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**Education and Training Monitor 2013**

**(Volume 2: Country analysis - Part 4 of 7: Hungary, Ireland, Italy, Latvia)**

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## 1. Key indicators and benchmarks

	Hungary		EU average		Europe 2020 target / Benchmark
	2009	2012	2009	2012	
<b>1. Early leavers from education and training</b> (age 18-24)	11.2%	11.5%	14.2% <sup>EU28</sup>	12.7% <sup>EU28</sup>	<b>EU target: 10%</b> National target : 10%
<b>2. Tertiary educational attainment</b> (age 30-34)	23.9%	29.9%	32.1% <sup>EU28</sup>	35.7% <sup>EU28</sup>	<b>EU target: 40%</b> National target: 30.3%

## ET 2020 Benchmarks

3. Early childhood education and care (4 years old - year before start of compulsory primary)			94.8%	94.5% <sup>11</sup>	91.7%	93.2% <sup>11</sup>	95%
4. Basic skills Low achievers (15 year-olds; Level 1 or lower in PISA study)	Reading		17.7%	:	19.6%	:	15%
	Mathematics		22.3%	:	22.2%	:	15%
	Science		14.1%	:	17.7%	:	15%
5. Learning mobility	Initial vocational training (IVET)	a. Students participating in Leonardo da Vinci programs as a share of vocational students at ISCED 3	1.6%	0.3% <sup>11</sup>	0.6%	0.7% <sup>11</sup>	
		b. Erasmus inbound students as % of student population in host country		0.8% <sup>11</sup>		1.1% <sup>11</sup>	
	Higher Education	c. Inbound degree mobile students as % of student population in the host country		4.3% <sup>11</sup>		7.0% <sup>11</sup>	
6. Employment rate of graduates (age 20-34) having left education 1-3 years before reference year			75.6%	73.4%	78.3%	75.7%	82%
7. Adult participation in lifelong learning (age 25-64)			2.7%	2.8%	9.3%	9.0%	15%

## Proposed ET 2020 benchmark

<b>8. Foreign languages skills</b>	a. ISCED 2 students at proficiency level B1 or higher in first foreign language <sup>1</sup>	:	:	:	43.5% <sup>11</sup>
	b. ISCED 2 students learning two or more foreign languages	6.2%	5.9% <sup>11</sup>	58.6%	60.8% <sup>10</sup>

## Other ET 2020 Indicators

<b>9. Investment in education and training</b>	a. General government expenditure on education (% of GDP)		5.3%	5.2% <sup>11</sup>	5.5%	5.3% <sup>11</sup>
	b. Annual expenditure on public and private educational institutions per pupil/student in € PPS	ISCED 1-2	:	<sup>08</sup>	€ 5,732 <sup>08</sup>	€ 6,021 <sup>10</sup>
		ISCED 3-4	:	<sup>08</sup>	€ 6,964 <sup>08</sup>	€ 7,123 <sup>10</sup>
		ISCED 5-6	:	<sup>08</sup>	€ 9,309 <sup>08</sup>	€ 9,168 <sup>10</sup>
<b>10. Digital competences</b>	a. Pupils in grade 4 (ISCED 1) using computers at school		42.9% <sup>07</sup>	78.1% <sup>11</sup>	60.7% <sup>07</sup>	64.7% <sup>11</sup>
	b. Individuals aged 16-74 with high computer skills <sup>2</sup>		27.0%	33.0%	25.0%	26.0%
<b>11. Entrepreneurial competences</b>	Individuals aged 18-64 who believe to have the required skills and knowledge to start a business		41.0%	40.0%	42.3% <sup>a</sup>	42.0% <sup>a</sup>
<b>12. Vocational education and training</b>	Share of vocational students at ISCED 3		24.5%	26.2% <sup>11</sup>	49.6%	50.3% <sup>11</sup>
<b>13. Skills for future labour markets</b> Projected change in employment 2010-2020 in %	High qualification		:	27.3%	:	19.1% <sup>EU28</sup>
	Medium qualification		:	-5.4%	:	4.6% <sup>EU28</sup>
	Low qualification		:	-20.5%	:	-20.2% <sup>EU28</sup>
<b>14. Low-skilled adults</b>	Literacy		:	:	:	19.9% <sup>EU17</sup>
	Numeracy		:	:	:	23.6% <sup>EU17</sup>
	Problem solving in technology rich environments <sup>3</sup>		:	:	:	26.9% <sup>EU13</sup>

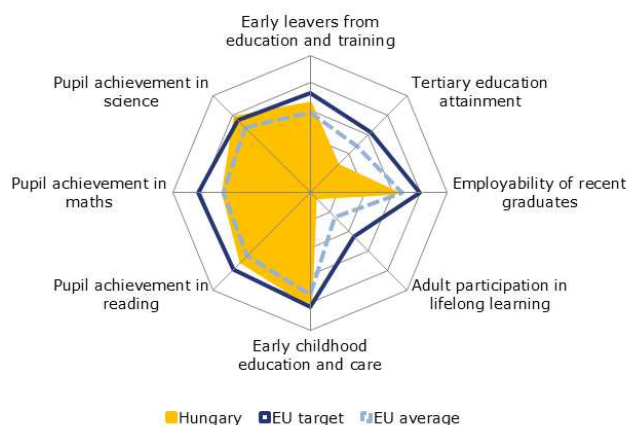
Source: Cedefop: 13 / EAC: 10a,b / European Survey on Language Competences (ESLC): 8a / Eurostat (Government finance statistics): 9a / Eurostat (LFS): 1, 2, 6, 7 / Eurostat (ISS): 10b / Eurostat (UOE): 3, 8b, 9b, 10c, 12 / IEA TIMSS: 10a / Global Entrepreneurship Monitor: 11 / OECD (PIAAC): 14 / OECD (PISA): 4

Notes: <sup>07</sup> = 2007, <sup>08</sup> = 2008, <sup>09</sup> = 2009, <sup>10</sup> = 2010, <sup>11</sup> = 2011, e = estimate, a = unweighted average b = break, p = provisional

Number of countries included in EU average: PISA=25, Entrepreneurship=18, Language skills=13, ICT/Computers at school=13, others: EU27

<sup>1</sup> = average of skills tested in reading, listening, writing, <sup>2</sup> = having carried out 5-6 specific computer related activities, <sup>3</sup> = Results cover people with scores below level 1 as well as people who have no computer experience or failed the ICT test

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



Source: DG EAC calculations on the basis of data from Eurostat (LFS 2012 and UOE 2011) and OECD (PISA 2009). Note: all scores are set between a maximum (the highest performers visualised by the outer ring) and a minimum (the lowest performers visualised by the centre of the chart).

## 2. Main challenges

Following a positive trend in the last decade, the early school leaving rate has started to increase again from a low of 10.5% in 2010 to 11.5% in 2012. Furthermore, while learning outcomes in compulsory school as measured by international student assessments have mostly improved in recent years<sup>1</sup>, there are significant differences between the performance of different schools, including disparities according to geographical regions and parents' socio-economic background<sup>2</sup>. Roma children are over-represented among children with multiple disadvantages and face particular challenges in terms of educational attainment.<sup>3</sup> Therefore, the challenge Hungary faces in school education is to reduce inequalities and to improve access to inclusive mainstream education, in particular for the Roma.

While participation rates in higher education have been increasing in recent years, the level of tertiary educational attainment is still significantly below the European average (29.9% vs. 35.7% in 2012). The challenge is to implement a higher education reform that enables greater tertiary attainment, particularly by improving access for disadvantaged students. The system should also support an improved transition between different stages of education and towards the labour market.

Hungary also has one of the lowest rates of adult participation in lifelong learning in Europe (2.8% vs. the EU average of 9 % in 2012), which is particularly challenging in view of a need to maintain and develop new skills and to adapt to structural changes and technical developments.

Consequently, the 2013 European Semester country-specific recommendation (CSR) on education focused on the following: implementing a national strategy on early school leaving; ensuring that the education system provides all young people with labour market relevant skills, competences and qualifications; improving access to mainstream education, for those with disadvantages, in particular for the Roma; supporting the transition between the different stages of education and towards the labour market, implement a higher education reform that enables greater tertiary attainment levels, particularly amongst disadvantaged students; and boosting participation in lifelong learning.

## 3. Investing in skills and qualifications

### Investment in education and training in times of crisis

As for Hungarian education spending, the actual government expenditure on education expressed in Euro decreased by 2.1% between 2008 and 2010 and decreased further by 4.7% between 2010 and 2011. As regards expenditure as % of GDP, 5.2% was spent on education in 2011 in Hungary (5.3% on average at EU level): the lowest share in the last 10 years<sup>4</sup>. Hungary also showed a decrease in expenditure per primary, secondary and post-secondary non-tertiary student between 2005 and 2010. In the past two years, cuts in the education budget of more than 5% were observed in Hungary<sup>5</sup>. In addition to the economic crisis which began in

<sup>1</sup> 15-year olds' performance on PISA tests is better than the EU average in reading and science, however the share of low achievers in mathematics is slightly higher than the EU average and worsened between 2006 and 2009.

<sup>2</sup> <http://timss.bc.edu/>  
[http://www.oktatas.hu/pub\\_bin/dload/kozoktat/nemzetkozi\\_meresek/pirls/PIRLS\\_TIMSS\\_2011\\_osszefoglalo\\_jelentes\\_4evf\\_eredmenyeirol.pdf](http://www.oktatas.hu/pub_bin/dload/kozoktat/nemzetkozi_meresek/pirls/PIRLS_TIMSS_2011_osszefoglalo_jelentes_4evf_eredmenyeirol.pdf);  
[http://www.oktatas.hu/pub\\_bin/dload/kozoktat/nemzetkozi\\_meresek/timss/TIMSS\\_2011\\_Osszefoglalo\\_jelentes\\_8evf\\_eredmenyeirol.pdf](http://www.oktatas.hu/pub_bin/dload/kozoktat/nemzetkozi_meresek/timss/TIMSS_2011_Osszefoglalo_jelentes_8evf_eredmenyeirol.pdf)

<sup>3</sup> National Social Inclusion Strategy – Extreme Poverty, Child Poverty, The Roma – (2011–2020): Only 15% of Roma pupils complete secondary school successfully while the national average is over 80%. 2% of young Roma begin their study in higher education and 0.5% obtain a degree. [http://ec.europa.eu/justice/discrimination/files/roma\\_hungary\\_strategy\\_en.pdf](http://ec.europa.eu/justice/discrimination/files/roma_hungary_strategy_en.pdf)

<sup>4</sup> Eurostat.

<sup>5</sup> Source: Eurydice (2012), [http://eacea.ec.europa.eu/education/eurydice/documents/thematic\\_reports/147EN.pdf](http://eacea.ec.europa.eu/education/eurydice/documents/thematic_reports/147EN.pdf).

2008/2009, the demographic decline experienced in Hungary may be another explanatory factor for a reduction in education expenditure.

As regards funding of higher education, the Government will re-allocate EUR 13.56 million (4 billion HUF) from the 2013 central budget to address the financing problems of higher education institutions<sup>6</sup>. Moreover, the Government seeks to introduce a new funding model, according to which some of the funding will depend on the institutions' development capacity and the evaluation of their strategic objectives.<sup>7</sup>

As for teachers, the pressure to cut back on government spending in order to reduce national debt in wake of the 2008 economic crisis has significantly affected teachers' salaries in Hungary. Recently the Government announced that the salaries of 150,000 teachers will increase by 34 per cent on average as of September 2013 and that as part of the new career model, wages will rise every year until 2017.

### Skills

15-year olds' performance on PISA tests is better than the EU average in reading and science, however the share of low achievers in mathematics is slightly higher than the EU average and worsened between 2006 and 2009. Hungary has a low number of graduates in science, mathematics and technology in EU comparison. The average number of foreign languages learned per pupils at ISCED 2 level is the lowest in Europe.

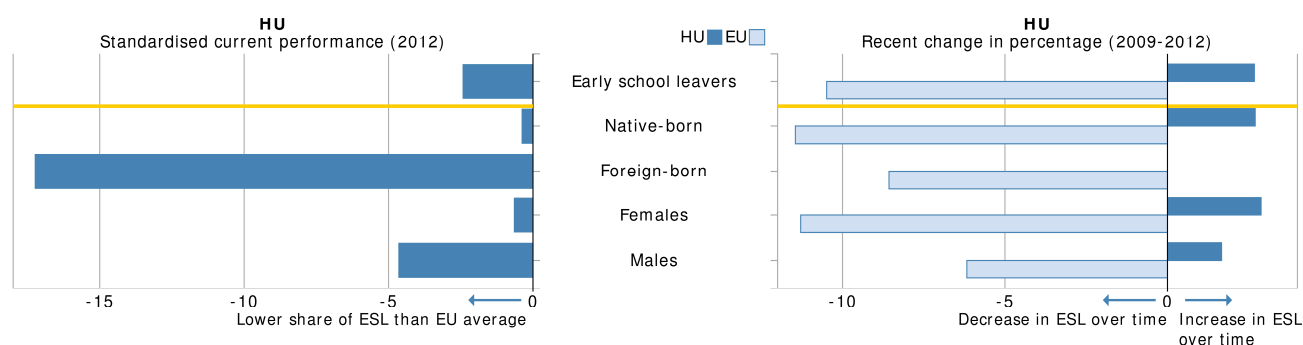
Hungary has a national ICT strategy for education. It covers the areas of e-Learning, digital and media literacy and e-Inclusion. However, the percentages of students currently at schools which are highly digitally equipped is very low and significantly below the EU average. Only 34% of students of vocational schools are attending highly digitally equipped schools, which is 16% below the EU average<sup>8</sup>.

A comprehensive National Qualifications Framework (NQF) for lifelong learning was adopted in July 2012 by a government decree. However the NQF is not operating yet, since the linking of qualifications is still in progress. It will embrace all national qualifications that can be acquired in general and higher education and those vocational qualifications registered in the national qualifications register.

## 4. Tackling early school leaving and raising the bar in school education

Although Hungary succeeded in reducing the number of early school leavers (aged 18-24) in the last decade, since 2010 (10.5%), the early school leaving rate has once again risen and stood at 11.5% in 2012 (compared to an EU average of 12.7% in 2012 and a national target set at 10% for 2020).

Figure 2. Early leavers from education and training: sub-groups



Source: JRC-CRELL. Note: ESL = early school leaving. See Annex 2 for further information.

A national strategy on early school-leaving has not yet been adopted. The 2013 National Reform Programme (NRP) reports that it is under development.

A number of policy measures aim at improving the school success rate and preventing early school leaving of those with disadvantages and multiple disadvantages (in particular Roma).

As a prevention measure, the attendance of kindergarten/early childhood education will be compulsory from the age of 3 (instead of the age of 5), as of September 2014. However, success will depend on providing the

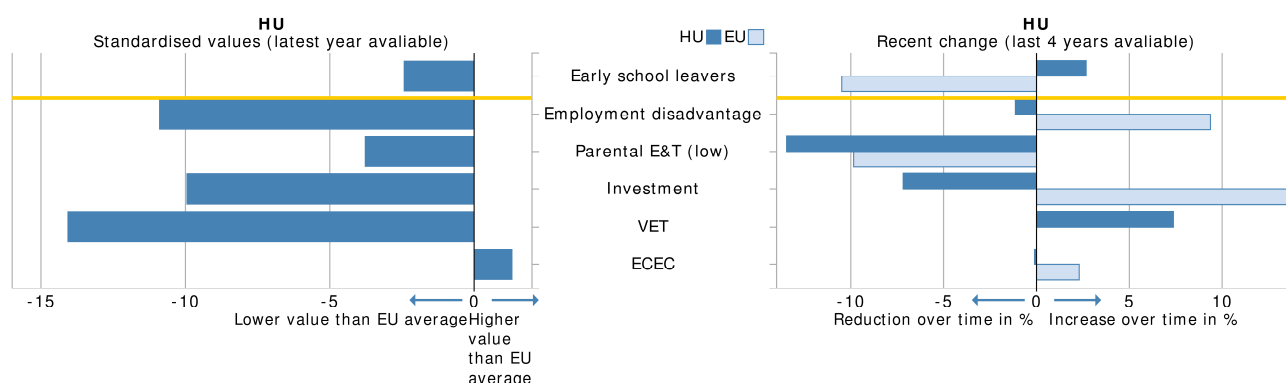
<sup>6</sup> Decision published in the Hungarian Official Journal on 11/07/2013

<sup>7</sup> Eurypedia:Headline Targets for Education and Training, investment

<sup>8</sup> European Commission's report "Survey of schools: ICT in Education : ANNEX 3: Country Sheets on the Provision of Digital Resources and ICT in Education in the Member States. At primary schools there are only 15% of students at such schools. At lower secondary level even fewer, only 4% are at highly digitally equipped schools. At upper secondary the statistic is better with 40% of students at such schools. However, this is still 15% below the EU average.

required kindergarten places, as well as on tackling other barriers to access (e.g. distance, transportation and financial ones).

Figure 3. Early leavers from education and training: sub-indicators



Source: JRC-CRELL. Note: see Annex 2 for an explanation of the sub-indicators.

One of the programmes under the 'Sure Start' programme serves the early fostering of skills of young children with multiple disadvantages. One of the three Arany Janos programmes supports vocational training for students with multiple disadvantages providing examination certificates, the scholarships 'Útravaló' (Provisions) promote equal opportunities for disadvantaged students by supporting talented students. Finally, as from September 2013 trainings will be provided for those who are below the compulsory schooling age limit and have not been admitted to secondary education (Bridge I and II). The Bridge I programme supplements the missing fundamental skills and competences that are necessary for the continuation of studies. The Bridge II programme is preparation for beginning of vocational training. The training provided in the Bridge II programme motivates learning and develops the skills necessary for the acquisition of a profession.

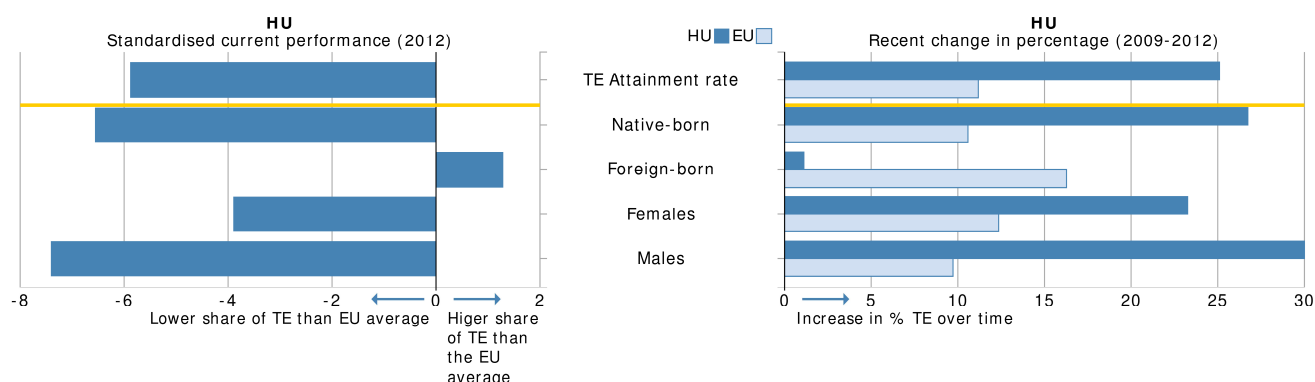
However, at the same time, the lowering of the compulsory school age from 18 to 16 might lead to an increased number of young people leaving education without secondary level qualifications.

## 5. Encouraging participation in tertiary education and modernising higher education

Tertiary education attainment among those aged 30 to 34 reached 29.9% in 2012. Hungary's national target for 2020 is set at 30.3%. Further efforts are needed to close the gap to the EU average (35.7%), and in particular to improve access for disadvantaged students. Moreover, Hungary has a very low completion rate at tertiary level: in 2011, only 53% of students graduated from the programme they entered, in comparison with the OECD average of 68%<sup>9</sup>. As the supply of upper-secondary graduates is decreasing (see graph below), this is a worrying development in terms of increasing the tertiary attainment rate. This does not take into account those studying in the 3,5-4 bachelor degree programme and another reason for the prolongation of higher education studies is the lack of language examination certificates.

At the same time, to be educated to tertiary level makes a significant difference to an individual's wage in Hungary. Adults aged 25-64 with tertiary education can expect to earn more than double (107% more) the salary that their counterparts with only upper secondary and post-secondary non-tertiary education earn.

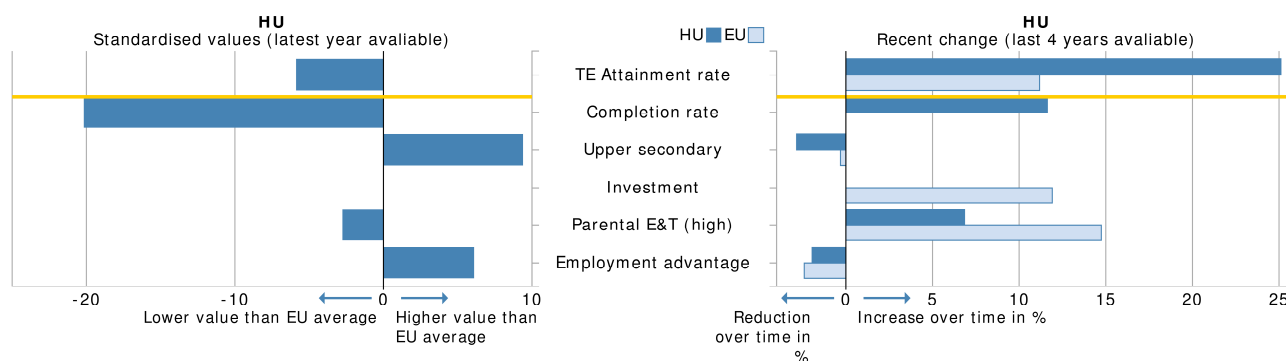
Figure 4. Tertiary education attainment: sub-groups



Source: JRC-CRELL. Note: TE = tertiary education. See Annex 2 for further information.

<sup>9</sup> OECD Education at a glance 2013: Hungary country note

Figure 5. Tertiary education attainment: sub-indicators



Source: JRC-CRELL. Note: see Annex 2 for an explanation of the sub-indicators.

The admission of students to higher education and the system determining the financial contribution of the state and of students to the cost of university studies has undergone significant changes since 2012. The objective was to improve efficiency at the level of institutions and of individual study choices by steering more students to areas where a need had been identified for the economy and the labour market. Since then, students fall into one of three categories: they finance their studies bearing the full tuition fees, they receive a state scholarship which covers half of the costs, or they receive a state scholarship which covers the full costs of studies. The tuition fees for fee-paying places are determined by the higher education institutions, in accordance with a legal framework.

Full state scholarships are granted to the applicants who performed best in their preceding studies. Students who performed slightly worse can still receive a state scholarship covering 50% of the tuition fee. These students may take up a student loan with low interest rate. Student loans are also available to students who need to bear the full costs of their studies. Finally, special grants are available for disadvantaged students<sup>10</sup>.

In 2013 the Government discontinued the practice of previous years when the state decided each year on the number of places available in individual study areas and these were (fully or partly) financed by the state. The 2013 system foresees that admission to higher education institutions is determined by the score achieved by candidates and the capacity of higher education institutions, but not an overall enrolment quota or absolute maximum of available places set by the state. For training in the field of economic sciences, law and administration and for three further BA/Bsc programs, the minister has however defined above average admission scores to be achieved.

During its first years, the recent reforms and uncertainty on the number of state-financed scholarships as well as of the level of tuition fees and the demographic decline, resulted in a severe drop in the number of applicants. The number of applications for the 2013/2014 academic year is 95.433 while in 2012 it was at 111.000 and in 2011 at 141.000<sup>11</sup>. As students from lower socio-economic backgrounds tend to be more averse to financial risks, the effect of the combined student loan/grant system on the access to higher education of disadvantaged groups needs to be further monitored.

## 6. Facilitating the transition from education to work and reshaping vocational training

Youth unemployment (under the age of 25) is worrying, having increased from 11.9% in 2001 to 28.1% in 2012; far above the 22.8% EU average. The transition from school to work in Hungary is challenging and increasingly difficult for young adults, particularly for those leaving education without completing upper secondary education.

The new Act on Vocational Training adopted in 2011 laid the foundations for a new vocational training system by changing the rules on the content and length of vocational school education, strengthening the vocational element in vocational secondary school training, introducing a new type of vocational certificate and prescribing minimum training times (in hours) for adult vocational training. The system strengthens dual training elements, the increased role of Chambers of Commerce will enable for the representation of economic interests, and professional and examination requirements and thus the content of training will follow labour market needs more closely. The full launch of the new system is planned as from September 2013, and the measures taken are expected to improve the quality of trainings and the employability of participants.

<sup>10</sup> Eurypedia: Higher Education Funding Financial support for students

<sup>11</sup> [http://www.felvi.hu/felveteli/ponthatarok\\_rangsorok/friss\\_statistikak/friss\\_statistikak.php?stat=14](http://www.felvi.hu/felveteli/ponthatarok_rangsorok/friss_statistikak/friss_statistikak.php?stat=14)

Furthermore, in September 2013, vocational training in higher education will be introduced. Knowledge gained in vocational training in higher education (represented by credits) may be transferred towards specialized studies aimed at acquiring a higher education qualification and vocational qualification; vice versa, studies in basic training programmes may be considered as a part of vocational training in higher education.

## 7. Upgrading skills through lifelong learning

Adult participation in lifelong learning is still one of the lowest in the EU. Low participation in training and professional qualification limits the Hungarian workforce's mobility, the promotion of active ageing and leads to low adaptability to change and labour market needs. Hungary is among the countries with a low percentage of enterprises providing training (49% compared to 66% EU average) and also one of the countries with the lowest proportions of employees (27%) in large enterprises who participate in training<sup>12</sup>.

As part of the modernization of adult training, a new Act on Adult Education is approved in June 2013. The new Act will primarily focus on non-school-based vocational training, language teaching and the regulation of training programmes supported by the state or the EU. The new Act will prioritize training programmes that are capable of meeting labour market needs. There will be guarantees built into the Act and decrees on implementation in order to ensure that those who finish supported training programmes receive high-quality training, comparable in level with the vocational qualifications acquired within the school system<sup>13</sup>.

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<sup>12</sup> Continuing vocational training News release: [http://epp.eurostat.ec.europa.eu/cache/ITY\\_PUBLIC/3-11062013-AP/EN/3-11062013-AP-EN.PDF](http://epp.eurostat.ec.europa.eu/cache/ITY_PUBLIC/3-11062013-AP/EN/3-11062013-AP-EN.PDF)

<sup>13</sup> NRP 2013 of Hungary page 20,21

## 1. Key indicators and benchmarks

	Ireland		EU average		Europe 2020 target / Benchmark
	2009	2012	2009	2012	
<b>1. Early leavers from education and training</b> (age 18-24)	11.6%	9.7%	14.2% <sup>EU28</sup>	12.7% <sup>EU28</sup>	<b>EU target: 10%</b> National target: 8%
<b>2. Tertiary educational attainment</b> (age 30-34)	48.9%	51.1%	32.1% <sup>EU28</sup>	35.7% <sup>EU28</sup>	<b>EU target: 40%</b> National target: 60%

## ET 2020 Benchmarks

3. Early childhood education and care (4 years old - year before start of compulsory primary)			72.8%	96.1% <sup>11</sup>	91.7%	93.2% <sup>11</sup>	95%
4. Basic skills Low achievers (15 year-olds; Level 1 or lower in PISA study)	Reading		17.2%	:	19.6%	:	15%
	Mathematics		20.8%	:	22.2%	:	15%
	Science		15.2%	:	17.7%	:	15%
5. Learning mobility	Initial vocational training (IVET)	a. Students participating in Leonardo da Vinci programs as a share of vocational students at ISCED 3	1.8%	0.5% <sup>11</sup>	0.6%	0.7% <sup>11</sup>	
		b. Erasmus inbound students as % of student population in host country		2.7% <sup>11</sup>		1.1% <sup>11</sup>	
	Higher Education	c. Inbound degree mobile students as % of student population in the host country		10.7% <sup>11</sup>		7.0% <sup>11</sup>	
6. Employment rate of graduates (age 20-34) having left education 1-3 years before reference year			75.5%	69.3%	78.3%	75.7%	82%
7. Adult participation in lifelong learning (age 25-64)			6.3%	7.1%	9.3%	9.0%	15%

## Proposed ET 2020 benchmark

<b>8. Foreign languages skills</b>	a. ISCED 2 students at proficiency level B1 or higher in first foreign language <sup>1</sup>	:	:	:	43.5% <sup>11</sup>
	b. ISCED 2 students learning two or more foreign languages	10.1%	10.2% <sup>11</sup>	58.6%	60.8% <sup>10</sup>

## Other ET 2020 Indicators

<b>9. Investment in education and training</b>	a. General government expenditure on education (% of GDP)		5.9%	5.2% <sup>11</sup>	5.5%	5.3% <sup>11</sup>
	b. Annual expenditure on public and private educational institutions per pupil/student in € PPS	ISCED 1-2	:	08	:	10
		ISCED 3-4	:	08	:	10
		ISCED 5-6	:	08	:	10
<b>10. Digital competences</b>	a. Pupils in grade 4 (ISCED 1) using computers at school		:	69.8% <sup>11</sup>	60.7% <sup>07</sup>	64.7% <sup>11</sup>
	b. Individuals aged 16-74 with high computer skills <sup>2</sup>		22.0%	31.0%	25.0%	26.0%
<b>11. Entrepreneurial competences</b>	Individuals aged 18-64 who believe to have the required skills and knowledge to start a business		:	45.0%	42.3% <sup>a</sup>	42.0% <sup>a</sup>
<b>12. Vocational education and training</b>	Share of vocational students at ISCED 3		34.4%	34.0% <sup>11</sup>	49.6%	50.3% <sup>11</sup>
<b>13. Skills for future labour markets</b> Projected change in employment 2010-2020 in %	High qualification		:	16.9%	:	19.1% <sup>EU28</sup>
	Medium qualification		:	11.4%	:	4.6% <sup>EU28</sup>
	Low qualification		:	-31.8%	:	-20.2% <sup>EU28</sup>
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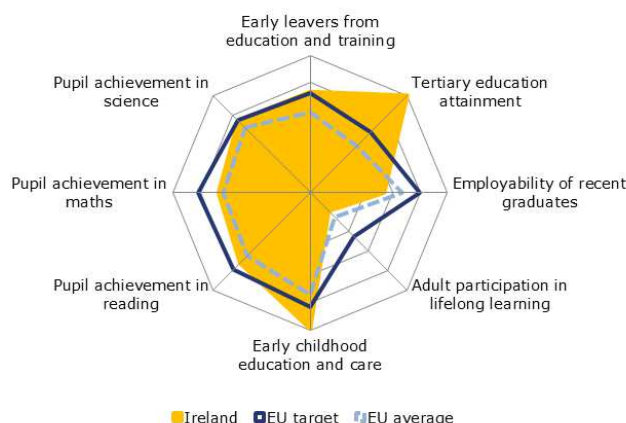
Source: Cedefop: 13 / EAC: 10a,b / European Survey on Language Competences (ESLC): 8a / Eurostat (Government finance statistics): 9a / Eurostat (LFS): 1, 2, 6, 7 / Eurostat (ISS): 10b / Eurostat (UOE): 3, 8b, 9b, 10c, 12 / IEA TIMSS: 10a / Global Entrepreneurship Monitor: 11 / OECD (PIAAC): 14 / OECD (PISA): 4

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## 2. Main challenges

Ireland faces a relatively high level of unemployment, particularly among 15-24 year olds with an education level corresponding to the end of the primary cycle (lower secondary). The recent economic crisis has had a strong negative impact on the employment rate of those graduating at all levels.

While participation rates are showing modest all-round increases, school outcomes and educational achievements have deteriorated, particularly in reading and mathematics. With a rate of around 20% of low achievers in mathematics in Ireland, the education system is apparently having difficulty in equipping all young people with the skills they need to succeed in the labour market.

Ireland will experience in the future a significant need for both learning provision and educational infrastructure, due to the increasing demographic trends, as enrolment figures are expected to continue to rise over the medium term at all levels of education. Finally, the impact of the current economic down-turn and the savings made in the education sector will have to be further monitored.

## 3. Investing in skills and qualifications

### Investing in education and training in a context of economic crisis

General government expenditure on education as a share of GDP in Ireland is in line with the EU average (5.2% vs. 5.3% in 2011), but it has significantly decreased from 5.9% in 2009. This decrease also needs to be seen in the context of the severe recession since 2008 which in Ireland led to shrinking GDP growth rates up till 2010.<sup>14</sup>

### Skills

Given the deterioration of the performance of Ireland in the area of educational achievement (PISA 2006 and 2009), the Irish government has adopted in July 2011 the 'Literacy and Numeracy for Learning and Life Strategy' (2011-20). Its aim is to ensure that every child leaving school masters the necessary reading and mathematical skills. It also sets out a programme of reforms in initial teacher education and professional development. It is estimated that the cost of implementation of the actions of this strategy will be €6 million in 2012, rising to €19 million per annum by 2017. In addition a new mathematics curriculum at second level was adopted following extensive research and consultation and was fully rolled out to schools in September 2012. It was supported by a multi-million euro investment in professional development for all mathematics teachers.

In practical terms Ireland tackles the issue of educational inclusion primarily through a targeted approach called the 'Delivering Equality of Opportunity in Schools' (DEIS). This national action plan launched in 2005 fosters educational inclusion at both primary and secondary school levels, especially in disadvantaged communities. The plan comprises a standardised system for identifying and regularly reviewing the levels of disadvantage. It includes a general 'School Support Programme' for priority intervention in difficult geographical areas, as well as a number of thematic sub-programmes, such as 'Ready, Set, Go – Maths', 'Reading Recovery' and 'Maths Recovery' actions. There are currently 670 primary schools and 195 post-primary schools in Ireland receiving assistance under the School Support Plan within the context of the DEIS programme, which has an overall budget of €158 million in 2012.

<sup>14</sup> Expenditure on education (public and private combined) in 2010 was 6.4% of GDP (up from 6.3% in 2009 and 5.6 % in 2008).

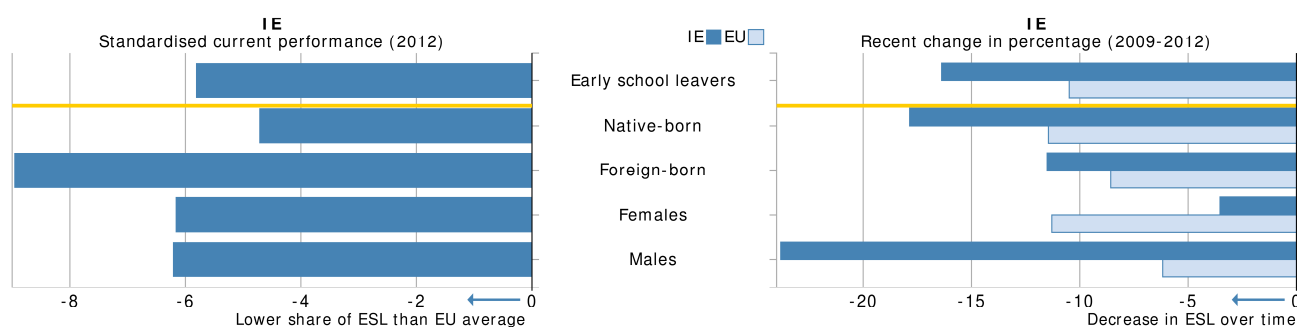
At 31% in 2012, Ireland has an above-average share of individuals aged 16-74 with high computer skills which is consistent with the advanced rate of access to ICT. The process of high speed broadband roll out is ongoing with a further 234 schools expected to be connected by 2014. All second-level schools will receive high-speed broadband at no cost to themselves by September 2014. Ireland is also above the EU average as regards entrepreneurship competences. The average level of foreign languages learnt per pupil at ISCED level 2 in Ireland is the lowest in the EU, but most students to take Irish at primary and secondary level.

Ireland has implemented a comprehensive and learning outcomes based framework of qualifications (NFQ). The 10 levels of the framework capture all learning, from initial stages to the most advanced. The majority of current and legacy national awards are now included in the NFQ, including those made by the State Examinations Commission, Further Education and Training Awards Council (FETAC), Higher Education and Training Award Council (HETAC), the universities and the Dublin Institute of Technology (DIT).

#### 4. Tackling early school leaving and raising the bar in school education

The early school leaving rate dropped to 9.7% in 2012 from 11.6% in 2009. Ireland performs better than the EU average on the early school leaving rate (9.7% vs. 12.7% in 2012) and is quite close to its 2020 national target (8%).

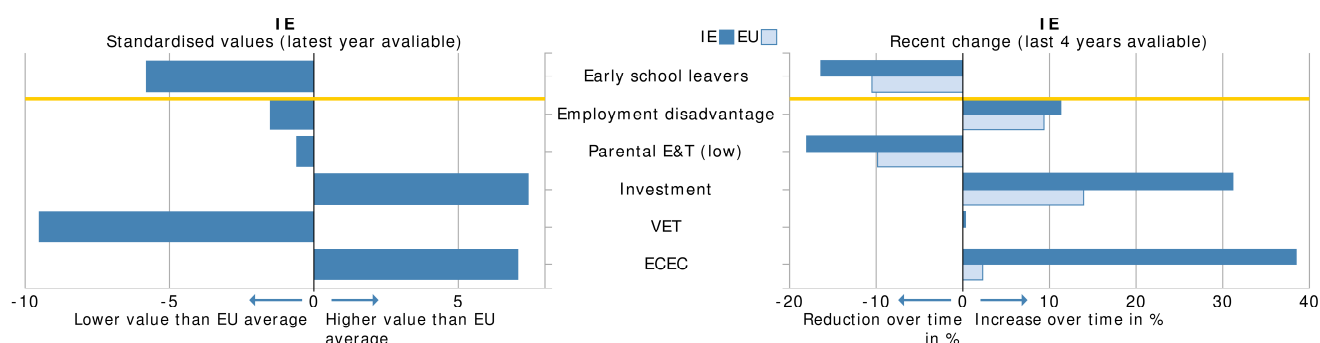
Figure 2. Early leavers from education and training: sub-groups



Source: JRC-CRELL. Note: ESL = early school leaving. See Annex 2 for further information.

The sub-indicators confirm the good performance on early school leavers despite the small (but increasing) employment disadvantage. The level of investment is strong and increasing as well as early childhood education and care. Options on vocational education and training are very limited and not changing.

Figure 3. Early leavers from education and training: sub-indicators



Source: JRC-CRELL. Note: see Annex 2 for an explanation of the sub-indicators.

Ireland's 'Back to Education Initiative' (BTEI) for those wishing to re-enter the education system, has proven to be a useful national programme and received co-funding from the ESF. Ireland has also decided to invest early on in education to prevent early school leaving at a later stage, notably through the Universal Free Preschool Year in Early Childhood Care and Education (ECCE) Scheme. The Scheme was introduced in 2010 and is being administered by the Department of Children and Youth Affairs. Under the scheme, all children aged between 3

years 2 months and 4 years 7 months in September of the relevant year are entitled to a free pre-school year of appropriate programme-based activities in the year prior to starting primary school.

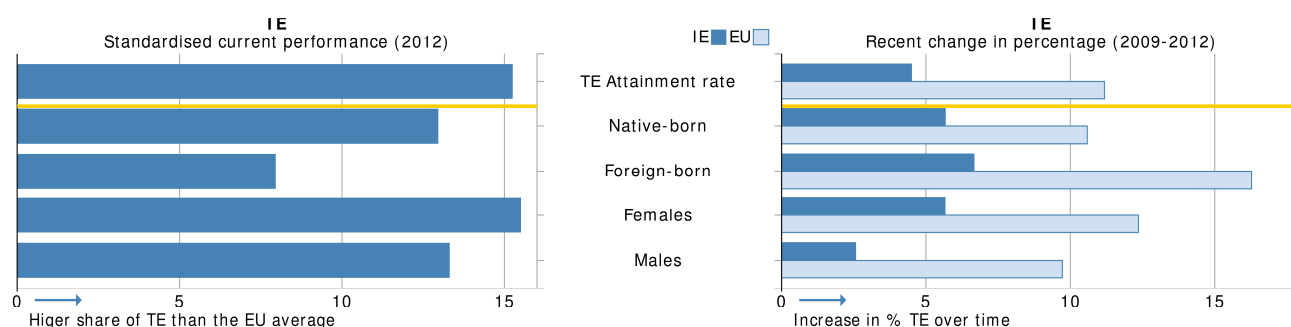
While participation is voluntary, 96.1% of eligible children were enrolled in pre-school services for the 2011/12 school year which is a considerable increase from 72.8% in 2009 which was before the scheme was introduced. In 2012 this initiative had an annual budget of €175 million. The support is provided through capitation payments paid to services in advance of each school term. The Early Start Programme is a pre-primary initiative in designated areas of disadvantage. The programme aims to provide children who are most at risk of educational exclusion with an educational programme that will enhance their personal development and prevent failure at school.

Ireland will experience in the future a significant need for both learning provision and educational infrastructure; since with the strongly increasing demographics, enrolment figures are expected to continue to rise over the medium term at all levels of education. The School Building programme for 2013 will see work begin on 50 projects for new schools and major extensions. This will bring the number of planned major school projects on site in 2013 to 113 as part of an overall capital expenditure on schools of almost €370 million.

## 5. Encouraging participation in tertiary education and modernising higher education

The tertiary attainment rate increased to 51.1% in 2012 from 49.7% a year earlier. Ireland set an ambitious national target for 2020 (60%) and currently has the highest tertiary attainment rate in the whole of the EU. Improving access for students from disadvantaged backgrounds can contribute to further increasing the tertiary participation rate.

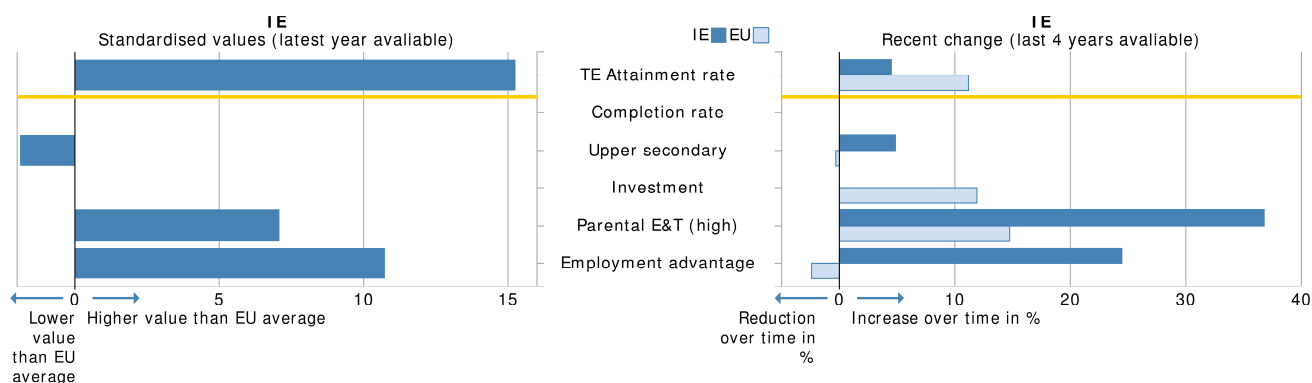
Figure 4. Tertiary education attainment: sub-groups



Source: JRC-CRELL. Note: TE = tertiary education. See Annex 2 for further information.

Sub-indicators show a very solid performance with pronounced (and strongly increasing) employment advantage.

Figure 5. Tertiary education attainment: sub-indicators



Source: JRC-CRELL. Note: see Annex 2 for an explanation of the sub-indicators.

Ireland's higher education sector is currently undergoing reforms in line with the National Strategy for Higher Education to 2030. The aims of the reforms are to have a more flexible system with a greater choice of provision

and modes of learning for an increasingly diverse cohort of students. Improvements in the quality of teaching and learning and the relevance of learning outcomes as well as ensuring that higher education connects more effectively with wider social, economic and enterprise needs are also sought.

## 6. Facilitating the transition from education to work and reshaping vocational training

Ireland has a high unemployment rate of 15-24 year olds with an education level corresponding to the end of the primary cycle (lower secondary) with almost 50% in 2011. Worryingly the employment rate of graduates decreased by almost 20 percentage points since 2006 and is below the EU average (69.3% vs. 75.7% in 2011).

Ireland is pursuing the implementation of the 'Youthreach' initiative. It targets young people aged 15-20 who have dropped out of school without any qualifications or vocational training. It integrates elements of education, training and work experience. In 2010, 2,385 'Youthreach' learners achieved certification and of those completing, 15% progressed to employment, while 52% progressed to further education and training. This initiative is significantly co-funded by the European Social Fund (ESF), i.e. it has received in 2012 an additional financing of €25 million from the ESF within the context of the Youth Opportunities Initiative.

The VET system is set in the context of the Government's National Development Plan (NDP) for 2007-2013, which emphasizes the needs for consistency with the European VET and social policy. Reforms to the vocational education and training system are on-going, including the creation of Education and Training Boards. There is a need to increase and diversify apprenticeships which were largely concentrated in the construction sector and due to the economic crisis have declined dramatically. A wide-ranging review of apprenticeships in Ireland has been announced with the objective to align apprenticeship training in Ireland with a greater focus on work-based learning and the current needs of the Irish labour market.

## 7. Upgrading skills through lifelong learning

The Survey of Adult Skills (PIAAC<sup>15</sup>) shows that adults (aged 16-65) in Ireland perform around the EU average in literacy, but score below the EU average in numeracy. The share of the population with low skills (at most level 1) in numeracy is 23%, slightly above the EU average of 20%. This holds also true for young people (aged 16-24): 22% of them have low numeracy skills, compared to an EU average of 19%. Young adults (16-24) with at most lower or upper secondary education also have lower scores than the EU average.

Despite gradual improvement, participation of adults in lifelong learning remains lower than the EU average (7.1% vs. 9.0% in 2012)<sup>16</sup>. The development of new training opportunities, in particular the up-skilling of the work force and of the unemployed as well as re-entry into education, is essential to ensure that long-term-unemployed jobseekers do not become permanently excluded from work.

The new further education and training authority *Seirbhísí Oideachais Leanunaigh agus Scileanna* (SOLAS) has been set up with the mandate to ensure the provision of high-quality further education and training programmes to jobseekers and other learners.

Nevertheless, it has to be noted that two thirds of enterprises offer continuing vocational training courses, which is in line with the EU average (67 vs. 66%), and the participation of employees in these activities is higher than the EU average (60% vs. 48%)<sup>17</sup>.

<sup>15</sup> Volume I of the Education and Training Monitor (chapter 6) provides an overview of the results of the survey. Skills levels are presented either in terms of average score points or proportion of adults at a given proficiency level in literacy or numeracy (level 1 to 5) or problem solving in technology-rich (ICT) environments (level 1 to 3 or no ICT experience).

<sup>16</sup> Eurostat, LFS 2012

<sup>17</sup> Eurostat, CVTS 2010

## 1. Key indicators and benchmarks

	Italy		EU average		Europe 2020 target / Benchmark
	2009	2012	2009	2012	
<b>1. Early leavers from education and training</b> (age 18-24)	19.2%	17.6%	14.2% <sup>EU28</sup>	12.7% <sup>EU28</sup>	<b>EU target: 10%</b> National target: 15-16%
<b>2. Tertiary educational attainment</b> (age 30-34)	19.0%	21.7%	32.1% <sup>EU28</sup>	35.7% <sup>EU28</sup>	<b>EU target: 40%</b> National target: 26-27%

## ET 2020 Benchmarks

3. Early childhood education and care (4 years old - year before start of compulsory primary)			98.2%	96.8% <sup>11</sup>	91.7%	93.2% <sup>11</sup>	95%
4. Basic skills Low achievers (15 year-olds; Level 1 or lower in PISA study)	Reading		21.0%	:	19.6%	:	15%
	Mathematics		24.9%	:	22.2%	:	15%
	Science		20.6%	:	17.7%	:	15%
5. Learning mobility	Initial vocational training (IVET)	a. Students participating in Leonardo da Vinci programs as a share of vocational students at ISCED 3	0.3%	0.4% <sup>11</sup>	0.6%	0.7% <sup>11</sup>	
		b. Erasmus inbound students as % of student population in host country		1.0% <sup>11</sup>		1.1% <sup>11</sup>	
	Higher Education	c. Inbound degree mobile students as % of student population in the host country		3.5% <sup>11</sup>		7.0% <sup>11</sup>	
6. Employment rate of graduates (age 20-34) having left education 1-3 years before reference year			60.6%	54.3%	78.3%	75.7%	82%
7. Adult participation in lifelong learning (age 25-64)			6.0%	6.6%	9.3%	9.0%	15%

## Proposed ET 2020 benchmark

<b>8. Foreign languages skills</b>	a. ISCED 2 students at proficiency level B1 or higher in first foreign language <sup>1</sup>	:	:	:	43.5% <sup>11</sup>
	b. ISCED 2 students learning two or more foreign languages	99.4%	99.4% <sup>11</sup>	58.6%	60.8% <sup>10</sup>

## Other ET 2020 Indicators

<b>9. Investment in education and training</b>	a. General government expenditure on education (% of GDP)		4.6%	4.2% <sup>11</sup>	5.5%	5.3% <sup>11</sup>
	b. Annual expenditure on public and private educational institutions per pupil/student in € PPS	ISCED 1-2	€ 6,770 <sup>08</sup>	€ 6,176 <sup>10</sup>	€ 5,732 <sup>08</sup>	€ 6,021 <sup>10</sup>
		ISCED 3-4	€ 7,213 <sup>08</sup>	€ 6,711 <sup>10</sup>	€ 6,964 <sup>08</sup>	€ 7,123 <sup>10</sup>
		ISCED 5-6	€ 7,457 <sup>08</sup>	€ 7,379 <sup>10</sup>	€ 9,309 <sup>08</sup>	€ 9,168 <sup>10</sup>
<b>10. Digital competences</b>	a. Pupils in grade 4 (ISCED 1) using computers at school		63.2% <sup>07</sup>	60.0% <sup>11</sup>	60.7% <sup>07</sup>	64.7% <sup>11</sup>
	b. Individuals aged 16-74 with high computer skills <sup>2</sup>		23.0%	24.0%	25.0%	26.0%
<b>11. Entrepreneurial competences</b>	Individuals aged 18-64 who believe to have the required skills and knowledge to start a business		41.0%	30.0%	42.3% <sup>a</sup>	42.0% <sup>a</sup>
<b>12. Vocational education and training</b>	Share of vocational students at ISCED 3		59.0%	60.0% <sup>11</sup>	49.6%	50.3% <sup>11</sup>
<b>13. Skills for future labour markets</b> Projected change in employment 2010-2020 in %	High qualification		:	24.1%	:	19.1% <sup>EU28</sup>
	Medium qualification		:	13.1%	:	4.6% <sup>EU28</sup>
	Low qualification		:	-17.9%	:	-20.2% <sup>EU28</sup>
<b>14. Low-skilled adults</b>	Literacy		:	27.7%	:	19.9% <sup>EU17</sup>
	Numeracy		:	31.7%	:	23.6% <sup>EU17</sup>
	Problem solving in technology rich environments <sup>3</sup>		:	26.9%	:	13.0% <sup>EU17</sup>

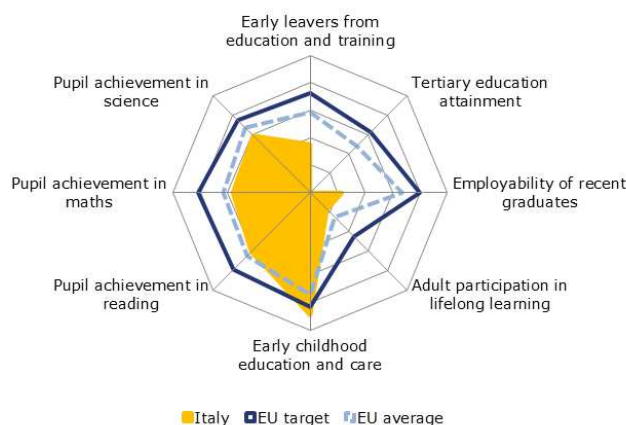
Source: Cedefop: 13 / EAC: 10a,b / European Survey on Language Competences (ESLC): 8a / Eurostat (Government finance statistics): 9a / Eurostat (LFS): 1, 2, 6, 7 / Eurostat (ISS): 10b / Eurostat (UOE): 3, 8b, 9b, 10c, 12 / IEA TIMSS: 10a / Global Entrepreneurship Monitor: 11 / OECD (PIAAC): 14 / OECD (PISA): 4

Notes: <sup>07</sup> = 2007, <sup>08</sup> = 2008, <sup>09</sup> = 2009, <sup>10</sup> = 2010, <sup>11</sup> = 2011, e = estimate, a = unweighted average b = break, p = provisional

Number of countries included in EU average: PISA=25, Entrepreneurship=18, Language skills=13, ICT/Computers at school=13, others: EU27

<sup>1</sup> = average of skills tested in reading, listening, writing, <sup>2</sup> = having carried out 5-6 specific computer related activities, <sup>3</sup> = Results refer to people without ICT experience and people who failed the ICT test

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



Source: DG EAC calculations on the basis of data from Eurostat (LFS 2012 and UOE 2011) and OECD (PISA 2009). Note: all scores are set between a maximum (the highest performers visualised by the outer ring) and a minimum (the lowest performers visualised by the centre of the chart).

## 2. Main challenges

Italy's weak human capital endowment hinders innovation and young people face a difficult labour market. Public expenditure on education as a share of GDP is among the lowest in the EU, notably at tertiary level. Italy performs significantly worse than the EU average in terms of early school leaving and registers the lowest tertiary attainment rate in the EU for the 30-34 year-old age group. Moreover, adult participation in lifelong learning is below the EU average. There is also evidence of a difficult transition from education to the labour market, including for high-skilled young people.

Although some measures have been adopted with a view to improving the quality of the education system, more ambition is needed in some policy areas. Consequently, the 2013 European Semester country-specific recommendation (CSR) on education focused on four topics: stepping up efforts to prevent early school leaving, improving school quality and outcomes (also by reforming teachers' professional and career development), strengthening vocational education and training and improving career and counselling services for tertiary students.

## 3. Investing in skills and qualifications

### Investing in education and training in a context of economic crisis

General government expenditure on education as a share of GDP in Italy is well below the EU average (4.2% vs. 5.3% in 2011). Expenditure per student in purchasing power standard (PPS) is still broadly in line with the EU average at primary and secondary level (while being on a declining trend), but significantly lower at tertiary level. Due to fiscal consolidation needs, in 2012 Italy continued to reduce budget allocations for education, which decreased by around 5% in real terms compared to 2011<sup>18</sup>. With the August 2012 spending review, Italy took steps to increase cost-sharing in higher education, as tuition fees are set to rise by between 25% and 100% for students failing to graduate within the statutory time.

### Skills

School education in Italy produces rather mixed outcomes in terms of basic skills attainment. The unsatisfactory results of 15 year-olds in OECD PISA tests in reading, mathematics and science at national level mask significant regional disparities: despite recent improvements, performance remains poor in Southern regions, while it is in line with or above the EU average in Northern regions. Regional differences can be seen also in the 2011 TIMSS & PIRLS studies on 10 year-olds, conducted by the International Association for the Evaluation of Educational Achievement (IEA), where however Italy shows fairly good results in international comparison, especially in reading. ICT skills levels are close to the EU average, while Italian citizens appear less confident than the EU average about their entrepreneurship competences.

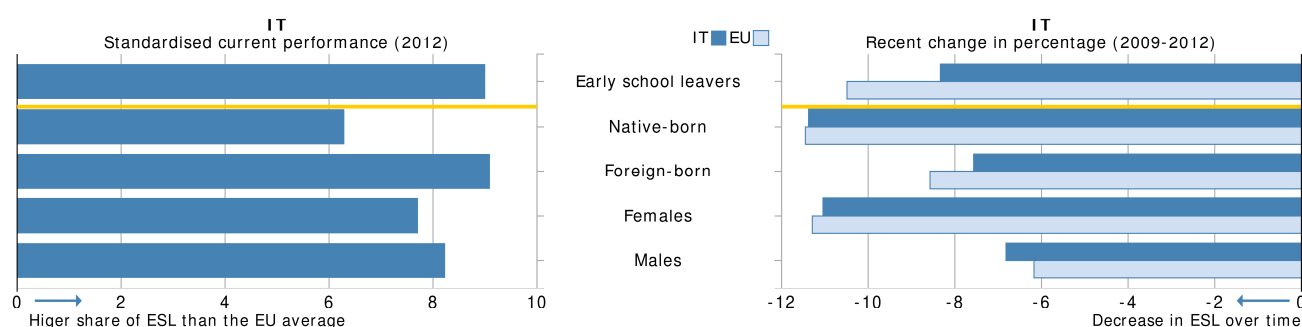
In December 2012, the State, regions and local authorities agreed that as from January 2014, all certifications of qualifications obtained in Italy will have to make reference to the corresponding European Qualifications Framework (EQF) level.

<sup>18</sup> Data expressed in 2010 constant prices. See European Commission (2013), *Recent trends in the funding of education in Europe*.

#### 4. Tackling early school leaving and raising the bar in school education

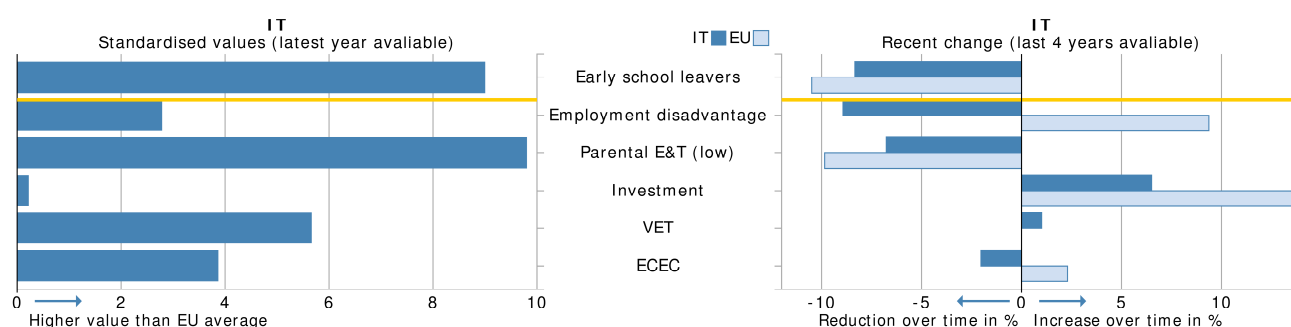
Although on a moderately declining trend, the early school leaving rate in Italy remains markedly above the EU average (17.6% as against 12.7% in 2012) and the national 2020 target of 15-16%. With a rate of 39.1% in 2012, foreign-born people weigh heavily on the overall national rate. The analysis of sub-indicators shows that the family educational background is particularly unfavourable. Italy performs above the EU benchmark on participation in early childhood education, which is relevant for prevention of early school leaving.

Figure 2. Early school leavers of specific population sub-groups



Source: JRC-CRELL. Note: ESL = early school leaving. See Annex 2 for further information.

Figure 3. Early school leavers and sub-indicators



Source: JRC-CRELL. Note: see Annex 2 for an explanation of the sub-indicators.

While there is not yet evidence of a comprehensive strategy against early school leaving<sup>19</sup>, the Cohesion Action Plan<sup>20</sup> has a strong focus on education and in the short term it should be an important tool to fight against early school leaving in Southern regions, where the problem is more severe. The 2013 CSR on education recommended that Italy step up efforts to reduce early school leaving.

In a medium- to long-term perspective, improving school quality and outcomes may help reduce early school leaving. The main measure in this area was approved in March 2013 and establishes a National System for the Evaluation of school institutions, which will be coordinated by the school evaluation agency (INVALSI). In this new system, each school will present its self-evaluation report in accordance with a common framework and using the quantitative data on pupils' performance provided by INVALSI; schools can also be subject to visits by external evaluators. Subsequently each school will prepare a plan for improvement in cooperation with local stakeholders and finally will have to publish a report on results achieved. This new system could prove very useful, if endowed with adequate resources.

School quality and outcomes also matter for future employability of young people. Evidence shows that they strongly depend on the role of teachers<sup>21</sup>. However, at present the teaching profession in Italy follows a single

<sup>19</sup> In line with Council recommendation of 28 June 2011 on policies to reduce early school leaving (2011/C 191/01).

<sup>20</sup> The Cohesion Action Plan was adopted at the end of 2011, with the aim to improve the use of structural funds through the prioritisation and the redirection of resources towards some key areas, including education.

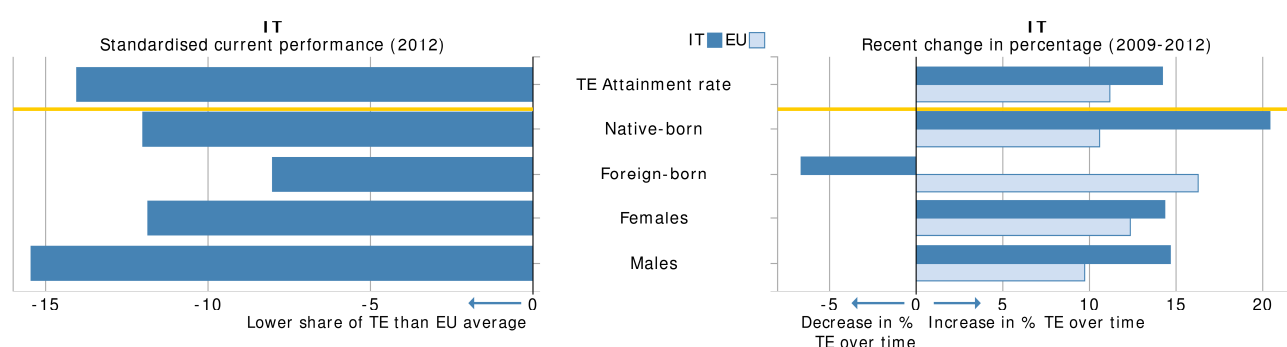
<sup>21</sup> See European Commission (2012), *Supporting the Teaching Professions for Better Learning Outcomes*, SWD(2012) 374.

career pathway with salary progression based on seniority only, limited prospects in terms of professional development<sup>22</sup>, no comprehensive assessment of performance and, compared with other countries, low salary levels relative to other workers with tertiary education<sup>23</sup>. Hence the 2013 CSR on education also asks for reforming teachers' professional and career development.

## 5. Encouraging participation in tertiary education and modernising higher education

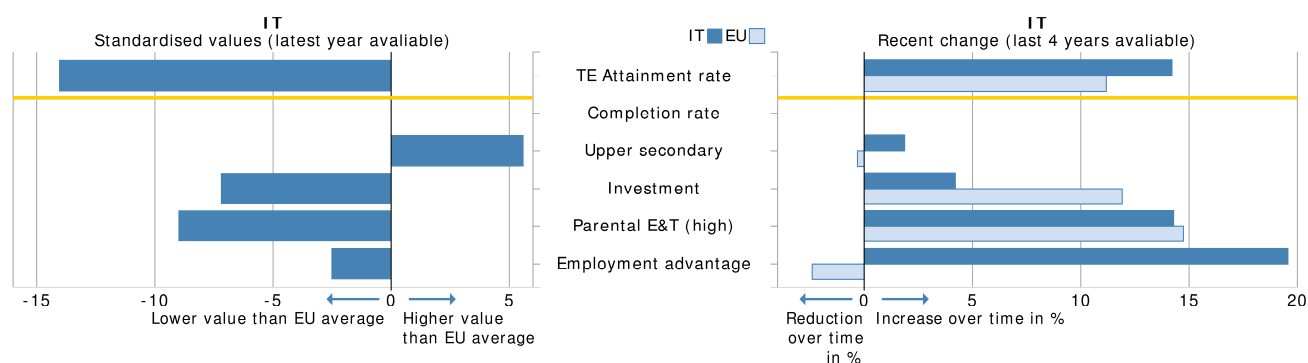
As regards the Europe 2020 target on tertiary education, Italy's tertiary attainment rate is the lowest in the EU (21.7% in 2012 for 30-34 year-olds, with females clearly outperforming males) and only increased by 2.7 percentage points over 2009-2012, remaining well below the 2020 national target of 26-27%. As in the case of ESL, the analysis of sub-indicators shows that the family educational background is particularly unfavourable in EU comparison.

Figure 4. Tertiary educational attainment of specific population sub-groups



Source: JRC-CRELL. Note: TE = tertiary education. See Annex 2 for further information.

Figure 5. Tertiary educational attainment and sub-indicators



Source: JRC-CRELL. Note: see Annex 2 for an explanation of the sub-indicators.

To fully implement the 2010 university reform, the Self-Evaluation, Evaluation and Accreditation System of universities (AVA) is now being gradually introduced. Inter alia, the AVA system foresees that university institutions and courses which do not respect a number of quality criteria might be closed. The university and research evaluation agency (ANVUR) will be the main actor in the new system. In July 2013 ANVUR published its report on the evaluation of universities' and public research institutes' research quality (VQR) in the 2004-10 period.

In a medium- to long-term perspective, a proper and adequately funded evaluation system is key to improving the performance of Italy's tertiary education sector. This is linked to another important principle of the 2010 university reform, namely that an increasing share of public funding for universities is to be allocated on the

<sup>22</sup> For instance, according to the 2008 OECD TALIS survey of teachers in lower secondary education, 56% of Italian teachers wanted more professional development.

<sup>23</sup> While in Italy the annual number of teaching hours is in line with the EU average at primary and upper secondary level and slightly below at lower secondary level, the ratio of teachers' salaries to earnings for workers with tertiary education is significantly lower. It ranges from 58% for primary teachers to 65% for upper secondary ones, compared with an EU average ranging from 80% to 89%. See OECD (2013), *Education at a Glance 2013*.

basis of teaching and research performance.<sup>24</sup> Nevertheless, so far the share of public funding distributed according to these principles only rose from 7% in 2009 to 13% in 2012.

In order to help students make a more informed choice and thus contribute to reducing tertiary dropout rates, a single web portal (*Università*) presenting all the available courses in the university system was launched in July 2012. However, this appears to be a relatively minor measure, while targeted action to adapt the supply of high-level skills to labour market needs is still insufficient. For instance, the 2013 CSR on education asks for improving career and counselling services for tertiary students. In September 2013, decree-law 104/2013 made career and counselling activities to upper secondary students compulsory as from the penultimate year of upper secondary education<sup>25</sup>.

## 6. Facilitating the transition from education to work

The skills issue in Italy is relevant not only in terms of levels, but also in terms of mismatch in the labour market for the young cohorts, compounded by the effects of the economic crisis. The employment rates of recent graduates from both upper secondary and tertiary education are among the lowest in the EU and are deteriorating in the recent years. While the overall unemployment rate is still close to the EU average, both the youth unemployment rate and the unemployment rate of young tertiary graduates<sup>26</sup> are very high. At the same time, private returns for young people from investing in tertiary education, estimated in terms of earning differentials, are low<sup>27</sup>.

Employment in medium and high qualification jobs in Italy up to 2020 is forecast to increase faster than the EU average, also because now it represents a lower share of total employment (64% as against 77% in 2010).

To facilitate transition to work, the June 2012 labour market reform aims to make the apprenticeship contract a major port of entry towards stable jobs. In line with the labour market reform, the government adopted on 11 January 2013 a legislative decree establishing the national system for the certification of skills, including the identification and recognition of non-formal and informal learning. This could contribute to better exploiting the competences acquired all over life. A proper translation into practice, also taking account of the exclusive regional competences on training policies, will be key to making the new system effective.

Participation of upper secondary students in vocational education and training remains above the EU average (60% as against 50.3% in 2011). An agreement with Germany has been concluded in December 2012 to promote cooperation in enhancing mobility, network projects including employers and trade unions and an increase in the work-based learning component in vocational education and training.

Starting from the 2011/12 academic year, 62 higher vocational institutions (*Istituti Tecnici Superiori*, ITS) have been created to provide short-cycle tertiary qualifications (2 years) focused on key sectors of the Italian economy. Although they still involve a limited number of students, the ITS are potentially relevant in promoting the development of the vocational higher education system, consistently with the 2013 Annual Growth Survey priorities on tackling unemployment. However, avenues for action remain to be explored in order to upgrade the vocational education and training system, as recommended in the 2013 CSR, both at upper secondary and tertiary level.

## 7. Upgrading skills through lifelong learning

Adults in Italy score below the EU average in the literacy and numeracy tests of the Survey of Adult Skills (PIAAC<sup>28</sup>), at all ages. The youngest generation (aged 16-24) scores better than the overall population in literacy (by 10 points, i.e. equivalent to skills usually acquired with 1 to 2 years of education). However, recent graduates in tertiary education (aged up to 29) do not score better than upper secondary graduates in the best performing European countries. Italy has also a large proportion of inactive people among the high-skilled population (about 24%).

Close to 30% of adults have low literacy and numeracy skills (at level 1 or below) compared to an EU average of 19% for literacy and 24% for numeracy. These low-skilled people are 6 times less likely to participate in job-related learning compared to high-skilled people<sup>29</sup>.

<sup>24</sup> As from 2013, research performance is measured through the VQR.

<sup>25</sup> The list of stakeholders that can be involved in these activities was extended to include also Chambers of Commerce and private employment services.

<sup>26</sup> In 2012, the unemployment rate for tertiary graduates aged 25-29 was 19% in Italy vs. 10.3% in the EU-27.

<sup>27</sup> For the age group 25-34, in Italy the relative earnings of tertiary graduates with income from employment correspond to 122% of those of persons with only upper secondary education, whereas the OECD average is 140%. See OECD (2013), *Education at a Glance 2013*.

<sup>28</sup> Volume I of the Education and Training Monitor (chapter 6) provides an overview of the results of the survey. Skills levels are presented either in terms of average score points or proportion of adults at a given proficiency level in literacy or numeracy (level 1 to 5) or problem solving in technology-rich (ICT) environments (level 1 to 3 or no ICT experience).

<sup>29</sup> At EU level, low skilled adults are 5 times less likely to participate in job-related learning than high skilled adults.

This is linked to low participation of adults in lifelong learning, which remains low in EU comparison (6.6% vs. 9% in 2012), although it slightly increased in 2012. In 2010, only 56% of Italian enterprises provided vocational training to their staff, as against an EU average of 66%. To increase participation, Italy has recently defined a national system for lifelong learning, building on the experience of upper secondary schools providing evening courses and the local centres for adult education (CTPs). From the school year 2013-2014 CTPs and evening courses will merge in the Centres for Adult Education (*Centri provinciali per l'Istruzione degli Adulti*, CPIA). The new Centres based in lower and upper secondary schools will be a kind of autonomous institution, organised in service networks, mainly at provincial level, with the same autonomy of mainstream schools.

The implementation of the European Agenda for Adult learning has stepped up for the period 2012-2014, in order to improve coherence of adult learning and socio-economic development as well as cooperation with different stakeholders to address the problem of the low skilled.

## 1. Key indicators and benchmarks

	Latvia		EU average		Europe 2020 target / Benchmark
	2009	2012	2009	2012	
<b>1. Early leavers from education and training</b> (age 18-24)	13.9%	10.5%	14.2% <sup>EU28</sup>	12.7% <sup>EU28</sup>	<b>EU target: 10%</b> National target: 13.4%
<b>2. Tertiary educational attainment</b> (age 30-34)	30.1%	37.0%	32.1% <sup>EU28</sup>	35.7% <sup>EU28</sup>	<b>EU target: 40%</b> National target: 34-36%

## ET 2020 Benchmarks

3. Early childhood education and care (4 years old - year before start of compulsory primary)			89.6%	92.7% <sup>11</sup>	91.7%	93.2% <sup>11</sup>	95%
4. Basic skills Low achievers (15 year-olds; Level 1 or lower in PISA study)	Reading		17.6%	:	19.6%	:	15%
	Mathematics		22.6%	:	22.2%	:	15%
	Science		14.7%	:	17.7%	:	15%
5. Learning mobility	Initial vocational training (IVET)	a. Students participating in Leonardo da Vinci programs as a share of vocational students at ISCED 3	1.2%	1.7% <sup>11</sup>	0.6%	0.7% <sup>11</sup>	
	Higher Education	b. Erasmus inbound students as % of student population in host country		0.6% <sup>11</sup>		1.1% <sup>11</sup>	
		c. Inbound degree mobile students as % of student population in the host country		1.9% <sup>11</sup>		7.0% <sup>11</sup>	
6. Employment rate of graduates (age 20-34) having left education 1-3 years before reference year			71.4%	74.2%	78.3%	75.7%	82%
7. Adult participation in lifelong learning (age 25-64)			5.3%	7.0%	9.3%	9.0%	15%

## Proposed ET 2020 benchmark

<b>8. Foreign languages skills</b>	a. ISCED 2 students at proficiency level B1 or higher in first foreign language <sup>1</sup>	:	:	:	43.5% <sup>11</sup>
	b. ISCED 2 students learning two or more foreign languages	74.6%	72.3% <sup>11</sup>	58.6%	60.8% <sup>10</sup>

## Other ET 2020 Indicators

9. Investment in education and training	a. General government expenditure on education (% of GDP)		6.8%	5.7% <sup>11</sup>	5.5%	5.3% <sup>11</sup>
	b. Annual expenditure on public and private educational institutions per pupil/student in € PPS	ISCED 1-2	€ 4,162 <sup>08</sup>	€ 3,533 <sup>10</sup>	€ 5,732 <sup>08</sup>	€ 6,021 <sup>10</sup>
		ISCED 3-4	€ 4,165 <sup>08</sup>	€ 3,365 <sup>10</sup>	€ 6,964 <sup>08</sup>	€ 7,123 <sup>10</sup>
		ISCED 5-6	€ 4,902 <sup>08</sup>	€ 4,315 <sup>10</sup>	€ 9,309 <sup>08</sup>	€ 9,168 <sup>10</sup>
10. Digital competences	a. Pupils in grade 4 (ISCED 1) using computers at school		23.2% <sup>07</sup>	:	60.7% <sup>07</sup>	64.7% <sup>11</sup>
	b. Individuals aged 16-74 with high computer skills <sup>2</sup>		17.0%	29.0%	25.0%	26.0%
11. Entrepreneurial competences	Individuals aged 18-64 who believe to have the required skills and knowledge to start a business		50.0%	44.0%	42.3% <sup>a</sup>	42.0% <sup>a</sup>
12. Vocational education and training	Share of vocational students at ISCED 3		36.1%	37.8% <sup>11</sup>	49.6%	50.3% <sup>11</sup>
13. Skills for future labour markets Projected change in employment 2010-2020 in %	High qualification		:	22.6%	:	19.1% <sup>EU28</sup>
	Medium qualification		:	-11.1%	:	4.6% <sup>EU28</sup>
	Low qualification		:	26.4%	:	-20.2% <sup>EU28</sup>
14. Low-skilled adults	Literacy		:	:	:	19.9% <sup>EU17</sup>
	Numeracy		:	:	:	23.6% <sup>EU17</sup>
	Problem solving in technology rich environments <sup>3</sup>		:	:	:	26.9% <sup>EU17</sup>

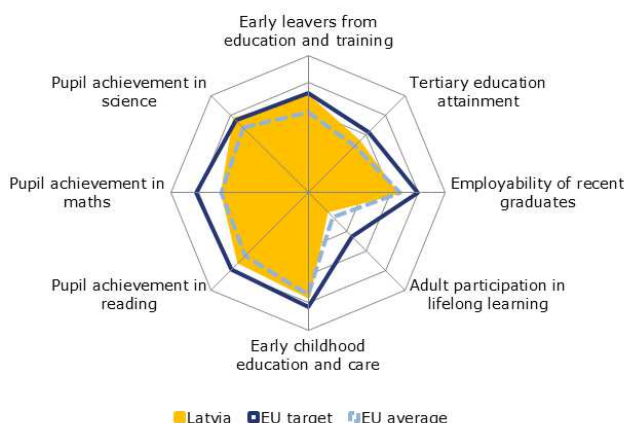
Source: Cedefop: 13 / EAC: 10a,b / European Survey on Language Competences (ESLC): 8a / Eurostat (Government finance statistics): 9a / Eurostat (LFS): 1, 2, 6, 7 / Eurostat (ISS): 10b / Eurostat (UOE): 3, 8b, 9b, 10c, 12 / IEA TIMSS: 10a / Global Entrepreneurship Monitor: 11 / OECD (PIAAC): 14 / OECD (PISA): 4

Notes: <sup>07</sup> = 2007, <sup>08</sup> = 2008, <sup>09</sup> = 2009, <sup>10</sup> = 2010, <sup>11</sup> = 2011, e = estimate, a = unweighted average b = break, p = provisional

Number of countries included in EU average: PISA=25, Entrepreneurship=18, Language skills=13, ICT/Computers at school=13, others: EU27

<sup>1</sup> = average of skills tested in reading, listening, writing, <sup>2</sup> = having carried out 5-6 specific computer related activities, <sup>3</sup> = Results cover people with scores below level 1 as well as people who have no computer experience or failed the ICT test

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



Source: DG EAC calculations on the basis of data from Eurostat (LFS 2012 and UOE 2011) and OECD (PISA 2009). Note: all scores are set between a maximum (the highest performers visualised by the outer ring) and a minimum (the lowest performers visualised by the centre of the chart).

## 2. Main challenges

While Latvia has shown remarkable progress in reducing early school leaving and raising the tertiary attainment rate, some significant challenges remain to be addressed in higher education and vocational education and training (VET), as recommended by the 2013 European Semester country-specific recommendations (CSRs). In the higher education field, the immediate challenge is implementing the reform proposed by the Ministry of Education and Science, given the stakeholders' preference to maintain status quo in the education sector. This includes implementing quality-based accreditation of study fields, adopting changes to the governance of higher education institutions, promoting internationalisation of higher education and science, and introducing a financing model that rewards quality, combined with increased national higher education financing. The main challenges for vocational education and training stem from the need to improve employability of young people, and concern in particular the limited availability of quality work-based training, including traineeship/apprenticeship schemes, as well as the lack of a comprehensive career guidance system.

## 3. Investing in skills and qualifications

### Investing in education and training in a context of economic crisis

General government expenditure on education as a share of GDP in Latvia declined by around 1 percentage point in 2009-2011, but remains slightly above the EU average (5.7% compared with 5.3%). Education and training budgets suffered significant cuts during the crisis and measures are being taken to ensure cost-efficiency, including by rationalising education institutions. In 2012 Latvia reduced State budget allocations for education by around 10% in real terms compared to 2011 (data expressed in 2010 constant prices); however this is in part explained by the extraordinary allocation of funds in 2011 from the Climate Change Finance Instrument, which was included in the State Budget. These resources were provided to educational institutions for the renovation of buildings and increasing their energy efficiency<sup>30</sup>.

### Skills

In terms of basic skills, 15-year olds' performance on PISA tests in reading and science recently improved and continues to outperform the EU average, but worsened in mathematics, where it is now just in line with the EU average. The gender gap is very high in reading, where only 8.7% of girls are low-achievers, compared with 26.6% of boys. ICT skills and entrepreneurship attitude of the population appear close to the EU average.

The National Centre for Education is responsible for a comprehensive curriculum reform for 6-11 years old pupils. The aim of the reform is to promote pupil-centred teaching, as well as reading literacy. One of the outcomes of this curriculum reform is that as from the 2014/2015 school year learning the first foreign language will become compulsory from the first grade<sup>31</sup>.

Nationally recognised educational programmes from the formal education system (i.e. from primary, secondary and higher education) are referred to a Latvian qualifications framework level (LQF) and were linked to the corresponding European Qualification Framework (EQF) levels in 2011. Master of crafts, journeyman and qualifications acquired in non-formal and informal learning will be attributed levels in a subsequent phase (2013-15) and consequently referenced to the EQF.

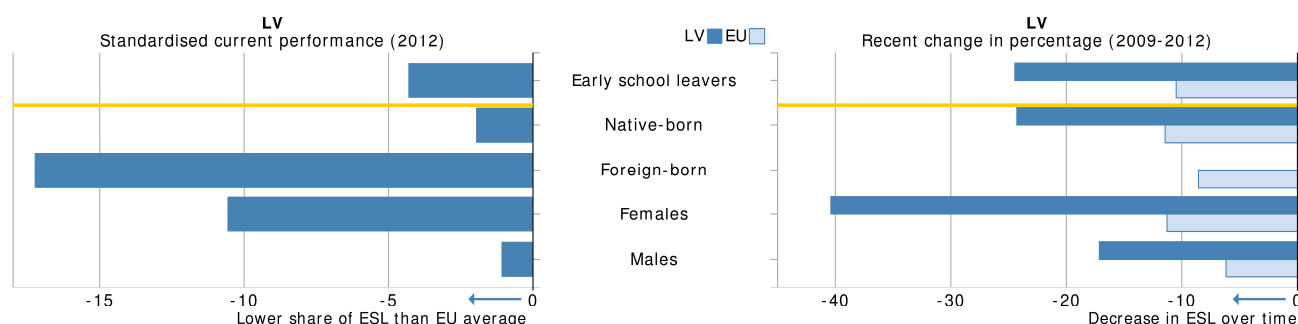
<sup>30</sup> See European Commission (2013), *Recent trends in the funding of education in Europe*.

<sup>31</sup> At present it is mandatory to start teaching the first foreign language not later than from the third grade.

#### 4. Tackling early school leaving and raising the bar in school education

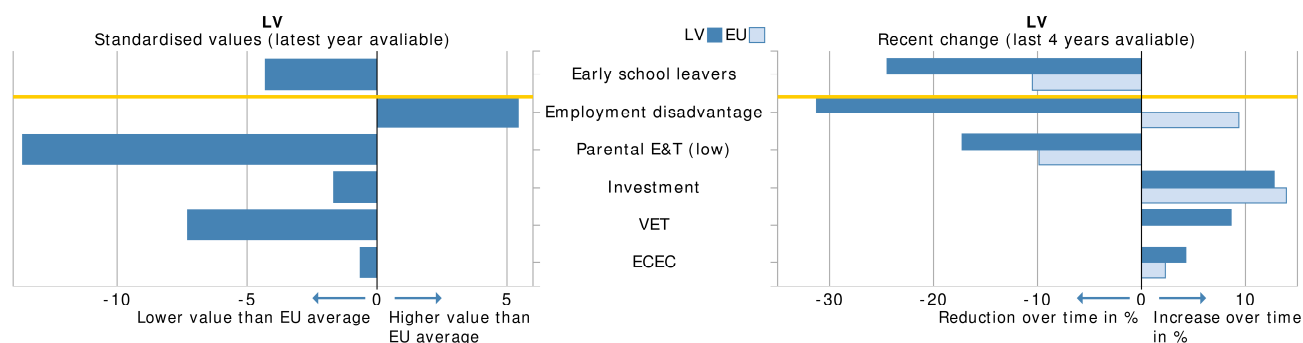
Both the labour market situation – where reduced job opportunities compelled young people to remain longer in education – and the policies implemented during the last few years have contributed to the reduction of the early school leaving rate, which is now well below the EU average (10.5% vs. 12.7% in 2012). However, a significant gender gap persists: 14.5% of males were early school leavers as against 6.2% of females in 2012. The analysis of sub-indicators shows that the family educational background is particularly favourable in EU comparison. Considering that the 2020 national target (13.4%) has already been achieved, Latvia intends to set a new target to 10%. Participation in early childhood education has somewhat increased in recent years and is now in line with the EU average (92.7% vs. 93.2% in 2011).

Figure 2. Early leavers from education and training: sub-groups



Source: JRC-CRELL. Note: ESL = early school leaving. See Annex 2 for further information.

Figure 3. Early leavers from education and training: sub-indicators



Source: JRC-CRELL. Note: see Annex 2 for an explanation of the sub-indicators.

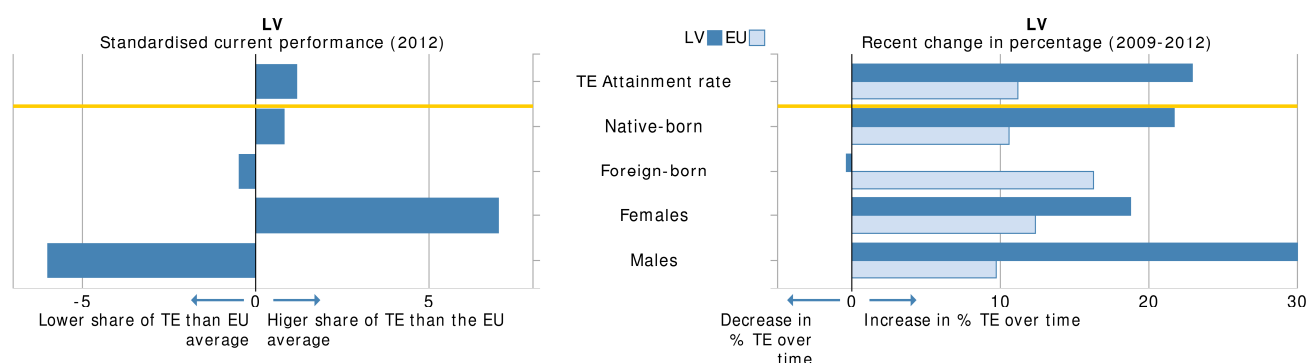
The 'money follows pupil' financing principle has motivated schools to retain and attract students. The pupil monitoring system (SEIS), that enables tracking of the educational process, may also contribute to identifying and supporting students at risk of early school leaving. To bring more young people back into education, additional 2000 young unemployed will be involved in short cycle (1-1.5 years) VET programs to obtain professional qualifications. A proper implementation of the ongoing measures against early school leaving will be key for their success. As early school leavers are disproportionately affected by unemployment, further reducing their number can also have a very positive impact on youth unemployment.

#### 5. Encouraging participation in tertiary education and modernising higher education

Latvia's tertiary attainment rate significantly increased in recent years and now outperforms the EU average (37% compared with 35.7% in 2012) and the 2020 national target (34%), although with a very large gender gap (the rate is 48.1% for women as against 26% for men). The analysis of sub-indicators shows a large employment advantage for tertiary graduates compared to upper secondary ones.

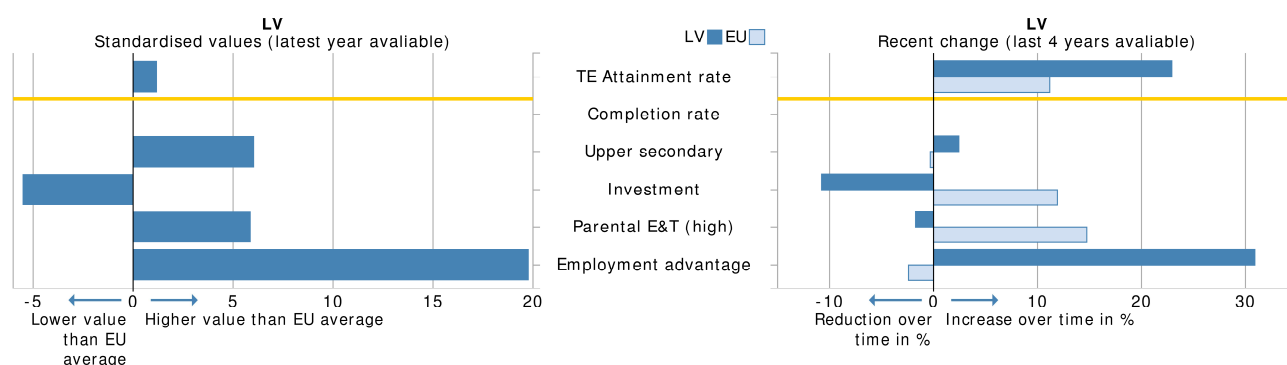
Nevertheless, the higher education system faces a number of challenges to better comply with the current labour market needs as well as to help raise the innovation potential of the Latvian economy: Latvian universities perform poorly in worldwide rankings, cooperation with businesses and research institutions is weak, and the higher education network is too large in view of the population served and offers too many distinct study programmes.

Figure 4. Tertiary education attainment: sub-groups



Source: JRC-CRELL. Note: TE = tertiary education. See Annex 2 for further information.

Figure 5. Tertiary education attainment: sub-indicators



Source: JRC-CRELL. Note: see Annex 2 for an explanation of the sub-indicators.

The Ministry of Education and Science has proposed ambitious reforms that would largely address the challenges faced by higher education. The reform of the accreditation process includes moving from accreditation of study programmes to study fields and increasing the independence and impartiality of the accreditation committee. As of 2014, the government envisages that higher education institutions will be allowed to select any of the independent institutions included in the European Quality Assurance Register for accreditation purposes. However, in 2013 the accreditation is being conducted by the Ministry of Education and Science. Large-scale evaluation of higher education programmes was completed with European Social Fund financing and the results will be used as input for budgetary and accreditation processes.

Reform plans also include developing a new financing model and attracting international teaching staff and students.

A research is being conducted in cooperation with the World Bank on the new financing model of higher education, which would aim to foster competitiveness of higher education, while ensuring its accessibility. Based on the research results, proposals for public discussions on development of optimal financing model of higher education will be prepared by the end of 2013.

At the beginning of the academic year 2012/2013, foreign students only represented 3.7% of the total number of students in Latvian higher education institutions. In 2013, the government announced amendments to the Law on Higher Education Institutions in order to expand the possibilities to implement study programmes in the EU official languages at the State-founded higher education institutions.

Finally, other planned measures envisage separating academic and management functions of the universities and further consolidating higher education institutions.

Although most reform plans are still at an early stage, they appear ambitious and relevant; if properly implemented they will have a significant positive impact on the quality of higher education and on the innovation potential of the Latvian economy. Consequently, the 2013 CSRs ask Latvia to implement the planned reforms in higher education.

## 6. Facilitating the transition from education to work

Youth employment prospects suffered from the recent economic crisis, but investing to get higher qualifications continues to pay off: while the employment rate of young people with only upper secondary education is still depressed (56.9% in 2012 as against 77.9% in 2007), that of young tertiary graduates quickly returned to pre-crisis levels (87.1% in 2012 compared with 86.5% in 2007)<sup>32</sup>.

Latvia's employment pattern up to 2020 is forecast to become more polarised, with large increases in both high and low qualification jobs and a decline in medium qualification jobs. However, low qualification jobs are projected to represent only 16% of total jobs in 2020, still below the EU average (18%). The expected increase in high qualification jobs appears consistent with evidence from employers pointing to skills' shortages in such areas as ICT, pharmaceuticals and engineering, as the higher education system has not produced enough graduates in mathematics, science and technology<sup>33</sup>.

While participation of secondary students in VET, starting from very low levels, has been increasing (reaching 39% in 2011/2012 and with a national target of 50% by 2020), this may be more due to monetary incentives (e.g. stipends to VET students) than to real attractiveness of programmes. Moreover, the 'money follows pupil' principle has encouraged some of the general secondary schools to offer money or other benefits to students to attract them away from VET and this could promote unhealthy competition between the two education sectors.

The Latvian government has allocated additional funding for modernisation and renovation of 11 VET schools (out of 38) and is pursuing a rationalisation of VET institutions. Employer-led Sectoral Expert Councils have been established and are contributing to the development of VET curricula and profession standards. Plans are being elaborated on improving the VET governance and on introducing more flexibility in delivering VET courses via a modular system, and in line with the National Development Plan 2014-2020. Latvia still lacks a comprehensive nationwide system of impartial career guidance to help the VET students make informed choices.

As regards the work-based learning components of VET and apprenticeships, Latvia has recently introduced a regulation for the insurance of the trainees/apprentices, although not in all professions. There are also plans to develop a pilot project to intensify cooperation between VET schools and the Chamber of Crafts. To increase the opportunities for VET placements, in December 2012 Latvia signed the 'Memorandum of Co-operation in Vocational Education and Training in Europe', which among other issues envisages the enhancement of work-based and/or dual training elements of the VET.

There has not been any rigorous evaluation of the present traineeship/apprenticeship schemes, although according to the views expressed by the stakeholders there are problems regarding quality, availability, attractiveness to employers and organisational aspects. The 2013 CSR on youth unemployment recommends that Latvia establish comprehensive career guidance, implement reforms in the field of vocational education and training, and improve the quality and accessibility of apprenticeships.

## 7. Upgrading skills through lifelong learning

Participation of adults in lifelong learning is still quite low in EU comparison (7% vs. 9% in 2012), despite a 2 percentage point increase between 2011 and 2012.


In 2010, only 40% of Latvian enterprises provided vocational training to their staff, as against an EU average of 66%<sup>34</sup>. To develop distance learning opportunities for adults by implementing a customised approach, the Ministry of Education and Science has recently developed and approved sample educational programmes for general education distance learning and several education institutions offer accredited general education distance learning programmes.

<sup>32</sup> Measured as the employment rates of graduates aged 20-34 who have graduated (from upper secondary or tertiary education) no more than three years ago.

<sup>33</sup> As regards the distribution of tertiary graduates by field compared with the EU average, Latvia shows a very high share of graduates in social science, business and law (54.4% as against 35.7% in 2010) and a low share of graduates in mathematics, science and technology (14.3% vs. 21.9%).

<sup>34</sup> Eurostat, CVTS 2010

## Annex 1. Summary statistics on the headline target

Early leavers from education and training		OVERVIEW					SUB-GROUPS / EU average (2012)										SUB-INDICATORS / EU average ( <i>latest year available</i> )																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
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							Early leavers	Native-born	Foreign-born	Females	Males	Early leavers	Native-born	Foreign-born	Females	Males	Early leavers	Employment disadvantage (difference low/medium educ)	Parental educ. and training (low)	Investment in prim-sec educ	Participation in VET (ISCED 3 level)	Particip. early childhood educ	Early leavers	Employment disadvantage Prenatal educ. (low)	Invest. prim-sec educ. Participation in VET	Particip. early educ.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
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Source: DG EAC, based on Eurostat data (LFS) and CRELL calculations

## Legend:

p.p.: variation in percentage points p: provisional

## Country position / benchmark and EU average

- BELOW or EQUAL to the EU benchmark/average
- CLOSE to the EU benchmark/average (0.1 - 1 p.p.)
- ABOVE the EU benchmark/average (> 1 p.p.)


## Country's evolution 2009/2012 + performance

- ▼ Decrease
- ≈ Stable (+/- 0.5 p.p.)
- ▲ Increase
- Highest performers
- Lowest performers

## Sub-indicators and standardized level values

For more information, please see Annex 2

# ANNEX 1

Tertiary educational attainment		OVERVIEW					SUB-GROUPS / EU average (2012)										SUB-INDICATORS / EU average (latest year available)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
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							Tertiary educ. attainment	Native-born	Foreign-born	Females	Males	Early leavers	Native-born	Foreign-born	Females	Males	Tertiary educ. attainment	Completion rate at ISCED 5A	Upper sec. educ. attainment	Investment in tertiary educ.	Parental education & training (high)	Employment advantage (difference medium/high educ.)	Tertiary educ. attainment	Completion rate ISCED 5A	Upper sec. educ. attainment	Invest. tertiary educ.	Parental educ. (high)	Employment advantage																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
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Source: DG EAC, based on Eurostat data (LFS) and CRELL calculations

Legend:

p.p.: variation in percentage points p: provisional

Country position / benchmark and EU average

- ABOVE or EQUAL to the EU benchmark/average
- CLOSE to the EU benchmark/average (-1/<0 p.p.)
- BELOW the EU benchmark/average (<-1 p.p.)

Country's evolution 2009/2012 + performance

- Increase
- Stable (+/- 0.5 p.p.)
- Decrease
- Highest performers
- Lowest performers

Sub-indicators and standardized level values

For more information, please see Annex 2

## Annex 2. Explaining the sub-indicators for the headline target

The country reports contain figures that provide a more in-depth look at the performance as regards the twofold Europe 2020 headline target on education and training: early school leaving and tertiary attainment. In these figures, the latest values of particular sub-groups<sup>35</sup> and sub-indicators are compared to the corresponding EU averages<sup>36</sup> and also to past values (in percentage terms). Sub-indicators are used to shed light on the broader context of the country performance in early school leaving and tertiary education attainment and hint to policy levers that can be used to reach national targets by 2020, or to bring about change in the longer term.

Early leavers from education and training: sub-indicators	
Employment disadvantage	Difference in the employment rate in percentage points between individuals aged 20 to 64 with an education level corresponding to ISCED 0-2 and those with an education attainment corresponding to ISCED 3-4. A higher disadvantage in employment rates might therefore increase the incentives to stay longer in the education and training system.
Parental E&T (low)	Proportion of females aged 45 to 54 whose education attainment corresponds to ISCED 0-2. The education attainment of this female cohort is a proxy for the family background of the target population. A vast literature highlights mother's education as a key determinant for explaining differences in education attainment.
Investment	Annual expenditure on public and private education institutions in EUR PPS at primary and secondary levels (ISCED 1 to 4) divided by the size of the cohort aged 6-18 and compared to the GDP per capita in EUR PPS. This constitutes the measure of investment in education and training systems and is a proxy for the quality of the supply of education <sup>37</sup> .
VET	Proportion of ISCED 3 students who participate in vocational education and training (VET). The number of students enrolling in VET programmes is believed to be associated with subsequent school outcomes. Vocational programmes help reducing early leaving from education and training and might help to make education systems more socially inclusive.
ECEC	Proportion of pupils aged between 4 years and the starting age of compulsory education who are participating in early childhood education and care (ECEC). Early childhood education and care is found to be associated with better performance later in life.
Tertiary education attainment: sub-indicators	
Employment advantage	Difference in percentage points in employment rate between individuals whose education attainment is equal to ISCED5-6 and those whose educational attainment corresponds to ISCED3-4. A higher return is believed to increase the incentives to stay longer in the education and training system.
Parental E&T (high)	Percentage of females aged 55-64 having completed ISCED 5-6. The education attainment of this female cohort is a proxy for the family background of the target population. A vast literature highlights mother's education as a key determinant for explaining differences in education attainment.
Investment	Annual expenditure on tertiary education (ISCED 5-6) divided by the size of the cohort aged 20-24 and compared to the GDP per capita expressed in PPS. This constitutes the measure of investment in education and training systems and is a proxy for the quality of the supply of education <sup>38</sup> .
Upper secondary	Percentage of population aged 20-24 having attained at least upper secondary education. Rising skill demands in European countries have made qualifications at the upper secondary level the minimum credential for successful entries in the labour market. Upper secondary education attainment informs about the pool for new entrants into higher education.
Completion rate	Proportion of those who enter a tertiary-type A programme and go on to graduate from at least a first tertiary-type A programme. The completion rate in tertiary education allows contrasting countries in terms of the internal efficiency of the tertiary education system.

*Note:* This methodology is based on the Joint Assessment Framework (JAF) – the monitoring tool for the Europe 2020 strategy. Sub-groups and sub-indicators for the twofold Europe 2020 target on education and training are based on data provided by Eurostat (except from the completion rate, which comes from the OECD) and were developed by the JRC's Centre for Research on Lifelong Learning (CRELL).

<sup>35</sup> Native-born, foreign-born, female, male. The figures for foreign-born students are not always provided, following the approach of Eurostat, which does not provide figures for the subset of the foreign-born population. For early leavers from education and training, this data is not available for the following countries: BG, EE, HR, HU, LT, LV, MT, PL, RO, SK. Moreover, the data for CZ, SI and FI lack reliability due to small sample sizes and should therefore be interpreted with caution. For tertiary education attainment, data is not available for the following countries: BG, LT, PL, RO, SK. Furthermore, the data for EE, MT, SI and HR lack reliability due to small sample size and should therefore be interpreted with caution.

<sup>36</sup> When comparing sub-groups and sub-indicators to the corresponding EU average, standardised values are adopted. These standardised values are obtained by subtracting the EU weighted average and dividing by the standard deviation. In other words, the EU average becomes the reference point ("0") and the deviation from this reference point becomes comparable across different sub-groups and sub-indicators. Although data reported here refers to 28 EU countries, the EU weighted average is estimated across 27 countries as provided by Eurostat. Furthermore, the figures for the sub-group foreign-born are not always provided for all countries (see also footnote 2). Therefore, the standard deviation for this group is estimated only on available data.

<sup>37</sup> The indicator takes into account demographic effects and avoids penalising countries with a high share of students that spend less on a per capita basis compared to other countries that spend more on relatively fewer students.

<sup>38</sup> Ibid.