

SURVEY OF ADULT SKILLS  
FIRST RESULTS

## England & Northern Ireland (UK)

### Key issues

- **England and Northern Ireland have been more effective in activating their highly skilled adults than many other countries participating in the survey.**
- **There is a strong and positive association between higher literacy proficiency and social outcomes in England and Northern Ireland.**
- **The talent pool of highly skilled adults in England and Northern Ireland is likely to shrink relative to that of other countries.**
- **England and Northern Ireland need to address social inequalities, particularly among young adults.**
- **There are particularly large proportions of adults in England and Northern Ireland with poor numeracy skills.**

### The survey

The Survey of Adult Skills (PIAAC) provides a picture of adults' proficiency in three key information-processing skills:

- literacy – the ability to understand and respond appropriately to written texts;
- numeracy – the ability to use numerical and mathematical concepts; and
- problem solving in technology-rich environments – the capacity to access, interpret and analyse information found, transformed and communicated in digital environments.

Proficiency is described in terms of a scale of 500 points divided into levels. Each level summarises what a person with a particular score can do. Six proficiency levels are defined for literacy and numeracy (Levels 1 through 5 plus below Level 1) and four for problem solving in technology-rich environments (Levels 1 through 3 plus below Level 1).

The survey also provides a rich array of information regarding respondents' use of skills at work and in everyday life, their education, their linguistic and social backgrounds, their participation in the labour market and other aspects of their well-being.

The Survey of Adult Skills was conducted in England and Northern Ireland from August 2011 to April 2012.

A total of 8 892 adults aged 16 to 65 were surveyed.

## England and Northern Ireland make greater economic use of their highly skilled talent pool than others.

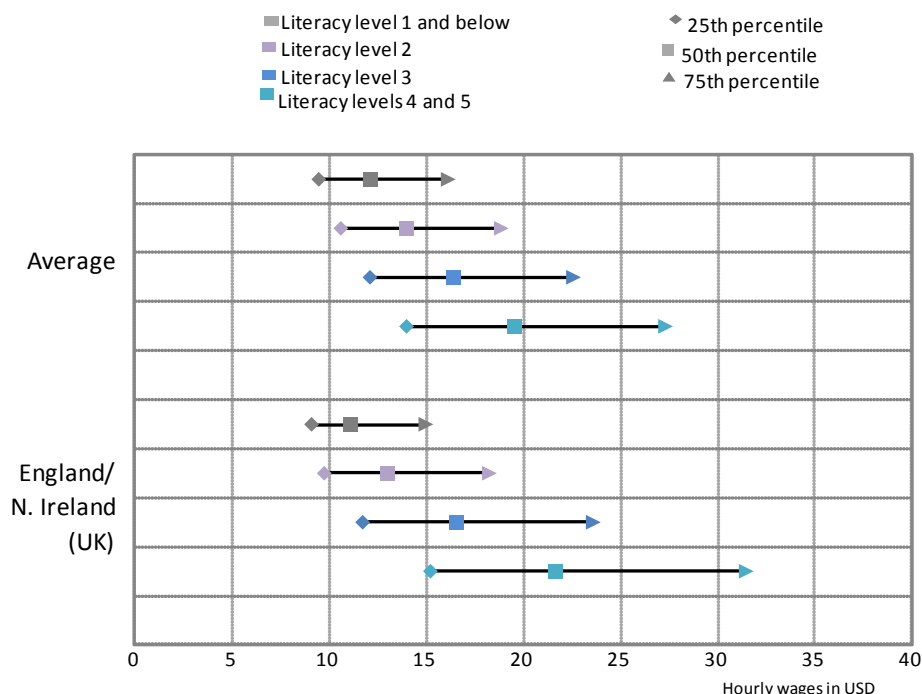
England and Northern Ireland have been more effective in activating their more highly skilled adults (those at proficiency Levels 4 or 5 in literacy) than many other countries participating in the survey. At Level 4, adults can integrate, interpret and synthesise information from complex or lengthy texts that contain conditional and/or competing information (for more details on what adults can do at each proficiency level, see the table at the end of this note). In England and Northern Ireland, 83.4% of highly skilled adults are employed (compared to an average of 79.1% of adults in all participating countries), and only 13.4% of adults scoring at Level 4 or 5 (compared to 17.1% on average across participating countries) are out of the labour force. In Korea, by comparison, some 31.8% of adults who score at those levels are out of the labour force.

Hourly wages are strongly associated with reading proficiency in England and Northern Ireland. The median hourly wage of workers who score at Level 4 or 5 in literacy is 94% higher than that of workers who score at or below Level 1. At Level 1, adults can recognise basic vocabulary, determine the meaning of sentences, and read paragraphs of text. In addition, the best-paid workers (at the 75th percentile) who score at Level 4 or 5 in literacy earn more than twice as much (USD 16.5 per hour) as the best-paid workers who score at or below Level 1.

The Survey of Adult Skills also shows that countries where a large proportion of the workforce is employed in jobs requiring greater use of reading skills have higher output per hour worked, a standard indicator of labour productivity. This holds true in England and Northern Ireland. Workers in England and Northern Ireland read, write, work with mathematics, solve problems and use ICT applications (e.g. computers) in their jobs more frequently, and show higher labour productivity (output per hour worked), than the average observed across OECD countries participating in the survey.

### Distribution of wages, by literacy proficiency level

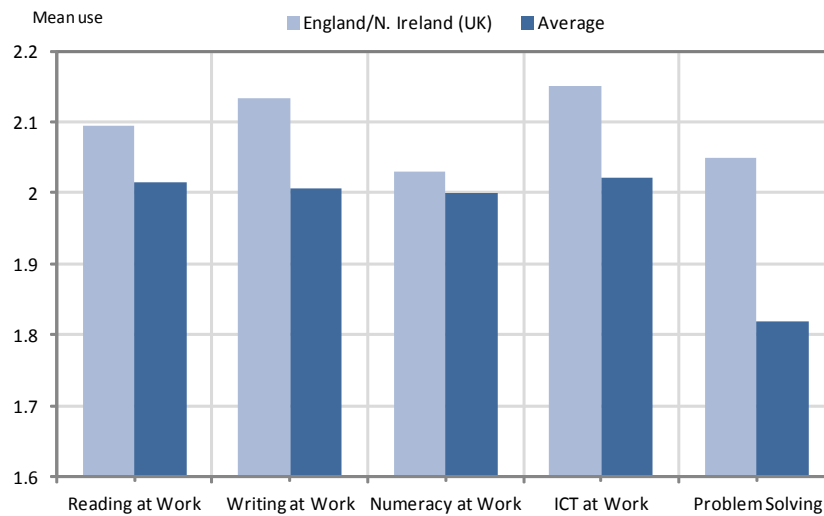
25th, 50th and 75th percentiles of the wage distribution



Notes : Employees only. Hourly wages, including bonuses, in purchasing-power-parity-adjusted USD.

Source : Survey of Adults Skills (PIAAC) (2012), Table A6.4 (L).

Average use of information-processing skills at work



Notes: Skills use indicators are standardised to have a mean of 2 and a standard deviation of 1 across the entire survey sample

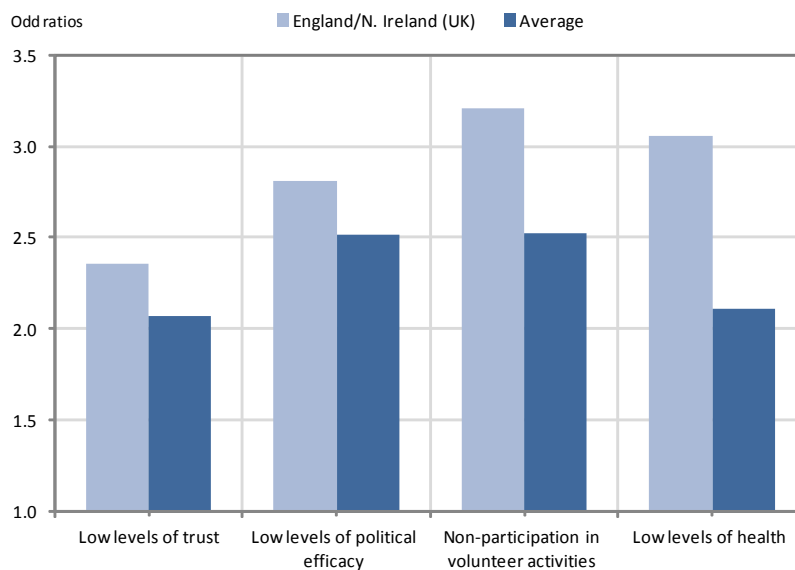
Source: Survey of Adult Skills (PIAAC) (2012), Table A4.1.

**There is also a strong and positive association between higher literacy proficiency and social outcomes in England and Northern Ireland.**

Highly skilled adults in England and Northern Ireland have a greater likelihood of trusting others, believing that an individual can have an impact on the political process, participating in volunteer and associative activities, and being in good health than adults at Level 1 or below. By contrast, individuals proficient in literacy at or below Level 1 are only half as likely to trust others as highly skilled adults are, and they believe they have little impact on the political process, do not participate in volunteer activities and report poor health compared to adults with the highest levels (Level 4/5) of proficiency in literacy.

Low literacy proficiency and negative social outcomes

Odds ratio showing the likelihood of adults scoring at or below Level 1 in literacy reporting low levels of trust and political efficacy, fair or poor health, or of not participating in volunteer activities (adjusted)



Notes: Reference group is adults scoring at Level 4/5 in literacy.

Source: Survey of Adult Skills (PIAAC) (2012), Table A6.9(L).

## However, the talent pool of highly skilled adults in England and Northern Ireland is likely to shrink relative to that of other countries.

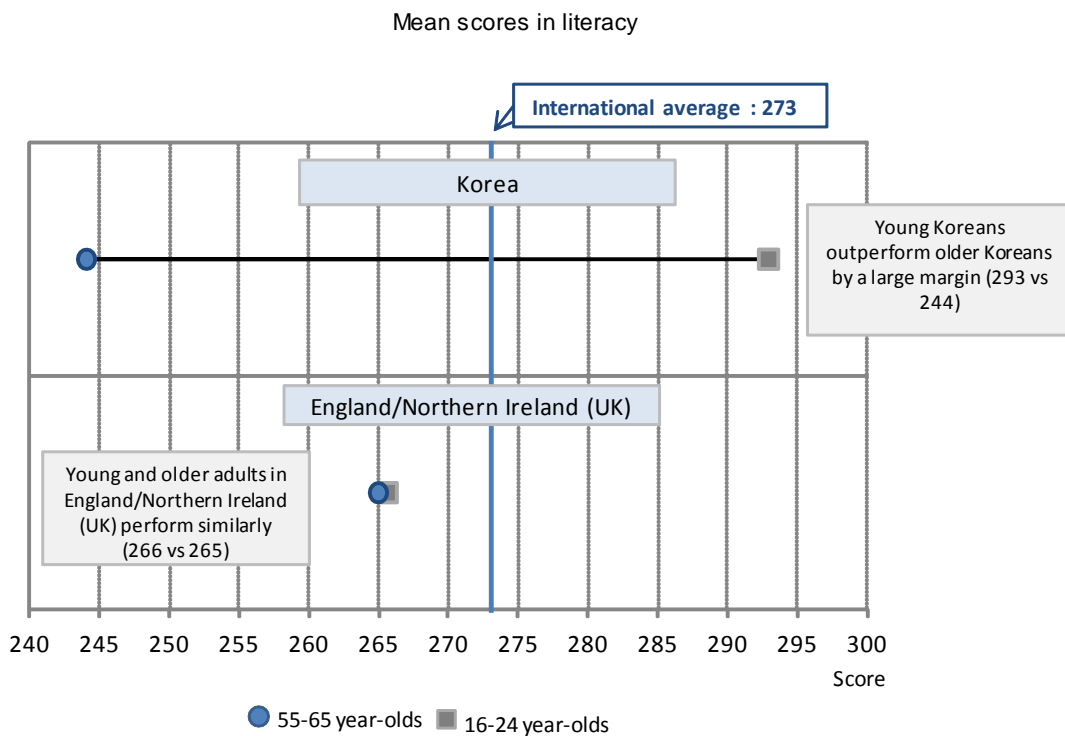
In England and Northern Ireland, the differences in proficiency between younger and older generations are negligible. Although young people in these countries are entering a much more demanding labour market, they are not much better equipped with literacy and numeracy skills than those who are retiring. These skills are essential not only for strong economic and social outcomes, but also for the acquisition of a wider range of knowledge and skills.

In England, adults aged 55-65 perform better than 16-24 year-olds in both literacy and numeracy. In fact, England is the only country where the oldest age group has higher proficiency in both literacy and numeracy than the youngest age group, after other factors, such as gender, socio-economic backgrounds and type of occupations, are taken into account. In Northern Ireland, 16-24 year-olds scored slightly higher in literacy and numeracy than 55-65 year-olds, but the differences are very small. When comparing results within age groups across participating countries, older adults in England score higher in literacy and numeracy than the average among their peers, while younger adults show some of the lowest scores for their age group.

In problem solving in technology-rich environments, 42.4% of 16-24 year-olds in England and Northern Ireland are proficient at Level 2 or 3 compared to the average of 50.7%. Young adults in England and Northern Ireland scored 21 percentage points lower than those in Korea (the best-performing country) and 4.8 percentage points above young adults in the United States (the lowest performing country).

The implication for England and Northern Ireland is that the stock of skills available to them is bound to decline over the next decades unless significant action is taken to improve skills proficiency among young people.

### Literacy skills gap between older and younger generations



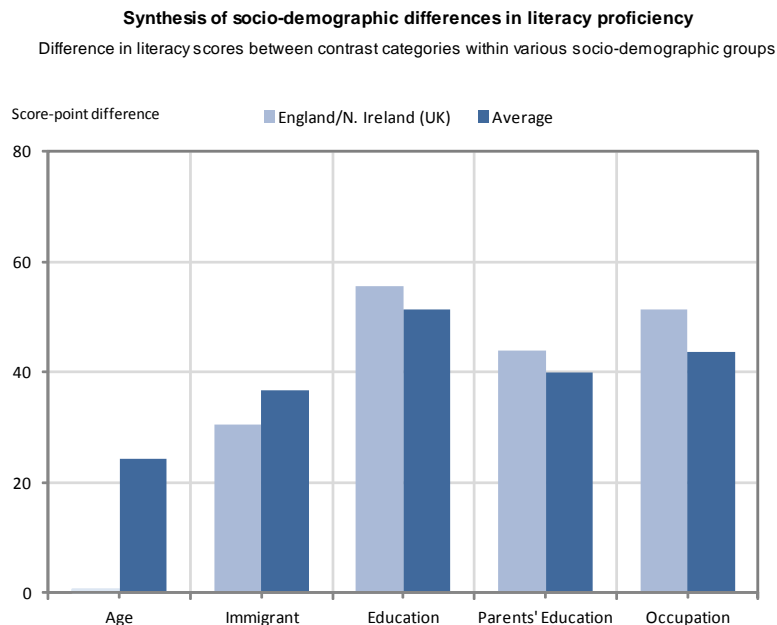
Source: Survey of Adult Skills (PIAAC) (2012), Table A3.1(L)

## England and Northern Ireland need to address social inequalities, particularly among young adults.

England and Northern Ireland show one of the strongest associations between socio-economic background and literacy proficiency among young people and among the broader population of 16-65 year-olds. However, unlike most other countries, this association is stronger among young people than among the overall adult population.

In England and Northern Ireland, parents' educational attainment has a stronger-than-average impact on adults' proficiency in both literacy and numeracy, even after taking account of other factors, such as age, gender, and type of occupation. Adults who have at least one parent who attained a university-level education score 26.7 points higher in literacy than adults whose parents did not attain upper secondary education. The average difference between the two groups across participating countries is 18 score points. The difference in numeracy scores between these two groups is even larger: 31.1 score points compared to the average difference of 19.5 score points.

On average across participating countries, adults with low levels of education and whose parents also have low levels of education are nearly five times more likely to have poor proficiency in literacy than adults whose parents had higher levels of education; in England and Northern Ireland, the likelihood is eight times greater.



Notes: The estimates show the differences between the two means for each contrast category. The differences are: 16-24 year-olds minus 55-65 year-olds (age), native born and native language minus foreign born and foreign language (immigrant), tertiary minus less than upper secondary (education), at least one parent attained tertiary minus neither parent attained upper secondary (parents' education) and skilled minus elementary occupations (occupation). Statistically significant differences are marked in a darker tone.

Source: Survey of Adult Skills (PIAAC) (2012), Table A3.2(L), Table A3.6(L), Table A3.9(L), Table A3.15(L) and Table A3.19(L).

## England and Northern Ireland have one of the highest rates of self-reported over-qualification, but low rates of both over- and under-skilling.

About 30% of workers in England and Northern Ireland reported that they have higher qualifications than was deemed necessary to obtain their job – the highest rate of over-qualification after Japan. By contrast, the incidence of over-skilling (when a worker's proficiency in literacy is above the minimum required for the job) in England and Northern Ireland is actually low, and below the average observed among participating countries. In fact, fewer than 10% of workers are over-skilled, based on the OECD measure of skills mismatch in literacy.

**There are particularly large proportions of adults in England and Northern Ireland with poor numeracy skills.**

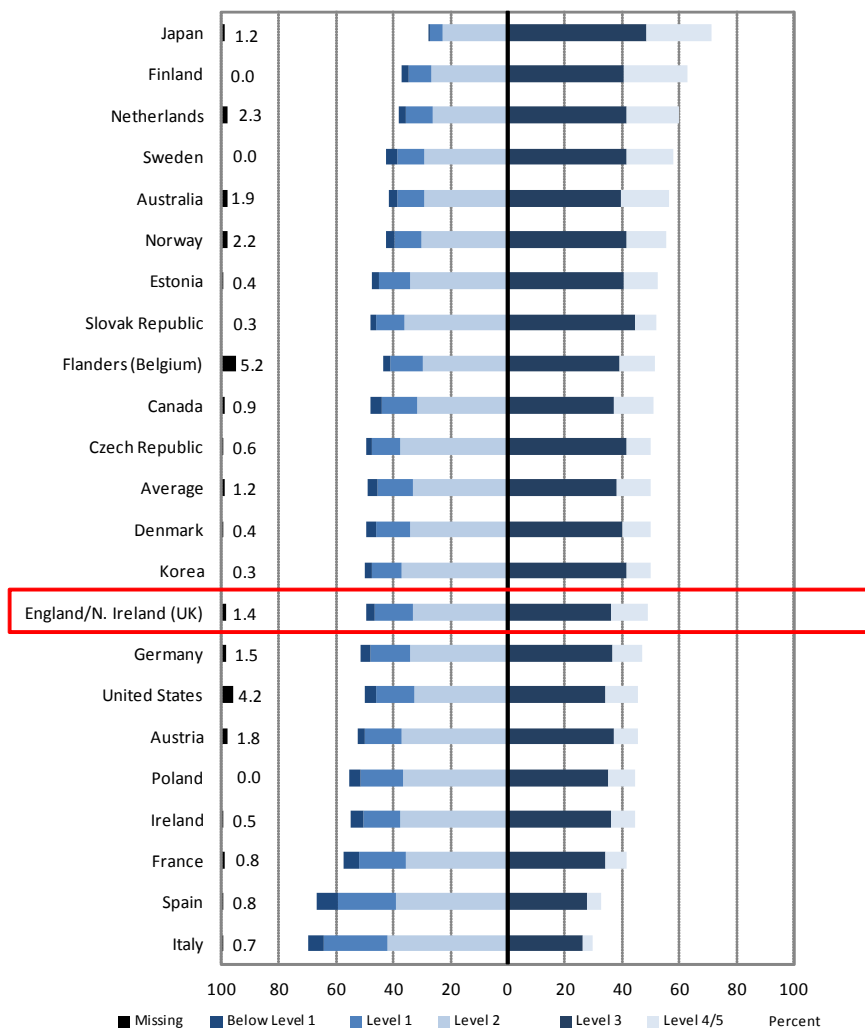
England and Northern Ireland have some of the highest proportions of adults scoring at or below Level 1 in numeracy. In fact, 24.1% of adults, around 8.5 million people, score at that level compared to the average of 19.0%. At Level 1 in numeracy, adults can perform basic mathematical processes in common, concrete contexts.

Some 16.4% of adults, or around 5.8 million people, in England and Northern Ireland score at the lowest level of proficiency in literacy (at or below Level 1), similar to the average of 15.5% of adults among all participating countries. At Level 1 in literacy, adults can read brief texts on familiar topics and locate a single piece of specific information identical in form to information in the question or directive.

Some 49.0% of adults in England and Northern Ireland score at or below Level 1 in problem solving in technology-rich environments. Adults at that level can complete tasks in which the goal is explicitly stated and for which the necessary operations are performed in a single and familiar environment. Some 10.1% of adults in England and Northern Ireland indicated that they had no prior experience with computers or lacked very basic computer skills. This compares favourably with the average of 14.2% among all countries that participated in the survey.

**Literacy proficiency among adults**

Percentage of adults scoring at each proficiency level in literacy



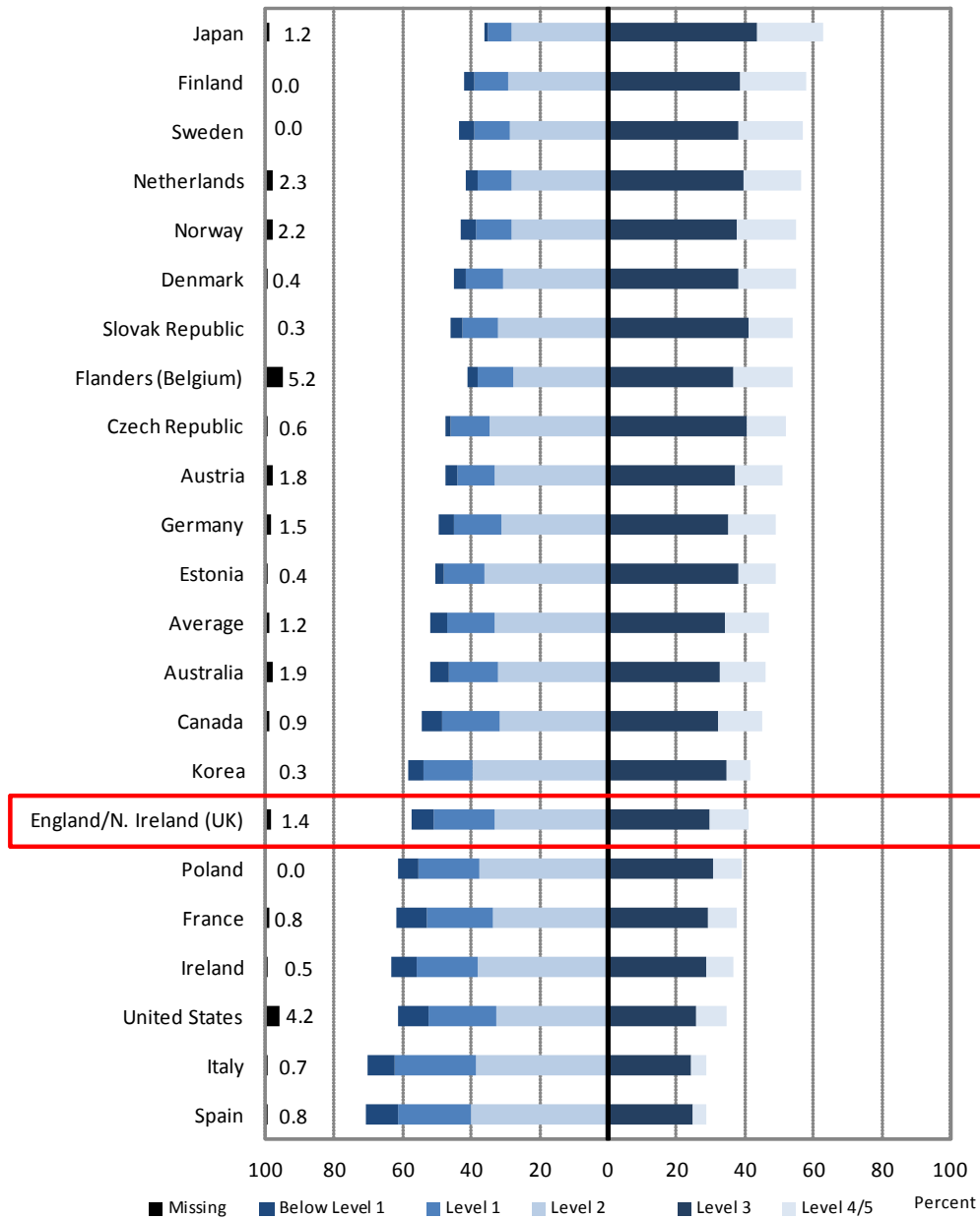
Countries are ranked in descending order of the combined percentage of adults scoring at Level 3 and Level 4/5

Notes: Adults in the missing category were not able to provide enough background information to impute proficiency scores because of language difficulties, or learning or mental disabilities (referred to as literacy-related non-response).

Source: Survey of Adult Skills (PIAAC) (2012), Table A2.1

### Numeracy proficiency among adults

Percentage of 16-65 year-olds scoring at each proficiency level in numeracy



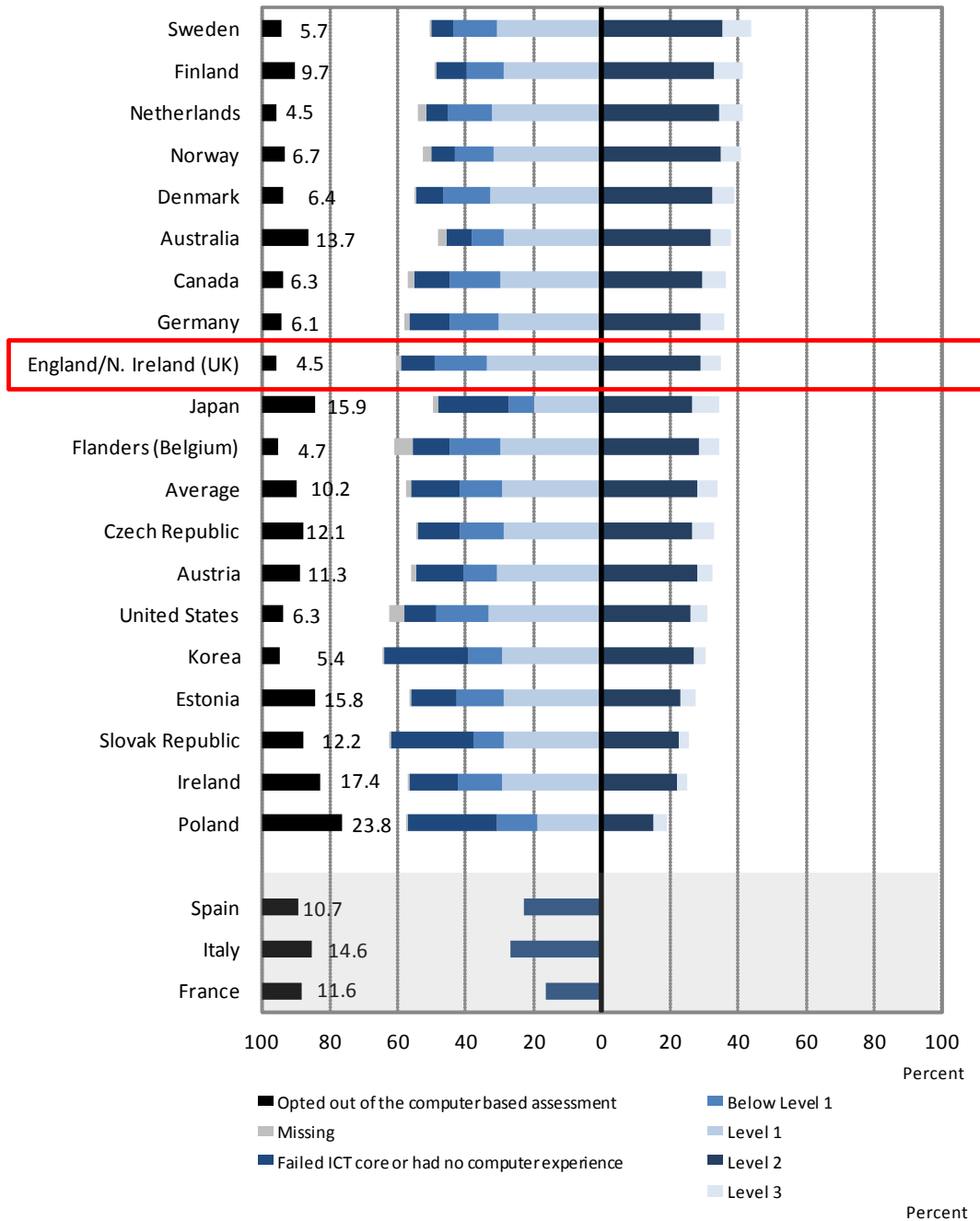
Countries are ranked in descending order of the combined percentage of adults scoring at Level 3 and Level 4/5

Notes: Adults in the missing category were not able to provide enough background information to impute proficiency scores because of language difficulties, or learning or mental disabilities (referred to as literacy-related non-response).

Source: Survey of Adult Skills (PIAAC) (2012), Table A2.5

**Proficiency in problem solving in technology-rich environments among adults**

Percentage of 16-65 year-olds scoring at each proficiency level



Countries are ranked in descending order of the combined percentage of adults scoring at Levels 2 and 3

Notes: Adults included in the missing category were not able to provide enough background information to impute proficiency scores because of language difficulties, or learning or mental disabilities (referred to as literacy-related non-response). The missing category also includes adults who could not complete the assessment of problem solving in technology-rich environments because of technical problems with the computer used for the survey. France, Italy and Spain did not participate in the problem solving in technology-rich environments assessment.

Source: Survey of Adult Skills (PIAAC) (2012), Table A2.10a



**Low-skilled adults need more second-chance opportunities to learn.**

Increasingly, skills are developed outside of formal education. Workers in low-technology sectors and those performing low-skilled tasks must be willing and able to acquire new skills and be adaptable, since they are at higher risk of losing their jobs in today's rapidly changing global labour market. But the survey finds that adults with lower proficiency are less likely to participate in adult education and training than those with high proficiency.

Participation in adult education and training is more common in England and Northern Ireland than on average across all participating countries among adults with all levels of skills proficiency. However, 75.3% of adults who score at Level 4/5 in literacy participated in adult education during the 12 months prior to the survey, compared with 40.0% of adults who score at Level 1, and only 29.6% of those who score below Level 1. These results confirm the vicious cycle in which low-skilled workers risk being trapped in a situation in which they rarely benefit from adult learning, and their skills remain weak or deteriorate over time, making it even harder for these individuals to participate in learning activities. The key policy challenge is to help low-skilled adults break this cycle.

## Key facts about the Survey of Adult Skills (PIAAC)

### What is assessed

- The Survey of Adult Skills (PIAAC) assesses the proficiency of adults from age 16 onwards in literacy, numeracy and problem solving in technology-rich environments. These skills are “key information-processing competencies” that are relevant to adults in many social contexts and work situations, and necessary for fully integrating and participating in the labour market, education and training, and social and civic life.
- In addition, the survey collects a range of information on the reading- and numeracy-related activities of respondents, the use of information and communication technologies at work and in everyday life, and on a range of generic skills, such as collaborating with others and organising one’s time, required of individuals in their work. Respondents are also asked whether their skills and qualifications match their work requirements and whether they have autonomy over key aspects of their work.

### Methods

- Around 166 000 adults aged 16-65 were surveyed in 24 countries and sub-national regions: 22 OECD member countries – Australia, Austria, Belgium (Flanders), Canada, the Czech Republic, Denmark, Estonia, Finland, France, Norway, Ireland, Italy, Japan, Korea, the Netherlands, Norway, Poland, the Slovak Republic, Spain, Sweden, the United Kingdom (England and Northern Ireland), and the United States; and two partner countries – Cyprus\*\* and the Russian Federation
- Data collection for the Survey of Adult Skills took place from 1 August 2011 to 31 March 2012 in most participating countries. In Canada, data collection took place from November 2011 to June 2012; and France collected data from September to November 2012.
- The language of assessment was the official language or languages of each participating country. In some countries, the assessment was also conducted in widely spoken minority or regional languages.
- Two components of the assessment were optional: the assessment of problem solving in technology-rich environments and the assessment of reading components. Twenty of the 24 participating countries administered the problem-solving assessment and 21 administered the reading components assessment.
- The target population for the survey was the non-institutionalised population, aged 16 to 65 years, residing in the country at the time of data collection, irrespective of nationality, citizenship or language status.
- Sample sizes depended primarily on the number of cognitive domains assessed and the number of languages in which the assessment was administered. Some countries boosted sample sizes in order to have reliable estimates of proficiency for the residents of particular geographical regions and/or for certain sub-groups of the population such as indigenous inhabitants or immigrants. The achieved samples ranged from a minimum of approximately 4 500 to a maximum of nearly 27 300.
- The survey was administered under the supervision of trained interviewers either in the respondent’s home or in a location agreed between the respondent and the interviewer. The background questionnaire was administered in Computer-Aided Personal Interview format by the interviewer. Depending on the situation of the respondent, the time taken to complete the questionnaire ranged between 30 and 45 minutes.
- After having answered the background questionnaire, the respondent completed the assessment either on a laptop computer or by completing a paper version using printed test booklets, depending on their computer skills. Respondents could take as much or as little time as needed to complete the assessment. On average, the respondents took 50 minutes to complete the cognitive assessment.

#### \*\*A. Note by Turkey

The information in this document with reference to “Cyprus” relates to the southern part of the Island. There is no single authority representing both Turkish and Greek Cypriot people on the Island. Turkey recognises the Turkish Republic of Northern Cyprus (TRNC). Until a lasting and equitable solution is found within the context of the United Nations, Turkey shall preserve its position concerning the “Cyprus issue”.

#### B. Note by all the European Union Member States of the OECD and the European Union

The Republic of Cyprus is recognised by all members of the United Nations with the exception of Turkey. The information in this document relates to the area under the effective control of the Government of the Republic of Cyprus.

## Proficiency levels: Literacy and numeracy

Level	Score range	Literacy	Numeracy
Below Level 1	Below 176 points	Tasks at this level require the respondent to read brief texts on familiar topics and locate a single piece of specific information. There is seldom any competing information in the text. Only basic vocabulary knowledge is required, and the reader is not required to understand the structure of sentences or paragraphs or make use of other text features.	Tasks at this level require the respondent to carry out simple processes such as counting, sorting, performing basic arithmetic operations with whole numbers or money, or recognising common spatial representations.
1	176 to less than 226 points	Tasks at this level require the respondent to read relatively short digital or print texts to locate a single piece of information that is identical to or synonymous with the information given in the question or directive. Knowledge and skill in recognising basic vocabulary, determining the meaning of sentences, and reading paragraphs of text is expected.	Tasks at this level require the respondent to carry out basic mathematical processes in common, concrete contexts where the mathematical content is explicit. Tasks usually require one-step or simple processes involving counting; sorting; performing basic arithmetic operations; and identifying elements of simple or common graphical or spatial representations.
2	226 to less than 276 points	Tasks at this level require the respondent to make matches between the text, either digital or printed, and information, and may require paraphrasing or low-level inferences.	Tasks at this level require the application of two or more steps or processes involving calculation with whole numbers and common decimals, percents and fractions; simple measurement and spatial representation; estimation; and interpretation of relatively simple data and statistics in texts, tables and graphs.
3	276 to less than 326 points	Texts at this level are often dense or lengthy. Understanding text and rhetorical structures is often required, as is navigating complex digital texts.	Tasks at this level require the application of number sense and spatial sense; recognising and working with mathematical relationships, patterns, and proportions expressed in verbal or numerical form; and interpreting data and statistics in texts, tables and graphs.
4	326 to less than 376 points	Tasks at this level often require the respondent to perform multiple-step operations to integrate, interpret, or synthesise information from complex or lengthy texts. Many tasks require identifying and understanding one or more specific, non-central idea(s) in the text in order to interpret or evaluate subtle evidence-claim or persuasive discourse relationships.	Tasks at this level require analysis and more complex reasoning about quantities and data; statistics and chance; spatial relationships; and change, proportions and formulas. They may also require understanding arguments or communicating well-reasoned explanations for answers or choices.
5	Equal to or higher than 376 points	Tasks at this level may require the respondent to search for and integrate information across multiple, dense texts; construct syntheses of similar and contrasting ideas or points of view; or evaluate evidence based arguments. They often require respondents to be aware of subtle, rhetorical cues and to make high-level inferences or use specialised background knowledge.	Tasks at this level may require the respondent to integrate multiple types of mathematical information where considerable translation or interpretation is required; draw inferences; develop or work with mathematical arguments or models; and critically reflect on solutions or choices.

## Description of proficiency levels in problem solving in technology-rich environments

Level	Score range	The types of tasks completed successfully at each level of proficiency
No computer experience	Not applicable	Adults in this category reported having no prior computer experience; therefore, they did not take part in the computer-based assessment but took the paper-based version of the assessment, which does not include the problem solving in technology-rich environment domain.
Failed ICT core	Not applicable	Adults in this category had prior computer experience but failed the ICT core test, which assesses basic ICT skills, such as the capacity to use a mouse or scroll through a web page, needed to take the computer-based assessment. Therefore, they did not take part in the computer-based assessment, but took the paper-based version of the assessment, which does not include the problem solving in technology-rich environment domain.
“Opted out” of taking computer-based assessment	Not applicable	Adults in this category opted to take the paper-based assessment without first taking the ICT core assessment, even if they reported some prior experience with computers. They also did not take part in the computer-based assessment, but took the paper-based version of the assessment, which does not include the problem solving in technology-rich environment domain.
Below Level 1	Below 241 points	Tasks are based on well-defined problems involving the use of only one function within a generic interface to meet one explicit criterion without any categorical or inferential reasoning, or transforming of information. Few steps are required and no sub-goal has to be generated.
1	241 to less than 291 points	At this level, tasks typically require the use of widely available and familiar technology applications, such as e-mail software or a web browser. There is little or no navigation required to access the information or commands required to solve the problem. The tasks involve few steps and a minimal number of operators. Only simple forms of reasoning, such as assigning items to categories, are required; there is no need to contrast or integrate information.
2	291 to less than 341 points	At this level, tasks typically require the use of both generic and more specific technology applications. For instance, the respondent may have to make use of a novel online form. Some navigation across pages and applications is required to solve the problem. The task may involve multiple steps and operators. The goal of the problem may have to be defined by the respondent, though the criteria to be met are explicit.
3	Equal to or higher than 341 points	At this level, tasks typically require the use of both generic and more specific technology applications. Some navigation across pages and applications is required to solve the problem. The task may involve multiple steps and operators. The goal of the problem may have to be defined by the respondent, and the criteria to be met may or may not be explicit. Integration and inferential reasoning may be needed to a large extent.

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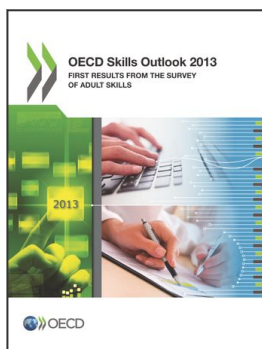
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**For more information on the Survey of Adult Skills (PIAAC)  
and to access the full *OECD Skills Outlook 2013* report, visit:**

<http://skills.oecd.org/skillsoutlook.html>

[www.oecd.org/site/piaac](http://www.oecd.org/site/piaac)





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