European Commission

Education and Training Monitor 2013

Croatia

Education and Training

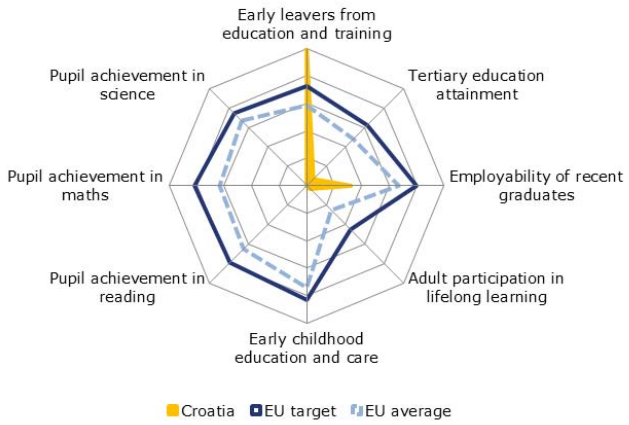
1. Key indicators and benchmarks

Europe 2020 headline targets			Croatia 2009	Croatia 2012	EU average 2009	EU average 2012	Europe 2020 target / Benchmark
1. Early leavers from education and training (age 18-24)			3.9%	4.2%	14.2% [EU28]	12.7% [EU28]	**EU target: 10%** National target: /
2. Tertiary educational attainment (age 30-34)			20.6%	23.7%	32.1% [EU28]	35.7% [EU28]	**EU target: 40%** National target: /
ET 2020 Benchmarks							
3. Early childhood education and care (4 years old - year before start of compulsory primary)			68.8%	70.6% [11]	91.7%	93.2% [11]	**95%**
4. Basic skills Low achievers (15 year-olds; Level 1 or lower in PISA study)	Reading		22.5%	:	19.6%	:	**15%**
	Mathematics		33.2%	:	22.2%	:	**15%**
	Science		18.5%	:	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	0.1% [10]	0.6% [11]	0.6%	0.7% [11]	
	Higher Education	**b.** Erasmus inbound students as % of student population in host country		0.0% [11]		1.1% [11]	
		c. Inbound degree mobile students as % of student population in the host country		0.5% [11]		7.0% [11]	
6. Employment rate of graduates (age 20-34) having left education 1-3 years before reference year			77.0%	58.7%	78.3%	75.7%	**82%**
7. Adult participation in lifelong learning (age 25-64)			2.3%	2.4%	9.3%	9.0%	**15%**
Proposed ET 2020 benchmark							
8. Foreign languages skills	**a.** ISCED 2 students at proficiency level B1 or higher in first foreign language[1]		:	47.0% [11]	:	43.5% [11]	
	b. ISCED 2 students learning two or more foreign languages		46.0%	50.0% [11]	58.6%	60.8% [10]	
Other ET 2020 Indicators							
9. Investment in education and training	**a.** General government expenditure on education (% of GDP)		:	: [11]	5.5%	5.3% [11]	
	b. Annual expenditure on public and private educational institutions per pupil/student in € PPS	ISCED 1-2	€ 3,414 [08]	€ 3,285 [10]	€ 5,732 [08]	€ 6,021 [10]	
		ISCED 3-4	€ 3,623 [08]	€ 3,485 [10]	€ 6,964 [08]	€ 7,123 [10]	
		ISCED 5-6	€ 7,307 [08]	€ 5,233 [10]	€ 9,309 [08]	€ 9,168 [10]	
10. Digital competences	**a.** Pupils in grade 4 (ISCED 1) using computers at school		:	[11]	60.7% [07]	64.7% [11]	
	b. Individuals aged 16-74 with high computer skills[2]		24.0%	27.0%	25.0%	26.0%	
11. Entrepreneurial competences	Individuals aged 18-64 who believe to have the required skills and knowledge to start a business		59.0%	44.0%	42.3% [a]	42.0% [a]	
12. Vocational education and training	Share of vocational students at ISCED 3		72.5%	71.5%	49.6%	50.3% [11]	
13. Skills for future labour markets Projected change in employment 2010-2020 in %	High qualification		:	6.0%	:	19.1% [EU28]	
	Medium qualification		:	0.7%	:	4.6% [EU28]	
	Low qualification		:	-17.5%	:	-20.2% [EU28]	
14. Low-skilled adults	Literacy		:	:	:	19.9% [EU17]	
	Numeracy		:	:	:	23.6% [EU17]	
	Problem solving in technology rich environments[3]		:	:	:	26.9% [EU13]	

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: [07] =2007, [08] =2008, [09] =2009, [10] =2010, [11] =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
[1]= average of skills tested in reading, listening, writing, [2]= having carried out 5-6 specific computer related activities, [3]= 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

Even though Croatian education has experienced substantial reforms[1] over the last decade, its performance shows several weaknesses at different levels. First, some progress has been achieved in terms of the tertiary education attainment rate. However a serious effort may be required in order to reach the national and Europe 2020 target. Second, educational outcomes at primary and secondary level are low and raise the question of the quality of compulsory education. In particular, educational achievements of 15 years old students have deteriorated as measured by PISA, remaining below the EU average, most distinctively in mathematics. Third, participation in early childhood education is low compared to the EU average, despite some improvement over the last years. Fourth, adult participation in lifelong learning is low and on decrease. Main issues in this area revolve around adult learning as well as teacher education not receiving the required attention and funding. Finally, the VET system in Croatia requires reorganisation in order to become more attuned to the labour market.

In sum, education and training at all levels show evident skills gaps compared to labour market needs[2], which hampers significantly the transition of young people from school to work.
Combined with future demographic trends these weaknesses threaten to undermine competitiveness as well as necessary productivity gains and result in clear skills gap between education and the needs of the labour market.

3. Investing in skills and qualifications

Investing in education and training in a context of economic crisis

In 2010, Croatia's public expenditure on education and training was 4.3% of GDP, which is lower than the EU average (5.4%). The percentage had been stable since 2008 despite the economic crisis situation but education expenditure were finally cut in 2011 and 2012[3].

Skills
According to large scale international studies of pupils' performance (TIMSS and PIRLS), 2011 data showed that fourth graders in Croatia scored significantly below the reference point[4] in mathematics, and significantly above the scale centre point in science and reading in comparison to other countries in the surveys.

In secondary education, PISA results show that educational achievements of 15 year-olds is far below the EU average in mathematics[5] and somewhat below in reading and science.[6] All values deteriorated compared to the previous testing in 2006, but the largest difference is found in mathematics.[7]

1 Among them introduction of the Croatian National Educational Standards and the National Curriculum Framework; introduction of the State Matura as the standardized secondary school- leaving exam; consolidation of professional profiles in vocational education and training; and more internationalization in higher education. Agencies that have been established or successfully expanded their activities are the National Centre for External Evaluation of Education, and the Agency for Science and Higher Education.
2 In 2011, 20,6% of the participating employers stated that there is a need for further education of their employees; the main areas in which this is necessary are: vocational/technical skills, ICT, foreign languages, team cooperation and communication skills.
3 Compare Eurydice Funding in Education (2012) that registers annual reduction in Croatia of about 5% in 2011 and 7% in 2012.
4 Reference point or centre point is a constant measure against which TIMSS and PIRLS studies compare country performance. It is a mean score from the first time the studies were conducted in 2001 (PIRLS) and 1995 (TIMSS).
5 Percentage of low achievers was 33.2% as opposed to EU: 22.2%
6 PISA 2009: reading HR: 22.5%, EU: 19.6%; science HR: 18.5% compared to EU: 17.7%.
7 Reading 2006: 21.5 % as opposed to Reading 2009: 22.5%; Mathematics 2006: 28.6 % as opposed to Mathematics 2009:33.2 %; Science 2006 :17% as opposed to Science 2009: 18.5 %

In Croatia at least one foreign language is compulsory or part of the core curriculum at ISCED 1 and ISCED 2 level[8]. The average number of foreign languages learnt per pupil in lower secondary education rose between 2006 and 2009[9] and has remained stable since then on the level of EU average of 1.5 but results are mediocre[10].

According to the European Schoolnet Survey of Schools[11], Croatian schools are well connected in terms of fast broadband. Moreover and despite the lower number of available computers compared to the EU average[12], the frequency with which ICT is used in classrooms by both students and teachers is above the EU average. The percentage of individuals (16-74) with high computer skills in 2012 was 27% which is above the EU average (26%) and represents an increase of 3 percentage points compared to 2009, when it was below the EU average (25%). In 2012 close to half (44%) of population believes that they have the right competencies to start a business.

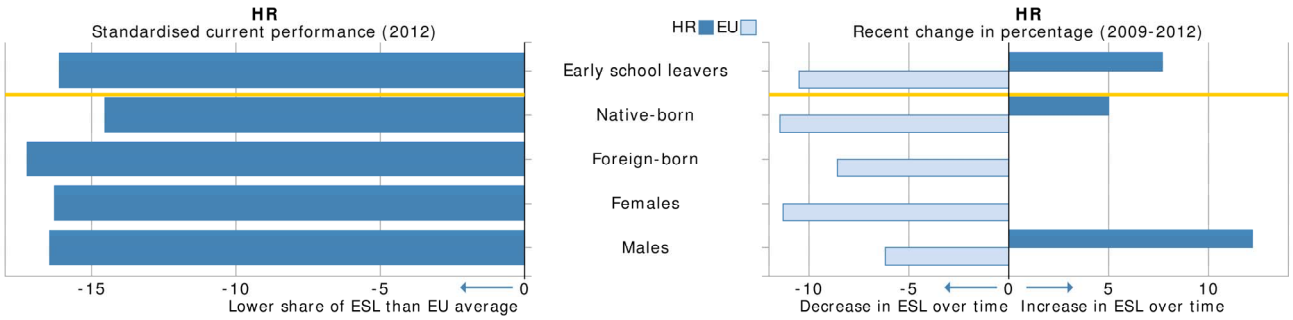
Croatia is developing a national qualifications framework (CROQF) and it adopted the framework legislation in March 2013. CROQF is based on learning outcomes and serves both as qualifications and as a credit framework. It is considered a key engine to further introduce reforms in different areas of the education system, by ensuring the close cooperation of different stakeholders (public authorities, employers, learning providers and other social partners)[13], increasing transparency, facilitating recognition of prior learning, and attuning training better with labour market needs.

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

The early school leaving rate (ESL) remains very low compared to the EU average. However, it has been marginally increasing in the last couple of years from record low 3.7% in 2008 to 4.2% in 2012 (in comparison to EU average 14.8% and 12.8 %, respectively[14]). When it comes to particular subgroups of early school leavers, the between-group differences are not as stark as in the rest of the EU. Namely, gender difference is smaller (1 percentage point) compared to the EU average (3.5 percentage points).

Moreover, since 2008, the share of the unemployed early school leavers has increased by 25 percentage points[15]. Plans to implement compulsory upper secondary education have been stalled by the current economic conditions that weighed also negatively on the physical refurbishment plans and on the provision of free text books, public school transportation and student dormitories.

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

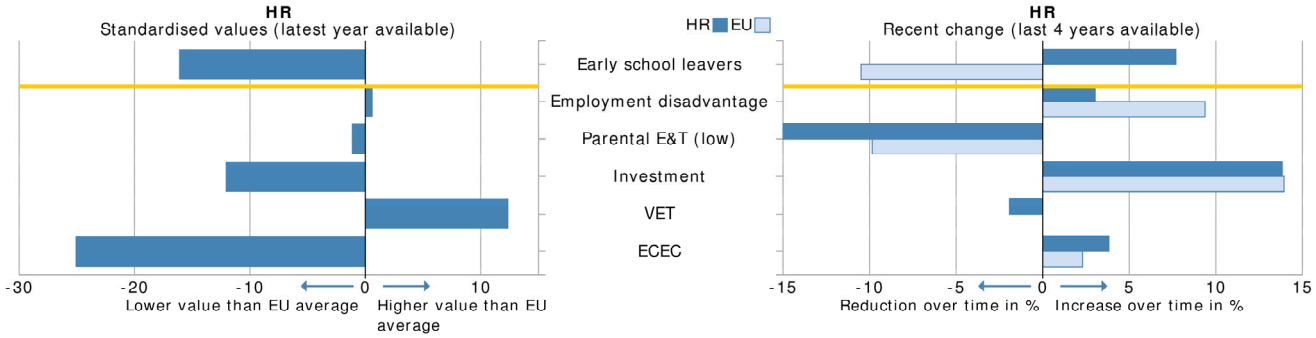


Source: JRC-CRELL. *Note:* ESL = early school leaving. See Annex 2 for further information.

In 2011, only 70.6% of children were enrolled in early childhood education and care (ECEC) programmes. Participation had increased by around 2 percentage points since 2009 but the rate is still well below the EU average of 93.2%. However quality of ECEC, measured as the child-staff ratio, appears to be more satisfactory (it was 12.1, as opposed to the EU average of 13.4)[16].

8 See ESCL Survey.
9 From 1.2 in 2006 to 1.5 in 2009 Source: Eurostat
10 The results of the 2011 ESLC survey show that upon the completion of lower secondary education the knowledge of English as a foreign language is around the average. The percentage of students with a level of knowledge that corresponds to CEFR B1 is 24 % and for B2 level it is 23 %.
11 https://ec.europa.eu/digital-agenda/sites/digital-agenda/files/Croatia%20country%20profile.pdf
12 9 students per computer as opposed to EU average of 5.
13 Publication Analysis and overview of NQF developments in European countries, Annual report 2012 , CEDEFOP
14 Source: EU LFS (http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&plugin=1&language=en&pcode=t2020_40).
15 From 2008 to 2012 it increased by 25 percentage points. From 2011 to 2012 it increased by 5 percentage points. Source A4 unit Stan's email check how to refer to this….
16 According to UNICEF, optimal child-staff ratio is below 15. Source: Education and Training Monitor 2012.

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



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

Croatia is one of the few EU countries that have increased their teaching work force between 2007 and 2010 whilst the student population is in decline[17]. Teacher education is a distinct focus of policy and a 'Strategy of Teaching, Education, Science and Technology 2013-2020", as a follow up to the previous 2009-2013 is currently being devised. It will update several sector strategies that have been only partially implemented and will also include life-long learning that had not been covered so far.

5. Encouraging participation in tertiary education and modernising higher education

Enrolment in tertiary education has continuously risen and tertiary education attainment (30-34 year olds) doubled in the past five years reaching 23.7% in 2012 (compared to 35.7% in the EU). Nevertheless, growth in the attainment rate has been levelling off since 2011[18] and Croatia will have to step up efforts to reach the national target of 35%. The amount of tertiary VET graduates increased by 2.3 percentage points in the 2006-2011 period (7.6 % in 2010), which is slightly above the EU average.[19] The increase can be attributed to the transition towards the new degree structure of the Bologna programme but also to previous national reforms.[20]

Croatia, after joining the Bologna process in 2001, has set up a quality assurance system, introduced the European Credit Transfer System (ECTS) and joined the Lisbon Recognition Convention[21]. The current organisation of universities, which grants full legal independence to faculties, is perceived as a hurdle to further improve the quality of higher education. As a matter of fact, it hampers the capacity of the rector and the central university bodies to define and implement an overall strategy covering all parts of a university and affects quite negatively areas such as performance-based financing, institutional leadership, and a more strategic outlook of universities and their constituents. With respect to didactic and pedagogic approaches, Croatia is aiming to strengthen learner-centred approach.

The percentage of Croatian students enrolled in a university in another EU member state both for a degree programme and for a non-degree (credit) one was above the EU average in 2010[22], which is considered to be a success for the Bologna process, designed as an instrument to encourage mobility among students. However, still 73% of students have not and do not plan to enrol in courses abroad and this share reaches 90% for students from less privileged social backgrounds.[23]

Nevertheless, the number of foreign students studying in Croatian universities was lower than the EU average in 2005 and sharply decreased in 2010[24]. One of the factors may be that the offer of English programmes for international students is reduced.[25]

17 Eurydice, Funding of Education in Europe (2013): Other countries are Austria and Cyprus.

18 In 2008 it was 18.5%; in 2010 24.3% and in 2012 23.7% in comparison to EU average which was 31%, 33.5 % and 35.8%, respectively. See Eurostat Labour Force Survey.

19 See Cedefop 2013 'On the way to 2020: data for vocational education and training policies Indicator overviews' .

20 Among these, the introduction of the Croatian National Educational Standards and the National Curriculum Framework; the introduction of a standardized secondary school- leaving exam; the consolidation of professional profiles in vocational education and training; and greater internationalisation in higher education.

21 World Bank 2012

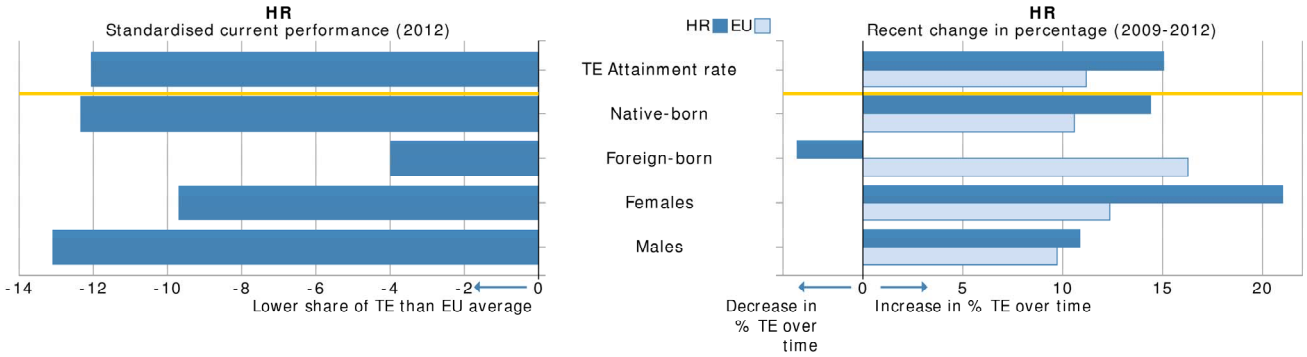
22 Enrolment for a degree programme was 3.3 in Croatia against an EU average 2.4 and Croat enrolment for credit was 0.2 compared with an EU average of 1.2; see ET Monitor 2012.

23 Source: The Eurostudent survey.

24 In 2005 HR: 2.7 EU Mean: 6.4 and in 2010 HR:0.5 and EU average 6.7 See: Education and Training Monitor, 2012.

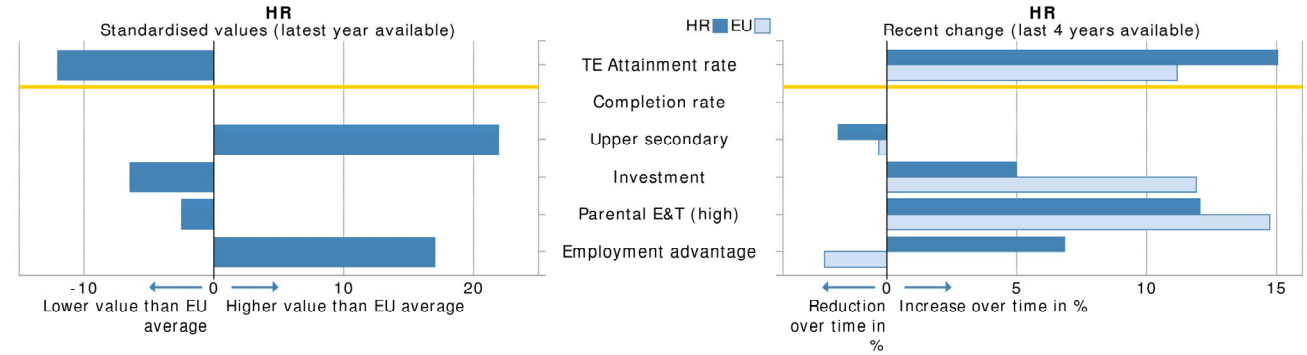
25 Ministry of Science, Education and Sports, April 2007, OECD Thematic Review of Tertiary Education Country Background Report for Croatia.

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.

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

The employment rate for recent graduates (15-24 year-olds) in 2012 was 16.9%, far below the EU average (32.8%). Employment rate decreased by 8.7 percentage points between 2009 and 2012[26] and reveals that young people are increasingly facing difficulties in the transition from school to work.

The VET system in Croatia requires reorganisation in order to become more attuned to the labour market.[27] In 2010 the Agency for Vocational and Adult Education and Training was created with the purpose of planning, monitoring and improving vocational and adult education. The agency plays an important role in the CROQF-related reforms and, in particular, in reforming VET towards an outcomes-based approach.[28]

The CROQF is currently developing occupational standards for different professions together with stakeholders.

There is a great scope for improving work-based learning opportunities in VET. For instance, reports suggest that three-year VET schools provide better practical training than four year VET schools if supported by stronger partnerships with employers. Practical training in four-year VET schools is marred by the inability of schools to provide placements, which then becomes the responsibility of students. This makes placements often short-lived and deprived of any quality control over learning.

Leonardo da Vinci programme participation rates referring to VET mobility show that the number of participants increased three times for initial VET between 2010 and 2011[29].

7. Upgrading skills through lifelong learning

Participation rate of adults (25-64 age group) in lifelong learning in 2012 was 2.4%. This rate is very low in comparison to the EU average (9%) and has not improved since 2007[30]. Moreover, the rate of older adults who participate in lifelong learning (55-64 age group) is only 0.3% in 2012 compared to 4.5% in the EU[31].

26 Source: Eurostat, LFS data
27 The World Bank (February 2012) Croatia: Policy Notes, a strategy for smart sustainable and Inclusive Growth, Report No. 66673-HR
28 CEDEFOP (2013): Analysis and overview of NQF developments in European countries. Annual report 2012
29 From 79 participants in 2010 to 237 participants in 2011. Source: http://ec.europa.eu/education/leonardo-da-vinci/doc/stat/croatia_en.pdf . However, Leonardo da Vinci programme is only one among many other bilateral and national programmes which means that the actual figures may be higher.

Taking educational background into consideration, in 2011, 2.9% of adults with upper and post-secondary education participated in lifelong learning (EU average 7.6%) and so did 2.9% of adults with tertiary education (EU average 16 %). Both subgroups participate significantly below the EU average but the difference is particularly conspicuous for tertiary graduates.

Regarding the outcomes of employed adults' self-assessment in Croatia in 2010 compared to the rest of EU: employees were less likely to say they needed more training for their current job (8.7% as opposed to the EU average of 13%), more likely to consider they possess skills for even more demanding duties (40.5% as opposed to EU average 31.7%) and less likely to say their skills match the job demand (50.8%, as opposed to 55.3 %). Moreover, employees in high-skilled clerical positions in Croatia were more likely to report a need for further training (16.5%) than employees in lower-skilled clerical positions (8.3%). Finally, employees under 30 years old are more likely to report the need for training (14.6%) whereas employees over 50 years of age are more likely to report having more skills than needed for their duties.

Regarding enterprises, 57% of them provided vocational training in 2010. This is below the EU average of 66%. However only 31% of staff (vs. an EU average of 48%) profited from training, whereas more training hours were delivered per participant (29) compared to the EU average (25)[32].

The low participation in lifelong learning provides fewer opportunities for engaging in learning as well as results from a lack of demand of learners. Different occupational and age sub-groups perceive the need for training differently and this emphasises the importance of a planned and tailored policy approach to up-skilling in order to avoid skills mismatch and underutilisation.

[30] In 2007 it was 2.4, in 2008 it was 2.2, in 2009 2.3, in 2010 2.2 , in 2011 2.3 Source: Eurostat (LFS)

[31] In comparison with the EU average of 4.5 %.

[32] Source: Continuous Vocational Training (CVT) in Eurostat