



# EUROPEAN SEMESTER THEMATIC FICHE

## SKILLS FOR THE LABOUR MARKET

*Thematic fiches are supporting background documents prepared by the services of the Commission in the context of the European Semester of economic policy coordination. They do not necessarily represent the official position of the Institution.*

### 1. Introduction

Skills are critical for competitiveness and employability, as structural changes such as globalisation and technological progress call for ever-higher and more labour market relevant skills for productivity growth and secure quality jobs.

### 2. Identification of the challenges

#### 2.1 Basic skills

Having sufficient levels of basic skills (literacy, numeracy, science and technology) is essential for young people to smoothly access the labour market and for adults to retain employment in high quality and stable jobs. However large proportions (between 20% and 25%) of both young people in initial education (as evidenced by the 2012 PISA results)<sup>1</sup> and working-age adults (as evidenced by the 2012 PIAAC results)<sup>2</sup> are lacking those basic skills, which impedes their capacity to find stable employment and participate in economic and social life in general.

In a large number of EU countries there is still a very high proportion of 15-year olds who are "low achievers" in **basic skills**.<sup>3</sup> Only four Member States have been successful in

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1 PISA refers to OECD Programme for International Student Assessment . For more details on how these levels are defined, see <http://www.oecd.org/pisa/test/>

2 PIAAC refers to OECD Programme for the International Assessment of Adult Competencies. For more details on how these levels are defined, see <http://www.oecd.org/site/piaac/surveyofadultskills.htm>

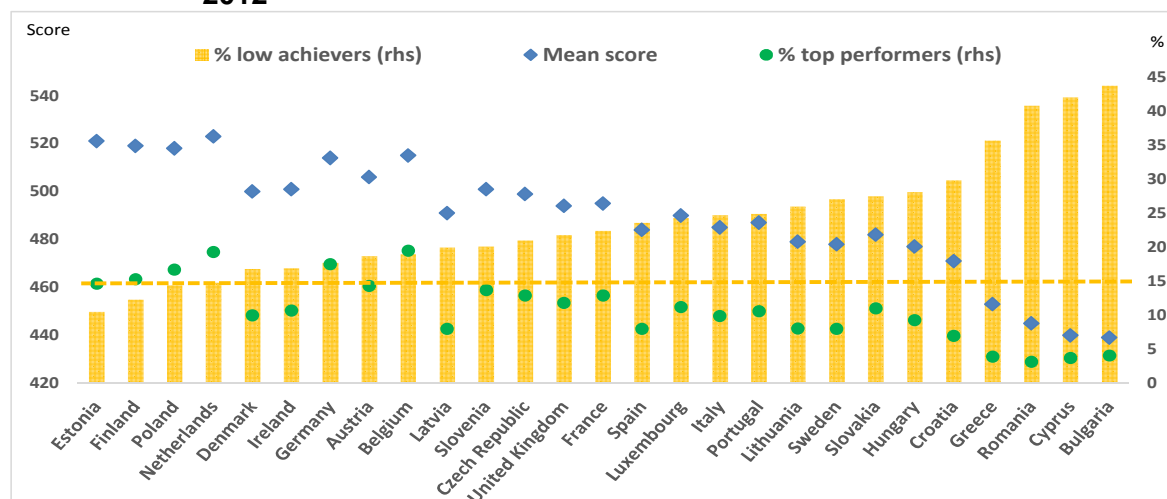
3 Low achievers are defined as those who scored below proficiency level 2 in one of the PISA test fields (reading, mathematics or science).

reducing their share of low achievers in mathematics to 15% or below<sup>4</sup> (see Figure 1) although results in reading and science literacy are slightly better.

The PISA results reveal that still more than one fifth (22.1%) of the tested 15-year olds have severe problems in solving relatively simple mathematical tasks related to their everyday life. The share of low achieving boys in reading is twice that of girls (23.7% to 12.0%). PIAAC data show, however, that the gender difference in reading disappears among young adults (16 to 24-year olds).

The performance of **Bulgaria, Romania and Cyprus** — with **more than 40%** of 15-year-old low achievers in maths — is particularly poor; however, the first two have been improving. Only NL, EE, PL and FI already meet the EU-objective<sup>5</sup>. Broadly speaking, the share of so-called "top-performer" pupils, i.e. those at level 5 or above in PISA maths tests, mirrors that of low-achievers, which points to weaknesses in the performance of education and training systems rather than to the choice to privilege excellence over equity.

**Figure 1: Mean score and shares of low- and top-achievers in mathematics, 2012**



Source: OECD (PISA).

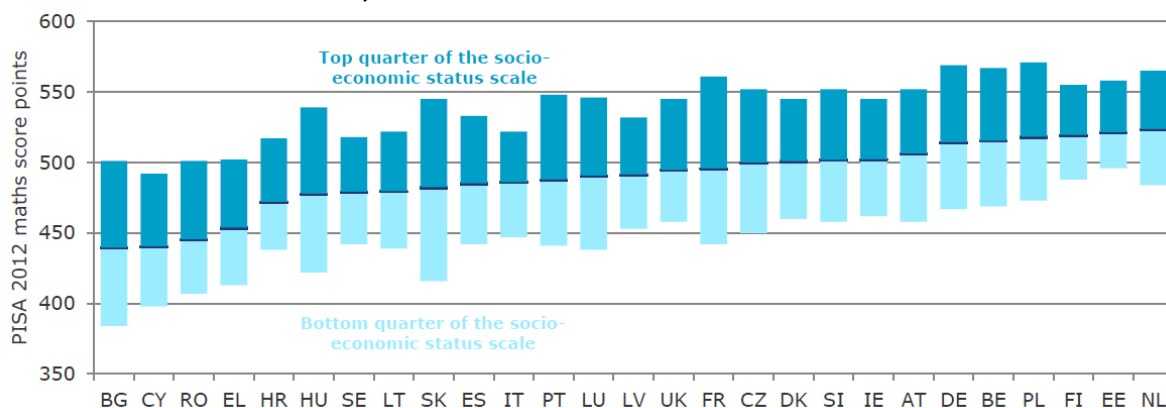
Note: 15% as maximum target by 2020 for the share of low-achieving 15-years old in reading, mathematics and science as agreed by Member States In the field of Education and Training ('ET 2020').

**Education systems are not yet adapted to make the most out of diversity.** Socio-economic background remains one of the main determinants of skills acquisition in schools. Though some progress has been made since 2003, the difference in skill levels between those with the lowest and those with the highest socio-economic status remains very high, and persistently so across the Member States (see Figure 2 below).

4 Under the strategic framework for cooperation in Education and Training ('ET 2020'), Member States agreed that the share of low-achieving 15-years old in reading, mathematics and science should be less than 15% by 2020

5 Based on the PISA-test of 15-year-old pupils, the aim is to reducing below 15 % by 2020 the share of pupils failing to reach basic levels of performance (2 out of 5).

**Figure 2: Impact of socio-economic background on performance in mathematics, 2012**



Source: OECD (PISA)

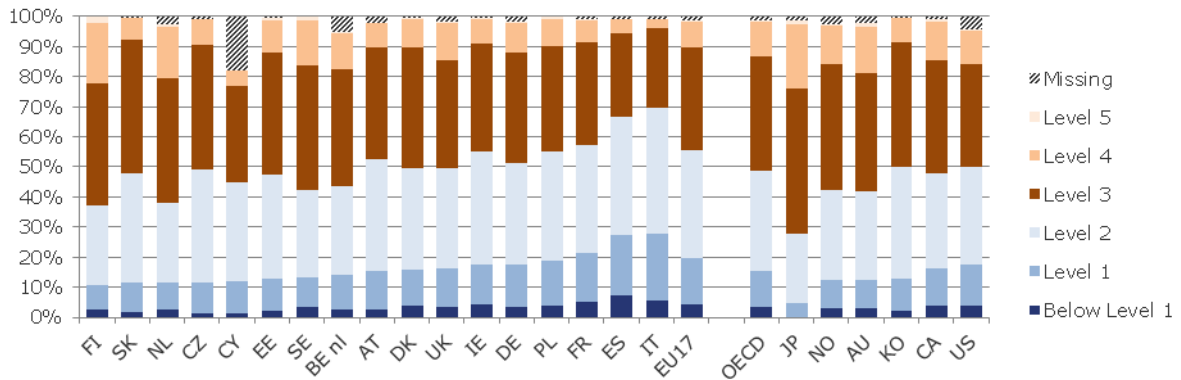
The fact that European education and training systems do not provide the most basic skills to **20% of pupils** goes hand in hand with high opportunity costs. This highlights not only the **size of the challenge** to improve the performance of education and training systems but also the huge potential **gains** in terms of increased growth and employment, if this share of pupils, that is likely to face a serious employability problem, were reduced.

Regarding the working-age adults (between 16 and 65), on average 43% showed medium or high levels of literacy skills (levels 3 to 5) in the EU countries that participated in the PIAAC survey, well below the OECD average (49%). Furthermore, one in five adults in participating EU-countries displays a **low level of skills** in literacy. In numeracy, it is even one in four. When it comes to **very high skills**, only a handful of Member States is able to match the performance of the best non-EU countries, such as Japan. Other big non-European economies like Canada and the US do not score much differently from many EU countries.

However, there are considerable differences in the distribution of skills across EU Member States. Broadly speaking, three groups of countries can be identified: those with high shares of medium to top-performing adults and few of low-performers (like NL, FI, SE and BE/FL); countries with results not significantly different from the OECD average; and countries with relatively few medium to top performers and very high shares of low performers (ES and IT). While in some countries it is mainly the older age groups that show very low skills levels, in others it seems to be also younger age groups that perform rather poorly (e.g. CY and UK). Moreover, the survey results confirm that proficiency is very strongly related to parental education and to migrant status, but to a very different extent across countries.

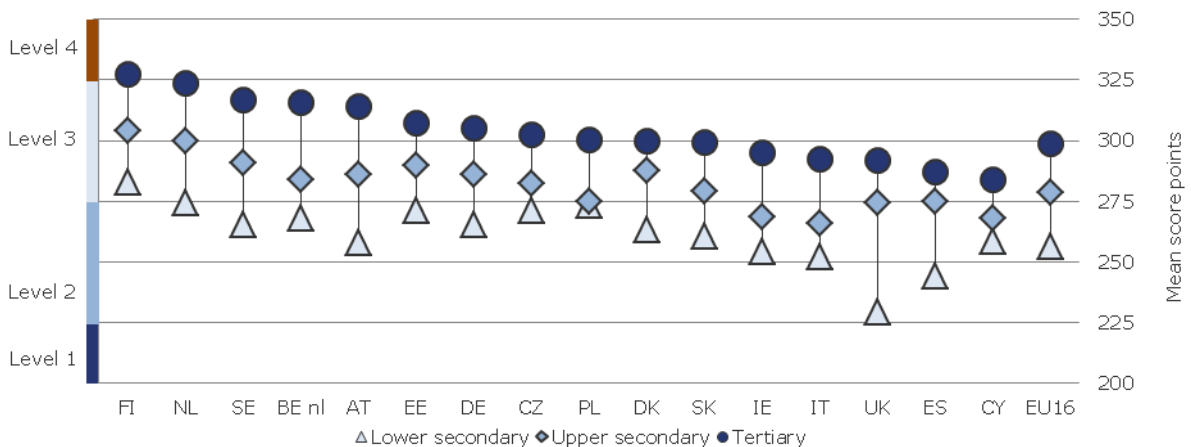
PIAAC results also show considerable differences across countries in average skill levels between people who hold comparable educational degrees. For instance, young people with only an upper secondary degree in FI, NL, SE show higher average skills than those with a tertiary degree in ES and CY.

**Figure 3: Share of the population aged 16-65 at each level of proficiency in literacy, 2012**



Source: OECD (PIAAC). Note: countries ordered by share of levels 1 and below combined. Missing: not taken the test.

**Figure 4: Average proficiency in literacy (16-29 year-olds) by educational attainment, 2012**



Source: OECD (PIAAC). Note: countries are ordered by average score at tertiary education level.

## 2.2 Transversal skills

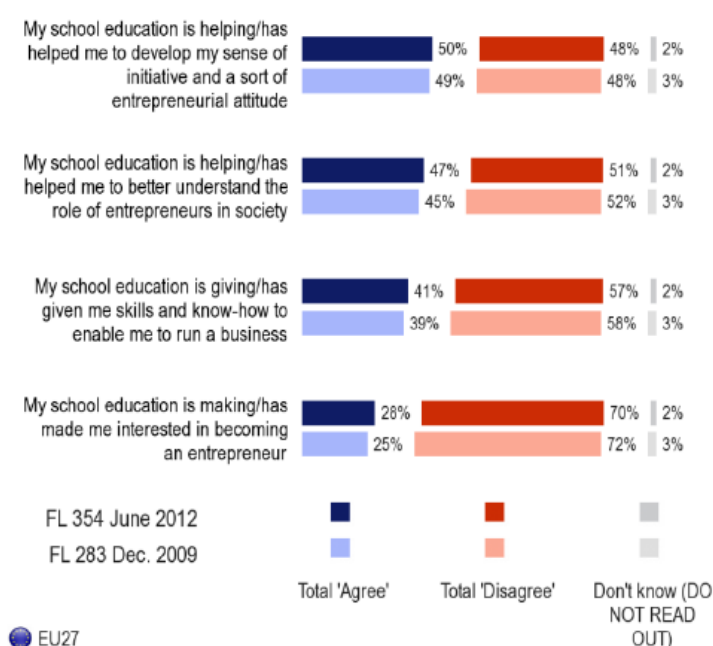
New ways of working and more frequent job changes (by necessity or opportunity) call for a broader set of skills. Currently 40% of employers report difficulties in finding candidates with the right skills, many of them stressing a **lack of transversal skills**<sup>6</sup> among job applicants.

<sup>6</sup> OECD/European Union, *The Missing Entrepreneurs 2015: Policies for Self-Employment and Entrepreneurship*, OECD Publishing, 2015

More than a half of EU employees require **foreign language skills** for their jobs (though such skills tend to be specific to a subset of occupations). However, only 42% of teenage pupils are competent in their 1<sup>st</sup> foreign language<sup>7</sup>.

Although employers value employees with initiative and the ability to adapt to challenges and changing environments<sup>8</sup> **entrepreneurial skills** are still quite low among the EU population. There is only a handful of Member States where more than half of the adult population believe they have the required skills and knowledge to start a business<sup>9</sup>. Furthermore, only half of the EU population aged 15 years and above agree that their school education helped them to develop a sense of initiative and a sort of entrepreneurial attitude<sup>10</sup>.

**Figure 5: Entrepreneurship and school education - EU27**



Source: Flash Eurobarometer 354, 2012

### 2.3 Skills mismatch

Skills mismatch refers to a discrepancy between the demand and supply of skills on the labour market, in other words a situation in which the skills sought by employers are different from the skills offered by job-seekers or workers. If persistent, skills mismatch

<sup>7</sup> EU Skills Panorama (2014) Foreign languages Analytical Highlight, prepared by ICF GHK and Cedefop for the European Commission

<sup>8</sup> OECD/European Union, *The Missing Entrepreneurs 2015: Policies for Self-Employment and Entrepreneurship*, OECD Publishing, 2015

<sup>9</sup> Kelley D., Singer S., Herrigton M., *2015/16 Global Report*, Global Entrepreneurship Monitor,

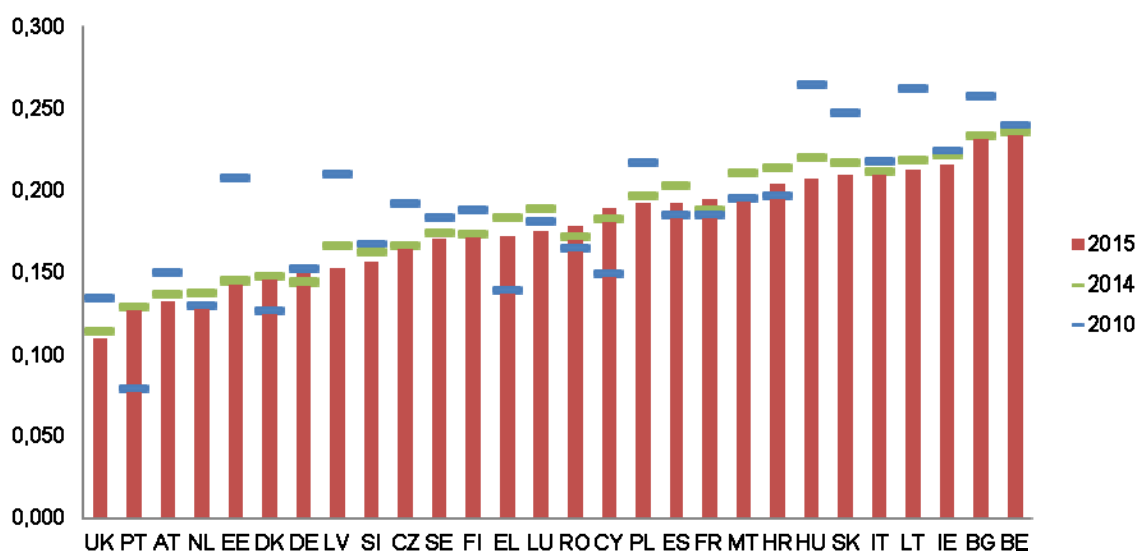
<sup>10</sup> European Commission, Flash Eurobarometer 354, *Entrepreneurs in the EU and beyond*, 2012

can lead to short- and long-term economic and social losses for individuals, employers and the society. It can take different forms. Three major dimensions which have received attention by policymakers and scholars are macroeconomic skills mismatch, which relates to differences in skills between jobs on offer and the pool of unemployed along broad qualification levels; specific skills shortages, referring to employers' inability to find workers with a specific skill or occupation, and skills mismatch on-the-job, which relates to differences between employed individuals' skills and the skills needed to perform their job.<sup>11</sup>

For monitoring under the European Semester, macroeconomic skills mismatch indicators can be considered more useful than others, as they are most reliable, easy to calculate based on frequently collected data, and have a more direct link to important policy concerns such as unemployment, and in particular long-term or structural unemployment.

A useful measure of macroeconomic skills mismatch is the dispersion of employment rates across skills groups, which measures the different chance of being employed for the high-skilled, medium-skilled and low-skilled. The relative dispersion quantifies the discrepancy between the supply of skills (proxied by the skills composition of the working-age population) and the demand for skills (proxied by the skills composition of people actually in employment). Figure 6 shows how EU Member States compare with each other. Employment rate dispersion is especially high in BE, BG, IE, LT, IT, SK and HU. In most cases, this is driven by low employment rates of low-skilled (in particular relative to high-skilled), although deeper country-specific analysis is warranted to understand the underlying drivers. A look at trends over a longer time period is also useful.

**Figure 6: Relative dispersion of employment rates by education level**

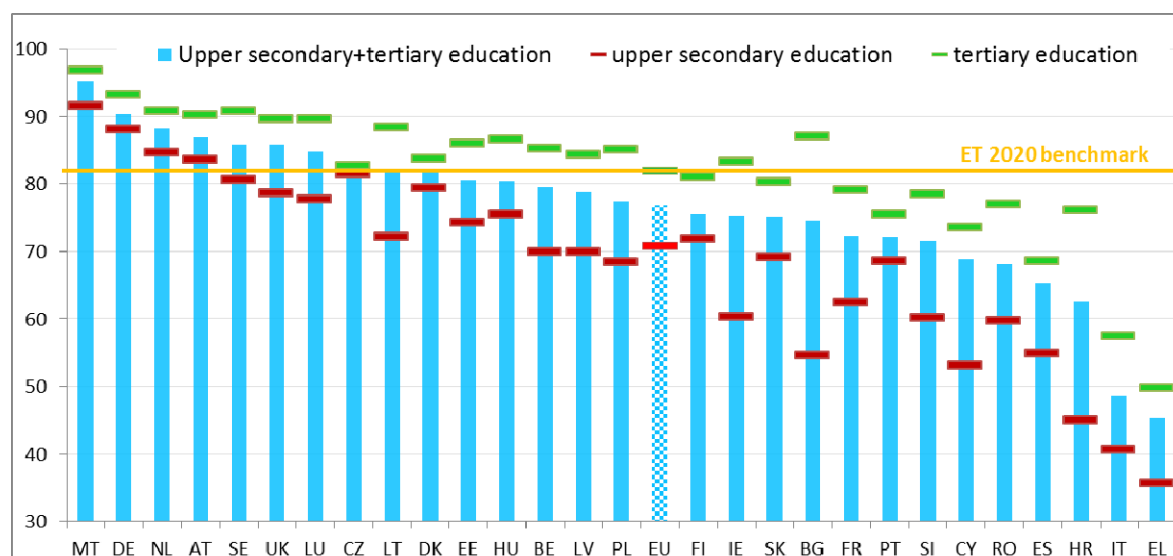


Source: Own calculations based on Eurostat. Annual average based on the average of four quarters.

<sup>11</sup> For a detailed review, see Kiss, A. and Vandeplas, A. (2015) Measuring Skills Mismatch. Analytical Webnote 7/2015, DG EMPL.

Although over the crisis period labour market outcomes have worsened also for tertiary-educated young people, equipping young people with relevant knowledge, skills and attitudes still eases the transition from education to employment. Figure 7 shows the percentage of young recent graduates in employment against the target, set by the Council in 2012, according to which at least 82% of young recent graduates should be in employment by 2020.

**Figure 7: Employability: employment rates of recent graduates<sup>12</sup>, 2015 (%)**



Source: Eurostat, Labour Force Survey

The **employment rate** of recent young graduates in the EU28 as a whole increased further to 76.9% in 2015, consolidating the gradual recovery started the previous year. Since 2013, the employment rate of upper secondary graduates rose by 1.5 percentage points, while the rate for tertiary graduates gained 1.1 points.

For vocational education and training, evidence from a study by JRC<sup>13</sup> shows that in many EU countries, upper secondary school graduates from programmes oriented towards vocational education and training (VET) have higher employment rates than their non-VET counterparts, as well as lower unemployment and inactivity rates.<sup>14</sup> OECD analysis<sup>15</sup> confirms that at the ISCED 3 and 4 levels, VET is associated with a higher probability of being employed (see also Figure 9), but slightly lower hourly earnings. The differences are small however, especially when considered by gender. At the ISCED 5 level, there is a strong advantage of academic education in terms of earnings and employment.

<sup>12</sup> The indicator on which the target is based is defined as the share of all young people (aged 20 – 34) who graduated from at least upper secondary education in the period of one to three years before, who are in employment and who are not currently enrolled in any further education or training activity.

<sup>13</sup> JRC CRELL (2015): Education and youth labour market outcomes: the added value of VET. Technical briefing; based on a special extraction from LFS provided by Eurostat concerning the third quarter of 2014

<sup>14</sup> Measured as proportion of employed individuals aged 20-34 whose highest level of education is upper secondary or post-secondary non-tertiary (ISCED 3-4).

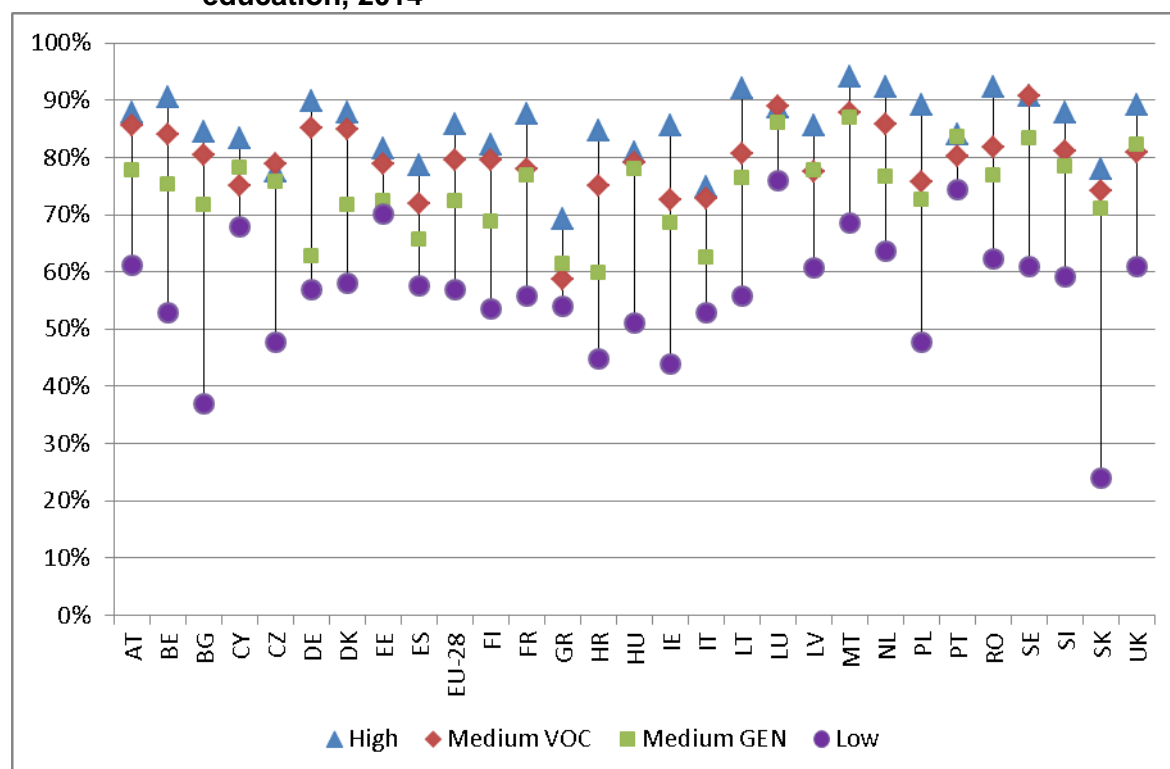
<sup>15</sup> OECD (2015): The effects of vocational education and training on adult skills and wages. What can we learn from PIAAC?

### 3. Identification of policy levers to address the challenges

Adequate investment in education and structural reforms enhancing the efficiency and effectiveness of education and training systems can improve the formation of basic skills. To reduce the incidence of low-performers among the young, inclusive policies also need to be targeted at raising the outcomes of pupils with a disadvantaged socio-economic background and pupils with a different linguistic background.

This fiche focuses on the skills directly linked to labour market needs. For a more comprehensive view on higher and lower education, please refer to the fiches *Tertiary education attainment* and *Early leavers from education and training*.

**Figure 8: Employment rates of young adults aged 30 to 34 by level of education, 2014**



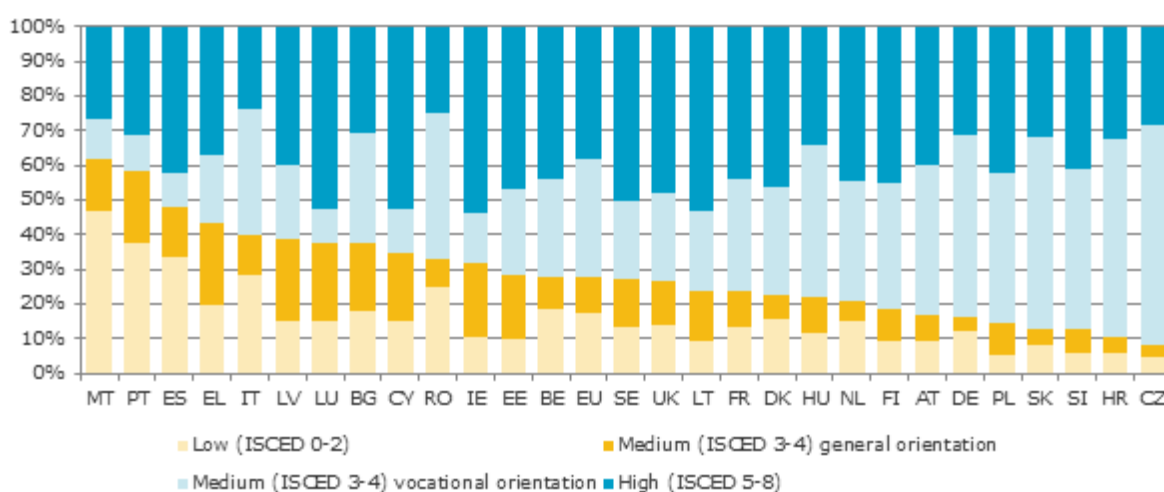
Source: DG EMPL calculation based on Eurostat Labour Force Survey data. The data considers age-group 30–34. Note: The analysis excludes respondents who did not respond to the questions on highest educational attainment and/or the orientation of education and/or labour market status.

Initial Vocational Education and Training is a key source of skills and competencies for EU economies and can facilitate a smooth school-to-work transition. Initial VET systems must provide adequate basic, transversal, and vocational skills that fit the needs of employers, but also equip learners to engage in Long Life Learning (LLL), and to manage transitions from education to employment as well as from one job to another or from unemployment to employment. Countries with strong VET systems perform better in terms of youth employment. However, not all countries have equally well-developed VET systems and in some only few young people undertake VET. The quality and attractiveness of VET systems are at least partially influenced by the employment opportunities available to

students leaving vocational programs. While in most cases VET graduates are well performing in the labour market, several countries face challenges at the level of employment outcomes for those who attend upper-secondary VET systems.

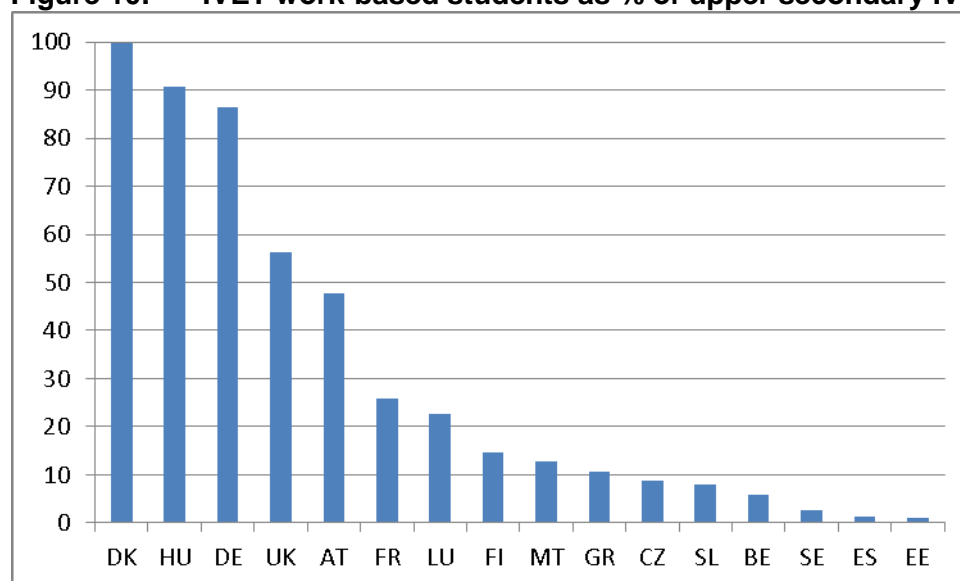
Several EU Member States have a relatively high share of young people who either do not finish upper secondary education or choose general upper secondary educational pathway, but do not continue into higher education. A large proportion of those young people suggests that there is room to provide them with opportunities for a vocational qualification – either at secondary, post-secondary or tertiary level – ensuring that those opportunities are accessible, attractive and lead to a qualification which is well regarded in the labour market.

**Figure 9: Education attainment of young adults aged 30 to 34**



Source: Eurostat (LFS, 2014). Note: the indicator shows the highest level of education attainment amongst 30 to 34 year-olds.

**Figure 10: IVET work-based students as % of upper secondary IVET2014**



Source: Cedefop calculations based on Eurostat data/UOE data collection on education systems

Evidence shows that the employability of young VET graduates increases with participation in high-quality work-based learning programmes fostering skills acquisition responding to labour market needs.<sup>16</sup> However, while 50% of secondary school students participate in VET programmes, only 26.5% of VET students are in work-based programmes.<sup>17</sup>

Given the broad consensus that wider availability of high-quality apprenticeships would be an effective instrument to improve sustainable transitions from school to work in many Member States, efforts to persuade companies, mainly SMEs, to invest time and money in young learners need to be intensified. Other challenges need to be overcome too, including securing sufficient availability of qualified trainers; establishing and implementing proper quality assurance systems; and attracting/organising funding and other types of support for cooperation arrangements between VET institutions and businesses.

Adult learning and continuing vocational education and training: Effective adult learning policies include the provision of learning opportunities which governments fund in whole or part, focusing investment on underrepresented groups, the provision of employment- and work-related training, and overall ensuring the relevance and high quality of training opportunities.

A high commitment to invest in skills upgrading and competence-development throughout life is crucial to maintain a productive workforce equipped with relevant skills. This can be seen as an effective response to structural changes such as rapid technological progress, globalization, and the implementation of effective active ageing strategies. To retain continued skill development within jobs and to shield susceptible workers from skill obsolescence, it is necessary for European lifelong learning policies to maintain their commitment to (non-formal or informal) learning and training.

Under the open method of coordination in the field of Education and Training (ET 2020), Member States agreed on a target to be reached by 2020, according to which at least 15% of the adults (aged 25-64) population should participate in learning. However, the average performance in 2015 was only 10.7%. Unfortunately, participation tends to be lower for individuals that returned back to the job market after experiencing a spell of unemployment, older individuals and those employed in semi-skilled and low-skilled occupations – those who need to update and increase their skills the most.

Participation in job-related training is dependent on learning opportunities supported by the employer (i.e. during working time or paid at least partially by enterprises), which is reflected in the latest CVTS results<sup>18</sup>. On average two thirds of enterprises in the EU provided continuing vocational training in 2010, but large enterprises were much more likely to provide training than small and medium-sized enterprises.

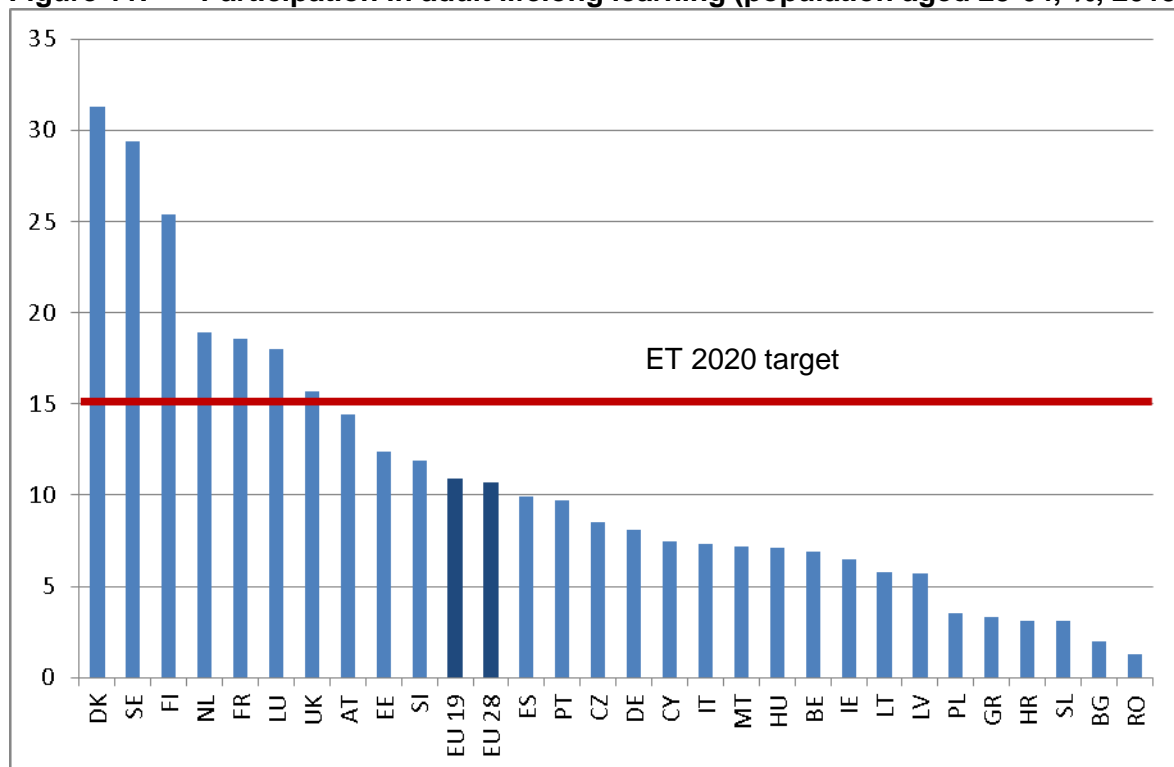
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<sup>16</sup> Cedefop (2012), From education to working life. It should be noted that the distribution of company- and school-based training and the proportion of young people undertaking apprenticeships varies significantly across the EU.

<sup>17</sup> Source: Cedefop (2010), Skills Supply and Demand in Europe, Medium-Term Forecast up to 2020

<sup>18</sup> The Continuing Vocational Training Survey (CVTS) reports on CVT activities which took place in 2010.

**Figure 11: Participation in adult lifelong learning (population aged 25-64, %, 2015)**



Source: Eurostat, Labour Force Survey

Full transparency and comparability of qualifications across the EU will help Member States to trust the quality of each other's qualifications and ease the mobility of learners and workers. To this end, the Member States are referencing their qualification levels to the 8 levels of the European Qualifications Framework (EQF) and are indicating EQF levels and national qualifications framework levels on newly issued certificates/diplomas.

Skills acquired outside of the formal education and training system are often not documented or formally recognised. Member States have agreed to set up national arrangements for the validation of non-formal and in-formal learning by 2018<sup>19</sup>. In particular, they agreed to provide skills audits to all the unemployed ideally within 6 months of the identified need. A skills audit helps to assess the knowledge, skills and competences of an individual to prepare for the validation of non-formal or informal learning outcomes and/or plan a professional reorientation or training project. Therefore, it is particularly relevant for people with lower qualifications, unemployed or at risk of unemployment, migrants, youth and those seeking career change. The best conceived opportunities to validate skills acquired outside formal education are accessible and lead to qualifications, or parts of qualifications.

Well established skills governance systems can help build and optimise the skills and competences of the current and future workforce. Efficient systems are based on sound skills intelligence produced by robust mechanisms of skills assessment, anticipation and

<sup>19</sup> In line with Council Recommendation on the validation of non-formal and informal learning (2012/C 398/01)

forecasting. This information contributes to guide the education and training policies and career guidance services.

The European Commission has been addressing digital skills challenges in the EU through its Grand Coalition for Digital Jobs initiative (See fiche on *Digital Skills and Jobs*) and has developed a common European Digital Competence Framework (EDCF) describing the set of digital competences that are needed by all citizens today. Member States are using the EDCF and the related assessment tool in developing their education curricula, learning outcomes or teacher training. The European Commission is now developing an Entrepreneurship Competence Framework, which aims at defining what is needed to be entrepreneurial in the XXI century.

The European Commission also supports the setting up of European Sector Skills Councils designed to anticipate the need for skills in specific sectors more effectively and achieve a better match between skills and labour market needs. So far, 14 sectors have benefited from Commission funding for feasibility studies on setting up European Skills Councils. Furthermore, the Erasmus+ programme supports Sector Skills Alliances, which aim to enhance the responsiveness of VET systems to sector-specific labour market needs.

## 4. Cross-examination of policy state of play

Skills formation: Progress towards the target of basic skill provision is ensured by the regular monitoring under the ET2020 strategic cooperation framework. The policies against early leaving from education and training, tracked under the Europe 2020 headline target, also support the goal of minimum education attainment for all youth, as a precondition for building further skills either in higher education or for the labour market.

Initial Vocational Education and training: VET programmes lead to good employment outcomes in most of the Member States, except for IE, LT, and UK. Progress on the Riga medium-term priorities for VET<sup>20</sup> will be annually monitored by Cedefop, assessing the implementation of policy reforms to address those medium-term priorities. Cedefop will provide country fiches for initial, continuing VET and adult learning in autumn (November) each year.

Continuing Vocational Education and Training / Adult learning: Five countries have a LLL participation above ET 2020 target: UK, NL, FR, FI, SE, DK. The lowest participation happens in BG, RO, HR, EL, SK, HU. Conflicts between training and work are particularly important in AT, EL, MT. On the contrary, it does not seem to be an obstacle in BG, PT, HU, SI. Dedicated basic skills programs exist in AT, BE, DE, DK, FR, IE, IT, MT, NL, PT, SI, UK.

Transparency and recognition of skills and qualifications: To date, 22 Member States have referenced their national qualifications frameworks to the European Qualifications Framework (EQF) and 13 Member States are putting or have set a date for putting the

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<sup>20</sup> For details, see Section 3.

EQF levels on national certificates and diplomas. It is expected that by the end of 2016 all Member States have references to the NQF and that the number of Member States putting the EQF levels on national certificates and diplomas will see a clear increase.

Validation of non-formal and informal learning: Member States are preparing to put in place national arrangements for validation of skills acquired outside formal education and training. Progress is mixed and there is still a lot to do before the deadline of 2018. For example, in the 2014 European Inventory on Validation 15 Member States (BG, CZ, DE, DK, EE, ES, IE, CY, LT MT, AT, PT, RO, SK, UK) reported that a skills audit system, one element of the national validation arrangements, was not in place.

Skills governance: Regular monitoring of labour market demand is essential and a system for monitoring occupations that are in need or in surplus is a basic building block of the labour market intelligence system. Despite this, most Member States currently do not have sufficiently good monitoring mechanisms. Only a third of Member States monitor the evolution of labour demand with a further third only having partial data<sup>21</sup>. Labour market monitoring is strongest in AT, BE, DE, DK, FI, FR, IT, SE, UK and weakest in BG, CZ, EE, EL, ES, MT, SI, SK.

Digital skills: The Digital Agenda Scoreboard measures progress of the European digital economy via the Digital Economy and Society Index (DESI), which is a composite index that summarises relevant indicators on Europe's digital performance and tracks the evolution of EU Member States in digital competitiveness.<sup>22</sup> Digital Skills development is tracked under the Human Capital Dimension of the index. LU, FI, SE, DK, NL and UK score highest for basic skills and usage. FI, SE, the UK, IE and DK score best for advanced skills and development. BG, RO and EL score consistently at the bottom of the rankings for both sub-dimensions.

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21 Qualitative data; based on European Commission: Mapping and analysing bottleneck vacancies in EU labour markets. 2014

22 <http://ec.europa.eu/digital-agenda/en/digital-agenda-scoreboard>