European Commission

# Education and Training Monitor 2016

*Education and Training*

The Education and Training Monitor is a European Commission Staff Working Document that presents a yearly evaluation of education and training systems across Europe.

The report brings together the latest quantitative and qualitative data, technical reports and studies, as well as policy documents, and examples of policy measures from different EU Member States. By doing this, the Monitor presents evidence-based policy messages, thereby contributing to the implementation of the ET 2020 cooperation framework. The Monitor is also a tool for educational authorities in Europe to compare their country to other EU Member States, and an occasion for peer learning.

The Monitor reports on EU and Member States' performance on the ET2020 benchmarks, and elaborates on policy priorities for education systems (e.g. quality provision of ECEC, teacher education and continuing professional development, modernisation of vocational education and training and higher education, investment in education). Volume 1 of the Monitor provides an analysis from cross-national and thematic points of view. Volume 2 consists of 28 country reports on individual EU Member States.

This year's Education and Training Monitor explores societal challenges in more depth and addresses migration, demography and the key competences that education should help develop. The Monitor then analyses progress in raising educational outcomes — by reducing early school leaving and underachievement and increasing tertiary educational attainment — at EU level and in individual Member States. Finally, via the cross-national comparison of education systems and in the country analysis, the report presents and examines plenty of policy initiatives that can help make education more responsive to societal and labour market needs.

**ec.europa.eu/education/monitor**

## EU targets for 2020 in education and training

| | | | Current | Target |
|---|---|---|---|---|
| Headline target | 1 | **Early leavers from education and training**<br>The share of 18 to 24 year-olds having attained ISCED level 0-2 and not receiving any formal or non-formal education or training in the four weeks preceding the survey. | 11.0 % | Below 10 % |
| | 2 | **Tertiary educational attainment**<br>The share of 30 to 34 year-olds having successfully completed ISCED level 5-8. | 38.7 % | At least 40 % |
| Other targets | 3 | **Early childhood education and care**<br>The share of children aged 4 to the age of compulsory primary education who are participating in education. | 94.3 % | 95 % |
| | 4 | **Underachievement in reading, maths and science**<br>The share of 15 year-olds failing to reach level 2 in the OECD's PISA for reading, mathematics and science. | Reading: 17.8 %<br>Maths: 22.1 %<br>Science: 16.6 % | 15 % |
| | 5 | **Employment rate of recent graduates**<br>The share of employed 20 to 34 year-olds having successfully completed ISCED 3-8 one to three years preceding the survey and who are no longer in education or training. | 76.9 % | 82 % |
| | 6 | **Adult participation in learning**<br>The share of 25 to 64 year-olds who received formal or non-formal education or training in the four weeks preceding the survey. | 10.7 % | 15 % |

Source: Eurostat (EU-LFS 2015 for 1, 2, 5 and 6; UOE 2014 for 3) & OECD (PISA 2012 for 4). Note: ISCED 0 = early childhood education; ISCED 1 = primary education; 2 = lower secondary education; 3 = upper secondary education; 4 = post-secondary non-tertiary education; 5 = short-cycle tertiary education; 6 = Bachelor's or equivalent level; 7 = Master's or equivalent level; 8 = doctoral or equivalent level.

# Education and Training Monitor 2016

2016 Directorate-General for Education and Culture EN

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*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*

# Foreword

This fifth edition of the Education and Training Monitor comes at a time when Europe is facing serious challenges. In addition to persistent issues such as unemployment, slow economic growth, pressure on public finances and uneven educational opportunities and outcomes, new challenges such as the refugee crisis demand urgent action.

Education can be vital in tackling these issues, both by enabling young people to become active citizens and by laying the foundations for sustained growth and innovation. Education and training help to equip people with the right skills and to find employment, which, in turn, offers the best protection against poverty. But education can only play this part if it delivers good results. International surveys show that there is still room for improvement. This is one of the reasons why education and training remain a high priority for Europe.

Europe is only slowly recovering from the financial and economic crisis. Unemployment rates in the EU remain high, with young people being hit particularly hard. Yet, there are signs of recovery: in 2015, for the second year running, the EU saw employment rates among young graduates rise. Moreover, average public expenditure on education started to increase again in 2014, after three consecutive years of decline.

Migrants and large numbers of asylum seekers are coming to Europe, many of them having lived through dramatic events. Significant efforts are needed to help them find their place in our societies. This includes integrating them quickly into appropriate education and training, and helping them realise their potential on the labour market.

There are more challenges. Europe has been hit by a series of terrorist attacks. Apart from a wide-ranging response in the security field, education policy makers have committed to fully use the potential of education and training to foster EU common values, active citizenship and inclusion. As EU Education Ministers re-affirmed in March 2015 through the Paris Declaration, education has a role to play in equipping people with the skills and competences needed not only to find fulfilling work but also to engage in society as responsible and informed citizens.

In 2016, the European Commission launched the New Skills Agenda for Europe. The aim is to help policy makers raise the quality and relevance of skills formation, make skills and qualifications more visible and comparable and better anticipate skills needs. A particular focus has been put on low-skilled people to improve their chances on the labour market. The Agenda also outlines our plans to review of the Key Competence Framework of 2006 and proposals to modernise vocational education and training and higher education. All these initiatives will focus on basic skills (literacy, numeracy and science), but also drive a broader reflection on how to develop and maintain transversal skills such as critical thinking, sense of initiative, problem-solving, entrepreneurial mind-set and cultural awareness.

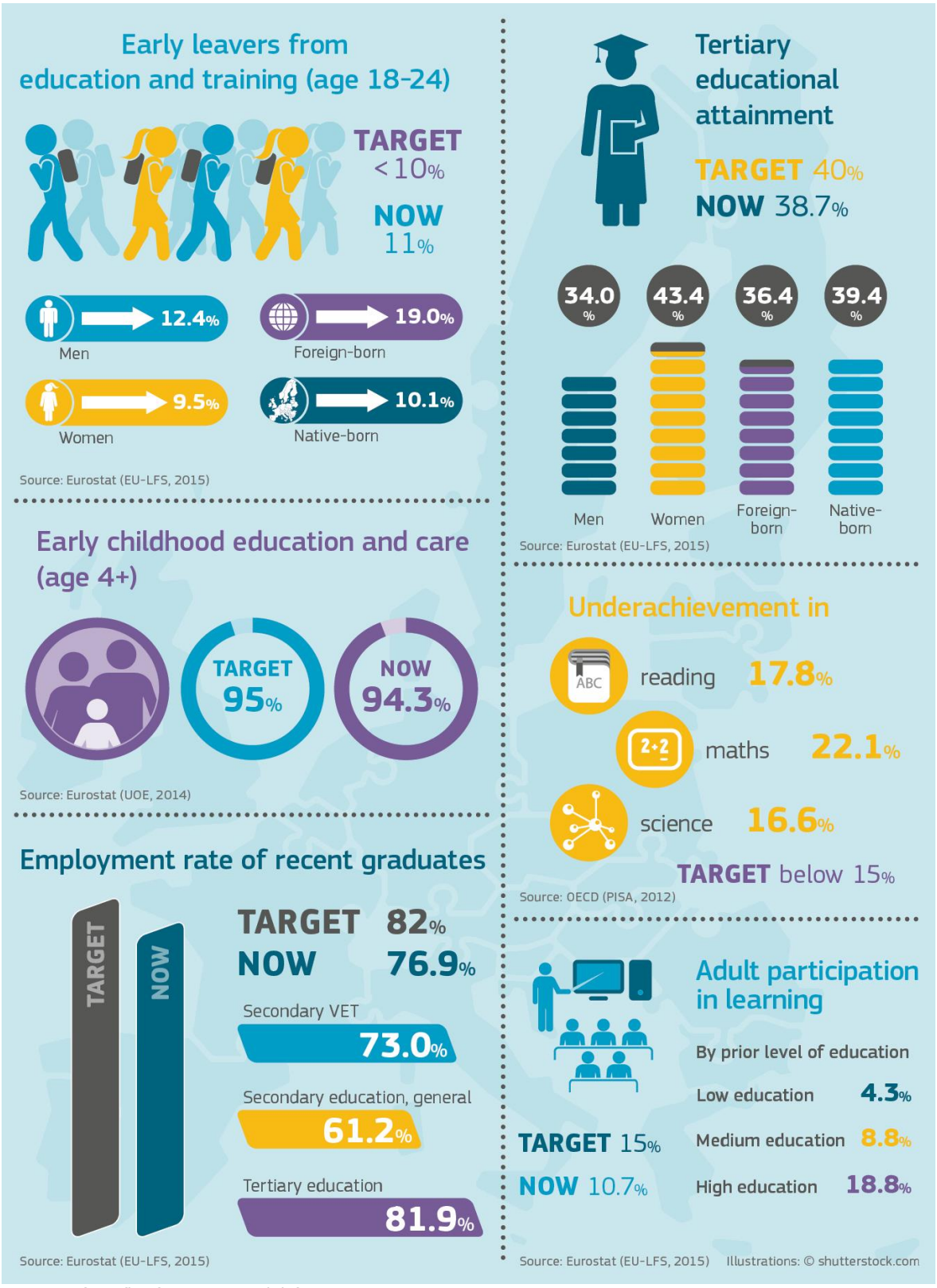
Improving education and training is a complex task. Sound evidence and analysis can help to inform policy decisions and drive reforms to improve educational outcomes. The EU can support Member States by collecting and putting into context facts and figures, which can be the starting point for mutual learning. With such a rich agenda for education, the fifth edition of the Education and Training Monitor represents a large and focused platform for data-driven, policy-oriented comparative analyses of the state of education in Europe and in the 28 Member States.

Tibor Navracsics

Commissioner for Education, Culture, Youth and Sport

European Commission

# EU targets for 2020 in education




*Note*: See front flap for sources and definitions.

# Contents

**Foreword** ..... **3**
**EU targets for 2020 in education** ..... **4**
**Contents** ..... **5**
**Table of Figures** ..... **6**
**Summary** ..... **7**
Highlights of the cross-national analysis ..... 8
Highlights of the country analysis ..... 11

**Part 1. Education and training in evolving European societies** ..... **20**
1.1. The changing demographic landscape in Europe, participation in school education and active citizenship ..... 20
An increasingly diverse population in Europe ..... 20
The role of education in supporting the integration of migrants and strengthening social cohesion ..... 20
Trends and projections – shifts in the size and distribution of school age population ..... 24
1.2. Economic challenges: supply and demand of skills ..... 26
The employability of recent graduates ..... 26
Language learning ..... 29
1.3. Investment in education ..... 31
Public expenditure in education ..... 31
The cost of the education system ..... 35

**Part 2. Educational attainment of young people** ..... **38**
2.1. Early leavers from education and training and underachievement ..... 38
Early leavers from education and training ..... 39
Inequalities within Member States ..... 40
Underachievement ..... 43
Policy measures to raise minimum standards in education ..... 45
2.2. Tertiary-level attainment ..... 47
Increasing attainment at tertiary level ..... 47
Inequalities within Member States ..... 49
Policy measures to increase tertiary attainment rates ..... 52

**Part 3. Policy response: reaction to change** ..... **54**
3.1. Early childhood education and care: inclusiveness and quality ..... 54
Policies and indicators for quality in early childhood education and care ..... 57
3.2. Innovation in school education ..... 60
System governance to support high quality and innovation in schools ..... 60
The role of teaching staff in innovation ..... 62
A diverse teaching force ..... 65
3.3. Vocational education and training ..... 66
The choice of vocational education for young and mature students ..... 67
Relevance of vocational education to the labour market ..... 68
Quality of vocational education programmes ..... 69
3.4. Higher Education: adapting to the modern world ..... 71
The relevance of higher education to the labour market ..... 72
Internationalisation and mobility as drivers of relevance in higher education ..... 76
3.5. Adult learning and adult skills ..... 79
Access to adult learning ..... 79
Building, sustaining and making full use of skills ..... 82

**Annex: Additional tables** ..... **84**

European Commission

# Table of Figures


Table 1.1.1: First-time non-EU applicants for asylum in EU by sex and age, 2015 ..... 21
Figure 1.1.1: Projected change in the school age population, 2015-2040..... 24
Figure 1.1.2: Population gains and losses by metropolitan region, 2000-2013..... 25
Figure 1.2.1: Percentage of young adults scoring at each proficiency level in numeracy, 2012..... 27
Figure 1.2.2: Difference in employment of young recent graduates by qualification, 2015..... 28
Figure 1.2.3: Employment of young recent graduates, 2005-2015 ..... 28
Figure 1.2.4: Average score in numeracy of young adults by qualification, 2012..... 29
Figure 1.2.5: Language learning in lower secondary school, 2014 ..... 30
Figure 1.2.6: Percentage of pupils achieving the independent user level in their first foreign language, 2011 ..... 30
Table 1.3.1: Public expenditure on education, 2014 (%)..... 32
Figure 1.3.1: Public expenditure on education by type of transaction, 2014 ..... 33
Figure 1.3.2: Public expenditure on education by level, 2014 ..... 34
Figure 1.3.3: Real annual growth of public expenditure on education by level, 2014 ..... 34
Figure 1.3.4: Price level index for education services, 2014, EU = 100..... 35
Figure 1.3.5: Household expenditure as share of public expenditure on education, 2014 ..... 36
Figure 2.1.1: Early school leaving, 2005-2015..... 39
Table 2.1.1: Early school leaving by sex and migrant status, 2015 (%)..... 41
Figure 2.1.2: Early school leaving by NUTS 2 regions, 2015 ..... 42
Figure 2.1.3: Pre-primary education and low performance in mathematics, 2012 ..... 44
Figure 2.1.4: Socio-economic inclusion and low performance in mathematics, 2012..... 45
Figure 2.2.1: Tertiary educational attainment, 2005-2015 ..... 48
Figure 2.2.2: Tertiary educational attainment by degree, 2015 ..... 49
Table 2.2.1: Tertiary educational attainment by sex and migrant status, 2015 (%) ..... 50
Figure 2.2.3: Tertiary educational attainment by NUTS 2 regions, 2015 ..... 51
Table 3.1.1: Participation in early childhood education and care, 2014 (%) ..... 55
Figure 3.1.1: Participation in formal childcare of children less than 3 years old, 2014..... 56
Table 3.1.2: Legal framework of early childhood education and care, 2015/2016 ..... 57
Table 3.1.3: ECEC provision: a selection of structural indicators, 2015/2016 ..... 59
Figure 3.2.1: Share of satisfied teachers with their school by perception of different participation practices, EU level, 2013..... 63
Figure 3.2.2: Teachers reporting never having received feedback following classroom observations, 2013 ..... 64
Figure 3.2.3: Male teachers at different education levels, 2014..... 65
Table 3.3.1: Students in VET and proportion within total student population, 2014..... 67
Figure 3.3.1: Employment rate of recent upper secondary and post-secondary non-tertiary graduates, 2015 ..... 68
Figure 3.3.2: Share of students in combined work and school-based upper secondary programmes out of total upper secondary VET students, 2014..... 69
Figure 3.3.3: Share of VET students in upper secondary VET by the permeability of their programme, 2014 ..... 70
Figure 3.3.4: Share of VET students learning foreign languages, 2014 ..... 70
Figure 3.4.1: Unemployment rates at total, bachelor , and master educational levels, 25-44 year-olds, 2015 ..... 72
Table 3.4.1: Employment rates by detailed tertiary educational attainment level, 25-44 years-old, 2015 (%) ..... 73
Table 3.4.2: Example of efforts to strengthen graduate employability in higher education, 2015/2016..... 75
Table 3.4.3: Mobile students and graduates in EU Member States, 2014 (%)..... 77
Table 3.5.1: Adults' participation in learning, 2012-2015 (%)..... 80
Table 3.5.2: Low qualified adults (age 25-64) and their labour market status, 2015 ..... 81
Table A.1: Percentage of underachievement in reading, maths and science, by sex, 2009-2012. 84
Table A.2: Employment rate of recent graduates by level of education, 2012-2015 ..... 85
Table A.3: Underachievement: A selection of structural indicators, 2015/2016 ..... 86
Table A.4: Early leaving from education and training: A selection of structural indicators, 2015/2016..... 87
Table A.5: Examples of efforts to widen participation and increase completion rates in higher education, 2015/2016 ..... 88

# Summary

Highlights of the cross-national analysis
Highlights of the country analysis

# Summary

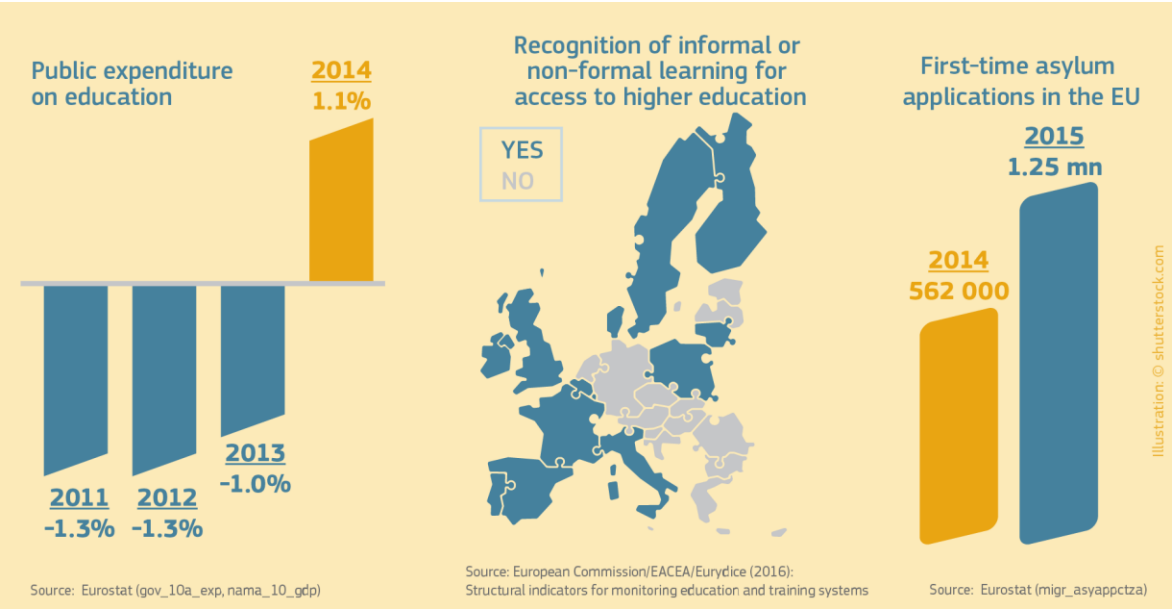
## Highlights of the cross-national analysis

This year's Education and Training Monitor explores societal challenges in more depth and addresses migration, demography and the key competences that education should help develop. The Monitor then analyses progress in raising educational outcomes — by reducing early school leaving and underachievement and increasing tertiary educational attainment — at EU level and in individual Member States. Finally, via the cross-national comparison of education systems and in the country analysis, the report presents and examines plenty of policy initiatives that can help make education more responsive to societal and labour market needs.

### Challenges impacting on education and training

Europe's population is ageing. In six EU Member States, the 5-18 age group will shrink by at least 20 % by 2040. Another six Member States are facing decreases of between 10 % and 20 % in the same age group. At the same time, first-time asylum requests filed in the EU have increased by a factor of three since 2013, with more than 80 % of asylum applicants in 2015 being below the age of 34. As it has been shown in previous editions of this report, and as the analysis of available data shows, patterns of inequalities in education opportunities and outcomes still persist. Yet education and training are powerful policy levers to promote social, economic and cultural inclusion.

While Europe's populations are changing, employment is changing too. Living and working in a technologically advanced and globalised economy requires individuals to acquire a higher level of skills. A higher level of educational qualifications is associated with a higher level of basic skills, and translates into higher employment rates. Recent graduates holding tertiary education degrees in 2015 had an employment rate of 81.9 %, which was 11.1 percentage points higher than those holding at most an upper secondary or a post-secondary non-tertiary diploma. Upgrading skills, particularly of low-qualified and disadvantaged groups, is therefore one of the main objectives of the New Skills Agenda.

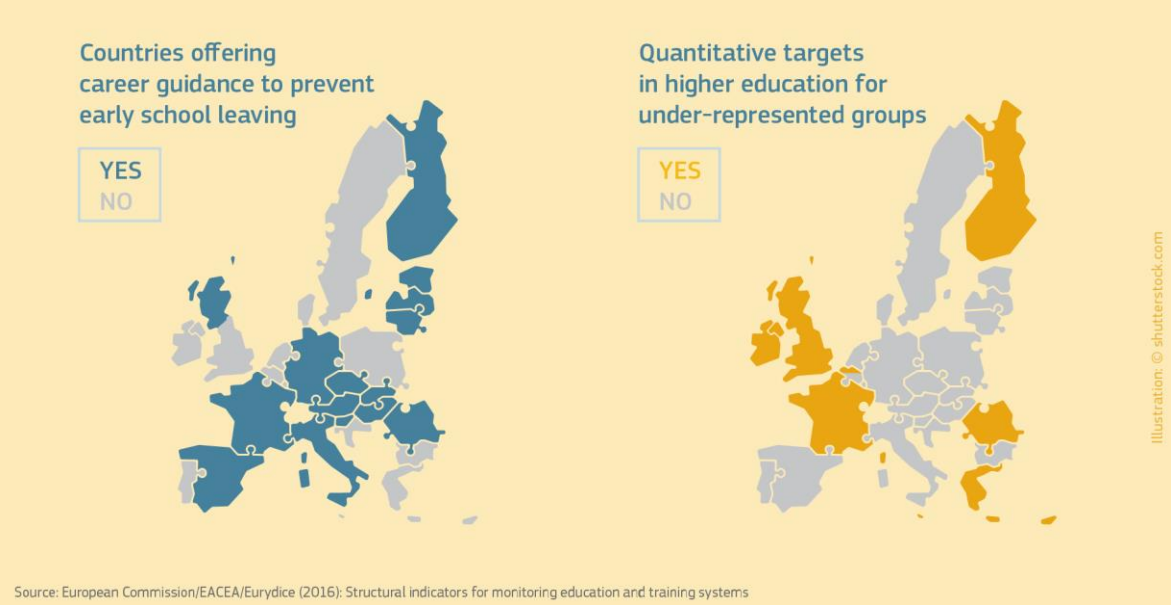


In addition to equipping students with knowledge and skills, and in light of the recent wave of populism and extremisms in Europe, all levels of education, including adult education, can also promote citizenship and the common values of freedom, tolerance and non-discrimination, in accordance with the 2015 Paris Declaration and the Conclusions of the European Commission's first annual Colloquium on Fundamental Rights[1]. More than half of the EU's Member States have recently introduced policies to ensure that children and youths acquire social, civic and intercultural skills. Policy action to increase education's potential to respond to societal challenges has been introduced mainly at primary and secondary school level.

Effective education requires adequate investment. For the first time in three years, public expenditure on education increased in 2014, by 1.1 % in real terms. About two thirds of Member States raised spending, and the increase was greater than 5 % in six of them (BG, LV, HU, MT, RO and SK). The challenge of financing education lies in investing both sufficiently and effectively.

## Raising participation rates and tackling educational poverty

Participation rates in education are increasing across the EU. This applies to early childhood education and continues, after the period of compulsory school education, into tertiary education.




In early childhood education and care, participation of children from the age of 4 is generally high in the EU. In fact, in 2014, the EU was less than 1 percentage point away from meeting the 95 % participation target under the education and training 2020 framework (ET2020). Some further improvements are needed, however, to reach the Barcelona objective of having at least 33 % of children under 3 participating in ECEC: in 2014, the EU rate of participation of the youngest children (0-2) stood at 28 %, and it was below 20 % in 10 EU MS. Increasing the participation of children from disadvantaged groups is an important challenge for education in Europe, given the increasing recognition of the potential of quality ECEC in reducing disadvantage and laying a good foundation for further learning.

[1] Informal meeting of European Union education ministers (17.03.2015), *Declaration on promoting citizenship and the common values of freedom, tolerance and non-discrimination through education*; Annual Colloquium on Fundamental Rights (2015), Tolerance and respect: preventing and combating anti-Semitic and anti-Muslim hatred in Europe: http://ec.europa.eu/justice/events/colloquium-fundamental-rights-2015/index_en.htm.

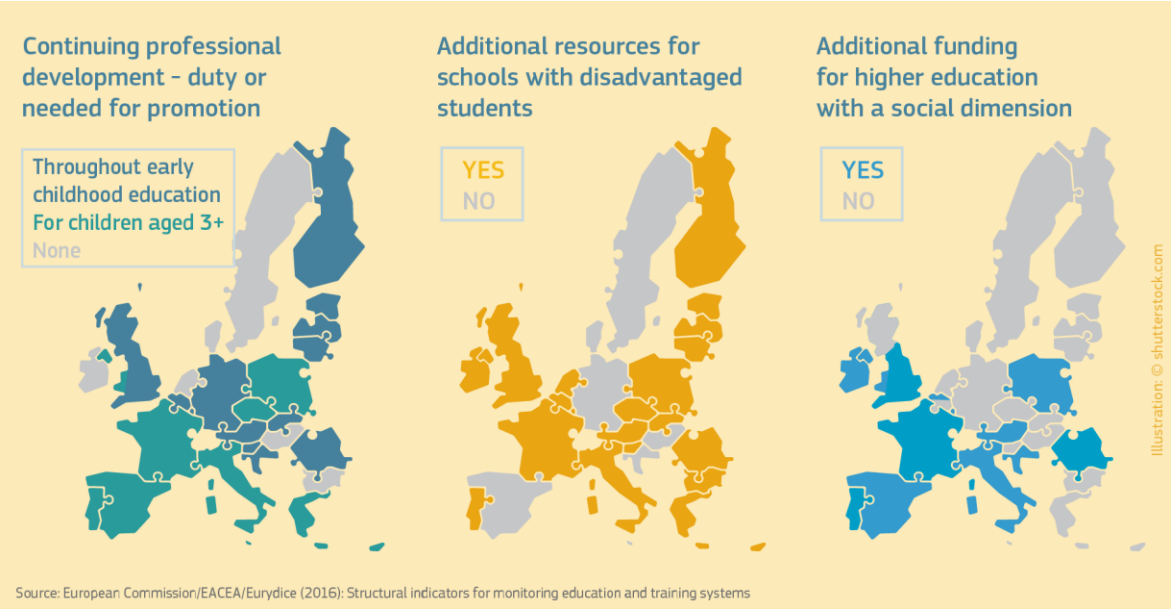
At tertiary level, completion rates rose considerably across the EU in 2015. With a tertiary attainment rate of 38.7 %, and an increase of 0.8 percentage points since 2014, the EU is heading towards reaching the objective of having 40 % of tertiary graduates among the population of 30-34 year-olds by 2020. Nonetheless, average values mask major disparities in the achievement of different groups. Qualification levels still vary between women and men, native- and foreign-born individuals, and regions and countries.

As the 2015 Monitor showed, Europe has a persistent problem of educational poverty, defined as a failure to reach minimum standards in education. Underachievement among 15 year-olds remains worryingly high, especially in mathematics. Progress towards reducing early leaving from education and training has been considerable over the last decade, but has slowed somewhat in recent years. Between 2014 and 2015, the proportion of the population aged 18-24 and not having an upper secondary diploma decreased by only 0.2 percentage points in the EU, and reached an overall EU average of 11 %. Targeting early school leaving also means reducing regional disparities and patterns of inequalities; for example, early school leaving for the non-EU born was twice that of the native born (19.8% vs. 10.1%) in 2015.

## Responsive education and training systems

Reforming early childhood and primary education involves action on staff, curriculum and evaluation. The professionalization of educational staff in ECEC can drive more systematic professional development and positively impact the well-being and development of children. For example, MT, IE and BE have introduced a blend of requirements for higher qualifications to enter the profession, as well as systems to maintain staff skills and performance through continuing professional development.

Comparative research points to the role of teaching staff in driving school innovation, which in turn can make education respond better to the needs of society and learners. In light of increasing diversity in schools, staff shortages and waning interest in teaching, a diverse teaching force, including men, young people and people from diverse ethnic backgrounds can offer pupils and students a wealth of role models. For example, in 2014 85 % of primary teachers in the EU were women, with four countries counting more than 95 % female teachers in the same educational level.




Source: European Commission/EACEA/Eurydice (2016): Structural indicators for monitoring education and training systems

Higher education, as well as secondary and tertiary professionally-oriented programmes, have a specific role in preparing individuals for the job market. Recent vocational graduates who are no longer in education or training had in 2015 an employment rate of 73 %, while the employment rate of recent upper-secondary education graduates from general orientation programmes was at 61.2 %. Nonetheless, vocational programmes generally tend to be less attractive than

general orientation programmes. Elements that could be used to make vocational education and training (VET) more attractive and relevant to labour market needs include: taking work-based learning components into account across all VET programmes; improving permeability between VET and higher education; and better preparing young people for increasingly internationalised labour markets, including through foreign-language teaching.

Higher education holds great potential for promoting upward social mobility and improving employment prospects. Policy measures to increase innovation and the relevance of higher education include personalised career guidance, graduate tracking and work-based learning. In particular, graduate tracking is increasingly common in higher education institutions; nine countries make systematic use of the information collected to improve career guidance and adjust study programmes accordingly (BE, DK, EE, IE, IT, PL, SK, SE, UK). The growing internationalisation of higher education is widely seen as an important positive factor in boosting its quality and relevance. Available evidence shows that learning mobility is a predictor of better employability prospects and career development.

Learning does not end when individuals complete their formal education. Reaching the EU target of having 15 % of adults participating in lifelong learning is proving difficult. The average adult learning rate stood at 10.7 % in 2014 and did not increase in 2015. Furthermore, in a number of EU Member States, the gap in accessing learning between the average population and adults with a disadvantaged status persisted or even increased. Policy measures to bring the EU closer to reaching the target on lifelong learning and increase employability would start from assessment, validation and certification of existing skills. Ideally these steps would be followed by further actions to improve all learners' willingness to learn, encourage employers to take a more active role, provide dedicated support to disadvantaged groups, and ensure quality, relevance and effectiveness of adult learning systems.

# Highlights of the country analysis

**AT** 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.

**BE** 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 educational 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.

**BG** 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.

**CY** 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.

**CZ** 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.

**DE** 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 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.

**DK** 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 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 vocational education and training pathway.

**EE** 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.

**EL** 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 sectorial 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.

**ES** 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, but the previous accumulated financial cuts 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 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.

**FI** 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 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.

**FR** 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.

**HR** 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.

**HU** Hungarian education faces important equity challenges. Students' performance is strongly linked to their socioeconomic background, and the participation of disadvantaged groups, in particular Roma people, in inclusive mainstream education needs to increase. 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. 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. Dual study programmes were introduced in higher education in 2015/2016 to improve the labour market relevance of degree programmes. A new core curriculum was introduced for vocational grammar schools in 2016/2017, under which the teaching hours for vocation-specific subjects were increased at the expense of science subjects.

**IE** 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.

**IT** 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'.

**LT** 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.

**LU** 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.

**LV** 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.

**MT** 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.

**NL** 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.

**PL** 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.

**PT** 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.

**RO** 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 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.

**SE** 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.

**SI** 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.

**SK** 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.

**UK** Despite differences in approaches to addressing certain challenges, the education systems in the UK 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.

## The Education and Training Monitor – Country Analysis

The Education and Training Monitor consists of *Volume 1*, providing analysis from cross-national and thematic points of view, and *Volume 2*, comprising 28 country reports. Each country report includes a box presenting a topical issue in the country:

| Country | Topic |
|---|---|
| **AT** | Integrating refugees into education and training |
| **BE** | Reform of compulsory education in the French Community (*Pacte pour un Enseignement d'Excellence*, 2015-2025) |
| **BG** | Changes introduced by the Pre-School and School Education Act |
| **CY** | The new quality assurance and accreditation system for higher education |
| **CZ** | Education of Roma children and inclusive education |
| **DE** | Integrating refugees into education and training |
| **DK** | Integration of refugees and asylum seekers through education |
| **EE** | Upper secondary school network reform |
| **EL** | The national dialogue on education |
| **ES** | Early school leaving and the new basic vocational education and training path |
| **FI** | Integrating refugees into the education system |
| **FR** | Mobilising education and research to fight violent radicalisation |
| **HR** | Ongoing debate on the curricular reform |
| **HU** | Dual programmes in higher education |
| **IE** | The new 'National Skills Strategy 2025 — Ireland's Future' |
| **IT** | Addressing the decline in funding and teaching staff |
| **LT** | Making the teaching profession more attractive |
| **LU** | The challenges of trilingual education |
| **LV** | Making special needs education more inclusive |
| **MT** | Improving initial teacher education and continuous professional development |
| **NL** | 'Excellent schools' |
| **PL** | The 2016 school education reform |
| **PT** | Cooperation between higher education institutions and the business sector |
| **RO** | Rural — urban gap in education |
| **SE** | Integration of newly arrived students in the school system |
| **SI** | Higher education reform ticking all the right boxes |
| **SK** | Education of Roma children and inclusive education |
| **UK** | A move towards complete autonomy of schools in England |

## The Education and Training Monitor – Website and visualisation tool

Volume 1 and Volume 2 of the Education and Training Monitor, together with the Monitor's visualisation tool and interactive maps can be found at:

**ec.europa.eu/education/monitor**

Part 1

# Education and training in evolving European societies

European Commission

# Part 1. Education and training in evolving European societies

## 1.1. The changing demographic landscape in Europe, participation in school education and active citizenship

Europe education systems face the challenge of providing all students with appropriate levels of key competences to participate fully in a globalised society and fast-changing job markets. Education systems also have a particular responsibility to foster the integration of all groups in society, promote social inclusion and EU common values.

### An increasingly diverse population in Europe

The population structure of Europe is undergoing changes, notably due to migrations and ageing. Currently, approximately 20 million non-EU citizens, also referred to as 'third country nationals', reside in Europe and account for about to 4 % of the total population. Immigration of third country nationals into EU Member States represents a well-known trend, driven by a wide range of motivations including family reasons, work or study. The number of residence permits issued in 2015 equalled 2.6 million, up from 2012 with 2.1 million, and higher than 2.47 million recorded in 2010. Immigration can also be measured as the total flow of third country nationals into the EU from outside the EU, or into a country and from another EU Member State. In 2014, the highest inflows of migrants reached DE (372 000), UK (287 000), IT (180 000), and ES (164 000). However, a wave of refugees escaping conflicts in the Middle East reached the EU in 2015, determining a threefold rise in the number of first-time asylum applications (1.25 million) with comparison to 2013 (372 855). Available data on 2016 show a similar trend, with over 780 thousand first-time asylum applications recorded in the first 8 months of the year[2].

### The role of education in supporting the integration of migrants and strengthening social cohesion

1.25 m first time asylum applicants in 2015, up from 0.37 m in 2013

Education is a powerful force for integrating third country nationals, as reflected in a number of EU Council conclusions on integration of third nationals and the Action Plan for the integration of third country nationals (2016)[3]. Despite these efforts, third country nationals across the EU continue to fare worse than native residents in education, employment and social inclusion indicators.

**Examples of recent policy measures in EU MS**

**AT**: To address the education needs of young refugees just above the compulsory school age, Austria is establishing so-called 'colleges' that will give refugees aged between 15 and 21 access to education. Teaching will concentrate mainly on languages (English and German) and mathematics, but will also provide basic ICT skills. Monthly enrolment possibilities and small groups should provide flexibility and make it possible to take the very diverse backgrounds of young refugees into account. The overall aim is to help them integrate into the regular education system or the world of work.

[2] Sources: for number of residence permits by year, Eurostat, online code [*migr_resfirst*], 2015; for total immigration flow of third country nationals, Eurostat, online code [*migr_imm1ctz*], 2014, see also Eurostat's *"Statistics Explained" on Migration and migrant population statistics* (http://ec.europa.eu/eurostat/statistics-explained/index.php/Migration_and_migrant_population_statistics); for number of first-time asylum applications, Source: Eurostat, online code [*migr_asyappctza*], 2015.

[3] Communication from the European Commission (2016), *Action Plan on the integration of third country nationals*, COM(2016)377 final.

The 2015 Education and Training Monitor showed the importance of the age of arrival for reaching participation rates and performance in basic skills comparable to native students. The large size of the recent influx of refugees requires a swift response and an effective integration strategy.

The current migration inflow has unfolded while Europe is still struggling with the effects of the recent economic crisis and high unemployment. A glance at the composition of the asylum applications in 2015 shows that two-thirds are submitted by men and that there is a clear prevalence of young people of school age and prime working age.

**Table 1.1.1: First-time non-EU applicants for asylum in EU by sex and age, 2015**

| Sex | Age | 2013 | 2014 | 2015 | 2013 | 2014 | 2015 |
|---|---|---|---|---|---|---|---|
| **Total** | all ages | 372 855 | 562 680 | 1 255 685 | 100.0% | 100.0% | 100.0% |
| | <14 | 78 910 | 105 605 | 243 120 | 21.2% | 18.8% | 19.4% |
| | 14-17 | 22 295 | 38 945 | 124 520 | 6.0% | 6.9% | 9.9% |
| | 18-34 | 194 930 | 305 435 | 668 470 | 52.3% | 54.3% | 53.2% |
| | 35-64 | 72 135 | 106 745 | 211 345 | 19.3% | 19.0% | 16.8% |
| | >65 | 3 290 | 4 525 | 7 200 | 0.9% | 0.8% | 0.6% |
| **Men** | all ages | 238 235 | 398 350 | 910 550 | 63.9% | 70.8% | 72.5% |
| | <14 | 40 295 | 55 900 | 133 510 | 10.8% | 9.9% | 10.6% |
| | 14-17 | 14 915 | 29 760 | 102 580 | 4.0% | 5.3% | 8.2% |
| | 18-34 | 135 055 | 237 865 | 527 550 | 36.2% | 42.3% | 42.0% |
| | 35-64 | 44 270 | 72 010 | 142 740 | 11.9% | 12.8% | 11.4% |
| | >65 | 1 420 | 1 965 | 3 380 | 0.4% | 0.3% | 0.3% |
| **Women** | all ages | 120 975 | 164 155 | 343 830 | 32.4% | 29.2% | 27.4% |
| | <14 | 36 890 | 49 640 | 109 235 | 9.9% | 8.8% | 8.7% |
| | 14-17 | 6 395 | 9 155 | 21 545 | 1.7% | 1.6% | 1.7% |
| | 18-34 | 49 590 | 67 530 | 140 435 | 13.3% | 12.0% | 11.2% |
| | 35-64 | 25 085 | 34 725 | 68 475 | 6.7% | 6.2% | 5.5% |
| | >65 | 1 810 | 2 560 | 3 810 | 0.5% | 0.5% | 0.3% |

*Source*: DG EAC elaboration on Eurostat data. Online data code *migr_asyappctza.*

**Examples of recent policy measures in EU MS**

**LU**: The Ministry of Education, Childhood and Youth set up a 'Task Force refugees' in 2015 to coordinate the various actions for the refugee children. At primary level, these children learn the languages used at school in the welcome classes for at least a year. One in two students having completed the welcome class is expected to join the regular secondary school at the end of 2015/2016. Students beyond the compulsory school age can either join a welcome class for young adults, enrol in vocational training or upper-secondary education. Communication between the teachers and families is assisted by intercultural mediators.

Given the age structure of the groups recently arrived into Europe, immigration is likely to make an impact on the education system and raise diversity in the classrooms. The spread of newly arrived migrants in Europe is currently uneven: DE received 35 % (442 000) of all EU first-time applications in 2015, HU 14 % (174 000), SE 12.4 % (156 000), AT 6.8 % (85 000), IT 6.6 % (83 000) and FR 5.6 % (70 500). About two thirds of the recent asylum seekers are male and a major proportion of them come from Syria (363 000), Afghanistan (178 000) and Iraq (121 500). Other big groups come from Kosovo (67 000), Albania (66 000), Pakistan (46 500), Eritrea (33 000), Nigeria (30 000), Iran (25 000), Somalia (19 000) and Bangladesh (18 000)[4]. Learning the local language is a prerequisite for participating in the host society, a gateway to further education and a determinant of success in the labour market. Education can play an essential role in facilitating the integration, by providing targeted language support measures and through the use of digital technologies[5].

[4] First time asylum applications into the EU from extra-EU citizens by EU Member State, online data code: *migr_asyappctza*. First time asylum applications into the EU from extra-EU citizens by applicants' citizenship, online data code: *migr*_asyappctza.

[5] Formal education institutions can be supported in this task by civil society initiatives with an education objective. One successful example is Kiron.ngo a large network of volunteers with a small core team operating a blend of online and offline courses. It works together with corporate organisations in the host countries to offer traineeships, enrolment in universities, psychological counselling and personal mentoring.

Sport can also be a vehicle for integration. Sport enables immigrants and the host society to interact in a positive way, thus furthering integration and inter-cultural dialogue. Sport has been increasingly included in specific programmes for integration, but national approaches differ considerably. Physical activity, encouraged in national educational systems from an early age, can also be a vehicle to promote social inclusion of minorities and other vulnerable or disadvantaged groups. It can also contribute to building better understanding between communities[6].

Integrating migrants and fostering attachment to EU common values subscribes to the broader European agenda for active citizenship. The rise of populism and extremisms in Europe has placed an even greater emphasis on the role of education in promoting EU common values and active citizenship. In particular, in 2015 the EU ministers of education and the EU Commissioner for education adopted a declaration on '*Promoting citizenship and the common values of freedom, tolerance and non-discrimination through education*'[7], known as the Paris Declaration. The document calls for renewed efforts to improve the teaching and acceptance of EU common values and lay the foundations for more inclusive societies through education. The primary purpose of education is understood as not only the development of knowledge, skills and competences but also the broader embedding of common values. In addition, education should help young people become active, responsible and open-minded members of society.

To implement the Paris Declaration and tackle radicalisation and extremism, more than half of EU Member States have introduced national policies to ensure that children and young people acquire social, civic and intercultural skills (BE, DK, DE, EE, IE, ES, FR, IT, CY, LV, LT, LU, NL, AT, PT, FI, UK-ENG, UK-WLS). Efforts to promote intercultural dialogue through national education policies are also common (BE, BG, DE, EE, IE, ES, FR, IT, CY, LV, LT, LU, AT, PT, SE, UK-NIR). These aspects were mainly addressed via teacher education and through targeted primary and secondary education. Measures to address the Paris Declaration's goals on early childhood education and care are less common, even though this sector is crucial for laying the foundation of later skills development and learning outcomes. Even less common are measures to promote common values in vocational education and training (VET) and higher education — these aspects are discussed further in sections 3.3 and 3.4, respectively. A significant number of countries have also introduced national policies that focus on strengthening critical thinking and media literacy, as a means to develop resistance to discrimination and indoctrination (BE fr, BE nl, DE, IE, ES, FR, IT, CY, LV, NL, AT, SE, UK-ENG). Under the Paris Declaration, national authorities have also committed to promoting the education of disadvantaged children and young people[8].

**Examples of recent policy measures in EU MS**

**HR**: As part of a wider reform, a draft curriculum for the cross-curricular subject of citizenship education was published in February 2016. It entered public consultation in June 2016 and will be piloted in the school year 2016/2017. Learning outcomes related to citizenship education are also present in 11 subject curricula and six other cross-curricular subjects. Croatia's bottom-up approach to drafting new curricula has laid a high-quality basis for further policy development.

A proxy for the quality of integration that education systems can achieve is the 'sense of belonging' measured by the OECD PISA survey. It investigated students' perception of belonging to their schools, also grouping their responses by migration background[9]. The psychological well-being of immigrant and non-immigrant students appears to differ not only on the basis of their country of origin, but also according to the country where they attend school. This indicates that some education systems can be more successful than others in creating a

[6] European Commission Communication (2011), *Developing the European Dimension in Sport*, COM(2011)12.

[7] Informal meeting of European Union education ministers (17.03.2015), Declaration on promoting citizenship and the common values of freedom, tolerance and non-discrimination through education.

[8] European Commission/EACEA/Eurydice (2016), *Promoting citizenship and the common values of freedom, tolerance and non-discrimination through education*: Overview of education policy developments in Europe following the Paris Declaration (https://webgate.ec.europa.eu/fpfis/mwikis/eurydice/images/1/14/Leaflet_Paris_Declaration.pdf).

[9] OECD (2015), *Helping immigrant students to succeed at school and beyond* (https://www.oecd.org/education/Helping-immigrant-students-to-succeed-at-school-and-beyond.pdf). Differences between first-generation and non-immigrant students are only significant in seven EU Member States: BE, LU, IT, IE, SE, PT, ES.

sense of belonging. In the UK immigrant students expressed a slightly stronger sense of belonging at school than non-immigrant and second-generation immigrants. In other countries, second-generation immigrant students report a weaker sense of belonging than non-immigrants and first-generation immigrants (FR, IE, DK). In a third group, integration appears to be progressive, with second-generation immigrant students reporting a similar or almost similar sense of belonging at school as students without an immigrant background; while first-generation immigrant students report a weaker sense of belonging (IT, ES, and SE).

Recent analyses have looked at school performance on the basis of the share of immigrant students in the overall school population. How native and immigrant students are grouped across classes can influence educational outcomes. Children with an immigrant background might require targeted support measures — for example greater language support — and benefit from smaller class sizes. While clustering groups of students with a migration background might allow teaching to be organised in a way that responds better to their needs, in practice this tracking is likely to hamper social interaction and have negative consequences for integration. PISA shows that it is not the concentration of immigrant students that hinders school performance but rather the concentration of socioeconomic disadvantage. For example in NL, SI, IT and DE, after accounting for socioeconomic background, empirical findings do not point to differences in test scores. The evidence to date, both from the US and Europe, indicates that having a high concentration of immigrants in the class can lead to segregation effects and thus detrimental effects on children with an immigrant background[10].

**Examples of recent policy measures in EU MS**

**SE**: In response to the arrival of over 14 000 children of school age in 2014 and over 70 000 in 2015, the process of receiving and schooling newly arrived students has been reformed. One important new measure is the requirement to assess a newly arrived student's knowledge. From 1 January 2016, all schools should conduct diagnostic tests on a student's previous schooling and level of academic knowledge in literacy and mathematics within two months of the student's arrival at the school. Based on the outcome of the diagnostic test, 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. The National Agency for Education has produced the necessary material needed for schools to undertake the assessment.

The TIES-survey is the first European-wide attempt to collect and compare data specifically on students whose parents have a migration background from Turkey, Ex-Yugoslavia and Morocco[11]. The programme ran in eight European countries and focussed on 'second generation' children, defined as those children of immigrants who were actually born in the receiving country, and have followed their entire education there. One of the most interesting outcomes of the research programme is that groups of students with parents who have migrated from the same countries fare in the second generation very differently in different contexts. This reinforces the concept that education systems in the host countries can play a major role in facilitating integration. For example, among the subset of children of Turkish immigrants with low educational achievement, the numbers of those who attained a higher education access diploma and went to university range from 5 % in DE to almost 33 % in SE and FR. Within the EU, SE (9 %) is the country with by far the lowest number of early school leavers. By contrast, the proportion of early leavers from education and training is very high in AT, BE, DE and NL, ranging between 25 % and 33 %[12].

[10] De Paola, M. and Brunello, G. (2016), EENEE analytical report no. 27, *Education as a tool for the economic integration of migrants* (http://ec.europa.eu/education/news/20160331-economic-integration-migrants_ro).

[11] Specifically, the survey targeted the second generation of Turkish origin in seven of the eight countries surveyed; of Moroccan origin in BE, NL and ES; and of former Yugoslavian background in AT, DE and CH. Furthermore, in all the countries, a group of age peers of non-immigrant background — in most cases sampled in the same neighbourhoods as the second generation — was interviewed. For further reference: http://www.tiesproject.eu/content/view/16/29/lang%2cse/index.html

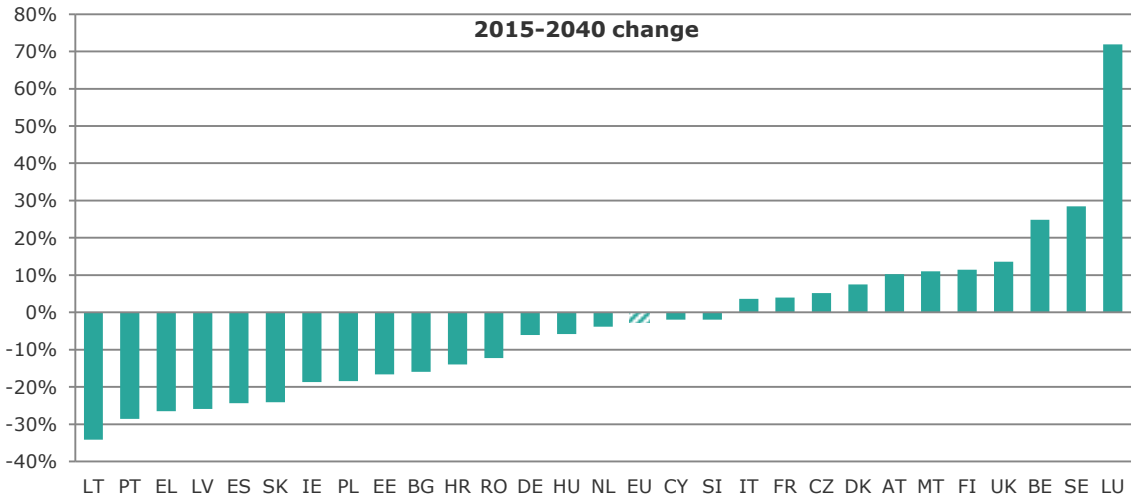
[12] Schneider, J. (2016), NESET AHQ: *First/Second Generation Migrants*.

## Trends and projections – shifts in the size and distribution of school age population

The ageing trend in Europe continues. The median age of the EU population reached around 42 years in 2015 and has risen by over 4 years since 2001[13]. The sharpest rises were registered in RO (6.6 years), LT (6.5), DE (5.7), and PT (5.6). The weakest increase was in SE (1.5 years). Measured by the median age, the youngest Member State in 2015 was IE (36.4 years), while the oldest were BG (43.4), EL (43.4), PT (43.5), IT (45.1), and DE (45.9). Fertility has been recovering slowly since the historical lows around the turn of the century but is still clearly below the replacement level of 2.1 in all Member States but FR. In 2014 the fertility rate stood at 1.58 in EU. It ranged from as low as 1.23 in PT, 1.30 in EL, 1.31 in CY and 1.32 in ES and PL to 1.81 in UK, 1.88 in SE, 1.94 in IE, and 2.01 in FR[14].

The combined effects of ageing and low fertility are expected to bring about further changes in the school age population that are country dependent. Eurostat projects that by 2040 there will be 3 % fewer people aged 5-18 in Europe than now, a relatively minor overall change. However, the change is predicted to be very uneven between the Member States. For example, the school population is expected to decrease by 34 % in LT and by over 20 % in PT, EL, LV, ES, and SK. On the other hand, it is expected to increase by over 20 % in BE and SE and by 72 % in LU. Across the same period of time, the EU's population aged between 20 and 64 years is also expected to be shrinking by 0.4 % every year.

**Figure 1.1.1: Projected change in the school age population, 2015-2040**



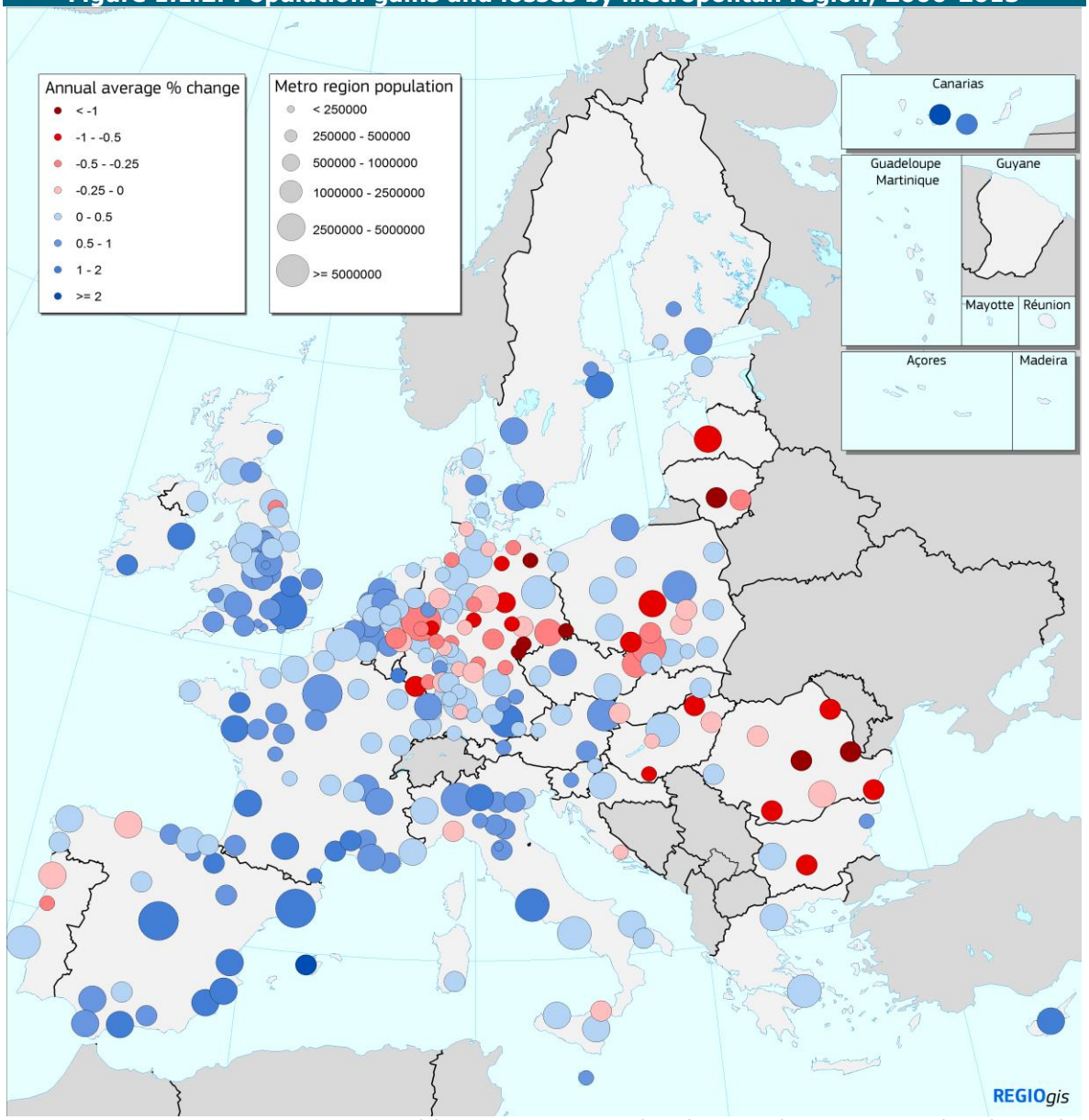

*Source*: DG EAC elaboration on Eurostat data. Online data code *proj_13npms*. Note: School-age population covers people aged 5-18 year-olds. Data displayed follow the main projection scenario assuming a middle fertility scenario.

As Figure 1.1.2 shows, the concentration of population in urban areas increased between 2000 and 2013. This is primarily linked with higher job opportunities in metropolitan areas and related intra-EU mobility. The map also shows lower rates of population increase in central and eastern European countries and a greater increase in western and northern countries. Consequently, rural and remote areas are facing depopulation which creates new challenges for providing education. Better use of innovative digital technologies in education is one way to tackle these.

13 Eurostat, Population structure indicators, online data code: *demo_pjanind*.

14 Figures based on Eurostat data source: *demo_find* and used on the EURREP project Fertility and reproduction in 21st century Europe, http://eurrep.org, and European Fertility (2015), http://www.fertilitydatasheet.org/.

**Figure 1.1.2: Population gains and losses by metropolitan region, 2000-2013**




*Source*: European Commission, DG REGIO elaboration on Eurostat data from population census. Online data code: *nama_10r_3popgdp*. Note: The map shows the annual average % change in population by metropolitan region, 2000-2013. © EuroGeographics Association for the administrative boundaries.

## Key findings and policy relevance

Europe faces major societal challenges, including the ageing of the population and the integration of migrants and refugees into education, employment and society. The EU median age has reached 42 years, up 4 years since 2001. For 2040 Eurostat forecasts a sharp reduction in the school-age population in some Member States (e.g. LT, PT and EL) and a sharp increase in others (e.g. LU, SE and BE). The trend towards increasing concentrations of population in larger urban areas can also be expected to continue.

In a context where European societies are faced with populisms and extremisms of all kinds that endanger their cohesion and inclusiveness, it is today more important than ever that education helps individuals develop key skills for active citizenship and participation in the labour market. Education can also lay the foundations for a more tolerant and democratic society.

## 1.2. Economic challenges: supply and demand of skills

The 2016 Education and Training Monitor analyses in Part 1 the major challenges that Europe's education systems face. Section 1.1 focused on the school population, its evolution over time and increasing diversity, and the role of education in promoting EU common values. Section 1.2 analyses the skill supply, or in other words how education and training systems today respond to the demands of the economy and society. This is done with the intention of assessing the relevance of current education and training to the labour market, with a particular emphasis on the employability of young people.

Living and working in a technologically advanced and globalised economy requires people to be equipped with a high level of competency. Professional skills are critical for individuals to be able to assert themselves in the competitive and rapidly changing labour market of today. From a system perspective, the development of higher skills is a necessary component to increase levels of competitiveness, innovation, job creation, GDP growth and social cohesion. Yet underperformance in basic skills, notably numeracy and literacy, is still a widespread phenomenon in all age groups in Europe.

Skills enhancement and transparency feature prominently in the European Commission's work programme and in the New Skills Agenda for Europe, launched in June 2016. The New Skills Agenda sees skills as an important pre-condition for the employability of workers and the prosperity of societies. It addresses this by improving the quality and relevance of skills formation, for instance by looking at ways to support low-skilled adults acquire missing skills and qualifications (section 3.5), making skills and qualifications more visible and comparable, improving skills intelligence and information for better career choices, and by investing in the transferability and forecasting of skills. It also goes beyond the notion of basic skills and labour-market relevant skills by driving a reflection on the broader set of transversal skills needed for lifelong learning[15].

A 2006 Recommendation by the Council and the European Parliament defined the key competences for lifelong learning as a combination of knowledge, skills and attitudes necessary for personal fulfilment and development, active citizenship and employment. They are acquired by young people mainly by participating in education and training, and by adults through further learning over the course of their lives. The current Key Competences Framework encompasses the mother tongue, foreign languages, mathematics, science and technology, digital skills, learning to learn, social and civic skills, sense of initiative, entrepreneurship, culture awareness and expression. They are seen as a pre-requisite for successful participation in an increasingly complex European society.

### The employability of recent graduates

Proficiency in basic skills can be measured through performance tests, such as the IEA's TIMSS and PIRLS survey and the OECD PISA and PIAAC surveys, or via the proxy of educational attainment. The former measurement focuses on testing competence of individuals[16]; the latter assumes that higher levels of educational attainment correspond to higher order skills. While skill requirements on the labour market and in society increase, Europe faces the major challenge of further upskilling its population and reducing underachievement in basic skills among the young and adult populations alike.

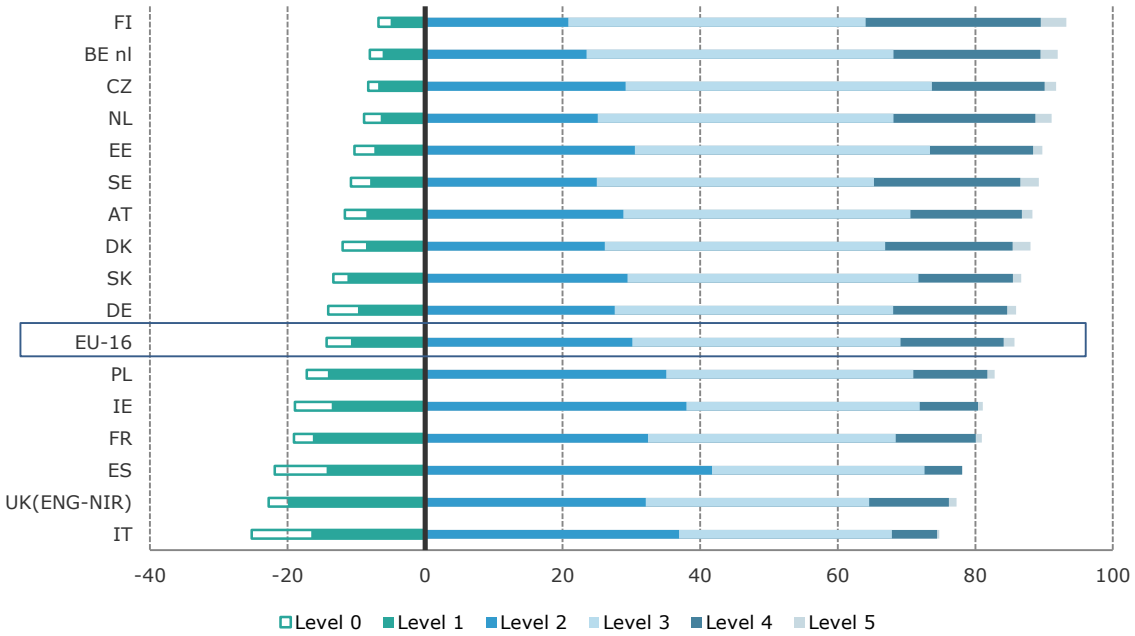
[15] European Commission (2016), *A new skills agenda for Europe. Working together to strengthen human capital, employability and competitiveness* COM(2016)381/2. The New Skills Agenda includes a rich package of initiatives in order to support skills enhancement and transparency, including a proposal for a Council Recommendation on establishing a Skills Guarantee (COMM 2016 0382 final), as well as the proposed revision of the key competences recommendation (Recommendation of the European Parliament and of the Council of 18 December 2006 on key competences for lifelong learning).

[16] PISA tests competences of 15 year-olds in reading, mathematics and science. Its latest round covered all EU Member States except MT. PIAAC tests competences of 16-65 year-olds in literacy and numeracy, and problem-solving in a technology-rich environment.

To monitor underperformance in basic skills in the EU, ET2020 has defined a benchmark at school population level (section 2.1). Among the working age population in the EU, it can be observed that as many as 1 in 5 adults has only basic literacy and about 1 in 4 only basic numeracy skills[17]. These respondents failed to perform simple calculations or understand simple tables and graphs. Low-skilled adults are at higher risk of unemployment; indeed only 55 % of this group of respondents are employed. In addition to performance in basic skills, educational attainment is an important factor correlating with employment rates among the general population. It can be observed that as many as 64 million European in the age group 25-64 left education without obtaining an upper secondary diploma. This group has lower chances of being employed. Only 53 % of Europeans who have no upper secondary diploma are employed, against 74 % of those with upper secondary education and 84 % of those with tertiary education. In addition, the gap in employment rates between people with high educational attainment and those with low educational attainment is increasing over time, from 28.3 percentage points in 2006 to 30.9 percentage points in 2015[18].

Among young people in the EU, underachievement by those who recently completed their education (age group 20-34) is still considerable. For numeracy it averages 14.3 % and for literacy 11.5 %.

**Figure 1.2.1: Percentage of young adults scoring at each proficiency level in numeracy, 2012**




*Source*: OECD (Survey of Adult Skills, PIAAC, 2012) in European Commission (2015), *Educational attainment and basic competences of young adults in Europe*, by Ecorys; Fig. 3.1. Note: The numbers do not add up to 100% because of the missing responses. Data from EU countries participating in round 1 of the first cycle of the PIAAC survey (ES, IT, IE, UK(ENG-NIR), PL, FR, SK, DE, EE, AT, DK, CZ, SE, NL, BE nl, FI). BE nl has a major proportion (5.15 %) of missing responses. CY data are not shown because they are not reliable. Young adults are people aged 20-34. The sorting of the countries was done summing up young adults with levels 0 and 1 in numeracy.

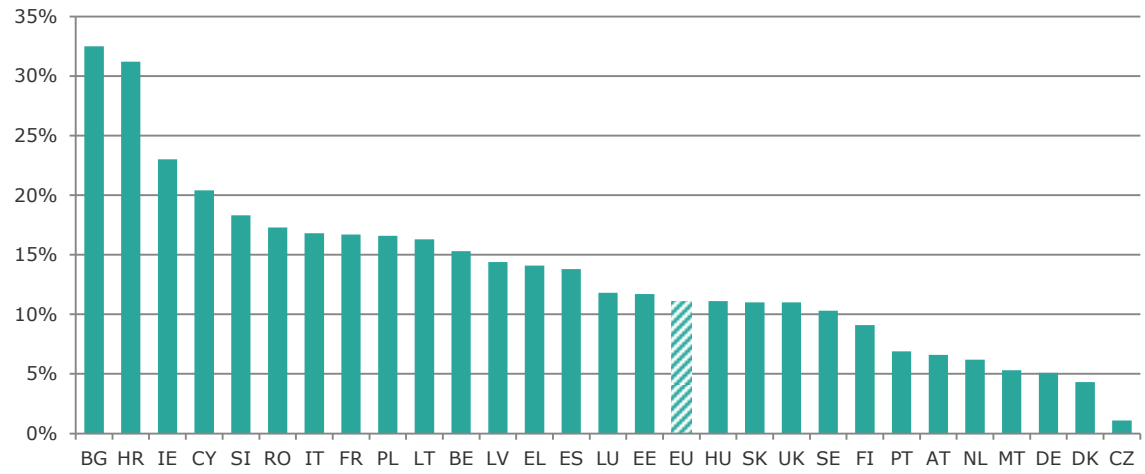
Higher educational attainment offers a comparative advantage on the labour market among this particular group as well. Recent graduates with tertiary education have employment rates 11 percentage points higher than 20-34 year olds with only middle educational attainment (upper secondary and post-secondary non-tertiary attainment). Section 3.5 of the Monitor analyses the

[17] Low skills are defined as failing to reach level 2 on the PIAAC survey. For task examples with the corresponding score levels see: OECD (2013), *OECD Skills Outlook 2013: First Results for the Survey of Adult Skills* (http://dx.doi.org/10.1787/9789264204256-en).

[18] As measured by LFS, Eurostat online code: *lfsa_ergaed*, on population aged 25-64 year-olds.

employability of upper secondary graduates by comparing those graduating from general orientation programmes with those holding a VET qualification.

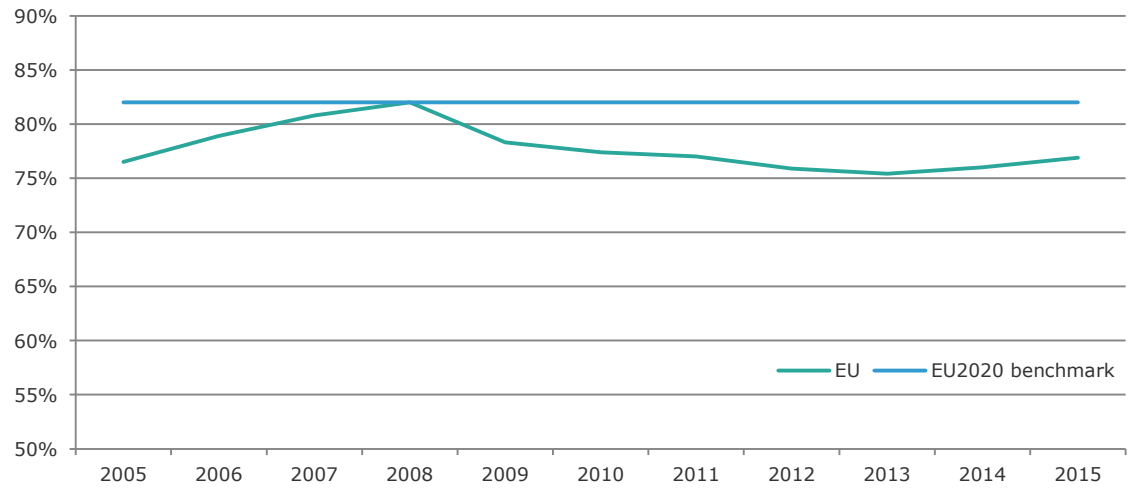
**Figure 1.2.2: Difference in employment of young recent graduates by qualification, 2015**




*Source*: DG EAC elaboration based on Eurostat (EU-LFS). Online data code: *edat_lfse_24*. Note: The graph shows the percentage points difference in the employment rate of 20-34 year-olds who graduated 1-3 years before the survey and are not currently enrolled in any further education or training activity, and hold a tertiary qualification (ISCED 5-8) against those with only a secondary and post-secondary non-tertiary qualification (ISCED 3-4).

The EU has agreed on an employability benchmark to measure the relevance of education and training to the labour market. Under the education and training 2020 strategy, the EU aims to reach an employment rate of 82 % for recent graduates aged 20-34. The latest data show that the employability of graduates in Europe increased for the second consecutive year, by 0.9 percentage points from 2014 and 1.5 percentage points from 2013, reaching 76.9 % in 2015 (78.6 % for male graduates and 75.3 % for female graduates). Nonetheless, the EU has not yet regained the pre-crisis employment rates for recent graduates, which peaked in 2008 at 82 %. While 12 EU Member States have employability rates above 80 %, the labour market prospects of young graduates are a pressing concern for countries such as EL and IT, where less than 50 % of recent 20-34 year-old graduates are employed.

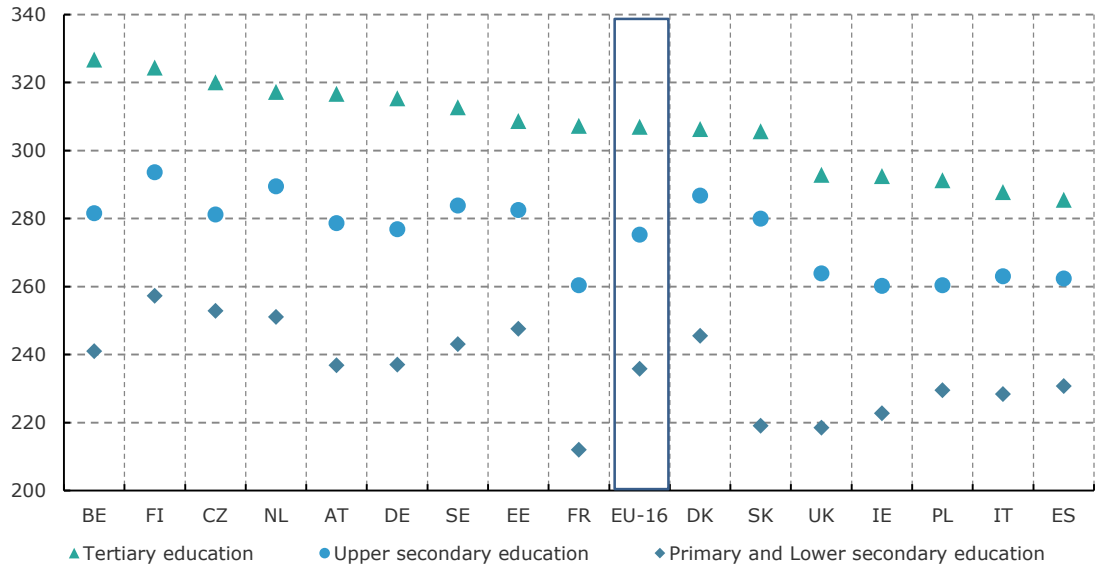
**Figure 1.2.3: Employment of young recent graduates, 2005-2015**




*Source*: Eurostat (EU-LFS). Online data code: *edat_lfse_24*. Note: This indicator shows the average employment rates of graduates aged 20-34 who have a minimum of educational attainment at ISCED level 3, i.e. upper secondary education, graduated 1-3 years before the survey, and are not currently enrolled in any further education or training activity.

The PIAAC scores are closely related to educational attainment. Regardless of the level of the test score, there is a solid premium on higher levels of general orientation education, as shown by the differences between higher and basic education levels on the chart below[19].

**Figure 1.2.4: Average score in numeracy of young adults by qualification, 2012**




*Source*: OECD (Survey of Adult Skills, PIAAC, first cycle, 2012) in European Commission (2015), *Educational attainment and basic competences of young adults in Europe*, by Ecorys; Fig. 5.1. Note: Young adults are people aged 20-34; The figure does not show post-secondary non-tertiary education, i.e. ISCED 4 and the data for CY are not shown due to low reliability.

## Language learning

Possessing the relevant qualifications and abilities, including transversal skills, means better life and work opportunities in today's economy and society. The abilities to communicate in one's mother tongue as well as in foreign languages feature prominently among the required key competences. Increasing globalisation and migration within and into the EU have made proficiency in foreign languages an indispensable skill, and language also has a huge impact on the employment rate of refugees in the EU[20]. Constructing Europe as an area of free movement of persons and a single market means embracing its linguistic diversity. On top of the 24 official EU languages, the EU is home to around 60 regional indigenous languages and an additional wealth of non-European languages brought by newly arrived migrants and people with migrant backgrounds. Being able to communicate across this diversity is critical for economic progress, social cohesion and intercultural dialogue.

The EU has recognised the importance of mastering foreign languages and committed to the Barcelona objective of improving foreign language proficiency by teaching at least two foreign languages from a very early age[21]. In 2014 the EU was still far from meeting this objective, given that only 60 % of pupils learned two or more foreign languages in lower secondary school.

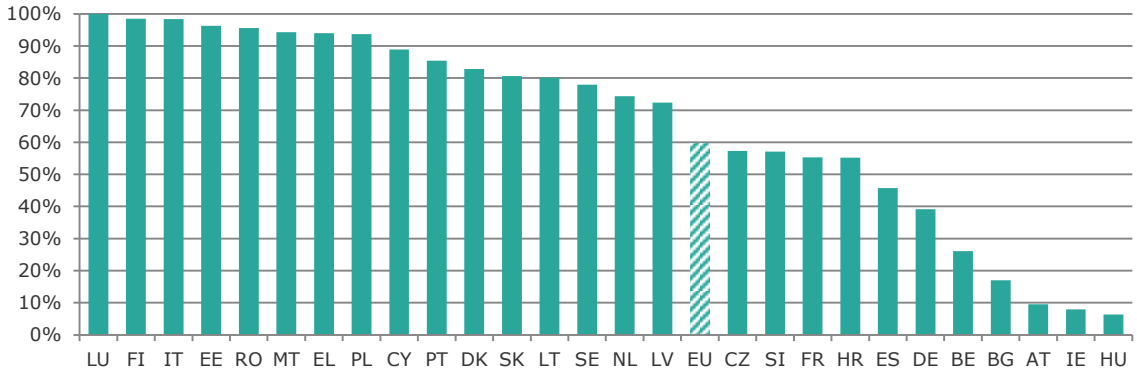
[19] For further reading, please refer to CRELL (2014), *Formal qualifications and individuals' skills. Evidence from the Survey of Adult Skills* (PIAAC) and CRELL (2015), *Skills beyond education*. An analysis of cognitive skill evolution and its implications for employment chances. The latter report shows the evolution over subsequent generations of the level of skills that the different educational levels managed to endow individuals with. Both reports can be found at http://publications.jrc.ec.europa.eu/repository/

[20] EC-OECD Working Paper (2016), *How are refugees faring on the labour market in Europe*?(http://ec.europa.eu/social/main.jsp?catId=738&langId=en&pubId=7921&type=2&furtherPubs=yes)

[21] The conclusions of the Barcelona European Council of 15-16 March 2002.

However, an increasing number of pupils have a different mother tongue from the language of tuition. Therefore, there is a growing need among teachers and educators to be able to teach the language of tuition as a 'first foreign language' while using it as the medium of instruction for other subjects[22].

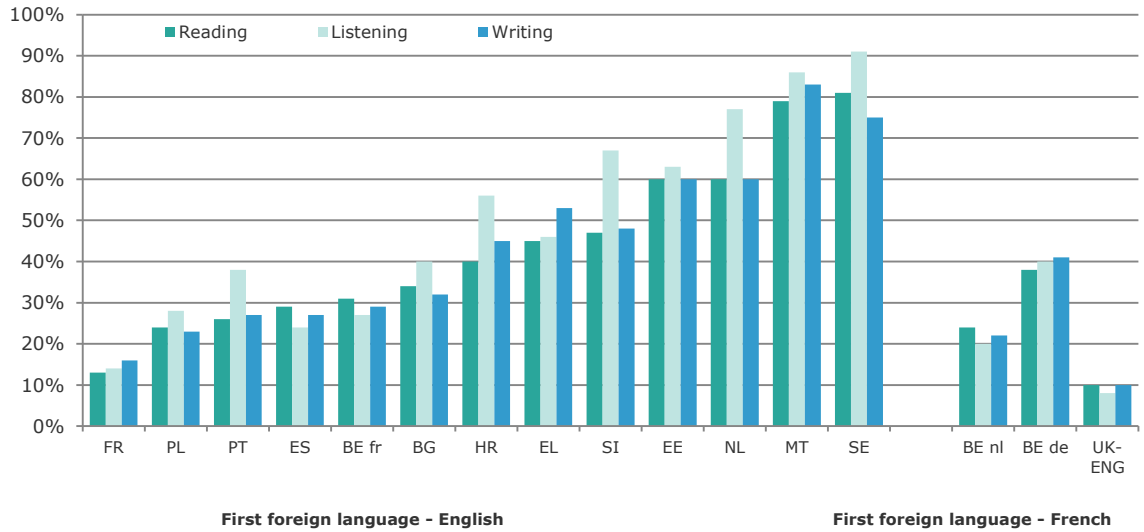
**Figure 1.2.5: Language learning in lower secondary school, 2014**




*Source*: Eurostat (UOE). On line data code: *educ_uoe_lang02*. Note: Percentage of pupils being taught at least two foreign languages at lower secondary school. *Reading note:* Data are not available for the UK.

The first foreign language is taught from primary level in a majority of European Member States. Even though more than 3 out of 4 students learn at least two foreign languages at lower secondary level in half of the EU Member States, available data show that proficiency in foreign languages still prove unsatisfactory. Pupils' proficiency in the first and second foreign language was tested in 14 Member States in 2011. The chart below shows the results for the first foreign language, which tested proficiency in English in all entities except the Dutch and German communities of BE and UK-ENG, where the first foreign language tested was French.

**Figure 1.2.6: Percentage of pupils achieving the independent user level in their first foreign language, 2011**




*Source*: *European Survey on Language Competences*, 2011. Note: Pupils in the last year of lower secondary education (ISCED 2) or the second year of upper secondary education (ISCED 3) reaching level B1 (independent user) of the Common European Framework of Reference for Languages (CEFR). The first foreign language is French for the Dutch- and German-speaking communities of Belgium and for England (displayed on the right hand side). For all other countries it is English.

[22] European Commission (2014), *Language teaching and learning in multilingual classrooms* (http://ec.europa.eu/languages/library/studies/multilingual-classroom_en.pdf).

Regarding the adult population, the Adult Education Survey revealed that in 2011 34 % of Europeans reported knowing no foreign language; 36 % reported knowing one; and 21 % claimed to know more than one[23]. Fewer than 10 % of respondents reported knowledge of three or more foreign languages. The younger the age groups, the higher the number of languages known and the proficiency level reported. The number of languages mastered also increases with the level of educational attainment. Employed people know more foreign languages than those who are unemployed and inactive. English, German and French are the most widely known foreign languages in Europe. In addition, around 25 % of adults who know one or more foreign languages report having proficiency in at least one of them. Adults with more foreign languages also tend to report higher proficiency levels in the languages they know. Secondary education graduates with a general orientation of study are more likely to know more foreign languages than graduates from vocational secondary education programmes. In 17 out of the Member States surveyed, knowing one, two or more foreign languages and/or being proficient in the most widely known languages is positively related with employment chances[24].

**Key findings and policy relevance**

Europe still faces significant problems of underachievement in basic skills among the school-age and adult population. Performance in basic skills and the level of educational attainment are factors associated with the employability of young graduates, with tertiary educational attainment offering a clear competitive advantage on the job market. Employment rates among people with low levels of education have been in steady decline over the past 10 years. Furthermore, it is increasingly important to have a command of foreign languages. Reaching a high level of proficiency in the languages learned is an essential gateway to social inclusion and labour market integration. Effective education systems equip young people with high levels of basic and transversal skills that can enable them to fully participate in society and employment.

## 1.3. Investment in education

### Public expenditure in education

European education systems have to prove their resilience in order to overcome the challenges they currently face: educational poverty, successful integration of migrants, and enabling a smooth transition from school to the labour market. Education in Europe is predominantly funded by public budgets, and a pre-requisite for successful education systems is that they are adequately resourced.

After three years of contraction, EU public expenditure on education started growing again in 2014

After three consecutive years of contraction, in 2014 public expenditure on education in the EU started growing again, with an annual increase of 1.1 % in real terms. About two thirds of Member States recorded a rise; 6 of them (BG, LV, HU, MT, RO and SK) saw an increase greater than 5 %, and 3 (CZ, DK and PL) an increase higher than 2 %. In some countries this turnaround follows three (PT, UK) or four (ES) consecutive years of shrinking education budgets. By contrast, 10 Member States (BE, EE, EL, HR, IT, CY, LT, AT, SI, FI) reduced their spending on education in 2014 compared to 2013. In real terms, the most sizeable cumulative drops between 2010 and 2014 have been in PT with 18.8 %, in CY of 17.8 %, in ES of 12 %.

[23] Adult Education Survey, reference year 2011.

[24] European Commission, JRC CRELL (2015), *Languages and employability*, based on Adult Education Survey, reference year 2011 (https://crell.jrc.ec.europa.eu/?q=publications/languages-and-employability, http://ec.europa.eu/languages/news/2016/0226-foreign-language-proficiency-employability_en.htm).

European Commission

**Table 1.3.1: Public expenditure on education, 2014 (%)**

| | Year-on-year real change* | | | | As a share of total public expenditure | | | | As a share of GDP | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2011 | 2012 | 2013 | 2014 | 2011 | 2012 | 2013 | 2014 | 2011 | 2012 | 2013 | 2014 |
| **EU** | **-1.3** | **-1.3** | **-1.0** | **1.1** | **10.5** | **10.3** | **10.2** | **10.2** | **5.1** | **5.0** | **5.0** | **4.9** |
| Belgium | 2.9 | 2.8 | 0.2 | -1.0 | 11.3 | 11.4 | 11.5 | 11.4 | 6.1 | 6.3 | 6.4 | 6.3 |
| Bulgaria | 0.4 | -3.1 | 3.3 | 12.0 | 10.0 | 9.7 | 9.8 | 9.7 | 3.4 | 3.4 | 3.7 | 4.1 |
| Czech Republic | -0.9 | -0.9 | 2.4 | 3.5 | 11.8 | 11.4 | 12.1 | 12.2 | 5.1 | 5.1 | 5.1 | 5.2 |
| Denmark | -2.9 | 2.6 | -0.6 | 3.6 | 12.1 | 12.0 | 12.3 | 12.8 | 6.9 | 7.0 | 7.0 | 7.2 |
| Germany | 1.2 | -0.1 | 0.0 | 1.1 | 9.5 | 9.6 | 9.6 | 9.7 | 4.3 | 4.3 | 4.3 | 4.3 |
| Estonia | 2.5 | 4.4 | -5.0 | -4.8 | 16.6 | 15.8 | 15.4 | 14.7 | 6.2 | 6.2 | 5.9 | 5.6 |
| Ireland | 2.7 | -3.4 | -4.4 | 1.2 | 10.9 | 11.6 | 11.3 | 11.1 | 5.0 | 4.8 | 4.5 | 4.3 |
| Greece | 2.4 | -4.3 | 1.1 | -3.7 | 8.2 | 8.2 | 7.5 | 8.8 | 4.4 | 4.5 | 4.6 | 4.4 |
| Spain | -2.2 | -6.3 | -3.3 | 0.1 | 9.6 | 8.7 | 9.0 | 9.1 | 4.4 | 4.2 | 4.1 | 4.1 |
| France | -0.8 | 0.9 | 1.0 | 1.2 | 9.8 | 9.7 | 9.6 | 9.6 | 5.5 | 5.5 | 5.5 | 5.5 |
| Croatia | -4.3 | -1.7 | 4.9 | -7.8 | 10.1 | 10.4 | 10.7 | 9.8 | 4.9 | 4.9 | 5.1 | 4.7 |
| Italy | -4.5 | -1.5 | 0.2 | -0.8 | 8.3 | 8.0 | 8.0 | 7.9 | 4.1 | 4.1 | 4.1 | 4.1 |
| Cyprus | -4.4 | -6.9 | 4.2 | -10.8 | 15.5 | 14.5 | 15.7 | 11.8 | 6.6 | 6.1 | 6.5 | 5.8 |
| Latvia | -2.0 | 2.8 | 0.2 | 7.8 | 15.1 | 15.5 | 15.6 | 15.8 | 5.9 | 5.7 | 5.7 | 5.9 |
| Lithuania | 2.7 | 1.7 | 0.6 | -3.6 | 14.3 | 16.1 | 15.8 | 15.5 | 6.1 | 5.8 | 5.6 | 5.4 |
| Luxembourg | 6.2 | 4.8 | -3.4 | 1.5 | 12.5 | 12.7 | 12.0 | 12.2 | 5.4 | 5.6 | 5.2 | 5.2 |
| Hungary | -4.1 | -5.9 | 2.4 | 12.5 | 10.2 | 9.7 | 9.3 | 10.3 | 5.1 | 4.7 | 4.6 | 5.2 |
| Malta | 4.8 | 4.8 | 4.3 | 5.1 | 13.9 | 13.6 | 13.8 | 13.5 | 5.7 | 5.7 | 5.8 | 5.8 |
| Netherlands | -0.5 | -2.5 | -1.2 | 0.6 | 11.8 | 11.7 | 11.7 | 11.7 | 5.5 | 5.5 | 5.4 | 5.4 |
| Austria | 0.5 | 0.6 | 1.2 | -0.2 | 9.8 | 9.8 | 9.9 | 9.5 | 5.0 | 5.0 | 5.0 | 5.0 |
| Poland | 1.7 | -0.6 | -1.2 | 3.7 | 12.4 | 12.6 | 12.4 | 12.5 | 5.4 | 5.4 | 5.3 | 5.3 |
| Portugal | -4.9 | -11.5 | -4.0 | 1.5 | 14.5 | 12.7 | 12.5 | 12.0 | 7.3 | 6.2 | 6.2 | 6.2 |
| Romania | 33.6 | -27.5 | -5.6 | 9.9 | 10.4 | 8.2 | 8.0 | 8.6 | 4.1 | 3.0 | 2.8 | 3.0 |
| Slovenia | -2.6 | -1.0 | 2.1 | -6.1 | 12.9 | 13.3 | (10.9) | 11.9 | 6.4 | 6.5 | 6.5 | 5.9 |
| Slovakia | 1.5 | -0.9 | -1.5 | 6.3 | 10.2 | 10.1 | 9.7 | 9.9 | 4.1 | 4.1 | 4.0 | 4.1 |
| Finland | -0.7 | -2.9 | -1.1 | -0.9 | 11.9 | 11.5 | 11.1 | 11.0 | 6.5 | 6.4 | 6.4 | 6.4 |
| Sweden | -0.1 | -0.4 | 0.3 | 1.0 | 12.8 | 12.7 | 12.6 | 12.7 | 6.5 | 6.5 | 6.6 | 6.6 |
| United Kingdom | -4.9 | -2.2 | -3.9 | 1.6 | 12.8 | 12.3 | 11.8 | 11.8 | 6.0 | 5.7 | 5.3 | 5.2 |

*Source:* DG EAC elaboration on Eurostat's general government finance and national accounts statistics. Online data code: *gov_10a_exp* and *nama_10_gdp*. Note: "()" = total public expenditure includes one-off significant expenditure in support of the financial sector; * = year-on-year change of total expenditure of general government on education, valued at constant prices using the implicit deflator for the final consumption of the general government.

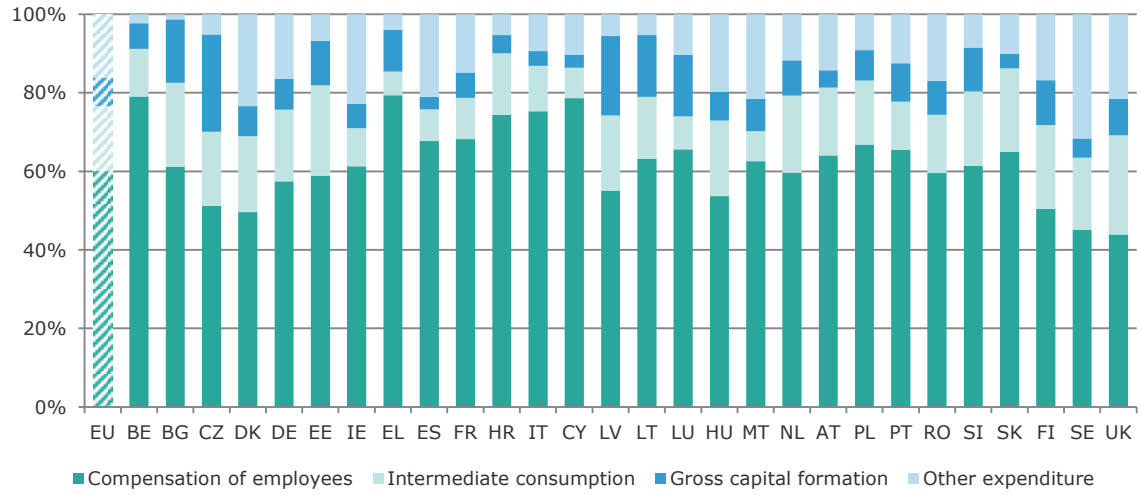
In 2014, education spending as a share of total public expenditure stood at 10.2 %, a figure that has remained stable in recent years. This stagnation was mirrored in 16 Member States where the share did not change from 2013 or moved by less than 0.2 percentage points. DK, EL, HU, RO and SI recorded an increase from the previous year. In addition, in 7 Member States the education budget decreased significantly as a share of total public expenditure: in LT and MT by 0.3 percentage points; and in EE, HR, CY, AT and PT by 0.4 percentage points or more.

Monitoring the share of public expenditure devoted to education is important as this share can be seen as quantifying public authorities' commitment to the sector[25]. In this respect, it is worth highlighting that in about two thirds of Member States the share of public expenditure devoted to education, and hence its relative importance compared to other policy areas, is greater than the EU average. On the other hand, some large economies, such as DE, FR, IT (which has the lowest share in the EU) and to some extent ES, invest relatively less public money in education than the EU average. DE received a country-specific recommendation under the 2016 European Semester to achieve a sustained upward trend in public investment, including in education[26].

[25] See, for instance, JRC-CRELL (2013), *Public financing of education in EU countries: A cross-country systematic analysis* (https://crell.jrc.ec.europa.eu/).

[26] http://ec.europa.eu/europe2020/making-it-happen/country-specific-recommendations/index_en.htm

**Figure 1.3.1: Public expenditure on education by type of transaction, 2014**




*Source:* DG EAC elaboration on Eurostat's general government finance statistics. Online data code: *gov_10a_exp*. Note: Data for EU average, ES and NL are provisional.

The breakdown of public expenditure on education by type of transaction for 2014 (Figure 1.3.1) reveals that the main budget item is 'compensation of employees,' including teachers' salaries[27]. This item accounts for 60 % of education spending in the EU on average, ranging from over 75 % in BE, EL, IT and CY to less than 50 % in DK, SE and UK. The second-biggest item is 'intermediate consumption', which comprises the purchase of the non-durable goods and the services needed to provide education. It ranges between 6 % in EL and 25 % in UK, while the EU average stands at 16 %.

**Examples of recent policy measures in EU MS**

**EL**: Greece asked the OECD to conduct a full review of its education system, covering all levels of education and cross-cutting issues such as its governance and funding. The review is set to constitute a basis for the necessary legislative and regulatory changes to be carried out by Greece, and a new related Education Action Plan 2016-18.

**BE**: the French Community performed in 2015-16 a thorough and transparent analysis of its compulsory education system in order to develop an evidence based reform. This will support the definition of action plans and strong prioritisation of actions based on equity, efficiency and effectiveness.

'Gross capital formation' – which includes investment in acquiring fixed assets such as durable goods (for example, computers) and buildings — represents 7 % of total education expenditure at EU aggregate level. It accounted for less than 5 % of total education spending in 7 Member States (ES, HR, IT, CY, AT, SK and SE) but for more than 15 % in BG, CZ, LV LT and LU. The item 'other expenditure' is a residual covering a large variety of transactions, including subsidies, social benefits and transfers[28] to households. Its importance depends on the way the provision of education is organised in the country concerned, and it usually increases in line with reliance on the non-profit sector. For this reason, the share of this item varies widely between countries. It is above 20 % in DK, IE, HU, MT, SE and UK but below 5 % in BE, BG and EL.

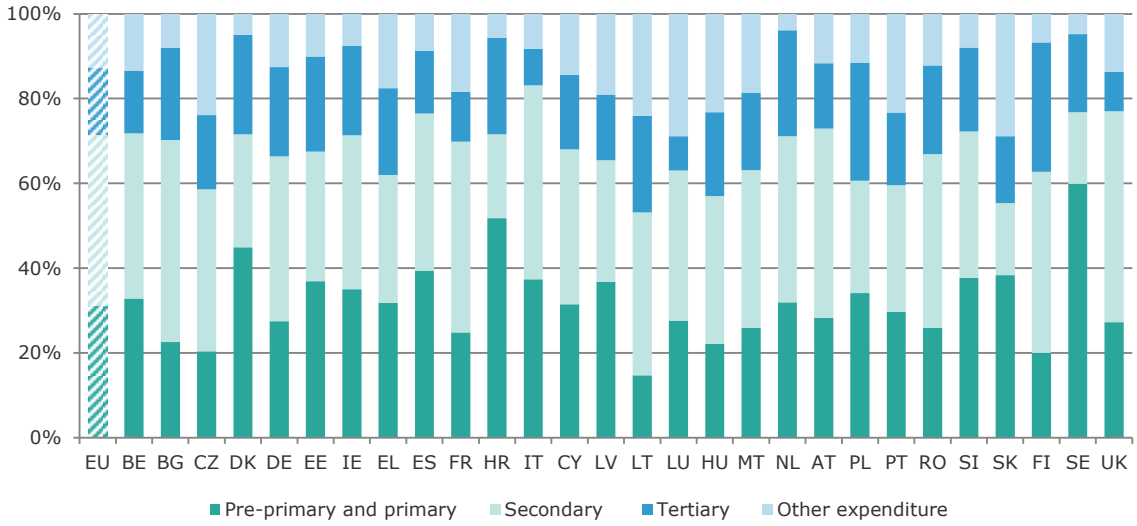
An additional classification of education expenditure breaks it down by level of education. This categorisation reveals that the bulk of expenditure is devoted to the school level. In 23 Member States this accounts for more than 60 % of total expenditure on education, with a peak at 83 % in IT (Figure 1.3.2). Tertiary education accounts for more than 15 % of the total in 22 countries, reaching the maximum of 30.5 % in FI. In 3 Member States (LU, IT and UK) this share is below

[27] For further analysis of teacher salaries, please also see JRC-CRELL (2015), *Teacher Costs* (https://crell.jrc.ec.europa.eu/?q=publications/teacher-costs).

[28] This category includes for instance goods and services produced by market producers and purchased by government, which supplies them to households without any transformation and central government grants to local authorities. In a few countries, it also includes the adjustment for the change in net equity of households in pension funds reserves which is necessary where governments operate a funded pension scheme. For further details please refer to the Eurostat Educational expenditure statistics webpage (http://ec.europa.eu/eurostat/statistics-explained/index.php/Educational_expenditure_statistics)

10 %. 'Other expenditure' includes various items such as education not classified by level, ancillary services to education, and so on. Its share depends on the education services provided in the different countries. Consequently 'other expenditure' varies hugely, from a low of 4 % in NL to a high of 29 % in LU and SK.

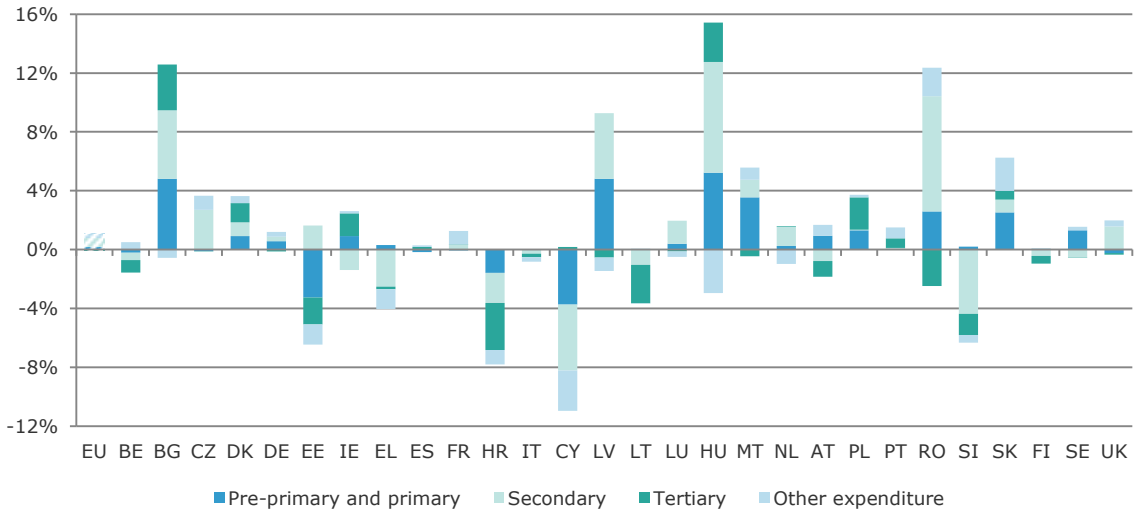
**Figure 1.3.2: Public expenditure on education by level, 2014**




*Source:* Eurostat's general government finance statistics. Online data code: *gov_10a_exp* and *nama_10_gdp*. Note: Secondary education includes also the post-secondary non tertiary education.

Figure 1.3.3 shows changes in real terms in education expenditure between 2013 and 2014, broken down by education level. In most countries, primary and secondary education plays a major role in determining the total change. However, in some countries the contribution of tertiary education is significant. This is the case in BG and HU among the countries recording an annual growth of public expenditure in education, and in EE, HR and LT among those reducing spending.

**Figure 1.3.3: Real annual growth of public expenditure on education by level, 2014**

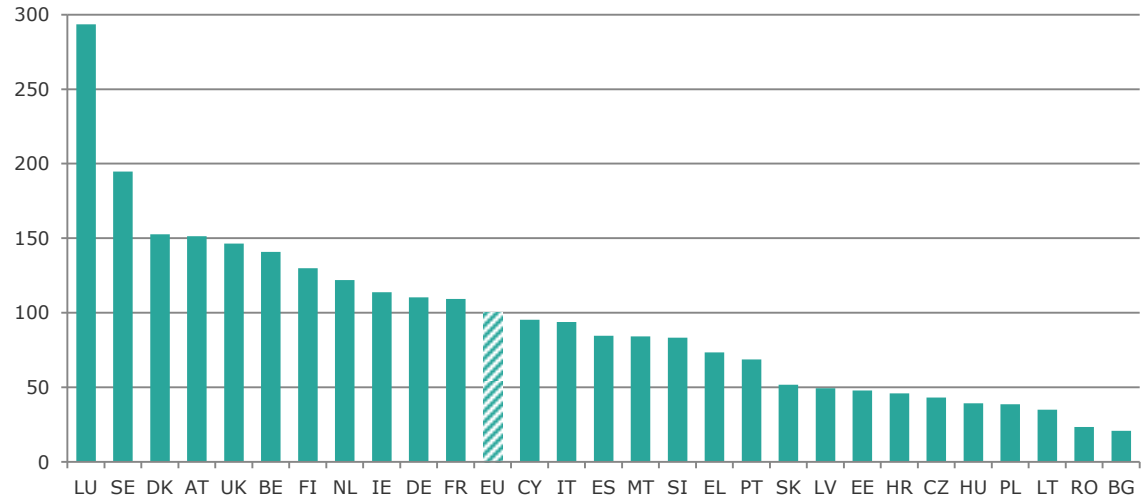



*Source:* DG EAC elaboration on Eurostat's general government finance and national accounts statistics. Online data code: *gov_10a_exp* and *nama_10_gdp*. Note: Secondary education includes also the post-secondary non tertiary education; real growth is computed as the change over the previous year of total expenditure of general government on education, valued at constant prices using the implicit deflator for the final consumption of the general government. Data for EU average, ES, LT, LU, NL and SK are provisional.

## The cost of the education system

Computing the unit cost of education systems is difficult; there is no single indicator of education output as it is determined by numerous components. However, the methodology developed by Eurostat and the OECD in the context of the theory of purchasing power parity[29] provides, among many indices, an approach to building an index of the price level for education services. This index is based on the rough assumption that the volume of education services provided is determined by the number of students, with a quality adjustment based on their results (as assessed, for instance, by PISA).

**Figure 1.3.4: Price level index for education services, 2014, EU = 100**

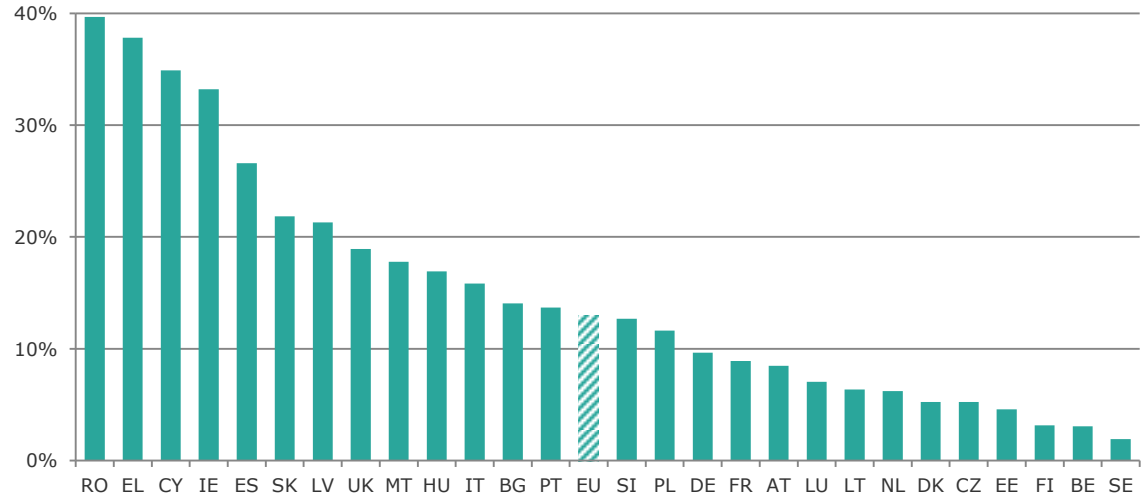



*Source:* Eurostat's purchasing power parity statistics, price index for actual individual consumption on education. Online data code: *prc_ppp_ind*.

Eurostat regularly publishes this index, which provides a measure of the differences in price levels between countries by indicating how many euros are needed to buy the same volume of education services in each country. As shown in figure 1.3.4, education services are dearer in LU, where they cost almost three times the EU average, followed by SE, DK, AT and UK. At the other end of the range stands BG, where every euro spent is worth almost five euros at EU level, together with RO, LT, PL, HU, CZ, HR, EE and LV — in all these countries the price level index is below 50. As the bulk of expenditure on education goes on paying employees (Figure 1.3.1), this index is driven by the level of wages in each country. In fact, the index shows a very high correlation (83 %) with the labour cost level, thus confirming the important role of wages in the dynamics of education expenditure.

[29] See Eurostat-OECD *Methodological Manual on Purchasing Power Parities* (http://ec.europa.eu/eurostat/documents/3859598/5923225/KS-RA-12-023-EN.PDF)

**Figure 1.3.5: Household expenditure as share of public expenditure on education, 2014**




*Source:* DG EAC elaboration on Eurostat's general government finance and national accounts statistics. Online data code: *gov_10a_exp* and *nama_10_co3_p3*. Note: data not available for HR.

Household expenditure also plays a pivotal role in financing the education and training system. Figure 1.3.5 shows the aggregate expenditure by households on education, as a proportion of public expenditure on education. This indicator covers spending on all levels of education, as well as expenditure that is not linked to a specific education level. The household share of education expenditure provides a rough measure of the burden borne by households as a whole, as opposed to the burden on the public sector, in financing the education and training system[30].

In 2014, this share was 13 % EU-wide, and varied considerably between the Member States. It reached almost 40 % in RO and exceeded 25 % in EL, CY, IE and ES. On the other hand, it was below 5 % in EE, FI, BE and in SE, where it recorded its minimum (2 %).

Overall, effective investment in quality education and training is a source of sustainable growth. While EU public expenditure on education increased in the last year, a number of countries are still cutting education budgets. This suggests the need to support Member States in designing reforms that deliver quality education and training more efficiently, within a broad societal context. The Investment Plan for Europe, Erasmus+, the European Structural and Investments Funds, including the Youth Employment Initiative, and Horizon 2020, can help to stimulate investments and support policy priorities in education.

The Joint Report on ET2020 considers investments in the quality and efficiency of education and training systems as a key priority for the EU.

### Key findings and policy relevance

In 2014, public expenditure on education in the EU started growing again after 3 consecutive years of contraction, increasing by 1.1 % in real terms year-on-year. However, 10 Member States still reduced their education budget from the previous year. The proportion of education expenditure within total public expenditure has remained stable in recent years at around 10 % (EU average, 2014: 10.2 %). In the EU as a whole, about 60 % of education budgets are spent on compensation of employees. The biggest proportion of the budget goes into the funding of secondary and post-secondary non tertiary education (40 %) followed by funding of pre-primary and primary education (31 %) and of tertiary education (16 %).

[30] The indicator is, however, to some extent biased, as data are not consolidated and include transfers between the public and private sectors that may in part cancel each other out.

Part 2

# Educational attainment of young people

# Part 2. Educational attainment of young people

Maximising the educational attainment of all young people is a priority for Europe. As section 1.2 discussed, higher levels of educational attainment are associated with better employment outcomes, more active citizenship and people's greater wellbeing. A higher level of educational attainment also increases society's prosperity. While indicators on participation in education are generally improving at EU level, the challenge of achieving equity in education has become ever more acute in the last 2 years with the large influx of relatively young newly arrived migrants (see Part 1.1 in this report). Education systems, but also the provision of non-formal learning, as well as measures to support the transition from education to work are all factors that can be decisive for integrating disadvantaged groups into society and employment.

To mark the importance of educational attainment, the Europe 2020 headline target on education calls for the share early leavers from education and training to drop below 10 % and for the tertiary educational attainment rate to exceed 40 %. Part 2 of the Education and Training Monitor focuses on countries' progress towards the headline target. In the 2016 Monitor, early school leaving (ESL) is dealt with in combination with underachievement in basic skills, an EU benchmark under ET2020. Underachievement has similar roots in a combination of personal, social, economic, educational and family-related factors and is often a result of cumulative disadvantage. In many cases ESL is the end of a long process of disengagement from education linked to underachievement, whose roots may lie in the early years[31]. The 2016 Monitor treats ESL and underachievement as the two major determinants of educational poverty (i.e. 'failing to reach minimum standards in education')[32].

## 2.1. Early leavers from education and training and underachievement

EU almost reached its ESL target but made very little progress since 2014

Upper secondary educational attainment is a prerequisite for better labour market integration and avoiding poverty and social exclusion. Young people who leave education and training before completing upper secondary school and who are no longer in formal or non-formal education and training are at risk of being insufficiently equipped for the challenges of modern European societies, their higher or further education systems and their labour markets. Even when integrated into the labour market, early school leavers have fewer opportunities for personal development and to participate actively in society. Failing to reach a sufficient level of educational qualifications and learning outcomes are two aspects of educational poverty. With substantial parts of the population being affected, educational poverty remains a major challenge for the European Union[33]. Seven EU Member States (BE, BG, CZ, HU, AT, RO, SK) received a country-specific recommendation on education in 2016 urging them to improve educational achievement or specifically the provision of quality education for disadvantaged young people.

[31] ET2020 Working Group on Schools Policy (2015), *A whole school approach to tackling early school leaving* (http://ec.europa.eu/education/policy/school/early-school-leavers_en.htm).

[32] European Commission (2015), An ever closer union among the peoples of Europe? Rising inequalities in the EU and their social, economic and political impacts (http://ec.europa.eu/research/participants/data/ref/h2020/wp/2016_2017/main/h2020-wp1617-societies_v1.0_en.pdf).

[33] European Commission (2015), *Education and Training Monitor 2015* (http://ec.europa.eu/education/policy/strategic-framework/et-monitor_en).

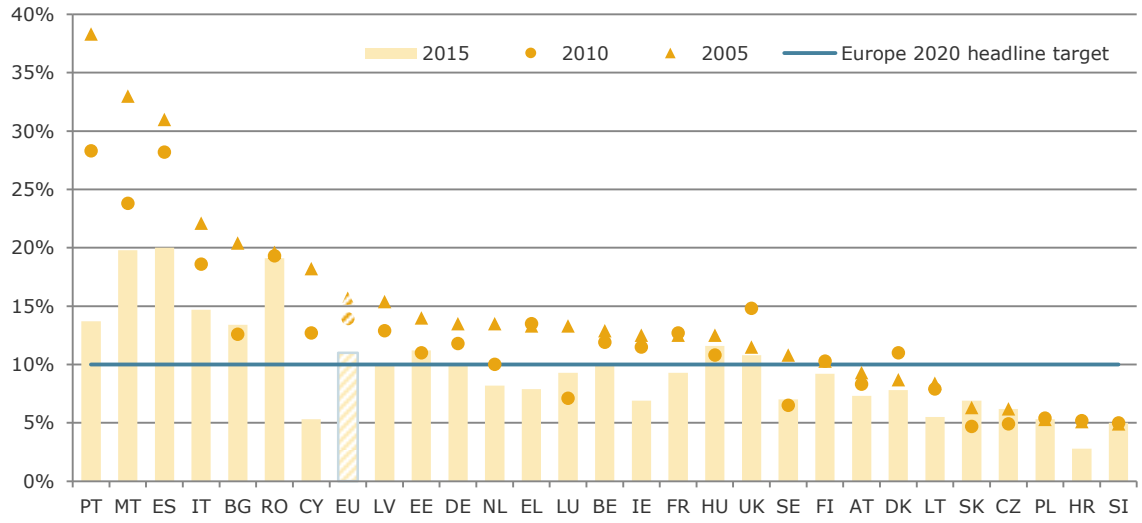
## Early leavers from education and training

Figure 2.1.1 shows the 2015 ESL rates in the 28 Member States and the EU as a whole, as well as progress on this indicator over time (2005, 2010, and 2015). Over the 10-year period the indicator shows reductions in almost all Member States. At the aggregate EU level, this translates into an overall 30 % decrease between 2005 and 2015.

However, over the last year progress towards meeting the benchmark has been slow on average. In 2015 the ESL rate was 11.0 %, only a marginal improvement from the previous year (11.2 %).

In 2015, 17 Member States recorded ESL rates below 10 %; BE and DE were below 10 % in 2014 but are now just above (10.1 %). In 2015 the early school leaving rate was almost twice the EU target in ES, MT and RO. At the same time, 5 Member States had rates below or around 5 % (CY, HR, LT, PL, SI).

**Figure 2.1.1: Early school leaving, 2005-2015**




*Source:* Eurostat (EU-LFS, 2005-2015). Online data code: *edat_lfse_14.* Note: break in time series for DE, ES, HR, MT and SE and low reliability for HR in 2005; break in time series for BG, DE, HR, NL, PL, RO and UK in 2010; data from HR have low reliability due to the small sample size and break in time series for LU and HU in 2015.

The evolution of ESL rates allows Member States to be clustered in three broad groups on the basis of their position in 2005.

Countries that started out with the highest levels of early school leavers (between 38.3 % and 15.7 %, corresponding to the EU average in 2005) collectively display a remarkable reduction in the proportion of early school leavers by 2015. This group comprises BG, ES, IT, CY, MT, PT and RO. Even though some of these countries still show high rates in 2015, most of them have made substantial progress. This is especially the case for CY, which started out with the 18.2 % rate and now has 5.3 % early school leavers. The only exception is RO, which is back to only slightly lower levels than in 2005, after some reductions in the years in between.

**Examples of recent policy measures in Member States**

**NL**: In 2007 the Ministry of Education, Culture and Science launched a regional approach to reduce the number of early school leavers. Vital elements of this approach include:
•Better collaboration between municipalities and educational institutions
•Preventive measures such as supporting students' transition from secondary to vocational education
•Careful monitoring at the regional and school level. In 2016 the federal government continues supporting the regions: financially, with data and with account managers supporting the vocational education institutions.

A group of 11 Member States started with rates of ESL that were relatively close to the target in 2005, ranging between 11.5 % and 15.4 % (BE, DE, EE, IE, EL, FR, LV, LU, HU, NL, UK). In

2015, dispersion within this group increased, and the rates now range from 6.9 % in IE to 11.6 % in HU. On average and for every Member State in this group, the phenomenon of ESL declined. The only exception is UK, with a high rate of ESL in 2010 followed by a fall back to below the initial level by 2015.

Among the Member States with ESL rates below or around 10 % in 2005 (CZ, DK, HR, LT, AT, PL, SI, SK, FI, SE), the rates fluctuated over the subsequent 10 years but today they have all either reached or maintained the EU target.

The long-term decline of the ESL rate is a positive development for education in Europe. However, this development may be associated to effects of the economic crisis, especially in countries with high youth unemployment, where young people may have decided to remain longer in education also due to the greater difficulty of finding work[34].

## Inequalities within Member States

Even if it is slightly (0.3 percentage points) lower than in 2014, the gender gap in ESL rates remains substantial in the EU, with an average male rate of 12.4 % and a female rate of 9.5 %. Since 2014, the average rate for women meets the Europe 2020 headline target. Women also have lower ESL rates than men in nearly all EU Member States with the exception of BG, where it is only marginally higher for women. The differences between men and women are especially striking in some southern Member States (ES, IT, MT, PT), but also in some northern (DK, FI) and Baltic countries (EE, LT, LV). Girls fare on average better than boys on several education indicators (ESL, tertiary educational attainment, and underachievement in basic skills). Research has explored the following explanations for this performance gap: boys and girls tend to participate in different study programmes; boys tend both to fall behind in school and repeat school years more frequently than girls; and women and men react differently to the changing characteristics of the labour market[35].

Except for IE and UK, the ESL rate is higher for the foreign-born population than the native population in all EU countries for which data are available. The ratio between native and foreign-born reaches 1:2 in BE, CZ, ES, FR, IT, LU, FI, and SE; 1.3 in AT; and 1:4 in EL, CY, and SI. A further distinction can be made in some Member States between young people with a migrant background from within the EU and outside it. The differences between these groups vary considerably. Young people with a non-EU migrant background have higher ESL rates than those with an EU migrant background in BE, EL, IT, AT and SE. The situation is the opposite in CZ, ES, UK; this might be due to differences in the prevalent types of migration, students' countries of origin and their command of languages.

With the sole exception of UK, EU Member States have set national targets for ESL on the basis of their starting point in 2009 and their desired objectives for 2020. National targets range from 16 % in IT to 4 % in HR. DK, IE, EL, FR, HR, IT, CY, LV, LT, LU, AT, SI and SE have met their national targets; the other countries still need to progress towards theirs. Given that so many countries have already reached their national targets for ESL, in 2015 Member States agreed to consider setting more ambitious national targets for reducing early school leaving[36].

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[34] European Commission (2014), *Employment and Social Developments in Europe* (http://ec.europa.eu/social/main.jsp?catId=738&langId=en&pubId=7736).

[35] Pekkarinen, Tuomas (2012), *Gender differences in education* (http://ftp.iza.org/dp6390.pdf); European Commission/EACEA/Eurydice (2010), *Gender differences in educational outcomes: Study on the measures taken and the current situation in Europe* (http://eacea.ec.europa.eu/education/eurydice/documents/thematic_reports/120en.pdf); Buchmann, Claudia, Thomas A. DiPrete, and Anne McDaniel (2008), *Gender inequalities in education* (http://www.annualreviews.org/doi/pdf/10.1146/annurev.soc.34.040507.134719).

[36] Council Conclusions on reducing early school leaving and promoting success in school (2015/C 417/05).

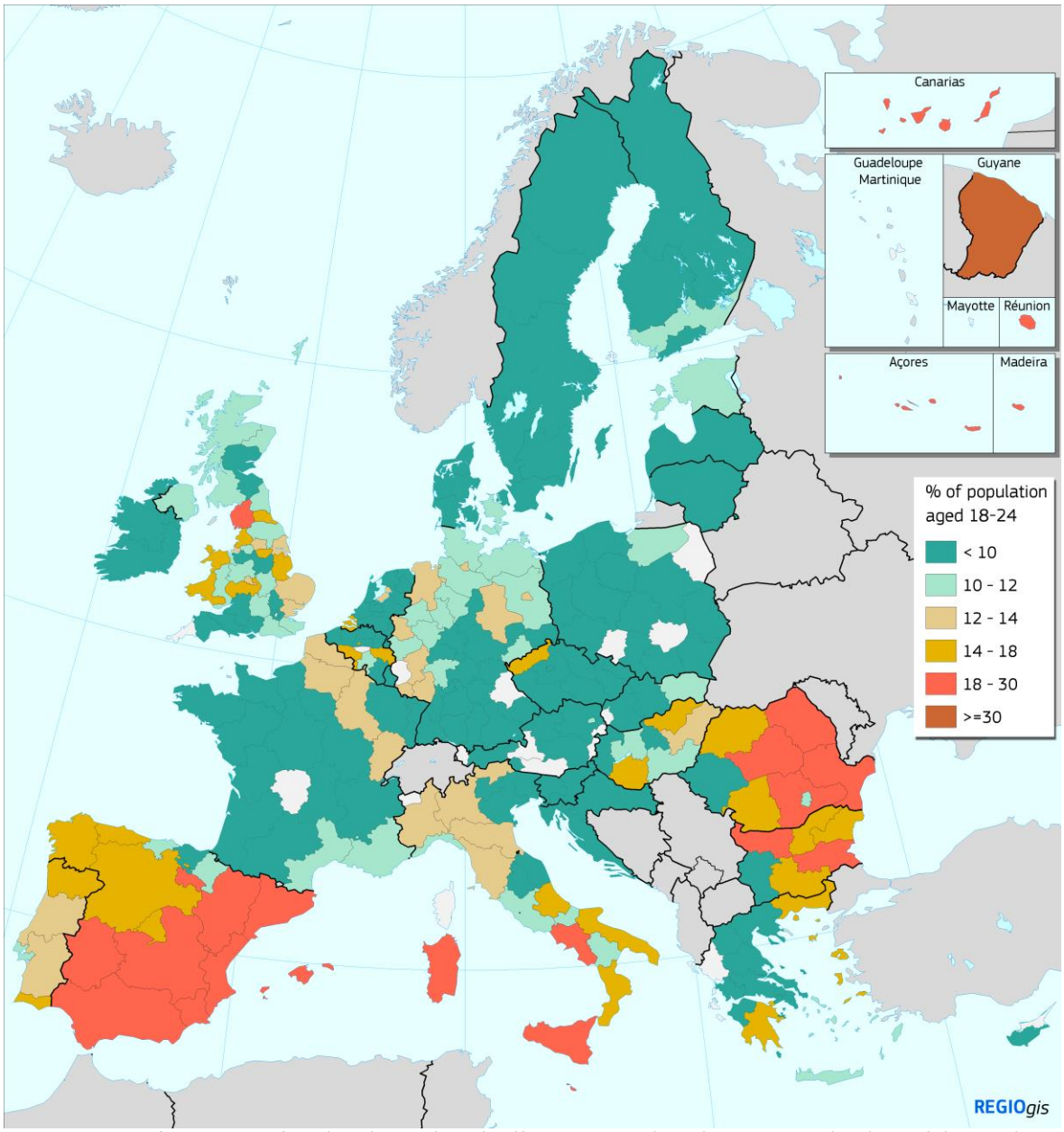
**Table 2.1.1: Early school leaving by sex and migrant status, 2015 (%)**

| | 2012 | 2015 | | | | | | | 2020 |
|---|---|---|---|---|---|---|---|---|---|
| | Total | Total | Men | Women | Native-born | Foreign-born | | | Target |
| | | | | | | EU | Non-EU | Sub-total | |
| **EU** | **12.7** | **11.0** | **12.4** | **9.5** | **10.1** | **17.1** | **19.8** | **19.0** | **< 10.0** |
| Belgium | 12.0 | 10.1 | 11.6 | 8.6 | 9.0 | 16.3 | 19.4 | 18.2 | 9.5 |
| Bulgaria | 12.5 | 13.4 | 13.3 | 13.4 | 13.5 | : | : | : | 11.0 |
| Czech Republic | 5.5 | 6.2 | 6.4 | 6.0 | 6.1 | (14.1) | (7.7) | (10.7) | 5.5 |
| Denmark | 9.1 | 7.8 | 9.7 | 5.7 | 7.7 | : | (9.5) | (8.7) | < 10.0d |
| Germany | 10.5 | 10.1 | 10.4 | 9.8 | 8.6 | : | : | : | < 10.0d |
| Estonia | 10.3 | 11.2 | 13.2 | 9.0 | 11.3 | : | : | : | 9.5 |
| Ireland | 9.7 | 6.9 | 8.4 | 5.4 | 7.0 | (9.4) | : | 6.8 | 8.0 |
| Greece | 11.3 | 7.9 | 9.4 | 6.4 | 6.8 | (19.9) | 24.9 | 24.1 | 10.0 |
| Spain | 24.7 | 20.0 | 24.0 | 15.8 | 17.5 | 36.1 | 32.6 | 33.3 | 15.0d |
| France | 11.8 | 9.3 | 10.1 | 8.5 | 8.7 | (15.5) | 16.6 | 16.5 | 9.5 |
| Croatia | 5.1 | (2.8) | (3.6) | (2.1) | (2.8) | : | : | : | 4.0 |
| Italy | 17.3 | 14.7 | 17.5 | 11.8 | 12.7 | 26.4 | 33.0 | 31.3 | 16.0 |
| Cyprus | 11.4 | 5.3 | 7.7 | 3.2 | 3.1 | (15.5) | (18.1) | 16.7 | 10.0 |
| Latvia | 10.6 | 9.9 | 13.4 | 6.2 | 10.0 | : | : | : | 10.0 |
| Lithuania | 6.5 | 5.5 | 6.9 | (4.0) | 5.5 | : | : | : | < 9.0d |
| Luxembourg | 8.1 | 9.3b | 10.5b | 8.1b | 6.9b | 15.6b | : | 15.6b | < 10.0d |
| Hungary | 11.8 | 11.6b | 12.0b | 11.2b | 11.6b | : | : | : | 10.0 |
| Malta | 21.1 | 19.8 | 22.9 | 16.6 | 19.9 | : | : | : | 10.0 |
| Netherlands | 8.9 | 8.2 | 9.9 | 6.4 | 8.0 | : | 11.4 | 9.7 | < 8.0 |
| Austria | 7.8 | 7.3 | 7.8 | 6.8 | 5.5 | (12.0) | 24.5 | 19.0 | 9.5 |
| Poland | 5.7 | 5.3 | 7.2 | 3.2 | 5.3 | : | : | : | 4.5 |
| Portugal | 20.5 | 13.7 | 16.4 | 11.0 | 13.5 | : | 16.1 | 16.2 | 10.0 |
| Romania | 17.8 | 19.1 | 19.5 | 18.5 | 19.1 | : | : | : | 11.3 |
| Slovenia | 4.4 | 5.0 | 6.4 | (3.4) | 4.3 | : | (17.7) | (16.5) | 5.0 |
| Slovakia | 5.3 | 6.9 | 6.9 | 6.8 | 6.9 | : | : | : | 6.0d |
| Finland | 8.9 | 9.2 | 10.6 | 7.9 | 8.7 | : | (16.9) | (18.1) | 8.0 |
| Sweden | 7.5 | 7.0 | 7.6 | 6.4 | 5.9 | 10.9 | 14.4 | 13.9 | 7.0 |
| United Kingdom | 13.4 | 10.8 | 11.7 | 9.8 | 11.2 | 11.8 | 4.5 | 7.6 | - |

*Source:* Eurostat (EU-LFS, 2012-2015). Online data code: *edat_lfse_14* and *edat_lfse_02*. Note: 'b' = break in time series; '()' = data lack reliability due to small sample size; ':' = data either not available or not reliable due to very small sample size; 'd' = definition of national target follows a different measurement of the indicator than the one used in this table. Important break in time series in 2014 for all countries, plus unreliable data for HR and in 2013 break in time series for CZ, FR, NL and PL.

Another relevant dimension of within-country differentiation is the regional aspect. A map displaying ESL rates by NUTS 2 region confirms that regions with the highest rates of early school leavers can be found in the south and south-east of Europe. It also shows that regional disparities are very apparent in several Member States (BE, BG, CZ, EL, ES, FR, IT, HU, AT, PL, RO, UK). Targeting regions with high rates of educational poverty would create more equal opportunity not only among European countries but also within them.

**Figure 2.1.2: Early school leaving by NUTS 2 regions, 2015**




*Source*: Eurostat (EU-LFS, 2015). Online data code: *edat_lfse_16*. Note: The indicator covers the share of the population aged 18-24 year-olds. © EuroGeographics Association for the administrative boundaries.

Furthermore, there is another category that can be subsumed under educational poverty: young people who are not in employment, education or training (NEETs). Their number has grown in recent years and they currently account for 14.8 % of 15-29 year olds[37]. The NEET indicator captures a very heterogeneous population, with different characteristics and needs. Recent analysis has broken down the NEET population into seven groups: short-term unemployed; long-term unemployed; discouraged workers; re-entrants; those with family responsibilities; those with illness or disability; and other inactive persons. This disaggregation has made possible a better analysis of the causes and patterns linked to being NEET and should guide a better policy response. In general, the share of NEETs increases with age, and young women are more likely to become NEET. While the largest group of NEETs is composed of young people with an upper secondary level of education, the probability of becoming NEET still falls as the

[37] Eurostat, EU Labour Force Survey. Online data code *edat_lfse_21*.

education level increases. Adolescents and young adults with low levels of education are three times more likely to be NEET than those holding qualifications at upper secondary and tertiary level. The group of early school leavers which are also NEET is potentially the most disadvantaged group in the population: they are young, have a low level of education and are no longer accumulating human capital through either the labour market or education. In Nordic, western and continental countries the largest groups of NEETs are generally the short-term unemployed. In some southern and Mediterranean countries the proportion of long-term unemployed and discouraged workers among NEETs is higher. In some eastern European countries, the majority of NEETs are women with family responsibilities. In addition, the risk of being a NEET in the EU is 70 % higher for young people with a migrant background than for the native population. Illness and disability also represent major risk factors[38].

## Underachievement

Another determinant of educational poverty is a low level of proficiency in basic skills. The EU benchmark aims to reduce the proportion of underachieving 15 year-olds in reading, maths or science below 15 % by 2020[39]. In 2012**,** the EU averages were 17.8 % for reading, 22.1 % for maths and 16.6 % for science.

Last year's Monitor showed that students from disadvantaged socioeconomic backgrounds and who had recently migrated perform less well than other groups. In addition, there are more low achievers among boys than girls in all the three domains, again in nearly all Member States (except LU and UK).

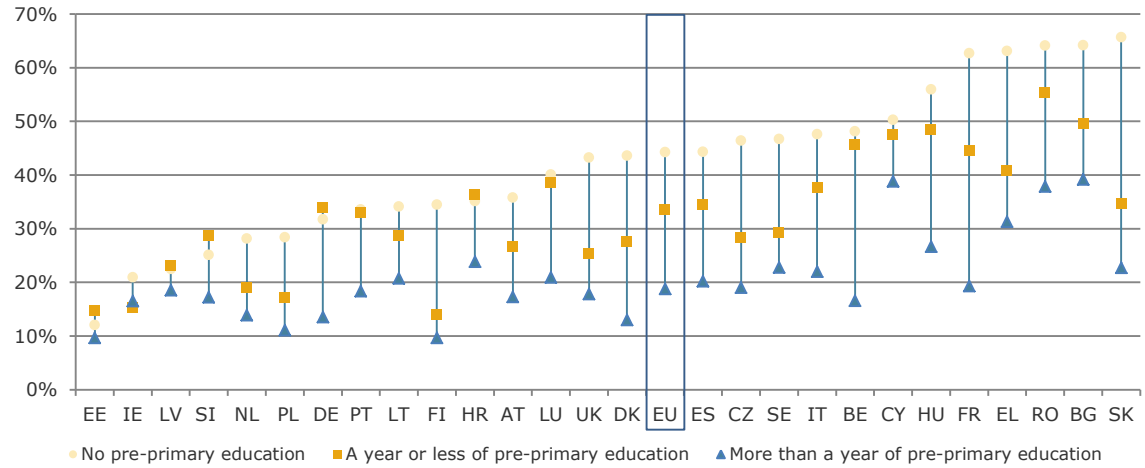
A recent OECD report financed by the European Commission shows some of the aspects associated with low performance[40]. One important finding is that low performance is more prevalent among students who have not attended pre-primary education (Figure 2.1.3).

[38] Eurofound (2012), NEETs – Young people not in employment, education or training: Characteristics, costs and policy responses in Europe and Eurofound (2016), Exploring the diversity of NEETs (http://www.eurofound.europa.eu/publications). Further analysis on the link between early school leaving and NEET at European Commission/JRC/CRELL (2015), School-to-work transition of young individuals: what can the ELET and NEET indicators tell us? (https://ec.europa.eu/jrc/en/publications).

[39] This benchmark is defined on the basis of OECD-PISA data. Underachievement in PISA is defined as failing to reach level 2 ('basic skills level') on the PISA scale for the three domains. PISA 2015 results will be published by the OECD on 6 December 2016. At age 15, practically all young people still attend general schooling and the effect of the education system that they have spent many years in can be measured.

[40] OECD (2016), *PISA. Low-Performing Students – Why they fall behind and how to help them succeed.* (http://www.oecd-ilibrary.org). It is important however to note in this context that participation in ECEC in some European countries is very high. Thus when distinguishing between pupils who attended and did not attend pre-primary education, the latter are a very small proportion of the population, likely from disadvantaged socio-economic background or migrant background. Participation in ECEC is discussed in section 3.1 of this report.

**Figure 2.1.3: Pre-primary education and low performance in mathematics, 2012**




*Source*: *OECD (PISA, 2012)*. Note: Differences are statistically significant between low performing students who have no pre-primary education and those who have attended more than a year of pre-primary education. MT did not participate in PISA 2012.

The difference between students who have attended more than a year of pre-primary education and those who have not is greater than 20 percentage points on average in the EU as a whole. The share of low achievers among those without pre-primary education is especially high and exceeds 60 % in BG, EL, FR, RO, and SK. Even in countries with low proportions of low achievers, there is a substantial gap between those who have attended pre-primary education and those who have not. Only EE, IE and LV show very small differences between these groups. This is a clear indication that providing high-quality early childhood education and care is an important early measure that can substantially reduce future low achievement. Further OECD analyses show that the likelihood of low performance in mathematics is not significantly correlated with pre-primary education in ten EU Member States – LV, EI, HR, EE, LT, NL, AT, DK, DE, FR – when various background factors of the students, including socio-economic status and immigrant background, are taken into account[41]; this indicates that participation in pre-primary education is especially important for disadvantaged social groups and stands out as a policy measure that can reduce inequalities throughout the school career and over the life course. The objectives of widening participation in ECEC and increasing its quality are discussed in section 3.1 of this report.

Better learning outcomes are associated with participation in ECEC

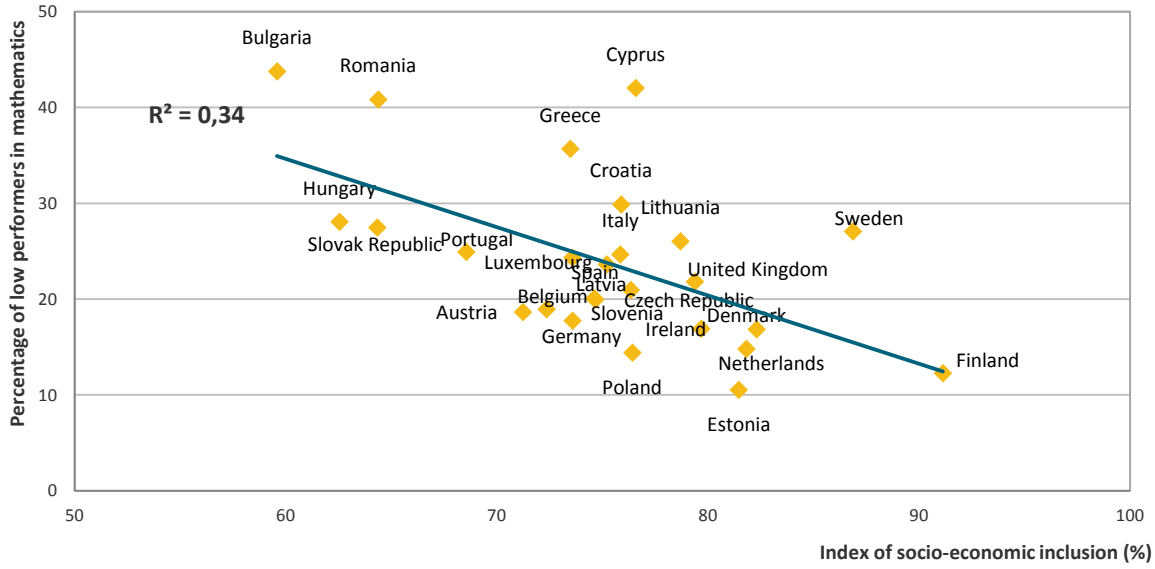
Another relevant aspect that correlates with low achievement at the school level is the degree of socio-economic inclusiveness within schools[42]. The higher the index of socioeconomic inclusion of schools, the smaller the share of low performers is in a country (Figure 2.1.4). Socioeconomic diversity in schools is beneficial to the educational performance of students as a whole. In FI, where the socioeconomic inclusion of schools is highest among EU Member States, the rate of low achievers in mathematics is the second lowest. Correspondingly, in BG the lowest rate of socioeconomic inclusion in schools corresponds to the highest rate of low achievers. This pattern is consistent across all EU Member States. Tackling low achievement thus also requires addressing socioeconomic inclusion in schools and ensuring that no students in education systems are left behind.

41 Further analysis on the following variables: socio-economic status, gender, immigrant background, language spoken at home, family structure, location of student's school (rural area, town or city), grade repetition and programme orientation (vocational or general), can be found in OECD, PISA 2012, Database, Table 2.15.

42 The index of socioeconomic inclusion shows the extent to which students' socioeconomic status varies within schools, measured as a percentage of the total variation in students' socioeconomic status across the school system. The relationship is statistically significant.

In addition, the report also shows that teachers play an important role in tackling underachievement. The rate of poorly performing students is more likely to be higher where teachers convey lower expectations about students' outcomes and give them less support, and also where teachers' morale is lower[43].

**Figure 2.1.4: Socio-economic inclusion and low performance in mathematics, 2012**




*Source*: *OECD (PISA 2012)*.

## Policy measures to raise minimum standards in education

Various factors, school-related and systemic alike, contribute to underachievement and ESL. An unfavourable school climate, violence and bullying, a learning environment in which learners do not feel respected or valued, insufficient learner support, and poor teacher-pupil relationships may lead learners to leave education prematurely[44].

At the same time, appropriate school-related policy responses that address the structure and quality of education systems may have a strong impact on learners' participation and performance. A comprehensive strategy to tackle educational poverty would identify schools or local environments where there is a high risk of educational disadvantage and which could benefit from additional support or resources. Educational poverty can be effectively tackled at national level by looking at the whole spectrum of education and training systems, starting from early childhood education and care, including non-formal learning, and promoting measures to support learners' progress, educational achievement and completion of education[45].

To better frame a policy response to ESL, most EU Member States have set up national data collections based on a student register (the only exceptions being BE de, DE, ES, HR, CY, HU, MT, RO, SI, SK, UK-NIR). This enables the authorities to precisely quantify early school leavers

[43] OECD (2016), PISA. *Low-Performing Students – Why they fall behind and how to help them succeed*. (http://www.oecd-ilibrary.org/education/low-performing-students/percentage-of-low-performers-in-mathematics-by-attendance-at-pre-primary-school_9789264250246-graph26-en).

[44] This chapter concentrates on school-related policy responses to ESL and underachievement. Additional systemic factors are discussed in European Commission/EACEA/Eurydice/CEDEFOP (2014), *Tackling early leaving from education and training in Europe (*http://eacea.ec.europa.eu/education/eurydice/*).*

[45] The Eurydice network carries out systematic monitoring of policy measures to reduce underachievement and ESL, which underpins this section of the Monitor. For further reference: European Commission/EACEA/Eurydice (2016), *Structural Indicators for Monitoring Education and Training Systems in Europe. Eurydice Background Report to the Education and Training Monitor* (http://eacea.ec.europa.eu/education/eurydice/index_en.php). The summary table corresponding to the findings discussed in this chapter can also be found in the Annex to this report.

by comparing records from one school year to the next. Student register-based data can moreover be used to monitor absenteeism, thus functioning as an early warning system.

In addition, all Member States except LU have put in place policies to increase the flexibility and permeability of educational pathways. These measures are meant to facilitate a smooth transition between education levels or different types of education, for example between general and vocational programmes. These include providing alternative ways for students to pursue education and training and obtain a qualification, as well as efforts to strengthen the VET sector, in countries where this is needed.

Policies ensuring language support for students whose mother tongue differs from the language of instruction are also widespread; exceptions are HU, NL and UK-SCT. In DK, LU, AT, PL, SI, FI and SE, language support comes with systematic provision of lessons or assistance in the migrant students' mother tongue. On the other hand, education and career guidance, which is offered as part of the curriculum and by school guidance services at secondary level, is available in half of the Member States (CZ, DE, EE, ES, FR, IT, LV, LT, HU, AT, RO, SI, SK, FI, UK-SCT). In practice, when educational and career guidance is a compulsory curriculum subject, it is systematically provided to all students, thus acting as a preventive measure to help all students stay in education and training[46]. In particular, available policy analysis considers the combination of available, high-quality and well-organised language support and school guidance services at secondary level as an effective measure to prevent and reduce early school leaving[47].

Early school leaving is included as a topic in initial teacher education (ITE) and/or continued professional development for teacher in BE, DE, IE, ES, FR, LV, AT and SI. Underachievement is a topic in ITE in BE, DK, EE, IE, FR, CY, LT, HU, MT, AT, PL, SI, SK, SE, and UK. Addressing early school leaving systematically through teacher training can provide teachers with opportunities to gain practical experience in dealing with the educational needs of students at risk. Teachers can also be encouraged to engage in peer learning and collaboration with other teachers and schools confronted with high levels of socio-economic disadvantage and school drop-out.

On underachievement, almost all Member States have established national tests in their compulsory education systems and publish national reports on the level of the results of student assessments. In addition, most countries use student performance data to evaluate their schools. Schools that enrol a large number of disadvantaged students need additional resources from central or regional authorities. Around three quarters educational systems in the EU provide such resources (BE, BG, CZ, EE, IE, EL, FR, IT, CY, LV, LT, LU, NL, AT, PL, PT, SI, SK, FI, UK)[48].

Through peer learning and thematic exchange on ESL, Member States reached the conclusion that policies to reduce ESL and underachievement should be embedded in an overall inclusive learner-centred vision of education in which high-quality education is accessible to all. In this vision, schools are instrumental in ensuring that all learners reach their full potential for growth, irrespective of individual and family-related factors, socioeconomic status and life experiences[49].

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[46] European Commission/EACEA/Eurydice/CEDEFOP (2014), *Tackling early leaving from education and training in Europe (*http://eacea.ec.europa.eu/education/eurydice/*).*

[47] Annemarie Oomen & Peter Plant (2014), *Early school leaving and lifelong guidance,* http://www.elgpn.eu/publications/browse-by-language/english/elgpn-concept-note-no.-6-early-school-leaving-and-lifelong-guidance/

[48] The Eurydice summary table on underachievement can be found in the Annex to this report and in the publication: European Commission/EACEA/Eurydice (2016), *Structural Indicators for Monitoring Education and Training Systems in Europe. Eurydice Background Report to the Education and Training Monitor* (http://eacea.ec.europa.eu/education/eurydice/index_en.php).

[49] The European Commission has supported a number of activities to reduce both indicators, and especially ESL, in cooperation with Member States. Discussions in the Working Groups on Schools Policy (2014-2015) and debate around the Council Conclusions on ESL allowed a broader approach on ESL to be taken as part of a broader discussion on equity and education, making sure that all young people can succeed in education. See: European Commission (2015), *Schools policy. A whole school approach to tackling early school leaving*, http://ec.europa.eu/dgs/education_culture/repository/education/policy/strategic-framework/expert-groups/documents/early-leaving-policy_en.pdf

**Key findings and policy relevance**

ESL is a challenge not only for the young people concerned but also for society, with implications in terms of social inclusion, cohesion and the overall qualification level of a country's workforce. Over the past ten years, Europe has made substantial progress in reducing ESL, and the EU benchmark now appears within reach. However, in some Member States, especially in certain regions and for particular groups of young people, ESL rates are still far from meeting the objectives set at EU and national level in the Europe 2020 strategy.

Bringing the proportion of underachievers in reading, maths or science below 15 % by 2020 at EU level will also be a challenge, especially for what concern mathematics, where the current proportion of underachievers would need to be cut by one third to meet the target level.

Activities under way in the Member States to positively influence the various factors linked with underachievement include increasing participation in early childhood education and care, improving its quality, and promoting socioeconomic inclusion in schools. In order to reduce underachievement, effective policy measures include offering student guidance, and a more systematic inclusion of the topic in initial teacher education as well as in professional development of education staff. A complementary measure could be to offer early school leavers alternative opportunities for adult education and learning.

## 2.2. Tertiary-level attainment

Ensuring that more people complete high-quality tertiary education programmes is important for sustainable and inclusive growth. Low rates of tertiary educational attainment can create skills shortages in knowledge-intensive economic sectors and hamper productivity, innovation and competitiveness. Despite marked overall progress towards reaching the Europe 2020 target level for tertiary educational attainment, significant disparities exist across the EU in the attainment rates of native-born and foreign-born students, and between women and men. In addition, geographical disparities in tertiary-level attainment persist, reflecting the diverse landscape of human capital and skills supply in Europe.

This section first analyses progress made towards the EU headline target by taking a longer timeframe and looking at developments over the last decade. Secondly, it looks at differences in attainment levels between and within countries. Lastly, it points to the equity dimensions of broadening participation in higher education.

### Increasing attainment at tertiary level

EU close to meeting its target on tertiary educational attainment

The average rate of tertiary educational attainment among those aged 30-34 has increased consistently and significantly since the adoption of the EU benchmark of 40 % in 2009. The rate currently stands at 38.7 %, up 0.8 percentage points in the past year alone. Seventeen Member States have attainment rates above the 40 % benchmark, which is also a Europe 2020 headline target (BE, DK, EE, IE, EL, ES, FR, CY, LT, LU, NL, AT, PL, SI, FI, SE, and UK). Since 2014, the tertiary attainment rate has risen in 23 Member States, most notably in DK, EL, LT, and SI; and fallen in 5 others. EL reached the 40 % level for the first time. LV, after reaching the target in 2013 and then falling slightly below it in 2014, reached it once again in 2015. AT, by contrast, slipped slightly below the target in 2015 after hitting it in 2014.

The EU's considerable progress in raising tertiary educational attainment becomes even clearer when measured over the period 2005-2015. In those 10 years the average rate rose by 10.6 percentage points. By observing countries' progress over time, three main groups can be identified (Figure 2.2.1).

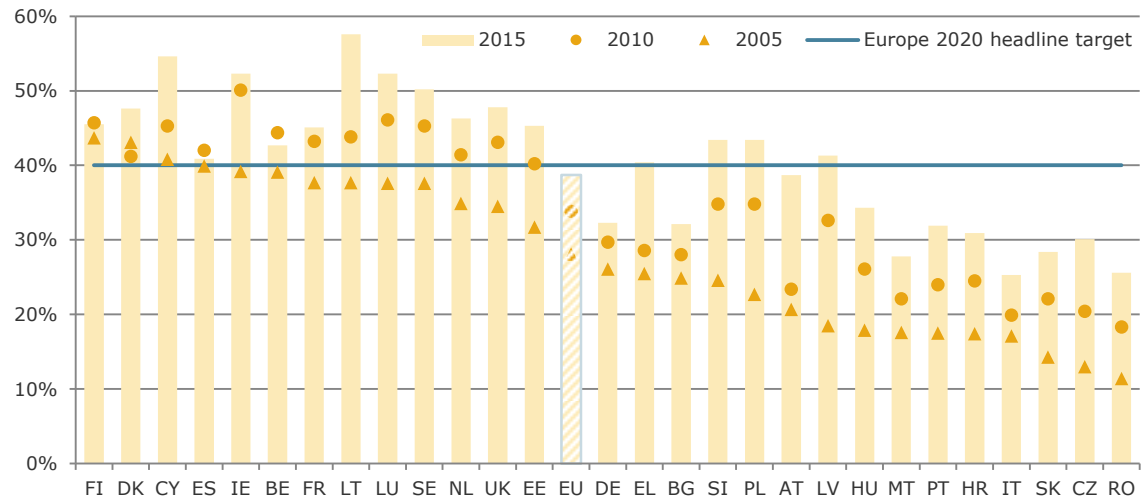
The first group consists of countries with tertiary educational attainment rates above 30 % and above the EU average of 28.1 % in 2005, and which collectively still increased their rates (BE, DK, IE, EE, ES, FR, CY, LT, LU, NL, FI, SE, UK). All these countries are now above the 40 % target and 5 of them are above 50 %: LT, CY, LU, IE, and SE. Attainment rates nonetheless declined between 2010 and 2015 in BE and ES[50].

Countries in the second group started in 2005 with rates between 20 % and the EU average. They include BG, DE, EL, PL, SI and AT. Over time, participation in higher education steadily rose in these countries to above 30 % (BG, DE[51] and AT) or even 40 % (EL, SI and PL).

The third group comprises countries that had tertiary attainment rates below 20 % in 2005 (CZ, HR, IT, LV, HU, MT, PT, RO, SK). The progress in this group of countries is significant and very visible. This is particularly the case in LV, with an increase of almost 23 percentage points over the 10 years, and CZ, with an increase of 17 percentage points over the same period. Within this group, HR is the only country with a decline of 1.3 percentage points between 2014 and 2015.

This look back in time shows that attainment rates have increased consistently across Europe for a longer period, and most importantly, that countries which were lagging behind are catching up. The disparities in tertiary attainment rates are narrowing across Europe, with significant improvements by countries in eastern and southern Europe in particular.

**Figure 2.2.1: Tertiary educational attainment, 2005-2015**




*Source*: Eurostat (EU-LFS, 2005-2015). Online data code *edat_lfse_03*. Note: The indicator covers the share of the population aged 30-34 years having successfully completed tertiary education (ISCED 5-8); Break in time series in 2005 for DE, ES, MT and SE; in 2010 for BG, DE, HR, NL, PL, RO and UK and in 2015 for LU. The data on tertiary educational attainment 2005-2010 for AT should not be compared with data from 2015 since under ISCED 1997 the qualification acquired upon successful completion of higher technical and vocational colleges is reported on ISCED level 4, not on ISCED level 5 as in ISCED 2011 implemented from 2014.

Figure 2.2.2 takes a closer look at the type of degrees obtained by the current share of 30-34 year-olds with tertiary education across Europe. Tertiary educational attainment includes bachelor's and master's degrees, as well as short-cycle tertiary education and doctoral degrees. In Europe, short-cycle two-year degrees are often professionally oriented, but can also be more general qualifications, similar to Associate degrees in the US. The figure below shows that the ratio between bachelor's and master's degrees varies considerably across Member States. In some countries, in the 30-34 year-old cohort, master's graduates are more prevalent than

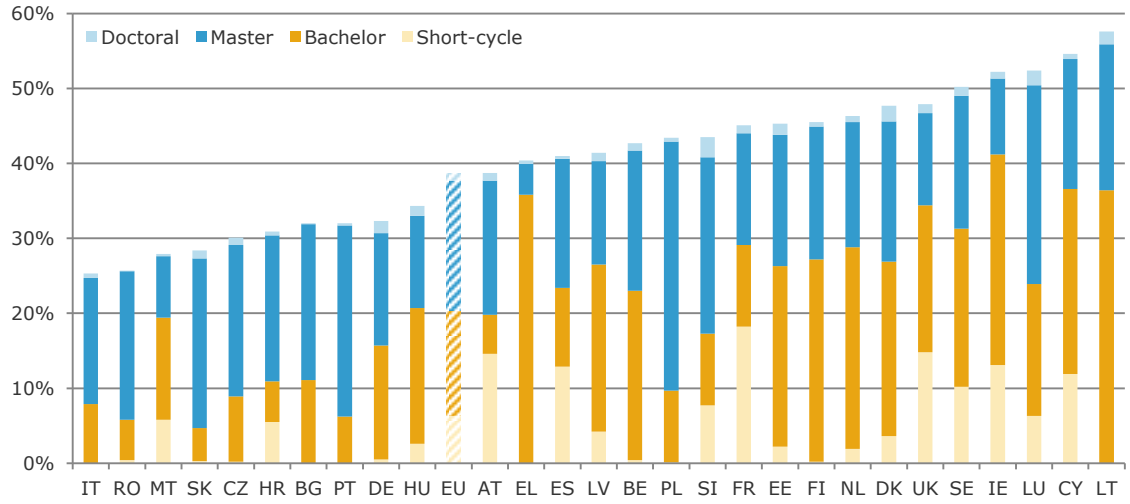
[50] LU's performance and national target reflect to a large degree the highly qualified immigrant population living and working in the country rather than the output of its education and training system.

[51] Including post-secondary non-tertiary education (ISCED 4) with tertiary education (ISCED 5-8), as, DE does for its national target, DE already reached its target of 42 %, in 2013.

bachelor's graduates (IT, RO, SK, CZ, HR, PT, BG, AT, ES, PL, FR, SI, and LU), while in others it is the other way around (NL, FI, DK, UK, CY, SE, IE, EL, MT, DE, HU, BE, LT, LV, EE). The largest proportions of 30-34 year-olds with short-cycle degrees are in ES, FR, UK, IE, AT, and CY, all of which have rates above 10 %. These types of qualifications are comparatively rare or even non-existent in many other Member States.

On average in the EU more women than men have short-cycle (7 % versus 5.8 %), bachelor's (15.5 % versus 12.4 %) and master's (20 % vs 14.9 %) degrees. The pattern is the same in virtually all Member States. At the highest level of education, in the last decade there has been a progressive move towards gender balance in the proportion of female and male graduates at PhD level (currently standing at 0.9 % of the 30-34 population for both sexes).

**Figure 2.2.2: Tertiary educational attainment by degree, 2015**




*Source*: Eurostat (*EU-LFS, special extraction*, 2015). Note: The indicator covers the share of the population aged 30-34 years having successfully completed tertiary education (ISCED 5-8), broken down by type of degree; for short-cycle, data from RO, SK, PL and FI have low reliability due to the small sample size, for doctoral, data from RO, MT, PT, BG, LV, EE, FI, IE, CY and LT have low reliability due to the small sample size.

## Inequalities within Member States

Gap between tertiary attainment of women and men increased in 22 EU Member States

Despite the generally increasing rate EU tertiary level attainment, only 12 EU Member States have reached their national targets for tertiary educational attainment (DK, EE, EL, CY, LV, LT, HU, NL, AT, SI, FI and SE)[52]. In addition, breaking down attainment data by migrant status and sex shows patterns of inequality that could be addressed by the education system. On average in Europe, over 40 % of 30-34 year-old women already have a tertiary educational qualification; from 2014 to 2015, the rate of tertiary attainment for women increased by 1.1 percentage point. Attainment levels among men also rose, but to a lesser extent (0.4 percentage point). The gap between women and men is highest in LV, SI, EE and LT, where men have a rate 20 percentage points lower than women. Between 2014 and 2015, the gap between attainment by women and men increased in 21 Member States and in the EU as a whole.

At an aggregate EU level, there is also a difference in tertiary educational attainment levels between those who were born in the country of reporting and those who were not; and the 2015 edition of this report analysed attainment levels within the foreign-born population by years since arrival in the country. On average in the EU, the age group 30-34 has a tertiary

[52] However, when post-secondary non-tertiary education (ISCED 4) is included together with tertiary education (ISCED 5-8), however, DE reached its national target of 42 % already in 2013.

attainment rate which is 3 percentage points higher for native-born than for the foreign-born; but the gap can be wider at national level and reaches 32 percentage points in EL. The subgroup of those born in countries outside the EU display an attainment rate that is 4.6 percentage points lower than native students on average in the EU. However, in DK, EE, IE, LV, LU, MT and UK the pattern is reversed: the foreign-born population has in these countries a higher tertiary attainment rate than the native-born one. The gap in favour of the foreign-born population reaches 20 percentage points in PL[53]. This reflects visible differences in the migration patterns across Europe (both out- and in-flows), with some countries attracting and retaining people with high skill levels and others attracting a lower-skilled population.

**Table 2.2.1: Tertiary educational attainment by sex and migrant status, 2015 (%)**

| | 2012 | 2015 | | | | | | | 2020 |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Foreign-born | | | |
| | Total | Total | Men | Women | Native-born | EU | Non-EU | Sub-total | Target |
| **EU** | **36.0** | **38.7** | **34.0** | **43.4** | **39.4** | **39.5** | **34.8** | **36.4** | **40.0** |
| Belgium | 43.9 | 42.7 | 36.7 | 48.7 | 44.8 | 48.5 | 27.2 | 35.6 | 47.0 |
| Bulgaria | 26.9 | 32.1 | 24.8 | 39.9 | 32.0 | : | : | : | 36.0 |
| Czech Republic | 25.6 | 30.1 | 24.7 | 35.9 | 30.4 | 28.1 | (19.1) | 24.4 | 32.0 |
| Denmark | 43.0 | 47.6 | 39.6 | 55.9 | 46.6 | 58.4 | 47.8 | 51.1 | 40.0 |
| Germany | 31.8 | 32.3 | 32.2 | 32.4 | 33.1 | : | : | : | 42.0d |
| Estonia | 39.5 | 45.3 | 34.5 | 56.7 | 44.7 | : | (56.4) | (59.2) | 40.0 |
| Ireland | 51.1 | 52.3 | 45.1 | 58.6 | 50.9 | 47.0 | 68.5 | 55.2 | 60.0 |
| Greece | 31.2 | 40.4 | 35.3 | 45.5 | 44.2 | (19.9) | 10.6 | 12.1 | 32.0 |
| Spain | 41.5 | 40.9 | 34.8 | 47.1 | 45.2 | 33.6 | 22.1 | 25.1 | 44.0 |
| France | 43.3 | 45.1 | 40.3 | 49.6 | 46.1 | 42.3 | 37.9 | 38.7 | 50.0d |
| Croatia | 23.1 | 30.9 | 23.8 | 38.3 | 31.7 | (60.0) | (17.0) | (23.6) | 35.0 |
| Italy | 21.9 | 25.3 | 20.0 | 30.8 | 28.1 | 14.8 | 14.2 | 14.4 | 26-27 |
| Cyprus | 49.9 | 54.6 | 46.7 | 61.6 | 62.1 | 37.0 | 36.5 | 36.7 | 46.0 |
| Latvia | 37.2 | 41.3 | 26.8 | 56.5 | 40.8 | : | (48.0) | 54.6 | 34.0d |
| Lithuania | 48.6 | 57.6 | 47.2 | 68.4 | 57.6 | : | : | : | 48.7 |
| Luxembourg | 49.6b | 52.3b | 46.8b | 57.7b | 48.5b | 59.2b | 51.4b | 57.4b | 66.0 |
| Hungary | 29.8 | 34.3 | 27.6 | 41.0 | 34.5 | : | : | (26.1) | 34 |
| Malta | 24.9 | 27.8 | 23.6 | 32.2 | 27.1 | (49.8) | (28.8) | 35.1 | 33.0 |
| Netherlands | 42.2 | 46.3 | 43.0 | 49.6 | 48.2 | 48.5 | 31.7 | 36.2 | 40.0d |
| Austria | 26.1 | 38.7 | 37.5 | 40.0 | 41.0 | 40.3 | 27.1 | 33.2 | 38.0d |
| Poland | 39.1 | 43.4 | 35.1 | 52.0 | 43.3 | : | (65.6) | (63.2) | 45.0 |
| Portugal | 27.8 | 31.9 | 23.3 | 40.1 | 32.0 | 41.1 | 25.9 | 31.8 | 40.0 |
| Romania | 21.7 | 25.6 | 24.2 | 27.2 | 25.6 | : | : | : | 26.7 |
| Slovenia | 39.2 | 43.4 | 32.0 | 56.4 | 45.6 | (43.2) | (17.1) | (19.9) | 40.0 |
| Slovakia | 23.7 | 28.4 | 22.8 | 34.4 | 28.2 | : | : | : | 40.0 |
| Finland | 45.8 | 45.5 | 38.1 | 53.4 | 47.2 | 31.0 | 33.7 | 32.7 | 42.0d |
| Sweden | 47.9 | 50.2 | 43.2 | 57.7 | 51.4 | 62.3 | 43.8 | 47.5 | 45-50 |
| United Kingdom | 46.9 | 47.8 | 44.4 | 51.1 | 45.5 | 47.6 | 59.0 | 53.9 | - |

*Source:* Eurostat (EU-LFS, 2012-2015). Online data code: *edat_lfse_03* and *edat_lfs_9912*. Note: this indicator covers the share of the population aged 30-34 year-olds having successfully completed ISCED level 5 to 8; 'b' = break in time series; '()' = data lack reliability due to small sample size; ':' = data either not available or not reliable due to very small sample size; 'd' = definition of national target follows a different measurement of the indicator than the one used in this table. The national target for Italy is 26-27 % and recorded as d in the LFS database. The national target for HU has been taken from the 2015 National Reform Programme.

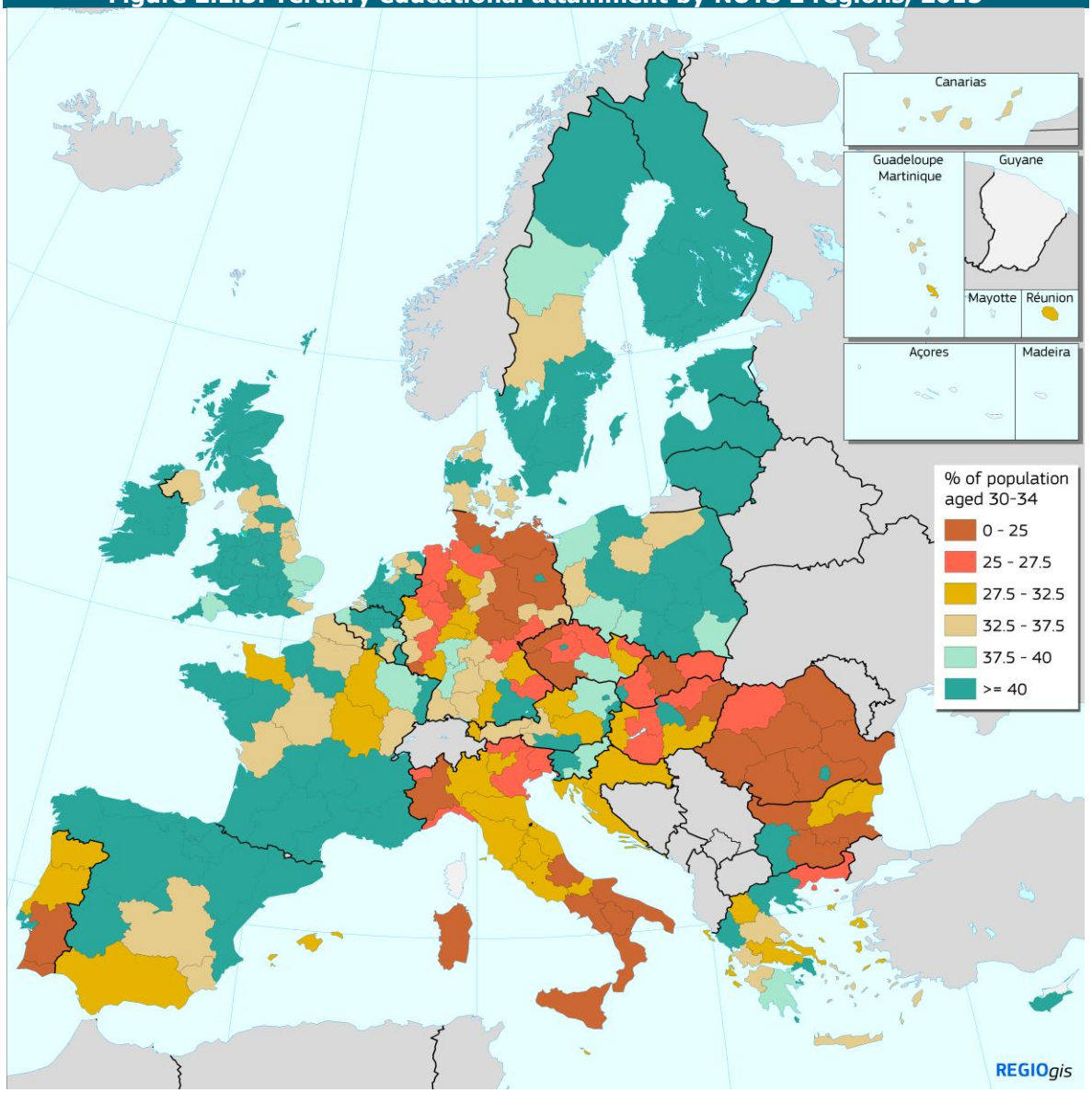
Moreover, significant disparities exist within countries. For example, 7 out of 17 EU Member States with tertiary educational attainment rates above 40 % at national level have nominally reached this target on their entire territory, and some of them are typically small and homogenous countries (LT, CY, LU, IE, EE, LV, FI[54]). By contrast, of the Member States that have not reached the 40 % target rate at national level, 8 have parts of their territory — often the capital regions — where the tertiary attainment rate is above the EU target (RO, SK, CZ, PT,

[53] PL has a considerable presence of young professionals from international corporations and an inflow of highly qualified people from Ukraine.

[54] This is primarily a reflection of the absence of data for smaller-scale statistical units. Differences in attainment are also likely to exist in smaller countries, in particular between the capital region and other regions.

BG, DE, HU, AT). This pattern is in part linked to a tendency for well-educated people to move to capitals and other large cities for employment. However, at least in some countries, it may also reflect poorer rates of access and completion in higher education in rural and less economically advanced regions, where lower numbers of universities are located too. This is an important factor to take into account in the design of higher education access policies.

**Figure 2.2.3: Tertiary educational attainment by NUTS 2 regions, 2015**




*Source*: Eurostat (EU-LFS, 2015). Online data code: *edat_lfse_12*. Note: The indicator covers the share of the population aged 30-34 having successfully completed tertiary education (ISCED 5-8). © EuroGeographics Association for the administrative boundaries.

## Policy measures to increase tertiary attainment rates

With the EU closer to reaching the target for tertiary attainment, the focus of policy activities is increasingly on improving the quality of higher education and ensuring equitable access and outcomes for particular groups (disadvantaged groups and regions).[55] A small group of countries currently has quantitative targets for widening participation and/or attainment by under-represented groups (BE nl, IE, EL, FR, MT, RO, FI and UK). Where such quantitative targets exist, they are aimed specifically at access to higher education (EL, MT, RO, FI and UK-ENG). In some countries these are combined with targets for completing higher education or finding employment (FR, IE and UK-WLS and UK-SCT).

More common, and used in about half of EU Member States, are measures to systematically gather, analyse and use data on students' socioeconomic background (BE fr, BE nl, BG, DK, IE, FR, IT, LT, HU, MT, AT, PL, FI, SE, UK). Furthermore, participation rates at tertiary level can be increased by providing flexible pathways into higher education. In a large number of countries, prior informal or non-formal learning is not recognised for entry in to higher education (BE de, BG, CZ, DE, EE, EL, HR, CY, LV, HU, MT, NL, AT, PT, RO, SI, SK).

Performance-based funding mechanisms with a social dimension focus on enabling funding to be provided to higher education institutions if they meet a defined level of performance on social objectives. These mechanisms, which give institutions extra funding if certain targets are met, exist in 12 countries: BE nl, IE, ES, FR, HR, IT, LU, AT, PL, PT, RO, UK (excluding Scotland). Most commonly performance-based funding mechanisms are used to support the participation of students with disabilities and those with a disadvantaged socioeconomic background.

**Examples of recent policy measures in Member States**

**IE**: The new National Plan of Equity of Access to Higher Education 2015-2019 was launched in December 2015. It contains five key goals and more than 30 actions to assist under-represented groups to participate in third level education. It 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 Plan also aims to empower students and widen participation in higher education.

EU Member States have in the last decade implemented knowledge exchange and peer learning activities. They have also taken account of the importance of higher education in facilitating the integration of newly arrived migrants, many of whom are at prime working age (see section 1.1). Policy dialogues on higher education have highlighted the importance of implementing: i) effective systems for recognising prior learning, along with customised upskilling and bridging courses; ii) intense language and cultural training for migrant groups; iii) targeted information, advice and guidance on study options; and iv) facilitating access to higher education by removing restrictions based on residency status.

### Key findings and policy relevance

Higher educational attainment has progressed significantly in the last 10 years, bringing Europe close to reaching the Europe 2020 headline target of 40 % and narrowing the gap between more poorly performing countries and those that perform best. However, there are big differences in the attainment rates of native-born and foreign-born students, and the gap between men and women continues to increase. Even if the overall trends in tertiary educational attainment in Europe are positive, effective policies to improve access and completion rates, especially for students from disadvantaged groups, remain crucial.

[55] For further information on policy measures described in this section, please see European Commission/EACEA/Eurydice (2016): *Structural indicators for monitoring education and training systems in Europe 2016* (http://eacea.ec.europa.eu/education/eurydice/index_en.php). The summary table on policy measures to widen participation in higher education can be found in Annex to this report.

Part 3

# Policy response: reaction to change

# Part 3. Policy response: reaction to change

## 3.1. Early childhood education and care: inclusiveness and quality

Early childhood education and care (ECEC) concerns children from birth to the start of compulsory primary schooling, and is increasingly recognised as a constitutive part of the education and training system. In most European countries, ECEC is split into two different phases according to age: early childhood programmes, generally targeted at children aged 0 to 2 years (ISCED 0.1), and pre-primary education, for children between 3 and the starting age for primary education (ISCED 0.2). In contrast, in unitary systems, ECEC provision for all children of pre-school age is organised in a single phase; governance, regulation and funding in those cases fall under the responsibility of the ministry for education (the unitary system prevails in most Nordic countries, the Baltic countries, and can be found in Croatia and Slovenia)[56]. Early years are critical for the development of self-identity, skills and abilities; they heavily influence later learning ability and even employability prospects. Acquiring skills is an incremental process; providing a high-quality foundation is therefore a precondition for developing skills through all stages of education. Children from a disadvantaged background can benefit greatly from ECEC, as they may be exposed from very early on to a skills gap with children from more advantaged environment. By the time of starting school, the skills gap can be so significant that it jeopardises their changes of educational success.

Participation in ECEC has also been associated with higher education outcomes, a reduced risk of ESL, greater employability, higher earnings, lower crime rates, and better integration of children with migrant backgrounds[57]. As chapter 2.1 shows, students who have not attended ECEC are three times more likely to underperform in school education than those who attended it for more than one year[58]. ECEC is equally recognised as critical for early development of transversal skills such as creative and critical thinking, social behaviour and emotional development[59]. A study on the US economy estimated that investing in quality ECEC can lead to future public savings 13 times greater than the initial investment in the long run[60].

EU close to meeting participation benchmark target for children from the age of 4; Barcelona objectives of participation below 3 still not met

[56] European Commission/EACEA/Eurydice/Eurostat (2014), *Key Data on Early Childhood Education* and Care in Europe. (2014) Edition; Eurydice and Eurostat Report (http://eacea.ec.europa.eu/education/eurydice/index_en.php)

[57] Literature reviews and analysis of the impact of ECEC can be found in European Commission/EACEA/Eurydice/Eurostat (2014), *Key Data on Early Childhood Education and Care in Europe* (see previous footnote); and Benoit Guerin (2014), *Breaking the cycle of disadvantage* (http://europa.eu/epic/studies-reports/docs/rr-553-dg-employment-ecec-brief-v-0-49_final.pdf).

[58] OECD (2016), *Low-performing students: why they fall behind and how to help them succeed*. The study, presented in chapter 2.1, presents the association between participation in what is defined as 'pre-primary education' and low performance in mathematics at the age of 15.

[59] European Commission (2014), *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-ecec-in-preventing-early-school-leaving-esl--pbNC0414323/).

[60] European Commission (2014), *Study on the effective use of early childhood education and care in preventing early school leaving* (http://www.vbjk.be/files/Study%20on%20the%20effective%20use%20of%20ECEC%20in%20preventing%20early%20school%20leaving_FINAL%20REPORT.pdf); Leslie J. Calman and Linda Tarr-Whelan (2005) *Early Childhood Education for All - A Wise Investment* (http://web.mit.edu/workplacecenter/docs/Full%20Report.pdf); OECD (2014), *International Migration Outlook 2014* (http://www.oecd.org/migration/international-migration-outlook-1999124x.htm).

The ET 2020 strategy set a benchmark on participation in ECEC, requiring that at least 95 % of children from the age of 4 to compulsory school age participate in ECEC[61]. Table 3.1.1 shows the progress made towards the benchmark from 2011 onwards. The EU as a whole is advancing towards the benchmark value, with a participation rate of 94.3 % in 2014, 1.1 percentage point higher than 2011. Twelve Member States have already reached the target, and 3 are very close to it. However, there are still 11 Member States with a participation rate below 90 % and 2 below 80 % (HR and SK). In comparison to 2013, in 2014 the rate of participation in ECEC significantly increased in EL, LT and PL, which are still far from the target, and among the countries on target, in UK (from 95.9 % in 2013 to 98.2 % in 2014).

**Table 3.1.1: Participation in early childhood education and care, 2014 (%)**

| | From the age of 4 to the starting age of compulsory primary education (EU benchmark) | | | | Participation by age | | |
|---|---|---|---|---|---|---|---|
| | Total (2011) | Total (2014) | Males (2014) | Females (2014) | 3 years | 4 years | 5 years |
| **EU** | **93.2** | **94.3** | **94.3[e]** | **94.3[e]** | **83.5** | **91.2** | **79.5** |
| Belgium | 98.1 | 98.1 | 98.0 | 98.2 | 97.6 | 98.0 | 97.2 |
| Bulgaria | 86.6 | 89.3 | 89.5 | 89.1 | 74.0 | 80.4 | 91.7 |
| Czech Republic | 87.8 | 86.4 | 86.5 | 86.3 | 68.4 | 83.6 | 89.1 |
| Denmark | 97.9[d] | 98.1 | 96.7 | 98.9 | 90.9 | 97.2 | 96.0 |
| Germany | 96.4 | 97.4 | 97.1 | 97.6 | 92.5 | 96.7 | 97.8 |
| Estonia | 89.9 | 91.7 | 91.7 | 91.7 | 86.0[d] | 90.8[d] | 92.1[d] |
| Ireland | 98.6[d] | 96.2 | 95.6 | 96.2 | 45.7 | 56.3 | 2.7 |
| Greece | 76.0 | 84.0 | : | : | : | 48.7 | 91.0 |
| Spain | 97.7 | 97.1 | 97.0 | 97.3 | 95.8 | 97.2 | 96.8 |
| France | 100.0 | 100.5 | 100.0 | 100.0 | 99.6 | 100.3 | 99.8 |
| Croatia | 71.0 | 72.3 | 73.2 | 71.5 | 49.2 | 58.2 | 62.8 |
| Italy | 99.1 | 96.5 | 97.1 | 95.9 | 92.0 | 96.1 | 88.3 |
| Cyprus | 85.0 | 82.6 | 81.9 | 83.3 | 40.9 | 73.2 | 91.6 |
| Latvia | 92.7 | 94.4 | 94.0 | 94.9 | 86.1 | 90.3 | 95.7 |
| Lithuania | 84.2 | 88.8 | 88.4 | 89.1 | 77.9 | 83.3 | 86.9 |
| Luxembourg | 95.6 | 98.4 | 97.9 | 98.9 | 68.9 | 97.8 | 93.5 |
| Hungary | 94.5 | 94.7 | 94.9 | 94.5 | 78.9 | 93.8 | 95.5 |
| Malta | 100.0[b] | 97.7 | 99.6 | 95.7 | 95.4 | 97.5 | 1.8 |
| Netherlands | 99.6 | 97.6 | 97.3 | 98.0 | 80.6 | 96.1 | 99.2 |
| Austria | 94.3 | 94.0 | 93.5 | 94.4 | 63.1 | 91.5 | 95.7 |
| Poland | 78.4 | 83.1 | 87.0 | 87.2 | 57.7 | 71.5 | 94.7 |
| Portugal | 93.8 | 93.5 | 94.6 | 92.5 | 76.9 | 90.6 | 96.1 |
| Romania | 86.4 | 86.4 | 86.1 | 86.7 | 79.7 | 85.0 | 87.8 |
| Slovenia | 89.8 | 89.4 | 90.0 | 88.7 | 82.9 | 88.7 | 90.0 |
| Slovakia | 76.9 | 77.4 | 77.3 | 77.6 | 64.0 | 73.8 | 81.2 |
| Finland | 74.0 | 83.6 | 83.6 | 83.6 | 68.2 | 73.9 | 79.4 |
| Sweden | 95.3 | 95.9 | 96.0 | 95.7 | 93.2 | 94.6 | 95.1 |
| United Kingdom | 95.8 | 98.2 | 98.3 | 98.1 | 83.3 | 95.1 | 0.0 |

*Source:* Eurostat (UOE, 2011-2014). Online data code: *educ_uoe_enra10*, *educ_uoe_enrp07* and *educ_ipart*. Note: DG EAC elaboration on the EU totals based on available country data. ':' = data not available or not applicable; 'b' = break in time series; 'd' = definition differs; 'e' =estimated. *Reading note*: The right-hand side of the table (participation by age) shows rates calculated with ISCED 0.2 only. The left-hand side of the table shows the overall benchmark calculated using ISCED 0.1, ISCED 0.2 and ISCED 1.

Participation rates in ECEC generally increase with the age of the children (Table 3.1.1). Thirteen EU Member States have participation rates above 80 % for children aged 3; however, in three countries less than 1 child in 2 participates in ECEC (IE, HR, CY). The group of countries with participation rates above 80 % grows to 21 when including the participation of children aged 4, and to 23 countries if 5 year-olds children are included[62].

[61] The starting age for primary education varies across Member States. It can be found, together with other features of the ECEC systems in the Member States, in European Commission/EACEA/Eurydice (2016), *The Structure of the European Education Systems 2015/2016* (https://webgate.ec.europa.eu/fpfis/mwikis/eurydice/images/0/05/192EN.pdf).

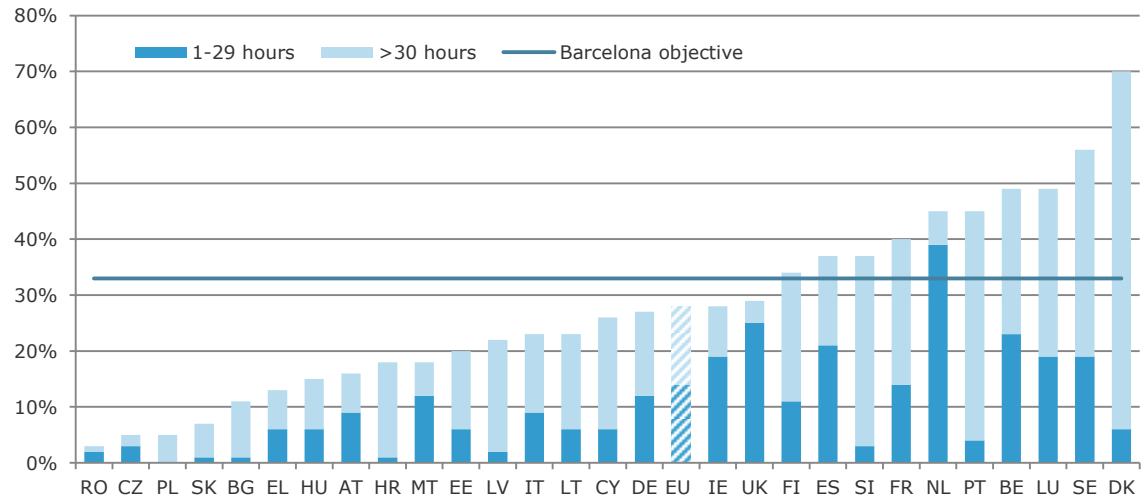
[62] Figures for MT and IE drop because of the early start of primary education in those countries.

Several countries have introduced measures to widen access to ECEC. HU has lowered the starting age for compulsory ECEC from 5 to 3 years. PL has approved reforms to grant legal entitlement to ECEC from age 4, and even from age 3 starting September 2017. FI, which guarantees a place in ECEC from the age of 9 months, has introduced compulsory ECEC for 1 year before starting primary school.

By contrast, a significant drop in the ECEC participation rate was recorded in IE, IT, CY, MT and NL (where nevertheless the target is met). The breakdown by gender shows overall similar participation rates for boys and girls in most countries.

Finally, the participation in formal ECEC for children aged 0-3 varies greatly across Member States, from 3 % in RO up to 70 % in DK[63]. For these children, the EU aims to reach the Barcelona objective of a participation rate greater than 33 %. In 2014, the EU average was still below the target, with 28 % of children aged 0-3 attending formal childcare (Figure 3.1.1). Ten EU Member States reached the Barcelona objective (BE, DK, ES, FR, SE, LU, NL, PT, SI, FI), but at the other end of the spectrum 10 still have participation rates below 20 % (BG, CZ, EL, HR, HU, MT, AT, PL, RO, SK).

**Figure 3.1.1: Participation in formal childcare of children less than 3 years old, 2014**




*Source:* Eurostat (EU-SILC, 2014). Online data code: *ilc_caindformal*.

Legal entitlement to a place in ECEC and compulsory ECEC are two pivotal policy measures to guarantee access to ECEC for all children. A legal entitlement exists when every child has an enforceable right to benefit from ECEC; table 3.1.2 presents the starting age of legal entitlement to ECEC across the EU. Legal entitlement does not necessarily imply that provision is free, only that provision is publicly subsidised.

The reliance of parents on informal care rather than formal early childhood education is influenced by the availability and length of the childcare gap, meaning the gap between the duration of adequately compensated post-natal leave and the legal entitlement to ECEC. Currently, 7 EU countries (DK, DE, EE, LV, SI, FI and SE) guarantee a legal right to ECEC to each child by the end of childcare leave. When children reach the age of 3, half of the EU countries provide a place guarantee in ECEC.

Under the 2016 European Semester, several EU Member States received a country-specific recommendation on taking measures to support inclusion of disadvantaged groups in education, often with a special reference to Roma children (BG, CZ, HU, AT, RO, SK). The recommendations for CZ and SK address in particular the need to increase the participation of disadvantaged groups in education from early childhood and pre-school level. Other 4 Member

[63] Eurostat data on income and living conditions, *EU-SILC survey*.

States received a recommendation on improving childcare affordability and quality, in the context of increasing female labour market participation and on the inclusion of disadvantaged groups (IE, ES, SK, UK).

**Table 3.1.2: Legal framework of early childhood education and care, 2015/2016**

| | Starting age of legal entitlement to ECEC | Starting age of compulsory ECEC | Starting age of compulsory primary education |
|---|---|---|---|
| **EU** | | | |
| Belgium | 2.5* | | 6 |
| Bulgaria | | 5 | 7 |
| Czech Republic | 5 | | 6 |
| Denmark | 0.5 | | 6 |
| Germany | 1 | | 6 |
| Estonia | 1.5 | | 7 |
| Ireland | | | 6 |
| Greece | | 5 | 6 |
| Spain | 3 | | 6 |
| France | 3 | | 6 |
| Croatia | | 6 | 7 |
| Italy | | | 6 |
| Cyprus | | 4y 8mths | 5y 8mths |
| Latvia | 1.5 | 5 | 7 |
| Lithuania | | | 7 |
| Luxembourg | 3 | 4 | 6 |
| Hungary | | 3 | 6 |
| Malta | 2y 9mths | | 5 |
| Netherlands | ** | 5 | 6 |
| Austria | | 5 | 6 |
| Poland | 4 | 5 | 6 |
| Portugal | 5 | | 6 |
| Romania | | | 6 |
| Slovenia | 11mths | | 6 |
| Slovakia | | | 6 |
| Finland | 9mths | 6 | 7 |
| Sweden | 1 | | 7 |
| United Kingdom*** | 3 | | 5 |

*Source:* European Commission/EACEA/Eurydice, *Structural indicators for monitoring education and training systems in Europe, 2015/2016*. Note: * 3 for BE de. ** In NL, the ECEC system combines a demand-driven structure for children aged 0-4 and supply-side arrangements for all children aged 4 and upwards and for children aged 2.5-4 from disadvantaged backgrounds. *** NIR — no legal entitlement, starting age of compulsory primary education is 4.

## Policies and indicators for quality in early childhood education and care

**Examples of recent policy measures in Member States**

**CZ**: To increase the participation rate in ECEC with the objective of reducing inequalities and improving educational outcomes, the Czech Republic is increasing capacity through the Fund for the Development of Capacities in Kindergartens and Primary Schools, with co-financing from EU funds. Moreover, amendments to the Education Act adopted in 2016 will extend compulsory education to the last year of ECEC from September 2017 and ensure entitlement to a place for younger children in the following years.

All Member States have developed various forms of policy guidance to ensure the quality of ECEC. These include measures affecting the structure of ECEC provision, the quality of pedagogical processes in formal settings and child development outcomes. Structural quality, which looks at how the ECEC system is designed and organised, has long been legislated for in all MS. Process quality concerns the practice within an ECEC setting. It often includes the role of play in the curriculum; relationships between ECEC providers and families; interactions between staff and children, and among children; the extent to which care and education is provided in an integrated way; parental involvement and the day-to-day pedagogic practice. Traditionally, process quality has been regulated and monitored to a lesser degree The European Commission therefore developed an ECEC quality framework 2

years ago[64]. This proposal reflects experts' consensus on what constitutes quality in ECEC in five areas: access, workforce, curriculum, evaluation and monitoring, and governance and funding.


Access and quality are closely linked when it comes to parental choices on ECEC, particularly for children under 3.

Poor-quality ECEC is a barrier to higher reliance by parents on these services, especially for children under the age of 3. A survey on access to childcare services found that for the majority of parents, cost (59 %) or poor availability (58 %) make it difficult to use care services. Physical access (41 %) and quality of the service (27 %) are also barriers for a considerable numbers of users[65]. By contrast, high-quality ECEC, together with information to parents about its long-term benefits for the future of their children, can act as a powerful incentive for parents to make use of such services. Besides helping parents return to full-time employment, high-quality early childhood education and care has been found to be an essential element in providing children with a solid foundation for later skills development.

Regarding ECEC delivery, educational staff have a major role in shaping children's experiences and determining their learning outcomes. Staff qualification and continuing professional development (CPD) requirements are some of the most important measures to guarantee staff quality. In MT, the required level of qualification for staff working in kindergarten centres was raised to bachelor's degree level from 2015/2016. IE and IT have also approved reforms to raise the qualification level needed for educational staff working with children in their early years; in IE, staff who do not hold the necessary qualifications will have to undertake professional development. BE nl now requires a yearly identification and follow-up of the training needs of practitioners working with babies and toddlers (under 3) by the ECEC providers, while until last year professional development was required only for staff working with children aged 3 or more.

On learning opportunities, in 21 education systems policymakers are seeking to influence the quality of learning and child development by issuing a detailed curriculum or outlining the main principles in educational guidelines for the entire duration of ECEC. BE nl, BG, DK, PL, PT, SK and FI are currently reviewing or introducing new educational guidelines or curricula. Some children at certain developmental stages might need additional support measures in order to reach their full potential. There are many varied language support measures available in European countries, often tailored to meet the specific needs of certain linguistic groups or even specific children. Additional language programmes have been introduced in BE nl, CZ and DE to increase ECEC's potential for inclusiveness.

Parents' participation in their children's early childhood education is essential. Hence, for instance, LT has issued new guidance materials for parents, and in PT a pilot parenting project is under way with 30 playgroups working nationwide.

64 European Commission (2014), *Proposal for key principles of a Quality Framework for Early Childhood Education and Care* (http://ec.europa.eu/dgs/education_culture/repository/education/policy/strategic-framework/archive/documents/ecec-quality-framework_en.pdf).

65 Eurofound (2012), *Quality of life in Europe: impact of the crisis* quoted in Eurofound (*http://www.eurofound.europa.eu/publications/report/2012/quality-of-life-social-policies/quality-of-life-in-europe-impacts-of-the-crisis*), (2015) *Early Childhood Care: accessibility and quality of services* (http://www.eurofound.europa.eu/publications/report/2015/social-policies/early-childhood-care-accessibility-and-quality-of-services).

**Table 3.1.3: ECEC provision: a selection of structural indicators, 2015/2016**

| | At least one staff member with a tertiary qualification in education sciences | CPD professional duty or necessary for promotion | Curriculum or Educational guidelines | Language programmes as targeted support measure | Home-learning guidance or parenting programmes |
|---|---|---|---|---|---|
| Belgium fr | ■ | ● | ● | ■ | |
| Belgium de | ● | ● | ■ | ■ | |
| Belgium nl | ■ | ● | ● | ● | |
| Bulgaria | ■ | | ■ | ■ | |
| Czech Republic | | ■ | ■ | ■ | |
| Denmark | | | ● | ■ | |
| Germany | ● | ● | ● | ● | ● |
| Estonia | ● | ● | ● | ● | ● |
| Ireland | | | ● | | ● |
| Greece | ● | ■ | ● | ■ | Only for under 3s |
| Spain | ■ | ■ | ● | ● | |
| France | ■ | ■ | ■ | ■ | ■ |
| Croatia | ● | ● | ● | ● | ● |
| Italy | ■ | ■ | ■ | ■ | |
| Cyprus | ■ | ■ | ■ | ■ | ■ |
| Latvia | | ● | ● | ● | |
| Lithuania | ● | ● | ● | ● | ● |
| Luxembourg | ● | ● | ● | ■ | ● |
| Hungary | ■ | ● | ● | ■ | |
| Malta | ■ | ■ | ● | ■ | ■ |
| Netherlands | ■ | | ● | ● | |
| Austria | | ● | ● | ● | ● |
| Poland | ■ | ■ | ■ | ■ | ● |
| Portugal | ● | ■ | ■ | ● | ● |
| Romania | ■ | ● | ● | ● | ● |
| Slovenia | ● | ● | ● | ● | ● |
| Slovakia | | ■ | ■ | | |
| Finland | ● | ● | ● | ● | |
| Sweden | ● | | ● | ● | |
| United Kingdom * | ■ | ■ | ■ | ● | ● |
| United Kingdom-SCT | | ● | ● | | ● |

*Source*: European Commission/EACEA/Eurydice (2016): *Structural indicators for monitoring education and training systems in Europe 2016*. Note: ■ = children aged 3 years or more; ● = the entire ECEC phase; CPD refers to continuing professional development. * = UK-ENG, UK-NIR and UK-WLS. In UK-ENG only, educational guidelines apply to entire ECEC phase. CPD refers to continuing professional development.

## Key findings and policy relevance

ECEC plays an important role in supporting young children's wellbeing and skills development and thus contributes greatly to their later success at school and in life. It also improves parents' work-life balance. Participation rates are above 90 % for children from the age of 4 years in most European countries, and above the benchmark value of 95 % in 12 EU MS. In contrast, participation of children below the age of 3 remains below the Barcelona objective of 33 % in 10 EU Member States and on average in the EU.

High structural and process quality allows ECEC to fully fulfil its role. In addition to access as a pre-requisite, four other key areas of quality — staff, curriculum, governance and evaluation — have been identified as pillars of successful reforms. Qualitative indicators show favourable policy trends, with a number of countries increasing minimum qualification requirements, enhancing curricula and providing more language support. One of the key challenges remains the professionalisation of ECEC workforce for children under the age of 3. For this age group, half of European countries currently do not ensure that at least one staff member per group of children is qualified to a minimum of bachelor level in the field of education. Several Member States do not have a system for compulsory professional development. Parents are key partners in the ECEC sector and their involvement is increasingly encouraged in most countries by targeted policies or programmes.

## 3.2. Innovation in school education

As education systems and schools strive to ensure quality education for all learners, innovation plays a crucial role in creating opportunities for schools to develop and improve. Innovation in school education can happen at many different levels, and need not be confined to classroom teaching. It may be linked to the governance of a school system or the way a school organises itself. In contrast with the notion of innovation for the sake of change, in this chapter innovation in school education is understood as being driven by a clear vision of quality education, and the objective of supporting pupils in the development of their abilities (knowledge, skills and attitudes). Innovation in school education is often introducing processes or practices that have proven effective elsewhere[66].

The New Skills Agenda for Europe underlines the importance of developing skills for employment, personal development, social inclusion and active citizenship. In addition, the EU-funded Erasmus+ programme supports innovation in school education with funding for staff mobility, partnerships and policy experimentation. Current literature indicates that school education is moving from a culture of individualistic knowledge acquisition towards collaborative knowledge creation[67]. One innovative practice is the increased use of digital tools for learning, tackling early leaving from education and training, and promoting inclusive education. More broadly, innovative practices involve putting greater emphasis on evidence-based decision-making to maximise the effectiveness of public investment in education. It is about developing new approaches to school organisation, teaching and learning.

This chapter examines the governance of school education to support the innovative capacity of schools, teachers and school leaders. Key issues include school evaluation, quality assurance systems and mechanisms, teachers' professional development, collaboration and appraisal, and the diversity of the teaching force.

### System governance to support high quality and innovation in schools

The objectives of sustainable school development, including innovation, and inclusive education are priorities for the governance of school systems. In this context, sustainable innovation refers to systemic support for innovative learning environments (both physical and virtual), practices and partnerships to help all pupils acquire key skills through high-quality teaching and learning. Key pillars for capacity building are the management of networks and resources, quality assurance mechanisms, and the development of the teaching professions[68].

An analysis of the main trends in school governance shows that while there is a desire to motivate and support innovation, there are several obstacles. For one, there is a big time lag between the rapid development of new reforms in education systems and the appearance of their effects, estimated to cover between 8 and 14 years[69]. Further, the changing policy context over the last 20-30 years has put increasing emphasis on efficiency, on failing schools, and on holding schools and teachers more accountable for education outcomes than in the past. In many countries there have been moves towards greater school autonomy and stakeholder

[66] The possibilities for such processes and practices to be developed, sustained, and spread is the focus of an upcoming study for the European Commission: *Study on tools and policy pointers for mainstreaming innovative pedagogies and school organisation practices: barriers and solutions*, 2016-2017

[67] EU Parliament report (2015), *Innovative Schools: Teaching & Learning in the Digital Era* (http://www.europarl.europa.eu/committees/en/events-workshops.html?id=20150504CHE00171).

[68] Under the current (2016-18) mandate of the ET2020 Working Group on Schools, the Commission discusses with government and stakeholder representatives from across Europe how policies and approaches to school governance in these four interlinked areas can promote higher quality through sustainable innovation and inclusion. More information: http://ec.europa.eu/dgs/education_culture/repository/education/policy/strategic-framework/expert-groups/2016-2018/et-2020-group-mandates_en.pdf.

[69] OECD (2016), *Governing Education in a Complex World* (http://www.oecd-ilibrary.org/education/governing-education-in-a-complex-world_9789264255364-en).

involvement, for instance through greater participation by parents, which may encourage innovation. However, the increase in accountability that accompanies autonomy, together with high-stakes testing, may restrict innovation, especially where sanctions are imposed at school level[70]. In general, school evaluation systems are moving from a check-list method concerned mainly with compliance with legislation to a more comprehensive approach which takes into account the school as a whole, in its environment and its resources. In some countries (FR, LT, PL, UK-ENG, UK-WLS, UK-NIR) external evaluations are not only meant to find and address weaknesses in the performance of schools, but also to raise the visibility of good practice from schools that are performing[71].

Policymakers and the media pay increasing attention to measures of educational outcomes. Such evidence typically stems from international student assessments, but several countries have also established national monitoring strategies for their education systems that take account of specific national characteristics. While policy experimentation can help to design and implement better reforms, in most EU countries quality assurance systems are not sufficiently integrated with mechanisms to reflect on results and improve education processes both at the system and at the school level (i.e. capacity building, open dialogue, stakeholder involvement)[72].

While there is a broader consensus over the fact that internal school evaluation, comprising monitoring, evaluating and planning development, is needed, implementation policies vary considerably[73]. School development plans and self-evaluation should take a whole-school approach. They should involve all relevant actors in the school and in the local community in order to stimulate pedagogical and organisational innovation where appropriate.

**Examples of recent policy measures in Member States**

**NL**: To provide more room for teachers' own professional space and development, the Netherlands Ministry of Education started a Teacher Development Fund (LerarenOntwikkelFonds) in 2015/2016. The purpose of the fund is to support teachers in developing their own initiatives and ideas to improve education or strengthen the teaching profession. A total of EUR 4.1 million was available in the first year, distributed equally between primary and secondary education. Teachers can apply for a grant between EUR 4 000 and EUR 75 000. Other teachers judge the applications and decide which teachers will be financially supported, and these projects are published on a website.

Back in 2008, international evidence showed that on average in Europe, two thirds of secondary school teachers considered that the environment of the school they worked in failed to support or actively hindered innovation[74]. Thus, from the teachers' perspective, more efforts were needed to help schools embrace innovation. Key lessons recently learned from work with EU Member States are that all learners and their diverse needs should be at the centre of the school's development. Effective school leadership — supported at regional and national level — should promote teamwork and collaborative practices within the school community, and bring the school actors and other stakeholders together[75].

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70 European Commission (2015), *Comparative Study on Quality Assurance in EU School Education Systems – Policies, procedures and practices* (http://bookshop.europa.eu/en/comparative-study-on-quality-assurance-in-eu-school-education-systems-pbNC0415279/).

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

72 European Commission (2015), *Comparative Study on Quality Assurance in EU School Education Systems – Policies, procedures and practices* (*http://bookshop.europa.eu/en/comparative-study-on-quality-assurance-in-eu-school-education-systems-pbNC0415279/*).

73 European Commission/EACEA/Eurydice (2015), *Assuring Quality in Education: Policies and Approaches to School Evaluation in Europe* (pp. 10-11) (http://eacea.ec.europa.eu/education/eurydice/documents/thematic_reports/178en.pdf).

74 OECD (2009), *Creating Effective Teaching and Learning Environments* (http://www.oecd-ilibrary.org/education/creating-effective-teaching-and-learning-environments_9789264068780-en;jsessionid=5gmg4ff07msbe.x-oecd-live-02*).* TALIS data present the views of lower secondary teachers and school leaders, consulted via questionnaires.

75 European Commission (2015), *A whole school approach to Early School Leaving. Report from the ET2020 Working Group on Schools* (https://ec.europa.eu/education/policy/strategic-framework/expert-groups/documents/early-leaving-policy_en.pdf)

## The role of teaching staff in innovation

Teachers and school leaders play a crucial role for innovation at school level. They are expected to be professionals with a capacity to innovate in their daily practice, and at the same time agents of change for school development. This section looks at how continuing professional development (CPD), systematic feedback and teacher collaboration can enable staff to support innovation and school development. Over the past decade, available evidence has shown large increases in a range of innovative pedagogical practices in primary and secondary education. These include relating lessons to real life, emphasising the development of 'higher order skills', interpreting data and text, and personalising teaching. However, no significant decrease has been observed in traditional practice that puts the teacher at the centre of instruction, such as lecture-style presentations. Schools are taking steps to implement organisational innovation, particularly in teacher collaboration, peer observations and teacher evaluation. Nonetheless, the level and nature of innovative practices was not uniform across countries[76].

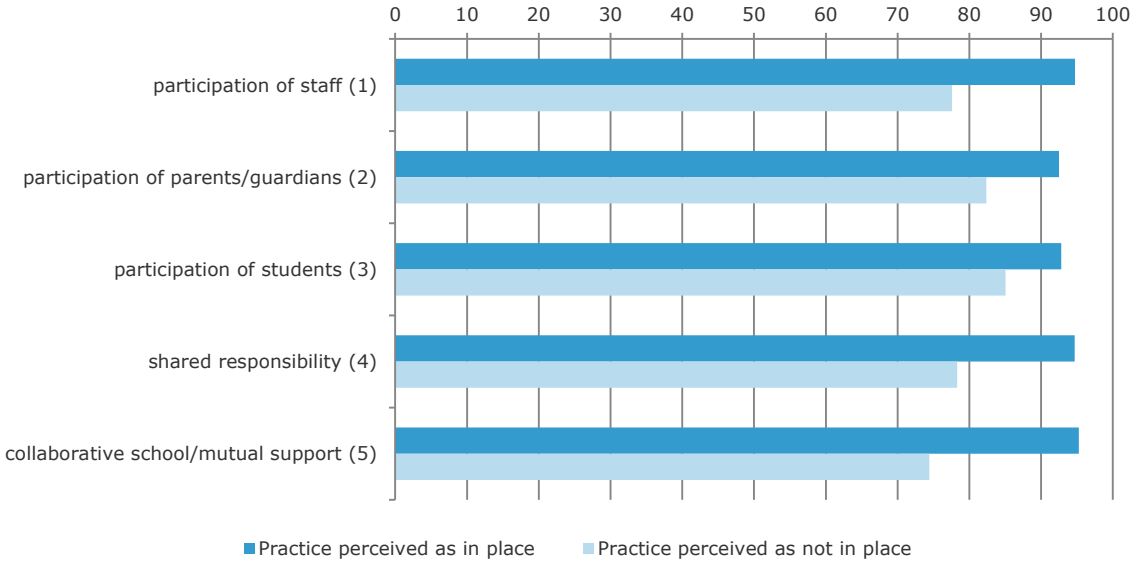
A high level of teacher and school autonomy can support the capacity of educational staff to innovate. Likewise, a higher degree of involvement in decision-making and school development can enable teachers to support innovation at school.

Teachers who report that their school provides staff with opportunities to actively participate in school decisions, has a culture of shared responsibility for school issues and is a collaborative environment characterised by mutual support were significantly more satisfied with their profession and their school than those who did not (Figure 3.2.1 shows the association with school satisfaction). For instance, among the teachers who said that they could actively participate in decisions, 93.6 % said they were satisfied with their profession, as opposed to 81.1 % of those who did not find these conditions at their school[77]. Also, teachers who reported a collaborative school culture characterised by mutual support were much more likely to be satisfied with their school (95.2 %) than those who did not (74.4 %). The same associations between perception of participation (and collaboration) and teachers' satisfaction with the school apply.

[76] OECD (2014), *Measuring Innovation in Education: A New Perspective, Educational Research and Innovation* (http://www.oecd.org/education/measuring-innovation-in-education.htm). The report is based on data from international surveys PISA, TIMSS and PIRLS and covers 44 countries.

[77] Associations with job satisfaction and school satisfaction both presented in European Commission/EACEA/Eurydice (2015), *The teaching profession in Europe. Practices, perceptions, and policies* (http://eacea.ec.europa.eu/education/eurydice/documents/thematic_reports/184EN.pdf).

**Figure 3.2.1: Share of satisfied teachers with their school by perception of different participation practices, EU level, 2013**




*Source*: European Commission/EACEA/Eurydice, 2015. *The Teaching Profession in Europe: Practices, Perceptions, and Policies*. Data based on *OECD (TALIS, 2013)*, DG EAC graphic elaboration. Note: The graph shows the teachers' satisfaction for their school when they perceive that the practices below are in place; and the proportion of teachers satisfied with their school when they perceive that the practices below are not in place. (1) perceived active participation of staff in school decision, (2) perceived active participation of parents or guardians in school decision, (3) perceived active participation of students in school decision, (4) perceived culture of shared responsibility for school issues and (5) perceived presence of collaborative school culture based on mutual support.

In contrast with these findings, international surveys point to relatively low levels of collaborative practice at school. Data for primary schools in 17 Member States show that less than 40 % of pupils have teachers who practice peer observations on a monthly basis. In 6 EU countries (MT, AT, IT, DE, IE and CZ), this is the case for less than 20 % of pupils. Collaboration in planning and preparing instructional materials is also relatively rare, and particularly low in 7 EU countries (CZ, IE, MT, HU, AT, PT, FI). In those countries, less than 40 % of students are in classrooms where teachers collaborate with colleagues for this purpose on a weekly basis[78].

Promoting and enabling collaborative practice among teachers may require fundamental changes in mindsets and working cultures. In this context, initial teacher education (ITE) is critical to laying the foundations for teachers' capacity and willingness to work in collaboration with others. Within a school context, a set of successful policy measure could focus on developing the capacity of leadership to support collaboration, and on adequate and cost-effective investment to support collaborative practices[79].

While ITE is the first, crucial phase of teachers' professional journeys, it cannot produce ready-made professionals. It also needs to prepare teachers to update their practice through CPD throughout their careers. The number of serving teachers who do not engage in professional

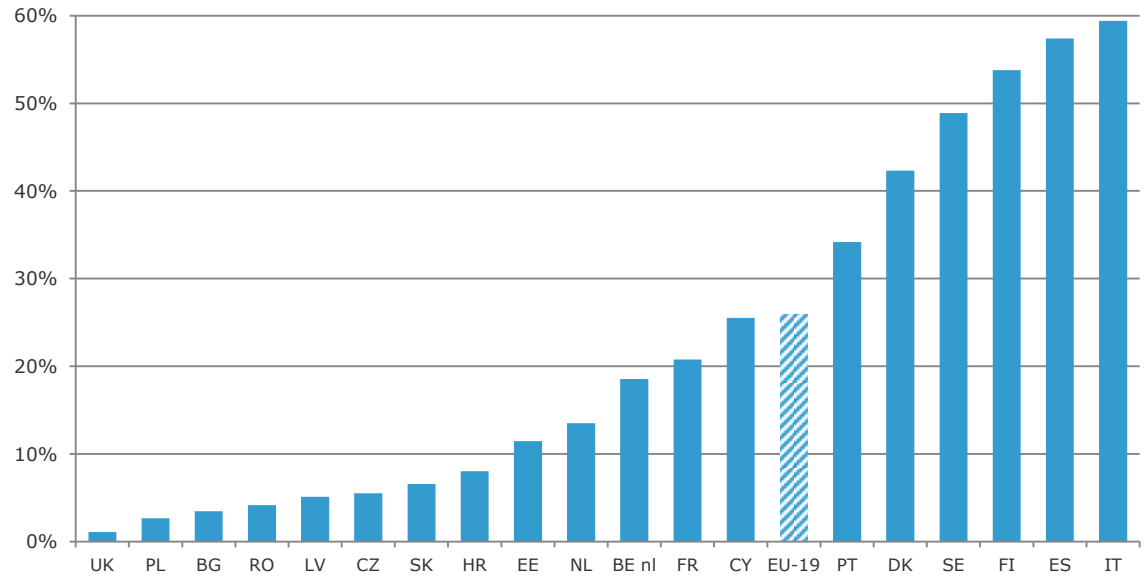
[78] European Commission/CRELL (2015), *Teaching practices in primary and secondary schools in Europe: insights from large-scale assessments in education* (https://crell.jrc.ec.europa.eu/sites/default/files/files/JRC95601.pdf). These findings are supported by a recent study of secondary school teachers in Germany. While teachers often exchange teaching materials and information, more complex forms of collaboration were rarely seen. For instance, fewer than 1 in 10 teachers said that they sit in on lessons given by colleagues. See: Dirk Richter, Hans Anand Pant (2016), *Lehrerkooperation in Deutschland* (https://www.bertelsmann-stiftung.de/fileadmin/files/BSt/Publikationen/GrauePublikationen/Studie_IB_Lehrerkooperation_in_Deutschland_2016_final.pdf).

[79] The ET2020 Working Group on Schools Policy suggested a number of targeted policy actions to help the transformation of teacher's education and professional development. See: European Commission (2015), *Shaping career-long perspectives on teaching. A guide on policies to improve Initial Teacher Education* (http://ec.europa.eu/education/library/reports/initial-teacher-education_en.pdf).

development is still high: on average 15 % of teachers in the EU countries covered in the TALIS survey said that they had not taken part in any form of professional development over the previous 12 months. In 2013, more than one in five teachers in FR, IT, SK and FI did not engage in professional development[80]. CPD can also be an ideal basis for enhancing collaborative practices at a wider level than the school. Professional development delivered through 'networks of teachers formed specifically for professional development of teachers' or 'observation visits to other schools' could further connect teachers working in different schools and boost user-initiated peer-learning. At EU level 14 % of teachers say they have participated in an observation visit to other schools, and less than 1 out of 3 teachers participate in a network of teachers. In some countries the uptake of diversified forms of CPD is more than 15 percentage points higher than overall in Europe. This applies to EE, LV, and RO for observation visits to other schools; and to EE, HR, and RO (for networks of teachers)[81].

Apart from attending formal development courses and activities, teachers can improve and innovate in their practice by receiving meaningful and formative feedback. However, more than 1 in 4 lower secondary teachers in the EU, and more than 1 in 2 in ES, IT and FI, have never received feedback in their school. According to most teachers in Europe, feedback mechanisms have little impact on career advancement or financial recognition; respectively 67 % and 78 % of teachers subscribed to the two statements above. In several countries, annual pay rises are awarded regardless of performance and a large proportion of teachers work in schools where formal appraisals have no impact on career advancement. Around half of teachers also report feeling that most appraisals are carried out merely as administrative exercises, and many feel that they are not strongly related to how they actually teach in the classroom.

**Figure 3.2.2: Teachers reporting never having received feedback following classroom observations, 2013**




*Source*: DG EAC elaboration on data from *OECD (TALIS, 2013)*. Note: UK is represented by England.

[80] Data on participation in continuing professional development, appraisal and feedback from OECD (TALIS, 2013) in European Commission, *The TALIS 2013 survey: Main findings and implications education and training policies in Europe* (http://ec.europa.eu/dgs/education_culture/repository/education/library/reports/2014/talis_en.pdf). TALIS 2013 covered teachers in lower secondary education in 19 EU countries/regions: BE nl, BG, HR, CZ, CY, DK, EE, FI, FR, IT, LV, NL, PL, PT,RO, SK, ES, SE, UK-ENG

[81] European Commission/EACEA/Eurydice (2015), *The Teaching Profession in Europe: Practices, Perceptions, and Policies* (*https://webgate.ec.europa.eu/fpfis/mwikis/eurydice/index.php/Publications_2015*).

[82] See: European Commission (2015), *Shaping career-long perspectives on teaching. A guide on policies to improve Initial Teacher Education* (http://ec.europa.eu/education/library/reports/initial-teacher-education_en.pdf).

Policy exchange and dialogue among Member States on CPD resulted in the conclusion that, in order to deliver the best results, teachers' professional development should be based on a career-long perspective; and it should be designed and delivered as a continuum spanning ITE, induction to the profession and career-long CPD[82]. While each of these phases is unique in terms of learning needs, the notion of a continuum of learning implies a coherent and integrated approach, with each phase informed by the one before and influencing the one following. This could be further supported by effective feedback mechanisms for teachers containing real incentives for professional development.

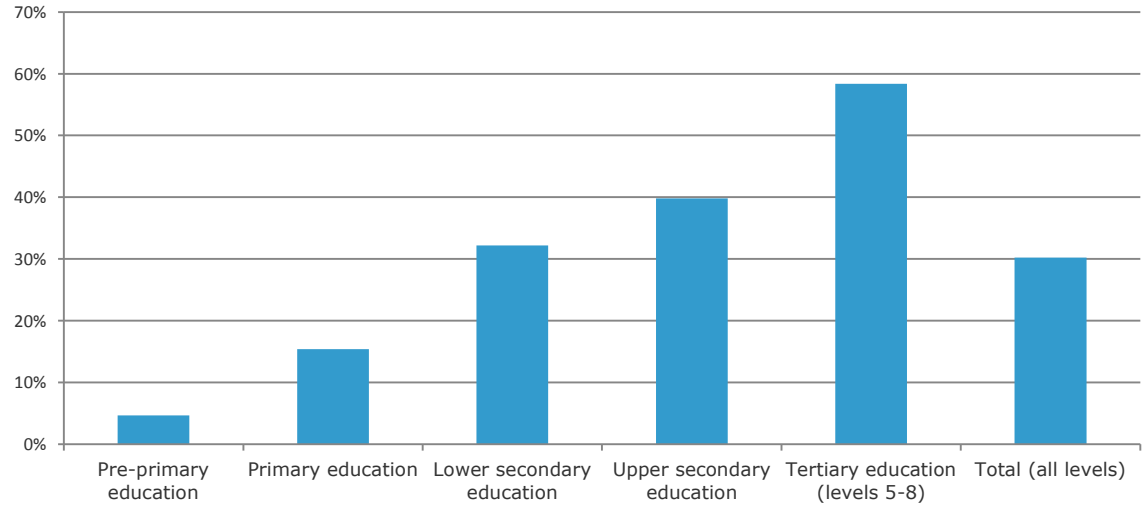
## A diverse teaching force

Education policies are increasingly concerned with ways of attracting suitable candidates to the teaching profession. In many countries staff shortages are forecasted, due to imminent large-scale retirement or are already a reality impacting on the quality of instruction. In this context, policymakers are increasingly focusing on the composition of the teaching workforce and the need for it to better reflect the diversity of society and learners.

Despite this specific demographic challenge, countries cannot afford to reduce the pool of candidate teachers. Finding ways of increasing the share of underrepresented groups, including men as well as teachers with a migrant or minority background, is also a matter of equity. In addition, a diverse teaching force offers pupils a wider range of role models.

The underrepresentation of men in teaching can be observed at all educational levels, except for tertiary education (Figure 3.2.3). At EU level, 85 % of primary school teachers are women, while the rate is 60 % at upper secondary level. In some countries, at primary level, more than 95 % of teachers are women (IT, LT, HU and SI). School leaders are also predominantly women at primary level (on average 70 % for countries with available data), while at upper secondary level the distribution is more equal.

**Figure 3.2.3: Male teachers at different education levels, 2014**




*Source*: DG EAC elaboration on Eurostat data (UOE). Online data code: *educ_uoe_perp01*.

In addition, in many countries there is a contrast between a school population with increasing cultural, ethnic and linguistic diversity and a teaching force that remains largely

[82] See: European Commission (2015), *Shaping career-long perspectives on teaching. A guide on policies to improve Initial Teacher Education* (http://ec.europa.eu/education/library/reports/initial-teacher-education_en.pdf).

homogeneous[83]. Teacher candidates with migrant or minority backgrounds meet barriers at each stage of the teaching pathway, from accessing and completing ITE to entering and remaining within the teaching profession. At the same time, policy measures to tackle these barriers and raise diversity within the teaching profession are not equally spread across the Member States; they are typically clustered in countries where the learner population is more diverse, such as AT, DE and UK.

**Key findings and policy relevance**

There is a wide range of approaches to school governance that can help countries achieve sustainable innovation and inclusion, ranging from school evaluation, the organisation of teaching and learning and staff collaboration. In recent years, the policy dialogue on schools has proposed a learner-focussed whole-school approach that connects the school to the local community and focusses on the use of school development plans and internal evaluation.

Teachers and school leaders play a crucial role in innovation at school. As suggested by results of international surveys, creating collaborative work environments, supporting professional development and providing effective feedback are among the measures that can help them play this role and act as agents of change for innovation and school development.

In the light of current and prospective staff shortages, and to counter waning interest in the teaching profession, European societies are seeking ways of broadening the pool of candidates. Besides the well-known gender imbalances in many European countries there is also a contrast between a school population with increasing cultural, ethnic and linguistic diversity and how the teaching force reflects such diversity. A more diverse pool of teachers may also offer pupils a wider range of role models.

## 3.3. Vocational education and training

Vocational education and training (VET) is valued for fostering job-specific and transversal skills, facilitating the transition to employment and maintaining and updating the skills of the workforce. Over 13 million learners enrol in a vocational pathway every year. Yet, labour market forecasts indicate an upcoming shortage of VET graduates in several Member States[84].

Recent graduates with VET qualifications at upper secondary and post-secondary non-tertiary level generally have a smoother transition from education to the labour market and higher employment rates than graduates from general education pathways with comparable attainment levels. Despite this, for many young people and their parents, VET is still not as attractive as general education pathways.

In fact, the attractiveness and labour market relevance of VET programmes could still be improved. Few programmes in the Member States fully exploit the potential of work-based learning, and opportunities to progress from VET to higher education. Quality-wise, Member States agreed in 2015 to further strengthen key competences in VET curricula and provide more effective opportunities to acquire or develop those skills thought initial and

More than 3 million learners in the EU complete VET programmes every year, yet a shortage of VET graduates still looms in the labour market

[83] Data on diversity within the teaching profession from the following report: European Commission (2016), *Study on the Diversity Within the Teaching Profession with Particular Focus on Migrant and / or Minority Background* (http://ec.europa.eu/education/library/study/2016/teacher-diversity_en.pdf).

[84] European Parliament (2015), *Labour market shortages in the European Union* (http://www.europarl.europa.eu/thinktank/en/home.html).

continuing VET (I-VET)[85]. Under the 2016 European Semester a country-specific recommendation addressed to BE, FR, LV and UK encouraged these countries to move forward with planned education and vocational training reforms.

## The choice of vocational education for young and mature students

Over the last 10 years average enrolment in VET has been stable overall in the EU. In 2014, approximately 10.5 million students enrolled in upper secondary, 1.4 million students in post-secondary non-tertiary and 1.4 million students in short-cycle tertiary education. In absolute terms, the largest reported VET student population was in UK, with 2 million students, closely followed by DE with 1.9 million students. At EU level, the share of VET students in the total upper secondary student population is 48 % and the share of all students in a vocational programme at upper secondary, post-secondary non-tertiary, and short-cycle tertiary education (ISCED 3-5) amounts to 54 %.

With the implementation of the ISCED 2011 classification, new observations can be made on the enrolment of students in short-cycle tertiary programmes. These data indicate that 83 % of all the EU students at this level were in just 3 Member States: FR (0.5 million), ES (0.37 million) and UK (0.29 million). At the same time, 74 % of students enrolled in post-secondary non-tertiary VET programmes were also concentrated in 3 Member States: DE (0.7 million), PL (0.27 million) and RO (0.1 million).

**Table 3.3.1: Students in VET and proportion within total student population, 2014**

| | Upper secondary (ISCED 3) | | Post-secondary (ISCED 4) | | Short-cycle tertiary (ISCED 5) | | ISCED 3, 4, 5 | |
|---|---|---|---|---|---|---|---|---|
| | VET students '000 | Share (%) | VET students '000 | Share (%) | VET students '000 | Share | VET Students '000 | Share (%) |
| **EU** | **10 553** | **48** | **1 448** | **91** | **1 387** | **100** | **13 388** | **54** |
| Belgium | 463 | 60 | 65 | 93 | 25 | 100 | 553 | 63 |
| Bulgaria | 154 | 54 | 2 | 100 | : | : | 156 | 54 |
| Czech Republic | 304 | 73 | 10 | 16 | 1 | 100 | 315 | 66 |
| Denmark | 131 | 42 | : | : | 33 | 100 | 165 | 48 |
| Germany | 1 233 | 48 | 697 | 91 | * | 100 | 1 930 | 58 |
| Estonia | 14 | 35 | 11 | 100 | : | : | 25 | 49 |
| Ireland | : | : | 57 | 100 | [d] | : | 57 | 26 |
| Greece | 111 | 31 | 16 | 100 | : | : | 127 | 34 |
| Spain | 572 | 34 | 0[d] | : | 366 | 100 | 938 | 46 |
| France | 1 109 | 43 | 17 | 51 | 504 | 100 | 1 629 | 52 |
| Croatia | 132 | 71 | : | : | * | 100 | 132 | 71 |
| Italy | 1 573 | 56 | 7 | 100 | 5 | 100 | 1 586 | 56 |
| Cyprus | 5 | 15 | * | 100 | 3 | 100 | 8 | 23 |
| Latvia | 26 | 40 | 4 | 100 | 17 | 100 | 47 | 54 |
| Lithuania | 23 | 27 | 18 | 100 | : | : | 41 | 39 |
| Luxembourg | 15 | 60 | 1 | 100 | 1 | 100 | 16 | 62 |
| Hungary | 118 | 25 | 75 | 100 | 20 | 100 | 214 | 38 |
| Malta | 2 | 13 | 3 | 96 | 1 | 56 | 6 | 27 |
| Netherlands | 478 | 66 | 1 | 100 | 6 | 100 | 485 | 67 |
| Austria | 254 | 70 | 20 | 100 | 78 | 100 | 351 | 76 |
| Poland | 734 | 49 | 273 | 100 | 6 | 100 | 1 013 | 57 |
| Portugal | 177 | 46 | 12 | 100 | : | : | 189 | 48 |
| Romania | 460 | 57 | 103 | 100 | : | : | 562 | 62 |
| Slovenia | 60 | 67 | : | : | 13 | 100 | 74 | 71 |
| Slovakia | 143 | 69 | 17 | 100 | 3 | 100 | 163 | 72 |
| Finland | 252 | 70 | 23 | 100 | * | 100 | 275 | 72 |
| Sweden | 220 | 44 | 17 | 72 | 20 | 77 | 256 | 47 |
| United Kingdom | 1 790 | 43 | : | : | 285 | 100 | 2 076 | 46 |

[85] *Riga conclusions* (2015) *on a new set of medium-term deliverables in the field of VET for the period 2015-2020*, as a result of the review of short-term deliverables defined in the *Bruges communiqué* (2010), http://ec.europa.eu/dgs/education_culture/repository/education/policy/vocational-policy/doc/2015-riga-conclusions_en.pdf.

*Source:* Eurostat (UOE, 2014). Online data codes: *educ_uoe_enrs05*, *educ_uoe_enrs08* and *educ_uoe_enrt02*. Note: The table shows the number of VET students and the proportion they represent within the entire enrolled population at the same education level. Data for enrolment in ISCED 3 not applicable for IE; in ISCED 4 not applicable for DK, HR, SI and UK and differs in definition in ES; in ISCED 5 not applicable for BG, EE, EL, LT, PT and RO and differs in definition in IE. '*' relates to values below '000.

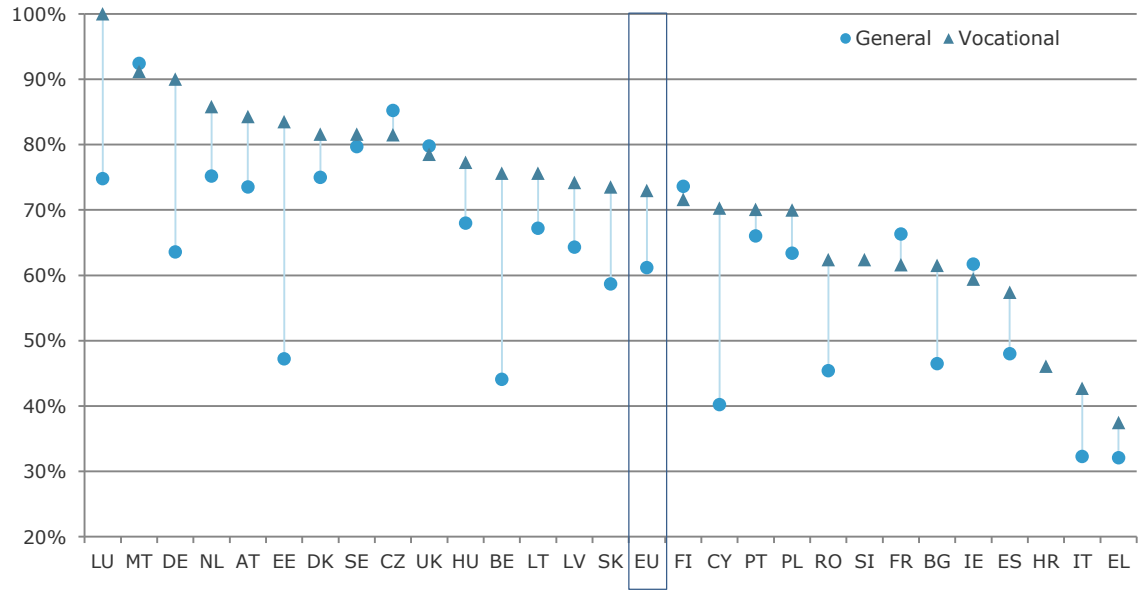
Furthermore, in contrast to general orientation programmes, VET programmes seem to also attract mature students. In the EU, 36.6 % of all VET students were 20 or older, thus beyond the typical age for secondary education[86]. This group accounts for well over half of all VET students in DK (73.9 %), IE (67.9 %), ES (65.2 %) and FI (65.3 %).

## Relevance of vocational education to the labour market

The relevance of education to the labour market, the employment rates of young people and the transition from education to work have been the focus of economic and sectorial policies during the last few years. In particular, back in 2012 EU Member States adopted an ET2020 benchmark on the employability of young graduates (see also section 1.2). The aim is to get back by 2020 to an employment rate of 82 % among recent graduates — a level the EU had last reached in 2008.

For those who complete their initial education at upper secondary or post-secondary non tertiary levels, VET shows systematically better transition into the labour market than those who hold an upper secondary or post-secondary non-tertiary qualification from the general pathway and do not continue into higher education.

**Figure 3.3.1: Employment rate of recent upper secondary and post-secondary non-tertiary graduates, 2015**




*Source*: Eurostat (EU-LFS, 2015). Online data code: *edat_lfse_24*.. Note: The indicator measures the employment rates of persons aged 20 to 34 having completed education 1-3 years before the survey with a diploma from upper secondary education (ISCED 3) or post-secondary non tertiary education (ISCED 4), and who are currently not enrolled in any further formal or non-formal education or training, out of the people in the same age group. Data unreliable – for general education graduates in CZ, EE, HR, AT and SI; and for VET graduates in LU. Categorisation based on ISCED rather than duration of each programme in years.

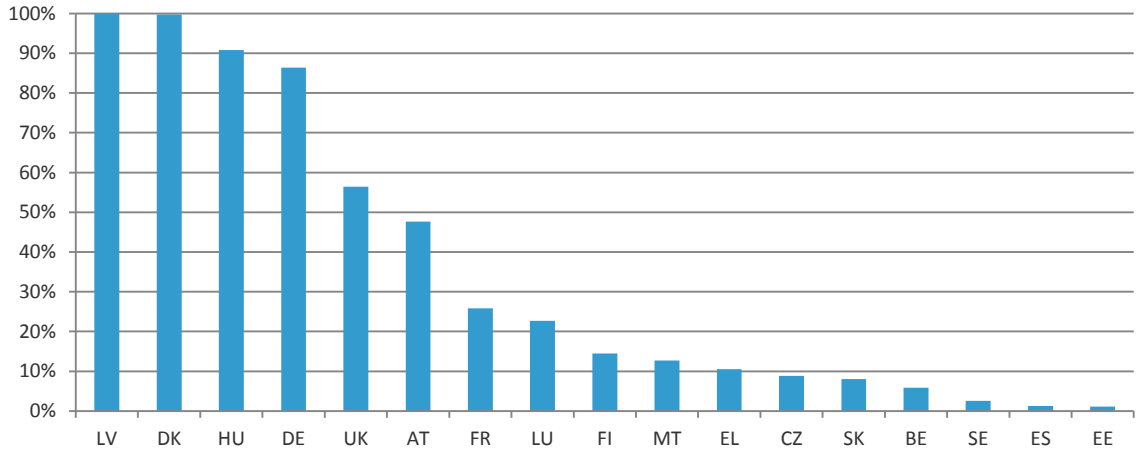
Recent VET graduates had an overall employment rate of 73 % in 2015 in the EU; they thus displayed better employment outcomes than recent upper-secondary education graduates from general orientation programmes, at 61.2 %. Given that employment rates are strongly

[86] Eurostat (UOE, 2014) data compiled including students at upper secondary (ISCED 3), post-secondary non-tertiary (ISCED 4) and short-cycle tertiary (ISCED 5) levels.

influenced by labour market conditions, it seems meaningful to compare the performance within countries. The largest employment premium of VET qualifications over equivalent programmes with a general orientation can be observed in BE, DE, EE and CY. Only in a few countries do VET graduates perform similarly or slightly worse than graduates from general upper-secondary programmes on employment rates (CZ, IE, FR, MT, FI and UK).

The combination of practical experience and theoretical learning is now well recognised as an effective approach to provide relevant skills, facilitate the application of theoretical knowledge and smooth students' transition of students into the labour market. Yet, as Figure 3.3.2 shows, available data indicate that only a few EU countries provide this opportunity to the majority of their VET students (LV, DK, HU, DE and to a lesser extent UK and AT). BG, IE, HR, CY, LT, PT and SI did not report having any combined work- and school-based programmes.

**Figure 3.3.2: Share of students in combined work and school-based upper secondary programmes out of total upper secondary VET students, 2014**

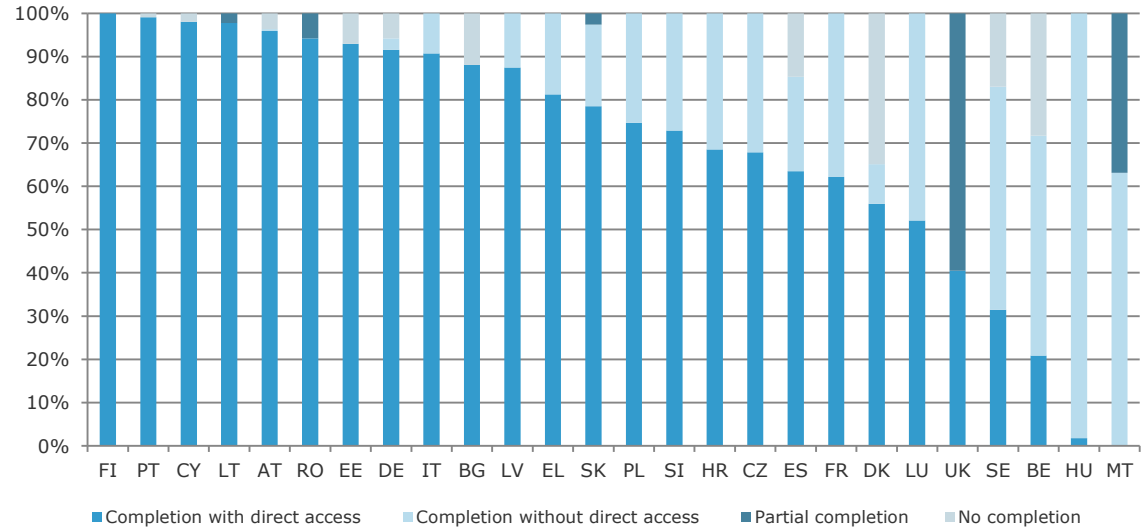



*Source*: Eurostat (UOE, 2014). Online data code *educ_uoe_enrs04*. Note: Combined school and work-based programmes are programmes in which less than 75 % of the curriculum is presented in the school environment or through distance education. Data for IT, NL and PL are missing. Working question non applicable for BG, IE, HR, CY, LT, PT, SI; definition differs in RO.

## Quality of vocational education programmes

Good-quality VET programmes should provide opportunities for graduates to further pursue their studies, if they so wish, in higher education. Direct access from an upper secondary VET programme to higher levels of education often depends on the duration of the programmes. Longer programmes giving direct access to higher education can be an attractive choice for students. However, countries also sometimes choose to provide shorter programmes to address specific challenges, for example as a preventive measure to combat ESL or to re-integrate adults back into the labour market. This is often done at the expense of permeability. In such cases a possible avenue is to complement short programmes with bridging or additional courses for students who, after completing short-term programmes, would be inclined to enrol in higher education programmes. In most EU countries the proportion of VET students enrolled in programmes giving direct access to tertiary education is 50 % or above. However, it is very low in BE, MT and HU.

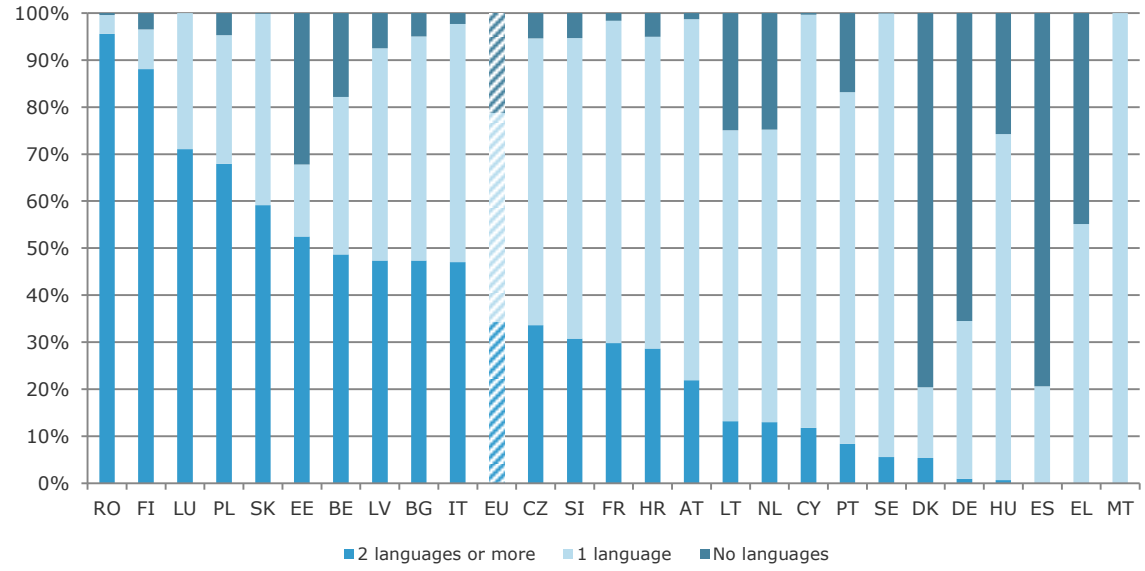
**Figure 3.3.3: Share of VET students in upper secondary VET by the permeability of their programme, 2014**




*Source*: Eurostat (UOE, 2014). Online data code: *educ_uoe_enra16*. Note: Data for IE and NL are not available. The definitions of the dimensions: *completion with direct access* - any programmes that give direct access to first tertiary programmes at ISCED level 5, 6 or 7; *completion without direct access* - programmes with duration of at least 2 years at ISCED level 3 and that are either terminal or give direct access to ISCED level 4 only; *partial completion* - programmes representing at least 2 years at ISCED level 3 and which are part of a sequence of programmes at ISCED level 3 but are not the last programme in the sequence; *no completion* - short, terminal programmes (or sequence of programmes) with a duration of less than 2 years at ISCED level 3.

In increasingly globalised economies and labour markets, the ability to communicate in foreign languages is an important factor associated with better social and employment outcomes. While learning of at least one foreign language in general upper-secondary education is now almost universal (i.e. covering at least three out of four students except in CZ, DE and UK), it is far less systematic in upper-secondary VET. In 2014, about 1 in 5 VET students did not have foreign language learning in their education curriculum.

**Figure 3.3.4: Share of VET students learning foreign languages, 2014**




*Source*: Eurostat (UOE, 2014). Online data code: *educ_uoe_lang02*. Note: The indicator covers students enrolled in upper-secondary (ISCED 3) programmes with a vocational orientation Data not available or not applicable for IE and UK. Definitions differ when calculating the total EU distribution.

Learning mobility is another important factor enabling young people to learn new skills and abilities to get to know foreign cultures and prepare for an ever more mobile and international labour market. Recognising this, in 2011 EU Member States set a benchmark for learning mobility in initial VET (I-VET): by 2020 at least 6 % of VET graduates should have had IVET-related study or training period abroad (including work placements) lasting a minimum of two weeks, or less if documented by Europass. Previously a comprehensive assessment of the level of mobility in I-VET had been hampered by limited data availability. However, following the adoption of the benchmark, Eurostat has undertaken a systemic pilot survey to assess I-VET learning mobility which it completed at the end of 2015. The results show that in the 17 Member States participating in the survey, around 3.1 % of I-VET students have taken part in learning mobility. This signals that further efforts are needed to reach the benchmark objective.

To support countries' work in facilitating I-VET learning mobility, the European Commission tasked the European Centre for the Development of Vocational Training (Cedefop) with developing an I-VET mobility scoreboard[87]. This is to assess the state of policies and support structures adopted by the Member States following the Council recommendation on learning mobility. Cedefop is finalising a feasibility study on developing the scoreboard and the first version of the scoreboard should be published by the end of 2016.

**Key findings and policy relevance**

With large numbers of enrolments and good employment outcomes, VET is an important educational option. However, European Ministers for Vocational Education and Training, the European Social Partners and the European Commission affirmed back in 2010 (Bruges Communiqué) and reaffirmed in 2015 (Riga Conclusion) the need to improve the capacity of VET to respond to the changing requirements of the labour market.

An increase in the quality of VET can be achieved by taking work-based learning components into account across all VET programmes, improving permeability between VET and higher education, and better preparing young people for the ever more internationalised labour markets, including through foreign language learning. Only if taken together and implemented systematically can these efforts help reducing youth unemployment.

## 3.4. Higher Education: adapting to the modern world

The Europe 2020 headline target on tertiary educational attainment has been successful in drawing attention to the beneficial impact of participating in and obtaining a qualification from higher education[88]. Moreover, as both the 2015 Paris Declaration and the Joint Report[89] emphasise, higher education can critically contribute not only to employability, but also to fostering inclusion and equality, thus promoting integration in society at large and social mobility.

**Policy examples from EU Member States**

**UK ENG:** In May 2016 the Government published a higher education White Paper, 'Success as a Knowledge Economy', in which it details its plans to introduce a new Higher Education and Research Bill. Main features will include: introduction of the 'teaching excellence framework' that will see teaching quality given a numerical value and possibly linked with funding; creation of new bodies such as an Office for Students with a greater regulatory and student focus, and UK Research and Innovation (UKRI) that will oversee research block grant funding; and other sweeping reforms of higher education governance.

87 For more information on the I-VET mobility scoreboard (http://www.cedefop.europa.eu/en/events-and-projects/projects/mobility-scoreboard).

88 Unless specified, this text uses the terms 'higher education' and 'tertiary education' to refer to ISCED levels 5-8.

89 The Paris Declaration and is objectives have been treated in chapter 1.1 of this report. The full text can be found at: Informal meeting of European Union education ministers, 17.03.2015: *Declaration on Promoting citizenship and the common values of freedom, tolerance and non-discrimination through education*. In addition: *Joint Report of the Council and the Commission on the implementation of the strategic framework for European cooperation in education and training* (ET 2020) — New priorities for European cooperation in education and training, 2015/C 417/04, (http://ec.europa.eu/dgs/education_culture/repository/education/documents/et-2020-draft-joint-report-408-2015_en.pdf).

To date, few European countries have adopted specific initiatives targeted at higher education to help achieve the objectives of the Paris declaration. Those countries that have done so, including BE, BG, FR, NL, SE, UK-ENG and UK-WLS, have generally made it part of a more comprehensive approach to education.

Section 2.2 looked in more depth at the issue of social integration, in particular by examining the challenge of widening participation in higher education in Europe. This section analyses some of the key trends and challenges facing the higher education sector in Europe, including its relevance to the labour market and internationalisation.

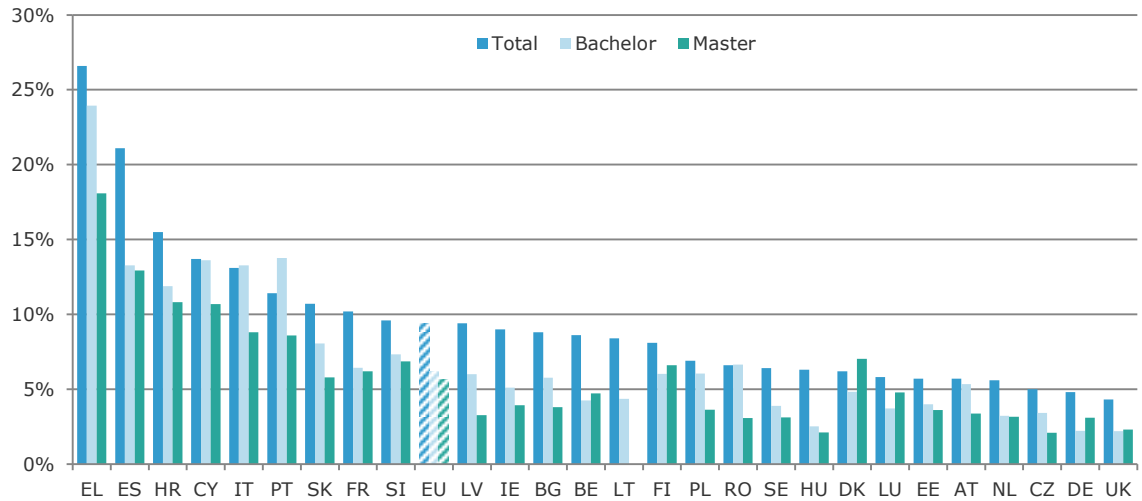
## The relevance of higher education to the labour market

Since the turn of the millennium, European countries have been engaged in the Bologna Process, which has made European higher education systems more comparable by restructuring programmes into four levels: short-cycle tertiary education; bachelor level (or equivalent); master's level (or equivalent); and doctoral level (or equivalent)[90]. The changing structures have helped higher education expand, by creating new types of study programme in many countries. We can now examine with more precision how graduates from different types of programme fare as they enter and progress in the labour market.

As section 1.2 described, on average people with a higher level of qualification enjoy an 'employment premium' compared to their peers with lower qualification levels. In this section, the analysis focuses on the employment and unemployment rates of tertiary education graduates aged 25-44, i.e. an age group that has generally graduated after the introduction of new Bologna structures in many EU countries.

Importantly, unemployment rates for graduates with a tertiary degree are lower — in most cases significantly so — than those for the population as a whole (Figure 3.4.1). The only exceptions are PT and IT for the bachelor level. Unemployment is contingent on the overall macroeconomic profile of a country; for example, high general unemployment levels in southern European countries also translate into relatively high unemployment rates even for people with bachelor's and master's degrees.

**Figure 3.4.1: Unemployment rates at total, bachelor , and master educational levels, 25-44 year-olds, 2015**




*Source:* Eurostat (*EU-LFS special extraction*, 2015). Note: Total=all education levels, bachelor=ISCED 6, master=ISCED 7. Data for MT ISCED 6 and 7 and for LT ISCED 7 is not available and unreliable (small samples size). ISCED 6 data is unreliable for BG, EE, HR, LU, AT and SI and ISCED 7 data is unreliable for EE and LV.

[90] For further information please see: http://www.ehea.info/.

In some countries earning a Master's degree is associated to a lower risk of unemployment. This is particularly true in EL, PT, IT, PL and RO. However, in BE, DK, DE, LU, FI and UK, this advantage is not apparent; master's graduates fare worse than bachelor's graduates on unemployment. While these data confirm to some extent that investing in a longer and higher level of education pays off, it also shows short-term market distortions that might undermine this principle.

Correspondingly, employment rates generally rise with educational level, including within tertiary education. For example, those holding a doctoral degree have employment rates above 90 % in most European countries. Furthermore, employment rates for graduates with a short-cycle professional qualification are higher than those for people holding bachelor's degrees in systems where high-level vocational training has a strong tradition. This is the case, for example, in CZ, DE, AT and SI.

The proportion of women attaining higher education is currently significantly higher than that of men. However, despite men's lower educational qualifications, their employment rates are higher than for women. This is particularly true in CZ, HU, SI, SK and LV, and to a lesser extent in EE, IE, ES, CY, LU and UK. As such, improving female employment rates may often be an opportunity to increase overall productivity, as more highly skilled people are brought into the labour market.

**Table 3.4.1: Employment rates by detailed tertiary educational attainment level, 25-44 years-old, 2015 (%)**

| | Women | | | | | Men | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Total Tertiary | ISCED 5 | ISCED 6 | ISCED 7 | ISCED 8 | Total Tertiary | ISCED 5 | ISCED 6 | ISCED 7 | ISCED 8 |
| **EU** | **82.4** | **80.1** | **82.0** | **83.4** | **88.5** | **90.3** | **89.3** | **89.1** | **91.4** | **95.3** |
| Belgium | 88.0 | 87.8 | 88.5 | 87.3 | 88.0 | 90.8 | 85.4u | 90.6 | 90.9 | 94.2 |
| Bulgaria | 85.0 | N/A | 80.1 | 87.9 | :u | 90.9 | N/A | 87.6 | 92.5 | :u |
| Czech Republic | 73.1 | 55.6u | 71.4 | 74.0 | 82.3 | 94.6 | 100.0u | 87.4 | 96.9 | 99.4 |
| Denmark | 85.0 | 86.2 | 84.8 | 84.8 | 90.9 | 90.2 | 92.1 | 87.2 | 92.2 | 97.1 |
| Germany | 85.0 | 89.9 | 85.0 | 84.4 | 90.2 | 93.8 | 95.7 | 93.9 | 93.3 | 96.5 |
| Estonia | 80.4 | 79.1 | 82.0 | 79.2 | 75.5u | 94.9 | 93.4 | 95.0 | 94.9 | 100.0u |
| Ireland | 81.0 | 76.0 | 82.2 | 84.7 | 86.2 | 89.0 | 88.7 | 88.2 | 90.8 | 96.0 |
| Greece | 68.4 | N/A | 67.6 | 74.5 | 87.8 | 76.1 | N/A | 74.9 | 82.4 | 94.2 |
| Spain | 76.2 | 70.7 | 78.9 | 77.7 | 89.0 | 84.4 | 83.0 | 84.0 | 85.5 | 92.6 |
| France | 84.8 | 85.1 | 84.4 | 85.1 | 79.9 | 89.7 | 90.5 | 86.0 | 91.1 | 94.8 |
| Croatia | 83.1 | 81.6 | 74.3 | 85.4 | 100.0u | 84.6 | 87.7 | 76.1 | 86.4 | 87.8u |
| Italy | 70.8 | :u | 63.0 | 73.4 | 84.8 | 80.1 | :c | 66.2 | 84.7 | 89.4 |
| Cyprus | 79.8 | 78.1 | 79.7 | 80.6 | 94.3u | 87.0 | 89.5 | 83.6 | 89.2 | 98.0u |
| Latvia | 83.4 | 77.5 | 82.1 | 87.5 | :u | 94.6 | 94.3 | 93.4 | 96.7 | 100.0u |
| Lithuania | 90.3 | N/A | 88.6 | 93.6 | :u | 94.5 | N/A | 93.4 | 96.9 | :u |
| Luxembourg | 85.7 | 85.5 | 85.7 | 86.0 | 84.0u | 93.1 | 95.6 | 91.8 | 93.4 | 92.0 |
| Hungary | 78.3 | 72.5 | 78.0 | 79.5 | 83.4 | 95.7 | 94.0 | 95.6 | 95.9 | 100.0 |
| Malta | 92.1 | 93.1 | 92.6 | 91.1 | :u | 96.6 | 97.3 | 96.2 | 97.4 | :u |
| Netherlands | 88.8 | 89.6 | 87.8 | 90.1 | 95.4 | 93.4 | 91.1 | 92.6 | 94.9 | 97.7 |
| Austria | 85.5 | 87.2 | 75.9 | 87.0 | 88.3 | 90.4 | 90.7 | 78.3 | 93.8 | 89.2 |
| Poland | 86.4 | :u | 77.5 | 88.4 | 92.3 | 93.9 | :u | 91.3 | 94.8 | 100.0 |
| Portugal | 84.4 | N/A | 77.8 | 86.2 | 84.5 | 85.9 | N/A | 75.3 | 89.9 | 93.5 |
| Romania | 87.9 | 91.6 | 82.9 | 90.3 | :u | 93.5 | 96.6u | 88.6 | 95.5 | :u |
| Slovenia | 85.1 | 77.4 | 84.4 | 86.7 | 90.0 | 92.2 | 96.1 | 88.5 | 92.0 | 93.2 |
| Slovakia | 71.9 | 67.2u | 62.1 | 73.8 | 78.0 | 92.4 | 85.6u | 81.7 | 94.3 | 100.0 |
| Finland | 81.3 | 85.9 | 80.2 | 81.4 | 83.7 | 89.4 | 91.0 | 88.9 | 89.5 | 92.4 |
| Sweden | 88.6 | 78.5 | 90.3 | 91.7 | 92.2 | 91.0 | 87.6 | 89.7 | 94.5 | 95.3 |
| United Kingdom | 85.2 | 79.1 | 88.4 | 87.0 | 93.8 | 93.8 | 92.5 | 95.1 | 92.9 | 94.8 |

*Source*: Eurostat (*EU-LFS special extraction*, 2015). Note: N/A: not applicable, u: low reliability. ISCED 5: short-cycle tertiary, ISCED 6: bachelor, ISCED 7: master and ISCED 8: doctorate.

## Innovation and relevance in higher education

The European Commission expects that by 2025 almost half of all job openings in Europe will require tertiary qualifications[91]. Europe's competitiveness across all sectors will depend more than ever on people's ability to solve problems in creative ways, adapt to unfamiliar situations and work effectively across borders in multicultural environments.

This calls for a higher education sector that trains researchers to solve modern-day problems and equips graduates with an entrepreneurial mindset and drive. To succeed, higher education institutions need to be more innovative and relevant in an increasingly globalised, digitalised and knowledge-dependent labour market. The need to enhance the match between higher education and the skills requirements of the modern economy is underlined in some of the 2016 European Semester country-specific recommendations to Member States[92]. Those addressed to CZ, DK, EE, ES and PT advocate in particular facilitating stronger links between academia and the business sector, including in research and innovation.

So what can Member States and institutions do to improve the employability of graduates? Table 3.4.2 presents an overview of some key measures taken by public authorities and institutions across EU Member States, based on information collected through the Eurydice network.

With plenty of choices and often-difficult transitions between education types and levels or between education and work, individualised career guidance can support students throughout the whole tertiary education cycle. Career guidance services are available to all students in almost every Member State. However, this career guidance is rarely informed by regular labour market forecasting or graduate tracking surveys. By providing evidence-based assessments of the changes expected in the structure of the labour market and skills requirements, labour market forecasts help to build a picture of the world for which higher education students are being prepared. Around half of the countries conduct regular labour market forecasts and use the results systematically in higher education planning at the central level (BE fr, IE, EL, FR, IT, LV, LT, PL, FI, SE and UK)

Graduate tracking — i.e. collecting information on the employment situation and career development of graduates from specific programmes — is increasingly common in higher education institutions[93]. The actual use of information stemming from graduate tracking, whether for career guidance or the adjustment of study programmes, remains limited. 9 Member States make systematic efforts to use the information from regular graduate tracking surveys (BE[94], DK, EE, IE, IT, PL, SK, SE, UK).

Another means to increase the relevance of programmes is to embed work-based learning, a common component of vocational education and training, across higher education. Evidence shows that students who have participated in practical training before graduation are more likely to find jobs than their counterparts without relevant work experience[95]. Eight EU education systems have requirements or provide incentives to their higher education institutions to include work placements in all higher education programmes (BE de, BG, EE, ES, FR, IT, LT, RO). Traditionally emphasised only in professionally oriented higher education institutions, work placements can strengthen the relevance of academically oriented higher education institutions as well.

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91 CEDEFOP's *Skills Forecast* available at http://www.cedefop.europa.eu/en/events-and-projects/projects/forecasting-skill-demand-and-supply/data-visualisations

92 http://ec.europa.eu/europe2020/making-it-happen/country-specific-recommendations/index_en.htm

93 Rather than the regular tracking assessed here, much of this graduate tracking is of a more ad-hoc nature, as recently shown by a feasibility study for setting up a Europe-wide graduate survey (http://www.eurograduate.eu/results/digests).

94 Except for BE de, which conducts regular surveys at the regional level but does not subsequently use the information systematically.

95 JRC-CRELL (2012), *The employability of young graduates in Europe* (https://crell.jrc.ec.europa.eu/?q=publications/employability-young-graduates-europe).

Member States acknowledge the need to strengthen the interaction between their higher education institutions and labour market actors (employers and other social partners). Close communication is needed to improve mutual knowledge and understanding of, respectively, the types of knowledge, skills and abilities required in the real economy and the capacity and mission of higher education[96]. In most Member States there are formal requirements on the involvement of employers in external quality assurance. This is another mechanism through which education authorities can encourage higher education institutions to improve the employability of their graduates.

**Table 3.4.2: Example of efforts to strengthen graduate employability in higher education, 2015/2016**

| | Regular labour market forecasting used systematically | Required involvement of employers in external QA | Requirements OR incentives for work placements for all students | Career guidance for all students in HEIs | Regular graduate surveys used systematically |
|---|---|---|---|---|---|
| BE fr | ● | ● | | ● | ● |
| BE de | | ● | ● | | |
| BE nl | | ● | | ● | ● |
| BG | | ● | ● | ● | |
| CZ | | | | ● | |
| DK | | ● | | ● | ● |
| DE | | | | ● | |
| EE | | ● | ● | ● | ● |
| IE | ● | | | ● | ● |
| EL | ● | ● | | ● | |
| ES | | ● | ● | ● | |
| FR | ● | ● | ● | ● | |
| HR | | | | | |
| IT | ● | ● | ● | ● | ● |
| CY | | | | ● | |
| LV | ● | ● | | | |
| LT | ● | ● | ● | ● | |
| LU | | | | ● | |
| HU | | | | ● | |
| MT | | | | ● | |
| NL | | ● | | ● | |
| AT | | ● | | ● | |
| PL | ● | ● | | ● | ● |
| PT | | ● | | ● | |
| RO | | | ● | ● | |
| SI | | ● | | ● | |
| SK | | | | ● | ● |
| FI | ● | | | ● | |
| SE | ● | ● | | ● | ● |
| UK* | ● | | | ● | ● |
| UK-SCT | ● | | | ● | ● |

*Source*: European Commission/EACEA/Eurydice (2016): *Structural indicators for monitoring education and training systems in Europe 2016* Note: UK*=England, Wales and Northern Ireland

Alongside these measures, a range of practices are evolving at institutional level to promote innovation in pedagogies and greater use of technology. As transversal skills, such as critical thinking, problem-solving and communication, are seen as increasingly important for graduates' future, considerable emphasis is placed on embedding development of these skillsets in curriculum design.

Technology has the potential to support more effective learning. However, analysis shows that existing digital education policy models do not take sufficient account of current and emerging technology trends. The European Commission's *Opening up Education* initiative launched EU-level cooperation to adopt open learning environments in education. Open teaching, such as in

[96] While it is important for higher education institutions to respond to labour market needs, it is equally important for employers to recognise the wider function of higher education, which is to provide students with a well-rounded education for the long-term (and not just immediate business needs).

massive open online courses, is on the rise but as participation by learners is largely voluntary and the incentives in terms of career progression for academic staff to participate are generally low. Other enabling factors for open teaching are the pool of available knowledge at institutions, leadership vision and national policies that support openness. Academics have more incentives to take part in open research as these can enhance their research visibility and citations.

## Internationalisation and mobility as drivers of relevance in higher education

Government and institutional policies in higher education increasingly focus on promoting the beneficial outcomes of higher education internationalisation and mobility for the individual and society. This acknowledgement stems from a growing, though still partial, body of evidence which has analysed student mobility patterns and their impact[97]. In particular, this work has demonstrated the significant individual impact of learning mobility on students' acquisition of transversal skills, including communication, foreign language proficiency, and entrepreneurship. Other research has highlighted the positive impact of 'international classrooms' on the overall quality and relevance of the learning experience in higher education[98].

In 2011, Member States agreed on a EU benchmark for higher education mobility, under which in 2020 at least 20 % of higher education graduates should have had a period of higher education-related study or training (including work placements) abroad. The data underpinning this benchmark are only available on a very partial basis as demonstrated in a recent analysis undertaken by the Centre for Research on Lifelong Learning (CRELL)[99]. Firstly, credit mobility data, referring to graduates who have spent a part of their studies abroad, are not yet available on a comparable basis across Europe. They will become available in the first half of 2018, on the basis of a 2013 Commission Regulation and methodological work done by Eurostat[100]. Secondly, degree mobility data still cover only some of the destination countries of students from the EU (for example, there are no data on EU students studying and graduating in the US).

Data availability also influences what can be reliably said about the volume of mobility flows across the world, as well as the evolution of trends over time. Traditionally, the number of foreign students in higher education was seen as a proxy for mobile students and graduates. However, citizenship is a legal term which is defined differently from one country to another. This leads to different definitions of the term 'foreign student.' In practice, the mobile student population is normally smaller than the number of foreigners studying in a country, but it also includes nationals returning to their home country after studying abroad.

It is estimated that international learning mobility doubled to around 2 million foreigners in 2000 from around 1 million in 1980. In 2012 the number was estimated at 4.5 million, meaning that mobility has become much more common in the early years of this century. More than half of internationally mobile students in the EU come from Asia and a quarter from Europe itself; whereas only 3 % of the population is from North America. The students' destination countries are primarily in Europe (up to 40 %) as well as North America (up to 25 %); this includes significant intra-European flows as well as flows between the US and Canada[101].

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97 European Commission (2014), *The Erasmus Impact Study* (http://ec.europa.eu/dgs/education_culture/repository/education/library/study/2014/erasmus-impact_en.pdf).

98 CPB (2012), *De economische effecten van internationalisering in het hoger onderwijs*. (http://www.cpb.nl/sites/default/files/publicaties/download/cpb-notitie-18apr2012-de-economische-effecten-van-internationalisering-het-hoger-onderwijs.pdf)

99 For an overview of inward and outward mobility in the EU, see European Commission/JRC (2015), *Learning Mobility Technical Report* (https://crell.jrc.ec.europa.eu/?q=publications/learning-mobility-technical-report).

100 Commission Regulation No. 912/2013 of 23 September 2013. See also the Commission progress report to the Council on a Learning Mobility Benchmark.

101 More information on international learning mobility flows can be found on the UNESCO Institute of Statistics website: http://www.uis.unesco.org/Education/Pages/international-student-flow-viz.aspx; as well as in OECD (2016), *Education at a Glance*, indicator C4 (http://www.oecd-ilibrary.org/education/education-at-a-glance-2016_eag-2016-en).

Table 3.4.3 shows the percentage of mobile students and graduates in EU Member States based on incoming flows. These are mobile students and graduates registered by the countries where they study.

At EU level, both in terms of enrolments and graduates the level of mobility increases from bachelor through to master and doctoral levels. More than five per cent of graduates are mobile at undergraduate level, 11.5 % at master level and 18.5 % at doctoral level. At doctoral level there is a clear differentiation between countries and institutions with a strong international profile (notably BE, DK, IE, FR, LU, NL, AT, SE and in particular UK) and others.

The table shows big differences in the levels of mobile students and graduates between Member States. Some host greater proportions of mobile students, particularly at master and doctorate levels, whereas mainly eastern and southern parts of Europe host smaller proportions of mobile students.

**Table 3.4.3: Mobile students and graduates in EU Member States, 2014 (%)**

| | Enrolments | | | Graduates | | |
|---|---|---|---|---|---|---|
| | Bachelor or equivalent | Master or equivalent | Doctorate | Bachelor or equivalent | Master or equivalent | Doctorate |
| **EU** | **5.8** | **11.5** | **20.1** | **5.9** | **13.9** | **24.0** |
| Belgium | 8.2 | 20.3 | 36.6 | 7.5[d] | 14.9[d] | 37.7[d] |
| Bulgaria | 2.7 | 6.7 | 4.2 | 3.4[e] | 2.7[e] | 4.7[e] |
| Czech Republic | 8.5 | 11.6 | 13.9 | 7.4 | 8.6 | 13.0 |
| Denmark | 5.5 | 17.4 | 30.5 | 6.9 | 17.7 | 31.8 |
| Germany | 4.4 | 12.2 | 7.4 | 3.3 | 10.2 | 16.0 |
| Estonia | 2.9 | 5.0 | 8.1 | 1.5 | 5.1 | 4.7 |
| Ireland | 5.8 | 13.8 | 23.1 | 5.1 | 15.7 | 26.2 |
| Greece | : | : | : | : | : | : |
| Spain | 0.9 | 4.8 | 16.2 | 0.6 | 5.2 | : |
| France | 7.3 | 13.5 | 39.9 | | | |
| Croatia | 0.2 | 0.6 | 3.4 | 0.2 | 0.5 | 2.5 |
| Italy | 4.7 | 4.3 | 13.2 | 4.0 | 4.9 | 11.0 |
| Cyprus | 16.1 | 11.5 | 6.8 | 14.3 | 5.7 | 5.0 |
| Latvia | 6.0 | 4.5 | 6.5 | 1.8 | 3.5 | 1.9 |
| Lithuania | 2.4 | 5.3 | 3.0 | 1.5 | 3.3 | 0.0 |
| Luxembourg | 25.3[e] | 67.7[e] | 85.0[e] | 23.9 | 49.6 | 81.7 |
| Hungary | 5.0 | 15.1 | 8.5 | 3.0 | 8.5 | 7.8 |
| Malta | 3.3 | 13.0 | 7.4 | 3.1 | 11.0 | 0.0 |
| Netherlands | 8.3 | 17.0 | 36.6 | 9.5 | 19.7 | 39.6 |
| Austria | 18.6 | 17.8 | 25.1 | 15.4 | 18.5 | 31.0 |
| Poland | 1.6 | 2.7 | 1.7[d] | 0.7 | 1.5 | : |
| Portugal | 2.6 | 4.9 | 15.8 | 1.9 | 6.7 | 14.6 |
| Romania | 2.3 | 8.0 | 2.5 | 2.0 | 3.0 | 2.3 |
| Slovenia | 2.3 | 4.1 | 8.2 | 2.0 | 2.6 | 4.9 |
| Slovakia | 5.5[d] | : | 9.0 | 4.2 | 4.4 | 8.6 |
| Finland | 5.2 | 11.9 | 18.7 | 5.4 | 9.5 | 22.8 |
| Sweden | 2.4 | 9.1 | 32.8 | 2.3 | 20.4 | 32.7 |
| United Kingdom | 13.7 | 36.9 | 42.5 | 15.7 | 46.3 | 42.8 |

*Source*: Eurostat (UOE, 2014). Online data codes: *educ_uoe_mobs03* and *educ_uoe_mobg03*. Note: DG EAC elaboration on the proportion of mobile students and graduates out of total EU corresponding population based on available country data. Enrolments for ES (doctorate level) refer to 2013 data. Enrolments data for NL are based on Eurostat (UOE, 2014, *educ_uoe_mobs02* and *educ_uoe_enrt02*). ':' = data not available, 'd' = definition differs, 'e' = estimated. *Reading note*: 18.6 % of Austria's student enrolments at bachelor level (or equivalent) are mobile students (all around the world) in 2014. This percentage increases to 25.1 % at doctoral level. In 2014, 15.4 % of graduates completing a degree at bachelor level in Austria were mobile graduates from all around the world.

Table 3.4.3 also shows that enrolment rates do not always correspond to graduation rates for the mobile student population, due to fluctuations in the mobile student population and differences in completion rates. Some countries with longer traditions of attracting foreign students display similar proportions of enrolled mobile students and mobile graduates (BE, SE and the UK).

Student mobility has been and is an active part of EU policy, which supports it through the Erasmus+ programme (in 2017 the programme will celebrate its 30th anniversary). Despite the

significant progress in student mobility, the Mobility Scoreboard[102] for higher education reveals that the environment for learning mobility still varies greatly between Member States, with significant barriers remaining in terms of information, student support and recognition. Although almost all Member States have a nationwide strategy that includes elements of information and guidance, only around half have centralised web portals that provide practical information and guidance on the scholarships available and how to access them. Most information and guidance services are based in higher education institutions directly and can therefore pose a challenge for quality assurance. Initiatives on transparency, quality assurance, validation and recognition of skills and qualifications are critical measures to facilitate students' mobility. There is also an equity dimension to participation in mobility programmes; evidence shows that students with a disadvantaged socioeconomic background are less likely to participate in mobility programmes than their peers[103].

Another significant aspect of student mobility is the funding opportunities, including the portability of national grants and loans. Several Member States currently make at least some of their major domestic grants (BE de, BE nl, EE, FR, CY, LU, SI, FI, SE) and/or loans (EE, CY, LV, LU, NL, PT, SK, FI, SE) fully portable, meaning that students can take them abroad without any restrictions. Other Member States have more restrictive policies on the portability of national grants. These include, for example, restrictions on the countries where students can take their grants (e.g. portability within the European Economic Area only) or limits on the time spent abroad[104]. Such restrictions may discourage students from applying to study abroad and thus hinder mobility.

### Key findings and policy relevance

The New Skills Agenda for Europe, published by the Commission in 2016, underlines the crucial role of the high-level skills provided by higher education in driving productivity and innovation within European societies. While evidence shows that employment outcomes for people with tertiary education are consistently better than those for people with lower levels of qualifications, significant differences exist between Member States and different types of higher education.

As developments in global labour markets drive a greater demand for higher education graduates, governments increasingly focus on improving the quality and relevance of higher education systems as a whole. Public authorities have often sought to improve information about graduate labour market outcomes, although data are not consistently collected and not always used systematically by career guidance services and for adjusting higher education provision. While the importance of promoting transversal skills through innovative curriculum design and use of technology is increasingly recognised, this is an area where institutions and authorities see room for further progress.

Studies testify to the benefits that an education experience abroad has on people's job prospects and life choices. The latest evidence on learning mobility, however, shows big differences between higher education institutions and countries.

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102 See European Commission/EACEA/Eurydice (forthcoming): *Mobility Scoreboard: Higher education background report* (https://webgate.ec.europa.eu/fpfis/mwikis/eurydice/index.php/Publications).

103 Hauschildt, K., Gwosć, C., Netz, N. and Mishra, S. (2015), *Social and Economic Conditions of Student Life in Europe. Synopsis of Indicators*, EUROSTUDENT V 2012-2015 (http://iro.hr/userdocs/File/EUROSTUDENT%20V_Social%20and%20economic%20conditions%20of%20student%20life%20in%20Europe(1).pdf)

104 Data from Mobility Scoreboard, European Commission/EACEA/Eurydice (2013), *Towards a Mobility Scoreboard: Conditions for Learning Abroad in Europe. Eurydice Report*; and European Commission/EACEA/Eurydice (forthcoming), *Mobility Scoreboard: Higher education background report. Eurydice Report* (https://webgate.ec.europa.eu/fpfis/mwikis/eurydice/index.php/Publications).

# 3.5. Adult learning and adult skills

As section 1.2 argued, in a fast-changing working environment adults need to not only acquire, but also continuously update and improve their skills to remain competitive and productive. Adult learning systems must respond to a large variety of needs expressed by learners, companies and society. They need to ensure that all individuals have easy and equitable access to learning opportunities. In particular, those who have left initial education or training without the minimal level of skills needed in the contemporary economic and social environment should be given opportunities to obtain those skills later in life. Through upskilling and reskilling, adults can ensure that their skills remain relevant and up to date, not only within the work environment but also for active participation in society. Under the 2016 European Semester, the Council of the EU adopted country-specific recommendations asking BE, ES, HR, LT, MT, SI and FI to move forward with policy reforms on skills, or more particularly improving the employability of the low/qualified and older workers through adult learning and lifelong learning.

## Access to adult learning

To ensure that adults' skills remain up to date over their lifetime, individuals should have equitable access to the learning opportunities they need. In 2010 Member States adopted an EU benchmark, aiming to have by 2020 at least 15 % of the population aged 25-64 participating in learning. However, ever since its adoption, progress towards this benchmark has been very limited. The EU average stood at 10.7 % in 2014 and did not increase in 2015. In fact, in comparison with 2012, adult learning participation rates fell in 14 Member States: CZ, DK, EE, IE, ES, HR, CY, LV, PL, PT, RO, SI, SK and UK. Values in the other countries remained stable, except for FR, LU and HU, which based on available data seem to have increased their rates over the past 3 years. The highest EU adult learning participation rates can be observed in SE, NL and FI. Only urgent and substantive action will enable the EU to reach the benchmark.

There is a lack of progress in adult learning, particularly among the unemployed

Despite the limited progress, big overall differences both between and within Member States persist. In particular, in several Member States the gap between the average population and adults with a relatively disadvantaged status, for example due to their low qualifications or older age, persists or has even been increasing. More specifically, the gap in the rate of participation in learning among low-qualified adults compared to the performance of the total population, which was already very wide, further increased between 2012 and 2015. Low qualified adults are only half as likely to participate in any learning as the general population in the EU.

European Commission

**Table 3.5.1: Adults' participation in learning, 2012-2015 (%)**

| | 2012 | 2015 | 2012 | 2015 | 2012 | 2015 | 2012 | 2015 |
|---|---|---|---|---|---|---|---|---|
| | Total population (25-64 years) | | 55-64 years | | Unemployed (25-64 years) | | Low-qualified (25-64 years) | |
| **EU** | **9.2** | **10.7** | **4.5** | **6.0** | **9.4** | **9.5** | **3.9** | **4.3** |
| Belgium | 6.9 | 6.9 | 3.6 | 4.0 | 10.2 | 9.0 | 2.9 | 3.0 |
| Bulgaria | 1.7 | 2.0 | :[u] | :[u] | 1.5[u] | :[u] | 0.5[u] | :[u] |
| Czech Republic | 11.1 | 8.5 | 4.8 | 3.7 | 6.5 | 3.8 | 2.4 | 1.9 |
| Denmark | 31.6 | 31.3 | 23.9 | 23.6 | 32.7 | 28.9 | 22.4 | 21.7 |
| Germany | 7.9 | 8.1 | 2.9 | 3.1 | 5.6 | 6.2 | 3.2 | 3.4 |
| Estonia | 12.8 | 12.4 | 5.6 | 4.5 | 11.7 | 9.9 | 3.9 | 4.5 |
| Ireland | 7.4 | 6.5 | 3.2 | 2.7 | 7.4 | 7.4 | 3.2 | 2.4 |
| Greece | 3.3 | 3.3 | 0.7 | 0.5 | 3.3 | 2.7 | 0.4 | 0.4 |
| Spain | 11.2 | 9.9 | 5.2 | 4.0 | 13.2 | 11.2 | 4.7 | 3.6 |
| France | 5.7 | 18.6[*] | 2.6 | 12.8 | 5.4 | 14.7 | 2.5 | 7.7 |
| Croatia | 3.3 | 3.1 | 0.3[u] | :[u] | 2.5[u] | 2.4[u] | :[u] | :[u] |
| Italy | 6.6 | 7.3 | 3.0 | 4.0 | 6.3 | 5.3 | 1.6 | 2.0 |
| Cyprus | 7.7 | 7.5 | 3.1 | 3.5 | 7.2 | 5.8 | 1.3[u] | 1.6 |
| Latvia | 7.2 | 5.7 | 4.2 | 2.6 | 7.4 | 5.3 | 2.9 | 2.4 |
| Lithuania | 5.4 | 5.8 | 1.9[u] | 3.1 | 3.0[u] | :[u] | :[u] | :[u] |
| Luxembourg | 14.2 | 18.0[b] | 5.9 | 7.1[b] | 17.7 | 22.0[b] | 5.3 | 7.0[b] |
| Hungary | 2.9 | 7.1[b] | 0.6 | 3.1[b] | 1.9 | 2.3[b] | 0.6 | 3.4[b] |
| Malta | 7.1 | 7.2 | 2.7 | 3.3 | 9.3[u] | 6.4[u] | 2.4 | 2.4 |
| Netherlands | 16.9 | 18.9 | 8.8 | 11.8 | 17.0 | 18.3 | 10.3 | 9.3 |
| Austria | 14.2 | 14.4 | 6.8 | 7.5 | 18.9 | 16.6 | 5.1 | 4.5 |
| Poland | 4.5 | 3.5 | 0.8 | 0.8 | 4.6 | 3.4 | 0.7 | 0.6[u] |
| Portugal | 10.5 | 9.7 | 4.1 | 4.1 | 13.9 | 11.3 | 6.1 | 4.2 |
| Romania | 1.4 | 1.3 | :[u] | :[u] | 2.1[u] | 2.1[u] | :[u] | 0.3[u] |
| Slovenia | 13.8 | 11.9 | 6.0 | 4.0 | 13.5 | 13.1 | 2.7 | 2.8 |
| Slovakia | 3.2 | 3.1 | 1.1 | 0.9 | 1.1 | 1.0[u] | :[u] | :[u] |
| Finland | 24.5 | 25.4 | 14.1 | 15.6 | 18.2 | 19.1 | 11.3 | 12.8 |
| Sweden | 27.0 | 29.4 | 18.6 | 20.8 | 43.0 | 44.0 | 18.3 | 20.0 |
| United Kingdom | 16.3 | 15.7 | 10.4 | 10.8 | 16.0 | 14.2 | 7.8 | 6.8 |

*Source:* Eurostat (EU-LFS, 2012-2015). Online data codes: *trng_lfse_01*, *trng_lfse_02* and *trng_lfse_03*. Note: The indicator measures participation in formal and non-formal education among persons aged 25-64 in the four weeks prior to the survey. 'Low-qualified' refers to adults having at most lower secondary education. ':' = data not available, 'u' = low reliability and 'b' = break in time series. '*' - shows important break in time series for FR in 2013 which influenced the EU values.

In addition to the challenge of ensuring equitable access to learning, Europe faces the major challenge of having a very large number of adults without the minimum level of skills necessary to participate successfully in contemporary social and economic life. This is in part a result of ESL and underachievement, discussed in section 2.1, as well as of the depreciation of skills if they are not updated and renewed; and chapter 1.2 of this report has already elaborated on the link between qualifications and skills in the young population. The OECD Survey of Adult Skills (PIAAC), carried out in 2012, clearly confirmed that large numbers of adults have very low literacy and numeracy skills. In ES and IT a third or more of working-age adults display low levels of proficiency in one or both of these skills[105]. PIAAC also shows that educational attainment is the strongest predictor of skills — the majority (51 %) of adults who have very poor literacy and numeracy skills have also had only very little education and have not attained an upper-secondary qualification[106].

The educational level of the EU workforce has nevertheless been increasing in recent decades. This is due to higher levels of educational attainment among younger cohorts reaching working

[105] Further analysis of skills proficiency related to age, gender, socio-economic background, educational qualifications, country of origin and language, and occupation can be found in OECD (2013), *Skills Outlook*

[106] Grotlüschen, A., et al. (2016), *Adults with Low Proficiency in Literacy or Numeracy*. The figure of 51% is an OECD average (http://dx.doi.org/10.1787/5jm0v44bnmnx-en). For further reading see also CRELL (2015), *Skills beyond education. An analysis of cognitive skill evolution and its implications for employment chances*; and CRELL (2014), *Formal qualifications and individuals' skills. Evidence from the Survey of Adult Skills (PIAAC)*. Both available at: http://crell.jrc.ec.europa.eu/?q=publications/year.

age than among older cohorts reaching retirement age. For example, between 2012 and 2015 in the EU the number of low-qualified adults aged 25 to 64 declined from around 70 million to 64 million.

**Table 3.5.2: Low qualified adults (age 25-64) and their labour market status, 2015**

| | Total low qualified population | Active population (low qualified) | | Employed (low qualified) | | Unemployed (low qualified) | | Low qualified as a share of total population |
|---|---|---|---|---|---|---|---|---|
| | '000 | % of total low-qualified | '000 | % of total low-qualified | '000 | % of active pop. | '000 | |
| **EU** | **64 000** | **63.6** | **40 741** | **53.2** | **34 084** | **16.3** | **6 657** | **23.5** |
| Belgium | 1 510 | 54.7 | 826 | 46.6 | 704 | 14.8 | 122 | 25.3 |
| Bulgaria | 730 | 53.6 | 391 | 40.3 | 294 | 24.7 | 96 | 18.1 |
| Czech Republic | 408 | 52.9 | 216 | 41.9 | 171 | 20.7 | 45 | 6.8 |
| Denmark | 562 | 66.2 | 372 | 60.5 | 340 | 8.5 | 32 | 19.6 |
| Germany | 5 881 | 66.2 | 3 896 | 58.7 | 3 453 | 11.4 | 443 | 13.2 |
| Estonia | 64 | 66.4 | 43 | 58.1 | 37 | 12.5 | 5 | 8.9 |
| Ireland | 485 | 58.0 | 281 | 48.8 | 237 | 15.9 | 45 | 20.2 |
| Greece | 1 752 | 65.7 | 1 151 | 48.5 | 850 | 26.2 | 301 | 29.6 |
| Spain | 11 138 | 72.6 | 8 086 | 51.6 | 5 746 | 28.9 | 2 340 | 42.6 |
| France | 7 486 | 61.8 | 4 633 | 52.2 | 3 913 | 15.6 | 721 | 22.5 |
| Croatia | 385 | 51.3 | 197 | 40.2 | 155 | 21.6 | 43 | 16.7 |
| Italy | 13 272 | 58.5 | 7 767 | 50.2 | 6 664 | 14.2 | 1 103 | 40.1 |
| Cyprus | 101 | 67.4 | 69 | 55.3 | 56 | 17.9 | 12 | 21.9 |
| Latvia | 106 | 68.6 | 73 | 53.2 | 56 | 22.4 | 16 | 9.9 |
| Lithuania | 102 | 61.0 | 62 | 45.0 | 46 | 26.2 | 16 | 6.5 |
| Luxembourg | 73[b] | 66.2[b] | 48[b] | 60.8[b] | 45[b] | 8.2[b] | 4 | 24.0[b] |
| Hungary | 912 | 56.9 | 519 | 48.1 | 438 | 15.5 | 80 | 16.8 |
| Malta | 131 | 58.5 | 77 | 54.2 | 71 | 7.3 | 6 | 56.5 |
| Netherlands | 2 073 | 66.1 | 1 370 | 60.0 | 1 243 | 9.3 | 127 | 23.6 |
| Austria | 729 | 59.1 | 431 | 52.9 | 385 | 10.6 | 46 | 15.4 |
| Poland | 1 935 | 48.3 | 934 | 40.8 | 789 | 15.5 | 145 | 9.2 |
| Portugal | 3 096 | 73.9 | 2 287 | 64.3 | 1 989 | 13.0 | 298 | 54.9 |
| Romania | 2 803 | 58.1 | 1 630 | 53.7 | 1 505 | 7.7 | 125 | 25.0 |
| Slovenia | 156 | 56.7 | 88 | 49.0 | 76 | 13.6 | 12 | 13.2 |
| Slovakia | 273 | 52.5 | 144 | 34.4 | 94 | 34.4 | 49 | 8.6 |
| Finland | 348 | 60.5 | 211 | 53.1 | 185 | 12.3 | 26 | 12.3 |
| Sweden | 778 | 73.7 | 573 | 63.3 | 492 | 14.1 | 81 | 15.7 |
| United Kingdom | 6 713 | 64.9 | 4 369 | 60.2 | 4 050 | 7.3 | 319 | 20.3 |

*Source:* Eurostat (EU-LFS, 2015). Online data codes: *edat_lfse_03, edat_lfs_9901, lfsa_agaed, lfsa_argaed, lfsa_egaed, lfsa_ergaed* and *lfsa_urgaed*. Note: The share of low qualified is calculated within the total population (all ISCED 2011 levels) aged 25-64. Absolute numbers are in thousands.

As Table 3.5.2 shows, the large section of the European population aged 25-64 with at most a lower secondary education qualification is very heterogeneous. It comprises people who are employed (34 million), unemployed (6.7 million) and economically inactive (23.3 million). Some economies in Europe have high numbers of low-qualified adults, such as IT (13.3 million), ES (11 million), and FR (7.5 million); as well as high numbers of unemployed low-qualified adults, such as ES (2.3 million), IT (1.1 million) and FR (0.7 million). Low-qualified inactive and unemployed people are also likely to have multiple disadvantages or problems including disabilities, ill-health, risk of poverty, and homelessness due to low incomes. Some have a migration background. These groups run a particularly high risk of social exclusion.

## Building, sustaining and making full use of skills

Support for adults with low basic skills or low-level qualifications is now commonly included in Member States' policy agendas, often as part of education and training policies. Across Europe, countries finance or co-finance a wide range of education and training programmes. In a limited number of cases these programmes are accompanied by skills validation schemes, including an initial skills assessment, guidance support and outreach campaigns[107].

An important way to increase adults' skills is second chance education. Public activities to engage low-skilled adults in further learning gave so far good outcomes. The number of EU remains a limited phenomenon in the EU as a whole, where 3.6 % adults complete an upper secondary programme aged 25 or above. There are substantial differences between countries. The rate of 25-64 year-olds graduating from upper secondary education exceeded 5 % in FI (12.1 %), DK (9.3 %), NL (9.3 %), UK (8.2 %), and PT (5.4 %). In around half of the EU countries, less than 2 % of adults gained an upper secondary qualification during adulthood.

In 2016, as part of the Skills Agenda package, the European Commission proposed to Member States to establish a Skills Guarantee to help respond to skills gaps, inequality and emerging labour market needs requiring ever higher levels of skills. Through this initiative, policy makers would design and implement policies specifically tailored to improve the skills of low-qualified adults, by giving them access to skills pathways. An initial phase should include assessment, validation and certification of existing skills. Further, training provision should be tailored to their individual learning needs, and cover literacy, numeracy or digital skills. Training provision should also take into account the varied needs for information and support among low-qualified people; and possibly lead to acquiring a qualification recognised on the labour market and in the education sector. Outreach and guidance should be integral parts of the provision. The combined action of this initiative with the recommendations on early school learning and the Youth Guarantee would ensure that the entire eligible population that has low levels of basic skills and has not achieved a qualification would receive the opportunity to upskill.

### Key findings and policy relevance

There are clear and persistent challenges in Europe both in promoting participation of adults in education and training and in addressing the inequities of access to training for those most in need of it. Education and training are two of the primary instruments in reducing adult unemployment, poverty and social exclusion. However, adult learning's potential to help address Europe's social and skills-specific challenges remains largely untapped. In particular, stronger efforts are needed to target low-skilled adults who would evidently benefit from additional educational opportunities. Very few low-skilled adults receive the amount and type of education that would really lift them out of their very often challenging circumstances. The European Commission has therefore proposed the New Skills Agenda, and in particular a Skills Guarantee, to support Member States in addressing this issue.

[107] Commission/EACEA/Eurydice (2015), *Adult Education and Training in Europe: Widening Access to Learning Opportunities* (http://eacea.ec.europa.eu/education/eurydice/documents/thematic_reports/179en.pdf). Data on second chance education come from the same source.

# Annex

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# Annex: Additional tables

**Table A.1: Percentage of underachievement in reading, maths and science, by sex, 2009-2012**

| | Reading | | | | Maths | | | | Science | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2009 | 2012 | | | 2009 | 2012 | | | 2009 | 2012 | | |
| | Total | Total | Boys | Girls | Total | Total | Boys | Girls | Total | Total | Boys | Girls |
| **EU** | **19.7** | **17.8** | **23.7** | **12.0** | **22.3** | **22.1** | **21.2** | **23.0** | **17.8** | **16.6** | **17.5** | **15.7** |
| Belgium | 17.7 | 16.1 | 20.8 | 11.5 | 19.1 | 19.0 | 19.3 | 18.5 | 18.0 | 17.7 | 19.1 | 16.2 |
| Bulgaria | 41.0 | 39.4 | 50.9 | 27.0 | 47.1 | 43.8 | 45.1 | 42.3 | 38.8 | 36.9 | 41.8 | 31.7 |
| Czech Republic | 23.1 | 16.9 | 22.8 | 10.6 | 22.3 | 21.0 | 19.3 | 22.7 | 17.3 | 13.8 | 14.6 | 12.9 |
| Denmark | 15.2 | 14.6 | 19.2 | 10.1 | 17.1 | 16.8 | 15.1 | 18.6 | 16.6 | 16.7 | 16.4 | 17.0 |
| Germany | 18.5 | 14.5 | 20.1 | 8.7 | 18.6 | 17.7 | 16.8 | 18.7 | 14.8 | 12.2 | 12.9 | 11.5 |
| Estonia | 13.3 | 9.1 | 14.2 | 4.2 | 12.6 | 10.5 | 10.6 | 10.4 | 8.3 | 5.0 | 6.0 | 4.1 |
| Ireland | 17.2 | 9.6 | 13.0 | 6.1 | 20.8 | 16.9 | 15.2 | 18.7 | 15.2 | 11.1 | 11.6 | 10.6 |
| Greece | 21.3 | 22.6 | 32.2 | 13.3 | 30.3 | 35.7 | 34.5 | 36.9 | 25.3 | 25.5 | 29.8 | 21.3 |
| Spain | 19.6 | 18.3 | 23.4 | 13.1 | 23.7 | 23.6 | 22.1 | 25.1 | 18.2 | 15.7 | 15.9 | 15.5 |
| France | 19.8 | 18.9 | 25.5 | 12.7 | 22.5 | 22.4 | 22.3 | 22.4 | 19.3 | 18.7 | 20.5 | 17.0 |
| Croatia | 22.4 | 18.7 | 27.6 | 9.5 | 33.2 | 29.9 | 28.8 | 31.0 | 18.5 | 17.3 | 19.5 | 15.0 |
| Italy | 21.0 | 19.5 | 25.9 | 12.6 | 24.9 | 24.7 | 22.8 | 26.7 | 20.6 | 18.7 | 19.6 | 17.8 |
| Cyprus | : | 32.8 | 44.5 | 20.5 | : | 42.0 | 42.8 | 41.3 | : | 38.0 | 41.9 | 34.0 |
| Latvia | 17.6 | 17.0 | 25.7 | 8.2 | 22.6 | 19.9 | 21.5 | 18.3 | 14.7 | 12.4 | 15.3 | 9.4 |
| Lithuania | 24.4 | 21.2 | 31.9 | 10.4 | 26.3 | 26.0 | 27.7 | 24.3 | 17.0 | 16.1 | 19.5 | 12.6 |
| Luxembourg | 26.0 | 22.2 | 26.6 | 17.6 | 23.9 | 24.3 | 20.1 | 28.7 | 23.7 | 22.2 | 20.3 | 24.2 |
| Hungary | 17.6 | 19.7 | 26.9 | 13.0 | 22.3 | 28.1 | 27.6 | 28.5 | 14.1 | 18.0 | 18.8 | 17.4 |
| Malta | 36.3 | : | : | : | 33.7 | : | : | : | 32.5 | : | : | : |
| Netherlands | 14.3 | 14.0 | 17.2 | 10.6 | 13.4 | 14.8 | 13.9 | 15.8 | 13.2 | 13.1 | 13.2 | 13.0 |
| Austria | 27.6 | 19.5 | 26.2 | 12.8 | 23.2 | 18.7 | 16.1 | 21.2 | 21.0 | 15.8 | 16.2 | 15.4 |
| Poland | 15.0 | 10.6 | 16.2 | 5.2 | 20.5 | 14.4 | 15.0 | 13.8 | 13.1 | 9.0 | 10.2 | 7.9 |
| Portugal | 17.6 | 18.8 | 25.0 | 12.5 | 23.7 | 24.9 | 24.0 | 25.9 | 16.5 | 19.0 | 20.3 | 17.7 |
| Romania | 40.4 | 37.3 | 46.8 | 28.1 | 47.0 | 40.8 | 40.4 | 41.2 | 41.4 | 37.3 | 39.5 | 35.3 |
| Slovenia | 21.2 | 21.1 | 30.5 | 11.1 | 20.3 | 20.1 | 20.4 | 19.8 | 14.8 | 12.9 | 14.8 | 10.8 |
| Slovakia | 22.2 | 28.2 | 35.4 | 20.4 | 21.0 | 27.5 | 27.6 | 27.3 | 19.3 | 26.9 | 26.8 | 26.9 |
| Finland | 8.1 | 11.3 | 17.7 | 4.6 | 7.8 | 12.3 | 14.1 | 10.4 | 6.0 | 7.7 | 9.7 | 5.6 |
| Sweden | 17.4 | 22.7 | 31.3 | 14.0 | 21.1 | 27.1 | 28.2 | 26.0 | 19.1 | 22.2 | 24.8 | 19.6 |
| United Kingdom | 18.4 | 16.6 | 19.8 | 13.5 | 20.2 | 21.8 | 19.7 | 23.8 | 15.0 | 15.0 | 13.9 | 16.0 |

*Source: OECD (PISA, 2009-2012)*. Note: ':' = data not available.

## Table A.2: Employment rate of recent graduates by level of education, 2012-2015

| | 2012 | | | 2015 | | |
|---|---|---|---|---|---|---|
| | Total | Medium | High | Total | Medium | High |
| **EU** | **74.6** | **69.7** | **81.5** | **75.8** | **70.8** | **81.9** |
| Belgium | 79.5 | 71.4 | 87.6 | 77.9 | 70.0 | 85.3 |
| Bulgaria | 67.2 | 56.6 | 78.5 | 73.6 | 54.6 | 87.1 |
| Czech Republic | 82.3 | 77.8 | 87.1 | 82.0 | 81.6 | 82.7 |
| Denmark | 83.1 | 82.4 | 85.5 | 80.5 | 79.5 | 83.8 |
| Germany | 87.1 | 85.6 | 93.8 | 88.9 | 88.2 | 93.3 |
| Estonia | 73.8 | 65.5 | 84.3 | 79.2 | 74.4 | 86.1 |
| Ireland | 68.5 | 50.6 | 80.2 | 75.0 | 60.4 | 83.4 |
| Greece | 42.6 | 34.2 | 47.7 | 45.0 | 35.8 | 49.9 |
| Spain | 60.4 | 49.6 | 68.4 | 62.2 | 54.9 | 68.7 |
| France | 74.5 | 66.9 | 83.1 | 70.7 | 62.5 | 79.2 |
| Croatia | 60.2 | 54.2 | 65.9 | 62.4 | 45.0 | 76.2 |
| Italy | 53.9 | 46.0 | 63.9 | 48.3 | 40.7 | 57.5 |
| Cyprus | 73.1 | 65.5 | 74.7 | 68.8 | 53.2 | 73.6 |
| Latvia | 73.1 | 57.2 | 86.9 | 78.7 | 70.0 | 84.4 |
| Lithuania | 74.2 | 61.3 | 85.3 | 81.1 | 72.2 | 88.5 |
| Luxembourg | 82.8 | 83.8 | 85.1 | 83.5[b] | 77.8[b] | 89.6[b] |
| Hungary | 72.7 | 62.4 | 84.0 | 80.0[b] | 75.6[b] | 86.7[b] |
| Malta | 92.3 | 89.1 | 94.6 | 94.8 | 91.6 | 96.9 |
| Netherlands | 85.6 | 85.2 | 90.3 | 86.6 | 84.7 | 90.9 |
| Austria | 90.2 | 89.4 | 93.8 | 86.7 | 83.7 | 90.3 |
| Poland | 72.8 | 62.7 | 81.5 | 76.8 | 68.5 | 85.1 |
| Portugal | 65.0 | 65.4 | 69.9 | 70.5 | 68.6 | 75.5 |
| Romania | 69.8 | 59.3 | 79.1 | 68.0 | 59.8 | 77.1 |
| Slovenia | 72.9 | 63.0 | 78.6 | 71.1 | 60.2 | 78.5 |
| Slovakia | 68.6 | 61.6 | 75.2 | 75.2 | 69.3 | 80.3 |
| Finland | 80.7 | 77.4 | 85.4 | 75.5 | 72.0 | 81.1 |
| Sweden | 82.7 | 78.1 | 89.6 | 85.5 | 80.6 | 90.9 |
| United Kingdom | 80.4 | 73.3 | 87.8 | 85.1 | 78.7 | 89.7 |

*Source:* Eurostat (EU-LFS, 2012-2015). Online data code: *edat_lfse_24*. Note: The indicator shows the employment rate of graduates (ISCED 3-8) aged 20-34 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. The indicator is broken down by level of education: medium (ISCED 3-4) covers upper-secondary and post-secondary non-tertiary education and high (ISCED 5-8) covers tertiary education. Break in time series for LU and HU.

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## Table A.3: Underachievement: A selection of structural indicators, 2015/2016

| | National tests in compulsory education | | | Recent national reports on achievement | | | Use of performance data in school evaluation | Guidelines on underachievement as a topic in ITE | | | Additional resources provided by central authorities to schools with disadvantaged students |
|---|---|---|---|---|---|---|---|---|---|---|---|
| BE fr | R | M | S | R | M | S | ● | R | M | S | ● |
| BE de | | | | R | M | S | ● | R | M | S | ● |
| BE nl | R | M | S | R | M | S | ● | R | M | S | ● |
| BG | R | M | S | R | M | S | | R | | | ● |
| CZ | R | M | | R | M | S | ● | | | | ● |
| DK | R | M | S | R | M | S | ● | R | M | S | |
| DE | R | M | S | R | M | S | ● | R | | | |
| EE | R | M | S | R | M | S | | R | M | S | ● |
| IE | R | M | S | R | M | S | ● | R | M | | ● |
| EL | | | | R | | S | | | | | ● |
| ES | R | M | S | R | M | S | ● | | | | |
| FR | R | M | S | R | M | S | ● | R | M | | ● |
| HR | | | | R | M | S | | | | | |
| IT | R | M | | R | M | S | ● | | | | ● |
| CY | R | M | | R | M | S | | R | M | S | ● |
| LV | R | M | S | R | M | S | ● | | | | ● |
| LT | R | M | S | R | M | S | ● | R | M | S | ● |
| LU | R | M | S | R | M | | ● | | | | ● |
| HU | R | M | | R | M | | ● | R | M | S | |
| MT | R | M | S | R | M | S | ● | R | M | | |
| NL | R | M | S | R | M | S | ● | | | | ● |
| AT | R | M | | R | M | | ● | R | M | S | ● |
| PL | R | M | S | R | M | S | ● | R | M | S | ● |
| PT | R | M | | R | M | S | ● | | | | ● |
| RO | R | M | S | R | M | S | ● | | | | |
| SI | R | M | S | R | M | S | | R | M | S | ● |
| SK | R | M | | R | M | S | | R | M | S | ● |
| FI | R | M | S | R | M | S | | | | | ● |
| SE | R | M | S | R | M | S | ● | R | M | S | |
| UK-ENG | R | M | S | R | M | S | ● | R | M | S | ● |
| UK-WLS | R | M | | R | M | | ● | R | M | S | ● |
| UK-NIR | R | M | | R | M | S | ● | R | M | S | ● |
| UK-SCT | R | M | | R | M | S | ● | R | M | | ● |

*Source*: European Commission/EACEA/Eurydice (2016): *Structural indicators for monitoring education and training systems in Europe 2016*. Note: 'R' = reading; 'M' = mathematics; 'S' = science.

**Table A.4: Early leaving from education and training: A selection of structural indicators, 2015/2016**

| | National data collection on ELET based on a student register | Flexibility and permeability of education pathways | Language support for students with a different mother tongue | Inclusion of early leaving in ITE and/or CPD | Education and career guidance in schools, ISCED 2 and 3[108] | Support for early leavers to re-enter the education and training system |
|---|---|---|---|---|---|---|
| BE fr | ● | ● | ● | ● | | ● |
| BE de | | ● | ● | ● | | ● |
| BE nl | ● | ● | ● | ● | | ● |
| BG | ● | ● | ● | | | ● |
| CZ | ● | ● | ● | | ● | ● |
| DK | ● | ● | ● | | | ● |
| DE | | ● | ● | ● | ● | ● |
| EE | ● | ● | ● | | ● | ● |
| IE | ● | ● | ● | ● | | ● |
| EL | ● | ● | ● | | | ● |
| ES | | ● | ● | ● | ● | ● |
| FR | ● | ● | ● | ● | ● | ● |
| HR | | ● | ● | | | ● |
| IT | ● | ● | ● | | ● | ● |
| CY | | ● | ● | | | ● |
| LV | ● | ● | ● | ● | ● | ● |
| LT | ● | ● | ● | | ● | ● |
| LU | ● | | ● | | | ● |
| HU | | ● | | | ● | ● |
| MT | | ● | ● | | | ● |
| NL | ● | ● | | | | ● |
| AT | ● | ● | ● | ● | ● | ● |
| PL | ● | ● | ● | | | ● |
| PT | ● | ● | ● | | | ● |
| RO | | ● | ● | | ● | ● |
| SI | | ● | ● | ● | ● | ● |
| SK | | ● | ● | | ● | ● |
| FI | ● | ● | ● | | ● | ● |
| SE | ● | ● | ● | | | ● |
| UK-ENG | ● | ● | ● | | | ● |
| UK-WLS | ● | ● | ● | | | ● |
| UK-NIR | | ● | ● | | | ● |
| UK-SCT | ● | ● | | | ● | ● |

*Source*: European Commission/EACEA/Eurydice (2016): *Structural indicators for monitoring education and training systems in Europe 2016*

[108] Education and career guidance provided both as a compulsory part of the curriculum and by school guidance services in lower and upper secondary education.

## Table A.5: Examples of efforts to widen participation and increase completion rates in higher education, 2015/2016

| | Quantitative targets for widening participation and/or attainment of under-represented groups | Monitoring of socioeconomic background of students | Recognition of informal or non-formal learning in entry to higher education | Completion rates as a required criterion in external QA | Performance-based funding mechanisms with a social dimension focus |
|---|---|---|---|---|---|
| BE fr | | ● | ● | ● | |
| BE de | | | | ● | |
| BE nl | ● | ● | ● | ● | ● |
| BG | | ● | | ● | |
| CZ | | | | | |
| DK | | ● | ● | | |
| DE | | | | | |
| EE | | | | ● | |
| IE | ● | ● | ● | ● | ● |
| EL | ● | | | | |
| ES | | | ● | ● | ● |
| FR | ● | ● | ● | ● | ● |
| HR | | | | | ● |
| IT | | ● | ● | ● | ● |
| CY | ● | | | | |
| LV | | | | | |
| LT | | ● | ● | ● | |
| LU | | | ● | | ● |
| HU | | ● | | ● | |
| MT | ● | ● | | | |
| NL | | | | | |
| AT | | ● | | | ● |
| PL | | ● | ● | ● | ● |
| PT | | | ● | ● | ● |
| RO | ● | | | | ● |
| SI | | | | ● | |
| SK | | | | | |
| FI | ● | ● | ● | | |
| SE | | ● | ● | | |
| UK* | ● | ● | ● | | ● |
| UK-SCT | ● | ● | ● | | |

*Source*: European Commission/EACEA/Eurydice (2016): *Structural indicators for monitoring education and training systems in Europe 2016* Note: UK* = England, Wales and Northern Ireland


| | |
|---|---|
| AT | Austria |
| BE | Belgium |
| BE fr | Belgium – French speaking community |
| BE nl | Belgium – Dutch speaking community |
| BE de | Belgium – German speaking community |
| BG | Bulgaria |
| CY | Cyprus |
| CZ | Czech Republic |
| DE | Germany |
| DK | Denmark |
| EE | Estonia |
| EL | Greece |
| ES | Spain |
| EU | European Union |
| FI | Finland |
| FR | France |
| HR | Croatia |
| HU | Hungary |
| IE | Ireland |
| IT | Italy |
| LT | Lithuania |
| LU | Luxembourg |
| LV | Latvia |
| MT | Malta |
| NL | Netherlands |
| PL | Poland |
| PT | Portugal |
| RO | Romania |
| SE | Sweden |
| SI | Slovenia |
| SK | Slovakia |
| UK | United Kingdom |
| UK-ENG | England |
| UK-NIR | Northern Ireland |
| UK-SCT | Scotland |
| UK-WLS | Wales |

The Education and Training Monitor 2016 is accompanied by

***28 individual country reports***

&

***a set of contextual indicators***

&

***online visualisation tools***

*ec.europa.eu/education/monitor*

| | |
|---|---|
| CEFR | Common European Framework of Reference for Languages |
| COM | Communication of the European Commission |
| CPD | Continuing professional development |
| CRELL | Centre for Research on Education and Lifelong Learning (JRC) |
| DG EAC | Directorate-General for Education and Culture, European Commission |
| DG EMPL | Directorate-General for Employment, Social Affairs and Inclusion (European Commission) |
| EACEA | Education, Audiovisual and Culture Executive Agency (European Commission) |
| ECEC | Early childhood education and care |
| ECTS | European credit transfer and accumulation system |
| EENEE | European Expert Network on Economics of Education |
| EHEA | European Higher Education Area |
| EQAVET | European Quality Assurance for Vocational Education and Training |
| ESF | European Social Fund |
| ET 2020 | The EU's strategic framework for European cooperation in education and training |
| EUROPE 2020 | The EU's ten-year jobs and growth strategy |
| EUROSTAT | Statistical office of the European Union |
| GDP | Gross Domestic Product |
| HEI | Higher education institution |
| ICILS | International Computer and Information Literacy Study (IEA) |
| ICT | Information and Communication Technology |
| IEA | International Association for the Evaluation of Educational Achievement |
| IPTS | Institute for Prospective Technological Studies (JRC) |
| ISCED | International Standard Classification of Education |
| ITE | Initial teacher education |
| JRC | Joint Research Centre (European Commission) |
| LFS | EU Labour Force Survey (Eurostat) |
| MOOCs | Massive Online Open Courses |
| NEET | Not in employment, education or training |
| NESET II | Network of Experts on Social Aspects of Education and Training |
| OECD | Organisation for Economic Co-operation and Development |
| OER | Open Educational Resources |
| OJ | Official Journal of the EU |
| PIAAC | Programme for the International Assessment of Adult Competencies (OECD) |
| PIRLS | Progress in International Reading Literacy Survey (IEA) |
| PISA | Programme for International Student Assessment (OECD) |
| PPS | Purchasing Power Standard |
| QA | Quality assurance |
| SILC | EU statistics on income and living conditions |
| STEM | Science, technology, engineering and mathematics |
| SWD | Staff Working Document of the European Commission |
| TALIS | Teaching and Learning International Survey (OECD) |
| TIMSS | Trends in International Mathematics and Science Study (IEA) |
| UNESCO | United Nations Educational, Scientific and Cultural Organization |
| UOE | Common data collection of the UNESCO Institute for Statistics, OECD and Eurostat |
| VET | Vocational education and training |