



European  
Commission



# Education and Training Monitor 2012

**Europe Direct is a service to help you find answers  
to your questions about the European Union.**

Freephone number (\*):  
**00 800 6 7 8 9 10 11**

(\*) Certain mobile telephone operators do not allow access to 00 800 numbers  
or these calls may be billed.

More information on the European Union is available on the Internet (<http://europa.eu>).  
Cataloguing data can be found at the end of this publication.

Luxembourg: Publications Office of the European Union, 2012

ISBN 978-92-9201-350-9  
doi: 10.2797/51172

Cover image: ©joneshon - Fotolia.com  
© European Union, 2012  
Reproduction is authorised provided the source is acknowledged.

*Printed in Belgium*

Printed on elemental chlorine-free bleached paper (ecf)



EUROPEAN  
COMMISSION

# **Education and Training Monitor**

*2012*

This publication is based on document SWD(2012)373

*The 2012 Education and Training Monitor was prepared by the unit 'Analysis and Studies' with the help of thematic units within the Directorate-General of Education and Culture (DG EAC). DG EAC was assisted by the Eurydice unit from the Education and Culture Executive Agency (EACEA), the Centre for Research on Lifelong Learning (CRELL) and Eurostat. The members of the Standing Group on Indicators and Benchmarks (SGIB) were consulted during the drafting phase.*

---

## Foreword

As the consequences of the financial and economic crisis are increasingly felt across Europe, it is vital to unlock the potential of education as a key driver for growth and jobs. This is why I launched the Rethinking Education strategy in November 2012. I believe Europe needs a radical rethink on how education and training systems can deliver the skills needed by the labour market. I want to encourage Member States to take immediate action to ensure young people's future.

This is the first-ever Education and Training Monitor. It is a new analytical tool that provides empirical evidence to underpin our reform agenda. It gives a comprehensive overview of the main indicators on education and training systems in Europe, enabling policy-makers to compare progress as well as to identify the immediate challenges for Member States.

Education and training is a key part of Europe 2020, the European strategy for smart, sustainable and inclusive growth. By 2020 the EU aims to have fewer than 10% of young people leaving school early and 40% of young people completing higher education. The Education and Training Monitor will show to what extent these objectives are on track to be reached. It is integral to our strategy of bringing existing EU-level cooperation in education and training in line with the overarching objectives of Europe 2020.

The EU's Strategic Framework for Education and Training 2020 endeavours to fulfil four long-term objectives: to make lifelong learning and mobility a reality; to improve the quality and efficiency of education and training; to promote equity, social cohesion and active citizenship; and to enhance creativity and innovation, including entrepreneurship, at all levels of education and training. The strategy establishes the foundation for European cooperation in the field of education and training, and thus makes a significant contribution towards achieving the wider Europe 2020 goals.

The role of education and training in fostering sustainable growth is decisive. Member States must pursue reforms to boost both the performance and efficiency of their education systems. Well targeted education and training policies will help Europe tackle the current crisis, while laying the foundations for a more dynamic, resilient, and united Europe.

I am convinced that the wealth of data in the Education and Training Monitor will be of great use to decision makers in reviewing and reforming their educational policies in line with the recommendations in the Rethinking Education strategy. I hope it will contribute to enhance exchange of information, experience, and mutual learning at the national and European level.

Androulla Vassiliou

European Commissioner for Education, Culture, Multilingualism and Youth



## Table of contents

<b>Key findings.....</b>	<b>6</b>
<b>1. Introduction to the new Education and Training Monitor .....</b>	<b>8</b>
<b>2. Investment in education in a context of demographic change and economic crisis .....</b>	<b>10</b>
2.1. Efficiency and effectiveness of education and training .....	10
2.2. Demographic change and education spending .....	12
2.3. The crisis and education spending .....	13
<b>3. Early leavers from education and training .....</b>	<b>17</b>
3.1. The problem of early school leaving .....	17
3.2. Progress towards headline target and national targets .....	19
3.3. An EU trajectory towards 2020 .....	21
3.4. The road ahead for Member States.....	22
<b>4. Encouraging participation in Higher Education.....</b>	<b>23</b>
4.1. The issue of attaining increased levels of higher education completion.....	23
4.2. The current status and trajectories towards 2020 .....	25
4.3. The road ahead for Member States.....	28
<b>5. The case for high-quality Early Childhood Education and Care .....</b>	<b>29</b>
5.1. The quality of ECEC provision .....	30
5.2. Targeted support for disadvantaged groups .....	31
<b>6. Acquiring the skills needed for the future .....</b>	<b>32</b>
6.1. Basic skills: reading, maths and science .....	32
6.2. Language skills.....	34
6.3. ICT skills .....	38
6.4. Entrepreneurial skills.....	40
6.5. Civic skills .....	41
<b>7. Student mobility in vocational training and Higher Education .....</b>	<b>43</b>
7.1. Promoting learning mobility of young people.....	43
7.2. Mobility in vocational education and training.....	43
7.3. Mobility in higher education.....	44
<b>8. Adult participation in lifelong learning .....</b>	<b>48</b>
8.1. Participation of adults in learning activities .....	48
8.2. The relevance of informal learning.....	49
8.3. What levels of competences have adults acquired? .....	50
<b>9. Matching educational outcomes and labour market needs .....</b>	<b>52</b>
9.1. The employment rate of graduates.....	52
9.2. The educational attainment of adults .....	54
9.3. Future skills needs .....	56
<b>Annexes.....</b>	<b>58</b>
<b>Annex 1. Further tables and figures.....</b>	<b>58</b>
<b>Annex 2. List of abbreviations.....</b>	<b>64</b>
2.1. Country abbreviations .....	64
2.2. General abbreviations .....	65

## Key findings

1. **Education is part of the solution to tackle the impact of the crisis, but only if investment is efficient.** The returns on investment in education and training are undeniable, both monetary and non-monetary, for the individual as well as for society at large. Education spending up until 2009 did not decrease despite the challenges of the economic crisis, but cutbacks have been apparent since. Further demographic changes and budgetary constraints are likely to increase the need to improve efficiency of education expenditures.
2. **Efforts to combat early school leaving must be increased as a matter of urgency.** The early school leaving headline target is unlikely to be reached unless Member States step up their efforts. The prospects for early school leavers are getting worse, with their unemployment at an alarming rate and forecasted to increase. The problem is further aggravated by disparities according to gender and country of birth.
3. **Action to widen participation in tertiary education now needs to be more targeted.** In the last five years there has been significant progress in the share of 30-34 year olds who have successfully qualified from higher education. This trend means that it is possible to reach the headline target by 2020 at EU level, if present efforts are sustained. However, some Member States still have considerable progress to make to reach their national targets. Moreover the tertiary attainment rate for men is significantly lower than that for women – a cause for concern.
4. **Improving early childhood education and care must continue to be a priority.** The increasing level of participation in early childhood education and care is encouraging. But to provide a solid start for individuals and to be a potential equaliser for European societies, the provision must be of sufficient quality. Quality indicators, such as the child/staff ratio and total expenditure, show strong discrepancies between Member States and only slight improvements over the last few years.
5. **Inequalities in achievement of basic skills must be tackled.** A worrying number of 15-year-olds fail to reach basic ability levels in reading, maths and science. In addition, the EU average masks serious gender inequalities – with the share of low-achieving boys now close to twice the share of low-achieving girls, and significant low performance for foreign-born pupils even when taking socio-economic status into account.
6. **Providing relevant skills: a new EU benchmark for language competences.** Foreign language provision is still far off the EU objective of learning 'mother tongue plus two' from a very early age, despite progress in primary, lower secondary and vocational education. In addition, first evidence of young people's language competences highlights low levels indicating that language teaching must become more effective. Against this background, the Commission will propose a new EU benchmark on language competences.

7. **Embedding ICT and open educational resources (OER) in teaching and learning can combat the digital divide.** The percentage of the adult population with some computer skills has significantly increased over the last five years, but there remain large differences between countries and gaps according to age and educational attainment. Action to increase ICT skill levels is needed, and education and training systems can contribute to this by embedding ICT and OER (open educational resources).
8. **Entrepreneurship education should be prioritised.** Most Member States have strategies or on-going initiatives addressing the implementation of entrepreneurship education into general education at primary and/or secondary level, yet only in a quarter of Member States did a majority of adults believe they had the right skills and knowledge to start a business. Consequently, entrepreneurship needs to be introduced early, and included at all levels and in all disciplines of education and training.
9. **A recent trend is that the learning mobility of young people is increasing across Europe.** It is more developed in tertiary level education where close to 650000 EU students study outside their country of origin most in another EU country, with more than one third supported by Erasmus grants. Even with little available data, evidence suggests that mobility levels in initial VET are significantly lower.
10. **Participation in adult learning is stagnating and must be urgently addressed.** Adult lifelong learning is still far from a reality. Participation in learning activities is stagnating, with considerable variation between countries. New developments, such as open educational resources, could help to unlock the potential of informal learning amongst the adult population, allowing for self-guided and occasional learning from a variety of sources.
11. **Significant effort is required to reach the employability benchmark by 2020.** The employment rate of those with tertiary attainment is more than ten percentage points higher than those with only secondary education, while in the current crisis the population with lower attainment is most at risk of unemployment. However, the employment rate of young graduates has fallen since 2008 and strong efforts and additional measures are needed to reach the employability target set for 2020.

## 1. Introduction to the new Education and Training Monitor

The Education and Training Monitor contains a wealth of quantitative information and comparative analysis that will back up the country-specific assessment during the European Semester and the drafting of country-specific Recommendations. The insight it provides will also help to inform work under ET 2020, such as peer-learning, the identification of good practice or the debate with and among stakeholders.

It is a tool to foster and encourage evidence-based policy making, and draws on the working methods established through Europe 2020, in particular the Joint Assessment Framework (JAF), to help ensure consistent assessment of progress across Member States.

Under ET 2020, four strategic objectives have been agreed (table 1.1) and a number of EU benchmarks have been set (table 1.2), of which two – concerning early school leaving and tertiary educational attainment – have been taken up by Europe 2020 as headline targets. These benchmarks offer insight and help to gauge Member States' progress. They have been addressed systematically throughout the Monitor.

**Table 1.1. Four ET 2020 Strategic Objectives**

1. Making lifelong learning and mobility a reality;
2. Improving the quality and efficiency of education and training;
3. Promoting equity, social cohesion and active citizenship;
4. Enhancing creativity and innovation, including entrepreneurship, at all levels of education and training.

In 2012, an additional benchmark on employability was agreed and evidence is presented here for the first time. A further benchmark on language competences - that has been prepared upon request of the Council - is set out in a separate document<sup>1</sup>, and once adopted will be addressed in future editions of the Monitor.

**Table 1.2. Seven ET 2020 Benchmarks**

1. At least 95% of children between the age of four and the age for starting compulsory primary education should participate in early childhood education;
2. The share of 15 year-olds with insufficient abilities in reading, mathematics and science should be less than 15%;
3. The share of early leavers from education and training should be less than 10%;
4. The share of 30-34 year-olds with tertiary educational attainment should be at least 40%;
5. An average of at least 15 % of adults (age group 25-64) should participate in lifelong Learning;
6. At least 20 % of higher education graduates and 6% of 18-34 year-olds with an initial VET qualification should have had a period of study or training abroad;
7. The share of employed graduates (20-34 year-olds) having left education and training no more than three years before the reference year should be at least 82%.

*Note:* benchmarks (3) and (4) together form a headline target of the Europe 2020 strategy. An eighth benchmark, covering foreign language skills and based on the European Language Competence Survey, is currently being developed, with a view of an adoption by the Council in the first semester 2013.

This first Education and Training Monitor provides an EU-wide overview of where Member States stand in relation to the ET 2020 benchmarks, looking at different subgroups where the data allows for such differentiation. To support the Communication on Rethinking Education, particular attention is given to indicators that describe the situation and trends in terms of skills.

<sup>1</sup> See the Commission Staff Working Document "Language Competences for Employability, Mobility and Growth".

Chapter two addresses education in relation to the crisis and to demographic changes. Chapters three and four examine the Europe 2020 education headline targets on early school leaving and tertiary educational attainment respectively. Chapters five through nine deal with the further ET 2020 benchmarks and related indicators, with a focus on various skills and competences in chapter six.

**Table 1.3. Summary of Education & Training Indicators**

		EU average		TOP Performer	LOW Performer	EU Benchmark
		2006	2011	2011	2011	2020
<b>1. Early leavers from education and training</b> (age 18-24)		15.5%	13.5%	4.2%	33.5%	<b>10%</b>
<b>2. Tertiary educational attainment</b> (age 30-34)		28.9%	34.6%	49.4%	20.3%	<b>40%</b>
<b>3. Participation in early childhood education</b> (4 years old - year before start of compulsory primary)		89.3%	92.3% <sup>10</sup>	100.0%	73.1% <sup>10</sup>	<b>95%</b>
<b>4. Employment rate of graduates (age 20-34)</b> having left education and training no more than 3 years before reference year		79.0%	77.2%	92.2%	50.2%	<b>82%</b>
<b>5. Adult participation in lifelong learning</b> (age 25-64)		9.5%	8.9%	32.3%	1.2%	<b>15%</b>
<b>6. Basic skills</b> Low achievers (15 year-olds; Level 1 or lower in PISA study)	Reading	23.1%	19.6% <sup>09</sup>	8.1%	41.0% <sup>09</sup>	<b>15%</b>
	Mathematics	24.0%	22.2% <sup>09</sup>	7.8%	47.1% <sup>09</sup>	<b>15%</b>
	Science	20.3%	17.7% <sup>09</sup>	6.0%	41.4% <sup>09</sup>	<b>15%</b>
		EU average		Maximum value	Minimum value	
		2006	2011	2011	2011	
<b>7. ICT skills</b>	% of pupils in 4th grade using computers at school	60.7% <sup>07</sup>	:	85.8%	21.9%	
	% of individuals aged 16-74 with high computer skills <sup>1</sup>	21.0%	27.0%	43.0%	10.0%	
<b>8. Entrepreneurship</b>	% of 18-64 old population who believe to have the required skills and knowledge to start a business	42.0%	43.0%	53.0%	35.0%	
<b>9. Languages</b>	Average number of foreign languages learned per pupil at ISCED 2	1.4	1.5 <sup>10</sup>	2.5%	1.0% <sup>10</sup>	
	% of students reaching B1 level or higher in the first foreign language at the end of lower secondary educ. <sup>2</sup>	:	43.5%	82.7%	9.3%	
<b>10a. Tertiary graduates by field</b> Graduates (ISCED 5-6) in a specific field, as % of all fields	Education and training	10.5%	9.6% <sup>10,e</sup>	20.8%	1.5% <sup>10,e</sup>	
	Humanities and art	12.1%	11.5% <sup>10,e</sup>	18.9%	6.2% <sup>10,e</sup>	
	Social science, business and law of which: <i>business and administration</i>	35.2%	35.7% <sup>10,e</sup>	60.0%	22.4% <sup>10,e</sup>	
	Maths, science and technology	19.5%	20.2% <sup>10,e</sup>	41.9%	10.7% <sup>10,e</sup>	
	Agriculture and veterinary field	22.4%	21.9% <sup>10,e</sup>	31.8%	13.3% <sup>10,e</sup>	
	Health and welfare	1.7%	1.6% <sup>10,e</sup>	4.6%	0.1% <sup>10,e</sup>	
	Services	14.3%	15.1% <sup>10,e</sup>	24.9%	6.1% <sup>10,e</sup>	
<b>10b. MST graduates</b>	Number of maths, science and technology graduates per 1000 young people (age 20-29)	3.8%	4.2% <sup>10,e</sup>	9.4%	1.0% <sup>10,e</sup>	
<b>11. Skills for future labour markets</b> Projected change in employment 2010-2020 in %	High qualification	13.5	14.4 <sup>09</sup>	24.2%	3.1% <sup>09</sup>	
	Medium qualification	:	19.7% <sup>10</sup>	39.2%	-9.0% <sup>10</sup>	
	Low qualification	:	4.8% <sup>10</sup>	40.3%	-14.9% <sup>10</sup>	
<b>12. Investment in education and training</b> Public spending on education, % of GDP		:	-20.1% <sup>10</sup>	36.0%	-44.4% <sup>10</sup>	
		5.03% <sup>e</sup>	5.41% <sup>e</sup>	8.70%	4.10% <sup>09,e</sup>	

Source: Eurostat (UOE, LFS), OECD (PISA), CEDEFOP, Global Entrepreneurship Monitor, European Survey on Language Competences ESLC. <sup>07</sup> =2007, <sup>08</sup> =2008, <sup>09</sup> =2009, <sup>10</sup> =2010, <sup>11</sup> =2011, e= estimate, b= break, p= provisional. Number of countries included in EU average: PISA=25, Entrepreneurship=18, Language skills=13, ICT/Computers at school=13. <sup>1</sup>= having carried out 5-6 specific computer related activities, <sup>2</sup>= average of skills tested in reading, listening, writing.

## 2. Investment in education in a context of demographic change and economic crisis

Two important developments are changing the context in which education and training systems operate. The first one is the impact of the economic, financial and sovereign debt crisis on our labour markets, economies and societies. The second one is the process of demographic ageing and in particular its impact on the labour market.

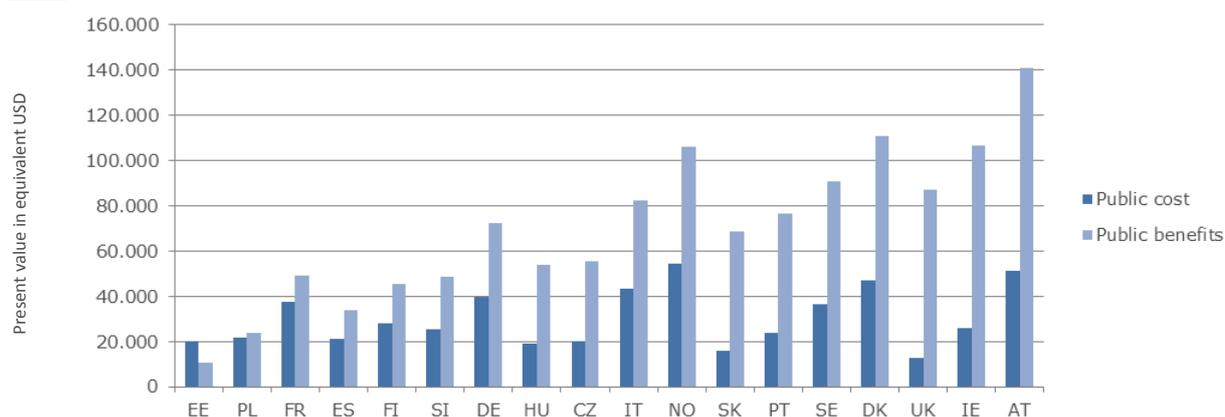
Education and training are part of the solution to face up to both of these challenges, as they help to boost productivity, innovation and competitiveness. However, to reap the benefits of investing in education and training presupposes the ability to mobilise the necessary funding first. In times of tight public finance, it would be contra-productive to cut down investment in growth-enhancing policies, such as education. At the same time, Member States are scrutinising their education and training systems to make them more efficient and effective so that they contribute to an exit from the crisis and help by compensating the effects of demographic ageing.

### 2.1. Efficiency and effectiveness of education and training

The *effectiveness* of education and training systems refers to the *output* they generate, be it the number of graduates or the level of skills they master when leaving the education and training system. Effectiveness can also be defined as the longer term *benefits* of education and training, both for the individual (e.g. increased earnings) and for society at large (e.g. labour productivity, increased tax payments, GDP growth)<sup>2</sup>.

The *efficiency* of education and training systems is established when looking at their effectiveness (learning outcomes and long term benefits) and comparing this to the monetary *input* made to generate these outcomes. In other words, what is the output per unit spent? Funding can come from different sources, such as government expenditure, private sector contributions or individual payments and fees.

**Figure 2.1. Public cost and benefits for a man obtaining ISCED 3/4 (2008)**



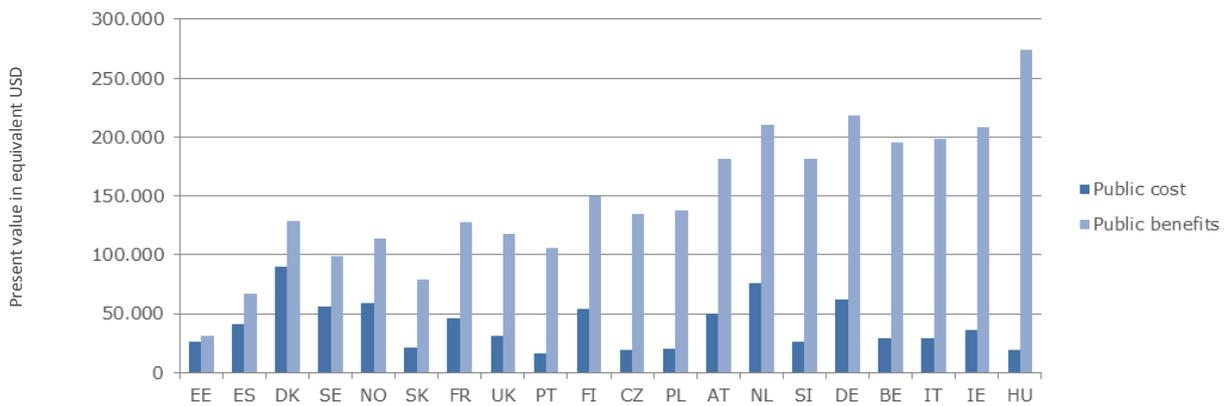
Source: OECD (2012), Education at a Glance 2012, Chart A9.5. Note: countries are ranked in ascending order of the net present value. Deviating source years for Portugal (2006) and Slovenia (2007).

Figures 2.1 and 2.2 illustrate the efficiency of European education and training systems in terms of their public monetary costs (direct costs and foregone taxes on earnings) and public monetary benefits over an individual's working life (income taxes, increased social insurance payments and

<sup>2</sup> It is precisely because the outcomes of education and training are so uniquely multifaceted that both effectiveness and efficiency are very difficult to quantify. Decades of research on the benefits of education has found non-monetary private and public outcomes such as life-satisfaction and happiness, health and well-being, democratisation, political stability and civic participation, lower crime rates and social cohesion. For an overview of the literature, see EENEE (2006), Efficiency and Equity in European Education and Training Systems.

lower social transfers). The public returns of upper secondary or post-secondary non-tertiary education are positive in all European countries except Estonia (figure 2.1). Although the figure only illustrates the net gains for male students, both men and women yield public benefits that, on average, are about twice as large as the overall public costs at this level.<sup>3</sup> The public returns of tertiary education are much higher still, partly because individuals bear some of the cost of the education provided in some countries (figure 2.2). Public benefits outweigh the costs by a factor of three for men and a factor of two for women, on average. In Hungary, the benefits are 14 times larger than the public sector's initial investment in a man's tertiary education.

**Figure 2.2. Public cost and benefits for a man obtaining ISCED 5/6 (2008)**



Source: OECD (2012), Education at a Glance 2012, Chart A9.5. Note: countries are ranked in ascending order of the net present value. Deviating source years for Portugal (2006) and Slovenia (2007).

In 2009, an independent study on the efficiency and effectiveness of public spending on tertiary education in the EU<sup>4</sup> identified a slightly different distribution of efficiency across Member States. The study consistently found the UK and to a lesser extent the Netherlands to generate the highest levels of efficiency, whereas the Czech Republic, Greece, Portugal and Slovakia were repeatedly placed at the bottom of the league in this respect. Factors positively related to efficiency were output-based funding rules, independent evaluation of institutions and autonomy in staffing policy. Another crucial factor was found to be a good quality secondary education system.

Recent work on the efficiency and effectiveness of public spending on education, led by the Directorate-General for Economic and Financial Affairs<sup>5 6</sup>, confirms that the efficiency of tertiary education expenditure is strongly *linked* to the quality and equity of primary and secondary education. Nurturing earlier levels of education lays the foundations needed by students to advance to, and progress in, tertiary education.

Indeed, evidence relating to the efficiency and effectiveness of education spending illustrates how progress at one level of education can be conditional upon the measures taken at the preceding levels. This is true, for example, when it comes to broadening access to tertiary education to those from less favourable family backgrounds<sup>7</sup>. Limited access to tertiary education among such groups is unlikely to be fully remedied by action at the level of tertiary education alone (access programmes, financial support) because the individuals concerned tend to lack the pre-requisite skill-sets to access and succeed in tertiary education. As a result, there is a clear need to intervene within the compulsory strand of education. This confirms the earlier findings from the European

<sup>3</sup> For the detailed estimates for women see OECD (2012), Education at a Glance 2012, Table A9.2

<sup>4</sup> European Commission (2009), Study on the efficiency and effectiveness of public spending on tertiary education ([http://ec.europa.eu/economy\\_finance/publications/publication16267\\_en.pdf](http://ec.europa.eu/economy_finance/publications/publication16267_en.pdf)).

<sup>5</sup> Culminating in the conclusions from the Economic and Financial Affairs Council meeting on ensuring the future efficiency and effectiveness of public expenditure on tertiary education ([http://www.consilium.europa.eu/uedocs/cms\\_data/docs/pressdata/en/ecofin/117192.pdf](http://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/ecofin/117192.pdf)).

<sup>6</sup> European Commission (2010), Efficiency and effectiveness of public expenditure on tertiary education in the EU: Joint Report by the Economic Policy Committee and Directorate-General for Economic and Financial Affairs ([http://ec.europa.eu/economy\\_finance/publications/occasional\\_paper/2010/pdf/ocp70\\_en.pdf](http://ec.europa.eu/economy_finance/publications/occasional_paper/2010/pdf/ocp70_en.pdf)).

<sup>7</sup> Ibid.

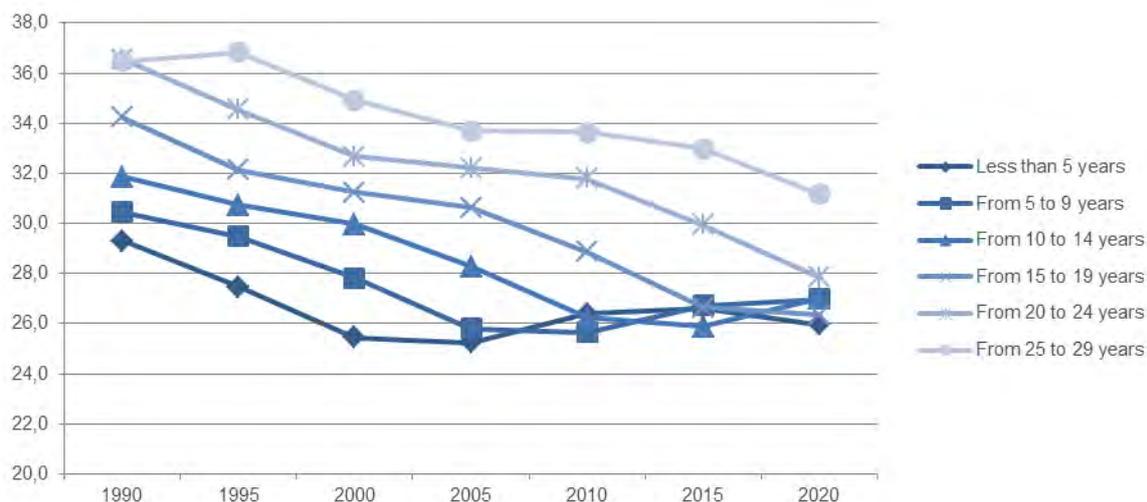
Expert Network on Economics of Education (EENEE), which emphasised the strong complementarities between efficiency and equality of opportunity, and advocated early measures to improve the educational outcomes of disadvantaged students<sup>8</sup>.

The focus of this chapter is on government expenditure and its various components. Simply investing more in education and training does not guarantee higher effectiveness (outcomes), while greater efficiency is unlikely to be achieved by simple cut-backs. What counts is quality enhancing reform. Another possibility to seek efficiency gains is to transfer some of the risks, incentives and responsibilities to the private sector, to schools and education institutions, or to individual learners. However, more evidence is needed before concluding on the effects of such measures<sup>9</sup>.

## 2.2. Demographic change and education spending

Demographic trends have strong implications for the financing of education across all levels of education and training. The number of young people in the European Union has declined steadily since 1990 (see figure 2.3).

**Figure 2.3. Population and population projection (in millions) by age group (EU 27)**



Source: Eurostat, population statistics (2015-2020 from the Europop 2010 forecast, convergence scenario).

These overall trends conceal contrasting situations across the Member States. Countries in the west and north of Europe tend to have higher birth rates than countries in the south and east of Europe. Around 1990 Central and Eastern European countries experienced a decline in the birth rates, while starting with the year 2004 they have stabilised or are increasing again. In many central and eastern European Member States the population 0-10 years-old has continued to decrease each year up to 2005, although for these countries and EU27 as a whole since 2005 figures are slightly increasing. At the same time, Ireland and Spain have recorded significant growth rates between 2004 and 2008, partly a result of strong net migration.

Against the background of the declining youth population, the period 2000-2010 saw an overall decrease in intake to primary education and to lower secondary school. According to the Europop2010 population forecast, this decline is expected to be reversed. For EU27 the population in the age-group 5-14 years is expected to increase by around 4% until 2020.

<sup>8</sup> EENEE (2006), Efficiency and Equity in European Education and Training Systems. See also COM(2006) 481 and SEC(2006) 1096.

<sup>9</sup> For an overview of how Member States compare in terms of private funding of education, school autonomy and school accountability, see EACEA/Eurydice (2012), Key Data on Education in Europe 2012 ([http://eacea.ec.europa.eu/education/eurydice/key\\_data\\_en.php](http://eacea.ec.europa.eu/education/eurydice/key_data_en.php)).

These demographic changes have strong implications for the efficiency of education spending. When it comes to compulsory education (primary and lower secondary education), which is currently seeing a lower intake of pupils due to smaller cohorts, there might be possibilities for efficiency gains, e.g. by seeking synergies in terms of structural changes. It is also important to bear in mind that early investment in education (see also 2.1), including early childhood education and care give important long term returns. Future costs of upper secondary and tertiary education will increase in line with the expected upturn in enrolment due to higher participation rates, counteracting the demographic decline. Other reasons why population ageing may bring additional pressure to bear on education financing are, firstly, the growing need for periodic education and retraining as working lives gradually lengthen and, secondly, the increasing importance of education and training in achieving the productivity growth needed to ensure strong economic growth<sup>10</sup>.

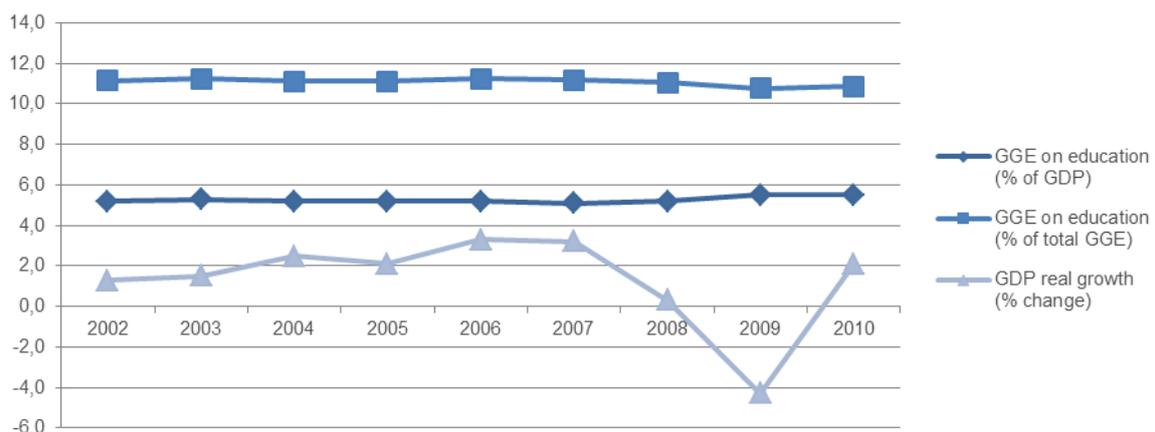
### 2.3. The crisis and education spending

The crisis brings a message for education and training that is no less important than the message that education holds for Europe since the crisis started. Budget constraints threaten to compromise the input or investments made in the field of education, and therefore efficiency is prioritised, as not to sacrifice the effectiveness of our education and training systems. In other words, ensuring a higher output per unit invested becomes increasingly important, and investments are preferably made where benefits are most promising<sup>11</sup>. At the same time, however, education and training are a key part of the solution to the challenge posed by the crisis. As seen in section 2.1, the returns to investment in education are extraordinary and have therefore an unparalleled potential for growth.

#### The first phase of the crisis: 2009-2010

Europe is suffering a period of economic crisis and thus it is too early to judge to what extent the crisis has affected spending on education; it will only become possible to determine the true impact given a wider time frame. Moreover, the crisis started out initially as a crisis of the financial sector, with a relatively limited impact on public finance. Consequently, in the short run, the average education expenditure did not show any sizeable change, as illustrated in figure 2.4. General government expenditure (GGE) on education – the total public expenditure from all levels of government – can be seen as the commitment that a country makes to the development of skills and competences.

**Figure 2.4. General Government Expenditure on education and GDP real growth in EU27**



Source: Eurostat. Government finance statistics (general government expenditure by function)

<sup>10</sup> See the conclusions from the Economic and Financial Affairs Council meeting in 2010 ([http://www.consilium.europa.eu/uedocs/cms\\_data/docs/pressdata/en/ecofin/117192.pdf](http://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/ecofin/117192.pdf)).

<sup>11</sup> This simple message nevertheless poses a challenge to the sector, as many of the arguably most important benefits of education and training are not easily quantified – let alone translated into a monetary return to a certain level of investment.

In fact, between 2004 and 2010, GGE on education measured both as a share of GDP and as a share of total GGE was stable – reaching 5.5% and 10.8% respectively. The average values in figure 2.2 are the result of different developments across Member States. As shown in the annex (tables 2.A and 2.B), the level of GGE on education varies sizeably between Member States. Whereas in Greece, Germany, Romania, Bulgaria, Slovakia and Italy GGE on education is around 4% of GDP or less for all the years analysed, the spending in other Member States (such as Denmark, Sweden or Cyprus) is around double that figure (between 7 and 8%).

In 2009, nearly all European countries were in recession (i.e. their GDP decreased) and nearly all maintained or increased their public spending in education except Portugal and Romania. Not surprisingly, public expenditure on education as a share of GDP increased in countries which suffered for consecutive years of recession. This shows that either public expenditure on education continued to increase or that it decreased at a slower pace than the GDP. For instance, in Ireland and Latvia, such a share stood at level above 5% and 6% respectively. In Greece, public expenditure on education remained close to 4% of GDP from 2008 onwards. Such a pattern is observed in nearly all the other countries that recorded two consecutive years of recession. This might also be explained by the time lag that exists in the orientation of public expenditure on education but also the will of policy-makers to go on investing in education systems as they are a key for recovery and future economic growth.

When considering national account data, the EU-27 continued to invest in education despite the economic crisis. One third of European countries followed this trend and did not register any decrease in real public expenditure in education from 2007 onwards. However, several countries registered a drop in real public expenditure in education for one or several consecutive years. This occurred over three consecutive years in Italy (2008 - 2010) and Hungary (2007 – 2009) and during two consecutive years (2009 and 2010) in Bulgaria, Greece, Latvia, Romania and Iceland. However, the level of public expenditure remained higher in 2010 than that of 2000 in all these countries except Italy.

**Table 2.1. Total public expenditure on education as % of GDP, by level of education**

	All levels of education combined		Primary level of education (ISCED 1)		Secondary level of education (ISCED 2-4)		Tertiary level of education (ISCED 5-6)		pre-primary level of education (ISCED 0) and not allocated	
	2004	2009	2004	2009	2004	2009	2004	2009	2004	2009
<b>EU 27 countries</b>	<b>5.06</b>	<b>5.41</b>	<b>1.16</b>	<b>1.24</b>	<b>2.29</b>	<b>2.41</b>	<b>1.13</b>	<b>1.22</b>	<b>0.49</b>	<b>0.55</b>
Belgium	5.95	6.57	1.41	1.50	2.56	2.85	1.29	1.47	0.69	0.75
Bulgaria	4.40	4.58	0.84	0.85	2.02	1.87	0.78	0.95	0.76	0.91
Czech Republic	4.20	4.38	0.64	0.70	2.17	2.07	0.90	1.02	0.48	0.60
Denmark	8.43	8.72	1.93	2.12	2.94	2.94	2.51	2.41	1.04	1.25
Germany	4.62	5.06	0.66	0.69	2.33	2.48	1.17	1.34	0.47	0.55
Estonia	4.92	6.09	1.27	1.53	2.45	2.70	0.86	1.34	0.35	0.51
Ireland	4.65	6.50	1.56	2.32	2.00	2.58	1.09	1.54	0.00	0.05
Greece	3.83	:	1.06	:	1.34	:	1.33	:	0.11	:
Spain	4.25	5.01	1.10	1.27	1.69	1.88	0.97	1.14	0.48	0.72
France	5.80	5.89	1.17	1.18	2.76	2.69	1.21	1.34	0.67	0.68
Italy	4.56	4.70	1.18	1.18	2.16	2.18	0.77	0.86	0.45	0.48
Cyprus	6.77	7.98	1.86	2.21	3.08	3.30	1.49	2.06	0.34	0.41
Latvia	5.08	5.64	0.83	1.59	2.91	2.29	0.68	0.79	0.66	0.98
Lithuania	5.17	5.64	0.74	0.73	2.71	3.04	1.06	1.14	0.66	0.74
Luxembourg	3.87	:	2.12	1.36	1.75	1.84	:	:	:	0.59
Hungary	5.44	5.12	1.03	0.86	2.46	2.22	1.02	1.13	0.93	0.91
Malta	4.79	5.46	1.01	1.20	1.91	2.69	0.53	1.19	1.34	0.38
Netherlands	5.46	5.94	1.44	1.48	2.15	2.42	1.45	1.63	0.42	0.41
Austria	5.48	6.01	1.04	1.05	2.61	2.83	1.43	1.57	0.40	0.55
Poland	5.41	5.10	1.70	1.58	2.01	1.92	1.15	1.07	0.55	0.52
Portugal	5.10	5.79	1.61	1.56	2.12	2.60	0.80	1.07	0.57	0.55
Romania	3.28	4.24	1.20	0.78	0.73	1.53	0.70	1.20	0.66	0.73
Slovenia	5.74	5.70	2.63	2.49	1.34	1.26	1.30	1.38	0.48	0.57
Slovakia	4.19	4.09	0.56	0.75	2.11	1.93	0.98	0.81	0.54	0.60
Finland	6.42	6.81	1.37	1.35	2.63	2.89	2.07	2.16	0.35	0.40
Sweden	7.09	7.26	1.91	1.75	2.66	2.75	2.02	2.04	0.50	0.73
United Kingdom	5.16	5.67	1.35	1.76	2.47	2.78	1.00	0.81	0.34	0.31

Source: Eurostat. UOE data collection. Indicators on education finance.

See [http://epp.eurostat.ec.europa.eu/cache/ITY\\_SDDS/Annexes/educ\\_esms\\_an18.pdf](http://epp.eurostat.ec.europa.eu/cache/ITY_SDDS/Annexes/educ_esms_an18.pdf) for additional country notes.

The allocation of resources between different levels of education seems to explain some of the cross-country variation. Indeed, the small growth of total public expenditure on education<sup>12</sup> between 2004 and 2009 was not shared evenly by the level of education (see table 2.1). At the EU level, about a third of this growth was assigned to secondary education, while a sixth at pre-primary and not allocated level; and primary and tertiary education levels consumed each about a quarter.

Most of the education spending consists of current expenditure; mainly salaries and other contributions to teachers (see table 2.C in the annex). In 2009, current expenditure was more than 90% of total expenditure in public education institutions across the EU, and not below 80% in any of the Member States. Because of the importance of personnel expenditure, the expenditure on public education institutions per pupil/student (table 2.D in the annex) is highly influenced by the level of the wages in the economy considered, with richer economies tending to spend more. However, a breakdown of this indicator by level of education shows a common pattern: throughout Europe, the spending on primary education per pupil tends to be lower than the spending on secondary education, which on turn is lower than the spending on tertiary education.

### The second phase of the crisis: 2011-2012

From a recent Eurydice report that analyses the recent trends in national policies and budgets for education it can be seen that when looking only at 2011 central budgets for education compared to 2010, there was more than a 5% decrease in the education budget in six countries. However the reasons for these reductions are partially explained by the demographic evolution and only in some countries by anti-crisis measures<sup>13</sup>.

One area that has been more affected is the financing of human resources. In fact, one third of the European countries or regions report that the economic and financial crisis has had a direct impact on their teaching workforce. Twelve European countries mention that demographic developments are among the main reasons for changes in the funding of human resources. In most cases, a decrease in the number of students, particularly at upper secondary level has led to the need to rationalise the available resources. However, in several countries, there were positive changes in budgets triggered by an increase in the number of students, especially at pre-primary and primary levels of education.

Six countries or regions report that changes in the financing of human resources reflect educational reforms and new policy priorities, which are sometimes also made against the background of austerity and attempts to reduce state deficits. In the last two years teachers' salaries were not directly affected by the economic downturn in more than half of countries and teachers received the same adjustment as the staff working in the public sector. In a group of ten countries, as an intermediate solution, no cuts were applied in the statutory teachers' salaries but they were not indexed in accordance with the inflation levels. Indeed their absolute values were maintained, but in practice the overall purchasing power declined.

Starting from the school year 2009/10 and especially after mid-2010, the effect of the economic downturn and the pressure on the public finances was much more pronounced and more countries were obliged to apply salary cuts for teachers and other public employees. This was reported by Ireland, Greece, Spain (reduction mainly in 2010/11), Portugal, Slovenia (mainly in the allowances) and some others. In Italy a salary freeze was applied.

In 2012, the majority of countries maintained their arrangements regarding the funding of support mechanisms for pupils and students and/or their families. From the countries with available data

---

<sup>12</sup> For a detailed explanation about the small differences in the calculation of total public expenditure in the UNESCO-OECD-EUROSTAT (UOE) data collection and the general government expenditure data from the government finance statistics (using the classification of the functions of government – COFOG) see Eurostat's *Manual on sources and methods for the compilation of COFOG statistics - Classification of the Functions of Government (COFOG) - 2011 edition* [http://epp.eurostat.ec.europa.eu/cache/ITY\\_OFFPUB/KS-RA-11-013/EN/KS-RA-11-013-EN.PDF](http://epp.eurostat.ec.europa.eu/cache/ITY_OFFPUB/KS-RA-11-013/EN/KS-RA-11-013-EN.PDF)

<sup>13</sup> This section is based on EACEA/Eurydice (forthcoming), Recent trends in the public funding of Education in Europe.

only Spain (central budget)<sup>14</sup>, Cyprus and Portugal reported a decrease in the funding of available schemes for support of people in education. Eight other countries reported partial reduction in the funding of one or more different available support mechanisms for pupils and students. Some of these reductions in the overall budget were due to the relative reduction of the number of potential beneficiaries (in the case of child allowances), or restructuring of the criteria for grant allocation for example. In some other cases, the reduction is due to the budget reallocation or restrictions.

---

<sup>14</sup> The central budget maintains, at constant level, the general grant schemes for university and non-university students (relevant part of the total budget) and applies a decrease in subsidies for meals, transport and textbooks. The central budget covers approximately 6% of the education budgets in Spain, most of the expenditures are carried out at regional ('Autonomous Community') level.

### 3. Early leavers from education and training

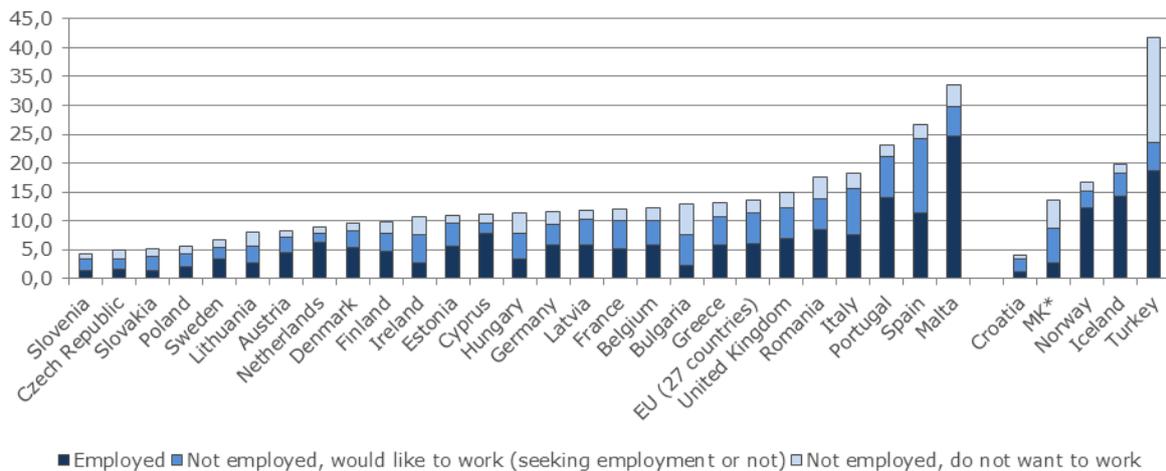
#### 3.1. The problem of early school leaving

With growing demands for high skills and qualifications, upper secondary education is now firmly entrenched as a minimum attainment level for all European citizens leaving the education and training system. Young people who leave education and training prematurely<sup>15</sup> lack crucial skills and run the risk of facing serious, persistent problems on the labour market.

Indeed, the problem of early school leaving (ESL) is best defined by its consequences. Across the EU, 54.8% of early school leavers are either unemployed or inactive (figure 3.1). Of these not-employed early school leavers, about 70% would like to work. Overall youth unemployment, comparatively, is 21.3% across the EU<sup>16</sup>.

And the unemployment risk for early school leavers is likely to become worse. According to the latest skills forecast from CEDEFOP<sup>17</sup>, the number of jobs available across the EU for individuals with lower secondary education at most – which has already decreased 20.4% between 2000 and 2010 – is likely to decrease a further 18.9% between 2010 and 2020.

**Figure 3.1. Early leavers from education and training by employment status (2011)**



Source: Eurostat (LFS). For Croatia, Estonia, Latvia, Iceland and Malta: DG EAC, estimation based on Eurostat data. For Croatia and Slovenia: Data lack reliability due to small sample size. \* MK: The former Yugoslav Republic of Macedonia; see Annex 2.1.

Individual early school leavers who do manage to enter the labour market are more likely to be in precarious and low-paid jobs and to draw on welfare and other social programmes throughout their lives. Moreover, they are less likely to be 'active citizens' or to engage in lifelong learning<sup>18</sup>. For society at large, ESL is an obstacle to economic growth and employment<sup>19</sup>. It hampers productivity and competitiveness, and fuels poverty and social exclusion. With its shrinking workforce, Europe has to make full use of its human resources. Tackling ESL is a stepping stone towards improving opportunities for young people as well as achieving smart, sustainable and inclusive growth.

<sup>15</sup> The terms early leavers from education and training and early school leavers are used interchangeably throughout the text. They are defined as persons aged 18 to 24 fulfilling the following two conditions: (1) the highest level of education or training attained is ISCED 0, 1, 2 or 3c short, (2) no education or training has been received in the four weeks preceding the survey. The reference group to calculate the early school leaving rate consists of the total population of the same age group (18 to 24). All measurements come from the EU Labour Force Survey.

<sup>16</sup> Individuals aged 15 to 24 years, 2011 value for EU 27 (Eurostat/LFS).

<sup>17</sup> See <http://www.cedefop.europa.eu/EN/about-cedefop/projects/forecasting-skill-demand-and-supply/skills-forecasts.aspx>.

<sup>18</sup> NESSE (2010), Early school leaving: Lessons from research for policy makers (<http://www.nesse.fr/nesse/nesse/activities/reports>).

<sup>19</sup> EENEE (2010), The Cost of Low Educational Achievement in the European Union (<http://www.eenee.de/portal/page/portal/EENEEView>).

In 2011, ESL across the EU amounted on average to 13.5%. This means that 5.6 million individuals aged 18 to 24 left education and training early, with lower secondary education at most. As can be seen in table 3.1, foreign-born students are at much higher risk of dropping out of school. School systems often fail to adequately include foreign-born students, sometimes dramatically so (Greece, Italy, Spain)<sup>20</sup>. The risk of early school leaving is closely linked to the lower socioeconomic status of students born abroad.

At the same time, in all Member States except Bulgaria education systems prove less capable of leading boys to upper secondary graduation than girls. On average, early school leaving is more than 30% higher amongst boys than amongst girls, with peaks for Slovenia, Lithuania, Latvia and Poland<sup>21</sup>.

**Table 3.1. Early leavers from education and training by sex and country of birth (%)**

	2006	2011			Target	
	Total	Total	Males	Females		Foreign-born (i)
<b>EU 27 countries</b>	<b>15.5</b>	<b>13.5</b>	<b>15.3</b>	<b>11.6</b>	<b>24.9</b>	<b>&lt; 10.0</b>
Belgium	12.6	12.3	14.9	9.7	23.3	9.5
Bulgaria	17.3	12.8	12.0	13.7	:	11.0
Czech Republic	5.1	4.9	5.4	4.4	(10.3)	5.5
Denmark	9.1	9.6	12.1	7.0	(13.0)	< 10.0
Germany	13.7	11.5	12.4	10.6	21.9	< 10.0
Estonia	13.5	10.9	(13.1)	(8.6)	:	9.5
Ireland	12.1	10.6	12.5	8.7	15.4	8.0
Greece	15.5	13.1	16.1	10.1	44.9	9.7
Spain	30.5	26.5	31.0	21.9	41.2	15.0
France	12.4	12.0	13.9	10.2	21.9	9.5
Italy	20.6	18.2	21.0	15.2	40.2	15.0-16.0
Cyprus	14.9	11.2	15.1	8.1	21.7	10.0
Latvia	14.8	11.8	15.9	7.7	:	13.4
Lithuania	8.2	7.9	10.6	(5.0)	:	< 9.0
Luxembourg	14.0	(6.2)	(7.6)	:	:	< 10.0
Hungary	12.6	11.2	12.1	10.3	:	10.0
Malta <sup>22</sup>	39.9 <i>p</i>	33.5 <i>p</i>	38.9 <i>p</i>	27.6 <i>p</i>	:	29.0
Netherlands	12.6	9.1	10.8	7.2	8.7	< 8.0
Austria	9.8	8.3	8.8	7.8	19.8	9.5
Poland	5.4	5.6	7.4	3.8	:	4.5
Portugal	39.1	23.2	28.2	18.1	21.0	10.0
Romania	17.9	17.5	18.5	16.6	:	11.3
Slovenia	5.6	(4.2)	(5.7)	(2.5)	(17.3)	5.0
Slovakia	6.6	5.0	5.4	4.6	:	6.0
Finland	9.7	9.8	11.2	8.4	21.1	8.0
Sweden	8.6 <i>p</i>	6.7 <i>p</i>	7.8 <i>p</i>	5.3 <i>p</i>	11.1 <i>p</i>	< 10.0
United Kingdom	11.3	15.0	16.2	13.8	11.4	:
Croatia	(4.7)	(4.1)	(4.8)	(3.4)	:	:
Montenegro	:	:	:	:	:	:
Iceland	25.6	19.7	22.2	17.1	:	:
MK*	22.8	13.5	11.9	15.2	(27.1)	:
Serbia	:	:	:	:	:	:
Turkey	48.8	41.9	37.7	45.7	25.0	:
Liechtenstein	:	:	:	:	:	:
Norway	17.8 <i>b</i>	16.6	19.9	13.1	16.7	:

Source: Eurostat (LFS). Intermediate breaks in time series for Denmark, Luxembourg, the Netherlands, and the United Kingdom. Notes: "b" = break in time series; "p" = provisional; "()" = Data lack reliability due to small sample size; ":" = data either not available or not reliable due to very small sample size; \*MK: The former Yugoslav Republic of Macedonia; see Annex 2.1; (i) The sub-group foreign-born refers to first generation immigrants, and does not capture second or third generation immigrants or populations who are not naturalized.

The average ESL rate for the EU27 has decreased by 12.9% between 2006 and 2011 (table 3.1), out of which 9.4% between 2008 and 2011 (figure 3.2). Figure 3.2 shows how, on average, the ESL rate has decreased more for native-born than for foreign-born individuals and more for women

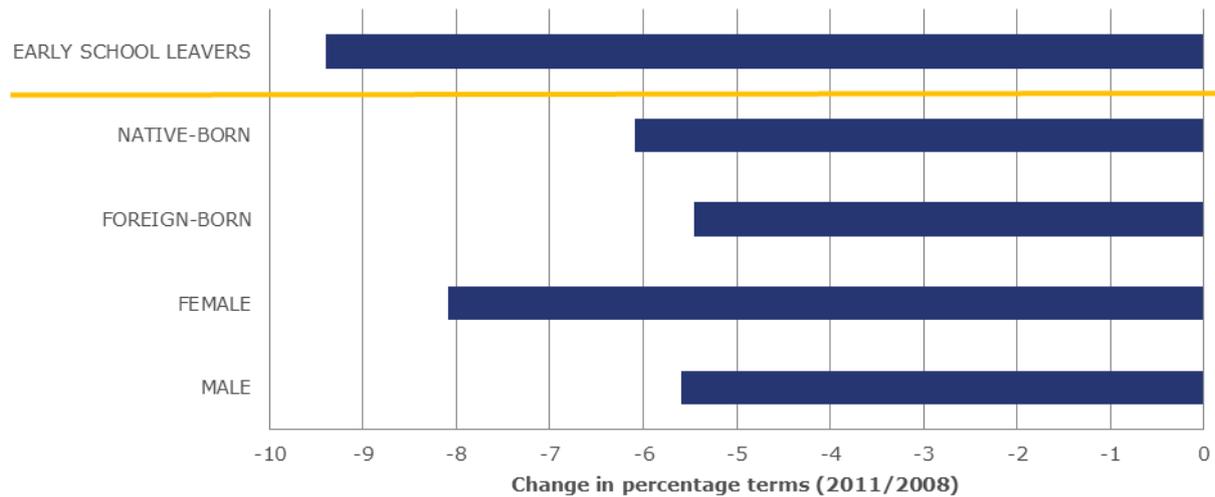
<sup>20</sup> It is noteworthy, however, that many of these foreign-born early school leavers arrive in the host countries only after compulsory schooling age. They are not a "product" of the education and training system in the host country, and instead require compensatory measures.

<sup>21</sup> Data for Slovenia and data breakdown for Lithuania lack reliability due to small sample sizes.

<sup>22</sup> The Maltese series on ESL are under review by the Maltese Statistical Office and Eurostat. The review concerns the classification of certain qualifications at secondary level. The revision applies to all years covered (2006-2011) and would mean a reduction of about 9 percentage points for the 2011 rate of early school leavers.

than for men; indicating that the gaps between these subgroups have increased. Closing the gender gap and the difference between native-born and foreign-born students is likely to have a strong impact on the overall EU performance on this headline target.

**Figure 3.2. 2008-2011 change in ESL rate of subgroups (EU27)**



Source: JRC-CRELL calculations based on Eurostat data.

### 3.2. Progress towards headline target and national targets

The Europe 2020 Strategy headline target aims to bring down the rate of ESL to below 10% or less by 2020<sup>23</sup>. The current situation varies significantly across Member States. A number of countries have reached the benchmark, primarily in Northern and Eastern Europe. Some countries were already below 10% at the beginning of the monitoring period and have further improved their performance since 2000. In various southern Member States the situation is still problematic.

Currently, 11 Member States are over the 10% benchmark. Malta (33.5%), Spain (26.5%) and Portugal (23.2%) have the highest rates of ESL, but have made a lot of progress in recent years. Other Member States that have reduced ESL include Cyprus (11.2%), Latvia (11.8%) and Bulgaria (12.8%). Only a small minority of countries have experienced an increasing rate from 2006 to 2011.

Figure 3.3 provides a more comprehensive picture of Member States on the basis of their current share of early school leavers and their average annual progress over the more recent period 2008-2011. The dashed horizontal line in figure 3.3 represents the Europe 2020 headline target (an ESL rate below 10%). The dashed vertical line represents the minimum annual progress *for the EU27 as a whole* that is required to go down from 14.9% in 2008 to 9.9% in 2020. As can be seen in the figure, the EU27, on average, fell short of the minimum progress required and is still 3.6 percentage points away from the "below 10%" target. Another observation is that none of the larger Member States have reached their national targets yet, as listed in the final column of table 3.1.

In the lower left corner countries are characterised by an ESL rate better than the EU27 headline target (although not necessarily better than their national targets), as well as by a recent decrease in the ESL rate that goes beyond the minimum required progress for the EU27 average to reach

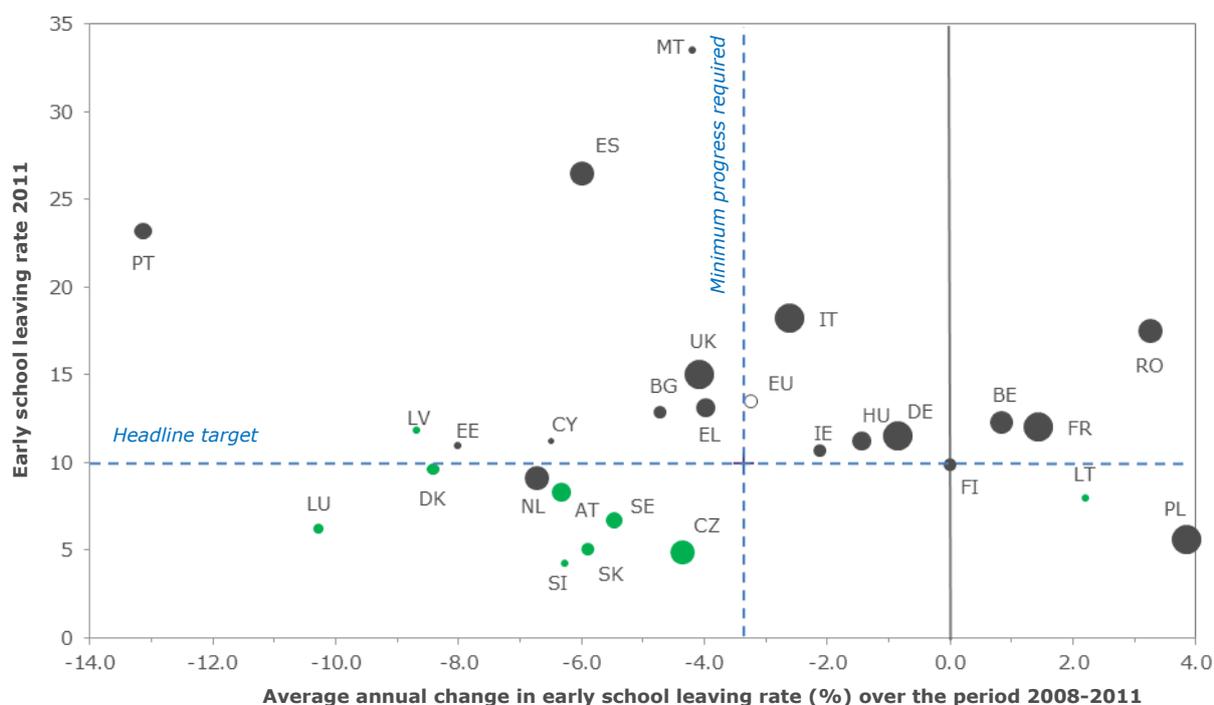
<sup>23</sup> The latest EU policy documents on early school leaving concern a Council Recommendation on policies to reduce early school leaving (2011/C 191/01), a Communication entitled "Tackling early school leaving: A key contribution to the Europe 2020 Agenda" (COM(2011)18), and a staff working paper entitled "Reducing early school leaving" (SEC(2011)96).

the headline target by 2020. The Netherlands owes its position to a very developed and successful policy approach and a consistent reduction in ESL rates.

Countries in the lower right corner are characterised by ESL rates in 2011 that were already below 10%, yet a slower annual decrease during the period 2008-2011 than required for the EU27 as a whole to reach the target by 2020. In fact, Lithuania and Poland have seen an average annual *increase* in the ESL rate between 2008 and 2011. Lithuania has already gone beyond its national target, whereas Poland has yet to reach its national target.

Figure 3.3 shows that most countries have higher ESL rates than the Europe 2020 headline target, with a couple of countries nevertheless featuring a decrease of ESL rates beyond the minimum required progress. It has to be kept in mind, however, that some of the countries in the upper left corner of figure 3.3 do show a very high ESL rate. Their current performance in reducing ESL is commendable, but will not necessarily help the EU27 reach its overall target by 2020. This illustrates the relevance of national targets, with some countries having to aim higher in order for the EU27 average of "below 10%" to be reached.

**Figure 3.3. Early school leaving: current performance and recent change<sup>24</sup>**



Source: JRC-CRELL and DG EAC calculations based on Eurostat (LFS) data.

Stronger efforts are needed in countries that feature both ESL rates above 10% in 2011 and a slower decrease of ESL rates than minimally required for the EU27 to reach the headline target by 2020. Romania has a high and *increasing* ESL rate and France and Belgium also show an average annual increase in their ESL rates. Germany and Hungary are not making sufficient progress either, lagging behind the minimum progress required for the EU27 to reach the headline target by 2020.

When comparing table 3.1 and figure 3.3, some stagnation can be observed in the more recent progress across the EU. While most countries were able to reduce their ESL rates during the last five years, some Member States (e.g. Germany, France and Hungary) show no significant improvement towards the ESL headline target in the last three years (2008-2011). Even more

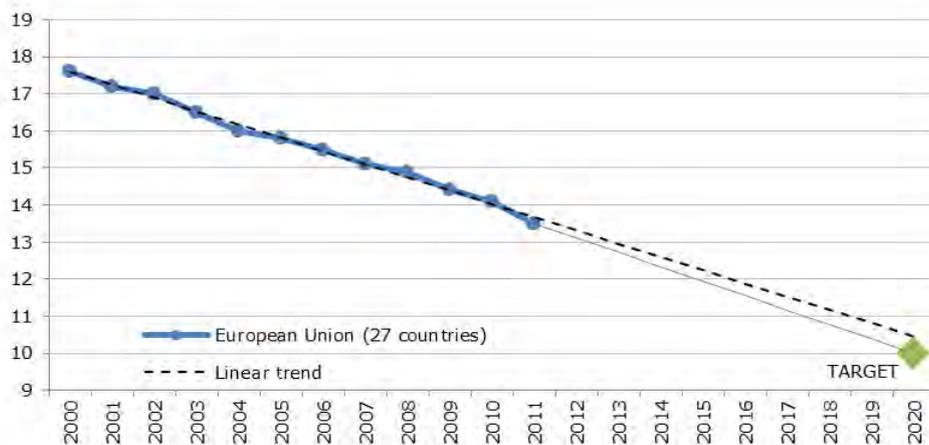
<sup>24</sup> Countries having already achieved their national target are marked in green. Countries are shown according to their 18-24 cohort size, with five categories. Further notes: the values for Luxembourg for 2009-2011 and for Slovenia 2008-2011 are labelled as unreliable by Eurostat. Average annual change rates are calculated without including breaks in series, i.e. for Luxembourg 2008-2009, and for Netherlands 2009-2010.

recently, the UK has also seen stagnation in progress (2010-2011). Figure 3.A in the annex shows the long-term development of ESL rates in all countries. Moreover, a separate Staff Working Document with country-specific summaries provides a closer look at the progress in each Member State<sup>25</sup>.

### 3.3. An EU trajectory towards 2020

Since 2000, the decrease in ESL has, on average, been slow. There has been an annual reduction of less than 0.4 percentage points, adding up to a total of 4.1 percentage points in the last 11 years. In terms of the number of individuals, the progress appears more significant, amounting to 2.2 million fewer individuals leaving education and training early at the age of 18-24 in 2011 compared to 2000, which represents a decline of more than 27%. As illustrated in figure 3.4, extrapolating this trend would mean that the EU would be missing its target for 2020; a scenario that is all the more likely as the effort required increases while the target group shrinks.

**Figure 3.4. Projection for the rate of early leavers from education and training (%)**



Source: JRC-CRELL calculations based on Eurostat data.

Reaching the 10% target for the benchmark indicator by 2020 would therefore require at least as much effort as in the past, if not more. This is also because the size of younger cohorts will shrink by 2020 in most Member States and across the EU, changing the relative weight of each country as measured by its population share in the total EU population<sup>26</sup>. Some high performing countries will count less towards the EU average, while some low performing countries will count more – resulting in a less favourable situation for the EU as a whole.

When simply extrapolating the current trend, an additional 1.5 million individuals will have to remain in the education and training systems in order to reach the headline target by 2020, amounting to an average of about 170,000 individuals per year. However, when taking into account the latest projections of demographic changes, an even bigger effort is needed. As compared to 2011, an additional 2 million individuals will have to be kept in education and training, translating into an annual average of about 220,000 individuals. As can be seen in table 3.2, this is an extra 20,000 fewer early school leavers per year *on top of* the annual change that was achieved between 2000 and 2011.

<sup>25</sup> See the Commission Staff Working Document "Rethinking Education: Country analysis".

<sup>26</sup> Adjustments on the basis of cohort changes are based on EUROPOP2010 projections. Because EUROPOP does not provide a population projection explicitly for the 18-24 cohort, this age range is approximated by using two fifths of the 15-19 cohort and 20-24 cohort.

**Table 3.2. Change needed to reach the ESL headline target by 2020 (in millions)**

Change between 2000-2011		Change needed to reach the target by 2020			
		Based solely on current trend		Accounting for changing cohort sizes	
Cumulated 2000-2011	per year	Cumulated 2011-2020	per year	Cumulated 2011-2020	per year
<b>-2.20</b>	<b>-0.20</b>	<b>-1.50</b>	<b>-0.17</b>	<b>-2.00</b>	<b>-0.22</b>

Source: JRC-CRELL calculations based on Eurostat data and EUROPOP projections.

### 3.4. The road ahead for Member States

Member States' national targets, as set out in their National Reform Programmes, are by and large very cautious (see table 3.1) and would also suggest that Europe may fall short of the 10% target for 2020. On 30 May 2012, the European Commission presented a set of country-specific recommendations to Member States on reforms to increase stability, growth and employment across the EU. Six countries (Denmark, Hungary, Italy, Latvia, Malta and Spain) received recommendations to address ESL.

While the factors leading to ESL vary from country to country, the causes of ineffective policies can be boiled down to three typical issues<sup>27</sup>:

- *Lack of a comprehensive strategy*: many countries adopt a patchwork of different measures to tackle various aspects of ESL, but these do not necessarily add up to a comprehensive strategy. Systemic change will be more feasible if Member States move from projects to policies, ideally connecting cross-sectoral initiatives in a more "holistic" approach.
- *Lack of evidence-based policy-making*: with some notable exceptions, Member States lack detailed information on the background of early school leavers and an analysis of the causes and incidence of ESL as well as a systematic collection, analysis and dissemination of evidence about effective practices for tackling ESL. Particular blind spots are ESL from initial vocational education and training (VET), and breakdowns by socioeconomic status.
- *Insufficient prevention and early intervention*: some Member States devote too little attention to prevention. A stronger focus on preventive and early intervention measures is needed both at system level and at the level of individual education and training institutions. Partial, compensatory measures (such as second-chance education), albeit important, are not enough to address the root causes of the problem.

Another challenge that is of prime importance is to ensure that VET is a realistic, high-quality opportunity for young learners, offering a more hands-on solution so that less academically oriented learners have an attractive alternative to general education and training. However, this approach can only work if the status and relevance of VET is increased, and if dropout from VET is brought down.

Following the Council Recommendation on policies to reduce early school leaving, adopted in June 2011, the European Commission set up a Thematic Working Group of Member State experts to exchange experience and good practice and to develop policy guidelines for implementing evidence-based and comprehensive strategies to reduce early school leaving.

Moreover, European funding – both European Structural Funds and European education and research programmes – will be targeted to better support the development of comprehensive policies against early school leaving.

<sup>27</sup> See COM(2011)18 and SEC(2011)96.

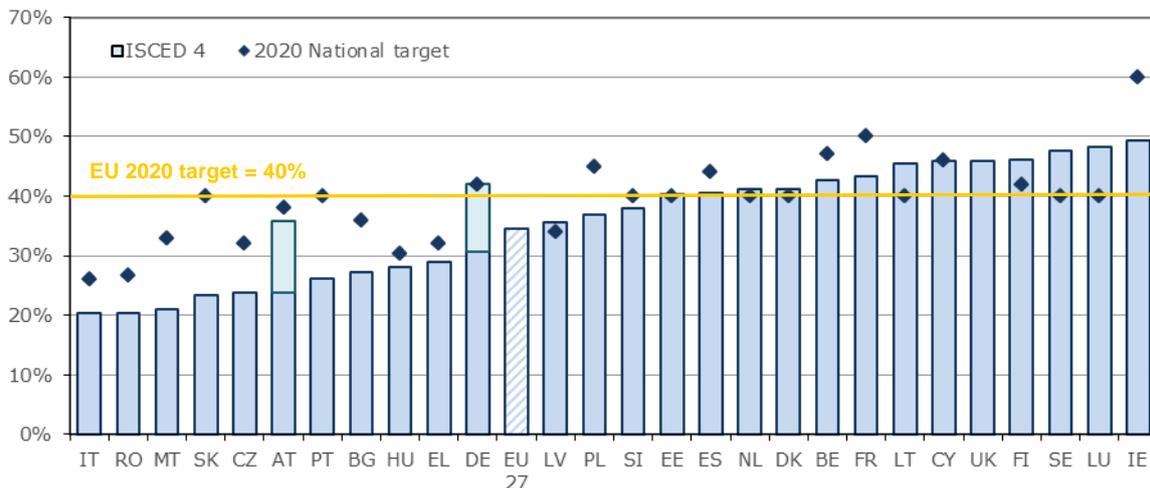
## 4. Encouraging participation in Higher Education

Higher education, with its links to research and innovation, plays a crucial role in individual and societal advancement, and in providing the highly skilled human capital that Europe needs to create jobs, economic growth and prosperity. The European Commission's agenda for the modernisation of Europe's higher education systems<sup>28</sup> lies at the heart of the Europe 2020 Strategy for investment in human resources and creating sustainable growth towards and beyond 2020.

### 4.1. The issue of attaining increased levels of higher education completion

In 2011 nearly half of the EU Member States have reached the EU target of 40% tertiary level education attainment or equivalent for the age group 30 to 34 years old (see figure 4.1), whereas 10 Member States have accomplished their national target. All EU Member States except the United Kingdom have set national targets for the EU headline indicator.

**Figure 4.1. Tertiary attainment level or equivalent, ages 30-34 (%), 2011**



Source: Eurostat (LFS). Note: The lighter blue parts for Austria and Germany denotes inclusion of postsecondary attainment (ISCED 4 for DE and ISCED 4/4a for AT, both national data); this is the equivalent identified in the headline indicator definition.

The increasing level of tertiary attainment in the European Union reflects to some extent investment by European governments in higher education with a view to meeting demand for a higher skilled labour force. In some Member States, increased attainment rates also reflect the shift to shorter degree programmes following implementation of Bologna process reforms<sup>29</sup>.

Since 2000, the tertiary attainment level in the EU has increased by more than 12 percentage points – from 22.4% to 34.6% in 2011 (see table 4.1) – corresponding to an annual average progress of more than 1 percentage point. Disaggregating data by gender shows an impressive progress for women, who have outperformed men in overall attainment rates since 2000. In terms of absolute numbers, the progress has been significant, amounting to about 3.7 million graduates or nearly a 50% increase compared to 2000 numbers.

<sup>28</sup> COM(2011) 567 final.

<sup>29</sup> See <http://www.ehea.info/>. The introduction of bachelor and master degrees in European countries changes the structures of tertiary education where the previous norm would be one long first degree. This is replaced by a two-degree structure, where many students would still qualify at both bachelor and master level.

**Table 4.1. Tertiary attainment level or equivalent, ages 30-34 (%), 2011**

	2000	2010	2011
Benchmark indicator, (%)	22.4	33.5	34.6 <sup>30</sup>
Benchmark indicator - men, (%)	22.2	30.0	30.8
Benchmark indicator - women, (%)	22.7	37.2	38.5
Total population of 30-34 year-olds (millions)	37.2	34.7	34.7 <sup>31</sup>
Number of 30-34 years-olds with completed tertiary education (millions)	8.3	11.6	12.0

Source: Eurostat (LFS).

The gender difference is further documented in table 4.2 which shows that women outnumber men significantly in terms of tertiary attainment in all but one Member State<sup>32</sup>. In fact, there is more than 10 percentage points difference between the attainment levels of women and men in half of the EU Member States.

**Table 4.2. Tertiary educational attainment, ages 30-34 by sex and migrant status (%)**

	2006	2011			Target	
	Total	Total	Males	Females		Foreign-born
<b>EU 27 countries</b>	<b>28.9</b>	<b>34.6</b>	<b>30.8</b>	<b>38.5</b>	<b>30.9</b>	<b>40</b>
Belgium	41.4	42.6	37.1	48.1	34.8	47
Bulgaria	25.3	27.3	21.3	34	:	36
Czech Republic	13.1	23.8	21.6	26.1	33.8	32
Denmark	43	41.2	34.7	48	31.5	40
Germany	25.8	30.7	29.9	31.6	25.4	42
Estonia	32.5	40.3	30.5	50.2	:	40
Ireland	41.3	49.4	42.8	55.8	53.2	60
Greece	26.7	28.9	26.2	31.7	9.5	32
Spain	38.1	40.6	36.3	45	24.4	44
France	39.7	43.4	39.1	47.6	33.7	50
Italy	17.7	20.3	15.9	24.7	12.3	26
Cyprus	46.1	45.8	39.7	52	35.3	46
Latvia	19.2	35.7	24.8	46.9	:	34
Lithuania	39.4	45.4	37.6	53.3	:	40
Luxembourg	35.5	48.2	49.1	47.4	52.9	40
Hungary	19	28.1	23.2	33.4	32.5	30.3
Malta	21.6	21.1	20.1	22.1	:	33
Netherlands	35.8	41.1	37.3	44.8	30.1	40
Austria	21.2	23.8	23.1	24.5	24.2	38
Poland	24.7	36.9	30.3	43.5	:	45
Portugal	18.4	26.1	21.7	30.5	24.2	40
Romania	12.4	20.4	19.7	21	:	26.7
Slovenia	28.1	37.9	29.4	47.3	16.9u	40
Slovakia	14.4	23.4	19.6	27.4	:	40
Finland	46.2	46.0	37.1	55	28.2	42
Sweden	39.5	47.5	40.6	54.6	45.0	40
United Kingdom	36.5	45.8	43	48.6	55.1	:
Switzerland	35	44.0	19.4	41.2	41.5	:
Croatia	16.7	24.5	36.1p	30	:	:
Iceland	36.4	44.6	46.8	53.1(p)	34.0	:
Montenegro	:	20.4	:	:	:	:
Norway	41.9b	48.8	41.5	56.4	39.0	:
Turkey	11.9	16.3	18.3u	14.3u	36.0	:

Source: Eurostat (LFS). Notes: Inclusion of postsecondary education for Germany (ISCED 4) and Austria (ISCED 4a and 4) give levels of respectively 42% and 37%/38% (national data sources), "u" = Data lack reliability due to small sample size, ":" = data either not available or not reliable due to very small sample size.

There are great differences in the choice of study field between women and men. A significantly higher proportion of men is graduating in mathematics, science or engineering subjects, whereas women dominate education, humanities, art and service-oriented educational fields (see table 4.A in annex).

<sup>30</sup> Including Croatia (who will join European Union in 2013) will have a -0.1 percentage point impact on the value reported here.

<sup>31</sup> Since cohort sizes for Cyprus and Romania are missing for 2011, they have been assumed equal to the last available values (2010).

<sup>32</sup> The Luxembourgish tertiary attainment rate reflects to a large degree the highly educated population which is living and working in the country. Luxembourg has attracted a highly educated workforce which has immigrated from abroad and it therefore does not necessarily reflect the outcome of the Luxembourgish education system.

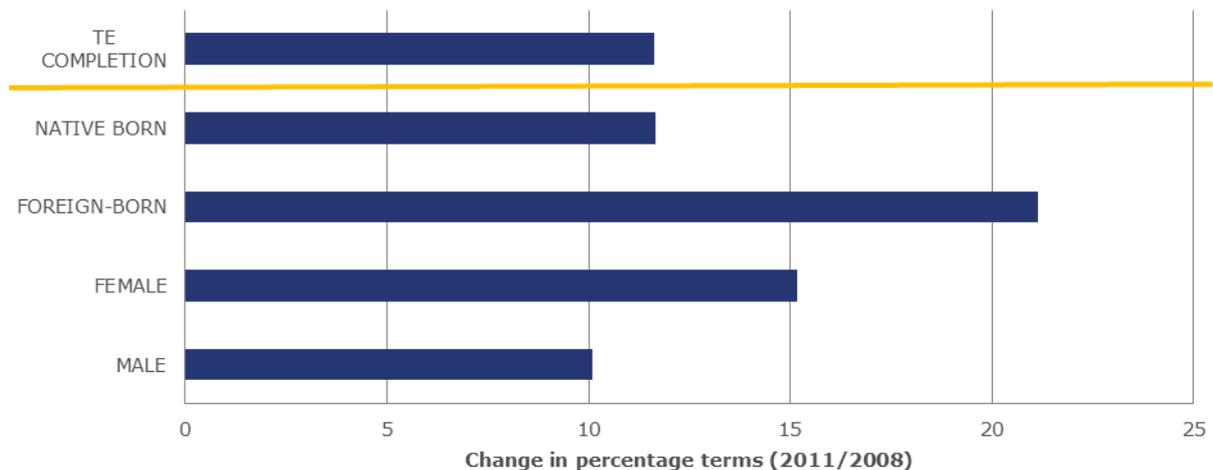
It is a key challenge for Member States and for higher education institutions to attract a broader cross-section of society into higher education<sup>33</sup> including disadvantaged and vulnerable groups, and deploy the resources to meet this challenge. Reducing higher education drop-out rates is also crucial in several Member States. The success of these aspirations and achievements partly depends on policies to improve earlier educational outcomes and to reduce school drop-out at lower educational levels in line with the Europe 2020 target and the recent Council Recommendation on early school leaving (see also chapter 3).

The difference in tertiary attainment between the native-born and foreign-born population is 3.7 percentage points at the EU level (see table 4.2). The foreign-born population has significantly lower attainment levels in Southern European countries such as Greece, Spain, Cyprus, Italy and also in France, in the Nordic countries (but to a lesser degree in Sweden) and in the Netherlands and Belgium<sup>34</sup>. However, the attainment level is higher for the foreign-born population compared to the native-born in a number of countries such as the Czech Republic, the United Kingdom, Ireland, Luxembourg, Hungary and Austria; there is also a major discrepancy in Turkey.

A number of Member States have set high national targets for tertiary attainment levels in 2020. In terms of level these include Ireland (60%), France (50%), Belgium (47%), Cyprus (46%) and Poland (45%). It should, however, be noted that the countries with the most ambitious national targets are those with the furthest distance to travel in terms of attainment: Slovakia (23% to 40%), Portugal (26% to 40% target) and Malta (21% to 33%).

Figure 4.2 further documents that the gender difference has been increasing since 2008 at EU level reflecting developments in most Member States, although both men and women attain higher levels in 2011 than in 2008 (positive change). On the other hand, the attainment level for foreign-born persons increased more than for the native-born indicating that migrant populations in the EU are catching up with the attainment level of natives.

**Figure 4.2. Recent change in tertiary attainment rate of subgroups (EU27)**



Source: JRC-CRELL calculations based on Eurostat data.

#### 4.2. The current status and trajectories towards 2020

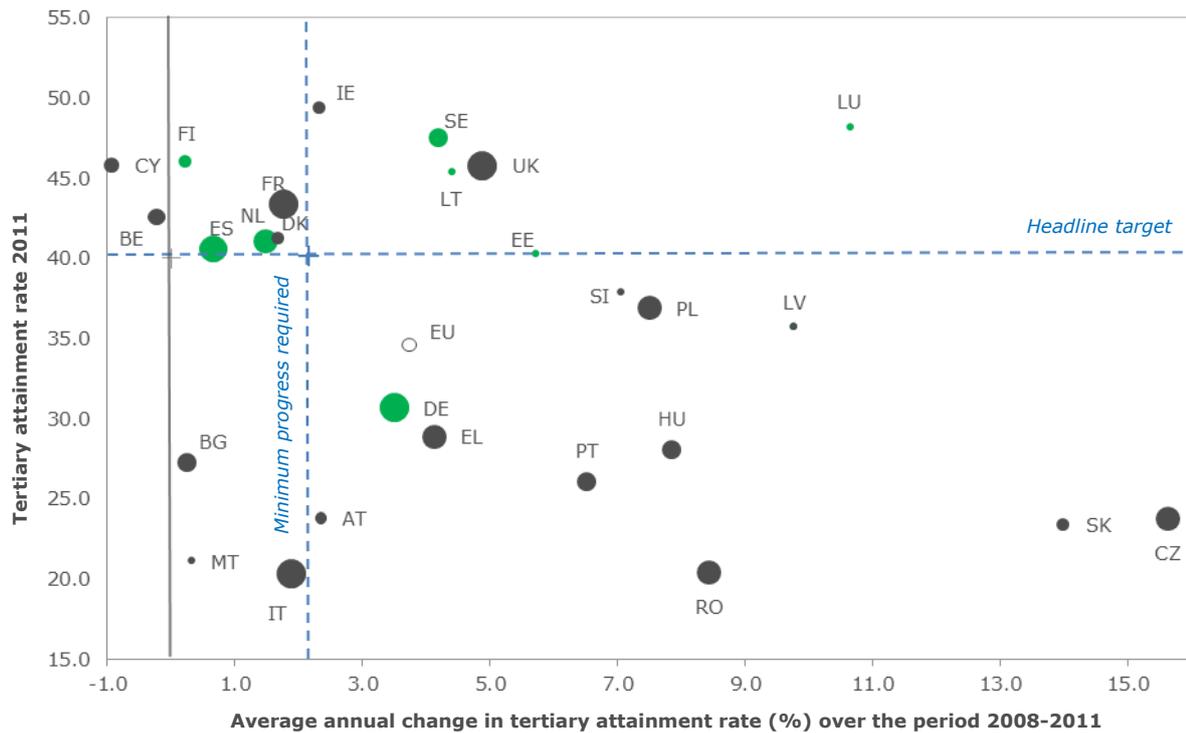
In 2011, approximately 12 million individuals aged 30 to 34 had attained a tertiary education qualification or equivalent. Back in 2001, there were about 8 million individuals already enrolled in tertiary education by the age of 20-24. These individuals aged between 20 and 24 in 2001 are

<sup>33</sup> COM (2011) 567 final, section 2.

<sup>34</sup> The population of people born abroad is in a number of countries of such a small size that no statistics can reliably be calculated based on the Labour Force Survey, examples are Poland, Romania and Bulgaria plus the Baltic states.

those entering into the calculation of the benchmark in 2011. This shows that there must be some additional factors explaining the gap (amounting to 4 million), such as migration, or a significant share of individuals completing their education after the age of 24. With this in mind, the latest data from 2011 looks encouraging because there are now more than 9.5 million individuals already enrolled in a first or second stage of tertiary education between the ages of 20-24, which would be counted in the benchmark indicator for 2020 – a progress of nearly 1.5 million individuals in 9 years.

**Figure 4.3. Tertiary education attainment: current performance and recent change<sup>35</sup>**



Source: JRC-CRELL and DG EAC calculations based on Eurostat (LFS) data.

Figure 4.3 provides a more comprehensive picture of the situation of Member States in terms of where they are now (vertical axis) and the change they have experienced during the last four years (2008-2011). The dashed horizontal line indicates the 40% target for 2020 whereas the dashed vertical line marks the minimum annual progress required over the period 2008 to 2011 to reach the 2020 level. Countries marked with green are those which have in 2011 reached their national target.

In this way the four quadrants of the scatterplot illustrate the four scenarios in which countries presently find themselves; e.g. countries like BE, DK, CY, FR, FI and NL have all reached the 40% target but have low positive to negative changes, i.e. their situation is stagnating. This is unlike the situation for countries as EE, ES, IE, LT, LU, SE and the UK, which are also above the target but are still developing fast towards even higher attainment levels.

The countries in the lower part of the scatterplot are divided into those with below target attainment levels and stagnating to very little progress (BG, MT, IT) compared to those below target but with higher changes such as SI, PL, LV, HU, PT, RO and particularly SK and CZ. The

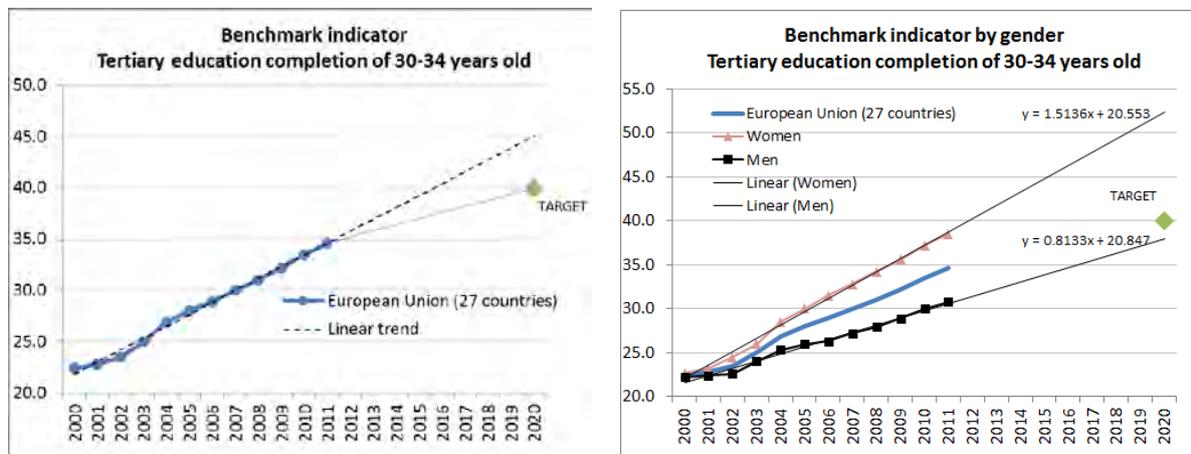
<sup>35</sup> Countries having already achieved their national target are marked in green. Countries are shown according to their 30-34 cohort size, with five categories. Average annual change rates are calculated without including breaks in series, i.e. for Luxembourg 2009-2010 and for the Netherlands 2010-2011.

overall EU level is still more than 5 percentage points below target but nevertheless located in the group with higher annual changes.

From a historical perspective, the 40% target set for 2020 looks within reach as, by 2020, the EU will only need less than half of the progress observed in the previous decade (this is indicated by the solid line in figure 4.4A). Therefore, if the dynamic registered in the past is to continue and assuming no severe adverse shocks, Europe should easily outperform the target (this is indicated by the dashed line in figure 4.4A).

It can also be noted that the tertiary attainment level of women would, with present trends, reach more than 50% in 2020 (i.e. more than half of the female population aged 30 to 34 years old in 2020 would have acquired a tertiary level qualification – see figure 4.4B). On the other hand, the male population would, with current trends, only reach a level around 38%; below the target level of 40%. This projected widening of the gender gap in tertiary attainment levels could cause some concern in relation to the tendency for men and women in choosing different study fields and thereby labour market opportunities.

**Figures 4.4A (left) and 4.4B (right). Tertiary attainment level trajectories**



Source: JRC-CRELL calculations based on Eurostat data.

During the period 2000 to 2011, the EU experienced a cumulated growth of 3.7 million individuals who had completed tertiary education by the age of 30-34. Reaching the 40% target by 2020 will nevertheless require an increase in the total number of individuals 30-34 years old with completed tertiary education under either of the following two assumptions: (i) the cohort size of the 30-34 years old will remain at 2011 levels or (ii) it changes according to the latest EUROPOP projection. This is presented in Table 4.3.

**Table 4.3. Change needed to reach the 2020 target (in millions)**

Change between 2000-2011		Change needed to reach the target by 2020			
		Based solely on current trend		Accounting for changing cohort sizes	
Cumulated 2000-2011	per year	Cumulated 2011-2020	per year	Cumulated 2011-2020	per year
<b>+3.70</b>	<b>+0.34</b>	<b>+1.90</b>	<b>+0.21</b>	<b>+1.50</b>	<b>+0.16</b>

Source: JRC-CRELL calculations based on Eurostat data and EUROPOP projections.

In particular an additional 0.21 million individuals with completed tertiary education are needed per year to ensure that the EU target is reached in 2020 – meaning a total of 1.9 million over the 2011-2020 period. If we consider that the cohort size is shrinking, then only 0.16 million per year,

or a total of 1.5 million individuals with completed tertiary education is needed over the same period.

### **4.3. The road ahead for Member States**

The Member States' national targets, as set out in their National Reform Programmes<sup>36</sup>, are for some very ambitious and for others more modest (see figure 4.1). A third of the Member States share the EU target of reaching a 40% tertiary attainment or equivalent level by 2020.

In May 2012, during the second European Semester, the Commission presented country specific recommendations for tertiary level education for 9 Member States (Austria, Bulgaria, the Czech Republic, Estonia, Hungary, Italy, Latvia, Slovenia and Slovakia).

Four types of main recommendations were identified for these countries:

- To ensure effective access to higher education for disadvantaged groups;
- To adopt the necessary legislation to establish a transparent and clearly defined system for quality evaluation of higher education. Ensure the funding is sustainable and linked to a quality assessment;
- To take measures to reduce drop-out rates from higher education; and
- To improve the matching of skills with labour market demands.

These recommendations are followed up in the national reform programmes which outline the actions countries take or plan to take for tackling the type of issues as identified above. The Commission also follows up on the recommendations through different mechanisms from encouraging and organising peer reviews of education systems to focussing funding on education issues in for example the new 2014-2020 budget cycle for structural funds.

These country specific recommendations also mirror the general recommendations for both the EU modernisation agenda for higher education and in the most recent Bologna process communiqué for the European Higher Education area. Key priorities are to attract a broader cross section of society into higher education, to improve the quality and relevance of higher education, to improve governance and funding, to support reform through policy evidence, analysis and transparency and to link to the labour market through employability<sup>37</sup>. A key goal of the modernisation agenda and for these key areas is to increase overall skill levels and satisfy changing labour market demands.

---

<sup>36</sup> For more information on the European Semester, see: [http://ec.europa.eu/europe2020/making-it-happen/index\\_en.htm](http://ec.europa.eu/europe2020/making-it-happen/index_en.htm).

For all national targets, see: [http://ec.europa.eu/europe2020/pdf/targets\\_en.pdf](http://ec.europa.eu/europe2020/pdf/targets_en.pdf).

<sup>37</sup> Promoting mobility and cross-border cooperation are also important parts of the higher education modernisation agenda; these issues are treated in chapter 6 of the Education Monitor.

## 5. The case for high-quality Early Childhood Education and Care

Early childhood education and care (ECEC) is a crucial first step in a long process of lifelong learning. A successful early start decreases socioeconomic and other background related disadvantages, and secures equal chances for a successful school career and a fulfilling future<sup>38</sup>. As such, it is a primary element in preventing early school leaving (an EU2020 headline target) and low educational performance.

In recognition of its importance, the Council decided to include a benchmark on ECEC in the framework for European cooperation in education and training, stating that participation in pre-school education – of children between 4-years-old and the starting age of compulsory education – should be at least 95% by 2020<sup>39</sup>.

**Table 5.1. Participation in ECEC, child/staff ratio and total expenditure per pupil**

	Age range <sup>40</sup>	Participation in ECEC (%)		Child/staff ratio <sup>41</sup>		Expenditure per pupil <sup>42</sup>	
		2006	2010	2006	2010	2006	2009
<b>EU 27 countries</b>	-	<b>89.3</b>	<b>92.3</b>	<b>14.1</b>	<b>13.4</b>	-	-
Belgium	4-5	99.9	99.1	16.0	15.9	15.5	16.0
Bulgaria	4-6	80.5	79.2	11.5	12.0	30.1	34.7
Czech Republic	4-5	92.6	88.7	12.5	13.9	16.1	18.4
Denmark	4-6	92.0	91.1	:	:	17.6	24.4
Germany	4-5	93.0	96.2	14.3	12.6	17.5	21.8
Estonia	4-6	94.9	89.8 <sup>b</sup>	8.3	6.0	10.5	13.2
Ireland	4-5	:	85.4	14.1	19.8	:	:
Greece	4-5	70.9	73.5	12.4	:	:	:
Spain	4-5	98.5	99.4	14.0	13.0	18.5	24.0
France	4-5	100.0	100.0	19.3	21.5	16.4	18.6
Italy	4-5	100.0	97.1	11.6	11.8	19.4	19.4
Cyprus	4-5	84.7	87.7	18.1	17.0	17.2	20.4
Latvia	4-6	87.2	87.4	13.5	12.1	25.7	42.3
Lithuania	4-6	75.8	78.3	8.9	7.8	22.9	31.4
Luxembourg	4-5	95.0	94.6	:	12.0	:	19.9
Hungary	4-5	94.5	94.3	10.7	11.0	:	:
Malta*	4	95.5	89.0	12.7	15.2	22.6	24.5
Netherlands	4	74.2	99.6	:	:	16.6	18.0
Austria	4-5	88.1	92.1	16.8	14.7	22.6	26.2
Poland	4-6	64.0	76.3	18.0	18.7	28.0	26.8
Portugal	4-5	86.8	89.3	15.0	15.7	15.1	15.3
Romania	4-5	81.2	82.1	18.2	17.5	12.9	13.5
Slovenia	4-6	88.6	92.0	9.4	9.4	30.7	30.6
Slovak Republic	4-5	79.4	77.5	13.5	12.5	18.3	20.1
Finland	4-6	68.1	73.1	12.0	11.0	14.0	15.6
Sweden	4-6	91.3	95.1	11.4	6.3	15.6	17.6
United Kingdom	4	91.1	96.7	19.8	15.9	25.5	22.8
Croatia	4-5	61.9	70.1	12.8	12.1	27.7	30.3
Montenegro	:	:	:	:	:	:	:
Iceland	4-6	95.7	95.8	7.2	6.9	23.2	26.3
MK**	4-6	24.6	29.6	10.8	7.4	:	:
Serbia	:	:	:	:	:	:	:
Turkey	4-5	23.2	38.7	26.3	23.0	:	:
Liechtenstein	4-5	84.2	85.2	13.1	10.5	:	:
Norway	4-5	92.4	97.1	:	:	10.7	12.3

Source: Eurostat (UOE). Note: Intermediary break in series for Ireland and the Netherlands; ":" = data either not available or not reliable due to very small sample size; "b" = break in series; \*Malta is currently revising the figures due to new population estimates. \*\*MK: The former Yugoslav Republic of Macedonia; see Annex 2.1.

<sup>38</sup> COM(2011) 66 final.

<sup>39</sup> This benchmark can be seen as the successor of the *Barcelona targets* to "provide childcare by 2010 to at least 90% of children between 3 years old and the mandatory school age and at least 33% of children under 3 years of age" (Barcelona European Council, 2002). However, the Barcelona targets were intended primarily to remove disincentives to labour force participation of young parents, particularly women, by taking into account the demand for childcare facilities.

<sup>40</sup> Used age range to calculate the participation rate in early childhood education and care.

<sup>41</sup> Pre-primary education only, enrolment and personnel in full-time units (FTU).

<sup>42</sup> Total private and public expenditure as a percentage of purchasing power standards (PPS) per pupil compared to GDP in PPS per capita.

In 2010, the average participation in ECEC was 92.3%, and the 95%-benchmark appears to be in reach. The value for the EU average increased by 3 percentage points between 2006 and 2010, however, some of this change is a statistical effect due to the on-going harmonisation of the measurement of ECEC. In several countries rates are already above 95%, giving an indication of almost universal attendance of education from age 4. Difference between boys and girls in ECEC attendance is negligible. Moreover, in most countries with low participation rates, growth in recent years has been notable.

Denmark, Greece, Latvia and Poland have lowered the age for compulsory education, extending it to pre-primary. As such, the 12.3% increase in Poland might be partly due to the introduction of new legislation, granting 5-year-olds a statutory right to complete one preparatory school year<sup>43</sup>. In addition, Poland introduced targeted measures in rural areas<sup>44</sup>.

The availability of alternative types of provision, such as the family day care attended by a number of children in Finland, could contribute to a lower level of participation in ECEC. Other underlying reasons might include funding decisions at the local or national level, or operational constraints in increasing the supply of early childhood education in specific areas of the country, or for specific groups of children<sup>45</sup>.

## 5.1. The quality of ECEC provision

In order for ECEC to be a strong start for individuals and a potential equaliser for European societies, provision must be of sufficient quality. However, it is not easy to measure the quality of ECEC. Amongst the quality indicators used in national and international assessments are governance structures necessary for regular programme monitoring and assessment, system accountability and quality assurance<sup>46</sup>.

Table 5.1 shows two proxies for quality in ECEC, namely the child/staff ratio and total expenditure, both relating to pre-primary education. When comparing the data for 2006 and 2010, we can see that both dimensions of ECEC quality are slowly improving in most Member States.

Most Member States show a child/staff ratio around or below the *15 to 1* recommendation from UNICEF<sup>47</sup>, with Estonia (6.0 to 1) and France (21.5 to 1) at opposite extremes. Secondly, expenditure per child varies considerably across the EU. Of all the Member States, Latvia, Bulgaria, Lithuania and Slovenia spend most per pupil in pre-primary education (in relation to their GDP per capita).

Eurydice is preparing a report on ECEC that will provide comparable indicators on the various aspects of quality. For example, it has gathered data on minimum qualification requirements for ECEC staff, which shows that in many education systems tertiary degrees are not required for staff working with children under 3 years old, even though research shows that higher level staff qualifications are generally associated with higher ECEC quality<sup>48</sup>.

Continued efforts are needed to improve and maintain the quality of ECEC provision. Minimum requirements might be useful in this respect. These might include structural requirements, such as health and safety standards, infrastructure, child/staff ratios, staff qualifications, staff salaries, curriculum standards, and requirements concerning the social environment, governance issues, and child outcomes (cognitive, social, emotional and physical).

<sup>43</sup> Since September 1<sup>st</sup> 2011 this has become compulsory.

<sup>44</sup> European Commission (2011). Eurydice: European Encyclopedia on National education Systems (<https://webgate.ec.europa.eu/fpfis/mwikis/eurydice/index.php?title=Home>).

<sup>45</sup> EACEA/EURYDICE (2009). Early Childhood Education and Care in Europe: Tackling Social and Cultural Inequalities.

<sup>46</sup> EACEA/EURYDICE (2009).

<sup>47</sup> UNICEF/Innocenti Working Paper (2008). Benchmarks for Early Childhood Services in OECD Countries.

<sup>48</sup> OECD (2012). Starting Strong III.

## 5.2. Targeted support for disadvantaged groups

All European countries implement measures intended to prevent educational difficulties for children at risk. For example, in all education and training systems where fees are required for ECEC, parental contributions are adjusted in order to facilitate access for disadvantaged groups<sup>49</sup>. The most successful systems are those that have more comprehensive services helping these children, but also their families – providing e.g. job-related training and parent education<sup>50</sup>. However, the measures (e.g. language training programmes, appointment of extra staff, additional financing) usually apply only to older children (from age 4)<sup>51</sup>.

When it comes to ethnic minorities, pre-school attendance of Roma children has been studied in a recent report published jointly by the European Union Agency for Fundamental Rights (FRA) and the United Nations Development Programme (UNDP)<sup>52</sup>. There is a considerable gap between Roma and non-Roma children attending pre-school and kindergarten in nine of the 11 Member States surveyed. However, significant differences exist between EU Member States: in Hungary and Spain, for instance, at least 70% of Roma children surveyed are reported to attend ECEC, whereas in Greece, less than 10 % of Roma children are reported to be in ECEC.

The Commission's first assessment of the National Roma Integration Strategies emphasises the importance of quality ECEC provisions for Roma, and lists 14 Member States that have addressed the corresponding measures required by the EU Framework<sup>53</sup>.

---

<sup>49</sup> EACEA/Eurydice (2012). Key Data on Education, p. 97.

<sup>50</sup> OECD (2012). Starting Strong III.

<sup>51</sup> EACEA/EURYDICE (2009).

<sup>52</sup> FRA-UNDP (2012). The situation of Roma in 11 EU Member States: Survey results at a glance. [http://fra.europa.eu/fraWebsite/attachments/FRA-2012-Roma-at-a-glance\\_EN.pdf](http://fra.europa.eu/fraWebsite/attachments/FRA-2012-Roma-at-a-glance_EN.pdf).

<sup>53</sup> COM(2012) 226 final.

## 6. Acquiring the skills needed for the future

Improving the key competences of individuals is a major objective of all education and training systems. These range from basic skills such as reading and mathematics to transversal skills such as ICT and entrepreneurship. For the European economy skills are a precondition for competitiveness and innovation, and in an ever-changing society, young people need to continually update their skills profile through lifelong learning.

### 6.1. Basic skills: reading, maths and science

Basic skills – such as the ability to understand a written text or to carry out simple calculations – form the basis for learning and to acquire more specialised skills. Against the ever higher demands of the knowledge society, there has been limited progress in improving basic skills. The share of fifteen-year-olds that fail to acquire basic skills amounts to about one fifth.

**Table 6.1. Percentage of low achievers in reading, maths and science, by sex**

	Reading				Maths				Science			
	2006	2009			2006	2009			2006	2009		
	Total	Total	Boys	Girls	Total	Total	Boys	Girls	Total	Total	Boys	Girls
<b>EU 25 countries</b>	<b>23.1</b>	<b>19.6</b>	<b>25.9</b>	<b>13.3</b>	<b>24.0</b>	<b>22.2</b>	<b>21.0</b>	<b>23.5</b>	<b>20.3</b>	<b>17.7</b>	<b>18.6</b>	<b>16.8</b>
Belgium	19.4	17.7	21.5	13.8	17.3	19.1	16.8	21.4	17.0	18.0	17.9	18.2
Bulgaria	51.1	41.0	52.0	29.1	53.3	47.1	48.2	45.9	42.6	38.8	43.3	34.0
Czech Republic	24.8	23.1	30.8	14.3	19.2	22.3	21.7	23.1	15.5	17.3	17.9	16.5
Denmark	16.0	15.2	19.0	11.5	13.6	17.1	14.7	19.4	18.4	16.6	15.2	17.9
Germany	20.0	18.5	24.0	12.6	19.9	18.6	17.2	20.2	15.4	14.8	15.0	14.5
Estonia	13.6	13.3	18.9	7.3	12.1	12.7	11.9	13.5	7.7	8.3	8.6	8.1
Ireland	12.1	17.2	23.1	11.3	16.4	20.8	20.6	21.0	15.5	15.2	16.0	14.3
Greece	27.7	21.3	29.7	13.2	32.3	30.3	28.4	32.1	24.0	25.3	28.2	22.4
Spain	25.7	19.6	24.4	14.6	24.7	23.7	21.4	26.1	19.6	18.2	18.3	18.2
France	21.7	19.8	25.7	14.2	22.3	22.5	21.6	23.4	21.2	19.3	20.5	18.0
Italy	26.4	21.0	28.9	12.7	32.8	24.9	23.5	26.4	25.3	20.6	22.3	18.9
Cyprus	:	:	:	:	:	:	:	:	:	:	:	:
Latvia	21.2	17.6	26.6	8.7	20.7	22.6	23.2	22.0	17.4	14.7	16.8	12.6
Lithuania	25.7	24.3	35.5	13.0	23.0	26.2	28.1	24.4	20.3	17.0	20.0	14.0
Luxembourg	22.9	26.0	32.9	19.1	22.8	23.9	22.2	25.7	22.1	23.7	24.0	23.4
Hungary	19.4	17.7	23.6	11.4	21.2	22.3	21.7	22.9	15.0	14.1	15.3	12.9
Malta	:	36.3	48.4	24.4	:	33.7	37.4	30.1	:	32.5	38.7	26.3
Netherlands	15.1	14.3	17.9	10.7	11.5	13.4	11.2	15.6	13.0	13.2	12.3	14.0
Austria	21.5	27.5	35.2	20.3	20.0	23.2	21.3	25.1	16.3	21.0	21.6	20.3
Poland	16.2	15.0	22.6	7.5	19.8	20.5	21.2	19.9	17.0	13.1	15.5	10.8
Portugal	24.9	17.6	24.7	10.8	30.7	23.7	22.6	24.7	24.5	16.5	18.4	14.7
Romania	53.5	40.4	50.7	30.4	52.7	47.0	46.9	47.2	46.9	41.4	44.7	38.2
Slovenia	16.5	21.2	31.3	10.7	17.7	20.3	20.9	19.7	13.9	14.8	17.8	11.6
Slovakia	27.8	22.3	32.0	12.5	20.9	21.0	21.4	20.7	20.2	19.3	20.4	18.2
Finland	4.8	8.1	13.0	3.2	6.0	7.8	8.1	7.5	4.1	6.0	7.5	4.5
Sweden	15.3	17.4	24.2	10.5	18.3	21.1	21.4	20.8	16.4	19.1	20.3	17.9
United Kingdom	19.0	18.4	23.1	14.0	19.8	20.2	17.5	22.8	16.7	15.0	14.6	15.5
Croatia	21.5	22.5	31.2	12.6	28.6	33.2	31.8	34.6	17.0	18.5	20.5	16.3
Montenegro	:	:	:	:	:	:	:	:	:	:	:	:
Iceland	20.5	16.8	23.8	9.9	16.8	17.0	17.9	16.1	20.6	17.9	19.3	16.6
MK*	:	:	:	:	:	:	:	:	:	:	:	:
Serbia	:	:	:	:	:	:	:	:	:	:	:	:
Turkey	32.2	24.5	33.4	15.0	52.1	42.1	40.4	44.1	46.6	30.0	33.3	26.5
Liechtenstein	14.3	15.6	21.2	9.4	13.2	9.5	7.7	11.5	12.9	11.3	9.2	13.7
Norway	22.4	14.9	21.4	8.4	22.2	18.2	18.0	18.3	21.1	15.8	16.9	14.5

Source: OECD (PISA 2006 & PISA 2009) and ACER (2011). Notes: ":" = data not available \*MK: The former Yugoslav Republic of Macedonia; see Annex 2.1.

To bring down the share of students with such a low performance, in May 2009 the Council set a new benchmark for low performance in basic skills. The aim is to reduce the proportion of low

achievers in the areas of reading, maths and science to less than 15% by 2020<sup>54</sup>. This benchmark helps to assess the progress of Member States in improving educational outcomes, and is a pointer for structural problems within their education systems.

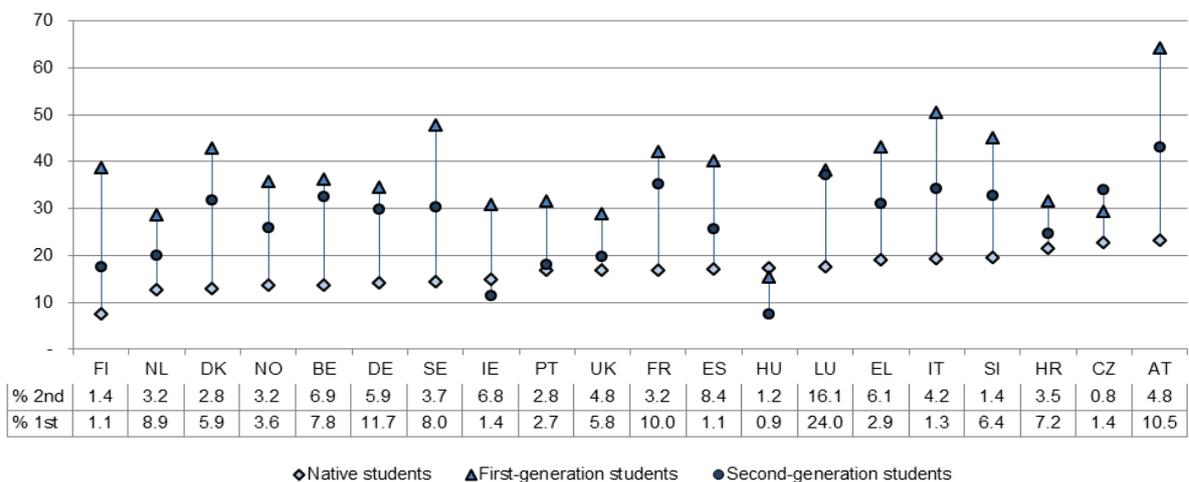
Longer-term objectives might require more ambition. According to the final report from the EU high level group of experts on literacy<sup>55</sup>, we should prepare *all* children to be able to read and use information in multiple formats and from multiple sources, thereby providing a basis for developing 21<sup>st</sup>-century competences in an information society. A basic level of reading, but also maths and science skills, is a precondition for personal fulfilment and development.

Still, the percentage of low achievers varies widely across the Member States (table 6.1). Finland, Estonia and the Netherlands are consistently good performers, whereas Romania, Bulgaria and Malta<sup>56</sup> are far behind the EU average. While there was quick progress in science, improvement has been the slowest in mathematics. This means the 2009 EU average share of low achievers has to decrease *by a third* to reach the 2020 benchmark. Comparatively, the 2009 EU average of low achievers in science has to decrease a further 15.3%.

Taking into account all three basic skills, candidate country Turkey has shown the strongest improvement between 2006 and 2009, followed by Romania, Portugal, Bulgaria and Italy. At the other extreme, a number of countries have deteriorated in their performance, most notably Ireland, Slovenia and Sweden. As such, the performance gap between EU countries narrowed by 2009, with low performing countries catching up and some well-performing countries falling back.

A large gender gap in reading performance remains and has even widened since 2006. The share of low achieving boys (25.9%) is about twice the share of low achieving girls (13.3%). In Latvia and Lithuania the share of low performing boys is three times the share for girls, while in the leading performer, Finland, the rate for girls is exceptionally low at 3.2% but four times higher for boys. Across the EU as a whole, girls already meet the 15% benchmark for reading skills; the challenge is improving performance among boys to a similar rate.

**Figure 6.1. Percentage of low achievers in reading, by country of birth**



Source: OECD (PISA 2009). Countries ordered by the performance of native-born students. "% 2<sup>nd</sup>" and "% 1<sup>st</sup>" refer to the overall percentage of second-generation and first-generation migrant students respectively.

<sup>54</sup> This benchmark derives from the PISA survey, which distinguished between various levels of performance. Pupils who fail to reach level 2 are considered to be inadequately prepared for the challenges of the knowledge society and for lifelong learning. The benchmark accordingly measures the share of pupils with reading, maths and science proficiency at level one or below.

<sup>55</sup> EU High Level Group of Experts on Literacy: Final Report ([http://ec.europa.eu/education/focus/literacy\\_en.htm](http://ec.europa.eu/education/focus/literacy_en.htm)).

<sup>56</sup> Although not included in the original PISA 2009, Malta was covered by the PISA 2009+ study published by the Australian Council for Educational Research (ACER) in December 2011. It is not included in the weighted EU average.

Gender gaps for maths and science are considerably smaller than for reading. Across the EU, boys slightly outperform girls in maths, and girls slightly outperform boys in science. However, both PISA (2003)<sup>57</sup> and TIMSS (2007)<sup>58</sup> data show that girls had lower self-confidence in their abilities in mathematics as well as more feelings of stress and anxiety in maths classes than boys.

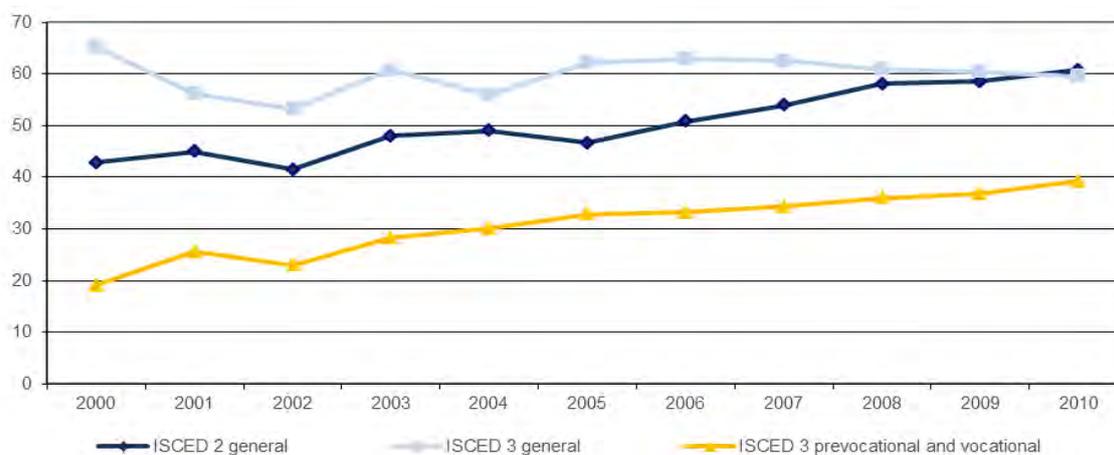
In almost all Member States, the reading levels of foreign-born students lag far behind those for native-born students, even when taking socio-economic status into account<sup>59</sup>. Second generation students – being born in the host country – generally perform better than first generation students (see figure 6.1). Different migrant patterns and immigration policies are, of course, of influence at the country level.

At the individual level, both the age at arrival in the host country (for first generation migrant students) and the language spoken at home have strong effects on the reading performance of students with a migrant background. At the systemic level, more inclusive systems alongside a range of support measures going beyond linguistic support can help foreign-born students and their parents narrow the gap in achievement<sup>60</sup>.

## 6.2. Language skills

The Barcelona European Council of 2002 set the objective for "teaching at least two foreign languages from a very early age"<sup>61</sup>. More recently, the ability "to enable citizens to communicate in two languages in addition to their mother tongue, promote language teaching, where relevant, in VET and for adult learners" has been established as a priority area in the strategic framework for European cooperation in education and training, ET 2020<sup>62</sup>. At present, it is obligatory to learn at least one foreign language in compulsory education in the majority of Member States (except Ireland and Scotland); a second foreign language is optional in nearly all of them<sup>63</sup>.

**Figure 6.2. Percentage of pupils learning at least two foreign languages in EU, 2000-2010**



Source: Eurostat (UOE).

<sup>57</sup> OECD, 2004. *Learning for Tomorrow's World – First Results from PISA 2003*. Paris: OECD.

<sup>58</sup> Mullis, I.V.S., Martin, M.O. & Foy, P., 2008. *TIMSS 2007 International Mathematics Report: Findings from IEA's Trends in International Mathematics and Science Study at the Fourth and Eighth Grades*. Chestnut Hill, MA: Boston College, TIMSS and PIRLS International Study Center.

<sup>59</sup> OECD (2012), *Untapped Skills: Realising the Potential of Immigrant Students*, OECD Publishing (<http://dx.doi.org/10.1787/9789264172470-en>).

<sup>60</sup> European Commission (forthcoming) Study on educational support for newly arrived migrant children.

<sup>61</sup> Presidency conclusions, Barcelona European Council 2002.

<sup>62</sup> OJ (2009/C 119/02).

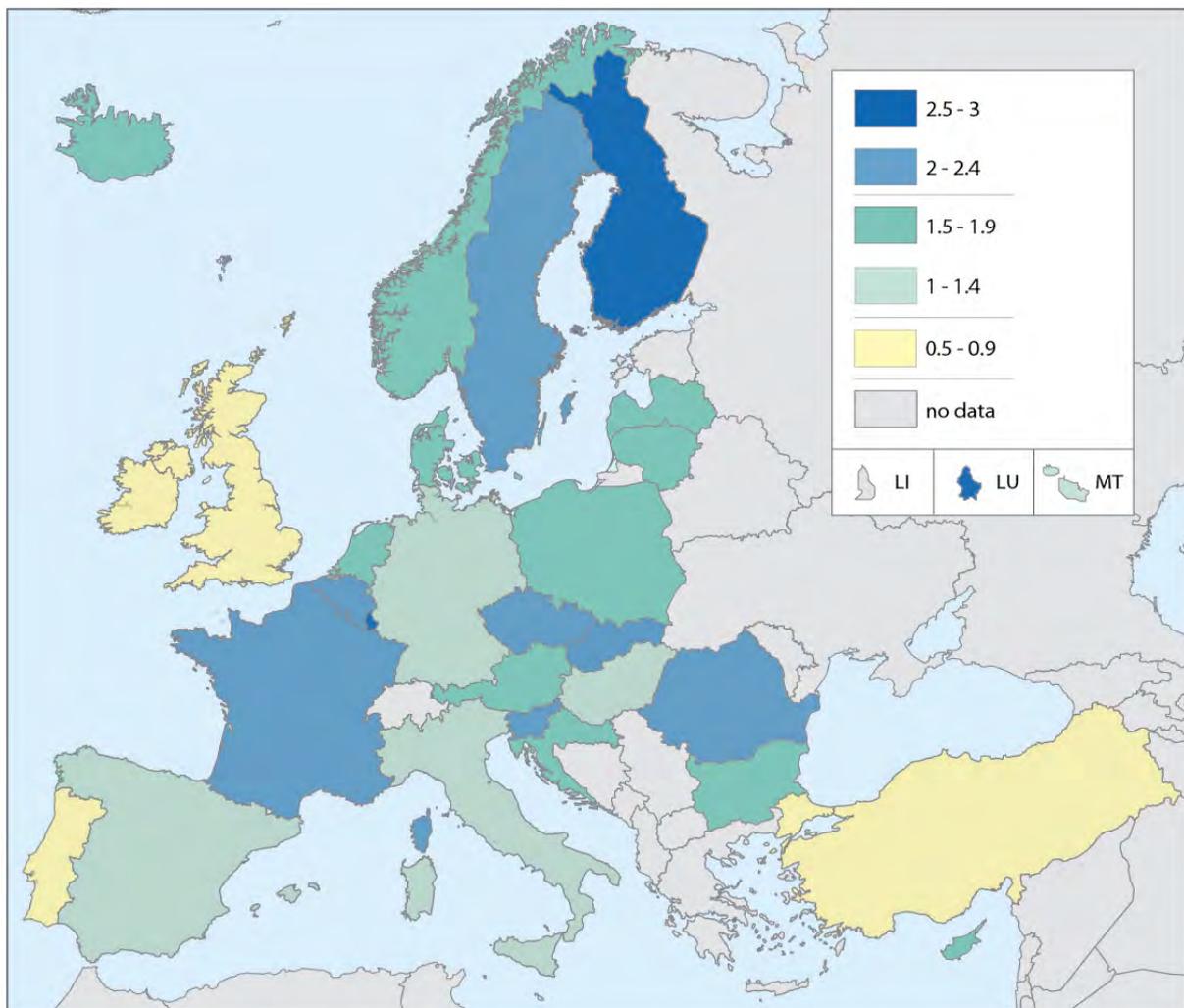
<sup>63</sup> For more information on how foreign language teaching is arranged, see EACEA/Eurydice, *Key Data on Teaching Languages at School in Europe, 2012 Edition*. Brussels: Eurydice.

The following analysis takes stock of the current state of play and supports the initiative to establish a new European benchmark on language competences, highlighted in the Communication on Rethinking Education and outlined in detail in the Staff Working Document on boosting and targeting language competences.

At the level of primary education (ISCED 1), the teaching of languages has become more common since 2000. Across the EU, the average number of foreign languages learned by primary pupils has increased from 0.5 in 2000 to 0.8 in 2010<sup>64</sup>.

In 2010, more than half of pupils across the EU enrolled in lower secondary education (ISCED 2) and general upper secondary education (ISCED 3 general) were learning at least two foreign languages; 60.8% and 59.6% respectively. Figure 6.2 shows a trend between 2000 and 2010: whereas the percentage of general upper secondary pupils in the EU learning at least two foreign languages has stagnated and even decreased, the share of lower secondary pupils learning at least two foreign languages has been steadily increasing.

**Figure 6.3. Average number of languages learned per pupil in general upper secondary education (2010)**



Source: Eurostat (UOE).

<sup>64</sup> Learning more than one language was in 2010 common practice at primary level in Luxembourg (1.8 on average), followed by Spain (1.1 on average) (see Table 6.A. in annex).

At the level of lower secondary education, in 2010 pupils learned on average at least two foreign languages in Luxembourg (2.5), Finland (2.2), Netherlands (2.1), Italy (2.0), and Cyprus (2.0). At the other end of the scale, pupils in Ireland, Hungary and the United Kingdom studied the lowest number of languages (1.0 in each of the 3 countries)<sup>65</sup>.

Figure 6.3 illustrates the situation for general upper secondary education. Here, at least two foreign languages are learnt by pupils in Luxembourg (3.0), Finland (2.7), Belgium (2.2), Sweden (2.2), Czech Republic (2.1), France, Romania, Slovenia and Slovakia (all 2.0). The lowest number of foreign languages at this level is learnt in the United Kingdom and Portugal (both 0.5).

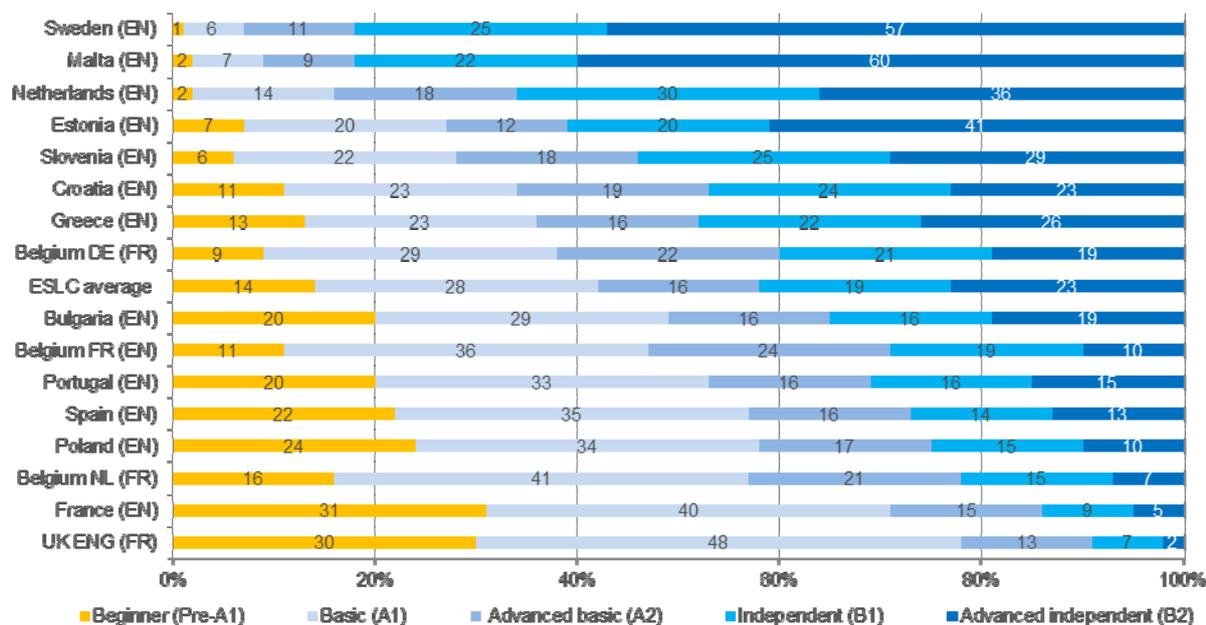
In pre-vocational and vocational upper secondary education, the overall percentage of foreign languages learned per pupil is considerably lower than in general upper secondary education. Nevertheless, the share of pupils learning at least two languages has doubled over the last decade. Pupils enrolled in vocational education learn on average two foreign languages in Luxembourg (2.0), followed by Romania (1.8), Poland (1.6), Belgium/Flemish community (1.6), Slovakia (1.5), Bulgaria (1.4), and Italy (1.4).<sup>66</sup>

English is by far the most widely taught foreign language in the EU at ISCED level 2. The proportion of pupils who learn English as a foreign language at this level increased from 74.3% in 2000 to 93.7% in 2010. However, during the decade 2000-2010, more and more pupils have also been learning French, German and Spanish. Especially the teaching of Spanish as a foreign language has seen a steady increase during the period.<sup>67</sup>

#### Outcomes of foreign language learning

The Barcelona Council set not only the objective to teach the mother tongue plus two foreign languages, but also called for the establishment of a linguistic competence indicator. This decision arose from the need of having a more complete picture of the language competences in Europe, and of the progress made towards the objective of teaching at least two foreign languages from a very early age.

**Figure 6.4. First foreign language: Percentage of tested pupils achieving each level (2011)**



Source: First European Survey on Language Competences: Final Report. Average of listening, reading and writing.

<sup>65</sup> See Table 6.A. in annex.

<sup>66</sup> See Table 6.A. in annex.

<sup>67</sup> See Figure 6.A. in annex.

In order to collect accurate and up-to-date data on the outcomes of foreign language teaching systems, in 2008 the Commission launched a European Survey on Language Competences (ESLC)<sup>68</sup>. The ESLC, the first survey of its kind, was designed according to international education survey standards used by PISA, PIRLS and TIMSS.

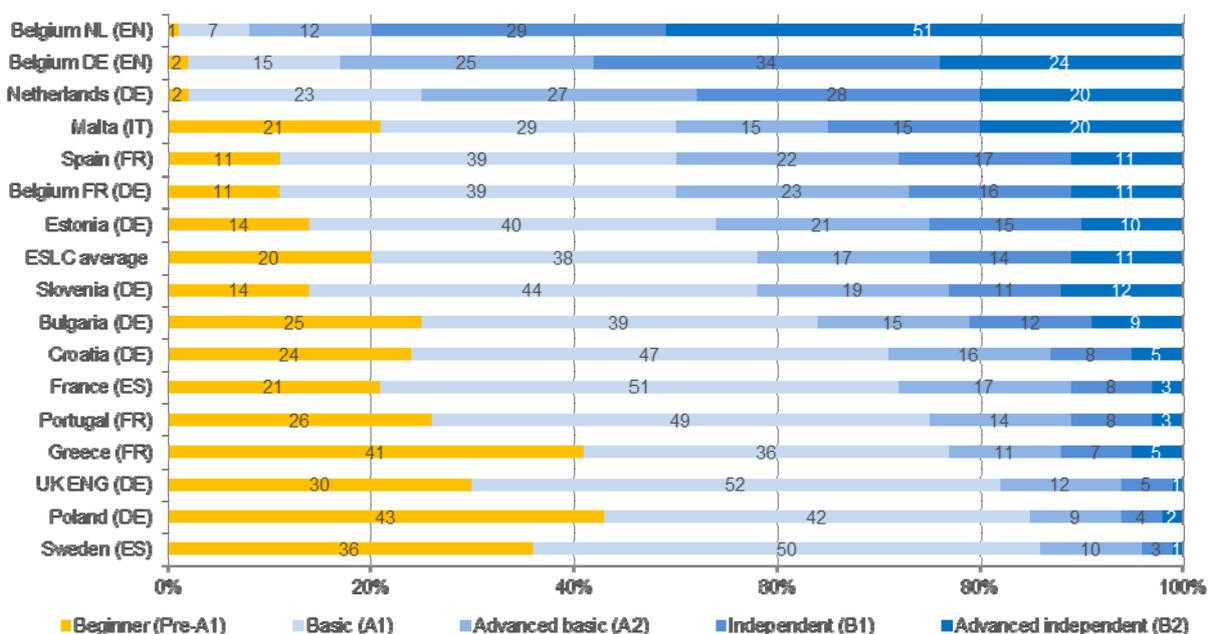
In the spring of 2011, fourteen European countries took part in the survey: Belgium, Bulgaria, Croatia, Estonia, France, Greece, Malta, Netherlands, Poland, Portugal, Slovenia, Spain, Sweden and the UK (England). Belgium's three linguistic communities participated separately, adding up to a total of 16 education and training systems.

The survey provides comparable data on foreign language competences of almost 54,000 pupils at the end of lower secondary education<sup>69</sup>. In each of the 16 educational systems pupils were tested in two foreign languages, chosen from the five most widely taught EU official languages: English, French, German, Italian and Spanish. The choice of test languages was made by the participating countries or linguistic communities. The language tests covered three language competences: listening, reading and writing. The results of the survey are reported according to the levels of the *Common European Framework of Reference for Languages* (CEFR).

In addition to the assessment of language competences, contextual information was collected through questionnaires filled in by the tested pupils, and their foreign language teachers and principals. Furthermore, system-wide information was collected through National Research Coordinators.

The results of the language assessment show that the tested pupils are quite far from achieving the objective of having benefited from being taught two foreign languages. One of the key findings from the survey is an overall low level of competences in both first and second foreign languages tested: a level of independent user is achieved by only 42% of tested pupils in the 1st foreign language (figure 6.4) and by only 25% in the 2nd foreign language (figure 6.5). Moreover, a large number of tested pupils did not even achieve the level of a basic user: 14% for the 1st and 20% for the 2nd foreign language.

**Figure 6.5. Second foreign language: Percentage of tested pupils achieving each level (2011)**



Source: First European Survey on Language Competences: Final Report. Average of listening, reading and writing.

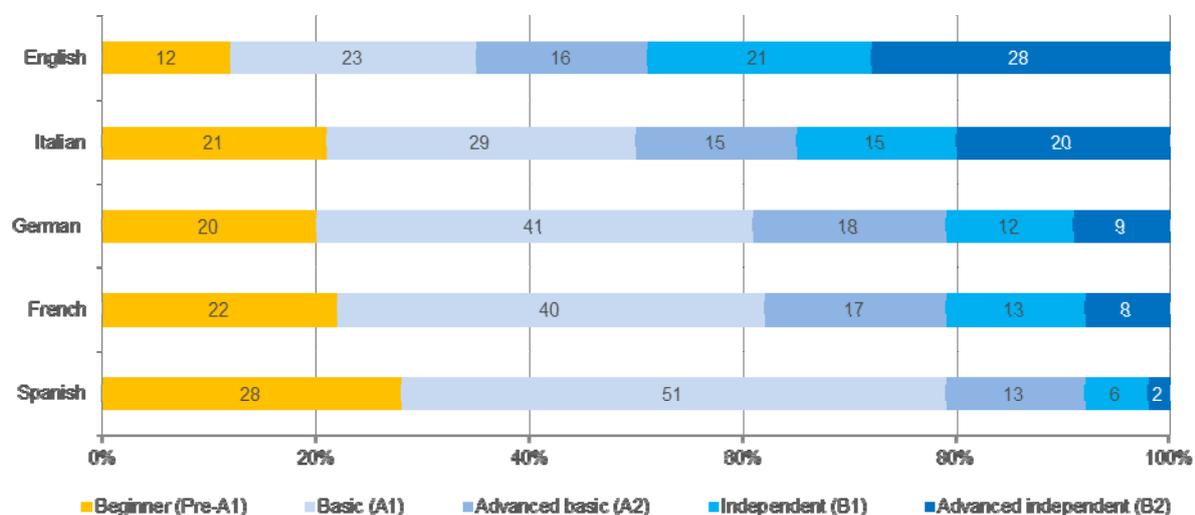
<sup>68</sup> Complete information about the ESLC, including the final and technical reports, can be found at: <http://ec.europa.eu/languages/eslc/index.html>

<sup>69</sup> Exceptions to test at ISCED 3 were accorded to: Belgium NL (second foreign language), Belgium FR (both languages), Belgium DE (second foreign language), Bulgaria (both languages) and England (both languages).

Another finding provided by the ESLC is a strong variation of ability across countries in Europe. For the first foreign language, the proportion of pupils reaching the level of independent user varies from 82% in Malta and Sweden (English) to only 14% in France (English) and 9% in England (French). For the second foreign language, the level of independent user is reached by 4% in Sweden (Spanish) and 6% in Poland (German) compared to 48% in the Netherlands (German). In the Flemish and German Communities of Belgium, the only two education systems in which English was tested as the second foreign language, scores are even higher, with 80% and 58% of pupils reaching the level of independent user.

The ESLC confirms that English is the most widely adopted first foreign language learned by European pupils. As figure 6.6 shows, English is also the language in which pupils reach the highest level. Moreover, English is perceived as the most useful and, for the majority of tested pupils, the easiest to learn.

**Figure 6.6. Global scores for all tested pupils by language (2011)**



Source: First European Survey on Language Competences: Final Report.

Regarding the factors directly linked to formal language learning in schools, the ESLC results demonstrate positive effects on achievement when the foreign language is actively used by both teachers and pupils during language lessons; when foreign language teaching begins at an earlier stage and in more languages; and when pupils use the foreign language for meaningful communication in the classroom and outside. Furthermore, pupil achievement is positively influenced by being able to speak foreign languages with parents, by usage at home to engage with traditional and new media, by believing it to be useful and, finally, by feeling capable of successfully learning it.

As a next step, the Council has invited the Commission to submit, by the end of 2012, a proposal for a possible benchmark in the area of languages based on the results from the first European Survey on Language Competences.

### 6.3. ICT skills

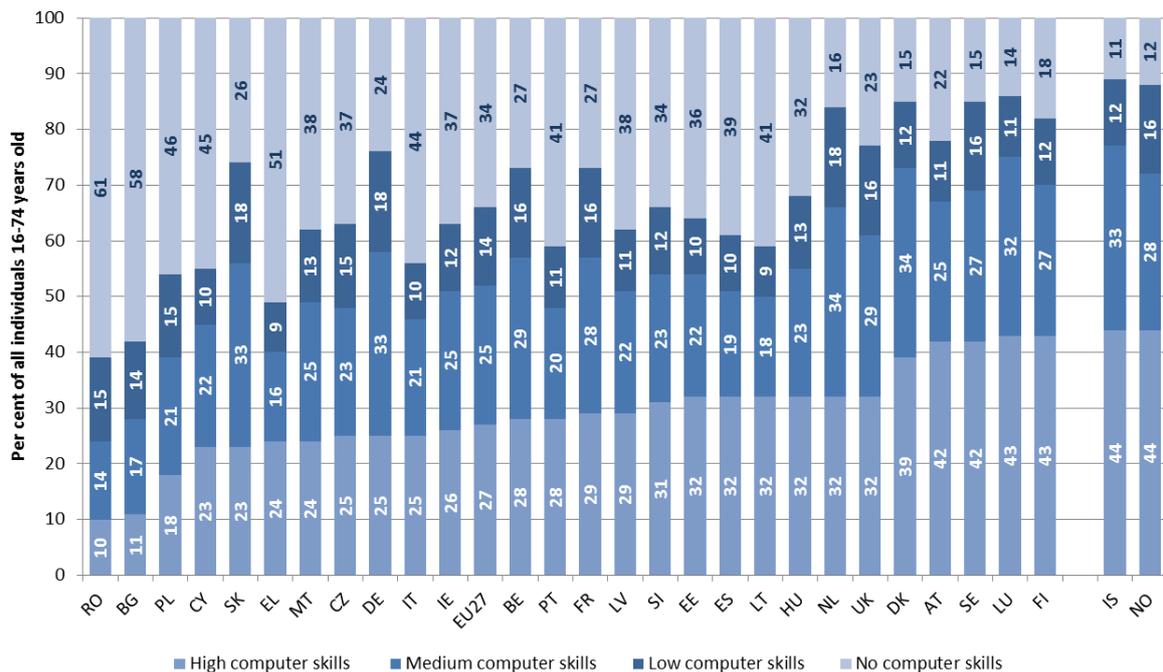
Exploiting the potential of ICT is a key issue addressed in the Communication on Rethinking Education (in particular, chapter 2.2), and the enhancement of digital competence was one of the main pillars of the Digital Agenda for Europe<sup>70</sup>, one of the Europe 2020 flagship initiatives. In the Digital Agenda for Europe, lack of ICT skills is identified as one of the key obstacles to harnessing the potential of ICT.

<sup>70</sup> COM(2010) 245 final.

The priorities for the second cycle of ET 2020, set out in the annex to the 2012 Joint Report of the Council and the Commission<sup>71</sup>, also includes working "[...] together to promote the acquisition of the key competences identified in the 2006 Recommendation on key competences for lifelong learning, including on the learning of digital competences [...]".

Awaiting direct assessments of ICT skills<sup>72</sup> we currently have to base our cross-country comparisons on self-declared ICT skills. Eurostat provides biannual data on self-declared computer skills<sup>73</sup> of 16-74 year-olds in Europe through their Community survey on ICT usage in households and by individuals.

**Figure 6.7. Percentage of individuals with low, medium and high computer skills, 2011**



Source: Eurostat, Information Society Statistics. Note: Individuals aged 16 to 74 years. For details about different types of computer activities, see [http://epp.eurostat.ec.europa.eu/cache/ITY\\_PUBLIC/4-26032012-AP/EN/4-26032012-AP-EN.PDF](http://epp.eurostat.ec.europa.eu/cache/ITY_PUBLIC/4-26032012-AP/EN/4-26032012-AP-EN.PDF).

There are large differences across countries. In Romania and Bulgaria only around 4 out of 10 have some computer skills, and only around 1 out of 10 has high computer skills. This contrasts with the situation in Austria, Luxembourg and the Nordic countries where around 4 out of 10 have higher computer skills. On average in EU 27, 66% have some computer skills, 14% low skills, 25% medium skills and 27% high skills. This is an increase in computer skills since 2006 when 57% had some computer skills, 13% low skills, 23% medium skills and 21% high skills.

There is a clear generational and educational divide in computer skills. 45% in the age group 16-24 has high computer skills compared with 31% and 10% in the age groups 25-54 and 55-74 respectively. Computer skills are positively correlated with educational attainment in all the age groups, with the difference in skills between lowest and highest education attainment level most pronounced in the 25-54 age group. These gaps show that action to increase ICT skill levels is

<sup>71</sup> OJ (2012/C 70/05).  
<sup>72</sup> In 2013 IEA will carry out their International Computer and Information Literacy Study (ICILS), directly assessing the computer and information literacy of 8<sup>th</sup> grade students across countries, including 9 EU countries.  
<sup>73</sup> Computer skills are defined as having ever performed at least one of the following activities: Copying or moving a file or folder; using copying and paste tools to duplicate or move information within a document; using basic arithmetic formulas in a spreadsheet; compressing (or zipping files); connecting and installing new devices; writing a computer programme using a specialized programming language. Low computer skills refers to having done one or two of these computer-related activities, medium skills refers to having done three or four of these activities, and high skills five or all of them.

needed, and education and training systems can contribute to this by embedding ICT and OER (open educational resources).

Teachers and school heads express a positive attitude about the wider learning potential of ICT and its essential role in teaching and learning for pupils in the 21<sup>st</sup> century and infrastructure barriers to the use of ICT in education have been reduced over the last 5 years. Still, data from 2011<sup>74</sup> reveal that although online resources and networks are now widely available in Europe and the majority of teachers are now familiar with ICT at school, they still use it first and foremost to prepare their teaching, while digital resources of all types are still far too rarely used during lessons. Moreover, teacher participation in training on how to use ICT for teaching and learning is rarely compulsory. This and other findings suggest that there should be a strong focus on measures, particularly training, to support and develop teachers' ICT competence and ICT use in the classroom. Moreover, central regulations in most European countries lay down requirements for strengthening teachers' ICT skills for teaching throughout their basic education and further training<sup>75</sup>.

#### 6.4. Entrepreneurial skills

According to the Key Competence Framework put forth in 2006<sup>76</sup>, the entrepreneurship key competence refers to an individual's ability to turn ideas into action. It includes creativity, innovation and risk taking, as well as the ability to plan and manage projects in order to achieve objectives. The overall goal of entrepreneurship education is to give students the attitudes, knowledge and skills to act in an entrepreneurial way, for either a commercial or non-commercial objective.

The fourth long term objective of ET 2020 is to enhance creativity and innovation, including entrepreneurship, at all levels of education and training. The importance of entrepreneurship education is also visible in the Europe 2020 Strategy where the need to embed creativity, innovation and entrepreneurship into the education systems is highlighted in three flagships: Youth on the Move, An Agenda for New Skills and Jobs, and Innovation Union.

Results from a 2011 survey on entrepreneurship education show that 23 EU Member States have current strategies or on-going initiatives addressing the implementation of entrepreneurship education into general education at primary and/or secondary level<sup>77</sup>. Specific strategies/action plans focused exclusively on the integration of entrepreneurship education are found in Sweden, Denmark, the Netherlands, the UK (Wales), Estonia and Lithuania. The survey also looks at whether entrepreneurship education is explicitly recognised in central level educational steering documents<sup>78</sup>. Such recognition is found in two thirds of the EU27 countries at primary level and at upper secondary level all Member States integrate entrepreneurship into the curriculum in some form.

At secondary level most countries have defined learning outcomes for entrepreneurship education, in many countries covering all three dimensions: attitudes, knowledge and skills. No country has learning outcomes linked only to entrepreneurial skills.

There is currently a lack of international data providing comparable measurements of entrepreneurship as a key competence. Most available data apply to a narrower understanding of entrepreneurship, i.e. linked to business start-ups, and do not allow conclusions on the role of entrepreneurship education for such start-ups<sup>79</sup>.

---

<sup>74</sup> Report for the European Commission "Survey of Schools: ICT in Education. Benchmarking Access, Use and Attitudes to Technology in Europe's Schools", European Schoolnet and University of Liège (expected to be published in fall 2012).

<sup>75</sup> Eurydice (2011) Key Data on Learning and Innovation through ICT at School in Europe 2011 ([http://eacea.ec.europa.eu/education/eurydice/key\\_data\\_en.php](http://eacea.ec.europa.eu/education/eurydice/key_data_en.php)).

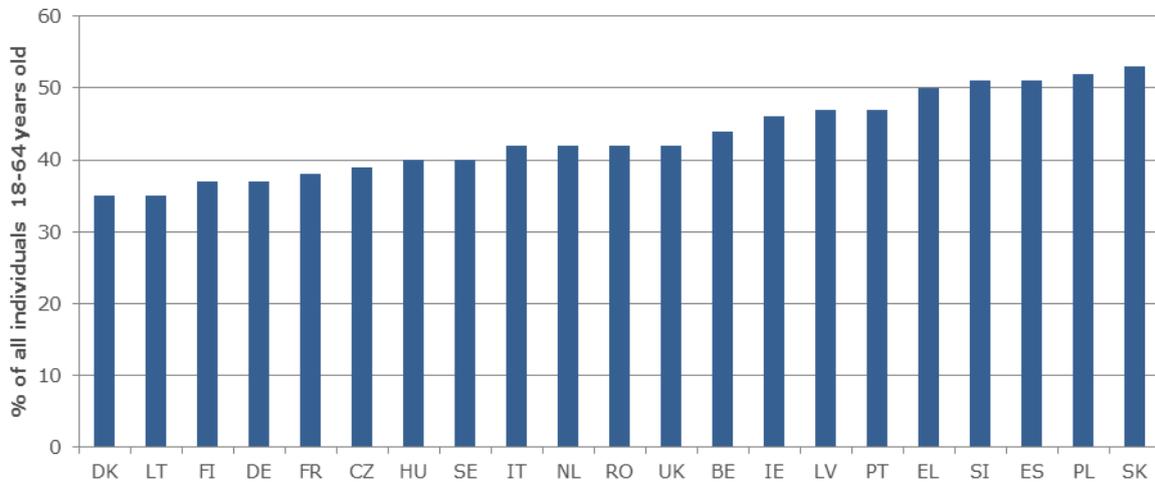
<sup>76</sup> OJ (2006/962/EC).

<sup>77</sup> Eurydice (2012), Entrepreneurship Education at School in Europe: National Strategies, Curricula and Learning Outcomes ([http://eacea.ec.europa.eu/education/eurydice/thematic\\_reports\\_en.php](http://eacea.ec.europa.eu/education/eurydice/thematic_reports_en.php)).

<sup>78</sup> Official documents containing curricula, guidelines obligations and/or recommendations.

<sup>79</sup> For a useful overview of indicators and data sources for entrepreneurship education in 10 Member States see [http://ec.europa.eu/education/more-information/doc/2011/entrepreneurship\\_en.pdf](http://ec.europa.eu/education/more-information/doc/2011/entrepreneurship_en.pdf).

**Figure 6.8. Percentage of individuals aged 18 to 64 who believe to have the required skills and knowledge to start a business, 2011**



Source: Global Entrepreneurship Monitor 2011 Note: Italian result is from 2010.

The Global Entrepreneurship Monitor provides annual data on adults' attitudes/perceptions of entrepreneurship. Results show that in only 4 of the 20 EU Member States covered by the monitor in 2011, did more than half of the adult population believe to have the required skills and knowledge to start a business. All the Nordic countries are found at the lower end of the spectrum, with less than 41% expressing perceived capabilities to start a business. Earlier results have suggested that early-stage entrepreneurial activity is associated, at least to some degree, with past training in starting a business<sup>80</sup>.

## 6.5. Civic skills

The Key Competences Framework from 2006 includes social and civic competences<sup>81</sup>. Civic competence, and particularly knowledge of social and political concepts and structures (democracy, justice, equality, citizenship and civil rights), equips individuals to engage in active and democratic participation. Thus civic competences contribute to the third strategic objective of ET 2020 of promoting equity, social cohesion and active citizenship.

In 2009, 22 EU countries and a total of 38 education systems worldwide participated in the International Civic and Citizenship Education Study (ICCS), administered by the International Association for the Evaluation of Educational Achievement (IEA)<sup>82</sup>.

The analysis of four different dimensions of civic competences (derived from grouping items of the ICCS) shows that there is little correlation between cognition/civic knowledge on the one hand and attitudes and values on the other. Denmark and Finland perform best as regards civic knowledge of pupils, whereas Italy scores highest on citizenship values and participatory attitudes (see table 6.2). Ireland, Sweden and Spain perform best in the sub-dimension of social justice.

Furthermore, research shows that there is a diversity in the provision of civic education in Europe (civics as a subject of its own or integrated into other subject areas) and that participatory structures in the provision of education are as important as the content when it comes to acquiring civic competences.

<sup>80</sup> GEM Special Report on Education and Training (2010) pp.30-31.

<sup>81</sup> OJ (2006/962/EC).

<sup>82</sup> See: [http://www.iea.nl/iccs\\_2009.html](http://www.iea.nl/iccs_2009.html).

**Table 6.2. Civic competences of 8<sup>th</sup> grade pupils, 2009**

	Civic knowledge	Dimensions of civic competences				Citizenship education		
		Citizenship values	Social justice	Participatory attitudes	Knowledge about democratic institutions	Average minimum taught time devoted to citizenship education as a separate subject during a notional year		
						Primary	Lower secondary	Upper secondary
<b>EU average</b>	<b>511</b>	<b>583</b>	<b>662</b>	<b>495</b>	<b>546</b>			
Belgium	514	542	647	435	546			
Bulgaria	466	629	652	506	504			11.6
Czech Republic	510	544	624	436	540			
Denmark	576	532	681	491	624			
Germany	:	:	:	:	:			
Estonia	525	565	653	487	560	4.4	17.5	17.5
Ireland	534	610	703	525	578		23.0	
Greece	476	633	689	541	505	8.8	15.0	15.0
Spain	505	621	709	506	538	8.3	17.5	35.0
France	:	:	:	:	:	30.0	28.0	16.0
Italy	531	656	673	544	568			
Cyprus	453	651	652	517	477		4.0	8.0
Latvia	482	597	619	525	510			
Lithuania	505	599	650	532	521		16.0	
Luxembourg	473	567	678	486	515			21.1
Hungary	:	:	:	:	:			
Malta	490	598	662	495	527			
Netherlands	(494)	534	620	450	522			
Austria	503	565	652	524	536		15.0	
Poland	536	600	661	498	575		16.3	18.6
Portugal	:	:	:	:	:	27.0	27.0	
Romania	:	:	:	:	:	15.0	10.0	
Slovenia	516	565	672	485	548		17.5	
Slovakia	529	555	635	478	560		24.8	6.2
Finland	576	534	667	457	622			
Sweden	537	556	706	482	575			
UK	519	569	655	498	554			
Croatia	:	:	:	:	:			12.6
Iceland	:	:	:	:	:			
Turkey	:	:	:	:	:		16.0	
Liechtenstein	531	546	660	497	568			
Norway	515	629	706	501	557		22.3	

Source: IEA ICCS 2009 survey, JRC-CRELL, Eurydice. Note: ICCS results for Belgium refer to Flemish Community, for UK to England.

## 7. Student mobility in vocational training and Higher Education

Facilitating free movement of persons is at the heart of the European Union policies and enabling students to study or train in another country is encouragement for youth to look for employment opportunities outside their home country later in life. The European Commission strongly supports student mobility and has proposed significantly increased funding opportunities in this area for the period 2014 to 2020.

### 7.1. Promoting learning mobility of young people

Mobility broadens personal and intellectual horizons and can also stimulate quality of education by inspiring new ways of teaching and learning. It is, therefore also a vital tool for modernising our educational institutions at all levels across the whole of Europe. The European Commission runs a number of mobility programmes under the Lifelong Learning Programme, such as Erasmus for higher education, Leonardo da Vinci for vocational education and training, Comenius for school education and Grundtvig for adult education. The European Commission proposal for the successor programme, Erasmus for All, proposes a sharp budget increase of more than 70% in the next multi-annual budgetary period 2014-2020.

On 29 November 2011, the European Council adopted conclusions<sup>83</sup> which stipulate two benchmarks and an indicator on respectively higher education, initial vocational training and general youth mobility. The benchmarks set concrete targets to be achieved by 2020. Many EU Member States have followed up on the Europe-wide targets by setting their own national targets as well.

Student mobility has two driving forces: firstly the desire to go abroad and study or train in another country and secondly, the attractiveness of national education systems.

The currently available statistics on learning mobility only give a fragmented picture of mobility flows; for the number of students enrolled abroad and graduating abroad (degree mobility) and for those who have had a period of study or training abroad (credit mobility). Work is currently underway between the European Commission (Eurostat) and the Member States to adapt current methodology for collecting data in order to meet the benchmark requests.

### 7.2. Mobility in vocational education and training

The benchmark for learning mobility in initial vocational training (IVET), defined as the vocational orientation within upper secondary education, apprenticeships included, stipulates that by 2020 'an EU average of at least 6 % of 18-34 year olds with an initial vocational education and training qualification should have had an initial VET-related study or training period (including work placements) abroad lasting a minimum of two weeks.' No national targets are defined and the European average could in principle be calculated by selecting a European representative sample.

Very little evidence exists concerning the actual magnitude of IVET mobility within the European Union and its Member States. The benchmark was defined on the basis of the Flash Eurobarometer survey "Youth on the move" (2011) and first evidence from selected countries as Germany and Finland. Eurostat is presently undertaking efforts for measuring the benchmark via a sample survey with the aim of providing feedback on the benchmark by end of 2015.

The Leonardo da Vinci programme covering IVET mobility provides some indication of the level and development of IVET mobility flows. This data shows in general low participation rates in this programme with 2% out of total IVET upper secondary enrolments. The percentages are slightly higher for some smaller EU member States (see figure 7.1). In total this gives an EU level of IVET mobility of only 0.7% only for the Leonardo da Vinci programme in 2010, up from 0.5% in 2005.

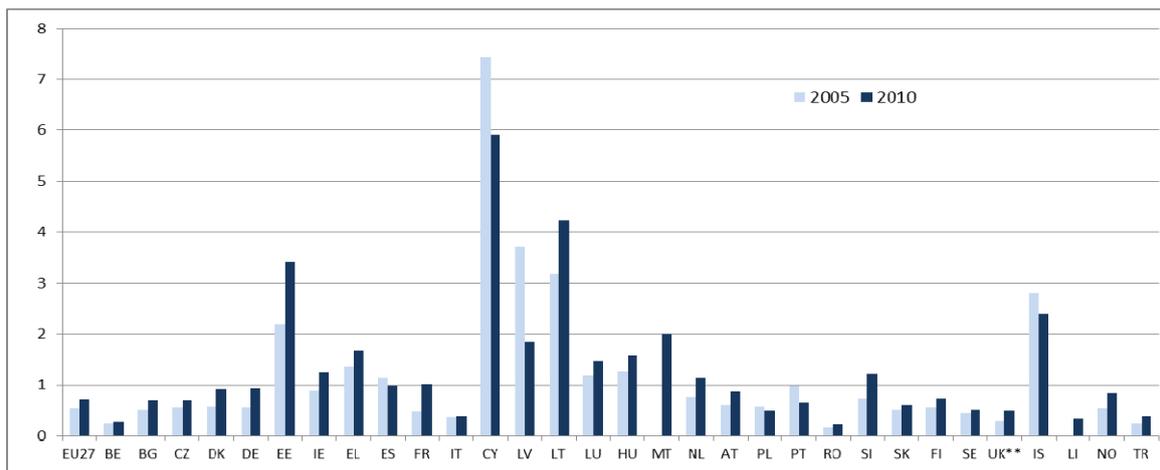
These enrolment figures should be interpreted with care. The benchmark concerns graduates from IVET and it is likely that the level would be higher given that IVET studies last more years. The

---

<sup>83</sup> OJ 2011/C 372/08.

figures here do not include bilateral national programmes or free movers (mobility organised by the student himself). A recent study on mobility developments in school education, vocational education and training, adult education and youth exchanges commissioned by the European Commission, shows that the number of participants in schemes financed from other sources than the EU action programmes amount to nearly the double the total of these.

**Figure 7.1. Percentage of students participating in Leonardo da Vinci programs out of total number of students in vocational training\* at upper secondary level vocational orientation, 2005 and 2010**



Sources: DG EAC estimates based on Eurostat and DG EAC data sources. Leonardo da Vinci programme, European Commission: [http://ec.europa.eu/education/leonardo-da-vinci/statistics\\_en.htm](http://ec.europa.eu/education/leonardo-da-vinci/statistics_en.htm). Eurostat (UOE collection) \* The number of students participating in a Leonardo da Vinci project (selection database) as a percentage of students enrolled in initial vocational training programmes (ISCED 3 upper secondary vocational orientation.) \*\* UK: 2006 (break in series from 2005 to 2006).

The available evidence shows that the present European average is far from the 2020 benchmark target. However, these figures do not cover all IVET mobility within the European Union. Multi- or bilateral specific national programmes may add significantly to these figures in the future.

### 7.3. Mobility in higher education

The modernisation agenda of Europe's higher education systems<sup>84</sup> underlines the importance of international mobility of students in helping educational institutions connect across the globe and in enhancing the quality of study programmes.

The 2020 benchmark within higher education is along the lines of the mobility target set by the Bologna ministers in Louvain/Leuven in 2009. It stipulates that by 2020 "at least 20% of higher education graduates should have had a period of higher education-related study or training (including work placements) abroad, representing a minimum of 15 ECTS credits or lasting a minimum of three months."

The benchmark is defined in terms of graduates, e.g. either students successfully completing a degree abroad or students who graduate in their country of origin and have spent a period abroad for study or training purposes.

Data presently available regarding students going abroad for study purposes generally show low levels of mobility (see table 7.1). In fact, mobile students enrolled within the EU, EEA and candidate countries' area show an EU average of 2.4% for tertiary education for degree mobility and 1.2% for credit mobility. This said, there are important differences between countries which firstly depend on the structure of tertiary education (most students at that level in Cyprus,

<sup>84</sup> SEC(2011)1063 final.

Luxembourg and Lichtenstein would need to go abroad to study at tertiary level because of the limited offer of study programmes in their home country). Secondly, a large number of mainly big EU countries have low outbound mobility levels (as ES, FR, IT, PL and the UK, - but also DK, NL, HU and SI).

Table 7.1 does not refer to the benchmark measure as it concerns enrolments and not graduates. Graduate data are not yet available for many countries and it is not possible to indicate the level at which the benchmark currently lies.

**Table 7.1. Percentage of students enrolled in another EU member state, EEA or candidate country, 2010**

	Degree mobility						Credit mobility	
	Absolute			%			Absolute	%
	Total tertiary education	Bachelor and master level	Doctorate level	Total tertiary education	Bachelor and master level	Doctorate level	Bachelor and master level	
<b>EU27</b>	<b>434,919</b>	<b>371,664</b>	<b>31,325</b>	<b>2.4</b>	<b>2.3</b>	<b>:</b>	<b>202,667</b>	<b>1.2</b>
<b>BE</b>	9,425	8,304	515	2.6	4.2	5.6	6,347	3.0
<b>BG</b>	20,423	19,026	463	6.9	7.2	11.0	1,687	0.7
<b>CZ*</b>	10,125	9,258	551	2.5	2.6	2.3	5,975	1.6
<b>DK</b>	3,637	3,210	255	1.6	1.7	3.9	2,416	1.2
<b>DE</b>	77,948	67,289	6,921	3.9	3.4	:	28,854	1.4
<b>EE</b>	3,080	2,681	210	4.3	5.9	7.7	939	2.1
<b>IE</b>	17,963	14,479	1,157	9.1	9.9	15.7	2,128	1.5
<b>GR*</b>	25,796	22,841	2,424	4.2	5.6	:	3,179	0.8
<b>ES</b>	17,500	14,763	1,203	1.0	1.0	1.9	31,158	2.0
<b>FR*</b>	31,750	24,184	1,491	1.6	1.7	3.5	30,213	1.9
<b>IT*</b>	30,128	24,016	4,430	1.6	1.3	11.3	21,039	1.1
<b>CY</b>	26,124	20,858	662	54.4	54.8	58.7	216	1.1
<b>LV*</b>	3,740	3,247	112	3.3	3.5	5.0	1,736	1.9
<b>LT</b>	7,230	6,468	212	3.5	4.5	6.8	3,002	2.1
<b>LU</b>	6,412	5,832	147	67.1	68.5	67.4	468	11.6
<b>HU</b>	6,827	6,005	500	1.8	1.8	7.2	4,140	1.2
<b>MT*</b>	1,152	858	218	9.7	8.2	76.0	189	2.0
<b>NL</b>	9,418	7,524	746	1.5	1.2	8.5	7,678	1.2
<b>AT</b>	9,679	9,109	438	3.3	3.8	2.1	5,112	1.8
<b>PL</b>	26,767	23,507	1,816	1.2	1.1	5.0	14,021	0.7
<b>PT</b>	10,081	7,008	2,074	2.6	1.9	11.8	5,388	1.5
<b>RO</b>	21,758	18,588	1,469	2.2	1.9	4.9	3,994	0.4
<b>SI</b>	2,100	1,852	162	1.8	2.2	4.9	1,368	1.6
<b>SK</b>	29,851	27,725	1,678	11.6	11.5	14.2	2,151	1.0
<b>FI</b>	5,953	5,430	259	2.0	2.0	1.4	4,549	1.6
<b>SE</b>	10,662	9,681	596	2.5	2.5	3.8	2,997	0.7
<b>UK</b>	9,391	7,924	620	0.4	0.5	1.2	11,723	0.6
<b>IS</b>	2,257	2,004	144	11.6	10.8	35.7	225	1.3
<b>LI*</b>	205	178	14	51.2	49.4	51.9	25	3.5
<b>NO</b>	10,094	9,627	255	4.4	4.3	3.5	1,356	0.6
<b>CH</b>	8,827	7,811	521	5.3	5.0	4.8	:	:
<b>HR</b>	5,052	4,383	317	3.3	4.2	9.5	235	0.2
<b>MK*</b>	4,284	3,939	188	6.6	6.3	42.8	:	:
<b>TR*</b>	22,137	19,994	1,164	0.6	0.8	2.6	8,758	0.4

Source: Eurostat (UOE data collection) for degree mobility data (provisional data). \*Citizenship instead of mobile students. European Commission, Erasmus statistics: [http://ec.europa.eu/education/erasmus/statistics\\_en.htm](http://ec.europa.eu/education/erasmus/statistics_en.htm); for credit mobility statistics. \* Degree mobility: a student enrolled in destination country, which is different from the country of origin (e.g. where the prior education was taken (upper secondary degree)) \*\*Credit mobility: a student enrolled in country of origin but having been abroad (country of destination) for a study period during the programme. Only EU Erasmus programme covered. Total Tertiary: ISCED level 5 and 6. Bachelor and master level: ISCED level 5A and doctorate level: ISCED level 6 (ISCED 97). Reading note: 3.9% of students (with a upper secondary degree from Germany) are enrolled in tertiary education in another EU/EEA or candidate country (in relation to all students enrolled at tertiary education level in Germany. This corresponds to an absolute number of 77,948 students. 1.4% of students enrolled in tertiary education in Germany have had a study or training period abroad participating in an EU Erasmus programme. This corresponds to 28,854 students for the academic year 2009/2010.

The attractiveness of a higher education system can be measured by the number of international students enrolled in study programmes at higher education institutions. The Bologna process and

the establishment of the European Higher Education Area (EHEA)<sup>85</sup> was instrumental in modernising education structures throughout Europe and actively encourages student mobility.

As noted, the Bologna Process has, like the EU, defined a benchmark learning mobility for higher education graduates which aims at the same goal for 2020 and uses, to a large extent, the same parameters. In addition, an inbound mobility indicator is also underway with the aim of measuring the attractiveness of the EHEA as a study place<sup>86</sup>.

**Table 7.2. Inbound mobility in the EU27, EEA and candidate countries, enrolment and graduates, bachelor and master level in tertiary education, 2005 and 2010**

	Degree mobility*, enrolments				Credit mobility (Erasmus)*, enrolments				Degree mobility*, graduates	
	2005		2010		2005		2010		2010	
	absolute	%	absolute	%	absolute	%	absolute	%	absolute	%
<b>EU27</b>	<b>978,553</b>	<b>6.4</b>	<b>1,109,868</b>	<b>6.7</b>	<b>151,046</b>	<b>1.0</b>	<b>205,528</b>	<b>1.2</b>	<b>222,345</b>	<b>:</b>
Belgium	1,3401	7.6	23,004	10.9	5,087	2.8	7,300	3.5	7,826	13.4
Bulgaria**	7,877	3.7	9,677	3.8	250	0.1	627	0.2	1,725	3.3
Czech R.***	16,352	5.9	31,818	8.4	2,613	0.9	4,616	1.2	6,475	7.1
Denmark	3,780	1.9	12,986	6.4	4,356	2.2	6,186	3.1	2,927	6.5
Germany	186,608	9.7	181,220	8.7	17,879	0.9	22,509	1.1	24,490	7.5
Estonia	804	1.9	1,023	2.3	372	0.9	767	1.7	185	2.5
Ireland	:	:	9,696	6.9	3,870	3.1	5,073	3.7	2,961	6.7
Greece	10,730	2.7	17,231	4.3	1,899	0.5	2,983	0.7	:	:
Spain	9,383	0.6	30,095	2.0	26,611	1.8	35,389	2.3	4,371	1.8
France**	184,415	11.9	206,436	12.8	21,420	1.4	26,141	1.6	:	:
Italy**	42,026	2.1	66,077	3.4	14,591	0.7	18,137	0.9	5,133	2.4
Cyprus	290	6.8	2,159	11.2	125	2.9	452	2.4	199	7.3
Latvia**	1,661	1.5	1,628	1.8	258	0.2	526	0.6	260	1.2
Lithuania	830	0.6	2,932	2.1	626	0.5	1,374	1.0	392	1.2
Luxembourg			1,349	33.4	15	:	313	7.5	264	33.2
Hungary***	12,834	3.2	15,092	4.4	1,554	0.4	2,804	0.8	2,048	3.4
Malta	582	7.2	:	:	295	3.7	879	9.9	:	:
Netherlands	16,676	3.1	27,964	4.4	6,965	1.2	8,594	1.3	4,961	3.9
Austria***	31,287	15.4	47,296.85	16.5	3,735	1.8	4,992	1.7	4,740	11.4
Poland**	9,114	0.4	17,510	0.8	3,063	0.1	6,070	0.3	3,200	0.5
Portugal***	15,398	4.3	9,714	2.6	4,542	1.3	7,385	2.0	2,907	3.8
Romania	9,835	1.5	12,964	1.3	653	0.1	1,325	0.1	1,953	0.7
Slovenia	493	0.9	1,507	1.8	589	1.0	1,271	1.5	139	1.3
Slovakia**	1,519	0.9	7,157	3.2	508	0.3	1,085	0.5	1,838	2.5
Finland	6,863	2.4	10,774	3.8	5,736	2.0	6,580	2.3	1,841	3.9
Sweden	18,643	4.8	26,644	6.5	7,048	1.8	9,500	2.4	5,196	10.4
UK	252,672	15.1	335,914	17.6	16,386	1.0	22,650	1.2	136,314	24.5
Iceland**	459	3.2	833	4.8	256	1.8	491	2.9	148	3.7
Liechtenstein	28	5.3	:	:	31	5.9	46	6.5	156	78.4
Norway	12,249	5.9	3094	1.4	2,260	1.1	3,865	1.8	1,024	2.8
Switzerland	16,787	11.4	28,485	16.1	:	:	:	:	6,320	14.0
Croatia	3,595	2.7	525	0.5	:	:	:	:	103	0.4
Turkey**	16,152	1.1	23,329	1.0	828	0.1	3,336	0.1	515	0.2

Source: Eurostat (UOE data collection, provisional data) and European Commission, Erasmus statistics: [http://ec.europa.eu/education/erasmus/statistics\\_en.htm](http://ec.europa.eu/education/erasmus/statistics_en.htm). Notes: \*Degree mobility: a student enrolled/graduating in destination country, which is different from the country of origin (e.g. where the prior education was taken (upper secondary degree)); \*Credit mobility: a student enrolled/graduating in country of origin but having been abroad (country of destination) for a study period during the programme; only EU Erasmus programme covered. \*\* and \*\*\* foreigners instead of mobile students/graduates. Bachelor and master level: ISCED 1997 level 5A programmes (at least three years duration, theoretically based/research preparatory or giving access to professions with high skills requirements.) For some countries the ISCED 5A coverage could be slightly broader than bachelor and master degrees. Reading note: The percentage of degree mobile students enrolled has risen from 15.1% in 2005 to 17.6% in 2010 in the United Kingdom, whereas Erasmus students made up 1% in 2005 and 1.2% in 2010. 24.5% of all graduates in the United Kingdom in 2010 were mobile students.

Table 7.2 shows the current level of enrolled mobile students in the EU, EEA and candidate countries, both for degree and credit mobility, - and compares this level to 2005. It also shows the percentage of mobile graduates who graduated in a given country in 2010. For graduates it can be noted that more than half of mobile graduates in the EU are taking a degree in the United

<sup>85</sup> See: <http://www.ehea.info/>.

<sup>86</sup> See: <http://www.ehea.info/Uploads/%281%29/Bucharest%20Communique%202012%281%29.pdf>.

Kingdom; a total of 136,314 graduates in 2010 and close to a quarter of the total graduate population in the UK.

Other countries as Luxembourg, Belgium, Sweden and Austria also have high levels of foreign graduates whereas particularly some Eastern European countries as Bulgaria, Estonia, Latvia, Lithuania, Poland, Romania, Slovenia and Slovakia have low levels (but also Italy and Spain).

In 2010, more than 1.3 million students were enrolled in tertiary education abroad, e.g. in another country compared to where they had obtained their upper secondary degree<sup>87</sup>. This amounted to nearly 8% of the student population; where 1.2% were Erasmus students enrolled. This figure has only increased slightly from 2005 with 0.6 percentage point.

---

<sup>87</sup> The concept for measuring student mobility is not yet harmonised across countries and some countries use permanent residence abroad or even citizenship as criteria.

## 8. Adult participation in lifelong learning

### 8.1. Participation of adults in learning activities

In the process of learning throughout one's life, adult education and training covers the longest span. Continued learning after initial education and training is required to maintain and develop skills, to adapt to structural change and technical developments, for staying in jobs, career advancement or to get back into the labour market. Taking account of this importance, the Council established a benchmark for "adult participation in lifelong learning"<sup>88</sup> and adopted a resolution on a renewed European agenda for adult learning<sup>89</sup>. The benchmark objective is to have, by 2020, 15% of European adults participating in lifelong learning activities<sup>90</sup>.

**Table 8.1. Adult participation in lifelong learning**  
Percentage of the adult population aged 25-64 participating in formal or non-formal learning

	2006	2010	2011						
	Total	Total	Total	Male	Female	Foreign-born <sup>91</sup>	Low educated	Unemployed	Job-related of non-formal (a)
<b>EU 27</b>	<b>9.5</b>	<b>9.1</b>	<b>8.9</b>	<b>8.2</b>	<b>9.6</b>	<b>9.9</b>	<b>3.9</b>	<b>9.1</b>	<b>83.4</b>
EU 27 adjusted (c)	8.7	8.9	8.9						
Belgium	7.5	7.2	7.1	6.7	7.4	8.6	3.1	8.9	85.3
Bulgaria	1.3	1.2	1.2	1.2	1.2	:	:	:	96.3
Czech Republic	5.6	7.5	11.4b	11.2b	11.6b	10.2b	2.8b	7.5b	93.3
Denmark	29.2	32.5	32.3	25.6	39.0	33.3	23.4	35.1	93.1
Germany	7.5	7.7	7.8	7.9	7.7	6.4	3.1	5.1	88.0
Estonia	6.5	10.9	12.0	9.2	14.5	(6.1)	:	(8.5)	90.5
Ireland	7.3	6.7	6.8	6.3	7.2	7.9	2.8	6.4	:
Greece	1.9	3.0	2.4	2.6	2.3	1.2	0.4	2.7	84.1
Spain	10.4	10.8	10.8	10.0	11.6	8.6	4.6	13.2	72.9
France	6.4	5.0	5.5	5.2	5.9	5.1	2.5	5.2	89.0
Italy	6.1	6.2	5.7	5.3	6.0	3.4	1.2	5.5	71.0
Cyprus	7.1	7.7	7.5	7.2	7.8	5.3	(1.3)	6.9	80.9
Latvia	6.9	5.0	5.0	3.8	6.1	(3.0)	:	(4.0)	84.4
Lithuania	4.9	4.0	5.9	4.6	7.1	:	:	(3.5)	89.3
Luxembourg	8.2	13.4	13.6	14.2	13.0	12.1	(4.5)	(15.3)	:
Hungary	3.8	2.8	2.7	2.6	2.9	(3.2)	0.5	2.0	81.9
Malta	5.4	6.2	6.6	6.3	6.9		3.3	:	70.9
Netherlands	15.6	(16.6)	16.7	16.5	16.9	19.5	10.5	17.3	84.7
Austria	13.1	13.7	13.4	12.2	14.5	11.2	4.1	18.6	80.5
Poland	4.7	5.3	4.5	4.0	5.0	:	(0.8)	4.8	87.5
Portugal	4.2	5.8	11.6b	11.1b	12.1b	13.9b	8.0b	17.1b	84.0
Romania	1.3	1.3	1.6	1.6	1.5	:	(0.3)	(1.5)	82.6
Slovenia	15	16.2	15.9	13.7	18.2	(7.2)	(3.3)	16.4	70.8
Slovakia	4.1	2.8	3.9	3.4	4.4	:	:	1.7	92.0
Finland	23.1	23.0	23.8	19.9	27.7	25.9	10.7	19.7	85.6
Sweden	18.4p	24.5	25.0	18.4	31.9	25.5	16.9	40.4	88.0
United Kingdom	26.7	19.4(b)	15.8p	14.0p	17.5p	19.6p	7.2p	14.8p	76.0
Croatia	2.9	(2.2)	(2.3)	(2.3)	(2.3)	:	:	:	78.1
Iceland	27.9	25.2	25.9	22.8	29.0	19.1	16.1	30.9	:
MK*	2.3	3.2	3.4	3.4	3.3	:	(0.3)	(2.3)	:
Turkey	1.8	2.5	2.9	3.0	2.7	3.1	1.4	5.5	70.0
Norway	18.7	17.8	18.2	17.1	19.2	19.1	10.4	18.9	:
Switzerland	22.5	30.6	29.9	31.0	28.7	23.6	9.9	23.0	:

Source: Eurostat (LFS); p = provisional; b = break in time series; (a) = share of job-related training of all non-formal training activities. Deviating source: AES 2007 with 1-year reference period; (b) = break in time series in previous years; (c) = model calculation of EU27 average levelling out the effect of breaks in time series in relevant countries, based on the assumption that breaks have led to more realistic figures (EC including JRC-CRELL); : = Data either not available or not reliable due to very small sample size; Migrant = based on Country of birth; low education = Pre-primary, primary and lower secondary education (ISCED levels 0-2); \*MK: The former Yugoslav Republic of Macedonia; see Annex 2.1.

<sup>88</sup> OJ (2009/C 119/02).

<sup>89</sup> OJ (2011/C 372/01).

<sup>90</sup> In the Council Conclusions defined as "The percentage of the population aged 25-64 participating in education and training during the 4 weeks prior to the survey (Eurostat/Labour Force Survey)", where "benefit can also be drawn from the information on adult participation in lifelong learning gathered by the Adult Education Survey."

<sup>91</sup> The sub-group foreign-born refers to first generation immigrants, and hence does not capture second or third generation immigrants or populations who are not naturalized.

Statistical figures show that lifelong learning is far from being a reality for most European citizens (Table 8.1). The average amounts to 8.9% and it seems unlikely that the 15%-benchmark will be reached by 2020. In fact, the data suggest that participation has slightly decreased over the last five years: in 2006, it amounted to 9.5%. However, available data have been subject to numerous breaks in time series and when these are levelled out, participation appears to have been fairly stable<sup>92</sup>.

However, on average, Member States have not made significant progress in reaching the benchmark. In 2011 only 5 Member States exceeded the 15% threshold, whereas in 14 countries participation rates reached no more than half the level required. The importance of improving adult learning policies is also reflected in some 2012 European Country-specific Recommendations addressed to Estonia, Spain, France and Poland<sup>93</sup>.

The Nordic countries are still the best performers and achieve consistently high participation rates above or close to 25%. The Netherlands, Slovenia, Austria, the United Kingdom, Luxembourg, Spain, Estonia and, most recently, Portugal are in the next group, with participation rates of between 10% and 17%<sup>94</sup>. Bulgaria, Greece, Hungary and Romania still remain below 3% and, in some cases, even have decreasing rates.

Participation is considerably different among sub-groups of the adult population. For example, men in general participate less than women (8.2% as opposed to 9.6%), while also demonstrating a higher preference for job-related learning in all countries (88% as opposed to 78.7% for women according to the Adult Education Survey – AES - 2007), a fact that reflects the higher labour market activity of men.

The foreign-born population is on average more involved in learning activities than the native-born population (EU average 9.9% as opposed to 8.9%), although not in all countries. This might to some extent be due to targeted learning activities such as language courses, but also reflects higher unemployment among foreign-born individuals in some countries, resulting in more participation in labour market integration measures.

In all Member States, citizens with no more than lower secondary education engage less than half as often in learning activities than the overall adult population (3.9% in EU27). In light of the high propensity of job-related adult learning, this is not surprising when taking into account that this group is less active on the labour market. Nevertheless, the size of the gap and the fact that it applies to all countries unveils the large potential for addressing this and unleashing its potential value for Member State economies. Moreover, job opportunities for this segment of the workforce are decreasing.

While it is common knowledge that people in employment generally take more than average advantage of learning opportunities, the picture for unemployed people is more diverse. While average participation is only slightly higher than for the overall 25-64 age group (9.1% as opposed to 8.9%), some countries stand out with their rates being considerably higher than for the overall population – namely Spain, Austria, Portugal and Sweden – most likely showing efforts made to maintain and upgrade the skills of the jobless and to facilitate their re-integration into the labour market.

## 8.2. The relevance of informal learning

Informal learning is described as learning which is generally without tutoring, intentional, but less organised and less structured and may include for example learning activities that occur in the household or in the daily life<sup>95</sup>. Thereby, it constitutes an important, yet not sufficiently

<sup>92</sup> See footnote (c) of table 8.1.

<sup>93</sup> [http://ec.europa.eu/europe2020/making-it-happen/country-specific-recommendations/index\\_en.htm](http://ec.europa.eu/europe2020/making-it-happen/country-specific-recommendations/index_en.htm) provides access to all CSRs.

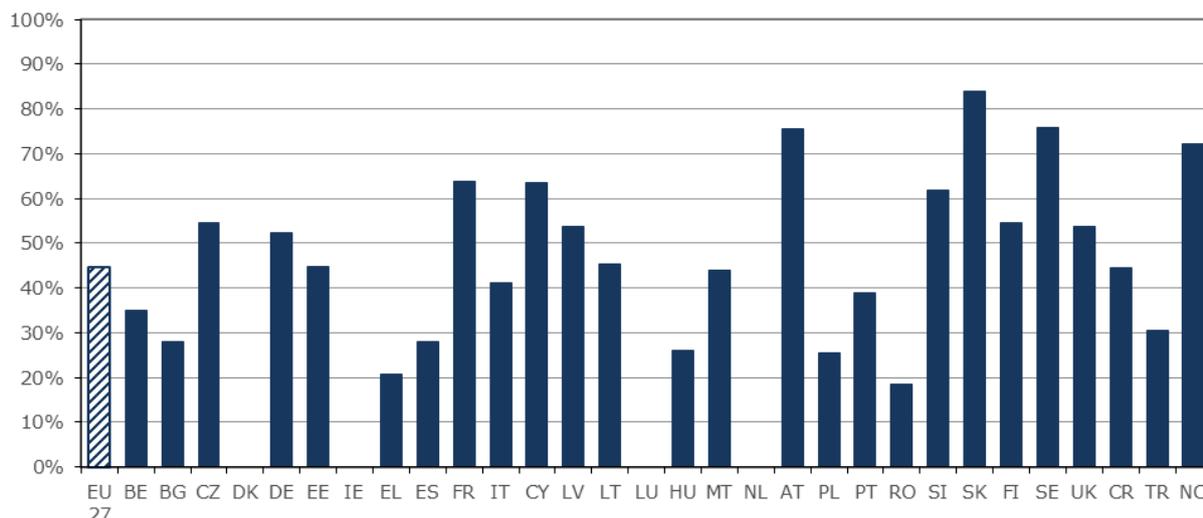
<sup>94</sup> After the United Kingdom had adjusted its data collection instrument, participation appeared to be considerably lower in 2011, albeit still above the benchmark level. The opposite applies for Portugal, where an adjustment moved the country's performance up to midfield.

<sup>95</sup> [http://epp.eurostat.ec.europa.eu/statistics\\_explained/index.php/Lifelong\\_learning\\_statistics](http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Lifelong_learning_statistics)

investigated component of adult learning and cannot be overlooked. The European Commission has identified its added value and proposed a Recommendation for the promotion and recognition of non-formal and informal learning.

Due to the inherent unstructured nature of informal learning, measuring informal learning entails considerable problems. Nevertheless, the AES provides information on self-reported informal learning, complementing the statistics on adult lifelong learning.

**Figure 8.1. Percentage of the population aged 25-64 participating in informal learning (2007)**



Source: Eurostat (AES).

In 2007, the EU participation rate in informal learning among adults was 44.7% (Figure 8.1<sup>96</sup>), notably higher than the rates for non-formal activities (32.7%) and formal education (6.3%). Informal learning can therefore be regarded as a crucial element of adult learning, despite its high variation across countries, ranging from 18.8% in Romania to 84.1% in the Slovak Republic. More importantly, statistics point towards the increasing importance of informal learning. When comparing similar learning activities in 2003 and 2007, figures have steeply increased (e.g. for "reading books or printed material for learning purposes" from 33% to 44%).

### 8.3. What levels of competences have adults acquired?

As pointed out in chapter 6, sufficient cognitive skills are a prerequisite for individuals to find a job, as well as to participate actively in society. It is a major task for societies to provide the right levels of skills to their citizens through education and training. Likewise and from a macroeconomic perspective, for matching the demand for a skilled workforce in Europe it is the actual skills of the workforce that matters rather than the formal educational attainment. However, comprehensive evidence about the actual skills of the adult population in Europe, how these relate to education and learning processes and how they match with requirements at the workplace, is still lacking<sup>97</sup>. Existing European surveys on adult education mainly contain information on participation, forms of provision of training and obstacles to access, thus providing only indirect measures of adult skills. This is why the European Commission has engaged in supporting the OECD's Programme for the International Assessment of Adult Competencies (PIAAC)<sup>98</sup>, which directly assesses the skills of the adult population in participating countries.

<sup>96</sup> The reference period for learning activities in the Adult Education Survey (AES) is 12 months. Participation rates are therefore considerably higher than in the LFS. Hence, only participation can only be compared between countries.

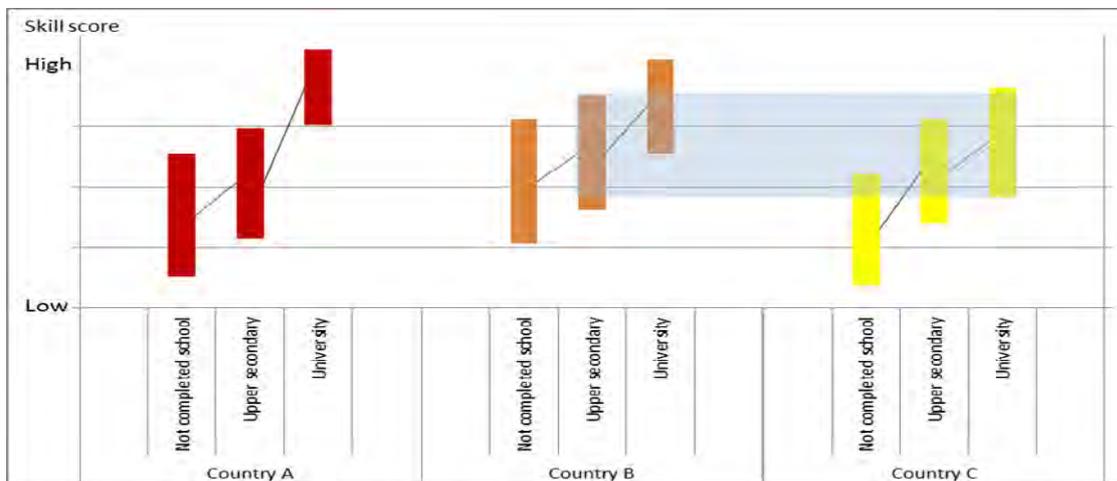
<sup>97</sup> Previous studies such as the International Adult Literacy Study (IALS) or the Adult Literacy and Lifeskills Survey (ALL) only covered smaller sets of skills or fewer countries.

<sup>98</sup> PIAAC assesses literacy, numeracy and problem solving in technology rich environment skills of the population aged 16-65 in 33 countries (among them 21 EU Member States).

From an education perspective, it is of major importance to get a picture of whether and to what extent educational programmes contribute to developing the skills of the young population. Based on PIAAC field trial results, figure 8.2 shows how the distribution of skills and the extent of overlap by level of formal educational attainment vary within and across countries<sup>99</sup>.

In country A, skill levels of higher education graduates are significantly higher than those of graduates from upper secondary education, unlike countries B and C, where the skill levels of graduates from higher education even overlap with those of individuals who have not completed secondary education. Moreover, upper secondary graduates in country B perform on almost the same level as higher education graduates in country C. The figure emphasises how the actual skills of the population, rather than the formal degrees, distinguish countries from one another. Furthermore, this measure will allow for at least a partial explanation of the variation in labour market success of graduates from similar educational programmes across participating countries.

**Figure 8.2. Levels of foundation skills by qualification levels, adults aged 16 to 65<sup>100</sup>**



Source: OECD (based on indicative PIAAC field test results).

As the skills acquired when leaving education are important for finding a job and entering into the labour market, maintaining adequate skills levels throughout working life can be considered important for the individual for staying in employment and being able to take advantage of rapidly changing technological, economic and societal environments. It can be expected that skills are more liable to deteriorate when not being utilised on the job or for other activities. PIAAC measures skills of the entire age range of the workforce and therefore provides an indirect measure of skills development over the lifespan.

<sup>99</sup> The name of the countries A, B, C in figure 8.2 are not disclosed since the results presented are based on the PIAAC field test, and not the PIAAC main data collection. Results from the latter are still being collected and processed, and will be made publicly available in the end of October 2013.

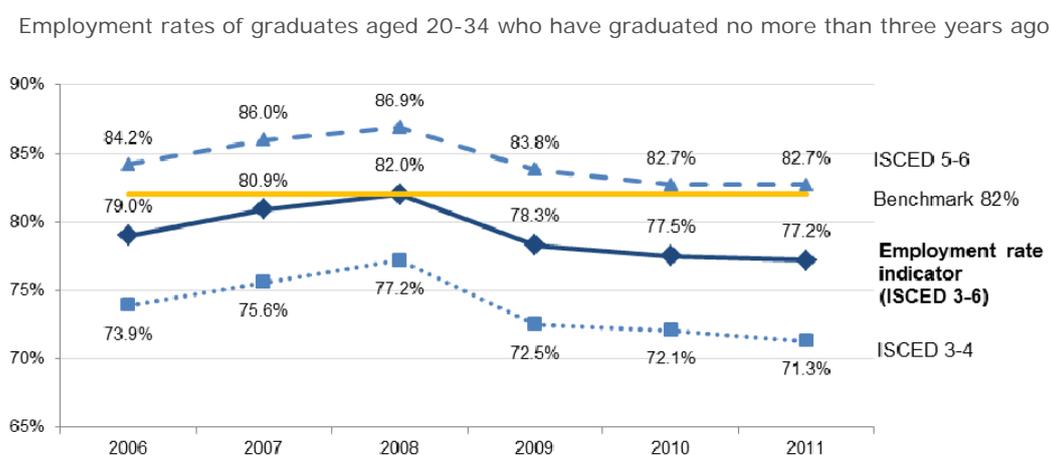
<sup>100</sup> Skills include literacy, numeracy and problem solving in technology-rich environments. Qualification levels: not completed school: ISCED 2 and less; upper secondary: ISCED 3/4 completed; University: ISCED 5/6.

## 9. Matching educational outcomes and labour market needs

### 9.1. The employment rate of graduates

In 2012 the Council established a new benchmark to reflect the role of education and training in raising employability<sup>101</sup>. The indicator underpinning this employment rate benchmark focuses on young individuals, 20 to 34 year-olds that graduated from ISCED levels 3-6 no more than three years before the reference year (see figure 9.1). According to the new benchmark, by 2020, 82% of the new graduates should be in employment.<sup>102</sup> In 2011, the respective cohort of individuals amounted to 11.3 million, of which 77.2% were employed (see table 9.1 on the next page).

**Figure 9.1. Employment rate of graduates, aged 20-34, by educational attainment\***



Source: Eurostat (LFS). Note\*: Graduated no more than three years before the reference year.

Figure 9.1 plots the evolution of the EU27 employment rate benchmark, and its disaggregation by educational attainment, between 2006 and 2011. The employment rate increased until 2008 and decreased afterwards. Between 2008 and 2011, it declined by 4.8 percentage points, compared to the 1.7 percentage points observed for the overall employment rate (20-64 years old). This strong decrease signals the fact that the cohort targeted by the employment rate benchmark has been particularly affected by the crisis.

The figure also unveils the importance of educational attainment for employability. Firstly, it shows that a higher level of educational attainment is associated with higher employment rates. Secondly, even though the employment rate has declined for both educational attainment levels, the reduction between 2008 and 2010 was stronger for the lower educated cohort. Between 2010 and 2011, moreover, the cohort of highly educated graduates did not suffer any further decline in their employment rate, while for the low educated it decreased by 0.8 percentage points.

There is a high cross-country variation in the employment rate of graduates (table 9.1. on the next page). Whereas the Netherlands, Malta, Luxembourg and Austria have been among the best performing countries since 2006, Italy and Greece have always been at the lower end. Again distinguishing between higher and lower educated cohorts, it is interesting to observe that both the Netherlands and Malta consistently show up among the best performers for both cohorts and Greece as one of the worst. As for Italy, this has always been the case for the highly educated cohort, and, since 2007, also for the graduates from ISCED levels 3-4. In recent years, employment rates of highly educated graduates in Spain have continuously dropped to very low levels.

<sup>101</sup> OJ (2009/C 119/02).

<sup>102</sup> OJ (2012/C 169/04). For figure 9.1 and table 9.1, please note: Individuals currently engaged in any form of education or training are excluded to ensure that the employability of that cohort may not be altered by the fact that the individual is currently engaged in an updating/upgrading of his/her skills.

**Table 9.1. Employment rate of graduates by country and educational attainment**Employment rates of graduates aged 20-34 who have graduated no more than three years ago<sup>103</sup>

	Employment rate benchmark in % (ISCED 3-6)						ISCED 3-4 (%)						ISCED 5-6 (%)					
	2006	2007	2008	2009	2010	2011	2006	2007	2008	2009	2010	2011	2006	2007	2008	2009	2010	2011
<b>EU27 countries</b>	<b>79.0</b>	<b>80.9</b>	<b>82.0</b>	<b>78.3</b>	<b>77.5</b>	<b>77.2</b>	<b>73.9</b>	<b>75.6</b>	<b>77.2</b>	<b>72.5</b>	<b>72.1</b>	<b>71.3</b>	<b>84.2</b>	<b>86.0</b>	<b>86.9</b>	<b>83.8</b>	<b>82.7</b>	<b>82.7</b>
Belgium	81.1	82.1	83.9	81.0	81.3	80.8	72.0	73.2	73.6	71.9	71.5	73.5	87.5	88.5	90.8	87.8	88.2	86.0
Bulgaria	69.6	72.3	79.6	73.6	68.7	57.5	58.8	62.5	74.1	63.7	58.4	48.4	82.3	85.0	87.2	85.2	82.7	74.0
Czech Republic	82.8	87.6	87.9	84.5	81.3	80.3	80.9	86.1	87.6	81.7	77.4	76.1	87.5	91.2	88.5	89.0	87.1	85.6
Denmark	89.0	90.9	90.6	87.9	83.5	83.0	89.3	89.0	90.2	84.2	82.0	82.9	88.7	92.8	90.9	91.0	84.8	83.1
Germany	82.1	84.2	86.5	85.3	86.1	88.2	77.9	79.6	83.2	81.0	83.7	84.5	90.9	91.8	92.5	92.9	90.2	94.2
Estonia	84.9	86.5	82.3	67.6	64.3	75.1	78.6u	81.7u	81.9	64.5u	48.4u	68.4u	90.5	90.8	82.7	71.2u	76.7	81.5
Ireland	88.5	87.4	85.7	75.5	71.5	71.4	82.0	81.2	79.2	61.8	56.9	52.6	91.4	90.4	88.7	83.3	80.2	81.7
Greece	66.6	67.8	67.9	64.7	58.5	50.2	62.6	64.2	62.9	60.1	55.8	46.2	69.2	69.9	70.8	67.7	60.3	52.5
Spain	82.3	85.8	81.9	72.6	70.4	66.4	77.7	81.7	74.5	63.8	60.5	51.4	84.0	87.4	85.1	76.1	74.5	71.8
France	79.0	80.0	83.3	77.2	77.4	77.6	72.0	73.0	75.1	68.7	69.2	68.5	83.3	84.8	88.9	83.4	83.0	83.5
Italy	66.2	66.1	65.2	60.6	57.7	57.6	63.6	62.6	60.5	56.0	52.3	50.6	69.0	70.0	70.5	66.0	64.7	66.1
Cyprus	80.5	82.3	85.8	81.2	78.6	73.1	74.0	71.5	80.9	73.8	70.0	57.6	82.6	85.3	87.0	83.0	80.1	76.7
Latvia	78.5	82.0	83.1	71.4	64.6	72.7	73.1	77.9	77.6	59.2	54.0	56.9	85.0	86.5	87.6	82.1	75.5	85.1
Lithuania	83.3	83.7	79.3	72.9	73.6	69.4	74.7	72.8	67.8	56.9	54.3	48.2u	90.4	92.5	87.6	84.6	84.4	82.2
Luxembourg	91.1	88.0	86.9	85.5	89.5	86.1	86.5	87.7	80.0	79.3	86.6	78.5	95.8	88.3	92.9	90.4	91.3	90.7
Hungary	79.8	80.1	80.1	75.6	74.4	73.5	71.8	72.9	71.7	66.4	65.9	63.5	87.6	86.9	87.4	84.7	82.8	83.3
Malta	91.2	93.7	95.7	94.1	93.8	91.2	87.0u	89.9	96.3	89.7	87.3u	85.6	94.2	96.5	95.3	97.5	98.0	94.7
Netherlands	92.7	94.4	93.6	92.9	92.6	92.2	90.7	91.9	91.4	91.3	89.7	89.1	94.4	96.6	95.4	94.2	94.8	94.4
Austria	90.1	90.5	90.6	88.6	88.7	91.0	89.9	89.9	89.0	87.7	88.2	91.0	90.3	91.9	94.7	91.0	90.0	91.2
Poland	71.3	74.8	79.3	78.4	76.5	75.4	60.7	64.9	70.1	68.7	67.4	65.7	81.6	84.4	87.0	85.7	83.7	82.6
Portugal	82.9	81.2	82.7	82.6	80.7	76.0	80.7	79.7	81.9	79.9	77.4	73.5	84.3	82.0	83.2	84.2	83.2	78.3
Romania	74.7	79.3	84.8	77.6	71.2	70.4	64.8	70.7	77.1	69.1	61.3	58.8	86.4	89.0	92.9	85.7	81.9	80.7
Slovenia	80.8	81.6	83.4	82.3	80.7	76.0	77.4	78.0	79.8	73.3	75.1	68.7u	84.5	84.9	86.7	88.7	84.3	80.3
Slovakia	77.5	81.0	81.4	74.4	69.4	70.3	71.7	77.8	79.5	67.9	60.5	61.7	87.9	86.4	84.3	83.5	80.6	79.5
Finland	79.7	82.8	82.3	77.8	79.7	78.4	75.3	81.4	78.9	72.9	76.3	73.6	87.4	85.1	87.8	84.1	84.9	85.1
Sweden	83.3	85.4	85.9	81.7	82.7	84.4	78.4	81.0	81.6	74.6	77.3	79.5	88.2	89.9	90.7	89.9	89.3	90.5
United Kingdom	86.3	85.7	83.6	80.0	81.6	81.2	84.7	82.0	79.5	75.0	76.5	75.6	87.7	89.2	87.3	84.0	85.9	85.7

	Reference population of the employment rate benchmark in millions (ISCED 3-6)						Reference population in millions (ISCED 3-4)						Reference population in millions (ISCED 5-6)					
	2006	2007	2008	2009	2010	2011	2006	2007	2008	2009	2010	2011	2006	2007	2008	2009	2010	2011
<b>EU27 countries</b>	<b>10.4</b>	<b>10.5</b>	<b>10.7</b>	<b>10.7</b>	<b>10.9</b>	<b>11.3</b>	<b>5.3</b>	<b>5.2</b>	<b>5.3</b>	<b>5.2</b>	<b>5.4</b>	<b>5.4</b>	<b>5.2</b>	<b>5.3</b>	<b>5.4</b>	<b>5.5</b>	<b>5.5</b>	<b>5.8</b>

Source: Eurostat (LFS). Notes: m = missing data ; u = unreliable data.

<sup>103</sup> In line with the Council Conclusion (2012/C 169/04), individuals currently engaged in any form of education or training are excluded to ensure that the employability of that cohort may not be altered by the fact that the individual is currently engaged in an updating/upgrading of his/her skills.

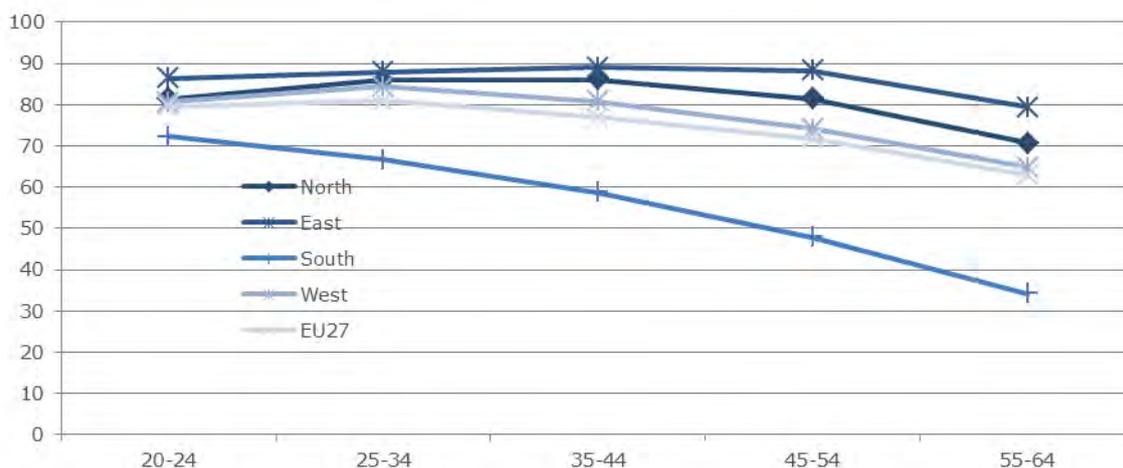
Between 2008 and 2010, all countries except Luxembourg reveal a decrease in their employment rate. This was particularly the case for Latvia, Estonia, Ireland, Romania, Slovakia, Spain and Bulgaria with a decrease of more than 10 percentage points. The overall decrease of 0.3 percentage points observed between 2010 and 2011 hides important cross-country variations: whereas the employment rate of graduates increased in France, Slovakia, Sweden, Germany, Austria and particularly Latvia and Estonia, it decreased substantially in Portugal, Slovenia, Lithuania, Spain, Cyprus and particularly Greece and Bulgaria.

The European Commission has explored the determinants of the employment rate benchmark, by estimating the probability of being employed while taking into account individual characteristics, institutional factors and other contextual factors. The probability of being employed is higher for males and older individuals and increases with time since graduation, revealing that the transition from education to work is particularly challenging immediately after graduation. The gender gap in the employment rate has decreased, but at the expense of the male probability of being employed rather than due to an improvement for women. Focusing on the importance of educational attainment, having graduated from tertiary education significantly increases the probability of being employed when compared to those having graduated from ISCED 3 or 4. The contribution of educational attainment is constant and significant, even after controlling for labour market contextualising variables.

## 9.2. The educational attainment of adults

Educational attainment is the visible output of education systems. The completion of upper secondary education is considered as the minimum requirement for achieving adequate skills for a successful integration into the labour market. This is why the Europe 2020 strategy contains a headline target aiming to reduce the share of those who have not completed upper secondary education (early school leavers, see chapter 3) and, until 2010, a benchmark was in place that called for increasing the completion of upper secondary education of 20-24 year olds to 85%.

**Figure 9.2. Population having completed at least upper secondary education by age group and groups of EU 27 Member States (%)**



Source: Eurostat (LFS); grouping by European Commission: North: DK, FI, SE; East: BG, CZ, EE, LT, LV, HU, PL, RO, SI, SK; South: EL, ES, IT, CY, MT, PT; West: BE, DE, EI, FR, LU, NL, AT, UK.

The rising demand for a higher skilled workforce in most parts of Europe over the past decades has led to a steadily rising educational attainment of the population. This is reflected in distribution of educational attainment for different age groups (figure 9.2). The share of the population that has attained at least upper secondary education is lowest in the older age groups and rises with younger cohorts. Educational attainment is highest in the eastern Member States, followed by slightly lower shares in the northern and the western countries. In the eastern countries upper secondary education has since long been the standard attainment, which is why only the oldest

group shows a considerably lower attainment. In the North and West, the peak of attainment is only reached in the age group of 25-34, which reflects the relatively long duration of educational provision in these countries. The Southern countries show the strongest improvement in attainment over time, where attainment among the 20-24 olds is more than twice as high as among those close to retirement.

The older cohorts with the lowest educational attainment steadily leave the workforce and are replaced by a younger, higher educated generation. This dynamism leads to a higher skilled workforce and potentially to certain levels of over-qualification and youth unemployment, if labour markets do not provide adequate jobs.

Progress in upper secondary educational attainment of 20-24 olds has only been modest in recent years (table 9.2). In 2011, 19 Member States performed above the average of 79.5% while some large countries such as Germany, Spain and Italy showed attainment rates way below the average. In general, progress was larger in countries with low attainment rates, whereas in good performing countries saturation effects could be observed. Nevertheless, attainment rates still differ widely, from 59.2% in Malta to 93.3% in the Slovak Republic.

**Table 9.2. Educational attainment of the population**

	Population with at least upper secondary attainment (%)			Females with at least upper secondary attainment (%)		Unemployment rate of 25-64 years old by educational attainment (%)		
	20-24 years			25-34 years	55-64 years	Lower sec and less	Upper secondary	Tertiary
	2006	2010	2011	2011	2011	2011	2011	2011
<b>EU 27 countries</b>	<b>77.9</b>	<b>79</b>	<b>79.5</b>	<b>82.8</b>	<b>58.7</b>	<b>14.8</b>	<b>7.6</b>	<b>5</b>
Belgium	82.4	82.5	81.6	83.3	53.4	12.1b	5.7b	3.4b
Bulgaria	80.5i	84.4	85.5	80.5	73.2	25.5	9	4.7
Czech Republic	91.8	91.9	91.7	93.8	80.4	21.6	5.7	2.6
Denmark	77.4	68.6	70	83.7	64.7	8.9	6	5
Germany	71.9	74.4	75.8	86.5	78.9	13.9	5.8	2.4
Estonia	82	83.2	82.6	90.3	87.9	26.4	11.9	7.9
Ireland	85.8	86.5	86.9	87.6	54.7	21.7	15	7.1
Greece	81	83.4	83.6	82.1	42.7	17	17.7	12.8
Spain	61.6	61.2	61.7	70.2	29.7	26.4	19.3	11.7
France	83.3	83.2	83.8	84.6	53.6	12.9	7.4	4.9
Italy	75.5	76.3	76.9	74.8	37.6	9.4	6	5.2
Cyprus	83.7	86.3	87.7	87.5	47.7	7.5	6.8	5.8
Latvia	81	79.9	80.4	89	88.1	25.8	16	6.4
Lithuania	88.2	86.9	86.9	92.1	88.8	37.3	17.7	5.6
Luxembourg	69.3	73.4	73.3	84.1	64.2	6.1u	3.7	3.5
Hungary	82.9	84	83.3	87.5	69.2	23.1	9.6	3.9
Malta*	51.1	53.3	59.2	48.7	11.1	7.4	:	:
Netherlands	74.7	77.6b	78.2	84.1	52.9	5.4	3.8	2.8
Austria	85.8	85.6	85.4	86.7	63.2	7.1	3.2	2.3
Poland	91.7	91.1	90	95.4	78.3	16.9	8.7	4.5
Portugal	49.6	58.7	64.4	61.7	17	13.3b	10.9b	8b
Romania	77.2	78.2	79.6	75.2	51.4	6.9	6.4	3.8
Slovenia	89.4	89.1	90.1	96.9	65.6	12.7	8.2	4.7
Slovakia	91.5	93.2	93.3	94.3	79	39.2	11.5	5.2
Finland	84.7	84.2	85.4	92.9	73	11.3	6.9	4
Sweden	84.9p	85.9p	88.7p	88.9p	69.1p	11	4.6	3.9
United Kingdom	78.8	80.4	80.1	83.5	61.3	10.4b	6.1b	3.7b
Croatia	94.6	95.7	95.6	90.7	59.2	15.8	11.6	8u
Iceland	49.3	53.4	56.9	78.6	52	7.3	5.4	4.5
MK**	75.8	82.8	85.3	69.8	44.4	36	28.7	19.5
Turkey	46	51.1	52.6	35.6	9.4	7.4	8	6.8
Norway	68.6b	71.1	71.2	85.3	78.9	5.2	2.2	1.6

Source: Eurostat (LFS); p = provisional; b = break in series; : = data missing; \*MT: Figures under review for certain secondary education qualifications, see also footnote 23. \*\*MK: The former Yugoslav Republic of Macedonia, see Annex 2.1.

Women have caught up in educational attainment particularly in some southern Member States and gaps between Member States are much smaller in the younger generation compared to the older

generation (cf. table 9.2). Nevertheless, in Malta and Portugal, still less than two thirds of young females have attained a sufficient educational level, indicating urgent need for further improvement.

The assumption that upper secondary education is a prerequisite for economic and social inclusion is confirmed by unemployment rates (table 9.2). Unemployment rates at European Union level of those who have not achieved upper secondary education are nearly two times those of upper secondary graduates and three times those of tertiary graduates. This pattern appears in almost all EU countries.

### 9.3. Future skills needs

Even though the acquired level of education of Europeans is still increasing, the skills acquired will have to suit the needs of changing labour markets. Anticipating the future labour market demand lies at the heart of the Agenda for New Skills and Jobs<sup>104</sup>. Since 2008, CEDEFOP has been forecasting changes in skills demand and supply in Europe up to 2020<sup>105</sup>. In terms of occupations, the main observed trends are expected to continue throughout the decade, namely an increase in the higher level knowledge- and skills-intensive jobs and a decrease in jobs requiring fewer transversal skills. The share of highly-qualification jobs will increase from 29% in 2010 to almost 35% in 2020. The share of jobs employing those with medium-level qualifications will remain very significant, at around 50%, despite strong country variations; and the share of jobs requiring only low qualifications will decrease from 20% to less than 15%.

Table 9.3 presents this forecast by country. The countries where the employment of highly qualified workers will increase the most between 2010 and 2020 are Slovakia, Cyprus and France and the countries where it will increase the least are Germany, Estonia and Sweden. Lithuania is the only country where the demand for the higher skilled is expected to decrease. The share of medium qualification jobs is expected to decrease in nine Member States, ranging from -1.5% in Slovakia to -14.9% in Denmark. The countries where the share of medium qualification jobs is expected to increase the most are Portugal, Malta and Spain, although all of these are expected to have a concomitant increase in highly-qualified jobs. Finally, the only countries where the share of low qualification jobs is expected to increase are Latvia, Denmark, Estonia, Lithuania and Sweden.

On the supply side, the forecast is estimated in terms of the number of economically active people (aged 15 and above) and the qualifications they will hold. It is therefore largely predetermined by demographic development and by education and training policies already in place. CEDEFOP's projections show a substantial increase of the population with a university degree or equivalent (18 million). While the supply of the medium-level qualifications (mainly vocational) is expected to increase to a lesser extent (2 million), it will still constitute the majority of the European labour force by 2020 (50%). On the other hand, the supply of low-level qualifications is projected to fall by around 16 million. This shift reflects the fact that young people entering the labour market will be more and more qualified, while the lower-qualified older people will progressively leave the active workforce. As illustrated by Table 9.3, this overall trend is visible in all Member States, while the supply of medium qualifications is expected to rise in some countries (Malta, Spain, Portugal, Luxembourg, Cyprus, Italy, the United Kingdom, Belgium, Greece, Ireland and France) and drop in others (particularly in Denmark, Poland and Romania).

The share of high qualifications is projected to increase more for women than for men, while the share of medium qualified is expected to rise more for men than for women and the share of lower qualified will drop faster for women than for men. In other words, on average, women are projected to be higher qualified than men by 2020.

Furthermore, there is a persistent mismatch between supply and demand of ICT skills. The demand for ICT practitioners is growing at a rate of 3% per year in the EU while there is a gradual decrease in the number of ICT graduates. As a result, there are not enough workers to fill all the vacancies available in the sector. According to a recent estimate, there will be up to 700 000 unfilled ICT

<sup>104</sup> COM(2010) 682 final.

<sup>105</sup> <http://www.cedefop.europa.eu/EN/about-cedefop/projects/forecasting-skill-demand-and-supply/skills-forecasts.aspx>.

practitioners' vacancies in the European Union by the year 2015<sup>106</sup>, despite soaring unemployment and the economic crisis in Europe.

**Table 9.3. Skills demand and supply trends by level of qualifications**

	Demand for skills						Supply of skills					
	High		Medium		Low		High		Medium		Low	
	Change (%)		Change (%)		Change (%)		Change (%)		Change (%)		Change (%)	
	2000	2010	2000	2010	2000	2010	2000	2010	2000	2010	2000	2010
	-	-	-	-	-	-	-	-	-	-	-	-
	2010	2020	2010	2020	2010	2020	2010	2020	2010	2020	2010	2020
<b>EU27</b>	<b>31.5</b>	<b>19.7</b>	<b>9.4</b>	<b>4.8</b>	<b>-21.0</b>	<b>-20.1</b>	<b>44.3</b>	<b>26.5</b>	<b>8.0</b>	<b>1.8</b>	<b>-17.3</b>	<b>-28.9</b>
Belgium	28.4	16.3	21.4	13.5	-28.3	-19.4	31.5	19.7	25.1	11.5	-25.2	-31.7
Bulgaria	20.8	10.0	25.3	3.1	-26.8	-24.0	19.2	8.2	3.7	-0.9	-31.5	-34.9
Czech Republic	38.6	30.3	2.3	-3.0	-34.9	-15.1	47.6	46.2	0.9	-6.3	-40.2	-47.5
Denmark	23.9	13.0	-22.5	-14.9	33.3	20.8	38.7	20.7	-18.6	-13.3	7.6	4.0
Germany	10.3	0.4	5.9	0.4	-14.6	-6.5	16.4	9.0	7.8	-2.5	-15.5	-18.1
Estonia	21.4	5.6	-11.1	6.1	-19.2	17.5	37.1	12.4	-0.9	-6.9	-31.2	-24.0
Ireland	67.7	16.8	5.9	13.2	-33.1	-30.2	86.2	13.8	20.3	5.2	-23.2	-33.8
Greece	47.1	22.0	15.2	15.9	-13.4	-24.4	51.1	24.6	12.7	11.3	-16.0	-26.7
Spain	50.0	26.2	51.5	32.2	-17.6	-32.2	66.9	23.1	69.4	30.1	-3.9	-39.3
France	31.1	32.3	3.9	2.2	-20.2	-16.9	45.7	29.3	10.4	3.5	-18.4	-20.4
Italy	44.0	21.6	22.8	13.1	-16.1	-18.2	56.5	34.5	19.5	13.2	-18.4	-25.5
Cyprus	63.3	33.3	28.0	13.9	-13.1	-18.3	75.3	30.8	38.7	17.5	-10.1	-26.5
Latvia	27.0	23.7	-9.1	-6.4	-12.6	36.0	46.9	29.0	0.0	-11.7	-30.6	-27.6
Lithuania	-10.7	-9.0	14.7	17.2	-47.2	4.9	5.0	3.0	12.0	-0.2	-61.0	-40.7
Luxembourg	88.7	29.9	36.9	16.4	0.0	-30.7	107.1	34.5	18.8	18.9	-22.2	-38.8
Hungary	37.2	25.9	-8.5	-2.2	-38.7	-13.2	50.2	38.6	0.1	-6.5	-30.9	-49.0
Malta	81.8	22.5	44.0	36.1	-11.0	-20.2	95.7	37.8	46.4	31.7	-13.0	-37.9
Netherlands	45.7	26.1	-2.2	-1.8	-13.3	-11.1	52.1	34.6	0.9	-0.1	-16.2	-30.1
Austria	43.7	31.1	4.5	-1.7	-5.7	-9.4	62.2	51.2	5.4	-6.9	-10.7	-22.9
Poland	54.8	26.7	9.5	-13.7	-12.5	-3.6	39.4	45.5	-5.9	-15.1	-19.2	-32.5
Portugal	63.1	18.2	38.8	40.3	-18.3	-14.9	71.7	24.0	49.8	26.4	-11.7	-15.6
Romania	13.8	27.1	-1.7	0.8	-46.5	-17.2	359.6	71.4	-26.6	-17.8	-0.3	-22.9
Slovakia	48.7	39.2	2.9	-1.5	-44.6	-14.8	66.3	28.5	3.4	-6.7	-23.4	-29.4
Slovenia	56.4	25.5	0.2	-5.7	-29.7	-15.6	66.6	40.5	0.4	-3.8	-36.7	-41.6
Finland	32.3	11.4	9.2	4.2	-32.4	-20.1	36.2	26.4	2.6	-9.9	-43.0	-45.5
Sweden	18.9	9.0	0.4	5.6	-5.0	4.0	39.3	28.8	7.3	-2.4	-6.7	-25.9
United Kingdom	30.6	19.4	16.6	15.7	-30.7	-44.4	40.2	20.4	19.7	13.0	-29.6	-43.6

Source: CEDEFOP skills forecasts (2012). Note: Percentage change in the number of posts in the labour market requiring the different qualification levels.

Overall, there is a projected rise in the level of skills both from the demand and from the supply side. This parallel rise does not, however, prevent from potential skills mismatches, such as over-qualification gaps<sup>107</sup>. In addition, as the level of formal skills increases, employers will need to screen applicants also on the basis of their non-formal skills and competences. Hence, a perfect match in terms of level of a job seeker's educational attainment and the formal skills demanded by an employer is likely to become a weaker guarantee of employability. A more precise matching framework defined in terms of the actual nature rather than level of the skills supplied and demanded could thus improve our understanding of the real sources of skills mismatches.

<sup>106</sup> Report for the European Commission "Anticipating the Evolution of the Supply and Demand of e-Skills in Europe (2010-2015)" Empirica and IDC Europe, December 2009. Updated forecast presented at the European e-Skills Conference on 13 December 2011 in Brussels

<sup>107</sup> See: [http://www.cedefop.europa.eu/EN/Files/3056\\_en.pdf](http://www.cedefop.europa.eu/EN/Files/3056_en.pdf)

## Annexes

### Annex 1. Further tables and figures

#### Chapter 2

**Table 2.A. General Government Expenditure on education as % of GDP**

	2004	2005	2006	2007	2008	2009	2010
<b>EU 27 countries</b>	<b>5.2</b>	<b>5.2</b>	<b>5.2</b>	<b>5.1</b>	<b>5.2</b>	<b>5.5</b>	<b>5.5</b>
Belgium	5.8	5.9	5.8	5.8	6.0	6.3	6.3
Bulgaria	4.1	4.3	3.7	3.8	4.1	4.3	3.8
Czech Republic	4.6	4.6	4.7	4.5	4.5	4.8	4.8
Denmark	7.6	7.3	7.0	6.7	6.9	8.0	8.1
Germany	4.1	4.1	4.0	3.9	4.0	4.3	4.3
Estonia	6.3	6.0	6.0	5.9	6.7	7.1	6.8
Ireland	4.6	4.6	4.7	4.9	5.4	6.1	6.0
Greece	3.9	3.9	3.9	3.9	4.1	4.1	3.8
Spain	4.4	4.3	4.3	4.4	4.6	5.1	4.9
France	5.8	5.8	5.7	5.5	5.6	6.0	6.0
Italy	4.6	4.7	4.6	4.6	4.4	4.6	4.5
Cyprus	6.5	6.4	6.4	6.3	6.8	7.2	7.5
Latvia	6.1	5.6	6.0	5.8	6.6	6.8	6.2
Lithuania	5.8	5.4	5.3	5.2	5.8	6.8	6.1
Luxembourg	4.9	4.7	4.4	4.2	4.4	5.0	5.1
Hungary	5.8	5.8	5.8	5.4	5.2	5.3	5.6
Malta	5.8	5.7	5.7	5.4	5.3	5.5	5.8
Netherlands	5.6	5.5	5.3	5.3	5.5	6.0	5.9
Austria	5.3	5.2	5.2	5.2	5.4	5.8	5.7
Poland	5.7	6.1	6.0	5.7	5.7	5.6	5.7
Portugal	6.7	6.8	6.6	6.1	6.2	5.8	6.5
Romania	3.6	3.6	4.1	3.9	4.5	4.1	3.4
Slovenia	6.5	6.6	6.4	5.9	6.1	6.5	6.6
Slovakia	3.9	4.0	3.7	3.9	3.5	4.3	4.5
Finland	6.3	6.2	6.0	5.7	5.9	6.6	6.5
Sweden	7.1	7.0	6.9	6.7	6.8	7.2	7.0
United Kingdom	5.9	6.2	6.1	6.2	6.4	7.0	7.0

Source: Eurostat. Government finance statistics (general government expenditure by function).

**Table 2.B. General Government Expenditure on education as % of total GGE**

	2004	2005	2006	2007	2008	2009	2010
<b>EU 27 countries</b>	<b>11.1</b>	<b>11.2</b>	<b>11.1</b>	<b>11.1</b>	<b>11.0</b>	<b>10.8</b>	<b>10.8</b>
Belgium	11.7	11.4	12.0	12.0	11.9	11.8	11.8
Bulgaria	10.6	11.5	10.9	9.5	10.8	10.7	10.0
Czech Republic	10.7	10.7	11.3	10.9	10.9	10.8	10.9
Denmark	14.0	13.9	13.7	13.3	13.4	13.7	14.0
Germany	8.7	8.7	8.9	9.0	9.0	9.0	9.0
Estonia	18.6	17.8	17.8	17.3	16.9	15.7	16.8
Ireland	13.9	13.7	13.6	13.3	12.7	12.5	9.0
Greece	8.5	8.8	8.6	8.1	8.0	7.6	7.5
Spain	11.3	11.1	11.2	11.2	11.1	10.9	10.7
France	10.9	10.8	10.8	10.5	10.5	10.6	10.6
Italy	9.6	9.7	9.4	9.6	9.0	8.9	8.9
Cyprus	15.3	14.8	15.0	15.3	16.1	15.7	16.1
Latvia	17.0	15.7	15.7	16.3	16.8	15.3	13.9
Lithuania	17.3	16.2	15.9	14.9	15.5	15.6	14.9
Luxembourg	11.5	11.4	11.4	11.7	11.8	11.7	12.1
Hungary	11.8	11.7	11.1	10.7	10.7	10.4	11.3
Malta	12.8	12.7	12.8	12.7	12.1	12.7	13.5
Netherlands	12.0	12.2	11.7	11.8	11.8	11.6	11.5
Austria	9.8	10.5	10.7	10.6	10.9	10.9	10.8
Poland	13.4	14.0	13.6	13.4	13.3	12.6	12.5
Portugal	15.1	15.0	14.9	13.8	13.9	11.6	12.6
Romania	10.8	10.7	11.6	10.3	11.4	9.9	8.3
Slovenia	14.1	14.7	14.3	14.0	13.8	13.3	13.3
Slovakia	10.5	10.4	10.2	11.3	10.0	10.4	11.2
Finland	12.5	12.2	12.2	12.1	11.9	11.7	11.8
Sweden	13.1	13.0	13.1	13.1	13.2	13.2	13.3
United Kingdom	13.7	14.0	13.9	14.0	13.5	13.5	13.8

Source: Eurostat. Government finance statistics (general government expenditure by function).

**Table 2.C. Breakdown of total expenditure in public educational institutions**

	Current expenditure as % of total expenditure		Capital expenditure as % of total expenditure		Personnel expenditure as % of current expenditure		Other current expenditure as % of current expenditure	
	2004	2009	2004	2009	2004	2009	2004	2009
<b>EU 27 countries</b>	<b>91.6</b>	<b>91.2</b>	<b>8.4</b>	<b>8.8</b>	<b>77.5</b>	<b>77.1</b>	<b>22.5</b>	<b>22.9</b>
Belgium	97.1	96.3	2.9	3.7	88.3	87.4	11.7	12.6
Bulgaria	93.4	91.0	6.6	9.0	72.0	64.5	28.0	35.5
Czech Republic	90.4	88.8	9.6	11.2	60.1	58.4	39.9	41.6
Denmark	93.9	94.1	6.1	5.9	78.9	82.0	21.1	18.0
Germany	92.8	91.8	7.2	8.2	81.1	77.2	18.9	22.8
Estonia	90.5	:	9.5	:	:	:	:	:
Ireland	93.2	91.5	6.8	8.5	81.2	81.3	18.8	18.7
Greece	79.3	:	20.7	:	78.0	:	22.0	:
Spain	90.2	88.5	9.8	11.5	82.1	80.7	17.9	19.3
France	89.8	90.0	10.2	10.0	82.6	80.3	17.4	19.7
Italy	92.1	94.8	7.9	5.2	77.7	77.7	22.3	22.3
Cyprus	89.4	88.1	10.6	11.9	89.3	85.9	10.7	14.1
Latvia	91.6	87.3	8.4	12.7	76.0	79.0	24.0	21.0
Lithuania	94.2	96.1	5.8	3.9	78.9	82.2	21.1	17.8
Luxembourg	80.1	:	19.9	:	86.2	:	13.8	:
Hungary	93.6	91.6	6.4	8.4	76.3	71.6	23.7	28.4
Malta	94.4	94.4	5.6	5.6	84.6	78.6	15.4	21.4
Netherlands	87.3	87.9	12.7	12.1	80.5	78.3	19.5	21.7
Austria	95.2	95.8	4.8	4.2	75.2	74.7	24.8	25.3
Poland	93.1	92.3	6.9	7.7	65.5	67.1	34.5	32.9
Portugal	96.1	93.8	3.9	6.2	90.0	87.0	10.0	13.0
Romania	94.1	86.2	5.9	13.8	71.1	74.8	28.9	25.2
Slovenia	90.5	90.1	9.5	9.9	76.7	76.1	23.3	23.9
Slovakia	94.6	94.3	5.4	5.7	60.2	59.9	39.8	40.1
Finland	91.0	93.7	9.0	6.3	65.6	63.6	34.4	36.4
Sweden	94.7	94.0	5.3	6.0	69.2	67.3	30.8	32.7
United Kingdom	92.1	90.4	7.9	9.6	69.4	78.0	30.6	22.0

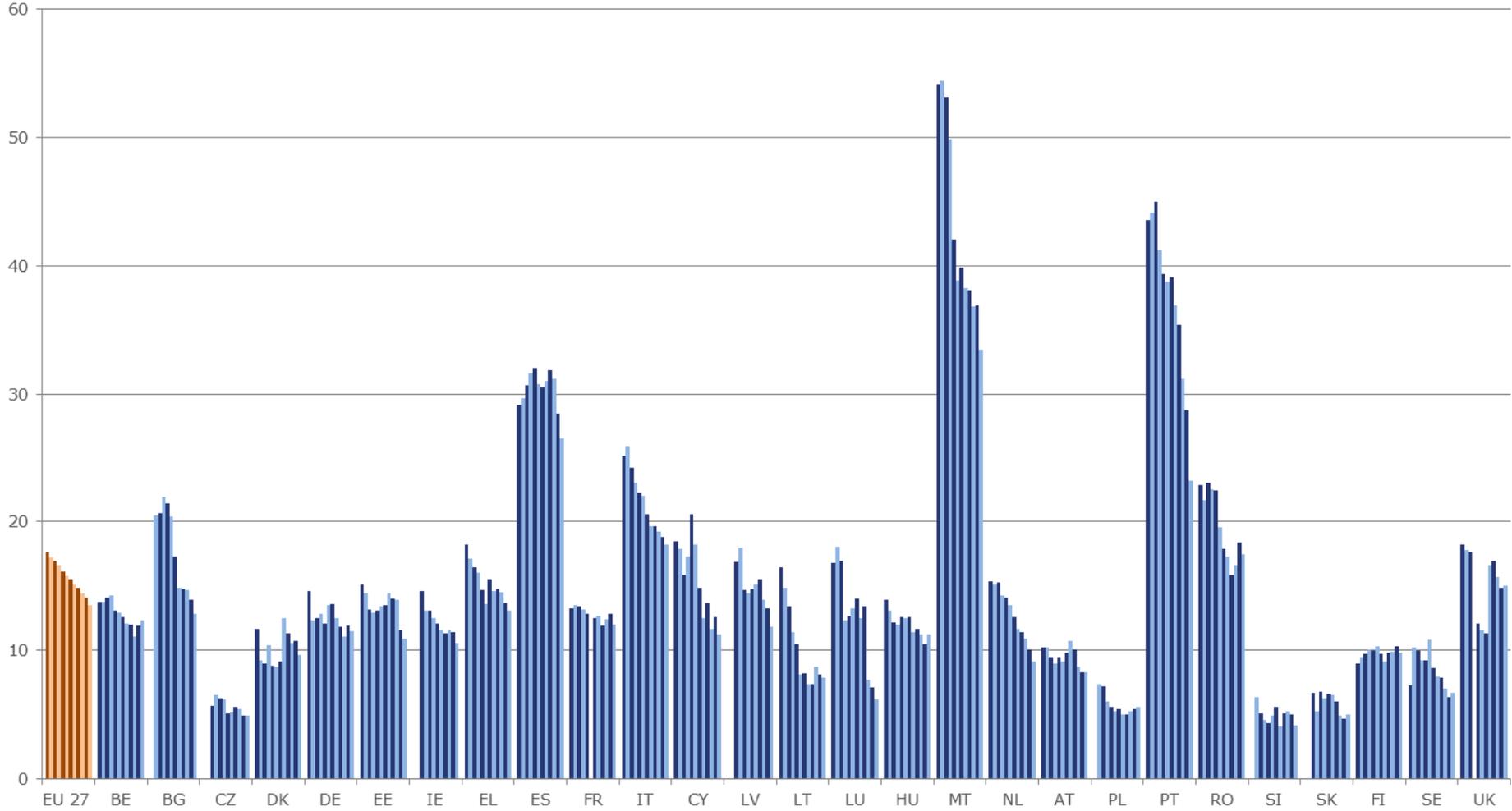
Source: Eurostat (UOE). Indicators on education finance. Note: all levels of education combined.

**Table 2.D. Expenditure on public and private educational institutions per pupil/student compared to GDP per capita. %**

	2004	2005	2006	2007	2008	2009
<b>EU 27 countries</b>	<b>24.7</b>	<b>25.3</b>	<b>25.2</b>	<b>24.9</b>	<b>25.6</b>	<b>27.4</b>
Belgium	23.8	23.8	25.0	25.2	27.1	27.7
Bulgaria	24.2	23.7	23.6	22.9	26.5	27.8
Czech Republic	21.7	21.3	23.3	21.5	21.5	23.9
Denmark	28.1	29.1	28.6	28.4	28.6	31.6
Germany	24.7	25.4	23.7	23.4	24.2	26.9
Estonia	:	20.4	20.4	20.8	24.7	28.0
Ireland	18.5	18.5	:	:	:	:
Greece	20.4	22.0	:	:	:	:
Spain	24.0	24.8	24.9	25.8	27.0	28.7
France	25.8	25.4	25.4	25.8	26.2	27.5
Italy	25.5	24.9	26	23.9	25.8	25.8
Cyprus	30.8	32.4	33.3	33.2	35.4	37.3
Latvia	24.4	24.7	25.3	26.5	30.5	30.6
Lithuania	21.5	20.5	20.9	21.4	23.2	27.4
Luxembourg	:	:	:	:	:	:
Hungary	26.7	26.7	26.8	:	:	:
Malta	24.3	33.6	34.2	33.8	31.8	35.5
Netherlands	25.1	24.9	24.2	23.8	24.1	27.0
Austria	28.2	28.7	29.0	28.1	28.4	30.6
Poland	24.8	26.6	24.8	23.8	26.7	27.6
Portugal	25.3	26.9	26.8	26.2	25.3	28.2
Romania	:	18.3	:	:	:	21.6
Slovenia	29.5	30.5	30.4	27.3	28.4	31.9
Slovakia	21.0	19.9	19.6	18.6	19.6	23.4
Finland	24.8	24.1	23.7	22.7	23.7	26.3
Sweden	26.0	25.7	25.4	25.3	26.3	28.4
United Kingdom	23.2	26.1	28.0	27.1	26.3	28.2

Source: Eurostat (UOE). Indicators on education finance. Note: compared to GDP per capita, all levels of education combined, based on full-time equivalents.

Figure 3.A. Long-term development of ESL rates in all ET 2020 countries (2010-2011)



Source: Eurostat (LFS).

## Chapter 4

**Table 4.A. Students by field of education**

	Women enrolled in fields of education, tertiary level (ISCED 5-6), as % of total, 2010							Students enrolled by field of education, tertiary level (ISCED 5-6), as % of total, 2010								
	Education	Humanities and art	Social science, business and law	Science, maths and computing	Engineering, manufact. and construction	Agriculture and veterinary	Health and welfare	Services	Education	Humanities and art	Social science, business and law	Science, maths and computing	Engineering, manufact. and construction	Agriculture and veterinary	Health and welfare	Services
<b>EU27 countries</b>	<b>76.7</b>	<b>65.4</b>	<b>58.3</b>	<b>37.6</b>	<b>25.0</b>	<b>49.4</b>	<b>74.0</b>	<b>49.4</b>	<b>8.1</b>	<b>12.5</b>	<b>34.7</b>	<b>10.2</b>	<b>14.7</b>	<b>1.8</b>	<b>13.9</b>	<b>4.1</b>
Belgium	71.7	55.5	53.8	29.4	22.8	53.1	73.2	50.8	12.2	10.8	31.7	6.2	11.5	2.8	23.1	1.7
Bulgaria	71.5	68.7	63.5	46.8	32.0	47.5	66.8	46.4	5.7	7.9	44.0	5.2	19.2	2.4	7.1	8.5
Czech Republic	78.6	66.8	62.4	35.2	25.0	56.7	77.7	42.9	12.5	9.0	33.7	11.1	14.3	3.7	10.5	5.2
Denmark	72.4	62.9	52.3	34.4	35.1	59.2	80.6	25.1	10.4	14.1	31.9	8.6	10.0	1.5	21.1	2.3
Germany	70.9	66.1	50.7	35.8	18.3	48.1	76.5	47.2	7.2	13.7	26.3	14.2	16.5	1.4	17.9	2.8
Estonia	91.6	74.3	66.2	38.1	23.8	53.1	88.1	51.4	6.8	13.6	36.4	10.4	13.4	2.2	9.1	8.0
Ireland	76.2	59.8	53.5	38.4	15.6	42.9	76.3	45.8	6.4	17.0	27.5	14.6	13.0	1.5	16.0	4.0
Greece	63.0	70.4	53.7	37.6	26.0	45.2	67.1	51.2	5.9	12.8	33.2	13.8	18.4	5.0	8.1	2.7
Spain	77.3	59.2	57.8	33.2	27.6	46.1	73.4	50.2	10.9	10.7	31.6	9.2	17.4	1.7	12.6	5.8
France	80.8	67.7	60.0	35.7	25.3	44.1	70.7	44.0	2.4	14.2	37.3	12.3	13.2	1.2	16.0	3.4
Italy	91.6	72.5	58.1	51.9	30.1	47.0	66.1	47.2	5.1	15.7	36.5	8.3	16.9	2.2	12.5	3.0
Cyprus	76.5	67.5	39.5	36.3	24.4	56.4	59.9	63.7	8.2	10.1	51.7	8.5	9.8	0.3	7.1	4.3
Latvia	83.0	77.0	68.1	32.2	21.4	50.8	85.1	56.9	8.2	8.5	49.9	5.5	12.6	1.1	8.2	6.1
Lithuania	76.0	72.6	67.4	34.6	20.6	54.2	82.4	44.0	10.5	7.3	46.5	5.1	17.1	1.9	8.8	2.9
Luxembourg	69.6	60.9	52.1	32.8	17.8	:	70.9	:	16.8	12.1	47.3	11.2	8.1	:	4.5	:
Hungary	79.8	64.2	64.4	32.4	18.1	44.9	73.2	59.6	6.6	9.6	40.4	7.1	14.0	2.4	9.3	10.5
Malta	81.8	59.5	57.8	47.1	26.2	36.0	63.1	57.4	10.0	18.1	33.2	16.4	9.4	0.2	11.6	1.2
Netherlands	73.2	54.2	47.8	19.9	16.9	51.2	73.6	48.4	13.3	8.5	38.9	6.3	8.2	1.1	17.3	6.5
Austria	75.5	65.7	55.8	35.6	23.3	59.5	64.3	51.1	11.9	13.4	37.2	11.0	14.7	1.3	7.9	2.4
Poland	77.4	70.0	63.5	37.9	29.7	52.9	73.7	50.6	13.6	9.2	39.7	8.1	13.2	1.9	7.7	6.7
Portugal	82.8	55.8	58.0	46.2	25.5	55.1	77.4	43.9	5.4	8.9	31.8	7.3	22.1	1.8	16.3	6.4
Romania	93.3	64.5	63.0	52.8	30.4	36.5	68.1	42.4	1.6	7.8	55.0	4.9	17.9	2.1	7.5	3.3
Slovenia	81.4	69.0	67.5	39.2	25.4	56.2	77.0	52.2	7.4	8.3	37.5	6.7	18.9	3.2	8.7	9.3
Slovakia	75.1	65.3	66.3	39.2	29.1	48.1	77.6	43.5	12.5	6.9	30.7	8.4	15.0	2.1	18.2	6.2
Finland	79.5	70.5	59.7	38.9	19.0	51.4	82.9	68.3	5.0	14.3	22.8	10.2	24.9	2.2	15.6	5.1
Sweden	77.2	60.9	61.4	41.8	29.1	62.8	79.7	58.3	13.2	13.6	27.2	8.6	16.7	1.0	17.2	2.5
United Kingdom	75.5	61.2	54.7	36.5	19.2	62.9	76.7	57.0	9.5	17.0	29.0	14.0	8.9	1.0	18.7	1.8
Iceland	81.6	65.1	59.6	38.3	33.6	63.4	86.6	68.7	15.6	14.6	36.9	8.1	9.3	0.6	13.2	1.7
Liechtenstein	:	:	32.6	:	50.0	:	39.0	:	:	:	70.1	:	24.7	:	5.2	:
Norway	76.1	60.6	57.9	36.1	27.0	60.2	82.0	45.0	14.5	10.8	32.0	8.3	8.1	0.7	20.3	5.2
Switzerland	71.6	60.1	47.7	31.9	15.9	49.6	73.2	50.8	9.2	12.1	36.7	9.7	13.2	1.1	13.2	4.8
Croatia	93.2	69.6	71.0	50.6	28.7	45.4	75.1	29.3	4.7	9.5	42.2	6.8	15.3	4.2	8.4	8.8
MK*	73.5	65.5	56.0	35.6	33.7	35.8	72.6	33.6	6.3	12.2	38.6	11.7	12.5	2.9	9.5	6.3
Turkey	54.5	53.3	44.8	43.0	22.4	48.0	62.3	31.0	8.3	7.8	53.8	6.5	10.9	3.6	5.9	3.2

Source: Eurostat (UOE). Notes: DE, IT: data exclude ISCED level 6 (doctoral students). \*MK: the Former Yugoslav Republic of Macedonia (see annex 2.1).

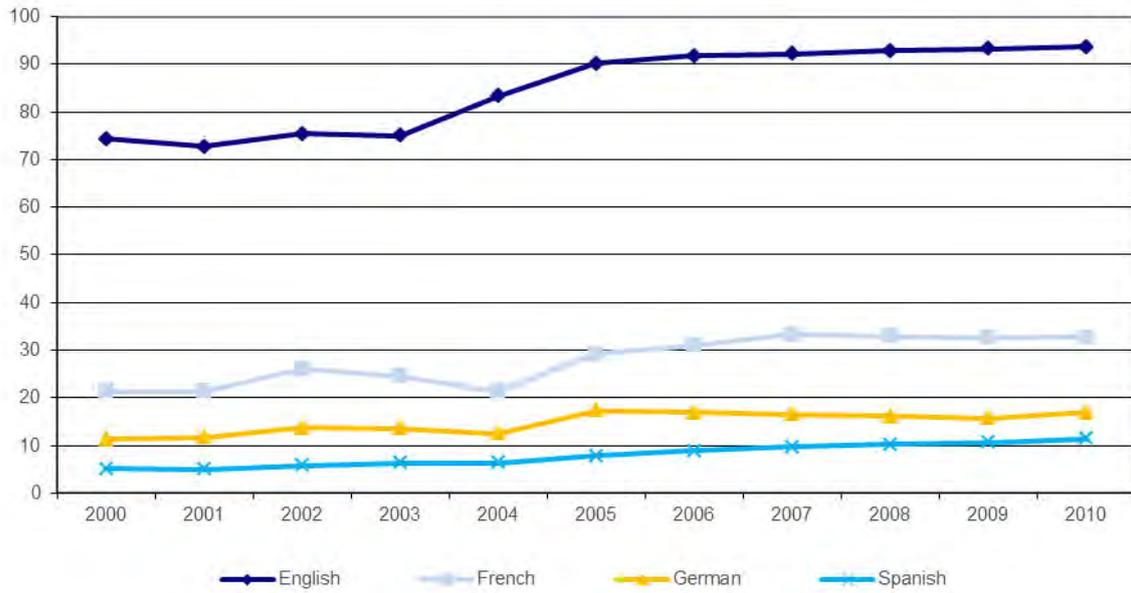
## Chapter 6

**Table 6.A. Average number of foreign languages learned per pupil in ISCED 1, 2 and 3 (2000, 2005, 2010)**

	ISCED 1			ISCED 2			ISCED 3 General			ISCED 3 Pre-voc. and voc.		
	2000	2005	2010	2000	2005	2010	2000	2005	2010	2000	2005	2010
<b>EU 27 countries</b>	<b>0.5</b>	<b>0.7</b>	<b>0.8</b>	<b>1.3</b>	<b>1.4</b>	<b>1.5</b>	<b>0.9</b>	<b>1.6</b>	<b>1.6</b>	<b>0.9</b>	<b>1.1</b>	<b>1.2</b>
Belgium	0.4	0.4	0.4	1.0	1.2	1.2	1.5	2.2	2.2	0.9	1.3	1.3
Belgium (fr & de)	0.4	0.6	0.5	0.7	0.9	1.0	1	1.8	1.9	0.5	0.8	0.7
Belgium (nl)	0.3	0.3	0.3	1.5	1.4	1.4	2.1	2.5	2.5	1.8	1.7	1.6
Bulgaria	0.2	0.7	0.9	1.1	1.2	1.2	1.2	1.8	1.7	0.7	1.1	1.4
Czech Republic	0.4	0.5	0.7	1.1	1.0	1.3	1.3	2.0	2.1	1.1	1.2	1.3
Denmark	:	0.7	0.7	1.7	2.0	1.8	1.3	1.8	1.6	0.4	0.9	0.9
Germany	0.2	0.5	0.7	1.2	1.2	1.3	0.7	1.4	1.4	0.4	0.5	0.4
Estonia	1.1	1.1	:	2.0	2.0	:	2.1	2.3	:	1.8	1.8	:
Ireland	0.0	0.0	0.1	1.0	1.0	1.0	0.9	0.9	0.9	:	1.0	1.0
Greece	:	0.9	:	:	1.9	:	:	1.1	:	0.9	0.8	:
Spain	0.8	1.0	1.1	1.5	1.4	1.4	1.1	1.2	1.2	1	1.0	:
France	0.5	:	:	1.5	1.5	1.5	1.6	:	2.0	1	:	1.2
Italy	0.6	1.0	1.0	1.1	1.4	2.0	1.2	1.1	1.3	1.1	1.4	1.4
Cyprus	0.5	0.6	0.6	2.0	1.9	2.0	:	1.7	1.9	1	1.2	1.1
Latvia	0.5	0.6	0.8	1.5	1.6	1.7	:	1.8	1.9	:	:	1.2
Lithuania	0.3	0.6	0.7	1.7	1.8	1.8	1.8	1.6	1.5	1.6	0.9	1.1
Luxembourg	1.8	1.8	1.8	2.5	2.5	2.5	2.2	3.0	3.0	1.7	1.9	2.0
Hungary	:	0.5	0.6	0.7	1.0	1.0	1.2	1.4	1.4	1.2	0.7	0.8
Malta	1.0	1.0	1.0	2.1	2.2	1.8	0.8	1.0	1.3	0.1	0.0	1.0
Netherlands	:	0.3	0.3	:	2.0	2.1	:	2.6	1.8	:	:	:
Austria	0.9	1.0	1.0	1.1	1.1	1.1	1.3	1.9	1.8	1.2	1.3	1.2
Poland	0.7	0.7	1.0	1.3	1.1	1.3	1.4	2.0	1.7	1.1	1.5	1.6
Portugal	:	0.3	0.9	:	1.9	1.4	:	0.7	0.5	:	0.9	0.7
Romania	0.6	0.6	0.6	1.9	1.9	1.9	1.3	2.0	2.0	1	1.2	1.8
Slovenia	:	0.1	0.5	1.0	1.2	1.4	1.5	2.0	2.0	1.3	1.3	1.3
Slovakia	0.4	0.5	0.7	1.1	1.1	1.4	1.4	2.0	2.0	1.3	1.3	1.5
Finland	0.8	0.9	0.8	2.3	2.2	2.2	:	2.8	2.7	1.1	:	:
Sweden	0.9	0.9	0.6	1.7	1.7	1.8	1.7	2.2	2.2	1.1	1.1	1.1
United Kingdom	:	0.5	1.0	:	1.0	1.0	:	0.7	0.5	:	:	:
Croatia	:	0.9	1.2	:	1.2	1.5	:	2.0	1.9	:	1.2	1.3
Montenegro	:	:	:	:	:	:	:	:	:	:	:	:
Iceland	0.5	0.6	0.8	2.1	2.1	2.0	1.3	1.9	1.8	0.7	0.8	0.6
MK*	0.0	0.2	1.0	1.2	1.5	1.8	1.3	:	:	:	:	:
Serbia	:	:	:	:	:	:	:	:	:	:	:	:
Turkey	:	:	0.6	:	:	:	:	:	0.9	:	:	0.9
Liechtenstein	:	:	:	:	:	:	:	:	:	:	:	:
Norway	1.0	1.0	1.0	1.7	1.5	1.7	:	:	1.0	:	:	0.5

Source: Eurostat (UOE). \*MK: The Former Yugoslav Republic of Macedonia (see annex 2.1).

**Figure 6.A. Proportion of pupils in the EU learning English, French, German and Spanish as foreign language at ISCED 2 (2000-2010)**

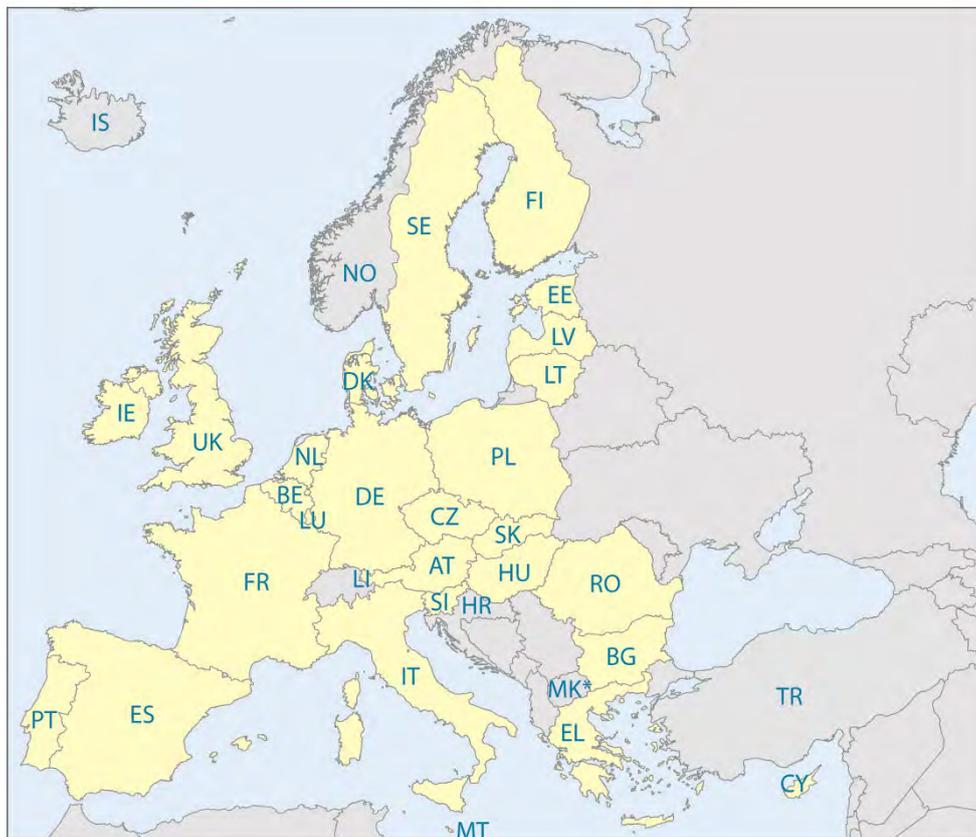


	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
English	74.3	72.7	75.4	75	83.3	90.2	91.7	92.2	92.9	93.2	93.7
French	21.3	21.3	26	24.6	21.4	29.3	31	33.3	32.9	32.6	32.7
German	11.3	11.7	13.7	13.6	12.5	17.4	17	16.6	16.2	15.7	16.9
Spanish	5.1	5	5.8	6.4	6.3	7.8	8.9	9.7	10.3	10.7	11.4

Source: Eurostat (UOE).

## Annex 2. List of abbreviations

### 2.1. Country abbreviations



<b>EU</b>	<b>European Union</b>	RO	Romania
BE	Belgium	SI	Slovenia
BG	Bulgaria	SK	Slovakia
CZ	Czech Republic	FI	Finland
DK	Denmark	SE	Sweden
DE	Germany	UK	United Kingdom
EE	Estonia	<b>AC</b>	<b>Acceding Countries</b>
EL	Greece	HR	Croatia
ES	Spain	<b>CC</b>	<b>Candidate Countries</b>
FR	France	IS	Iceland
IE	Ireland	MK*	The former Yugoslav Republic of Macedonia
IT	Italy	TR	Turkey
CY	Cyprus	<b>EEA</b>	<b>European Economic Area</b>
LV	Latvia	LI	Liechtenstein
LT	Lithuania	NO	Norway
LU	Luxembourg	<b>Other</b>	
HU	Hungary	CH	Switzerland
MT	Malta		
NL	Netherlands		
AT	Austria		
PL	Poland		
PT	Portugal		

\* ISO code 3166. Provisional code which does not prejudice in any way the definitive nomenclature for this country, which will be agreed following the conclusion of negotiations currently taking place on this subject at the United Nations ([http://www.iso.org/iso/country\\_codes/iso\\_3166\\_code\\_lists.htm](http://www.iso.org/iso/country_codes/iso_3166_code_lists.htm))

## 2.2. General abbreviations

AES	Adult Education Survey
AGS	Annual Growth Survey
ALL	Adult Literacy and Life-skills Survey
CEDEFOP	European Centre for the Development of Vocational Training
CRELL	Centre for Research on Lifelong Learning (co-ordinated by JRC)
CSR	Country-Specific Recommendation
DG EAC	Directorate-General for Education and Culture, European Commission
EACEA	Education, Audiovisual and Culture Executive Agency, European Commission
ECEC	Early Childhood Education and Care
ECTS	the European Credit Transfer System
EEA	European Economic Area (EU 27+Norway, Iceland and Liechtenstein)
EENEE	European Expert Network on Economics of Education
ESL	Early school leavers or early leavers from education and training (used interchangeably)
ESLC	European Survey on Language Competences
EURYDICE	Education Information Network in the European Community
ISS	Information society statistics (Eurostat)
GDP	Gross Domestic Product
GGE	General Government Expenditure
IALS	International Adult Literacy Survey
ICCS	International Civic and Citizenship education survey
ICT	Information and Communication Technology
IEA	International Association for the Evaluation of Educational Achievement
ISCED	International Standard Classification of Education
IVET	Initial vocational education and training
JAF	Joint Assessment Framework
JRC	Joint Research Centre (European Commission)
LFS	European Union Labour Force Survey (Eurostat)
NESET	Network of Experts on Social Aspects of Education and Training
NESSE	Network of Experts in Social Sciences of Education and training
NRP	National Reform Programme
OECD	Organisation for Economic Co-operation and Development
OER	Open Educational Resources
OJ	Official Journal of the European Union
PIAAC	Programme for the International Assessment of Adult Competencies (OECD study)
PIRLS	Progress in International Reading Literacy Survey
PISA	Programme for International Student Assessment
PPS	Purchasing Power Standards
SCP	Stability and Convergence Programme
TIMSS	Trends in International Mathematics and Science Study
UNESCO	United Nations Educational, Scientific and Cultural Organization (based in Paris)
UNICEF	United Nations Children's Fund
UOE	UNESCO Institute for Statistics/OECD/Eurostat (common data collection)
VET	Vocational education and training



European Commission

Luxembourg: Publications Office of the European Union

2012 — pp. 68 — 21 x 29,7cm

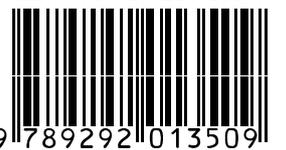
ISBN 978-92-9201-350-9

doi: 10.2797/51172



Publications Office

ISBN 978-92-9201-350-9



9 789292 013509