



Cedefop country factsheet

Adult population in potential need of upskilling:

Bulgaria

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This country factsheet is produced by Cedefop as background material to the [Second Policy learning forum on upskilling pathways: a vision for the future](#). This country factsheet is based on preliminary results from Cedefop's project "the potential of WBL in developing upskilling pathways for adults" and will be finalised following outcomes of the Policy Learning Forum.

This factsheet has neither been edited nor proof read by Cedefop's editing service.

Further information:

<http://www.cedefop.europa.eu/en/events-and-projects/projects/adult-learning>

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Introduction

Analysis of low-skilled status in the labour market to date has been primarily conducted using the level of educational attainment of the population (Box.1). As widely acknowledged¹, this definition does not take into account other factors which may lead to low-skilled status, such as:

- long-term unemployment and/or disengagement from the labour market;
- skill obsolescence due to ageing, technological change, changes in production processes and/or work organisation;
- gaps between individual job skills and changing skill demands of the labour market;
- socio-economic factors such as migrant background and gender.

Seemingly, a narrow conceptualisation of being low-skilled also fails to capture the role of skills and competences gained outside formal education environments, such as those acquired through training, informal learning and work experience. Within the limitations of systematic data available across EU countries, the following Cedefop analysis provides a multidimensional view of the phenomenon in a cross-national comparative perspective.

Box 1: Definitions and measure of low skilling used for this analysis

EU28+: EU Member States plus Iceland and Norway.

Adult population / adults: population aged 25-64.

Low education: completed ISCED (2011) levels 0-2 or ISCED 3 programmes lasting less than 2 years (LFS 2016).

Low use of Internet: last use of Internet was more than 3 months prior to survey interview or no internet use (CSIS 2015, 2014 for IS).

Below basic digital skills: among those with the last use of Internet less than 3 months prior to survey interview, individuals who have carried out activities in at most one of the four digital competence dimensions surveyed: information, communication, content-creation and problem-solving (CSIS 2015).

Low digital skills: either low use of Internet or below basic digital skills (CSIS 2015).

Low literacy/ Low numeracy/ Low problem solving in technology-rich environments (PS): proficiency levels ≤ 1 for literacy and numeracy; proficiency levels < 1 for PS (OECD-PIACC).

Risk of low skilling: the probability of being low skilled for different socio-demographic groups. It is calculated as **absolute risk** (share of individuals with low skills among those of the same socio-demographic group); or as **relative risk** (share of low skilled in the socio-demographic group -absolute risk- over the share of low skilled among whole adult population).

Low skilling gap: difference between the incidence of the socio-demographic group in the total low skilled population and the incidence of the socio-demographic group in the total adult population.

Performance index of low skilling: relative risk of low skilling within the country over the relative risk of low skilling observed on average in EU28+ for the same socio-demographic group.

Sources and country coverage

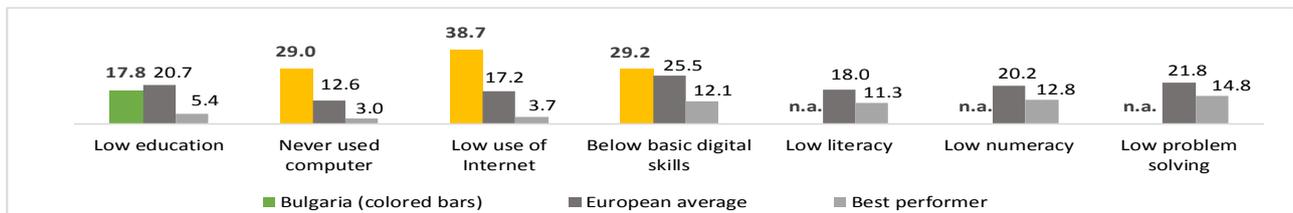
EU-LFS (Labour force survey) 2016 for education: EU28+; CSIS (Community Statistics on information Society) survey 2015 (2014 for IS) for computer, digital skills: E28 and NO; OECD-PIAAC (Survey of adult skills) 2012;2015 for literacy, numeracy (AT, BE, CY, CZ, DE, DK, EE, EL, ES, FI, FR, IE, IT, LT, NL, NO, PL, SE, SI, SK, UK), and problem solving in technology-rich environments (AT, BE, CZ, DE, DK, EE, EL, FI, IE, LT, NL, NO, PL, SE, SI, SK, UK). In PIAAC survey BE data refer to Flanders and UK data refer to England and Northern Ireland.

¹ Cedefop (2017). Investing in skills pays off: the economic and social cost of low-skilled adults in the EU. Luxembourg: Publications Office. Cedefop research paper; No 60. <http://dx.doi.org/10.2801/23250>.

Magnitude of low skilling phenomenon

Adopting a more comprehensive analysis of low skills, according to a broader set of skills for which data are available, **Bulgaria presents a high share of adults with low computer and digital skills** when compared to both the European unweighted average and the best performing countries in the EU (i.e., those countries having the lowest shares of low skilled adult populations). In 2015 the share of adults who have never used computer and the one with below basic digital skills was 29%, while the share of adults who never used or used Internet rarely was almost 39% (Fig.1). On the other hand, **the incidence of adults with low levels of educational attainment is lower** than those observed on average in the EU28+ countries. Data on cognitive skills (literacy and numeracy) and on problem solving in technology-rich environments are not available for Bulgaria.

Figure 1 – incidence of low skilling among adults aged 25-64 by type of skills (%)

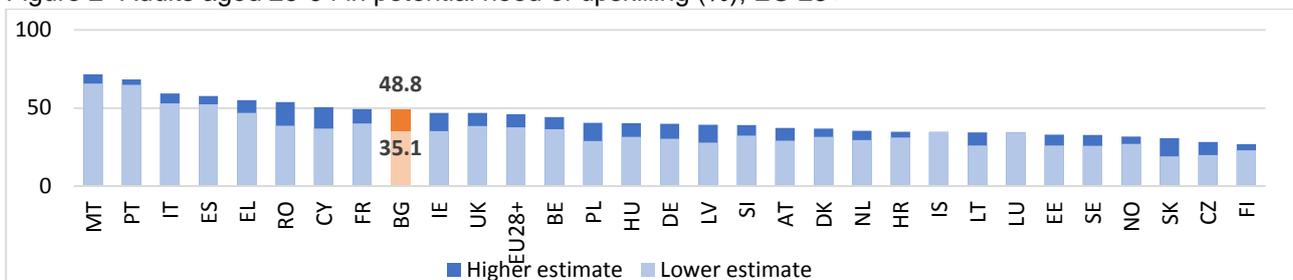


Note: European average: unweighted average of EU28+ countries for which data are available. n.a. data not available. Best performer countries (those with reliable data) with the lowest share of low-skilled adult population aged 25-64. Best performer: Low education (LT), Never used computer (NL), Low use of Internet (FI), Below basic digital skills (LU), Low literacy (FI), Low numeracy (CZ), Low problem solving in technology-rich environments (NO)

Estimation of the adult population in potential need of upskilling

On the basis of the above data, **in Bulgaria the share of adult population in potential need of upskilling is estimated range between 35.1% and 48.8% of its total adult population, that is to say from 1.4 to 1.9 million adults, depending on the measure of digital competences considered.** The estimation of the populations in potential need of upskilling includes adults with very low skill levels in at least one of the following domains: education (attainment), literacy, numeracy and digital competences (considering only those who never used computer for the lower estimate; considering those with low use of internet and those with below basic digital skills for the higher estimate). Moreover, among those in potential need of upskilling are also medium-high educated individuals having a potential risk of skill loss because they work in low skilled occupations (they account for 4.4 percentage points in the total estimate).

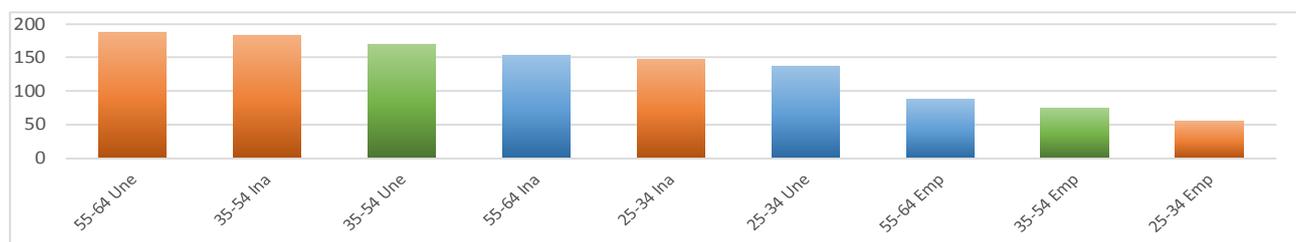
Figure 2- Adults aged 25-64 in potential need of upskilling (%), EU 28+



Note: Population in potential need of upskilling (estimate): adults with either: low education; low digital skills (higher estimate) or never used computer (lower estimate); low literacy and/or low numeracy; as well as medium-high educated (ISCED2011 level 3 2-year+ to level 8) at risk of skill loss, working in elementary occupations- ISCO08 level 9). For countries not surveyed by PIAAC (BG, HR, HU, IS, LU, LV, MT, PT, RO), low cognitive skills (low literacy and/or low numeracy skills) is assumed to be equal to the average level observed in surveyed countries. EU28+: population weighted average.

Looking across the population, in Bulgaria low skilling is particularly high among people in the older age groups and among unemployed and inactive people. Among the total number of people in need of upskilling estimated above, the population groups most in need of upskilling are: unemployed aged 55-64; people out of the labour force (inactive) aged 35-54; and unemployed aged 35-54. They all present on average the highest share of low skilling in all domains considered: education and digital skills (i.e. low use of Internet or below basic digital skills). In addition, also other categories of unemployed and inactive people present a higher than average risk of being low skilled (i.e. all those groups whose composite index is above 100, Fig. 3).

Figure 3 – low skilling composite index*, Bulgaria



Note: *Low skilling composite index: calculated as the arithmetic mean of the relative risk of being low skilled in two domains: Low Education; Low Digital skills. For each skill domain, the relative risk is calculated as the share of low skilled in the socio-demographic group over the share of low skilled among adults aged 25-64 in the country. Values of the index below 100 indicate a lower than average risk; values above 100 indicate higher than average risk.

Box 2 – Risk of low skilling among adult women

In Bulgaria, women account for approximately 49% of the adult population with low education and low digital skills. Among adult women, the absolute risk of low skilling is higher for digital skills (67%) as compared to the other skill dimension considered. However, when compared to the average risk (relative risk of low skilling) women show a lower risk of low skilling both in education and in digital skills (2% lower).

The breakdown by employment status shows that the relative risk of low skilling is higher among women out of the labour force (inactive) and among unemployed women in all the skill dimensions considered. Low skilled inactive adult women represent between 13% and 28% of the low skilled adult population, depending on the skill dimension considered.

Females aged 25-64	Low education	Low digital skills	Low literacy	Low numeracy
Absolute risk of low skilling among fem 25-64	17.3	66.5	n.a.	n.a.
Relative risk of low skilling: total fem 25-64	97 (48.4)	98 (48.6)	n.a.	n.a.
Relative risk: unemployed fem 25-64	189 (4.4)	127 (11.2)	n.a.	n.a.
Relative risk: inactive fem 25-64	198 (27.9)	125 (12.8)	n.a.	n.a.
Relative risk: employed fem 25-64	48 (16)	81 (24.5)	n.a.	n.a.

(incidence of low skilled females 25-64 on total low skilled population in %). n.a.: data not available

Risk of low skilling and labour market status

The following tables and figures below illustrate the absolute risk and the relative performance index of low skilling across four domains (education, digital skills², literacy and numeracy) by labour market status. The absolute risk for each socio-demographic group shows the probability of being low skilled for the individuals in that socio-demographic group (Tables 1, 2, and 3). The

² Low use of Internet or below basic digital skills (see box 1).

relative performance index of low skilling shows how the socio-demographic group performs (in terms of low skilling) with respect to the European average³. The calculated values of this index are represented in Figures 4, 5 and 6 (values above 100 indicate a worse performance of the group with respect the European average; values below 100 indicate a better performance).

Risk of low skilling among unemployed people

Among the unemployed, the groups most at risk of low skilling are individuals aged 55-64 and 35-54. They present a very high risk of having low digital skills and low educational attainment levels as compared to the country and European averages (Tab. 1). Data are not available for literacy and numeracy.

The following table (1) presents the **absolute risk** of being low skilled by age for the unemployed and the absolute risk registered by the whole adult population (25-64) in the country and in Europe.

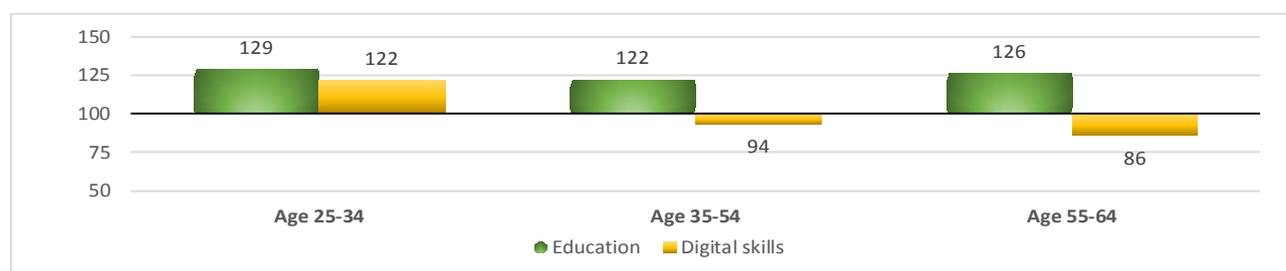
Table 1- Unemployed adults: absolute risk of being low skilled by age and type of skill, Bulgaria

Age	Education	Digital skills	Literacy	Numeracy
55-64	41,6	96,5	n.a.	n.a.
35-54	37,0	90,0	n.a.	n.a.
25-34	28,8	75,4	n.a.	n.a.
Total pop 25-64: Country average	17,8	67,9	n.a.	n.a.
Total pop 25-64: European average	23,2	43,0	20,8	24,3

Note: European weighted average: Education (EU28+); Digital skills (EU28, NO); Literacy and Numeracy (AT, BE, CY, CZ, DE, DK, EE, EL, ES, FI, FR, IE, IT, LT, NL, NO, PL, SE, SI, SK, UK). n.a.: data not available.

Unlike the absolute risk, the **relative performance index** of low skilling (Fig. 4) evidences country critical areas (those above 100) for socio-demographic groups as compared to the performance they register on average across Europe. In Bulgaria, for instance, unemployed young adults (25-34) have a higher relative risk of having low digital skills as compared to the relative risk observed on average by the same group in Europe, while all groups of unemployed adults have a higher relative risk of having low education.

Figure 4 – Unemployed adults: relative performance index of low skilling by age and type of skill, Bulgaria



Note: **Relative risk of low skilling within the country over the relative risk of low skilling observed on average in EU28+ for the same socio-demographic group.** Values of the index below/above 100 indicate that the relative risk of low skilling for the specific socio- demographic group in the country is lower/higher as compared to the relative risk for the specific socio- demographic group in the EU average.

³ The countries considered in the European average change according to the database and skill considered: EU28+ for education (EU-LFS 2016); EU28 plus NO for digital skills (CSIS 2015); AT, BE, CY, CZ, DE, DK, EE, EL, ES, FI, FR, IE, IT, LT, NL, NO, PL, SE, SI, SK, UK for literacy and numeracy (OECD- PIAAC 2012;2015).

Risk of low skilling among inactive people

Among inactive adults, the groups most at risk of low skilling are again the adults aged 35-54 and 55-64. They present a higher risk of having low digital skills and low educational attainment levels compared to the average risk registered in the country and in the EU28+ (Tab. 2). However, also the younger adults aged 25-34 out of the labour force show a relatively high risk of having low educational attainment levels.

The following table (2) presents the **absolute risk** of being low skilled by age for inactive individuals and the absolute risk registered by the whole adult population (25-64) in the country and in Europe.

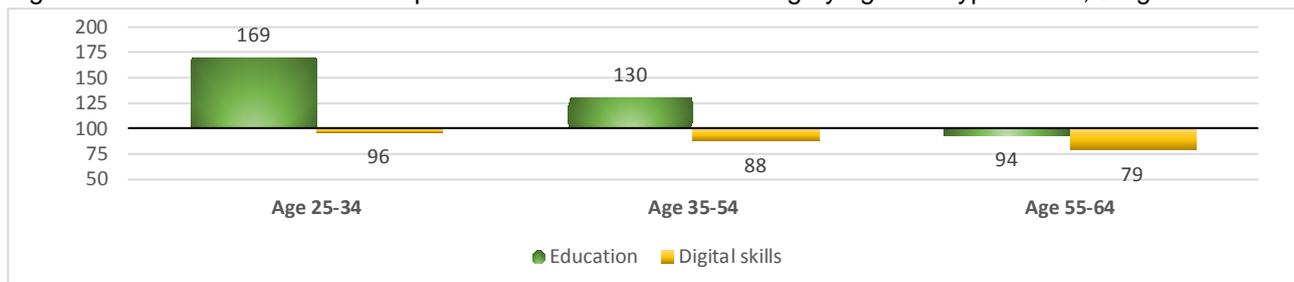
Table 2- Inactive adults: absolute risk of being low skilled by age and type of skill, Bulgaria

Age	Education	Digital skills	Literacy	Numeracy
35-54	43,0	85,5	n.a.	n.a.
55-64	29,7	95,0	n.a.	n.a.
25-34	39,3	51,5	n.a.	n.a.
Total pop 25-64: Country average	17,8	67,9	n.a.	n.a.
Total pop 25-64: European average	23,2	43,0	20,8	24,3

Note: European weighted average: Education (EU28+); Digital skills (EU28, NO); Literacy and Numeracy (AT, BE, CY, CZ, DE, DK, EE, EL, ES, FI, FR, IE, IT, LT, NL, NO, PL, SE, SI, SK, UK). n.a.: data not available.

Unlike the absolute risk, the relative performance index of low skilling (Fig. 5) evidences country critical areas (those above 100) for socio-demographic groups as compared to the performance they register on average across Europe. In Bulgaria, for instance, inactive adults aged 25-34 and 35-54 have a higher relative risk of having low education as compared to the relative risk observed on average by the same groups in Europe.

Figure 5 – Inactive adults: relative performance index of low skilling by age and type of skill, Bulgaria



Note: **Relative risk of low skilling within the country over the relative risk of low skilling observed on average in EU28+ for the same socio-demographic group.** Values of the index below/above 100 indicate that the relative risk of low skilling for the specific socio- demographic group in the country is lower/higher as compared to the relative risk for the specific socio- demographic group in the EU average.

Risk of low skilling among employed people

Employed adults of all groups considered show a lower risk of having low educational attainment levels with respect to both the country and the European average. However, for those aged above 35 the risk of having insufficient digital skills is high even among employed adults (Tab. 3).

The following table (3) presents the **absolute risk** of being low skilled by age for employed individuals and the absolute risk registered by the whole adult population (25-64) in the country and in Europe

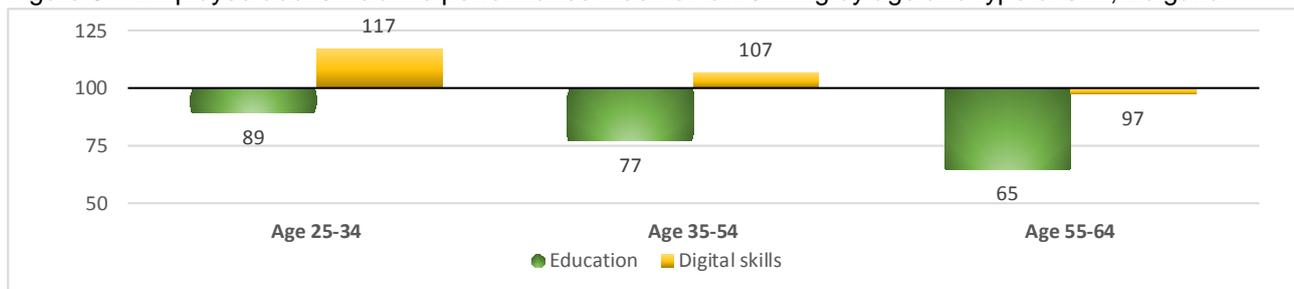
Table 3- Employed adults: absolute risk of being low skilled by age and type of skill, Bulgaria

Age	Education	Digital skills	Literacy	Numeracy
55-64	11,4	75,3	n.a.	n.a.
35-54	10,4	61,1	n.a.	n.a.
25-34	8,5	41,8	n.a.	n.a.
Total pop 25-64: Country average	17,8	67,9	n.a.	n.a.
Total pop 25-64: European average	23,2	43,0	20,8	24,3

Note: European weighted average: Education (EU28+); Digital skills (EU28, NO); Literacy and Numeracy (AT, BE, CY, CZ, DE, DK, EE, EL, ES, FI, FR, IE, IT, LT, NL, NO, PL, SE, SI, SK, UK). n.a.: data not available.

Nevertheless, the **relative performance index** of low skilling (Fig. 6) evidences country critical areas (those above 100) for socio-demographic groups as compared to the performance they register on average across Europe. In Bulgaria, for instance, employed adults aged 25-34 and 35-54 have a higher relative risk of having low digital skills as compared to the relative risk observed on average by the same group in Europe.

Figure 6 – Employed adults: relative performance index of low skilling by age and type of skill, Bulgaria



Note: **Relative risk of low skilling within the country over the relative risk of low skilling observed on average in EU28+ for the same socio-demographic group.** Values of the index below/above 100 indicate that the relative risk of low skilling for the specific socio-demographic group in the country is lower/higher as compared to the relative risk for the specific socio-demographic group in the EU average.