-discrimination through education,
http://bookshop.europa.eu/is-bin/INTERSHOP.enfinity/WFS/EU-Bookshop-Site/en_GB/-/EUR/ViewPublication-Start?PublicationKey=EC0216217

OECD (2014a), Education Policy Outlook Portugal,
http://www.oecd.org/education/EDUCATION%20POLICY%20OUTLOOK_PORTUGAL_EN.pdf

OECD (2014b), Are disadvantaged students more likely to repeat grades?,
<http://www.oecd-ilibrary.org/docserver/download/5jxwwfp1ngr7.pdf?expires=1464360815&id=id&accname=guest&checksum=52A61CF806CEE4903E1E26C19B899048>

OECD (2015), Portugal Skills Strategy Diagnostic Report,
<http://www.oecd.org/skills/nationalskillsstrategies/Diagnostic-report-Portugal.pdf>

Rui Gomes (2016), Projeto BRADRAMO, Brain Drain and Academic Mobility from Portugal to Europe (Universidade de Porto, universidade de Lisboa, Universidade de Coimbra),
<http://www.bradramo.pt>

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_ipart (2011), educ_uoe_enra10 (2014)
Employment rate of recent graduates	edat_lfse_24
Adult participation in lifelong learning	trng_lfse_01
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

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



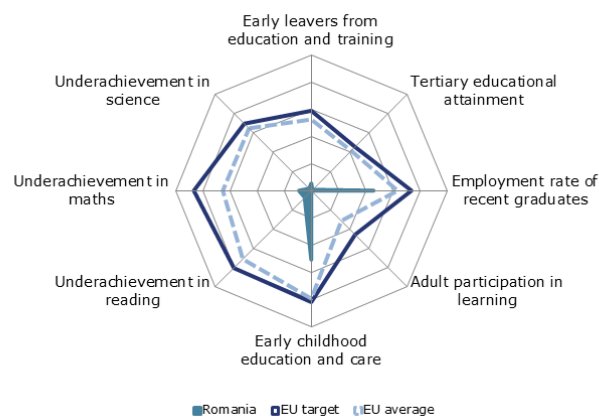
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Other contextual indicators						
Education investment	Public expenditure on education as a percentage of GDP	3.0%	3.0% ¹⁴	5.0%	4.9% ^{14,p}	
	Expenditure on public and private institutions per student in € PPS	ISCED 1-2	€1.625	€1.700 ¹³	:	: ¹³
		ISCED 3-4	€1.723	€1.959 ¹³	:	: ¹³
ISCED 5-8		€3.932	€2.979 ¹³	:	: ¹³	
Early leavers from education and training (age 18-24)	Native-born	17.8%	19.1%	11.6%	10.1%	
	Foreign-born	:	:	24.9%	19.0%	
Tertiary educational attainment (age 30-34)	Native-born	21.6%	25.6%	36.7%	39.4%	
	Foreign-born	:	:	33.8%	36.4%	
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-4	59.3%	59.8%	69.7%	70.8%	
	ISCED 5-8	79.1%	77.1%	81.5%	81.9%	
Learning mobility	Inbound graduates mobility (bachelor)	1.6% ¹³	2.0% ¹⁴	5.5% ¹³	5.9% ¹⁴	
	Inbound graduates mobility (master)	2.5% ¹³	3.0% ¹⁴	13.6% ¹³	13.9% ¹⁴	

Sources: Eurostat (see section 9 for more details); OECD (PISA).

Notes: data refer to weighted EU averages, covering different numbers of Member States depending on the source; b = break in time series, d = definition differs, p = provisional, u = low reliability, 11 = 2011, 13 = 2013, 14 = 2014. Further information can be found in the relevant 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 2015) and OECD (PISA 2012).

Note: all scores are set between a maximum (the strongest performers, represented by the outer ring) and a minimum (the weakest performers, represented by the centre of the figure).

2. Highlights

- Romania is modernising school curricula towards competence-based learning.
- Early school leaving continued to increase in 2015 and is the third highest in the EU. Students from rural areas, poor families and Roma are particularly exposed to the risk of drop-out and educational poverty.
- Participation in pre-school education is expected to increase following the introduction of cash-conditional transfers for children from poor families.
- Tertiary educational attainment has risen so that it is now very close to the national target, but it is still one of the lowest in the EU and ensuring labour market relevance of higher education is a challenge.
- Vocational education and training (VET) qualifications and curricula are not sufficiently attuned with labour market needs and adult participation in lifelong learning is the lowest in the EU.
- Despite some improvements, public expenditure on education continues to be very low.

Box 1: The 2016 European Semester country-specific recommendation on education and training

The 2016 European Semester country-specific recommendations (CSRs) to Romania (Council of the European Union 2016) included a recommendation on education and training:

Take action to prevent early school leaving and increase the provision of quality education, in particular among Roma

3. Investing in education to address demographic and skill challenges

In 2014, Romania's general government expenditure on education (3 % of GDP) remained the lowest in the EU and significantly below the EU average (4.9 %).²⁵⁸ National data show an improvement in budgetary allocations in 2015 and 2016,²⁵⁹ but remain below the threshold of 6 % of GDP set by the Education Law 1/2011. The European Structural and Investment Funds (ESIF) provide support for investments in education, but synergies remain insufficiently explored and depend on the public administration's limited capacity to access and manage ESIF.

The school population is dropping as a consequence of demographic trends. In 2015-2016 the total number of pupils and students decreased by 2.4 % from the previous school year, to 3.64 million. The highest reduction was registered in upper secondary education (in high-schools, except for professional schools) and pre-primary education. Of the 1.7 million students in primary and lower secondary education, 46 % were enrolled in schools in rural areas.

The employment rates by educational attainment (25-64) show a mixed picture. While the employment rate of those with tertiary education (International Standard Classification of Education (ISCED) 5-8) is above the EU average (86.9 % compared to 84.1 % in 2015), the rate of employment for upper secondary and post-secondary non-tertiary education graduates (ISCED 3-4) is below the EU average (69.7 % compared to 73.9 % in 2015.) For those with at most lower secondary education (ISCED 0-2) the rate decreased to 53.7 % and is now around the EU average. However, this includes a significant share of people employed in (semi-)subsistence agriculture.

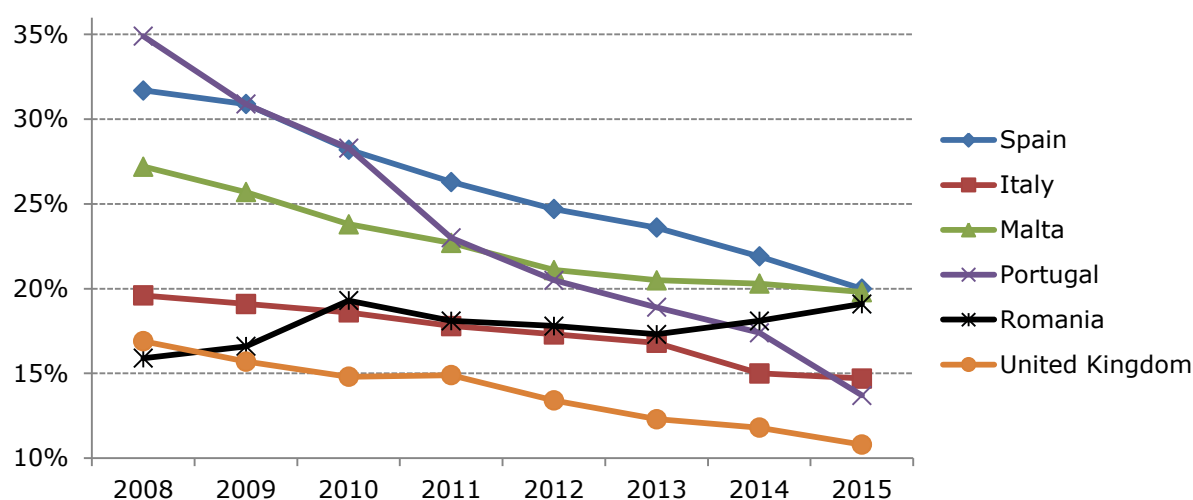
²⁵⁸ Source: Eurostat, General government expenditure by function (COFOG) database.

²⁵⁹ 3.7 % of GDP in 2015 and 3.6 % of GDP in 2016 (European Commission 2016a)

4. Tackling inequalities and promoting inclusion

Contrary to the overall EU trend, the early school leaving rate continued to increase, reaching 19.1 % in 2015. This is significantly above the EU average (11 %), and the third highest in the EU. Romania is thus moving away from its national target of reducing the drop-out rate to 11.3 % by 2020 (see Figure 2).

Figure 2. Early school leaving rate in selected EU countries



Source: Eurostat.

Early school leaving is not uniform across the country, but shows high variations between regions and between rural and urban areas. It is also much higher among the Roma population. Compared to 2014, early school leaving increased in four regions²⁶⁰ - going as high as 25.3 % in the North-Eastern Region - , but decreased in all other for regions²⁶¹ - to a minimum of 8.5 % in the Western Region. The high share of early school leavers (aged 18-24) is the result of a series of factors that impacted previous school-age cohorts that have started to reach the age of 18:

- 1) high-drop-out rates in primary and lower secondary education (*gimnaziu*), due to insufficient prevention measures;²⁶²
- 2) a difficult transition to upper secondary education (high-school or professional schools),²⁶³ particularly for rural students, as well as high drop-out rates in upper secondary education;²⁶⁴
- 3) insufficient provision of remedial programmes, such as second chance programmes.

While the drivers for early school leaving are diverse, poverty and the lack of financial resources to support the costs associated with education are particularly important. Other drivers include insufficient provision and access to quality education, insufficient support services, or

²⁶⁰ Central Region (from 17.9 % to 24.2 %), North-Eastern Region (from 21.7 % to 25.3 %), South-Western Region (from 15.9 % to 16.2 %) and Bucharest-Ilfov Region (from 9 % to 10.8 %)

²⁶¹ North-Western Region (from 17.7 % to 16.9 %), South-Eastern Region (from 25 % to 24.9 %), South-Muntenia Region (from 22 % to 18.7 %) and Western Region (from 10.7 % to 8.5 %).

²⁶² The annual drop-out rate was 1.2 % in primary education and 1.8 % in lower secondary education in the 2013/2014 school year. It was significantly higher for children enrolled in rural schools. A longitudinal analysis of the age cohort that started school in 2006/2007 and graduated in 2013/2014 shows that 13.8 % of the cohort had dropped out by 8th grade and 1.5% had dropped out in 8th grade. Only 51.8% passed the national evaluation (Ministry of Education 2015d)

²⁶³ The transition rate to upper secondary education was 94.4% in the 2014/2015 school year, compared to 96.7 % in the previous school year.

²⁶⁴ The annual drop-out rate was 2.8% in high-school education (3.2 % for boys) and 4.3 % (7.1 % for girls) in professional schools in the 2013/2014 school year (Ministry of Education, 2015d).

discriminatory attitudes in particular towards Roma, students with disabilities or children special educational needs (Ministry of Education 2015a).

Two main social assistance programmes are in place to support the poorest students. 'Money for high school' programme offers a scholarship of RON 180 (EUR 40)/month to high school children with a per capita family income of less than RON 150 (EUR 33)/month. The Family Allowance (a means tested benefit of approx. 18 EUR/month/child targeted at poor families with children) is conditional on school attendance. For pupils in primary education, a 'milk and croissant' programme is available. Furthermore, all students enrolled in professional schools receive a monthly scholarship of RON 200 (EUR 45)/month. Other measures are intended to cover transportation to school and the pilot programme "Warm meal" provides a warm meal to about 30 000 children in 50 schools. Nevertheless, the high drop-out rates point to the need to further develop and strengthen the provision of systemic prevention and early intervention measures.

The availability of second chance programmes is insufficient and geographical coverage is uneven, particularly in rural areas, where most early school leaving originates (Ministry of Education 2015a). In the 2014-2015 school-year, over 12 000 students were enrolled in second chance programmes, a significant increase compared to 8 600 in the previous school year. This compares to around 26 000 students from primary and lower secondary education who dropped out in the same school year (Ministry of Education 2015d).

In June 2015 Romania adopted a Strategy to reduce early school leaving, which sets out prevention, intervention and compensation measures structured around key programmes that aim to:

- 1) increase participation in early education and care;
- 2) ensure access to quality primary and lower secondary education;
- 3) develop early detection systems and consolidate remedial support programmes;
- 4) improve the attractiveness and quality of VET;
- 5) ensure adequate provision of second chance programmes;
- 6) develop the institutional capacity to implement, monitor and evaluate the strategy.

As a step towards implementation, the authorities have recently launched two call for proposals supported by the European Social Fund:

- "School for all" (EUR 173 million) is an educational programme announced in the anti-poverty package launched by the Government in February 2016. It aims to provide support to 17 000 children in pre-primary education, to support 41 000 school children to stay in school and 16 000 beneficiaries of second chance programme. It also targets about 20 000 teachers, school headmasters, counsellors and mediators to work with children at risk of drop-out.
- "Motivated teachers in disadvantaged schools" (EUR 25 million) aims at reducing early school leaving by attracting talented teachers in disadvantaged schools. The programme targets 5 000 teachers and 150 disadvantaged schools.

Participation in early childhood education and care (ages 4 to mandatory school age) remains below the EU average (86.4 % compared to 94.3 % in 2014) and is especially low in rural areas and among the Roma. Positive developments are expected following the recent introduction of cash-conditional transfer to encourage participation by children from disadvantaged families (law adopted in October 2015).²⁶⁵ To overcome the challenges caused by non-participation in kindergarten a compulsory preparatory year before the first year of primary school was introduced in 2012. The measure is believed to have had a positive impact on children who had previously not attended kindergarten (also reflected in a decrease in annual drop-outs rates in the early years of school education) (Ministry of Education 2015).

²⁶⁵ Building on the results of a successful pilot scheme, the national 'Every child in kindergarten' programme offers poor families a monthly social coupon of RON 50 (approx. EUR 11) to purchase food, clothing, school supplies or hygiene products on the condition that their children attend kindergarten.

Roma are particularly exposed to educational poverty. Although the availability of accurate statistics is a challenge, evidence suggests that enrolment rates, completion rates and the educational outcomes of Roma students remain significantly lower than for the non-Roma population.²⁶⁶ Few Roma children have access to quality education and the participation rates of Roma in compulsory education are lower compared to non-Roma²⁶⁷ (World Bank 2014). Despite some progress, it is estimated that around 27 % of Roma children receive education in de facto segregated schools, as defined by the Roma Inclusion Index 2015 (Roma decade 2015). The notably lower standards of teaching quality in schools where Roma represent a majority impacts children's educational achievement. Actions targeting the educational integration of Roma, albeit mostly initiated and/or implemented by NGOs include de-segregation activities and other projects enabling non-discriminatory access to education; hiring of Roma schools mediators; preventing school absenteeism and measures to reduce school drop-out like scholarships and after-school activities. Special places for Roma pupils and students in educational institutions are also provided (European Commission 2016b).

Children with special educational needs and children with disabilities are one the groups most likely to be out of school, particularly in rural areas. Data from the 2011 census showed that one in every three children aged 7 to 14 with a total or partial disabling incapacity has either never been enrolled in school or has dropped out (World Bank 2014). However, children with special educational needs have access to different forms of education and may be enrolled either in mainstream education or in special schools, depending on the type and degree of disability. The school integration of pupils with special educational needs faces a series of challenges due to inadequate training of teachers and curricula, low involvement of parents and negative/discriminatory attitudes from other parents. There is a high need to provide teachers with pedagogical tools that are adapted to the specific characteristics and potential of pupils with special educational needs. However, there is also a need for soft skills focused on facilitating inclusion and acceptance.

Box 2: Rural – urban gap in education

There are significant gaps in terms of access and educational outcomes between urban areas on the one hand and rural areas, where 46 % of the total population lives. Disparities start early in the education cycle and become more predominant as children advance through the system. In 2014-2015, 81.8 % of children in rural areas aged 3-5/6 years were enrolled in pre-school education against 97.7 % in urban areas. There are a number of reasons for this, including sometimes large distances between home and kindergarten and a lack of facilities in isolated communities.

The gross enrolment rate in primary and lower secondary level was 80.4 % (100.4 % in urban areas) (Ministry of Education 2015d). Early school leaving is predominantly a rural challenge in Romania. In 2015, the rate reached 27.8 % in rural areas against 19.3 % in towns and suburban areas and 5.9 % in cities. Drop-out rates in primary and lower secondary education are significantly higher for children in rural areas, which results in lower participation in upper secondary education, and hence lower participation rates in tertiary education.

The quality of education outcomes — measured in terms of basic skills — shows significant differences between rural and urban areas. The quality of education in rural areas is undermined by the difficulty in attracting highly skilled teachers, inadequate school infrastructure and difficult family situations. There are fewer qualified full-time teachers than in urban areas, so schools have had to employ a large number of part-time, poorly qualified teachers who commute (World Bank 2014).

²⁶⁶ Data from the 2011 census showed that one in seven Roma aged over 10 is illiterate and only 0.7 % of Roma had a higher education degree (National Roma Agency 2014).

²⁶⁷ Only 37 % of Roma children between 3 and 6 years of age were enrolled in pre-school, as opposed to 63 % of their non-Roma, according to a 2011 survey. Enrolment of Roma compulsory education was 78 % compared to 95 % for their non-Roma neighbours (World Bank 2014).

5. Modernising school education

Initial teacher education poses some concerns, in particularly on the inclusion of vulnerable groups and children with special educational needs. Initial education for primary school teachers is organised in pedagogical high-schools and/or higher institutions which usually include practical training. Initial teacher education for secondary education is provided by universities as an optional module alongside the student's academic specialisation. The module is highly theory-based and its quality varies from one university to another. Although the participation of teachers in continuous professional development is relatively high²⁶⁸ the proportion of teachers attending continuous professional development in topics related to equality, tolerance, segregation and inclusion is still very low.

The modernisation of the school curriculum is ongoing. The curriculum for primary education (grades 1-4) was recently revised and a new curricular framework for lower secondary schools (grades 5-8) was published in April 2016. The new curriculum emphasises the applicability of knowledge and the development of competences in an integrated and inter-disciplinary approach.

Experts selected through public competition are designing the new curricular plans for each discipline. Textbooks will cover 75 % of the total number of school hours, the rest being decided by teachers. The new curricular framework introduces new subjects like: 'critical thinking in the context of rights and responsibilities' (5th grade), 'intercultural education' (6th grade), 'education for democratic citizenship' (7th grade) and 'financial-economic education and entrepreneurship' (8th grade).²⁶⁹ This new curricula will be gradually brought in from the 2017/2018 school year. It will also give schools more flexibility to supplement the number of hours for specific topics or to introduce new topics in the optional curriculum managed by each school. ICT education has also been reinforced (by one hour/week). For upper secondary education (grades 9-12), further work is ongoing to design the curricular framework plan.

The student's statute – which regulates students' rights and obligations – was recently adopted. It introduced the right to challenge the result of written evaluations and to periodically evaluate teachers using anonymous questionnaires.

The low success rates in the bacalaureate exam remains a challenge for the quality of upper secondary education, despite an improvement compared to the previous year. In 2016, only 68.1 % of students who sat the upper secondary test passed. This raises challenges for the transition to tertiary education and creates labour market challenges in a context of already relatively high share of young people not in employment, education or training (NEETs) (17 % in 2015, above the EU average of 12 %; European Commission 2016). In this context, non-university programmes have been provided for students who failed the bacalaureate exam starting with the 2014/2015 school year. Furthermore, a dedicated project financed under a EUR 200 million loan from the World Bank- i.e. Romania Secondary Education Project (ROSE) - seeks to improve the transition of high school students to university. The project provides grants to low performing high schools, support for systemic interventions like teacher training, as well as support to universities to increase retention in the first year of tertiary education. The grant programme for upper secondary schools struggling with low performance was launched in April in 2016.

6. Modernising higher education

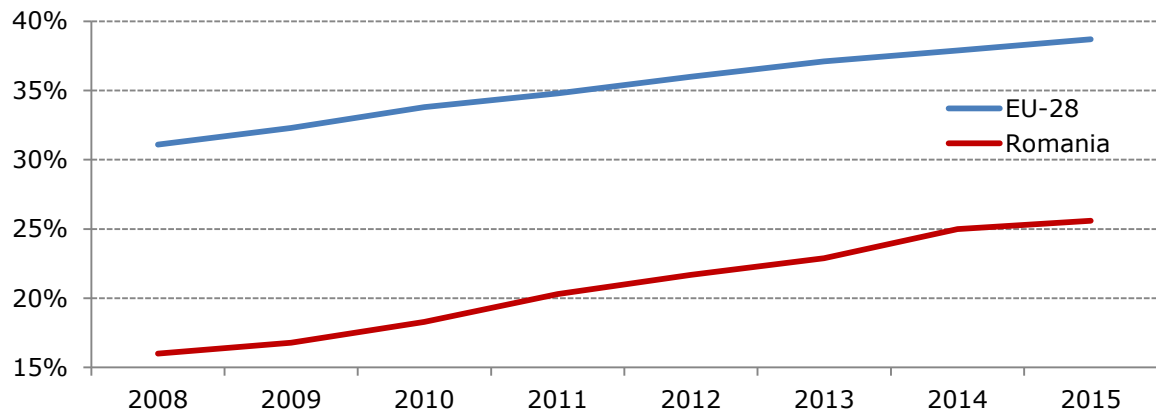
Tertiary educational attainment (30-34-year olds) continued to increase, reaching 25.6 % in 2015 (Figure 2). As a result, Romania is likely to exceed its Europe 2020 national target of 26.7 %. Nevertheless, this is a relatively low percentage compared to the EU-average (38.7 % in 2015) and is the second lowest in the EU. Against this background, Romania has one of the highest proportion of graduates in engineering, manufacturing and construction in the EU (21 % compared to 14%), but also one of the highest proportion of graduates in social science,

²⁶⁸ 83.3 % in 2014 (European Commission 2015).

²⁶⁹ Each of these topics has been allocated one hour per week.

business and law (42 % compared to EU-average of 34 %).²⁷⁰ The proportion of graduates in science, mathematics and computing was 6 % in 2014 (EU-average 10 %), while 2 % graduated in agriculture and agronomy. The employment rate of recent tertiary graduates²⁷¹ increased by 5 percentage points in 2015 reaching 77.1 %, but remained below the EU average of 81.9 %.

Figure 3. Tertiary educational attainment rate



Source: Eurostat.

Several further challenges persist in tertiary education in Romania (Ministry of Education 2015c):

- the financing mechanisms are not flexible enough to offer incentives for efficiency, modernisation, innovation or equity;
- the quality of education, in particular in private universities and non-university tertiary education, is unequal;
- the participation of students from rural areas, poor families and minorities is low;
- insufficient labour market relevance, including the fact that courses tend to provide limited opportunities to acquire the kinds of transversal skills that are valued on the labour market.

In 2015 Romania adopted a new Strategy for tertiary education which envisages a series of measures aiming to:

- improve participation at all levels of tertiary education;
- ensure strategic involvement by business sectors;
- develop flexible, high quality and labour market-relevant study programmes.

To achieve these goals, the strategy aims to:

- revise accreditation procedures in order to support their modernisation;
- expand the flexibility for institutions to redesign education programmes;
- develop a mechanism for continuous evaluation of programmes, transversal skills and entrepreneurship skills and to monitor graduate performance;
- improve the use of IT&C in curricula.

The strategy is in an early stage of implementation, which makes it difficult to draw conclusions at this stage.

To increase quality and labour market relevance, an increasing number of programmes are in the process of being shut down,²⁷² while a couple of higher institutions were put under

²⁷⁰ Eurostat (2014), Graduates by education level, programme orientation, sex and field of education, *educ_uae_grad02*.

²⁷¹ People aged 20-34 who left education between 1 and 3 years before the reference year.

²⁷² Between the academic years 2012-2013 and 2014-2015 468 programmes (17 % of the total number of programmes) were in the process of being shut down.

monitoring and 10 private higher institutions had all their programme in the process of being shut down (Ministry of Education 2015e). Career counselling centres were established in universities and also seek to provide evaluations of labour market needs.

The financing methodology for universities was recently updated to include performance criteria. At the same time, the single student registration system (*Registru Matricol Unic*), is now up and running. This is an electronic database intended to monitor the process of issuing diplomas, improve data collection and reduce bureaucracy by automatically importing data about lower secondary graduates. A strategy for the internationalisation of Romanian higher education and research is under preparation. An additional measure recently taken by the Ministry was a 20 % increase in the budget for student scholarships.

Plagiarism, especially at doctoral level, has been high on the public and political agenda. Several cases of plagiarised PhD theses, including by prominent politicians, increased public pressure on the Ministry of Education to change the legislation, to simplify and de-politicise plagiarism assessment. The planned evaluation of doctoral schools was postponed.

7. Modernising vocational education and training and promoting adult learning

At 60 % in 2014, the participation of upper secondary students in VET remained above the EU average (48 %). However, the employment rate of recent VET graduates was well below the EU average in 2015 (62.4 % compared to the EU average of 73 %).

VET²⁷³ is making progress, but remains characterized by insufficient correlation of qualifications and VET curricula with labour market developments, and inadequate quality assurance mechanisms.

The underfinancing of the sector, the quality of teaching staff, drop-outs and graduation rates are additional challenges.

Adult participation in lifelong learning is the lowest in the EU, standing at 1.3% in 2015. In general, participation in lifelong learning is positively correlated with the education level (3.1 % for tertiary graduates in 2015 vs 0.3 % for those with lower secondary education at most). This situation reinforces existing discrepancies and the low skills trap, particularly for older people with lower levels of education.

Starting with the 2014-2015 school year, graduates from lower secondary education have the option to follow a three-year professional education programme. This includes a significant component of practical training carried out at a school or in a company. Practical training represents about 20 % of the total learning time in the first year, while in the second and third years it increases to about 60 % and 72 % respectively. Companies may also offer scholarships to trainees, conditioned by frequency and high grades. A new set-up for professional training standards in professional education (upper secondary level) was adopted in 2015. On this basis, 200 professional training standards for ISCED levels 3 and 4 were designed and applied starting with the 2016-2017 school year.

In April 2016 Romania adopted a national VET strategy structured around four key objectives:

- 1) improving labour market relevance;
- 2) increasing participation;
- 3) improving quality;
- 4) developing innovation and national/international cooperation in VET.

Work is under way on laying down rules for and implementing a dual VET system involving private companies interested in this type of training.

²⁷³ IVET in Romania comprises professional schools, VET pathway in upper secondary education level (VET high schools) and post-secondary VET education (VET post-high school and professional schools).

Furthermore, in June 2016 Romania adopted a National strategy for lifelong learning. It aims at improving participation and increasing labour market relevance. Planned measures seek to broaden access to lifelong learning opportunities for people who are usually underrepresented (i.e. older workers, low-skilled people, Roma, women, rural residents, young people in transition from school to work, persons with disabilities), but also for other target groups such as teachers and professors, adult learners, training providers, employers, etc.

Finally, the adoption of the new set-up for the National Registry of Qualifications was postponed. The Registry is intended to serve as a single reference tool in training, ensuring fair access to the national and European labour markets and the matching of education and training and the labour market needs.

8. References

- European Commission (2015), Education and Training Monitor, Country fiche Romania, http://ec.europa.eu/dgs/education_culture/repository/education/tools/docs/2015/monitor2015-romania_en.pdf
- European Commission (2016a), Country Report Romania 2016 including an In-Depth Review on the prevention and correction of macroeconomic imbalances, http://ec.europa.eu/europe2020/pdf/csr2016/cr2016_romania_en.pdf
- European Commission (2016b), Effective Roma integration measures in the Member States 2016, http://ec.europa.eu/justice/discrimination/files/roma-report-2016_en.pdf
- Council recommendation of 12 July 2016 on the 2016 national Reform Programme of Romania and delivering a Council opinion on the 2016 Convergence of Romania, http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.C_.2016.299.01.0073.01.ENG&toc=OJ:C:2016:299:TOC
- Ministry of Education (2015a), Strategia pentru Reducerea Părăsirii Timpurii a Școlii în România 2015-2020, <http://www.edu.ro/index.php/articles/23306>
- Ministry of Education (2015b), Strategia națională de învățare pe tot parcursul vieții 2015-2020, <http://www.edu.ro/index.php/articles/23305>
- Ministry of Education (2015c), Strategia națională pentru învățământ terțiar 2015-2020, <http://www.edu.ro/index.php/resurse/23345>
- Ministry of Education (2015d), Raport privind starea învățământului preuniversitar în România, <https://www.edu.ro/sites/default/files/Raport%20Stare%20invatamant%20preuniversitar%202015.pdf>
- Ministry of Education (2015e), Raport privind starea învățământului superior în România, <https://www.edu.ro/raport-privind-starea-%C3%AEnv%4%83%C8%9B%C4%83m%C3%A2ntului-superior-%C3%AEn-rom%C3%A2nia-2015>
- National Roma Agency (2014), Strategia Guvernului Romaniei de incluziune a cetatenilor romani aparținând minorității rome pentru perioada 2015-2020, http://www.anr.gov.ro/docs/Site2014/Strategie/Strategie_final_18-11-2014.pdf
- Roma decade (2015), Roma Inclusion Index 2015, <http://www.romadecade.org/news/roma-inclusion-index-2015/9810>
- European Union Agency for Fundamental Rights (2012), The situation of Roma in 11 EU Member States. Survey results at a glance, http://fra.europa.eu/sites/default/files/fra_uploads/2099-FRA-2012-Roma-at-a-glance_EN.pdf
- European Union Agency for Fundamental Rights (2014), Report on education 2014: The situation of Roma in 11 EU Member States, http://fra.europa.eu/sites/default/files/fra-2014_roma-survey_education_tk0113748enc.pdf
- Government of Romania (2015), Convergence Programme 2015-2018, http://ec.europa.eu/europe2020/pdf/csr2015/cp2015_romania_en.pdf
- OECD (2013), PISA 2012 results: What Students Know and Can do. Student Performance in Mathematics, Reading and Science (Volume I), <http://www.oecd.org/pisa/keyfindings/pisa-2012-results-volume-I.pdf>

OECD (2014), TALIS 2013 Results: An International Perspective on Teaching and Learning, Paris: OECD Publishing

World Bank (2014), Advisory Services Agreement on Provision of Inputs for the preparation of a Draft National Strategy and Action Plan on Social Inclusion and Poverty Reduction 2014-2020, Background Document, Volume II

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_ipart (2011), educ_uoe_enra10 (2014)
Employment rate of recent graduates	edat_lfse_24
Adult participation in lifelong learning	trng_lfse_01
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

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Slovakia



1. Key indicators

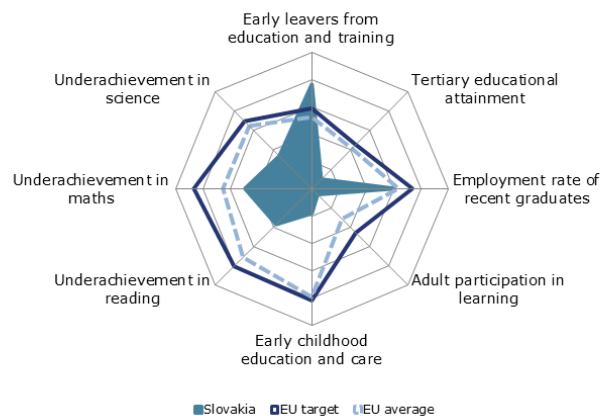
		Slovakia		EU average		
		2012	2015	2012	2015	
ET 2020 benchmarks						
Early leavers from education and training (age 18-24)	Total	5.3%	6.9%	12.7%	11.0%	
Tertiary educational attainment (age 30-34)	Total	23.7%	28.4%	36.0%	38.7%	
Early childhood education and care (ECEC) (from age 4 to starting age of compulsory education)		76.9% ¹¹	77.4% ¹⁴	93.2% ¹¹	94.3% ¹⁴	
Proportion of 15 year-olds with underachievement in:	Reading	28.2%	:	17.8%	:	
	Maths	27.5%	:	22.1%	:	
	Science	26.9%	:	16.6%	:	
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-8 (total)	68.6%	75.2%	75.9%	76.9%	
Adult participation in lifelong learning (age 25-64)	ISCED 0-8 (total)	3.2%	3.1%	9.2%	10.7%	
Other contextual indicators						
Education investment	Public expenditure on education as a percentage of GDP	4.1%	4.1% ¹⁴	5.0%	4.9% ^{14,P}	
	Expenditure on public and private institutions per student in € PPS	ISCED 1-2	:	€4.278 ¹³	:	: ¹³
		ISCED 3-4	€3.821 ^d	€4.299 ¹³	:	: ¹³
		ISCED 5-8	:	: ¹³	:	: ¹³
Early leavers from education and training (age 18-24)	Native-born	5.3%	6.9%	11.6%	10.1%	
	Foreign-born	:	:	24.9%	19.0%	
Tertiary educational attainment (age 30-34)	Native-born	23.7%	28.2%	36.7%	39.4%	
	Foreign-born	:	:	33.8%	36.4%	
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-4	61.6%	69.3%	69.7%	70.8%	
	ISCED 5-8	75.2%	80.3%	81.5%	81.9%	
Learning mobility	Inbound graduates mobility (bachelor)	4.2% ¹³	4.2% ¹⁴	5.5% ¹³	5.9% ¹⁴	
	Inbound graduates mobility (master)	3.5% ¹³	4.4% ¹⁴	13.6% ¹³	13.9% ¹⁴	

Sources: Eurostat (see section 9 for more details); OECD (PISA).

Notes: data refer to weighted EU averages, covering different numbers of Member States depending on the source; b = break in time series, d = definition differs, p = provisional, u = low reliability, 11 = 2011, 13 = 2013, 14 = 2014.

Further information can be found in the relevant 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 2015) and OECD (PISA 2012).

Note: all scores are set between a maximum (the strongest performers, represented by the outer ring) and a minimum (the weakest performers, represented by the centre of the figure).

2. Highlights

- The new Government has embarked on ambitious reforms at all education levels and begun preparing a 10-year education strategy. It has also committed to engaging in wide consultations to support these processes.
- Pupils' socioeconomic background has a high impact on educational performance and the participation of Roma in mainstream education needs to increase. While the national early school leaving rate remains low compared with the EU, it has been worsening since 2010 and is particularly high in the eastern regions and among the Roma.
- The capacity of early childhood education and care is being strengthened to enable higher participation rates. This could in particular benefit the educational outcomes of socioeconomically disadvantaged pupils.
- Making the teaching profession more attractive to talented young people and strengthening all phases of teacher education will be key to improving educational outcomes and reducing educational inequity.
- The higher education sector is subject to a wide reform covering accreditation, funding, cooperation with employers and widening the social makeup of the student population.

Box 1: The 2016 European Semester country-specific recommendation on education and training

The 2016 European Semester country-specific recommendations (CSRs) to Slovakia (Council of the European Union 2016) included a recommendation on education and training:

Improve educational outcomes by making the teaching profession more attractive and by increasing the participation of Roma children from early childhood in mainstream education.

3. Investing in education to address demographic and skill challenges

Slovakia's general government expenditure on education was 4.1 % of GDP in 2014, much lower than the 4.9 % EU average.²⁷⁴ Only four other Member States had similar or lower levels. The manifesto of the Government that took office in March 2016 includes a EUR 2 billion increase in the budget for education until 2020, half of which will come from EU sources.

The authorities increased the salaries of teachers and other pedagogical staff by 4 % in January 2016 and by 6 % in September 2016. This includes staff teaching in higher education. Teachers however consider the increases insufficient. The Ministry of Education announced a possible further increase for 2017 and, in line with the 2016 National Reform Programme, a further average annual increase of 6 % is envisaged for 2018-2020 (Ministry of Finance, 2016). Faster salary increases are planned for younger teachers to increase the attractiveness of the profession to talented young people.²⁷⁵ Considering the salary increases of most public sector employees, the salaries of teachers remain very low, including by international comparison (OECD 2015).²⁷⁶

²⁷⁴ Source: Eurostat, General government expenditure by function (COFOG) database, table gov_10a_exp.

²⁷⁵ This intended faster increase for salaries of younger teachers is also supported by the fact that, in international comparison, the gap in salaries is wider for younger teachers (Educational Policy Institute 2015)

²⁷⁶ The salaries of teachers at primary and secondary level are less than half of those of other Slovak workers with similar educational attainment: the ratio is the second lowest among OECD countries.

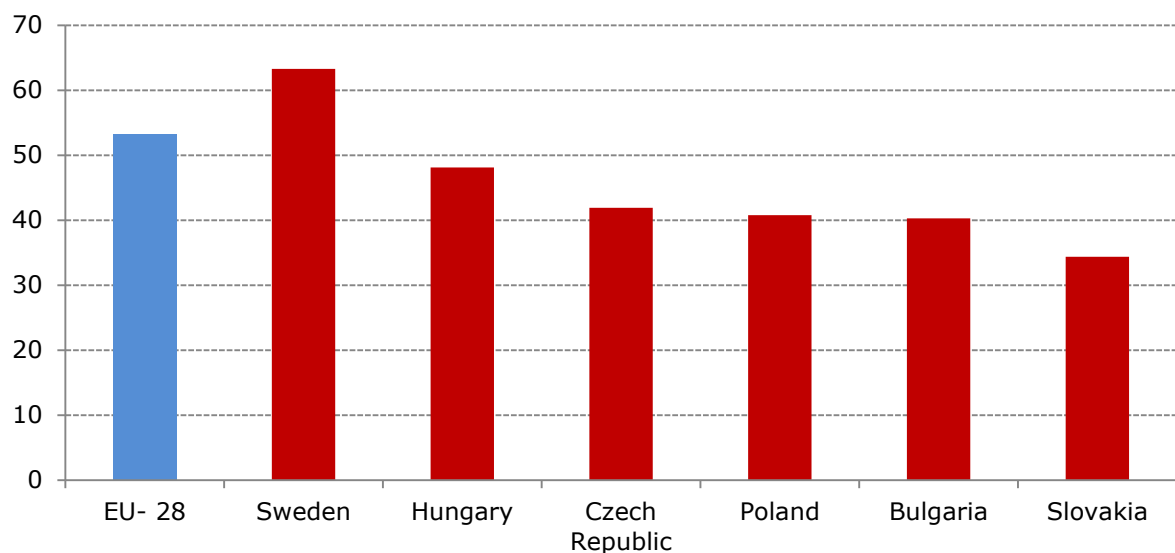
Additional EU funding was allocated to strengthen the capacity of early childhood education and care and primary education. The focus is on places with the highest unmet demand and with a large proportion of marginalised Roma communities.

Slovakia is also reviewing its funding system for school education to make it more efficient. The school network requires optimising owing to smaller student intakes on account of a demographic decline,²⁷⁷ and training programmes that are not sufficiently aligned with the needs on the labour market. Optimising the school network is expected to free up some budget that could be reinvested in salaries in the future. The process is supported by an OECD review on the effectiveness of resource use in schools (OECD 2016).

The new Government is working towards increasing the efficiency and effectiveness of public spending in all sectors through the so-called 'value for money' initiative. There is a particular need to strengthen the management of EU funds and ensure that the results of national projects are then mainstreamed to ensure sustainable impact.

The proportion of the population with less than primary and primary and lower secondary education (ISCED 0-2 qualifications) is the third lowest in the EU — only 8.3 % for 25-64 year-olds compared to the EU average of 25.8 %.²⁷⁸ At the same time, Slovakia has the lowest employment rate in the EU for those who have not attained upper secondary education (see figure 2 below), making the cost of leaving school early high.

Figure 2. Employment rate for 25-64-years-olds with ISCED 0-2 qualifications, 2015



Source: Eurostat. Online data code: *lfsa_ergaed*.

4. Tackling inequalities and promoting inclusion

The early school leaving rate remained low at 6.9 % in 2015, while the EU average was 11 %. Nevertheless, the rate continued to increase in Slovakia from its lowest level of 4.7 % in 2010, and since 2013 it has exceeded the national Europe 2020 target. Targeted measures are needed in view of the very low employment rate for those without upper secondary education (see above) and high regional variations in early school leaving, from 3.6 % in the Bratislava region to 10.4 % in the east of the country. These would particularly benefit Roma children whose estimated early school leaving rate was 83 % in 2011 (European Union Agency for Fundamental Rights 2014).

²⁷⁷ The number of students dropped by 18.7 % between 2005 and 2013, see OECD (2016).

²⁷⁸ Source: Eurostat, table *edat_lfse_03*.

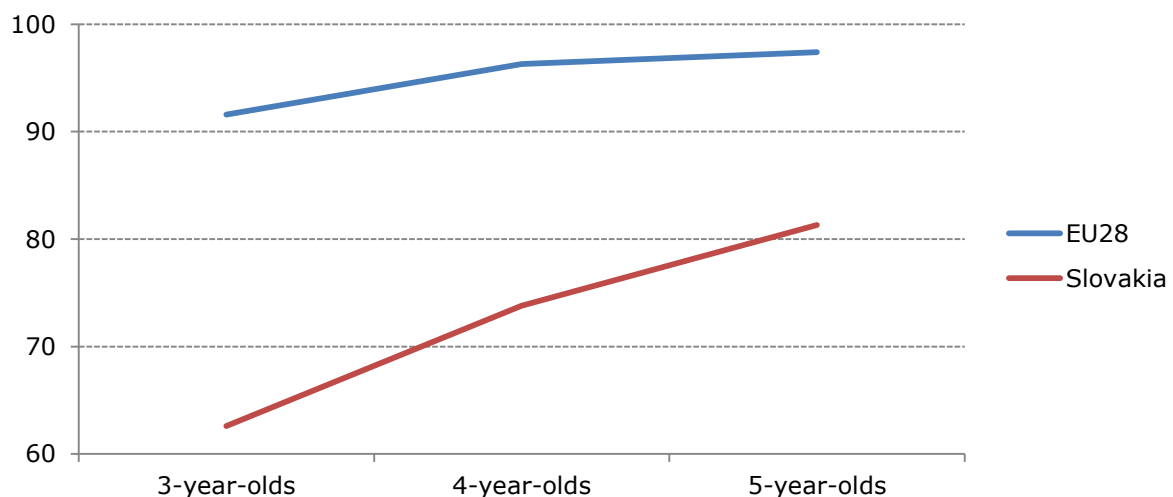
The participation rate in early childhood education and care (ECEC) remains low — 77.4 % in 2014 against an EU average of 93.1 % (see figure 3 below). The participation rate of socioeconomically disadvantaged children, in particular the Roma, is significantly lower than this, which negatively affects their future educational outcomes. The 2012 OECD Programme for International Student Assessment (PISA) showed that Slovakia was among the countries where ECEC participation had the greatest impact on future educational outcomes (OECD 2013). Regional disparities are high: in 2012, the participation rates for 4-year-olds ranged from 89.2 % in the Bratislava region to 59.8 % in the east of Slovakia. Overall ECEC capacity is insufficient. The municipalities are largely responsible for ECEC funding. To strengthen the link between ECEC funding and responsibility for ensuring sufficient places are provided, the 2016 review on school resources recommends transferring the funding responsibility from the municipalities to the state (OECD 2016).

The PISA 2012 results also highlighted declining educational outcomes in all types of schools. The impact of socioeconomic background on 15-year-olds' performance was the highest in Slovakia of the OECD countries (OECD 2013). The low attractiveness of the teaching profession, low public funding for education and early tracking probably all contribute to declining educational outcomes and significant inequalities.²⁷⁹ The survey also highlighted teacher shortages in socioeconomically disadvantaged schools and in rural areas. Finally, the 2013 OECD Teaching and Learning International Survey (TALIS) results showed that Slovak teachers receive insufficient training in teaching in multicultural settings and teaching pupils with special needs (OECD 2014b).

The ongoing expansion of ECEC capacities is likely to bring benefits in terms of educational outcomes and equity. The new Government's manifesto aims at a nearly 100 % participation rate for children aged four to six by 2020. It announces the removal of barriers for poor families and pays special attention to regions with high unemployment and Roma communities. Actual attendance and the quality and inclusiveness of schools and teaching will need to be closely monitored. Guaranteeing entitlement to place in ECEC to all children would be a positive measure.

The new ECEC curriculum that has been pilot-tested during the 2015/2016 academic year was introduced in all schools from September 2016 and will be evaluated in the autumn 2016.

Figure 2. Participation in early childhood education and care by age as % of corresponding population, 2013



Source: Eurostat. Online data code: *educ_uoe_enrp07*.

²⁷⁹ The first tracking takes place when pupils are aged 10/11, when some of them leave regular basic schools for 'long form' programmes in so-called grammar schools.

In order to facilitate school attendance and avoid long commuting for young children, the National Council amended the rules on the minimum number of pupils per class mid-2016: they make exceptions for all schools accommodating only children in grades 1-4 as well as for all basic schools with a minority language of instruction. By enabling some small schools with instruction in national minorities' languages to remain open, these exceptions promote equity.

Box 2: Education of Roma children and inclusive education

The education of Roma children is a key challenge in the Slovak Republic. In particular, the Roma are over-represented in special schools or classes with lower learning standards, and the situation has deteriorated over the past decade (Decade of Roma Inclusion 2015). This reduces their chances of completing upper secondary and higher education, and hampers their opportunities in the labour market. It also has a negative impact on their possibilities for becoming teachers themselves and acting as role models for their peers.

Slovakia's Public Defender of Rights considers the assessment of the school-readiness of children to be discriminatory. The mass enrolment of Roma children in special education is the result of weak law enforcement, inadequate school-readiness diagnostic procedures and low awareness among Roma families of the long-term consequences of healthy children being misplaced in special education.

In April 2015, the European Commission initiated infringement proceedings against Slovakia for the discrimination of Roma children in education, which is in breach of Directive 2000/43/EC on Racial Equality. As a consequence, the Education Act was amended in June 2015, with the objective of introducing preventive and corrective measures relating to children being misplaced in special schools, based solely on their disadvantaged socioeconomic background.

The amended Education Act includes the obligation to place socioeconomically disadvantaged children into regular classes, with individual support measures. Special education is being restricted to those with a diagnosed medical disability. Extra public funding for the socially disadvantaged is available only for children placed in mainstream education. Monitoring of diagnoses by the State School Inspectorate is being strengthened, and the possibility of placing children in catch-up classes ('specialised classes') is being limited to a maximum period of one year.

The new measures only entered into force on 1 January 2016, so it is too early to assess their impact. It is however important to ensure that the State School Inspectorate has enough means to be able to carry out its monitoring tasks. Measures to encourage the recruitment of teacher assistants from the Roma community could also contribute to improving the educational outcomes of Roma children (World Bank 2016). Finally, while special schools could be encouraged to support children and teachers in mainstream schools, the fact that mainstream schools fall under the responsibility of local and regional authorities while special education remains under direct state supervision could hamper interaction between them (OECD 2016).

Apart from the specific issue of Roma segregation, the new Government's manifesto promotes inclusive education as an effective tool for eliminating social exclusion in broader terms. Instructions to schools for the academic year 2016/2017 oblige all kindergartens, primary schools and secondary schools to implement inclusive education. One concrete measure is to remove the current practice of having different groups of children in the mornings and the afternoons in some schools ('two shifts'). This will facilitate all-day programmes and thus improve the chances of the disadvantaged. Curricula will include civics education targeting racism, xenophobia and other forms of extremism.

To support the reform, new EU-supported projects are planned. They include continuing professional development activities to teach teachers how to handle heterogeneous groups and increasing ECEC capacity in areas with large Roma populations.

While the new measures are likely to bring improvements, additional measures may be needed. These include preventing the emergence of 'Roma mainstream schools' despite anti-

discrimination and anti-segregation legislation. This will require making Roma families aware of the opportunities for ensuring a good education for their children. Raising awareness among the majority population of the individual and societal benefits of inclusive education may also be needed to prevent the 'white-flight' from certain schools with a high proportion of Roma children. The recent school resources review moreover suggests monitoring the equitable distribution of teachers across schools and introducing incentives to attract teachers to rural areas and disadvantaged schools (OECD 2016).

5. Modernising school education

Strengthening the attractiveness of the teaching profession is a key challenge in Slovakia. Initial teacher education does not devote a high proportion of time to practical training. Participation by teachers in continuing professional development is low and the courses teachers attend have not always corresponded to the needs of participants (OECD 2014b). Teachers highlight the need to increase their training in teaching students with special needs and developing ICT skills for teaching. Teacher training on how to assess pupils' learning outcomes, and to adjust teaching and learning accordingly, need to be strengthened (OECD 2014a). These elements combined suggest that the courses on offer do not fully correspond to the actual needs of teachers. Therefore they do not help greatly in improving teaching quality and achieving better educational outcomes and equity.

Low pay is another important factor that makes teaching unattractive as a profession to talented young people (also see section 3 above). It contributes to shortages of qualified teachers in fields such as English and ICT, and in rural areas and disadvantaged schools.

To restore the attractiveness of the profession, besides increasing salaries, the authorities have reduced the administrative burden of teachers and are considering further improvements (Ministry of Finance, 2016). The government manifesto plans to improve the supply and choice of textbooks and digital learning products; EU-supported projects have already contributed to developing such objectives. It also aims to raise the standards for entering and graduating from teacher education programmes to encourage talented and well prepared young people to enter the profession.

The 2016 National Reform Programme confirms the Government's intention to review initial teacher education with the aim of improving practical training, and to improve the continuing professional development of teachers so that it better corresponds to real needs and professional standards, based on a recent analysis of the system (Educational Policy Institute 2016). This will include better evaluation of the programmes offered. It would be useful to evaluate these both in terms of relevance to the needs of teachers and, ultimately, in terms of impact on the educational outcomes and on equity. Adequate research and analysis in pedagogy could provide useful support to the process.

While the education system is relatively decentralised, the central evaluation framework is being strengthened with the adoption of new national tests at different educational levels. If accompanied by sufficient research and analysis – including on the socioeconomic intake of schools - the tests could add a useful dimension and contribute to assessing the support needs of schools, pedagogical staff and pupils. According to the Government's manifesto, the State School Inspectorate will develop quality indicators for internal and external quality assurance purposes. It is crucial to ensure that the State School Inspectorate receives sufficient resources so as to maintain the capacity for carrying out the regular cycle of complex school inspections. It is essential also to make sure that inspection activities go beyond administrative compliance by focusing on giving improvement-oriented feedback to schools and teachers to enable them to improve their performance.

6. Modernising higher education

The tertiary educational attainment rate nearly doubled over the last decade, increasing from 14.4 % in 2006 to 28.4 % in 2015. In view of the strong correlation between tertiary education and the educational attainment of parents in Slovakia, pointing to low social mobility, efforts are needed to broaden the socioeconomic make-up of the student population. Due to demographic

trends, the absolute number of students entering tertiary education is decreasing, putting pressure on higher education institutions. Slovak adults with tertiary education qualifications earn on average nearly 75 % more than those who attained upper-secondary education (OECD 2015). The employment rate for higher education graduates was 80.3 % in 2015, compared to the EU average of 81.8 %.

Graduate-tracking, systematic monitoring of completion rates and quality-based funding of institutions are lacking. A large number of students prefer to study in the Czech Republic. Ageing of the teaching staff is a critical factor – the median age of teachers is 62 years and only 25 % of them are younger than 56 (Ministry of Education 2015). English language competence is not required as a pre-condition for full-time teaching staff, which hampers internationalisation and participation in international research.

According to the Accreditation Committee, study programmes do not correspond to labour market needs. Whereas two thirds of the programmes offered cover the humanities and social science, only one third offers technical and natural science studies. Manufacturing and industrial production in Slovakia's GDP largely favours a reverse proportion (Accreditation Committee 2016). Professionally-oriented programmes and bachelor programmes directed at the labour market are missing. The report recommends introducing funding mechanisms to encourage studies in fields corresponding to labour market needs while discouraging those in fields where employment prospects are poorer. Employers also record skills mismatches.²⁸⁰

The complex re-accreditation exercise that was finalised in 2015 has resulted in the closure of some low-quality programmes and requests for some institutions to bring about improvements. The authorities have refused the opening of two new private universities. These elements point to a stronger focus on quality.

The authorities re-launched the long-standing reform of higher education in 2016 and will propose amendments to the legislation before the end of 2016. The 2016 National Reform Programme and the Ministry announce:

- reforming the Accreditation Committee, with the intention of meeting international standards, and making the Committee a member of the European Association for Quality Assurance in Higher Education (ENQA); increasing the transparency of accreditation, by accrediting study fields rather than study programmes;
- improving the information on learning and the labour market outcomes of graduates;
- a revision of study programmes with employers' representatives to provide learning outcomes that are aligned to the national qualifications framework;
- the creation of profession-oriented bachelor programmes supported by funds from the 2014-2020 European Structural and Investment Funds;
- promoting the internationalisation of higher education, including by supporting programmes in foreign languages;
- a reform of the funding system, with a view to better taking quality criteria into consideration;
- increasing the salaries of teaching staff (see above);
- social support and support for students with special needs, including those from marginalised communities;
- making the Slovak Academy of Science more accountable and flexible in its cooperation with business.

These measures seem to be in line with policy recommendations at EU level. Their effectiveness will depend on their final design, ownership by stakeholders and their effective implementation and resourcing.

²⁸⁰ The Association of Automotive Industry (ZAP) points out that, based on analyses, 55 % of university graduates are not employed in their field of study. ZAP also notes that more than 30 % of university students study programmes that are irrelevant to the needs of the labour market.

7. Modernising vocational education and training and promoting adult learning

The proportion of upper secondary students (ISCED 3) in Slovakia in vocational education and training (VET) increased slightly in 2014 to 69 %. The employment rate of recent VET graduates was slightly higher than the EU average in 2015 (73.5 %, compared to the EU average of 73.0 %).²⁸¹ Adult participation in learning remains low: 3.1 % in 2015, with only two other Member States recording lower participation rates.

Slovakia does not have a comprehensive analytical tool to assess graduate outcomes. The only available data are on (un)employment rates of graduates from secondary and higher education. These do not allow for a thorough analysis to be made of vertical and horizontal mismatches or shortages.²⁸² As a consequence, the current structure, governance and reforms of the VET system are not based on evidence. Graduate tracking would make more relevant analyses possible.

Many employers claim skills shortages for technical skilled professions. Shortages and mismatches however cannot only be attributed to the VET system. There are numerous external factors such as the mobility of skilled workers to other countries, the low attractiveness of specific occupations, the possible continuation of VET graduates to higher education and barriers to regional mobility within the country.

The introduction of a dual VET scheme in 2015 has been successful in terms of setting the framework conditions and attracting companies to join the scheme. However, experience of its implementation so far proves that more resources need to be invested in encouraging young people to enter the scheme. More activities are needed that are targeted at young people in compulsory education and their families, including a greater involvement by companies in guidance and communication activities on the benefits of a vocational career. Innovative schemes to make professions with skills shortages, in particular, more attractive should be explored and expanded (such as existing practices where companies provide a 'job guarantee' for those people who enter their dual VET programme).

Slovakia has the highest unemployment rate of low-qualified people in the EU (34.4 % compared to the EU average of 16.3 % in 2015). Thus an intensified effort to address this is called for, along with increased investment in continuing VET and adult learning. The recently announced plans to promote practices to validate non-formal and informal learning are a step in the right direction and should be pursued. In addition to the traditional measures of active labour market policies and the recently implemented Requalification Passport, Slovakia could benefit from exploring alternative ways of up-skilling, for instance through work-based learning and the development of apprenticeship schemes for (long-term) unemployed adults. This would equip people with skills that are directly relevant to companies.

8. References

Accreditation Committee (2016), 2015 activity report, <http://www.akredkom.sk/zapis/914fo/prku9191.pdf>

Council of the European Union (2016), Council recommendation of 12 July 2016 on the 2016 National Reform Programme of Slovakia and delivering a Council opinion on the 2016 Stability Programme of Slovakia, 2016/C 299/15, [http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32016H0818\(15\)&from=EN](http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32016H0818(15)&from=EN)

²⁸¹ The indicator shows the employment rate of graduates aged 20-34, whose highest educational attainment is an upper-secondary (ISCED 3) or post-secondary non-tertiary (ISCED 4) qualification, who graduated 1 to 3 years before the reference year and who are not currently enrolled in any further formal or non-formal education or training.

²⁸² Vertical mismatches occur when there is a discrepancy between the level of education or skills of graduates and the level required by their job. Horizontal mismatches occur when graduates do not work in the field of their study.

Educational Policy Institute (2015), analysis of teachers' salaries,
<http://www.minedu.sk/data/att/9207.pdf>

Educational Policy Institute (2016), analysis of the system of continuing professional development of teachers,
<http://www.minedu.sk/data/att/9665.pdf>

European Union Agency for Fundamental Rights (2014), Roma survey — Data in Focus: Education: the situation of Roma in 11 EU Member States,
http://fra.europa.eu/sites/default/files/fra-2014_roma-survey_education_tk0113748enc.pdf

Ministry of Education (2015), Annual report on higher education 2014,
<http://www.minedu.sk/data/att/8849.zip>

Ministry of Finance of the Slovak Republic (2016), National Reform Programme of the Slovak Republic 2016,
http://ec.europa.eu/europe2020/pdf/csr2016/nrp2016_slovakia_sk.pdf

OECD (2013), PISA 2012 results: What Students Know and Can do. Student Performance in Mathematics, Reading and Science (Volume I),
<http://www.oecd.org/pisa/keyfindings/pisa-2012-results.htm>

OECD (2014a), Reviews of Evaluation and Assessment in Education, Slovak Republic,
http://www.keepeek.com/Digital-Asset-Management/oecd/education/oecd-reviews-of-evaluation-and-assessment-in-education-slovak-republic-2012_9789264117044-en#page1

OECD (2014b), TALIS 2013 Results: An International Perspective on Teaching and Learning, Paris: OECD Publishing,
<http://www.oecd.org/edu/school/talis.htm>

OECD (2015), Education at a Glance 2015, OECD indicators,
http://download.ei-ie.org/Docs/WebDepot/EaG2015_EN.pdf

OECD (2016), OECD Reviews of School Resources, Slovak Republic,
http://www.keepeek.com/Digital-Asset-Management/oecd/education/oecd-reviews-of-school-resources-slovak-republic-2015_9789264247567-en#page16

The Decade of Roma Inclusion Secretariat Foundation (2015), Roma Inclusion Index 2015,
http://www.romadecade.org/cms/upload/file/9810_file1_roma-inclusion-index-2015-s.pdf

The World Bank (2016), Being fair, faring better – Promoting equality of opportunity for marginalized Roma,
http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2016/01/27/090224b084103a5f/2_0/Rendered/PDF/Being0fair00fa0or0marginalized0Roma.pdf

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_ipart (2011), educ_uoe_enra10 (2014)
Employment rate of recent graduates	edat_lfse_24
Adult participation in lifelong learning	trng_lfse_01
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

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Slovenia



1. Key indicators

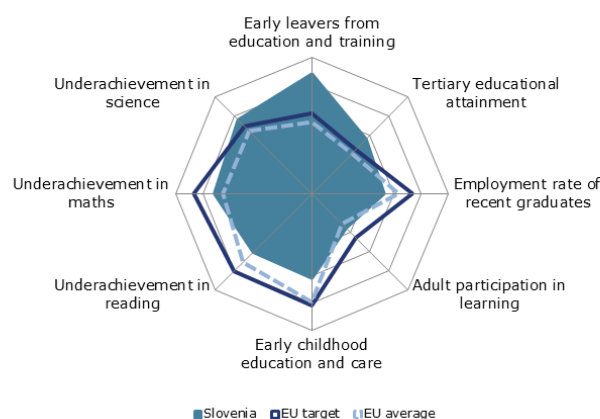
		Slovenia		EU average		
		2012	2015	2012	2015	
ET 2020 benchmarks						
Early leavers from education and training (age 18-24)	Total	4.4%	5.0%	12.7%	11.0%	
Tertiary educational attainment (age 30-34)	Total	39.2%	43.4%	36.0%	38.7%	
Early childhood education and care (ECEC) (from age 4 to starting age of compulsory education)		89.8% ¹¹	89.4% ¹⁴	93.2% ¹¹	94.3% ¹⁴	
Proportion of 15 year-olds with underachievement in:	Reading	21.1%	:	17.8%	:	
	Maths	20.1%	:	22.1%	:	
	Science	12.9%	:	16.6%	:	
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%	71.5%	75.9%	76.9%	
Adult participation in lifelong learning (age 25-64)	ISCED 0-8 (total)	13.8%	11.9%	9.2%	10.7%	
Other contextual indicators						
Education investment	Public expenditure on education as a percentage of GDP	6.5%	5.9% ¹⁴	5.0%	4.9% ^{14,p}	
	Expenditure on public and private institutions per student in € PPS	ISCED 1-2	€7.133	€7.085 ¹³	:	: ¹³
		ISCED 3-4	€5.359	€5.770 ¹³	:	: ¹³
ISCED 5-8		€8.489	: ¹³	:	: ¹³	
Early leavers from education and training (age 18-24)	Native-born	4.2%	4.3%	11.6%	10.1%	
	Foreign-born	10.1%	16.5% ^u	24.9%	19.0%	
Tertiary educational attainment (age 30-34)	Native-born	41.2%	45.6%	36.7%	39.4%	
	Foreign-born	12.6% ^u	19.9% ^u	33.8%	36.4%	
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-4	63.0%	60.2%	69.7%	70.8%	
	ISCED 5-8	78.6%	78.5%	81.5%	81.9%	
Learning mobility	Inbound graduates mobility (bachelor)	1.5% ¹³	2.0% ¹⁴	5.5% ¹³	5.9% ¹⁴	
	Inbound graduates mobility (master)	2.6% ¹³	2.6% ¹⁴	13.6% ¹³	13.9% ¹⁴	

Sources: Eurostat (see section 9 for more details); OECD (PISA).

Notes: data refer to weighted EU averages, covering different numbers of Member States depending on the source; b = break in time series, d = definition differs, p = provisional, u = low reliability, 11 = 2011, 13 = 2013, 14 = 2014.

Further information can be found in the relevant 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 2015) and OECD (PISA 2012).

Note: all scores are set between a maximum (the strongest performers, represented by the outer ring) and a minimum (the weakest performers, represented by the centre of the figure).

2. Highlights

- With a growing number of tertiary-educated people and a low rate of early school leaving, Slovenia has already met its national targets under the Europe 2020 strategy.
- Fluctuating demographic trends pose a great challenge to maintaining a consolidated network of schools and an efficient system of school funding.
- The proportion of tertiary graduates among the unemployed has been on the increase, pointing to youth employability issues.
- The higher education sector is undergoing reforms which aim to increase completion rates, encourage internationalisation and strengthen internal quality assurance.
- Vocational education is attended by a large number of young people, yet apprenticeships are being reintroduced to engage employers further and improve transition to the labour market.

Box 1: The 2016 European Semester country-specific recommendation on education and training

The 2016 European Semester country-specific recommendations (CSRs) to Slovenia (Council of the European Union 2016) included a recommendation on education and training:

In consultation with social partners, increase the employability of low-skilled and older workers, including through targeted lifelong learning and activation measures

3. Investing in education to address demographic and skill challenges

Having ranked highly in the past, alongside the Scandinavian countries, Slovenia cut its investment in education significantly in 2014. A drop in expenditure from 6.5 % of GDP in 2013 to 5.9 % of GDP in 2014²⁸³ happened at the same time as the proportion of general government expenditure on education rose from 10.9 % to 11.9 %.²⁸⁴

Nevertheless, Slovenian teachers' salaries are below the EU-21 average in all education sectors and regardless of years of experience (OECD 2015)²⁸⁵. Slovenia is among five countries in the EU (together with Greece, Italy, Cyprus and Lithuania) that had a freeze on teachers' salaries in 2014/2015 (Eurydice 2015a). In Slovenia's case, a range of measures were implemented since 2009/2010 to prevent teachers' salaries from increasing. The amount of funding for pre-tertiary education and the low level of salaries has led some international studies to conclude that the education sector is oversized in terms of employment and needs to be reformed to increase the efficiency of spending (IMF 2015). Furthermore, a report by the Slovenian Court of Auditors found that the Ministry of Education, Science and Sport acted inefficiently in terms of regulating teachers' working hours and working obligations in having no unified, country-wide system of recording their working hours (Court of Auditors 2016a). The ministry is still working on finding an adequate solution.

Slovenia's employment rates are slowly recovering to their pre-crisis levels. The employment rate of tertiary-educated graduates, at 84.4 %, is around the EU average of 84.1 % in 2015.

²⁸³ National data put this figure at 5.3 % of GDP in 2014, due to a different methodology (SORS 2016a).

²⁸⁴ Source: Eurostat, General government expenditure by function (COFOG) database. Online data code: gov_10a_exp.

²⁸⁵ According to a definition by the OECD, EU21 constitutes all EU countries prior to the accession of the 10 candidate countries on 1 May 2004, plus the four eastern European member countries of the OECD, namely Czech Republic, Hungary, Poland, Slovak Republic.

However, the proportion of tertiary graduates among the unemployed has increased from 12 % in 2011 to 18 % in 2015. Only half of those with at most primary education and around two thirds of those with an upper secondary diploma are in employment, which is lower than the equivalent figures for the EU as a whole. The rate of young people (15-24) not in employment, education or training is low by European standards but has steadily increased since 2008 to reach 9.5 % in 2015. The EU-wide trend, on the other hand, shows the number of disengaged people falling since the post-crisis peak.²⁸⁶

The size of the demographic cohorts is a major challenge for the Slovenian education system. The number of children enrolling in basic schools (integrated primary and lower secondary levels) has been growing since 2011/2012 due to larger incoming cohorts. However, these cohorts have not reached upper secondary education yet, where enrolments fell between 2009 and 2014. 2015 saw a small increase in the number of enrolments in secondary education, concentrated in technical and vocational education. On the other hand, enrolments in general secondary education (*gymnasia*) have been consistently falling (6 902 students enrolled in 2015 against 8 542 in 2009) (SORS 2016b).

In 2015, the Slovenian Constitutional Court decided that all private basic school programmes should be fully (100 %) funded by public funds.²⁸⁷ Such an arrangement would be unique in the EU. Currently, private programmes (Waldorf, Montessori and the Catholic schools) are up to 85 % publicly funded, although they are not entitled to use this money for investment purposes. Reactions from the opposition and the trade unions have been negative. They are asking for the constitution to entrench full public funding exclusively for public institutions. The leading trade union has taken the position that investing more in private education at a time of shrinking public education budgets is contrary to the public interest (Šimenc 2016).

4. Tackling inequalities and promoting inclusion

Early school leaving is a rare phenomenon in Slovenia, affecting only 5 % of 18-24 year-olds in 2015. This is the second lowest rate in the EU and less than half of the EU average of 11 % in 2015. Data for foreign-born children are less reliable but show that early school leaving is much more widespread among them (16.5 %). In line with the situation across the EU, in Slovenia early school leaving is more likely among men (6.4 %) than women (3.4 %).

Slovenian 15-year-olds are doing well in numeracy and science but their reading skills are weak. The 2012 OECD Programme for International Student Assessment (PISA) showed that the percentages of low achievers in Slovenia were better than the EU average in mathematics (20.1 % compared to 22.1 % in the EU) and science (12.9 % against 16.6 %). However, they were worse than the EU average in reading (21.1 % compared to 17.8 %) (OECD 2013).

The number of children attending Slovenian kindergartens is currently on the rise due to demographics. Nevertheless, in 2014, 89.4 % of all children between the age of 4 and the school starting age were enrolled in pre-school education, which is short of the ET 2020 benchmark of 95 % and below the EU average of 94.3 %.

Slovenia has designed a two-stage action plan to facilitate the inclusion of refugees and migrants in education²⁸⁸. Under this, all migrant children attend a Slovenian language course prior to starting school and during extra hours, while also being fully integrated into the regular school programme. Other measures include a dedicated website with useful resources on inclusive education for education staff; a protocol on the enrolment of under-18-year-old asylum seekers in upper secondary education even when they have no certified proof of prior education; materials for learning and teaching Slovenian; and teacher training.

²⁸⁶ Source: Eurostat, Young people not in education, employment or training by sex, age and educational attainment level (NEET rates). Online data code: *edat_lfse_21*.

²⁸⁷ A basic school (*osnovna šola*) is a single structure integrating primary and lower secondary education.

²⁸⁸ In August 2016, there were 42 asylum seekers and minors with the international protection in Slovenian schools and 21 under-18 year-olds attending primary school for adults. Source: Ministry of Education, Science and Sport.

5. Modernising school education

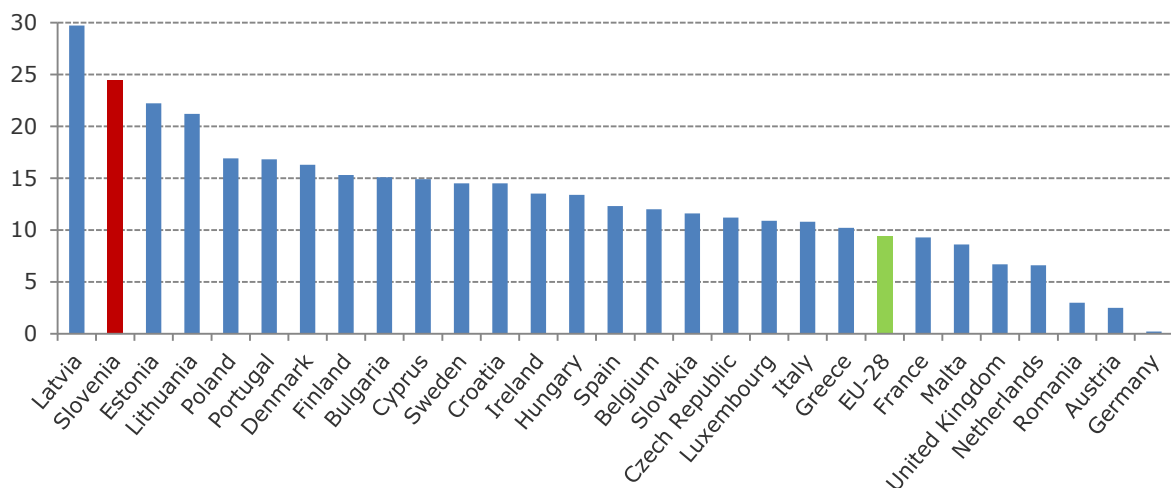
The school network in Slovenia is considered to be dispersed and has a large number of small schools in rural areas. The Ministry of Education, Science and Sport has taken action to rationalise the network of basic schools by proposing to allow municipalities to define mutual catchment areas for a multitude of schools (as opposed to the current system where each school defines its own catchment area). The intention of the adopted Decree amending the criteria for establishing a public network of basic schools, special needs schools and music schools is to make more rational use of school space (MIZŠ 2016).

In January 2016 the Ministry developed a new strategy for information and communication technology (ICT) in education up to 2020. The document covers all levels of education and was harmonised with the Government's broader ICT strategy, Digital Slovenia, adopted in March 2016. Priority goals include: developing didactics using ICT and e-material; increasing the use of platforms and cooperation in learning; developing e-competences; computerising educational institutions including ICT support in administrative management; e-studying in higher education and adult education; and evaluation of digitisation.

6. Modernising higher education

The tertiary education attainment rate has continued to grow in Slovenia: in 2015 43.4 % of 30-34 year-olds had obtained a tertiary-level qualification, up by 2.4 percentage points since 2014. This is above the EU average of 38.7 % and the national Europe 2020 target of 40 %. Access to higher education in Slovenia is helped by the absence of tuition fees, but nevertheless there are structural differences in participation in higher education. Women are much more likely to have graduated from higher education than men. The gender gap is the second widest in the EU, with 56.4 % of women but only 32 % of men attaining higher education (see Figure 2).

Figure 2. Gender gap in tertiary educational attainment: female rate minus male rate (2015, percentage points)



Source: European Commission elaboration on Eurostat data. Online data code: *edat_ifse03*.

While the net entry rate of students to tertiary academic programmes,²⁸⁹ at 75.6 %, is the fourth highest in the EU, the proportion of those who do not graduate is the EU's highest at 31.1 % (Eurydice 2015b).²⁹⁰ It is not accurate to interpret this solely as a dropout rate as the

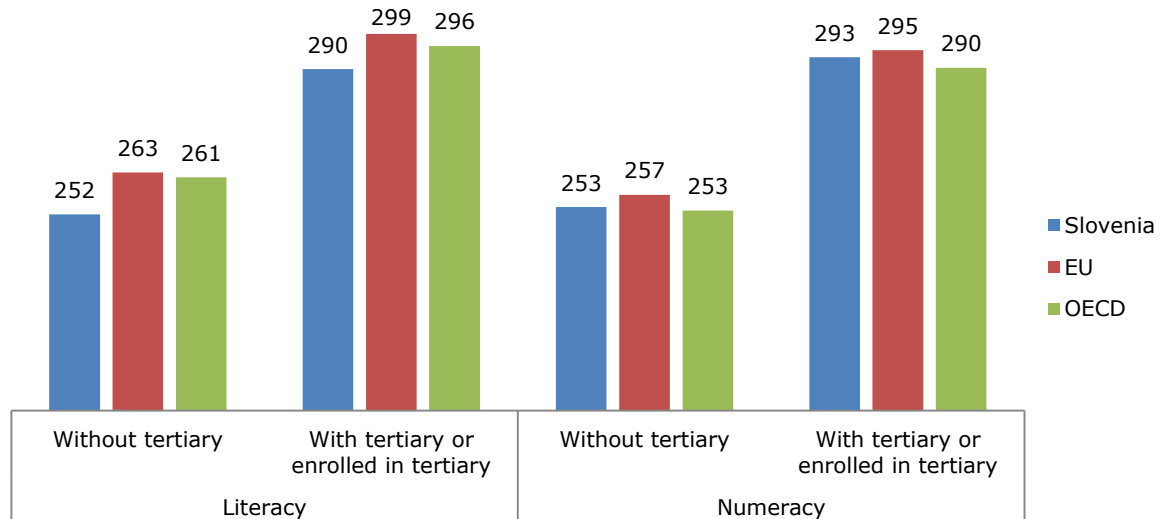
²⁸⁹ Tertiary education programmes include short cycle higher vocational education programmes.

²⁹⁰ The entry rate for a particular year of age, or an age range, is the ratio between the number of new entrants (first degree in the education level) of that age and the population size of the same age. Net entry rate of students refers to the sum of entry rates, by single year of age, through every single age.

occurrence of fictitious enrolments cannot be excluded.²⁹¹ Since the collection of this data, the electronic student data register (eVŠ, CEUVIZ) has already been successful in preventing some fictitious enrolment in tertiary education by deterring ineligible students from enrolling. The eVŠ includes data on applications, study programmes, student and graduate numbers, applications for subsidised student accommodation, higher education providers and higher education teaching staff. The aim is for it to become an analytical tool to support evidence-based policymaking in higher education by the end of 2017.

The skills of higher education students in the 20-24 age group are just above the OECD average in numeracy although below the EU average in both numeracy and literacy (see Figure 3).²⁹² The OECD Survey of Adult Skills (PIAAC) showed that the youngest generation (16-24) had significantly higher numeracy and literacy skills than any other generation. It also revealed that the difference between the skills levels of the youngest and the oldest is one of the widest across the OECD countries (39.3 score points in numeracy against 27.7 across the OECD) (OECD 2016).

Figure 3. Differences in literacy and numeracy rates between tertiary and non-tertiary graduates in Slovenia (age 20-24)



Source: European Commission elaboration on OECD (2016) data, http://www.oecd-ilibrary.org/education/skills-matter_9789264258051-en

The proportion of tertiary graduates in science, technology, engineering and mathematics (STEM) fields in Slovenia is stable at 26 %, one of the highest percentages in the EU. The proportion of graduates in science, technology and mathematics slightly increased from 9.7 % in 2013 to 10.2 % in 2014, whereas engineering, manufacturing and construction fell from 16.4 % to 15.8 %. The gender gap is most pronounced in the latter subjects (3.8 % of women against 12 % of men).²⁹³

Reform of Slovenia's higher education system has been debated for a number of years and several past attempts at revising the Higher Education Act have failed. The latest initiative from the Ministry of Education is to initiate reforms in two phases. The first phase takes the form of a revision of the Higher Education Act in 2016 (see Box 2), while the second phase involves a more fundamental reform via a new Higher Education Act in 2017. The amendments of the current act went through a public consultation in February 2016, were finally adopted by the

²⁹¹ Fictitious enrolment refers to enrolments in higher education courses for the purpose of gaining student social benefits and with no intention of learning (the right to work via attractive student contracts, transport and food subsidies, etc.) which constitutes a misuse of the social benefits system.

²⁹² The EU unweighted average is calculated on the basis of the 20 EU member states participating in PIAAC until June 2016.

²⁹³ Source: Eurostat, Distribution of graduates at education level and programme orientation by sex and field of education. Online data code: *educ_uoe_grad03*.

Government in May 2016 and are currently in parliamentary procedure. The commitment to deliver a new act by the end of 2017 is enshrined in the Government coalition agreement for the 2014-2018 mandate period.

Slovenia adopted in July 2016 a strategy for the internationalisation of higher education. The document unites under one umbrella strategy all the efforts related to fostering international mobility, cross-border research cooperation, development of intercultural competences, focusing external influence on priority regions and international promotion of study opportunities in Slovenia. It was adopted together with a detailed action plan 2016-2018 and a budgetary plan allocating 57 million EUR from existing sources such as Erasmus+, EU funds and national funds (no new funds are available).

Box 2: Higher education reform ticking all the right boxes

The first phase of the higher education reform in Slovenia proposes revising three important aspects of the higher education system which are also priorities for EU policy on higher education:

1) Quality assurance: Slovenia has an extremely high number of study programmes per student. In 2012/2013 there were 919 study programmes across all levels, the equivalent of one study programme per 106 students. In a statement issued in April 2016 the Court of Auditors said that the evaluation and accreditation processes have not been efficient and that the national accreditation agency (NAKVIS) has not fulfilled its goal of ensuring quality and diversity of study programmes (Court of Auditors 2016b). The Government's amendments, therefore, propose a switch from programme-level (re)accreditation to institutional-level (re)accreditation. This would take the burden off the agency, which is currently overwhelmed, but at the same time it demands stronger internal quality assurance mechanisms within institutions. There will also be a financial cost for the higher education institutions affected by this change, as well as a challenging process of changing the quality culture within the institutions. Student unions are sceptical of the ability of higher education institutions to internally manage the quality of teaching and learning outcomes.

2) Internationalisation: Currently, only the study programmes that are already offered in Slovenian can also be taught in English. This was found to be stifling the internationalisation of Slovenia's higher education. The amendments attempt to lift this restriction, but many voices, especially from Slovenian academia, have raised concern over a potential threat to the Slovenian language and culture.

3) Financing of higher education institutions: Funding of higher education was the subject of a Constitutional Court decision in 2011 which asked for more long-term planning and stability in the financing of both public and private higher education institutions. The amendments address part of this decision, whereas the more fundamental reform will follow in the second stage. The amendments introduce performance-based funding consisting of a fundamental and developmental part, with details to be worked out in a decree on budgetary financing of higher education by the end of 2016. The open question that remains to be regulated in the second phase of the reform is the balance between the funding from government and non-government sources and its effect on the breakdown between teaching, research and the other activities of higher education staff.

The amendments also bring a more democratic approach to student involvement in higher education governance. In addition, students have welcomed the extension of the study period covered by student benefits (health insurance, subsidised food/travel etc.) until the end of the academic year in which the student graduated. This measure is aimed at preventing the practice of extending the studies in order to benefit from cheaper student work contracts even after finishing the degree.

7. Modernising vocational education and training and promoting adult learning

Slovenia's recent upper secondary graduates²⁹⁴ have an employment rate of 69.7 %, which is below the EU average of 73.9 %. Participation in adult education in 2015, at 11.9 %, is above the EU average of 10.7 %, but it has been gradually declining since 2010 when it was 16.4 %. There is a substantial discrepancy in the participation rate between high and low qualified adults. Aimed at tackling these problems, Slovenia is currently preparing a new Adult Education Act, developing a national system of validation of prior learning, developing a national system of quality assurance in the education system and preparing a National Skills Strategy aided by OECD and the European Commission.

PIAAC showed that about one in four Slovenes aged between 16 and 65 has poor literacy, numeracy and digital problem-solving skills, a slightly larger proportion than the OECD average of 22.7 %. Slovenian adults do better in numeracy than in literacy, and this applies both to those who reach the highest levels of proficiency and those at the lowest end. This is despite a significant improvement in literacy skills compared to surveys from two decades ago. Around half of all adults have only very basic computer skills and some 18.4 % indicated not having used a computer before or lacked basic computer skills. The level of numeracy skills varies considerably across the Slovenian population, with skills levels heavily influenced by the level of qualification held and the level of parents' education. Parental education most heavily influences the level of digital skills, but also literacy skills, more than numeracy skills. The gender difference is only visible in numeracy scores where men outperform women slightly, but by less than in other OECD countries (OECD 2016).

Between 2016 and 2021 vocational education and training will be modernised. The emphasis will be on developing models of practical training adapted to Slovenia's circumstances and needs. These will be implemented in close cooperation with social partners. In 2016, the platform for developing educational programmes of short vocational education, upper secondary vocational education, upper secondary technical education and short higher education study programmes was adopted. The new Apprenticeship Act entered into public consultation and measures in the field of vocational education will be co-financed by the European Social Fund. The act will establish the role of support institutions at the national level, require the adaptation of curricula, define the conditions for selecting and training employers and selecting schools, and set standards for mid-term and final examinations.

In January 2016, the Slovenian Qualifications Framework Act (*ZSOK*) entered into force. The act places academic and vocation qualifications in a common system of classification and references them against the European Qualifications Framework.

8. References

Council of the European Union (2016), Council recommendation of 12 July 2016 on the 2016 National Reform Programme of Slovenia and delivering a Council opinion on the 2016 Stability Programme of Slovenia, <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32016H0818%2822%29&from=EN>

Court of Auditors, Republic of Slovenia (2016a), Audit report: Working obligation of teachers in basic schools (*Revizijsko poročilo: Delovna obveznost učiteljev v osnovnih šolah*), published 20 January 2016, [http://www.rs-rs.si/rsrs/rsrs.nsf/I/KCA8424A1A91BE072C1257F40004AAB11/\\$file/DelObvUciteljev_MIZS.pdf](http://www.rs-rs.si/rsrs/rsrs.nsf/I/KCA8424A1A91BE072C1257F40004AAB11/$file/DelObvUciteljev_MIZS.pdf)

Court of Auditors, Republic of Slovenia (2016b), Audit report: Processes of evaluation, accreditation and licencing in higher education (*Postopki evalviranja, akreditiranja ter podeljevanja koncesij v višjem in visokem šolstvu*), published 13 April 2016, <http://www.nakvis.si/sl-SI/News/Details/452>

²⁹⁴ People aged 20-34 who left upper secondary education between 1 and 3 years before the reference year.

Eurydice (2015a), Teachers' and School Heads' Salaries and Allowances in Europe, <http://www.csee-etuice.org/en/news/archive/1153-eurydice-teacher-and-school-heads-salaries-across-europe-2014-2015>

Eurydice (2015b), The European Higher Education Area in 2015: Bologna Process Implementation Report, Luxembourg: Publication Office of the European Union

International Monetary Fund (IMF) (2015), Republic of Slovenia: Technical Assistance Report — Establishing a spending review process, IMF Country Report No 15/265, published September 2015, <https://www.imf.org/external/pubs/ft/scr/2015/cr15265.pdf>

Ministry of Education, Science and Sport of Republic of Slovenia (MIZŠ) (2016), Draft Decree amending the Criteria for Establishing Public Network of Basic Schools, Public Network of Basic Schools and Educational Institutions for Children and Youth with Special Needs, and Public Network of Music Schools, 24 May, <https://e-uprava.gov.si/drzava-in-druzba/e-demokracija/predlogi-predpisov/predlog-predpisa.html?id=6899>

OECD (2013), PISA 2012 Results, <http://www.oecd.org/pisa/keyfindings/pisa-2012-results.htm>

OECD (2015), Education at a Glance 2015: OECD Indicators, <http://www.oecd.org/edu/education-at-a-glance-19991487.htm>,

OECD (2016), Skills matter: Further results from the Survey of Adult Skills. Country note: Slovenia, published 28 June 2016, <http://www.oecd.org/skills/piaac/Skills-Matter-Slovenia.pdf>

Statistical Office of the Republic of Slovenia (SORS) (2016a), Expenditure for formal education, Slovenia, 2014, published 4 February 2016, <http://www.stat.si/StatWeb/en/show-news?id=5751&idp=9&headerbar=5>

Statistical Office of the Republic of Slovenia (SORS) (2016b), Upper-secondary youth and adult education, Slovenia, at the end of school year 2014/15 and at the beginning of 2015/16, published 25 April 2016, <http://www.stat.si/StatWeb/en/show-news?id=5872&idp=9&headerbar=5>

Šimenc M. and Tašner V. (2016), *Komu je napoti kakovostno javno šolstvo?*, Sindikat vzgoje, izobraževanja, znanosti in kulture Slovenije (SVIZ), <http://www.sviz.si/novice/media/3662/media/KomuJeNapoti.pdf>

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_ipart (2011), educ_uoe_enra10 (2014)
Employment rate of recent graduates	edat_lfse_24
Adult participation in lifelong learning	trng_lfse_01
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

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Spain



1. Key indicators

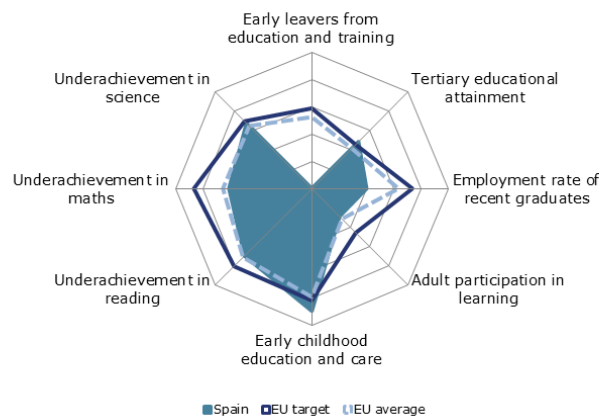
		Spain		EU average		
		2012	2015	2012	2015	
ET 2020 benchmarks						
Early leavers from education and training (age 18-24)	Total	24.7%	20.0%	12.7%	11.0%	
Tertiary educational attainment (age 30-34)	Total	41.5%	40.9%	36.0%	38.7%	
Early childhood education and care (ECEC) (from age 4 to starting age of compulsory education)		97.7% ¹¹	97.1% ¹⁴	93.2% ¹¹	94.3% ¹⁴	
Proportion of 15 year-olds with underachievement in:	Reading	18.3%	:	17.8%	:	
	Maths	23.6%	:	22.1%	:	
	Science	15.7%	:	16.6%	:	
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-8 (total)	63.6%	65.2%	75.9%	76.9%	
Adult participation in lifelong learning (age 25-64)	ISCED 0-8 (total)	11.2%	9.9%	9.2%	10.7%	
Other contextual indicators						
Education investment	Public expenditure on education as a percentage of GDP	4.2%	4.1% ^{14,p}	5.0%	4.9% ^{14,p}	
	Expenditure on public and private institutions per student in € PPS	ISCED 1-2	€5.879	€5.549 ¹³	:	: ¹³
		ISCED 3-4	€6.886	€6.528 ¹³	:	: ¹³
ISCED 5-8		€9.303	€9.426 ¹³	:	: ¹³	
Early leavers from education and training (age 18-24)	Native-born	21.4%	17.5%	11.6%	10.1%	
	Foreign-born	40.2%	33.3%	24.9%	19.0%	
Tertiary educational attainment (age 30-34)	Native-born	46.7%	45.2%	36.7%	39.4%	
	Foreign-born	23.4%	25.1%	33.8%	36.4%	
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-4	49.6%	54.9%	69.7%	70.8%	
	ISCED 5-8	68.4%	68.7%	81.5%	81.9%	
Learning mobility	Inbound graduates mobility (bachelor)	0.6% ¹³	0.6% ¹⁴	5.5% ¹³	5.9% ¹⁴	
	Inbound graduates mobility (master)	4.7% ¹³	5.2% ¹⁴	13.6% ¹³	13.9% ¹⁴	

Sources: Eurostat (see section 9 for more details); OECD (PISA).

Notes: data refer to weighted EU averages, covering different numbers of Member States depending on the source; b = break in time series, d = definition differs, p = provisional, u = low reliability, 11 = 2011, 13 = 2013, 14 = 2014.

Further information can be found in the relevant 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 2015) and OECD (PISA 2012).

Note: all scores are set between a maximum (the strongest performers, represented by the outer ring) and a minimum (the weakest performers, represented by the centre of the figure).

2. Highlights

- The 2016 political impasse has limited progress on education reforms: the future of the 2013 Organic Law for Improvement of the Quality of Education (LOMCE) is questioned and the reform of the teaching profession remains on hold.
- Spain has increased the education budget since 2015. However, the previous accumulated financial constraints have reduced equity in education, and the effectiveness of education spending can be improved.
- Enrolment and transition rates in the 'basic vocational education and training' programme are below expectations after the first two years of implementation.
- The Ministry of Education, Culture and Sport (MECD) is making significant efforts to prevent violence in schools and promote civic education and fundamental values.
- A new tracking system for graduates should help to improve the relevance of university programmes and graduates' employability rates.
- The Government takes initiatives to support cooperation between universities, businesses and research centres but university governance and financing systems do not create a favourable environment.

3. Investing in education to address demographic and skill challenges

General government expenditure on education was among the lowest in the EU in 2014, as a proportion both of GDP (4.1 %) and of total general government expenditure (9.1 %).²⁹⁵ Under significant fiscal pressure, Spain is struggling to finance an effective and equitable skills system.²⁹⁶

After 5 years of consecutive cuts in public spending, the Government reversed the downward trend in 2015 with a nominal increase in education expenditure of 4.5 %. In 2016, the Government has increased the education budget by a further 10.8 % above the 2015 level.²⁹⁷

The effectiveness of Spain's education spending remains an issue. For tertiary education, per-student spending in Spain is lower today than the OECD average, but the public share of such expenditure remains above the OECD average. Part of the problem relies in the low return on such public investment in terms of skills and employability, since a significant number of university programmes show low employability rates (MECD 2014b). Moreover, the considerable differences in tuition fees and levels of public funding between the regions increase skills inequality at national level. The national budget for study grants has increased by only 0.2 % since the past year but the number of eligible university students is significantly higher. The average amount spent per student is thus lower, while the actual needs at family level have increased.

In 2014, Spain's net migration rate was negative by more than 94 000 people.²⁹⁸ The crisis has more directly affected people with lower levels of qualifications who have been inclined to emigrate since 2010. The number of Spanish citizens with a tertiary education degree leaving the country has also increased over the past few years and has not been compensated by inflows of equally-qualified nationals returning to the country. This hints at the possible start of a brain drain which could exacerbate the effects of the crisis on the country's skills mismatches (Banco de España 2015).

²⁹⁵ Source: Eurostat, General government expenditure by function (COFOG) database.

²⁹⁶ The OECD identified 12 skills challenges for Spain across education, employment, research, social, growth and fiscal policies, all interlinked (OECD 2015a).

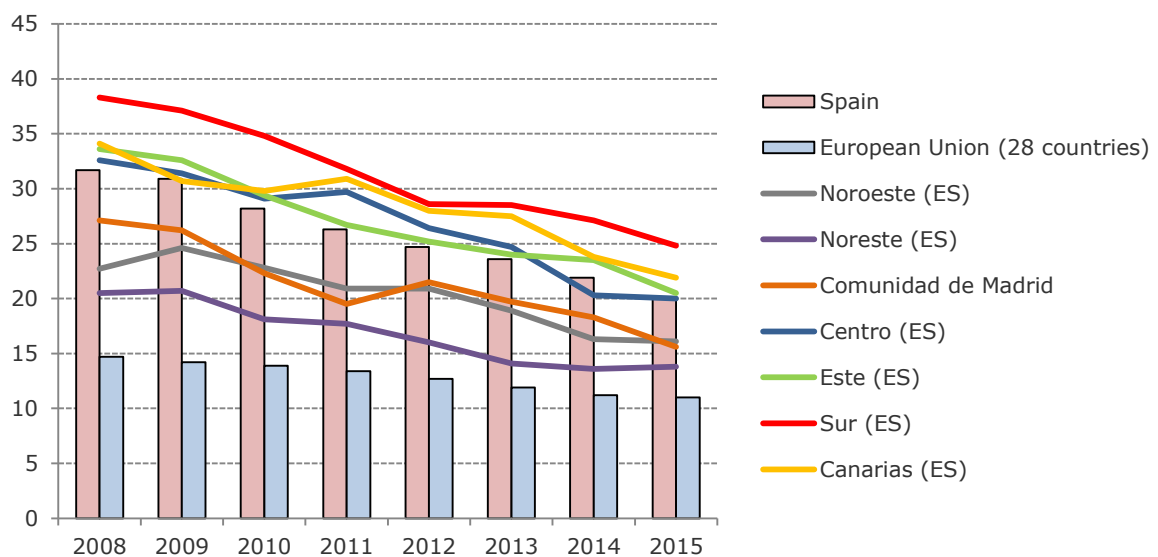
²⁹⁷ Source: Minister of Education, Culture and Sport.

²⁹⁸ Source: Instituto Nacional de Estadística.

4. Tackling inequalities and promoting inclusion

Spain's early school leaving²⁹⁹ (ESL) rate has continued to fall, from 21.9 % in 2014 to 20 %. However, it is still the highest in the EU, and above the national Europe 2020 target of 15 %. There are big disparities in ESL rates between Spain's regions, including major differences in ESL trends. A few autonomous communities (AACC) have ESL levels of over 20 %, while some others score better than the 10 % European average. Moreover, a number of AACC have achieved considerable reductions over the past 5 years, whereas ESL has remained high in a few others. Disparities are also underpinned by factors such as gender, whether students have a native or migrant background, and the family's socioeconomic situation. Tackling ESL remains crucial for the country to address its educational gap, increase its competitiveness and unlock its growth potential (European Commission 2016a).

Figure 2. Early school leaving rates by regions in Spain³⁰⁰



Source: Eurostat

For early childhood education and care, participation by children aged 3 to 6 is almost universal and average participation by 3-year-olds is 95.8 %, well above the EU average of 85.3 %. However, participation by children aged 0-2 shows wide disparities between and the proportion of public centres remains low. 7 AACC are over the 30 % EU average, 8 remain under 20 % and two AACC do not reach 10 % (Save the Children 2015).

The limited number of evidence-based analysis of the various root causes of ESL hinders national policies from capturing and addressing the complexity of the problem. Some regional administrations have tackled their specific causes effectively through local projects and policies. Such good practices could be more widely disseminated and exchanged to speed up improvements more consistently across the country. Policies targeting groups at high risk (especially Roma) have also proven effective (Eurydice 2015a). The Government is implementing the National Plan to reduce Early School Leaving 2014 -2020 (MECD 2014a). This plan is less of a strategy and more of a framework for education stakeholders and institutions to propose specific programmes.

The flagship ESL initiative is the Organic Law for Improvement of the Quality of Education (LOMCE) adopted in 2013. The law introduced the new 'basic vocational education and training' (VET) (*Formación Profesional Básica, FPB*) — a 2-year alternative path for students in lower secondary education to reach medium VET. They could eventually obtain the compulsory secondary education national diploma (*educación secundaria obligatoria, ESO*) if they passed an

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

³⁰⁰ Based on NUTS classification.

external exam. Facing strong criticism, in November 2015 the Government issued a Royal Decree that grants students completing the basic VET in 2016 and 2017 the ESO diploma without passing the external exam. The Government has approved 33 new FPB degrees in 2016, which should enrich the offer and increase its attractiveness. However, enrolment rates have so far been low and several AACC have disclosed poor transition and promotion rates which call into question the effectiveness of the programme (see also Box 2).

Low performance and grade repetition are also critical factors in ESL. At 32.9 %, Spain is among the countries with the highest rate of grade repetition in the OECD, and far above the OECD average of 12.4 % (OECD 2013). Moreover, the recurrent use of grade repetition is proven to aggravate education inequalities, since the repetition rate among disadvantaged students rises to 52 % (OECD 2014c). The LOMCE aims to improve student performance but does not include specific measures to address grade repetition.

The budget constraints of the past few years have hurt other equity indicators, such as grants for textbooks or school meals and the quality of public education infrastructure. In 2016 the education budget has increased but the funds dedicated to compensatory measures targeting vulnerable groups have fallen by 2.6 %.³⁰¹ The MECED has allocated EUR 13.5 million to support the territorial cooperation plan on special needs and EUR 1.5 million to support the students' health plan. The education gap is particularly sharp between the native and migrant populations. The proportion of foreign students in special-needs education (11.9 %) is higher than the national average, and the percentage of foreign students in higher education is much lower than for native students. Moreover, with more than 80 % of foreign students attending public schools the proportion of foreign pupils is not equally distributed between public and private centres.³⁰²

Harassment and bullying constitute a serious issue in the school environment, where internet and social media are gaining relevance. In October 2015 the MECED and the AACC signed a territorial cooperation plan of EUR 1.5 million to prevent bullying and violence and promote the peaceful resolution of conflicts in schools. The MECED also signed a framework collaboration agreement with the Spanish Data Protection Agency to promote training and raise awareness among children and young people about privacy and data protection on the internet, particularly on social media. Related initiatives such as 'You decide on the internet' (*Tú decides en internet*) provide children, parents and teachers with advice and support (Eurydice 2016). Interim Minister of Education Iñigo Méndez de Vigo has voiced the Government's strong commitment to promoting the values of citizenship and civic competences in education. On the basis of the Paris Declaration of March 2015 to prevent radicalisation, he proposed to his European counterparts an initiative to include the teaching of European history and values in national curricula. The MECED has also proposed a set of specific measures to allow the quick integration of Syrian refugees into the education system. The measures concern individual support in schools, targeted information and guidance, the recognition of qualifications, and a territorial cooperation plan to hire relevant language assistants.

Box 2: Early school leaving and the new basic vocational education and training path

Spain has introduced a 2-year initial vocational education and training (VET) path (*Formación profesional básica, FPB*) for students aged 15 to 17 who have completed third grade of secondary education but have difficulties in the regular academic path. FPB is a 2-year compulsory programme leading to a VET certificate (level 1 in the national catalogue of professional qualifications). Students can also pass an external exam to obtain the secondary education certificate (ESO).

This programme replaces the previous alternative path (*programas de cualificación profesional inicial, PCPI*) that targeted students aged 16 who could not be promoted to third grade. PCPIs were a 1-year compulsory and a 1-year voluntary programme. Only the completion of the two full years granted the ESO certificate, though no access to medium VET.

³⁰¹ Source: Fundación Secretariado Gitano <https://www.gitanos.org/actualidad/archivo/112711.html.es>

³⁰² Ministry of Education, Culture and Sport, Base Statistics of Education, 2016.

Strengths and expected benefits:

- The FPB is embedded in the VET system and therefore grants direct access to medium VET. The element of learning at the workplace also makes it particularly attractive.
- The combination of vocational and academic modules associated respectively with the national catalogue of professional qualifications and the national learning objectives makes it easier for them to be recognised across the national territory and allows student mobility.
- The academic modules aligned with the national learning objectives are expected to improve the level of basic skills compared to the previous programme.
- It is proposed that the FPB should better address students' difficulties the number of different teachers per class group is reduced to encourage personal tutoring and follow-up; moreover, the system encourages teaching through a 'project' approach.
- Taking the decision at an earlier age allows children to join the programme before they have suffered recurrent failures and grade repetitions. This should be reflected positively in the quality and motivation of the groups and in the social perception of VET in general.

Implementation challenges:

- The FPB was approved without a large consensus, in the midst of a strong political and social debate about the overall education reform. Some sectors have expressed their concern for advancing the decision to gear students towards a VET path by 1 year and also for the prevalence of the education centre's opinion over that of parents (FAPA 2015). Some other voices claim that, even if the programme could give better results than the previous one (PCPI transition rates were extremely low), its implementation should be significantly improved.
- In practice, the implementation of the FPB was launched at too short notice for the AACC to make the arrangements — in terms of teachers, infrastructure or workplace learning agreements — needed to offer a wide enough range of good quality programmes.
- The legal framework and the programme's implementation do not provide enough improvements to address the specific needs of these students: the student/class ratio is set at 30 students (as many as in the ESO); only one hour per week is devoted to tutorial assistance; teachers' continuity with the groups is not guaranteed; and there is no specific mechanism to provide special support to students preparing the external exam to get the ESO certificate.
- The offer of programmes needs to be better adjusted to the demand (many places remained empty) and there was no time to organise a proper workplace learning programme. Such a programme has proven particularly complex considering the young age of the students and the limited capacity of Spanish companies.

The first 2 years of implementation have shown results that do not differ much from the previous PCPIs. Dialogue with the AACC has become more fluid, and the programme's implementation will require some further adjustment to improve its attractiveness and quality.

5. Modernising school education

The level of job satisfaction among Spanish teachers has declined over the past 10 years (MECD 2014b). Career and salary progression do not reflect teachers' performance. Teachers feel they are continuously faced with new challenges. Examples include the recurrent education reforms, the increase in the student/teacher ratio, the new skills and competence paradigm, and the promotion of information and communication technology (ICT) and bilingualism in the school system.

Despite the many changes ahead, the regulation of teachers' professional status and working conditions was not addressed by the recent education reform. To trigger a national debate on a major reform of the profession, the MECD entrusted the drafting of a White Book on the teaching profession (MECD 2015b) to a well-known Spanish philosopher, J.A. Marina. The White Book was published in December 2015 but the national political blockage is delaying a concrete follow-up. However, the increase in the teachers' replacement rate from 10 % in 2013 to 50 % in 2014 and to 100 % in 2015 is a positive step that has reduced the proportion of interim teachers and the turnover of teachers at school level.

The LOMCE creates a new external evaluation system that is based on learning standards set at national level. The outcomes are expected to inform the transformation of learning processes and the management of education centres, and to spur local and regional administrations to improve their quality and effectiveness in teaching key competences. However, the strong political opposition to the LOMCE has led several AACC to implement the evaluation under different specific conditions, both in third grade and at the end of primary school, as well as in upper secondary education.

The LOMCE envisages specific measures to encourage the use of ICT in education and eventually improve students' ICT competences. ICT will thereby gain a higher relevance in the curricula. Spain is also implementing a national plan to improve connectivity and promote digital culture in schools (European Commission 2015).

Several AACC are introducing or reinforcing bilingual teaching in primary and secondary schools. The introduction of the Content and Language Integrated Learning (CLIL) system aims to improve the proficiency of students in their first foreign language, namely English, by teaching subjects such as sciences or history in this language. The reaction among teachers and parents has been lukewarm. Detractors point to the lack of resources for providing national teachers with a good command of the foreign language as well as the risk of segregation schemes in secondary levels (Madrigal 2016). Others complain about a lack of pedagogical preparation of support staff and the negative impact on students' skills (FEDEA 2013). The MECD has assigned EUR 11.7 million to a territorial cooperation programme to hire assistants and support teachers' language courses. The LOMCE also introduces the second foreign language as a specific subject as early as primary and lower secondary education.

6. Modernising higher education

Spain's tertiary educational attainment rate for 30-34-year-olds has decreased by 1.4 percentage points (pps.) to 40.9 %, still above the EU average of 38.7 % but moving away from the national Europe 2020 target of 44 %. The attainment rate shows a significant gender gap, with women surpassing men by over 10 pps., at 47.1 % compared with 34.8 %. There is an even wider gap between Spanish-born cohorts, with a tertiary education attainment rate of 45.2 %, and foreign-born cohorts, with a rate of only 25.1 %.

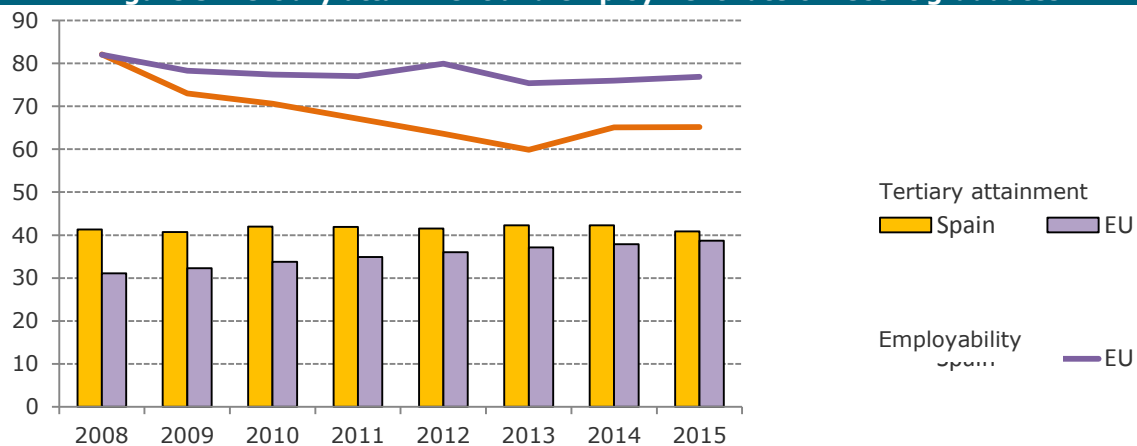
The employment rate of recent tertiary graduates³⁰³ is one of the lowest in Europe at 68.7 %, far below the EU average of 81.9 %. The MECD has put in place a system for tracking university graduates to deliver employability data. The first report showed particularly poor employability figures for the humanities and social sciences, whose enrolment rates have changed little over the past 10 years (MECD 2014c). The publication of the report is expected to raise awareness among university applicants and attract their interest to higher education fields with greater labour market relevance. The MECD is working on an updated report to show the employability rates of the current degree programmes. The Government has also approved a number of fiscal incentives to encourage companies to hire research staff and to propose apprenticeships to university and VET students. It is now exploring the possibility of expanding the dual model to higher education (Government of Spain 2016), and some universities have already signed agreements with companies to develop dual training, namely in engineering programmes.

However, fostering cooperation between universities and the business sector remains a challenge (European Commission 2016a). Cooperation between university, business and the public sector is channelled through different actors: university foundations, spin-offs, offices for transfer of research results, sponsorship chairs, scientific and technological parks, and alliances among universities. Stakeholders identify funding, relational barriers and excessive bureaucracy as the main obstacles to cooperation between universities, research institutions and businesses (European Commission 2014). The Government passed a decree in September 2015 to increase business representation in university governing boards. In November 2015, it allocated EUR 7 million to support the development of 'international campuses of excellence' that aim at promoting the international recognition of Spanish universities and their cooperation with business (MECD 2015c). The university governance and financing systems do not provide

³⁰³ People aged 20-34 who left tertiary education between one and three years before the reference year.

enough incentives for cooperation. Teachers' recruitment and career promotion system limits staff mobility both among institutions and between universities and businesses. Moreover, the university financing system is mainly based on quantitative criteria and does not reward innovation.

Figure 3. Tertiary attainment and employment rate of recent graduates



Source: Eurostat.

The 2015-2020 strategy for the internationalisation of Spanish universities (MECD 2014d) aims to build a strong, internationally attractive university system and to promote mobility among the best students, teachers and researchers. As a cornerstone of the reform, in February 2015 the Government approved a Royal Decree-Law that allows universities to adjust the credits given for degree courses and at master's level in order to move to the 3+2 years scheme (from the current 4+1) in line with the prevailing standard in Europe. Students and universities have strongly opposed this reform (European Commission 2015). Universities are demanding coordinated implementation across the territories to avoid an institutional competition based on the length of the proposed programmes. The Chancellors' Conference of Spanish Universities has (CRUE) delayed applying it until 2017.

7. Modernising vocational education and training and promoting adult learning

The employment rate for recent upper secondary graduates³⁰⁴ in Spain has fallen by 50 % since 2009. It reached its lowest rate — 40.9 % — in 2013 but grew again to 54.9 % in 2015. Adults' rate of participation in lifelong learning stood at 9.8 % in 2014 and 9.9 % in 2015, slightly below the EU average of 10.7 %.

Spain is reforming the VET system to better adapt young people's skills to labour market needs and to increase the attractiveness, transparency and acceptance of VET programmes. It is doing so by reforming the catalogue of diplomas offered both for medium-level and high-level VET and increasing the flexibility of the curricula of medium-level VET programmes. In line with ECVET principles, mobility has also earned some attention and some steps have been taken to implement regional mobility systems (e.g. in Catalonia). The MECD has allocated EUR 10 million to a territorial cooperation programme to improve the quality of VET. The programme matches the demand of productive sectors, fosters dual VET and will improve the employability of students.

In September 2015, Spain finalised the reform of the training for employment subsystem (the TES — *subsistema de formación para el empleo*) started in March 2015. The new governance model leaves the system basically in the hands of the public employment service, thus substantially reducing the influence of trade unions and employers' associations. Nevertheless,

³⁰⁴ People aged 20-34 who left upper secondary education between one and three years before the reference year.

their participation in the consultative General Council of the Employment National System (*Consejo General del Sistema Nacional de Empleo*) is guaranteed.

Other changes introduced by the reform in 2015 aim to boost lifelong learning programmes targeted at employed workers. These include the right to a 20-hour period of training leave for all workers with at least 1 year of seniority, and the option of introducing an individual training account for workers.

8. References

ANVUR (Banco de España (2015), Documentos de trabajo 1503, Spain: from immigration to emigration?, <http://www.bde.es/f/webbde/SES/Secciones/Publicaciones/PublicacionesSerias/DocumentosTrabajo/15/Fich/dt1503e.pdf>

Consejo Escolar del Estado (2015), Informe 2015 sobre el estado del sistema educativo, <http://ntic.educacion.es/cee/informe2015/i2015cee.pdf>

European Commission (2014), Report on the State of European University Business Cooperation, 2013, <http://www.ub-cooperation.eu/pdf/spain.pdf>

European Commission (2015), Education and Training Monitor — Volume 2, Spain, http://ec.europa.eu/education/tools/docs/2015/monitor2015-spain_en.pdf

European Commission (2016a), Country Report Spain, http://ec.europa.eu/europe2020/pdf/csr2016/cr2016_spain_en.pdf

European Commission (2016b), Education policies and practices to foster tolerance, respect for diversity and civic responsibility in children and young people in the EU, http://ec.europa.eu/education/library/study/2016/neset-education-tolerance-2016_en.pdf

Eurydice (2014), 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 (2015a), Tackling Early Leaving from education and Training, http://eacea.ec.europa.eu/education/eurydice/documents/thematic_reports/175en.pdf

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

Eurydice (2016), Promoting citizenship and the common values of freedom, tolerance and non-discrimination through education, http://bookshop.europa.eu/is-bin/INTERSHOP.enfinity/WFS/EU-Bookshop-Site/en_GB/-/EUR/ViewPublication-Start?PublicationKey=EC0216217

Federación de asociaciones de padres y madres de alumnos, FAPA (2015), LA FAPA Cantabria recomienda no matricularse en la FP Básica, <http://www.europapress.es/cantabria/noticia-fapa-no-presentara-enmiendas-orden-fp-basica-recomendara-familias-no-matriculen-hijos-20140410125130.html>

Fundación de Estudios de Economía Aplicada FEDEA (2013), 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>

Government of Spain (2016), Reform National Programme 2016, http://ec.europa.eu/europe2020/pdf/csr2016/nrp2016_spain_es.pdf

MECD (2014a), Plan para la reducción 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-reduccion-del-abandono-educativo-temprano.pdf>

MECD (2014b), Spanish teachers' job satisfaction in 2012-13 and comparison with job satisfaction in 2003-04. A nationwide study,
<http://www.mecd.gob.es/dctm/revista-de-educacion/doi/re365266.pdf?documentId=0901e72b8191f22a>

MECD (2014c), Inserción laboral de los egresados universitarios. La perspectiva de la afiliación a la Seguridad Social,
<http://www.mecd.gob.es/mecd/dms/mecd/educacion-mecd/areas-educacion/universidades/estadisticas-informes/informes/Insercion-laboral-egresados-universitarios.pdf>

MECD (2014d), Strategy for the internationalisation of the Spanish universities 2015 – 2020,
<http://www.mecd.gob.es/educacion-mecd/dms/mecd/educacion-mecd/areas-educacion/universidades/politica-internacional/estrategia-internacionalizacion/EstrategiaInternacionalizacion-ENGLISH.pdf>

MECD (2015a), Nota de prensa, Méndez de Vigo propone a los ministros de Educación de la Unión Europea crear una asignatura de Historia y Valores Europeos,
<http://www.mecd.gob.es/prensa-mecd/actualidad/2015/11/20151123-ue.html>

MECD (2015b), Libro Blanco de la función docente no universitaria,
<http://www.mecd.gob.es/mecd/destacados/libro-blanco-funcion-docente-no-universitaria.html>

MECD (2015c), Nota de prensa, El MECD convoca ayudas de 7 millones de euros para el Programa Campus de Excelencia Internacional,
<http://www.mecd.gob.es/prensa-mecd/actualidad/2015/11/20151105-campus.html>

Madrigal Castro, S. (2016), Qué bilingüismo queremos?,
<http://lareplica.es/bilinguismo/>

OECD (2013), PISA 2012 results: What Students Know and Can Do. Student Performance in Mathematics, Reading and Science (Volume I),
<http://www.oecd.org/pisa/keyfindings/pisa-2012-results-volume-I.pdf>

OECD (2014a), Education Policy Outlook Spain,
http://www.oecd.org/edu/EDUCATION%20POLICY%20OUTLOOK%20SPAIN_EN.pdf

OECD (2014b), TALIS 2013 Results: An International Perspective on Teaching and Learning, Paris: OECD Publishing

OECD (2014c), Are disadvantaged students more likely to repeat grades?,
<http://www.oecd-ilibrary.org/docserver/download/5jxwwfp1ngr7.pdf?expires=1464360815&id=id&accname=guest&checksum=52A61CF806CEE4903E1E26C19B899048>

OECD (2015a), Spain Skills Strategy Diagnostic Report,
www.oecd.org/skills/nationalskillsstrategies/Diagnostic-report-Spain.pdf

OECD (2015b), Indicators of Immigrant Integration 2015,
http://www.keepeek.com/Digital-Asset-Management/oecd/social-issues-migration-health/indicators-of-immigrant-integration-2015-settling-in_9789264234024-en#page8

Save the Children (2015), Iluminando el futuro,
https://www.savethechildren.es/sites/default/files/imce/docs/pobreza-equidad-educativa-espana_iluminando-el-futuro.pdf

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_ipart (2011), educ_uoe_enra10 (2014)
Employment rate of recent graduates	edat_lfse_24
Adult participation in lifelong learning	trng_lfse_01
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

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Sweden



1. Key indicators

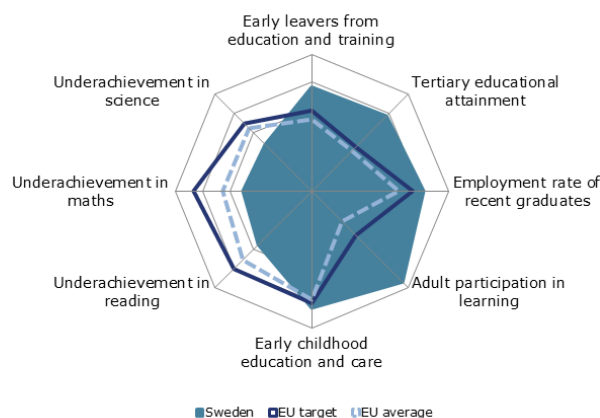
		Sweden		EU average		
		2012	2015	2012	2015	
ET 2020 benchmarks						
Early leavers from education and training (age 18-24)	Total	7.5%	7.0%	12.7%	11.0%	
Tertiary educational attainment (age 30-34)	Total	47.9%	50.2%	36.0%	38.7%	
Early childhood education and care (ECEC) (from age 4 to starting age of compulsory education)		95.3% ¹¹	95.9% ¹⁴	93.2% ¹¹	94.3% ¹⁴	
Proportion of 15 year-olds with underachievement in:	Reading	22.7%	:	17.8%	:	
	Maths	27.1%	:	22.1%	:	
	Science	22.2%	:	16.6%	:	
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-8 (total)	83.2%	85.9%	75.9%	76.9%	
Adult participation in lifelong learning (age 25-64)	ISCED 0-8 (total)	27.0%	29.4%	9.2%	10.7%	
Other contextual indicators						
Education investment	Public expenditure on education as a percentage of GDP	6.5%	6.6% ¹⁴	5.0%	4.9% ^{14,p}	
	Expenditure on public and private institutions per student in € PPS	ISCED 1-2	€8.000	€8.114 ¹³	:	: ¹³
		ISCED 3-4	€8.324	€8.242 ¹³	:	: ¹³
ISCED 5-8		€17.140	€17.461 ¹³	:	: ¹³	
Early leavers from education and training (age 18-24)	Native-born	6.7%	5.9%	11.6%	10.1%	
	Foreign-born	12.8%	13.9%	24.9%	19.0%	
Tertiary educational attainment (age 30-34)	Native-born	49.1%	51.4%	36.7%	39.4%	
	Foreign-born	44.8%	47.5%	33.8%	36.4%	
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%	80.6%	69.7%	70.8%	
	ISCED 5-8	89.6%	90.9%	81.5%	81.9%	
Learning mobility	Inbound graduates mobility (bachelor)	2.5% ¹³	2.3% ¹⁴	5.5% ¹³	5.9% ¹⁴	
	Inbound graduates mobility (master)	24.0% ¹³	20.4% ¹⁴	13.6% ¹³	13.9% ¹⁴	

Sources: Eurostat (see section 9 for more details); OECD (PISA).

Notes: data refer to weighted EU averages, covering different numbers of Member States depending on the source; b = break in time series, d = definition differs, p = provisional, u = low reliability, 11 = 2011, 13 = 2013, 14 = 2014.

Further information can be found in the relevant 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 2015) and OECD (PISA 2012).

Note: all scores are set between a maximum (the strongest performers, represented by the outer ring) and a minimum (the weakest performers, represented by the centre of the figure).

2. Highlights

- Sweden invests heavily in education and training, with general government expenditure on education being among the highest in the EU.
- Sweden has one of the highest tertiary educational attainment rates in the EU for 30-34 year-olds and the employment rate of its recent tertiary graduates is very high.
- School education outcomes in terms of basic skills proficiency declined continuously over the past decade. This could translate into declining skill levels of adults in the future.
- The increasing performance gap between foreign-born and native-born students is a challenge: school segregation may well have increased in a system with greater school choice.
- Integrating the large number of newly arrived students in the education system is a major challenge; Sweden can however build successfully on its policy tradition and current efforts.

3. Investing in education to address demographic and skill challenges

General government expenditure on education was among the highest in the EU in 2014, both as a proportion of GDP (6.6 %) and as a proportion of total general government expenditure (12.7 %).³⁰⁵ Sweden invests more in tertiary education and research at higher education institutions than any other EU country, with more than half of the expenditure being allocated to research. The largest proportion of funding comes from public sources (Swedish Higher Education Authority 2015). The financing of both compulsory and upper secondary education (ISCED 0-4) is fully decentralised. All schools are publicly funded, regardless of whether education is delivered through municipal or independent³⁰⁶ schools. The major part of school funding comes from municipal tax revenues while about 15 % of the budget is based on state grants. In several municipalities, the funding of schools is weighted by socioeconomic criteria, although funding formulas differ substantially.

According to estimates of the National Agency for Education, the number of school children will increase by 17 % in the coming five years. This is mainly due to the large number of newly arrived students in recent years but also to an increase in the number of Swedish-born children. In five years' time, one in four students in upper secondary education will be foreign-born compared to one in seven in 2014. This demographic development is likely to put pressure on municipalities and the school system as a whole in terms of resources.

The overall employment rate of 25-64 year-olds in Sweden is back at pre-crisis levels and was the highest in the EU in 2015. The employment rate was above the EU average for all qualification levels: low-qualified (63.3 % compared to 53.2 %), medium-qualified (84.9 % compared to 73.9 %) and highly qualified (89.3 % – one of the highest in the EU).³⁰⁷ As the economy relies on technology-intensive and high value-added production, Sweden will continue to be in need of a highly skilled workforce.

4. Tackling inequalities and promoting inclusion

The early school leaving rate in 2015 was 7 % (7.6 % for boys and 6.4 % for girls). It remains below the EU average of 11 % and is close to the national Europe 2020 target of below 7 %. However, the relatively low rate masks significant differences between foreign-born and native-

³⁰⁵ Source: Eurostat, General government expenditure by function (COFOG) database.

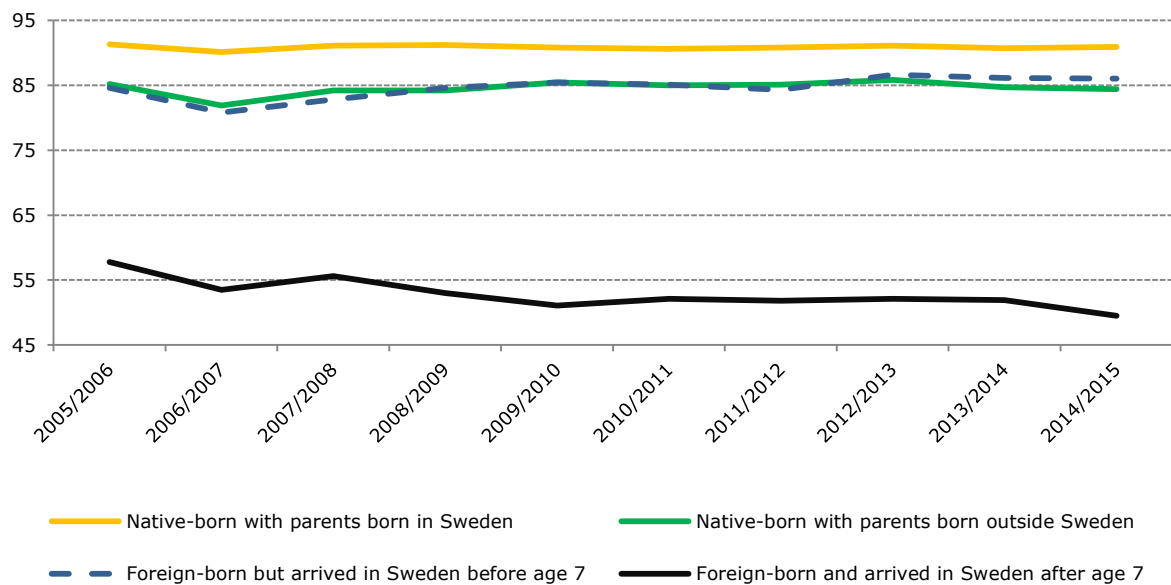
³⁰⁶ In 2014/2015, one in seven compulsory school pupils and one in four upper secondary pupils attended an independent school.

³⁰⁷ Source: Eurostat, Labour Force Survey, online code *lfsa_ergaed*. Low-qualified = ISCED 0-2; medium-qualified = ISCED 3-4; highly qualified = ISCED 5-8.

born students: while the rate is 5.9 % for those born in Sweden, it is 13.9 % for those born abroad. In addition, one in four young people do not successfully complete upper secondary education by the age of 20. The figure has remained constant over recent years and is higher than in the 1990s (National Agency for Education 2016b). Furthermore, the proportion of young people who do not qualify for a 'national programme'³⁰⁸ at upper secondary level after grade 9 (age 16) has continued to rise in recent years, to 14.4 % in 2015 (National Agency for Education 2015c). Participation in early childhood education is above the EU average (95.9 % compared to 94.3 % in 2014).

School education outcomes have declined in terms of basic skills proficiency over the past decade. Sweden experienced the most rapid decline of all OECD countries in the performance of 15 year-olds, as measured in the OECD's Programme for International Student Assessment (PISA) survey (OECD 2013a). In 2012 Sweden was, for the first time, below both the EU and OECD averages in all three core subjects, having previously been well above average in these. The evolution of PISA scores is consistent with the weaker results of the younger cohorts (aged 16-24) of Swedish adults in the OECD's Survey of Adult Skills (OECD 2013b). The negative trend is also confirmed by the results in the Trends in International Mathematics and Science Study (TIMSS).³⁰⁹ Furthermore, the proportion of students who do not obtain a pass mark in mathematics in the standardised national examination at the end of compulsory schooling in grade 9 has also risen over the past decade, from 9 % to 19 %.

Figure 2. Proportion of pupils (%) that qualify for an upper secondary programme, by background and age of arrival in Sweden (2005 – 2015)



Source: National Agency for Education

The performance gap between foreign-born and native-born students continues to be a problem. In PISA 2012, almost one in two students with a migrant background (48 %) performed below the baseline level in mathematics, and the proportion is even higher for first-generation migrants (59.2 %). The transition between compulsory and upper secondary schooling is a particular hurdle for many foreign-born students. While the national average for students who qualify for a 'national programme' at upper secondary level is nearly 90 %, only 52 % of students who migrated after the age of seven qualify. The figure drops to 28 % of

³⁰⁸ Since 1 July 2011, there have been 18 national programmes at upper secondary level: 6 higher education preparatory programmes and 12 vocational programmes. There are also 5 introductory programmes for those who do not qualify for a national programme, with the aim of preparing students for future studies or the labour market.

³⁰⁹ Between 1995 and 2011, Sweden showed the largest decline in mathematics performance of 8th grade students (14-15 year-olds) of all OECD-EU countries (IEA 2012).

students for those arriving in the last four years of compulsory schooling (aged 12-15) (National Agency for Education 2015b). Since 2006, school outcomes have steadily deteriorated among those born abroad. This is probably due to two factors: a higher proportion of students have been arriving in Sweden at an older age and those who immigrated after the age of seven have increasingly come from countries with a weaker school system (National Agency for Education 2016a). The evidence also suggests that their performance has been negatively affected by the physical and organisational separation from mainstream education, poor mapping of students' previous knowledge and a lack of individualised support (Bunar 2010; Bunar 2015; Swedish School Inspectorate 2009).

Sweden has taken steps to improve school outcomes and equity. The Government is prioritising 'early intervention', i.e. the first years of schooling, and in 2015 introduced a government grant of SEK 2 billion per school year for the preschool class and grades 1-3 (age 7-9). Education providers and schools can use the grant to employ more primary or special needs teachers. Under the 'reading-writing-arithmetic guarantee', due to enter into force in 2017, all students should have achieved a baseline level in reading, writing and mathematics on finishing grade 3. National tests have been introduced in grade 3 in mathematics, Swedish and Swedish as a second language, so as to be able to identify students in need of special support. Since 2016, support material has also been available for assessing knowledge in literacy and mathematics in grade 1, and a knowledge requirement has been introduced in the same grade. Measures aimed at better integrating newly arrived students are described in Box 1.

Box 1: Integration of newly arrived students in the school system

In 2015 Sweden was the largest recipient of asylum seekers per capita in the EU — 16.5 per 1 000 inhabitants. According to the Swedish Migration Board's statistics, 40 % of the 162 877 asylum seekers who arrived in Sweden in 2015 were children of school age.³¹⁰ The number of unaccompanied minors has also risen sharply from 7 000 in 2014 to 35 369 in 2015.

The Government has provided increased financial support to municipalities and education providers to better integrate the newly arrived. It has distributed SEK 200 million among the 46 municipalities that in 2015 welcomed newly arrived students accounting for more than 10 % of their population aged below 19. Furthermore, all 290 municipalities receive a 50 % increase in flat-rate funding per newly arrived student. Moreover, in the 2016 spring budget the Government earmarked SEK 100 million for school buildings and SEK 90 million for mapping asylum seekers competences.

On 1 January 2016, a Government regulation came into force, reforming the process of receiving and schooling newly arrived students.

The main innovations of the regulation are:

- **Assessment of a student's knowledge:** Diagnostic tests on a student's previous schooling and level of academic knowledge in literacy and mathematics are to be conducted within two months of a student's arrival at the school. Based on this assessment, the head teacher decides on the grade the student is to be placed in, the allocated teaching time for subjects, and the educational support the school will provide.
- **Introductory class:** The concept and organisational form of 'introductory class' has been defined. Students can be taught in an introductory class for a maximum of two years but at the same time a place should be held for them in a mainstream class. After the two years, students need to be accommodated in a mainstream class but are offered individualised educational support, if needed. The Government also recommends that introductory and mainstream classes should be located close to each other physically. Introductory classes are not mandatory: it is up to each school whether they organise the teaching of the newly arrived in an introductory or a regular class.

³¹⁰ Unlike children with a residence permit, asylum seekers can but are not obliged to enrol in a school.

- **Teaching hours:** Newly arrived students are granted at least the same number of teaching hours as all other students. During an introductory period of a maximum of one year, some teaching hours can be reallocated to Swedish or Swedish as a second language. Students in primary and secondary education with a mother tongue other than Swedish are entitled to mother tongue tuition.

The main challenge lies in implementing the new regulation and in using the additional financial resources effectively. Capacities and strategies for integration vary widely between municipalities and schools. Over half of education providers indicate that they lack teaching staff who are sufficiently competent in responding to the needs of the newly arrived. Foreign-born students are concentrated in the major cities and 10 % of municipalities have accommodated almost half of all newly arrived students (National Agency for Education 2016c).

In the 2016 spring budget the Government earmarked SEK 44 million to combat racism and violent extremism. SEK 10 million of this will be dedicated to preventive work in schools, focusing on young people who may be exposed to violent extremist environments. To prevent young people from being recruited to extremist groups, special knowledge centres (*kunskapshus*) are being set up in four cities, building on close cooperation between the police, social services and schools.

5. Modernising school education

The comprehensive school reforms of the 1990s, including decentralisation, school choice and a voucher system with independent education providers, were intended to make school financing more efficient and to create incentives for schools to offer better quality. However, today the distribution of school resources varies greatly among municipalities and does not guarantee equal learning opportunities. The governance of schools has been inconsistent with little cooperation between national, regional and local levels. In addition, the capacity and accountability of many school authorities have been inadequate and the division of responsibilities unclear (School Commission 2016).

Conditions have not been optimal for building a high-quality teaching profession. For decades, teachers' wage development has been unfavourable compared to other professionals with comparable education levels (Persson and Skult 2014). Wage progression is very limited: while teachers' starting salaries are within the OECD average, the highest wage levels are around 15 % lower than the OECD average.

Teacher recruitment and retention are also hindered by the very low perceived status of teachers (OECD 2014), a high workload and deteriorating working conditions. This has led to a decline in the status of teacher education at university level relative to other career choices, which has resulted in less demanding selection criteria for entering these programmes (OECD 2015a). Head teachers report a higher incidence of teacher absenteeism than in other OECD countries and a high administrative workload, limiting their ability to prioritise pedagogical leadership. Reports have also pointed to an unclear relationship and mistrust between head teachers and the political leadership in municipalities, which may explain the high turnover of head teachers (Swedish School Inspectorate 2014).

The teaching workforce is ageing: 39.3 % of compulsory school teachers are over 50, which is one of the highest figures of all OECD countries. Projections point to a widening teacher shortage: by 2019, 70 000 and by 2024 a further 60 000 full-time teachers³¹¹ would need to be recruited (National Agency for Education 2015a). Moreover, nine out of ten employers already signal a shortage of newly qualified teachers in mathematics and science at upper secondary level (Statistics Sweden 2014). The sharp increase in the number of newly arrived students requires the immediate recruitment of 3 200 full-time teachers at upper secondary level, according to the Ministry's estimate.

³¹¹ In 2014, 205 000 teachers (181 000 full-time equivalent) were employed.

The School Commission, appointed in April 2015, is to propose long-term comprehensive school reforms by May 2017. Areas for improvement already identified by the School Commission include governance and resource allocation, strengthening trust in schools and reforming the teacher profession.

Improving the conditions for high-quality teaching is already a government priority. In 2015, the Government launched a 'coalition for the teaching profession', invited social partners to discuss better wage progression and earmarked SEK 3 billion per year in the budget to increase teacher salaries. As from the 2016/2017 academic year, around 60 000 qualified teachers will benefit from an average salary increase of SEK 3 000 per month. The career development reform, launched in 2013, already provides an increase in salary linked to career advancement steps for one in six teachers, i.e. for so-called 'first-class teachers' — teachers who stand out in their teaching practice — and 'senior lecturers' — teachers with a licentiate degree.³¹² The Government also continues to support teachers' continuous professional development through the 'Boost for Mathematics' and 'Boost for Reading' initiatives, the most significant collaborative learning programmes ever developed in Sweden. In response to the increasing teacher shortage, the Government proposes more alternative routes into the teaching profession and supports the training of newly arrived adults as teachers and mother tongue tutors.

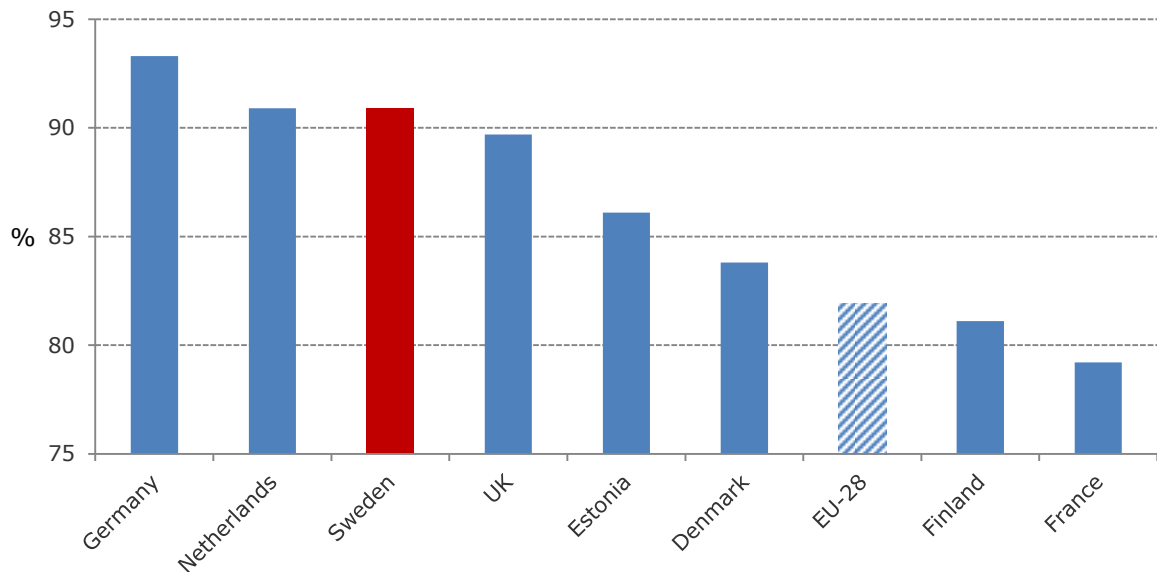
6. Modernising higher education

Sweden's tertiary educational attainment rate was at an all-time high of 50.2 %³¹³ in 2015 for 30-34 year-olds, well above the EU average of 38.7 % and matching the national Europe 2020 target of 45-50 %. The current upward trend is likely to slow down, as the number of higher education entrants has been declining since the peak in 2009/2010. The 2013/2014 academic year was the fourth in a row in which the number of entrants decreased. The 18 % drop in enrolment between 2009/2010 and 2013/2014 is due to fewer places being offered by higher education institutions. There has been a heavy drop in the number of foreign students since 2011/2012, following the introduction of tuition fees for students from outside the EU/EEA and Switzerland (Swedish Higher Education Authority 2015).

The average age of university entrants has traditionally been high, although the proportion of 19-year-old higher education entrants has grown markedly in recent years. This is partly due to the size of the 19-year-old cohort but also to recent changes in the admission regulations which favour younger applicants. About 14 % of students who received their first qualification in 2013/2014 had studied abroad at some time during the six years prior to their graduation (Swedish Higher Education Authority 2015). Inbound graduate mobility is also high, especially at master's level.

³¹² The licentiate degree is obtained after two years of full-time study at doctoral level.

³¹³ In 2015, the tertiary attainment rate was 57.7 % for women and 43.2 % for men. The number of women in higher education has risen faster than the number of men over the past 30 years, and as a result the proportion of women continues to grow gradually.

Figure 3. Employment rate of recent tertiary graduates (2015)


Source: European Commission elaboration on Eurostat data. Online data code: *edat_ifse_24*

The employment rate of recent tertiary graduates³¹⁴ is well above the EU average (90.9 % compared to 81.9 % in 2015). However, the salary premium for those with a tertiary education is the smallest among the OECD countries: tertiary graduates earn on average 25 % more than those with only upper secondary education, while the corresponding premium for OECD countries is 60 %. Those with at least a master's degree earn on average more than those with a bachelor's degree or equivalent, but the differences between these levels are smaller than in the other Nordic countries (OECD 2015b; Swedish Higher Education Authority 2016).

The Government will finance around 14 600 new study places in higher education by 2019 to boost participation. To raise the quality of higher education, in 2015 the Government invested SEK 125 million in the humanities, social sciences, law, theology, and teacher and preschool teacher education, and earmarked SEK 250 million per year for 2016-2018 for these subjects. In addition, in February 2016 the Parliament adopted a new quality assurance system. The new model, developed by the Swedish Higher Education Authority in conjunction with the higher education sector, is built on four components: appraisal of applications for entitlement to award qualifications, review of higher education institutions own quality assurance procedures, evaluation of courses and programmes, and thematic evaluations. The results of the evaluations no longer have an impact on the allocation of funding.

To make more effective use of the skills of migrants with tertiary education, the 2016 budget bill saw substantial allocations to so-called 'bridging programmes',³¹⁵ including additional funding for student aid. The Government has also earmarked additional resources for the years 2016-2019 to create 'fast tracks' in 20 different occupations. The initiative combines customised bridging education with validation of credentials.

7. Modernising vocational education and training and promoting adult learning

Adult participation (25-64 year olds) in lifelong learning has been high and remains the second highest in the EU – 29.4 % compared to the EU average of 10.7 % in 2015. However, while the rate for women is 36.7 %, it is 22.3 % for men.

³¹⁴ People aged 20-34 who left tertiary education between one and three years before the reference year.

³¹⁵ Bridging programmes complement education acquired abroad so that a Swedish degree could be obtained. The 1-2 year courses have been financed by the Government since 2005 primarily in occupations such as lawyers, teachers, doctors, nurses, dentists and veterinarians.

The participation of upper secondary students in vocational education and training (VET) is decreasing. The employment rate of recent upper secondary VET graduates (81.6 % in 2015) is well above the EU average. Dual programmes combining work experience with education have been rolled out and employer buy-in has increased. Transition between different training forms and paths, i.e. between upper secondary school, adult education, the apprenticeship system for adults and training for the unemployed, is a challenge.

SEK 67 million was earmarked in the 2016 budget for strengthening the quality and attractiveness of upper secondary VET. The investment is to support better career guidance, further strengthen collaboration between schools and the workplace and ensure that more teachers in vocational subjects obtain a teaching certificate. The right to adult education at upper secondary level was adopted as part of the 2016 budget and should come into force in 2017. At an estimated cost of SEK 537 million a year, all adults will have the right to complement their previous studies and obtain an upper secondary qualification that gives access to higher education and improves their chances in the labour market (European Commission 2016).

Swedish Tuition for Immigrants (sfi) is provided free of charge to all migrants above compulsory school age, except Norwegians and Danes. To optimise its effectiveness, sfi has been included in the municipal adult education system since 1 July 2016. The home municipality is required to offer educational and career guidance to those who wish to participate in municipal adult education and to develop individual study plans for them. Municipalities will need to consider students' learning history and adapt study schedules to individual needs.

8. References

Bunar, N. (2010), Nyanlände och Lärande, Vetenskapsrådet,
<http://www.forskning.se/download/18.7d3d370412800b1f670800067/1387284163202/Rapport+6.2010.pdf>

Bunar, N. (2015), Nyanlände och Lärande – mottagande och inkludering

European Commission (2014), National Sheets on Education Budgets in Europe 2014, Eurydice – Facts and Figures,
http://eacea.ec.europa.eu/education/eurydice/documents/facts_and_figures/National_Budgets.pdf

European Commission (2016), Eurydice – Eurypedia,
<https://webgate.ec.europa.eu/fpfis/mwikis/eurydice/index.php/Sweden:Overview>

IEA (2012), Trends in International Mathematics and Science Study (TIMSS) 2011 Results,
http://www.iea.nl/timss_2011.html

National Agency for Education (NAE) (2015a), Redovisning av uppdrag om prognos över behovet av olika lärarkategorier, Dnr U2014/4128/S,
http://www.skolverket.se/om-skolverket/publikationer/visa-enskild-publikation?_xurl_=http%3A%2F%2Fwww5.skolverket.se%2Fwtpub%2Fws%2Fskolbok%2Fwpubext%2Ftrycksak%2Fblob%2Fpdf3472.pdf%3Fk%3D3472

National Agency for Education (NAE) (2015b), 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) (2015c), Slutbetyg i grundskolan, våren 2015. Promemoria Dnr 5.1.1-2015:1103,
http://www.skolverket.se/om-skolverket/publikationer/visa-enskild-publikation?_xurl_=http%3A%2F%2Fwww5.skolverket.se%2Fwtpub%2Fws%2Fskolbok%2Fwpubext%2Ftrycksak%2Fblob%2Fpdf3528.pdf%3Fk%3D3528

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

National Agency for Education (NAE) (2016b), Statistik & utvärdering,
<http://www.skolverket.se/statistik-och-utvardering/statistik-i-tabeller/gymnasieskola/betyg-och-studierresultat/betyg-och-studierresultat-i-gymnasieskolan-lasar-2014-15-1.243900>

National Agency for Education (NAE) (2016c),
<http://www.skolverket.se/om-skolverket/press/pressmeddelanden/2016/pressmeddelanden-2016-1.244816/tio-procent-av-skolorna-har-tagit-emot-halften-av-de-nyanlanda-eleverna-1.250083>

OECD (2013a), PISA 2012 Results,
<http://www.oecd.org/pisa/keyfindings/pisa-2012-results.htm>

OECD (2013b), The Survey of Adult Skills (PIAAC),
<https://www.oecd.org/site/piaac/surveyofadultskills.htm>

OECD (2014), TALIS 2013 Results: An International Perspective on teaching and Learning,
<http://www.oecd.org/edu/school/talis-2013-results.htm>

OECD (2015a), Improving Schools in Sweden: An OECD Perspective,
<http://www.oecd.org/edu/school/improving-schools-in-sweden-an-oecd-perspective.htm>

OECD (2015b), Education at a Glance,
<http://www.oecd.org/edu/education-at-a-glance-19991487.htm>

Persson, M. and E. Skult (2014), Lärarlönerna, Ekonomisk debatt 4/2014,
http://nationalekonomi.se/sites/default/files/NEFfiler/42-4-mpes_0.pdf

School Commission (2016), Nationella målsättningar och utvecklingsområden för kunskap och likvärdighet,
<http://www.regeringen.se/rattsdokument/statens-offentliga-utredningar/2016/05/sou-201638/>

Statistics Sweden (SCB) (2014), Ökande elevkullar kan förvärra lärarbrist,
http://www.scb.se/sv/_Hitta-statistik/Artiklar/Okande-elevkullar-kan-forvarra-lararbrist/

Swedish Higher Education Authority (2015), Higher education in Sweden, 2015 Status Report, Report 2015:16,
<http://www.uka.se/download/18.68b9da0d14d8a7e2f5aab4e/1434628864514/eng-arsapport2015.pdf>

Swedish Higher Education Authority (2016), Labour market prospects after tertiary education, Report 2016:3,
<http://english.uka.se/download/18.6f4a800151c42a802646b8/1453980569083/labour-market-prospects-after-tertiary-education-report-3-2016.pdf>

Swedish School Inspectorate (2009), Utbildning för Nyanlända Elever. Rätten till en God Utbildning i en Trygg Miljö, Stockholm

Swedish School Inspectorate (2014), Från huvudmannen till klassrummet,
<https://www.skolinspektionen.se/globalassets/publikationssok/regeringsrapporter/arsrapporter/arsrapport-2014.pdf>

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_ipart (2011), educ_uoe_enra10 (2014)
Employment rate of recent graduates	edat_lfse_24
Adult participation in lifelong learning	trng_lfse_01
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



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1. Key indicators

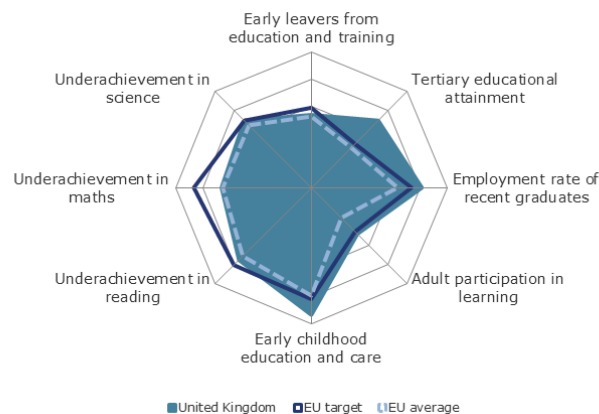
		United Kingdom		EU average		
		2012	2015	2012	2015	
ET 2020 benchmarks						
Early leavers from education and training (age 18-24)	Total	13.4%	10.8%	12.7%	11.0%	
Tertiary educational attainment (age 30-34)	Total	46.9%	47.8%	36.0%	38.7%	
Early childhood education and care (ECEC) (from age 4 to starting age of compulsory education)		95.8% ¹¹	98.2% ¹⁴	93.2% ¹¹	94.3% ¹⁴	
Proportion of 15 year-olds with underachievement in:	Reading	16.6%	:	17.8%	:	
	Maths	21.8%	:	22.1%	:	
	Science	15.0%	:	16.6%	:	
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-8 (total)	81.5%	85.8%	75.9%	76.9%	
Adult participation in lifelong learning (age 25-64)	ISCED 0-8 (total)	16.3%	15.7%	9.2%	10.7%	
Other contextual indicators						
Education investment	Public expenditure on education as a percentage of GDP	5.7%	5.2% ¹⁴	5.0%	4.9% ^{14,p}	
	Expenditure on public and private institutions per student in € PPS	ISCED 1-2	€7.681	€8.600 ¹³	:	: ¹³
		ISCED 3-4	€7.574	€8.694 ¹³	:	: ¹³
ISCED 5-8		€18.503	€19.249 ¹³	:	: ¹³	
Early leavers from education and training (age 18-24)	Native-born	13.6%	11.2%	11.6%	10.1%	
	Foreign-born	11.8%	7.6%	24.9%	19.0%	
Tertiary educational attainment (age 30-34)	Native-born	44.2%	45.5%	36.7%	39.4%	
	Foreign-born	54.8%	53.9%	33.8%	36.4%	
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-4	73.3%	78.7%	69.7%	70.8%	
	ISCED 5-8	87.8%	89.7%	81.5%	81.9%	
Learning mobility	Inbound graduates mobility (bachelor)	15.7% ¹³	15.7% ¹⁴	5.5% ¹³	5.9% ¹⁴	
	Inbound graduates mobility (master)	46.1% ¹³	46.3% ¹⁴	13.6% ¹³	13.9% ¹⁴	

Sources: Eurostat (see section 9 for more details); OECD (PISA).

Notes: data refer to weighted EU averages, covering different numbers of Member States depending on the source; b = break in time series, d = definition differs, p = provisional, u = low reliability, 11 = 2011, 13 = 2013, 14 = 2014.

Further information can be found in the relevant 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 2015) and OECD (PISA 2012).

Note: all scores are set between a maximum (the strongest performers, represented by the outer ring) and a minimum (the weakest performers, represented by the centre of the figure).

2. Highlights

- Despite differences in approaches to addressing certain challenges, the education systems in the UK³¹⁶ perform well in many areas monitored as part of the Education and Training 2020 framework.
- The UK has a very high tertiary educational attainment rate and a declining early school leaving rate.
- Compared to other EU countries, the UK performs well in participation in early childhood education and care for children aged four and over, and in adult participation in lifelong learning.
- The main challenges for the UK's education systems include improving the level of basic skills of 15-year-olds (especially maths among girls) and widening access to higher education for students from poor socioeconomic backgrounds.
- Ambitious reforms of the skills system are underway to improve the quality and transparency of post-16 vocational routes as equal alternatives to academic routes.

Box 1: The 2016 European Semester country-specific recommendation on education and training

The 2016 European Semester country-specific recommendations (CSRs) to the UK (Council of the European Union 2016) included a recommendation on education and training:

Address skills mismatches and provide for skills progression, including by strengthening the quality of apprenticeships

3. Investing in education to address demographic and skill challenges

The UK's general government expenditure on education as a proportion of GDP stood at 5.2 % in 2014, above the EU average of 4.9 %. Nevertheless, this is the lowest rate the UK has witnessed since 2007 and represents a significant drop from 6.6 % in 2010.³¹⁷ On the other hand, in 2014 the UK spent a higher proportion of total government expenditure on education — 11.8 % — than the EU average of 10.2 %. The trend for the UK, however, has been downward for a number of years.

As part of a broader fiscal savings agenda in England, 2015 saw budgetary cuts in the areas of pre-primary, further and higher education. The 2016 budget compensated for some of these cuts by announcing additional investments of GBP 20 million a year in a Northern Powerhouse schools strategy. This strategy aims to close the educational performance gap between some parts of the north and the rest of the country. In addition, there will be a new formula for allocating school funding from 2017/2018 and the Government will provide around GBP 500 million of additional core funding to schools.

As part of the strategy to boost employer engagement in apprenticeships, the Government has devised a scheme for an apprenticeship levy. It will amount to 0.5 % of an employer's pay bill as of April 2017 and will raise over GBP 3 billion a year by 2019-2020. The levy will be paid into the apprenticeship fund, from which employers will be able to recoup the money only for

³¹⁶ Each of the four UK countries (England, Northern Ireland, Scotland and Wales) has devolved responsibility for their own education policy. The UK country sheet therefore gives an overall picture of system performance, where relevant, but recognises the substantial variation in the policies, organisation, funding and delivery of education across each of the devolved administrations.

³¹⁷ Source: Eurostat, General government expenditure by function (COFOG) database.

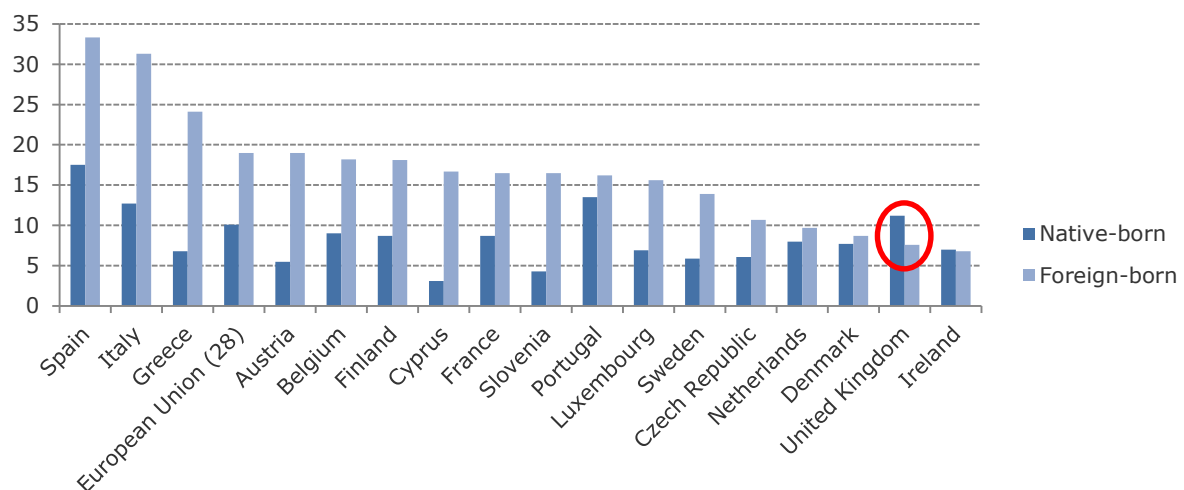
training apprentices. The Government will be topping up employers' monthly apprenticeship levy contributions by 10 %. In addition, direct government support will be available to adults wishing to study at any qualification level, from basic skills up to PhDs. Loans will be introduced for those areas of training that the Government wishes to expand: higher level vocational education; part-time second degrees in science, technology, engineering and mathematics (STEM); and postgraduate taught master's courses.

The employment rates in the UK are higher than those of most EU countries, at all levels of qualifications. The difference in the employment rates between upper secondary and tertiary graduates in the UK, at 9 percentage points (pps.), is relatively small compared to the average 11.6 pps. difference across the EU.

4. Tackling inequalities and promoting inclusion

The early school leaving rate in the UK dropped from 14.9 % in 2011 to 10.8 % in 2015, when it fell below the EU average of 11 % for the first time. The UK is a rare case among the EU countries (see Figure 2) of early school leaving being less prevalent among students born outside the country (7.6 %) than those born in the UK (11.2 %). The gender difference in early school leaving is less relevant in the UK than on average in the EU (1.9 pps. compared to 2.9 pps. in the EU).

Figure 2. Early school leaving rate by migrant status (2015)³¹⁸



Source: Eurostat. Online data code: *edat_lfse_02*.

The rate of 4-year-olds and older enrolled in early childhood education and care, at 98.2 %, remains stable and above the EU average of 94.3 % in 2014. The UK is among the three best performers on this indicator, after France and Luxembourg. Almost one third of children under the age of three — 29 % — are covered by early education and childcare. This is around the EU average of 28 % but significantly lower than in Scandinavia, the Benelux and some southern European countries, where coverage can reach up to 70 %.³¹⁹

The UK performs somewhat better than the EU average in literacy and science skills at age 15, as measured by the 2012 OECD Programme for International Student Assessment (PISA). When these results are broken down by gender, the UK shows the third highest gender difference in mathematics performance across all EU countries, with more girls underachieving than boys.³²⁰ In science and literacy the picture is better: the gender gap in science performance is the lowest

³¹⁸ Data for Bulgaria, Germany, Estonia, Croatia, Latvia, Lithuania, Hungary, Malta, Poland, Romania and Slovakia are incomplete and therefore not included in this chart.

³¹⁹ Source: Eurostat. Online data code: *ilc_caindformal*.

³²⁰ 23.8 % of girls and 19.7 % of boys failed to achieve the basic level of mathematics at the age of 15, a higher percentage difference between genders than in all EU countries but Luxembourg and Austria.

in the EU, while reading underperformance exists in fairly equal measure among boys and girls (OECD 2013).³²¹

National sources point to significant inequalities based on gender, ethnicity and socioeconomic background in the English education system. For example, there is a gap of 28 pps. between low-income students and other students in achieving the GCSE (lower secondary examinations) benchmark (five good GCSEs including English and maths), and the gap is not narrowing (DfE 2016a). Since 2015 the Government has adopted very elaborate tools for tracking underperformance which repeatedly show the difficulty of achieving top marks at key stage 2 (11 years old) for disadvantaged pupils (DfE 2015). The gap between girls and boys narrowed slightly between 2014 and 2015 (DfE 2015).

Helping disadvantaged learners narrow the gap in educational attainment occurs through a Pupil Premium, whose budget has been secured until 2019/2020.³²² Since March 2016 the Premium is determined by more personal and family characteristics rather than simply eligibility for free school meals (historically regarded as a measure of relative disadvantage). It is not yet clear whether the Pupil Premium is being well used by schools and is matching the ambitions for improvement reflected in the new minimum standards for schools and inspection frameworks. A recent survey of teachers found that, while many of them were not aware of the spending priorities for the Pupil Premium at their school, a great majority of schools were increasingly using evidence to inform their spending (Sutton Trust 2016). They especially used evidence from the Education Endowment Foundation, which was set up for that purpose (*idem*).

In March 2016 the Childcare Act, introduced into Parliament in June 2015, passed into law in England. The Act provides all working parents of 3- and 4-year-olds with 30 free hours of childcare per week (up from 15 hours) and aims to help close the gap between children from disadvantaged backgrounds and their peers. Pilot schemes in some areas will see the increased amount of childcare offered from September 2016. However, unofficial data from the National Day Nurseries Association 2016 Survey reported that only 45 % of nurseries were intending to increase the number of free hours offered as the cost of provision exceeded the level of funding available (NDNA 2016).

The Scottish Government published a response to the final report of the Commission for Childcare Reform in December 2015. They committed, among other things, to ensuring every nursery in Scotland's most deprived areas will have an additional qualified childcare graduate to work with children by 2018 and to raising the free early learning and childcare entitlement to 1 140 hours per year. In Wales, for 2015/2016 and 2016/2017 school years, the Government is providing the early years pupil deprivation grant, which gives nurseries additional funding of GBP 300 for every 3- and 4-year-old from a low income family. A first wave evaluation in 2016 of the Flying Start programme for around 40 % of 2-year-olds in Wales reports positive views from parents and 80 % of the target group meeting the expected language development standards (Welsh Government 2016). In Northern Ireland a new Getting Ready to Learn programme was launched in March 2016, providing funding for pre-school education and helping parents develop the home learning environment.

5. Modernising school education

The 2013 OECD Teaching and Learning International Survey (OECD 2014) shows that in England information and communications technology (ICT) is widely used in classrooms, by 37.1 % of teachers compared to 34 % in the EU as a whole. This is in line with the percentage of teachers having been trained in ICT (38.9 %). However, a national report found that 35 % of ICT teachers did not have a relevant qualification and that 22 % of IT equipment in schools was ineffective (BESA 2015). Despite government initiatives to help increase ICT teachers' capability to deliver the reformed computing curriculum introduced in September 2014, this remains a challenge for many schools due to a lack of qualified teachers and IT resources. Only 70 % of

³²¹ According to PISA 2012, 19.8 % of boys and 13.5 % of girls underachieve in reading. In science, 13.9 % of boys and 16 % of girls underperform.

³²² GBP 1 320 for primary-aged pupils and GBP 935 for secondary-aged pupils who have been registered for free school meals at any point in the last 6 years and GBP 1 900 for looked-after children.

the required number of ICT teachers has been recruited into the profession (National Audit Office 2016). A report by the House of Commons warns of a digital skills crisis in the country and asks for the inclusion of the computing curriculum in inspection criteria and for embedding computing in all aspects of teaching (House of Commons 2016).

The geographical location of schools in England is a significant factor in their performance, with the London area performing significantly better than rural and coastal areas. The percentage of schools below the primary school minimum standard³²³ is 2 % in London and over 7 % in Yorkshire and the Humber area (Department for Education 2015). The variations are much higher at secondary school level, with London showing the lowest proportion of schools below the minimum standard (3.8 %), and East Midlands the highest (18.3 %) (DfE 2016a). The 2015 annual report of the Chief Inspector of English Schools observed that due to significant regional, ethnic and other differences in attainment, many pupils with excellent scores at the end of primary school are failed by their lower secondary schools. A recent independent report found that the attainment gap widens most for children under the age of five and between 11 and 16; and that schools with high concentrations of disadvantaged pupils do much better at closing the gap than schools with only a few disadvantaged pupils (Hutchinson et al., 2016). Government measures to address these challenges are summarised in Box 2.

The UK Government set out its schools strategy for England 2016-2021 in the White Paper 'Educational Excellence Everywhere' in March 2016 (DfE 2016b). It benchmarked the strategy against what it views as the core problems of the English education system, which include:

- low basic skills on entry into secondary schools,
- 'grade inflation' in the examination system,
- grades not sufficiently reflecting standards,
- too many qualifications not well suited to employment or higher education,
- excessive regulation and red tape hindering teaching, and
- underperformance of schools in the most disadvantaged communities.

Box 2: A move towards complete autonomy of schools in England

Guided by the principle that school autonomy leads to higher standards for all learners, in England the Government has gone ahead with its plans for 'academisation' of all primary and secondary schools. It eventually withdrew the initial decision to force all schools to become academies by 2022 and decided to keep some flexibility, but schools seen as underperforming would still be forced to convert to academy status through the Education and Adoption Act of 2016.³²⁴

Academies are state-funded schools which are independently-run with minimum interference by local authorities and set up with the help of outside sponsors. In practice, this means that academies are free to set staff salary levels and organise their timetable as they see fit and they do not need to follow the national curriculum. In return for autonomy, academies are subjected to enhanced forms of accountability, meaning stricter inspections and quality controls and a heightened focus on outcomes.

The process of academisation underwent several phases, from 2000 under the Labour Government when it was intended for replacing failing schools (sponsored academies) to the newest push under the Conservative Government for as many schools as possible to convert (converter academies). There are currently around 5 300 open academies, of which around 30 % are sponsored and 70 % are converter academies (DfE 2016c). Converter academies are assessed as the best performing of all types of schools in England by the inspection body Ofsted and sponsored academies as the worst performing, but this reflects the situation before conversion. There is some evidence to suggest that school performance in sponsored

³²³ Primary schools are assessed to be above the minimum standard if pupils make sufficient progress across all of reading, writing and mathematics or if more than 65 % of them achieve the national standard in reading, writing and mathematics.

³²⁴ <http://services.parliament.uk/bills/2015-16/educationandadoption.html>.

secondary academies has increased more quickly than in similar schools, especially in those that have been academies for the longest, implying that academy status has a gradual impact on improving performance (NFER 2016). However, there are no data on the performance of primary academies. Therefore, it is difficult to draw conclusive evidence on whether academisation is working.

The overall strategy is set out in the March 2016 White Paper 'Educational Excellence Everywhere' (DfE 2016b) which ushered in a comprehensive reform of the school education system in England. Its most important measures concern:

- shifting responsibility for teacher training and recruitment to schools and school leaders;
- encouraging academies to cluster not with other schools within the boundaries of a local authority but with a functional grouping of schools that form multi-academy trusts (MATs);
- transferring responsibility for school improvements from local authorities to 'school and system leaders';
- building a strong population of sponsors for the school academies (businesses and charitable organisations);
- encouraging the 'vast majority' of people to study core academic subjects by enrolling in the English Baccalaureate;
- assessing the educational progression of children rather than just end grades;
- rewarding good or outstanding schools with less regular inspections and developing a new accountability system for MATs, which are growing in size and number;
- asking schools to develop evidence-based strategies for dealing with disadvantaged children, using evidence obtained through the Education Endowment Foundation (EEF³²⁵);

The extent of the planned changes has led to a range of concerns and reactions from across the teaching profession and their stakeholder organisations. These relate in particular to:

- the debate around autonomy versus central control;
- the dangers of privatisation of the education system;
- questioning of the need to change the whole system when on average only 20 % of schools are underperforming;
- concern over the quality of education in MATs which are acting as businesses and focusing on profit;
- the viability of turning small schools with low resources into academies; and
- the distancing of schools from parents and local communities.

In addition to the new strategy for schools, proposals were unveiled to lift the long-standing ban on new or expanded grammar schools, with a £50 million annual Government subsidy to support new places. New grammar schools were banned in 1998 because they select pupils based on ability tests and are therefore considered to be discriminatory towards pupils from low socio-economic backgrounds. The concern with the potential reversal of the ban is that it could create more inequalities in education and be detrimental to raising overall education standards. The proposal needs to pass through the Parliament in order to take effect.

6. Modernising higher education

The UK tertiary educational attainment rate has increased continually since 2000, reaching 47.8 % in 2015.³²⁶ This is one of the highest rates in the EU. The UK is among the few EU countries where the proportion of tertiary graduates among the foreign-born population is higher than among the native-born (see Figure 3). The employability of recent tertiary graduates³²⁷ in 2015 rose above the 2008 levels; at 89.7 % it is also one of the highest in the

³²⁵ <https://educationendowmentfoundation.org.uk/>.

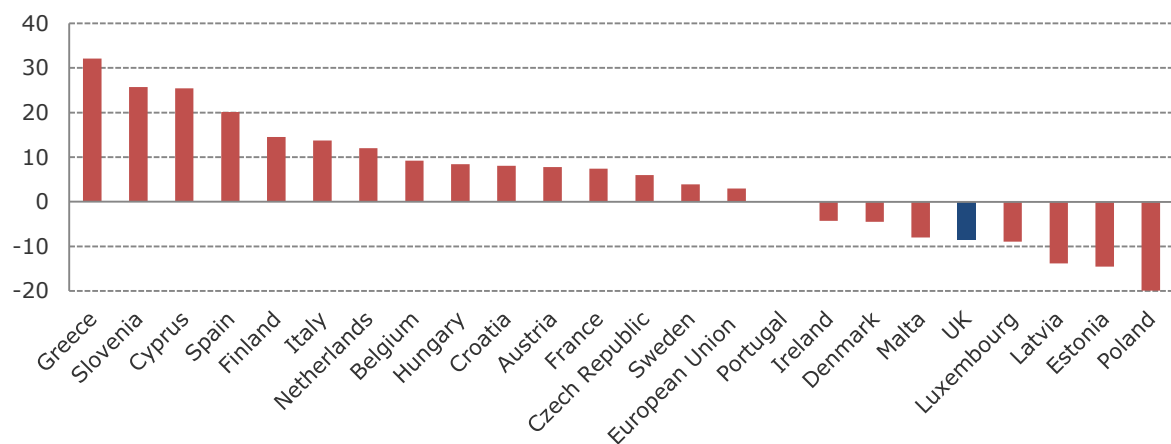
³²⁶ The proportion of the population aged 30-34 having completed tertiary or equivalent education.

³²⁷ People aged 20-34 who left tertiary education between 1 and 3 years before the reference year.

EU. A detailed analysis of the destinations and earnings of UK graduates is released every year based on a survey among all publicly funded higher education institutions across all four administrations. In the 2014/2015 academic year, the response rate among leavers was 79 %. The results show a high rate of employment (or further study) 6 months after graduation (72 % were working, 6 % were working and studying, 13 % were involved in further study, 5 % were unemployed and the remaining 4 % were involved in some other activity, such as taking time out to travel or something else). The outliers are computer science first-degree graduates who, despite being in great demand, had a 10 % unemployment rate 6 months after graduation (HESA 2016a). The survey is being revised to include graduate outcomes indicators that are more illustrative of the benefits and skills derived from a university education than employment and earnings alone (HESA 2016b).

A continuous challenge for the UK higher education sector, however, is to provide equal opportunities of entering higher education to students from all socioeconomic backgrounds. Application numbers in 2016 published by UCAS, the organisation responsible for managing applications to higher education courses in the UK, showed that in both 2015 and 2016 the more advantaged UK 18-year-olds are 2.4 times more likely to apply to university than the disadvantaged. This is despite the increase in application rates for the most disadvantaged (UCAS 2016). In Scotland, 18-year-olds living in disadvantaged areas were 8 % more likely to apply than in 2015 and 65 % more likely to apply than a decade ago (UCAS 2016).

Figure 3. Difference in tertiary educational attainment between native-born and foreign-born (2015, percentage points)³²⁸



Source: Eurostat. Online data code: *edat_ifs_9912*.

Based on the White Paper setting out the Government's plans to reform the higher education and research system (BIS 2016a), England is passing legislation that will make it easier for new universities to enter the higher education market and will promote more choice and competition in the higher education sector. There will also be changes to sector infrastructure and changes to the research funding landscape, as well as the delivery of the Teaching Excellence Framework (TEF). The latter is an ambitious policy to encourage quality teaching by measuring and publishing the level of teaching quality in higher education institutions and linking it to the level of tuition fees that institutions are allowed to charge. The output measures that will be used as TEF metrics are currently being explored and they potentially include graduate employment figures, student satisfaction surveys, retention statistics and others. After two years of piloting, the fees are expected to start varying in September 2019. This is the first time in 25 years that the legal basis of higher education is being substantially revised.

Scotland has set a policy to increase the number of students in higher education from state-funded schools, students from further education and mature students from disadvantaged backgrounds. The Commission on Widening Access appointed in 2014 came up with 34

³²⁸ Data for Bulgaria, Germany, Lithuania, Romania and Slovakia are incomplete and therefore not included in this figure.

recommendations on how to achieve this in March 2016. They include a recommendation for universities to set access thresholds for students from the most deprived backgrounds and to do more outreach among applicants from disadvantaged backgrounds. The Scottish Government has already accepted the recommendation to set a series of targets to ensure that, by 2030, students from the 20 % most deprived areas make up 20 % of higher education entrants.

In response to a Northern Irish public consultation on the sustainability and the future of the higher education sector,³²⁹ a report found that the acute level of underfunding of Northern Irish higher education institutions risks undermining their reputation and reducing the number of skilled graduates that the economy needs (Royal Irish Academy 2016). The background is the frozen tuition fees since 2011 coupled with budget cuts in 2015/2016 which caused major student and staff reductions. Currently three different options are on the table for the Northern Irish Executive to decide on, including increased public investment, increased student contributions or a hybrid between the two.

7. Modernising vocational education and training and promoting adult learning

The employment rate of upper secondary graduates in the UK, at 79.2 %, is higher than the EU average of 73.9 % in 2015. After a small dip in the previous years, in 2015 it regained its 2008 levels. The numbers of apprenticeship starts increased for the first time since 2010-2011 and latest data from August 2015 to April 2016 show a continuation of this trend, with the gender gap nearly completely closing (BIS 2016b). At present, only 6 % of 16-18-year-olds follow the route to apprenticeships (House of Lords 2016). The dominant age group among those starting apprenticeships for the past five years in a row is 25 years and over. They made up 43% of apprenticeship starts in 2014/2015 (House of Commons Library 2016). In 2014-2015, the highest level of apprenticeships made up only 4 % of total apprenticeship starts. The middle and lowest level recorded figures of 36 % and 60 % respectively. UK adult participation in lifelong learning, at 15.7 %, is significantly higher than the EU average of 10.7 % in 2015. However, participation by people from less advantaged backgrounds is much lower than that of other groups, and participation among unemployed people and those over 55 appears to be declining.

An investigation by the House of Lords Social Mobility Committee called for radical revisions to the content of schooling from the age of 14 to better prepare young people, primarily those in upper secondary vocational education, for the world of work (House of Lords 2016). The report argues that a culture of inequality between vocational and academic routes to work pervades the education system. It advocates, in particular, more funding, more and better career guidance, more accessible information about labour market outcomes, more work experience and an integrated curriculum between 14 and 19 years of age. The Government indeed initiated ambitious reforms to increase the transparency and decrease the complexity of technical and professional routes. A Post-16 Skills Plan was published in July 2016 which reflects on the recommendations made by an independent panel led by Lord Sainsbury. The white paper commits to streamlining the system of technical education and creating 15 routes across technical education, grouping occupations together into clusters. Each cluster of occupations will have only one approved tech level qualification. A new employer-led Institute for Apprenticeships will be responsible for quality assurance both for apprenticeships and college-based education.

In England, the Government aims to expand apprenticeships to 3 million starts by 2020 and has been investing heavily in meeting this goal. For comparison, in the course of the previous government mandate there were 2.4 million starts. However, the quality of apprenticeships also requires focus. The large emphasis on apprenticeship starts steers attention away from apprenticeship completion. Success rates in 2014/2015 were on average 71.7% and as low as 64.3% for the highest level of apprenticeships (SFA 2016). By comparison, the completion rates of Modern Apprenticeships in Scotland were 76% in 2015/2016 (SDS 2016). Apprenticeships have recently been inspected and their quality judged to be variable and poor. It was found that

³²⁹ "The Big Conversation" launched in September 2015 by Dr Stephen Farry, Minister for Employment and Learning in Northern Ireland.

they are failing to target the skills shortages in the economy, to focus on improving quality and to engage employers, especially SMEs (Ofsted 2015). Out of 190 inspected programmes, 72 were judged to require improvement and 21 were inadequate, affecting 73 000 apprentices. In addition, the level of qualification acquired through apprenticeships tends to be low. In 2014-2015 the highest level of apprenticeships made up only 4 % of total apprenticeship starts. The middle and lowest level recorded figures of 36 % and 60 % respectively. Most apprenticeships take place in the service sector, with three quarters of starts concentrated in three sectors: business, administration & law; health, public services & care; retail & commercial enterprise (BIS 2016b).

In Scotland, the Government has emphasised the need to increase the number of apprenticeships. It aims to raise the total from 25 000 in 2013-2014 to 30 000 in 2020 under its Modern Apprenticeship programme. Skills investment plans and regional skills assessments will be used to ensure that apprenticeships are closely linked to areas of economic growth and job opportunities. There will be a particular focus on creating apprenticeships in STEM subjects. In Wales, under the Policy Statement on Skills and the Skills Implementation Plan, the Government has developed a series of skills performance measures and a Flexible Skills Programme to provide targeted interventions if recruitment and skills needs cannot be met through existing provision. In Northern Ireland, the Government's overarching skills policy framework is the Skills Strategy for Northern Ireland, known as 'Success through Skills – Transforming Futures'. The achievement of the strategic aims and the commitment to increase the skills of the workforce, including through the development of labour market relevant apprenticeships, is delivered through the Skills to Succeed programme.

8. References

British Educational Suppliers Association (BESA) (2015), Market Research, Tablets and Connectivity, Full report: English Schools, June,
http://www.besa.org.uk/sites/default/files/tab2015_0.pdf

Council of the European Union (2016), Council recommendation of 12 July 2016 on the 2016 National Reform Programme of the United Kingdom and delivering a Council opinion on the 2016 Convergence Programme of the United Kingdom,
<http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32016H0818%2803%29&from=EN>

Department for Education (DfE) (2015), National curriculum assessments: key stage 2, 2015 (revised), published 10 December 2015,
www.gov.uk/government/statistics/national-curriculum-assessments-at-key-stage-2-2015-revised

Department for Education (DfE) (2016a), Revised GCSE and equivalent results in England, 2014 to 2015, Published 21 January 2016,
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/494073/SFR01_2016.pdf.

Department for Education (DfE) (2016b), Educational excellence everywhere,
<https://www.gov.uk/government/publications/educational-excellence-everywhere>

Department for Education (DfE) (2016c), Open academies, free schools and projects awaiting approval as of 1 May 2016, updated 26 May 2016,
<https://www.gov.uk/government/publications/open-academies-and-academy-projects-in-development>

Department for Business, Innovation and Skills (BIS) (2016a), Success as a Knowledge Economy: Teaching Excellence, Social Mobility and Student Choice,
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/523396/bis-16-265-success-as-a-knowledge-economy.pdf

Department for Business, Innovation and Skills (BIS) (2016b), Statistical First Release: Further Education and Skills, Learner Participation, Outcomes and Level of Highest Qualification Held, published 23 June 2016,
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/530819/SFR_commentary_June_2016_final.pdf

Hutchinson, J. et al (July 2016), Divergent pathways: the disadvantage gap, accountability and the pupil premium, Education Policy Institute,
<http://epi.org.uk/wp-content/uploads/2016/07/disadvantage-report.pdf>

Higher Education Statistics Agency (HESA) (2016a), Statistical First Release 237: Destinations of leavers from higher education in the UK for the academic year 2014/15, published 30 June 2016,

- <https://www.hesa.ac.uk/pr/3983-statistical-first-release-237>
Higher Education Statistics Agency (HESA) (2016b), Consultation on principles and future requirements for the UK's public interest data about graduates, Published May 2016,
https://www.hesa.ac.uk/dox/publishing/consultations/NewDLHE_Consultation_May_2016.pdf
- House of Commons Library (13 July 2016), Apprenticeship Statistics: England (1996-2015), Briefing Paper Number 06113,
<http://researchbriefings.parliament.uk/ResearchBriefing/Summary/SN06113#fullreport>
- House of Commons, Science and Technology Committee (2016), Digital Skills Crisis: Second Report of Session 2016-17, 7 June,
<http://www.publications.parliament.uk/pa/cm201617/cmselect/cmsctech/270/270.pdf>
- House of Lords (2016), Overlooked and Left Behind,
<http://www.publications.parliament.uk/pa/ld201516/ldselect/ldsocmob/120/12002.htm>
- National Audit Office (2016), Department for Education: Training new Teachers,
<https://www.nao.org.uk/wp-content/uploads/2016/02/Training-new-teachers.pdf>
- National Day Nurseries Association (NDNA) (2016), Annual Nursery Survey 2016 report — England,
http://www.ndna.org.uk/NDNA/All_About_Us/Surveys/Annual_Nursery_Survey_2016_England_report.aspx.
- National Foundation for Educational Research (NFER) (2016), Academy and maintained schools: What do we know, updated 17 April 2016,
<https://fullfact.org/education/academies-and-maintained-schools-what-do-we-know/>
- OECD (2013), PISA 2012 Results,
<http://www.oecd.org/pisa/keyfindings/pisa-2012-results.htm>
- OECD (2014), TALIS 2013 Results: An International Perspective on Teaching and Learning,
<http://www.oecd.org/edu/school/talis-2013-results.htm>
- Ofsted (2015), Apprenticeships: Developing Skills for Future Prosperity, Published November 2015,
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/469814/Apprenticeships_developing_skills_for_future_prosperity.pdf
- Royal Irish Academy (2016), Advice Paper on the Sustainability of the Northern Ireland Higher Education Sector, Advice Paper No. 10/2016,
https://www.ria.ie/sites/default/files/ria_advice_no10_2_21.pdf
- Skills Development Scotland (SDS) (2016), Modern Apprenticeship Statistics: Full Year Report 2015/2016, published 7 June 2016,
<https://www.skillsdevelopmentscotland.co.uk/media/41664/modern-apprenticeship-statistics-quarter-4-2015-16-2-1.pdf>
- Skills Funding Agency (SFA) (2016), Statistical First Release, Further Education and Skills: Learner Participation, Outcomes and Level of Highest Qualification Held, published 23 June 2016,
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/535589/SFR_commentary_June_2016_final_ofqual_update.pdf
- Sutton Trust (2016) Pupil Premium Polling 2016, published on 17 June 2016,
<http://www.suttontrust.com/researcharchive/pupil-premium-polling-2016/>
- UCAS (2016), UCAS Analysis and Research: UK application rates by the January deadline, published on 4 February 2016,
<https://www.ucas.com/sites/default/files/jan-16-deadline-application-rates-report.pdf>
- Welsh Government (2016), Qualitative Research with Flying Start Families: Wave 1 report,
<http://gov.wales/docs/caecd/research/2016/160118-qualitative-research-flying-start-families-wave-1-en.pdf>

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_ipart (2011), educ_uoe_enra10 (2014)
Employment rate of recent graduates	edat_lfse_24
Adult participation in lifelong learning	trng_lfse_01
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

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