

Cedefop country factsheet

Adult population in potential need of upskilling:

Denmark

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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. 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

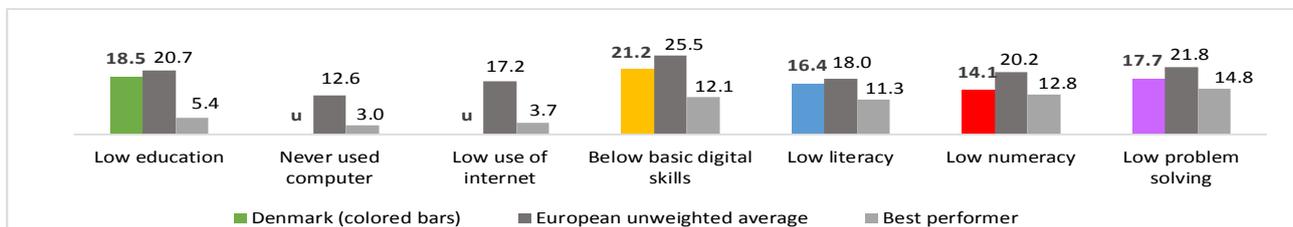
EU-LFS (Labour force survey) 2016 for education: EU28+; CSIS (Community Statistics on information Society) survey 2015 (2014 for IS) for computer, digital skills: E28 and NO; OECD-PIAAC (Survey of adult skills) 2012;2015 for literacy, numeracy (AT, BE, CY, CZ, DE, DK, EE, EL, ES, FI, FR, IE, IT, LT, 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, **in Denmark the incidence of low skilling among adults is lower than those observed on average in the EU28+ countries in all the skills domains considered, for which reliable data is available:** educational attainment, digital skills, cognitive skills (literacy and numeracy), problem solving in technology-rich environments (Fig. 1). On the other hand, the gap with the best performing countries in the EU (i.e., those countries having the lowest shares of low skilled adult populations) is relatively high for what concerns the digital skills (i.e. below basic digital skills)

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

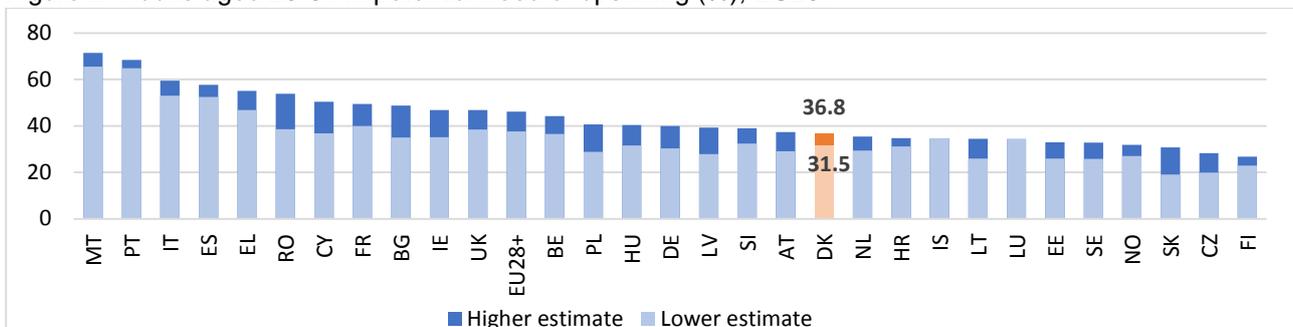


Note: European average: unweighted average of EU28+ countries for which data are available. u: unreliable data. Best performer countries (those with reliable data) with the lowest share of low-skilled adult population aged 25-64. Best performer: Low education (LT), Never used computer (NL), Low use of 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 Denmark the share of adult population in potential need of upskilling is estimated to range between 31.5% and 36.8% of its total adult population, that is to say from 0.9 to 1 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 3.6 percentage points in the total estimate).

Figure 2- Adults aged 25-64 in potential need of upskilling (%), EU28+



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 Denmark low skilling is particularly high among inactive people. Among the total number of people in need of upskilling for which reliable data is available, the population groups most in need of upskilling are: inactive people aged 35-54 and 55-64. They all present on average the highest share of low skilling in all domains considered: education, digital skills (i.e. low use of Internet or below basic digital skills), literacy and numeracy (all these groups have a composite index above 100, Fig. 3).

Figure 3 – Low skilling composite index*, Denmark



Note: *Low skilling composite index: calculated as the arithmetic mean of the relative risk of being low skilled in four domains: Low Education; Low Digital skills; Low literacy, Low numeracy. 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. Data unavailable/unreliable for subgroups: unemployed 25-34; unemployed 35-54; unemployed 55-64.

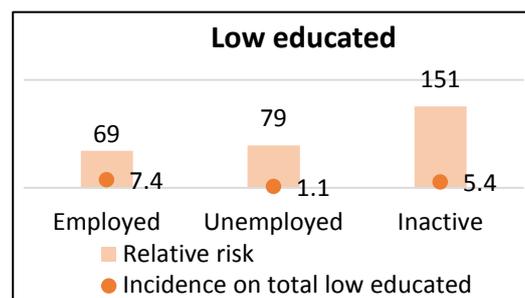
Box 2– Risk of low skilling among foreign-born adults

According to the EU- Labour Force Survey in Denmark foreign-born residents (2016) accounted for 15.7% of the total population, of which 67% were born outside the EU28. Foreign-born adults account for approximately 14% of the population with low education, 31% with low literacy and 32% with low numeracy. However, when looking at the low skilling gap and at the relative risk within the country, low literacy and low numeracy skills are most prominent among this group of adults.

Foreign born aged 25-64	Low education	Low literacy	Low numeracy
Incidence on the low skilled population (%)	13.9	31.0	31.7
Low skilling gap*	-1.8	19.0	19.8
Absolute risk (%)	16.4	42.6	37.5
Relative risk within the country	88	259	266

* Difference between the incidence on the total low skilled population and the incidence on the total population

The breakdown by employment status shows that the risk of having a low educational attainment level is higher than the average level registered in the country only among foreign-born people out of the labour force (51% higher), while it is lower than the country average among foreign-born employed and unemployed. Foreign-born people account for a small share of the total adult population with low educational attainment levels (13.9%): 7.4% are employed, 5.4% are inactive and only 1.1% are unemployed.





Box 3 – Risk of low skilling among adult women

In Denmark, women account for approximately 46% of the adult population with low education and low literacy, and for about 55% of the population with low digital skills and low numeracy. Among adult women, the absolute risk of low skilling is higher for digital skills (25%) as compared to the other skill dimension considered. Moreover, when compared to the average risk (relative risk of low skilling) women show also a higher risk of having low digital skills (10% higher).

The breakdown by employment status shows that the relative risk of low skilling is higher among women out of the labour force (inactive) in all the skill dimensions considered, and among unemployed women in literacy and numeracy. Low skilled inactive adult women represent between 19% and 24% 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 (%)	17.2		25.4		15.3		16.1	
Relative risk of low skilling: total fem 25-64	93	(45.9)	110	(54.9)	93	(46.2)	109	(54.3)
Relative risk: unemployed fem 25-64	97	(2.2)	n.a.		144	(3.4)	179	(4.2)
Relative risk: inactive fem 25-64	188	(18.9)	184	(23.7)	193	(19.5)	232	(23.5)
Relative risk: employed fem 25-64	67	(24.7)	84	(30.2)	63	(23.2)	71	(26.4)

(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 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, particularly in literacy and numeracy (Tab. 1). They show a higher risk of low skilling as compared average level registered in the country. However, at this level of detail information on digital is not reliable for all the age groups.

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.

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

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).

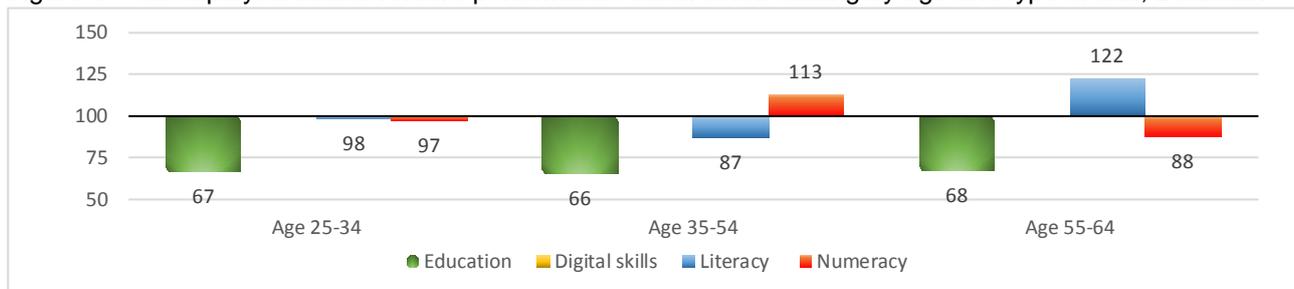
Table 1- Unemployed adults: absolute risk of being low skilled by age and type of skill, Denmark

Age	Education	Digital skills	Literacy	Numeracy
55-64	23,2	u	31,2	21,1
35-54	20,7	u	23,0	25,1
25-34	15,6	u	18,0	17,8
Total pop 25-64: Country average	18,5	22,9	16,4	14,1
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 Denmark, for instance, unemployed individuals aged 35-54 have a higher relative risk of having low numeracy as compared to the relative risk observed on average by the same group in Europe, while those aged 55-64 have a higher relative risk of having low literacy.

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



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 inactive people

Among inactive adults, the groups most at risk of low skilling in all the skill dimensions considered are again individuals aged 55-64 and 35-54. In particular, adults aged 55-64 show a relatively high risk of low skilling especially in digital skills, while adults aged 35-54 show a relatively high risk especially in numeracy. Moreover, also inactive adults aged 25-34 show a higher risk of low skilling in all the skill dimension considered (apart digital skills), with respect to the country average (Tab. 2).

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.

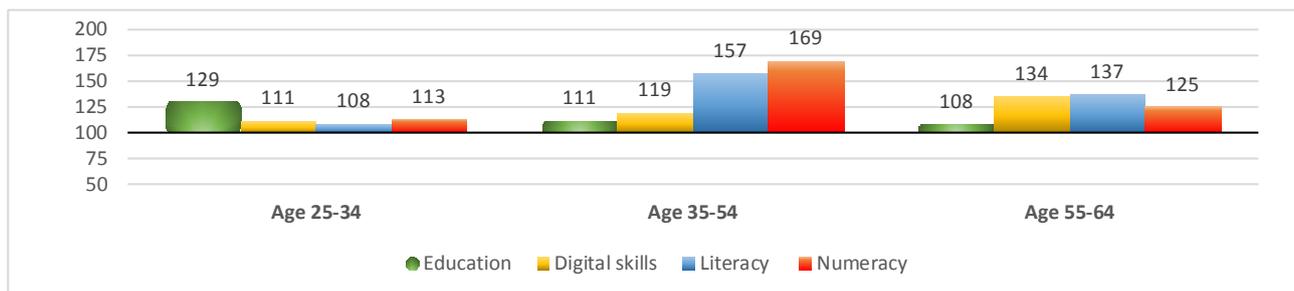
Table 2- Inactive adults: absolute risk of being low skilled by age and type of skill, Denmark

Age	Education	Digital skills	Literacy	Numeracy
35-54	38,4	39,1	39,7	43,7
55-64	35,7	54,5	38,2	30,8
25-34	31,3	20,1	19,8	21,4
Total pop 25-64: Country average	18,5	22,9	16,4	14,1
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).

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 Denmark inactive adults of all groups have a higher relative risk of having low skilling in all skill dimensions considered 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, Denmark



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

Among employed adult, the group most at risk of low skilling are people aged 55-64 in all the skill dimensions considered: they show a higher risk of low skilling as compared average level registered in the country. Whereas, the other two groups show a lower risk of low skilling both compared to the country and to the European average (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.

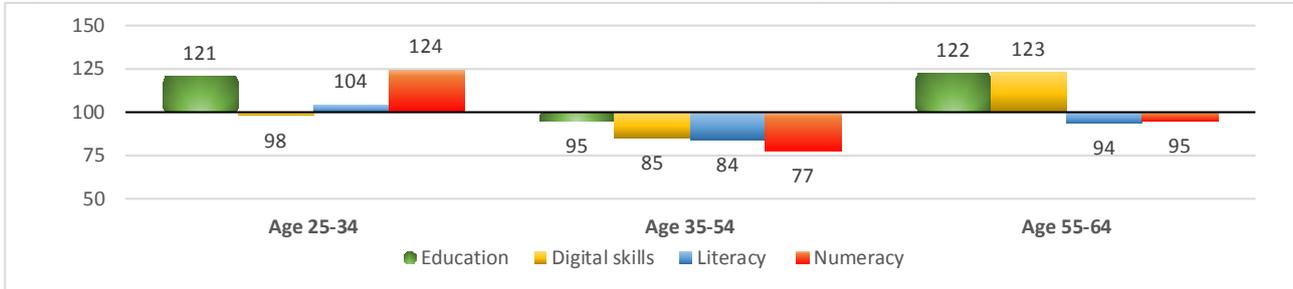
Table 3- Employed adults: absolute risk of being low skilled by age and type of skill, Denmark

Age	Education	Digital skills	Literacy	Numeracy
55-64	22,4	32,1	17,1	14,4
35-54	13,3	16,5	11,0	8,8
25-34	12,0	11,8	9,9	10,4
Total pop 25-64: Country average	18,5	22,9	16,4	14,1
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).

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 Denmark, for instance, employed adults aged 25-34 have a higher relative risk of having low education and low numeracy as compared to the relative risk observed on average by the same group in Europe, while those aged 55-64 have a higher relative risk of having low education and low digital skills.

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



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.