



SKILLS MATTER: FURTHER RESULTS FROM THE SURVEY OF ADULT SKILLS

GREECE

Key findings

- The share of adults in Greece who score at the highest levels of proficiency in literacy and numeracy
 is considerably smaller than the OECD average, while the proportion of adults with poor skills in
 literacy and numeracy is much larger than average.
- In contrast to what is observed in other countries, 25-34 year-olds in Greece perform as well in literacy as 55-65 year-olds.
- Greece is one of the few countries where women outperform men in literacy.
- Tertiary-educated adults in Greece have relatively low proficiency in literacy, numeracy and problem solving in technology-rich environments.
- The relationship between information-processing skills and levels of social trust, voluntary activities and subjective health is considerably weaker in Greece than in other participating countries/economies.
- Workers in Greece use their numeracy and problem-solving skills at work as frequently as the
 average across OECD countries; but their proficiency in these skills is not as highly rewarded, with
 higher wages, as in other OECD countries.

The Survey of Adult Skills

The Survey of Adult Skills, a product of the OECD Programme for the International Assessment of Adult Competencies (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
- problem solving in technology-rich environments the capacity to access, interpret and analyse information found, transformed and communicated in digital environments.

Proficiency is described on 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 are defined for problem solving in technology-rich environments (Levels 1 through 3 plus below Level 1).

The survey also provides a wide range of information about respondents' use of skills at work and in everyday life, their education, their linguistic and social backgrounds, their participation in adult education and training programmes and in the labour market, and other aspects of their well-being.

The Survey of Adult Skills was conducted in Greece from 1 April 2014 to 31 March 2015. Some 4 925 adults aged 16-65 were surveyed.

The statistical data for Israel are supplied by and are under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

The share of adults in Greece who score at the highest levels of proficiency in literacy, numeracy and problem solving is considerably smaller than the OECD average.

Only about one in 20 adults in Greece attain the highest levels of proficiency (Level 4 or 5) in literacy, compared to around one in 10 adults (10.6%) on average across the OECD countries that participated in the survey. The share of adults who score at these levels varies by age, from 6.2% of 16-24 year-olds (5.0 percentage points below the average) to 4.4% among 55-65 year-olds (4.8% for the OECD average). 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.) Around one in four adults (26.0%) attains Level 3 in literacy, below the OECD average of 35.4%. Adults performing at this level can understand and respond appropriately to dense or lengthy texts, and can identify, interpret or evaluate one or more pieces of information and make appropriate inferences using knowledge text structures and rhetorical devices.

Some 5.6% of adults in Greece attain Level 4 or 5 in numeracy, below the OECD average of 11.2%. Around 4.6% of 16-24 year-olds score at this level, half the proportion (10.1%) observed on average across OECD countries, and 4.1% of 55-65 year-olds attain this level, compared to the OECD average of 6.4%. At Level 4, adults understand a broad range of mathematical information that may be complex, abstract or found in unfamiliar contexts. Around one in four adults in Greece (25.1%) attains Level 3 in numeracy, below the OECD average of 31.8%. At this level, adults have a good sense of number and space; can recognise and work with mathematical relationships, patterns and proportions expressed in verbal or numerical form; and can interpret and perform basic analyses of data and statistics in texts, tables and graphs.

Only 2.5% of adults in Greece attain Level 3, the highest proficiency level, in problem solving in technology-rich environments. This is the fourth lowest percentage observed among all participating countries/economies and significantly lower than the OECD average of 5.4%. Some 3.0% of 16-24 year-olds attain this level – less than half the OECD average of 8%. Adults at Level 3 can complete tasks involving multiple computer applications, a large number of steps, and the discovery and use of ad hoc commands in a novel environment. Around one in ten adults (11.5%) attains proficiency Level 2 in problem solving, compared with the average of one in four adults (25.7%). At Level 2, adults can complete problems that involve a small number of computer applications, and require completing several steps and operations to reach a solution.

A larger-than-average proportion of adults in Greece has poor literacy and numeracy skills.

More than one in four adults (26.5%) in Greece are proficient at or below Level 1 in literacy (compared to the OECD average of 18.9%) and almost 28.5% score at or below Level 1 in numeracy (6 percentage points higher than the OECD average of 22.7%). Low proficiency is particularly prevalent among 55-65 year-olds: about one in three adults in this age group score at or below Level 1 in both literacy and numeracy, the same proportion as across participating OECD countries. Some 23.3% of 16-24 year-olds are low performers in literacy (the OECD average is 13.8%) and 26.9% are low performances in numeracy (the OECD average is 19.3%) 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. In numeracy, adults at Level 1 can perform basic mathematical processes in common, concrete contexts, for example, one-step or simple processes involving counting, sorting, basic arithmetic operations and understanding simple percentages.

Some 17.4% of adults in Greece reported no prior experience with computers (compared to the OECD average of 10.0%) and 2.8% failed the ICT core test (compared to the OECD average of 4.7%). A large proportion of adults opted out of the computer-based assessment (11.2%, compared to an average of 9.6%). Some 47.9% of adults scored at or below Level 1 in problem solving in technology-rich environments, higher the OECD average of 42.9%. At Level 1, adults can use only widely

available and familiar technology applications, such as e-mail software or a web browser, to solve problems involving few steps, simple reasoning and little or no navigation across applications. Older adults were much more likely than average to report no prior computer experience or to fail the ICT test (46.9%, compared to the OECD average of 31.8%), and were more likely to opt out of the computer assessment (24.5% compared to the average of 17.6%).

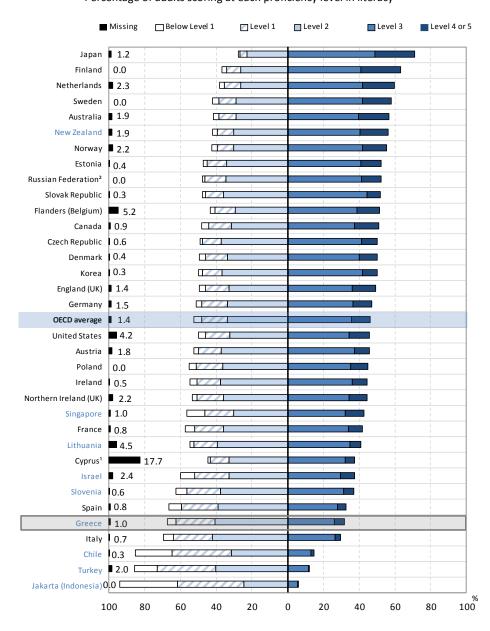


Figure 1. Literacy proficiency among adults
Percentage of adults scoring at each proficiency level in literacy

Note: 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).

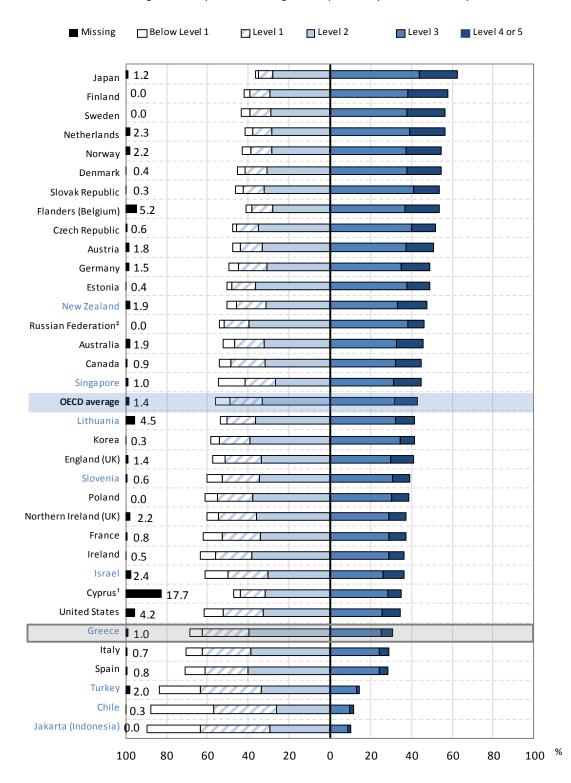
1. Note by Turkey: The information in this document with reference to "Cyprus" relates to the southern part of the Island. There is no single authority representing both Turkish and Greek Cypriot people on the Island. Turkey recognises the Turkish Republic of Northern Cyprus (TRNC). Until a lasting and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

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.

2. The sample for the Russian Federation does not include the population of the Moscow municipal area. Countries and economies are ranked in descending order of the combined percentages of adults scoring at Level 3 and at Level 4 or 5. Source: Survey of Adult Skills (PIAAC) (2012, 2015), Table A2.1 (http://dx.doi.org/10.1787/888933366458).

Figure 2. Numeracy proficiency among adults

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



Note: 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).

^{1.} See note 1 under Figure 1.

^{2.} The sample for the Russian Federation does not include the population of the Moscow municipal area. Countries and economies are ranked in descending order of the combined percentage of adults scoring at Level 3 and at Level 4 or 5. Source: Survey of Adult Skills (PIAAC) (2012, 2015), Table A2.4 (http://dx.doi.org/10.1787/888933366458).

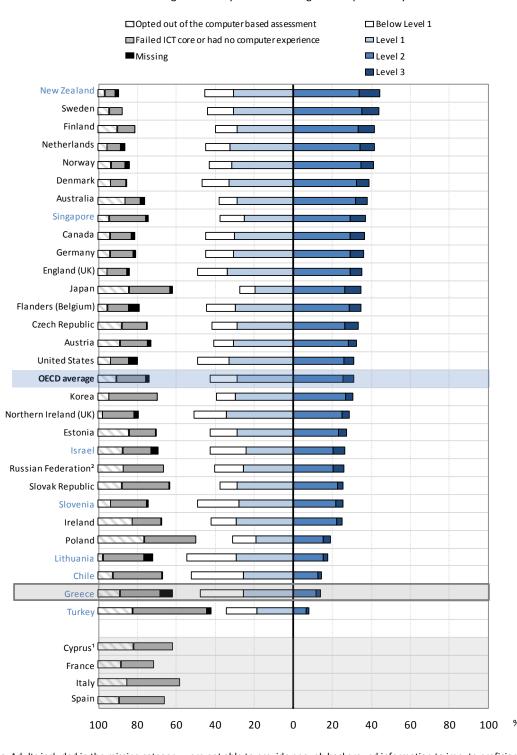


Figure 3. Proficiency in problem solving in technology-rich environments among adults

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

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. Cyprus¹, France, Italy, Jakarta (Indonesia), and Spain did not participate in the problem solving in technology-rich environments assessment. Results for Jakarta (Indonesia) are not shown since the assessment was administered exclusively in paper and pencil format.

^{1.} See note 1 under Figure 1.

^{2.} The sample for the Russian Federation does not include the population of the Moscow municipal area. Countries and economies are ranked in descending order of the combined percentages of adults scoring at Level 2 and at Level 3. Source: Survey of Adult Skills (PIAAC) (2012, 2015), Table A2.6 (http://dx.doi.org/10.1787/888933366458).

In Greece, the relationship between adults' socio-demographic characteristics and their proficiency is weaker than observed in other countries and economies.

In most countries, including Greece, there are differences in skills proficiency related to sociodemographic characteristics, such as age, level of education and socio-economic status. But differences related to age, gender, immigrant background, education and parents' education are smaller in Greece than in most other countries.

Tertiary-educated adults in Greece are more proficient in literacy than their less-educated counterparts, but this gap is narrower than in most participating countries/economies. Tertiary-educated adults aged 25 to 65 score 19 points higher in literacy than those with an upper secondary degree (the OECD average difference is 33 points) and 38 points higher than those without an upper-secondary qualification (the OECD average difference is 61 points). The performance advantage among tertiary-educated adults is smaller than average because tertiary graduates in Greece are less proficient than their similarly educated peers in other OECD countries.

Among 16-24 year-olds, those who left school before attaining an upper secondary degree score 42 points lower in literacy than those who are still in school or who have completed upper secondary education – a gap similar to the OECD average difference between the two groups of young adults.

In contrast with other countries/economies, in Greece, age-related differences in literacy proficiency are small. It seems that the large expansion of education in Greece has not translated into an improvement in literacy over the generations. Some 50% of 55-65 year-olds did not complete upper secondary education, compared to only 15% of 25-34 year-olds, and only 19.9% of 55-65 year-olds have a tertiary qualification, compared to 27.3% of 25-34 year-olds. Yet 25-34 year-olds score only 6 points higher in literacy than 55-65 year-olds, compared with the OECD average difference of 29 points.

Greece is the only OECD country participating, with Poland, in the Survey of Adult Skills where women outperform men in literacy. In numeracy, men outperform women, as they do in all other participating OECD countries.

Native-born Greeks are more proficient in literacy than foreign-born adults living in Greece. The difference is larger when considering adults' language background. Interestingly, foreign-born, native-language adults score slightly higher in literacy than native-born, native-language adults in Greece.

□ **Greece** ■ OECD average 70 60 50 40 30 20 10 0 10 Educational Parents' **Immigrant** Age Gender attainment background educational attainment

Figure 4. Synthesis of socio-demographic differences in literacy proficiency

Difference in literacy scores between contrast categories within various socio-demographic groups

Notes: Statistically significant differences are marked in a darker tone. The estimates show the differences between the two means for each contrast category). The differences are: tertiary minus less than upper secondary (educational attainment), at least one parent attained tertiary minus neither parent attained upper secondary (parents' educational attainment), native born and native language minus foreign born and foreign language (immigrant background) and 25-34 year-olds minus 55-65 year-olds (age).

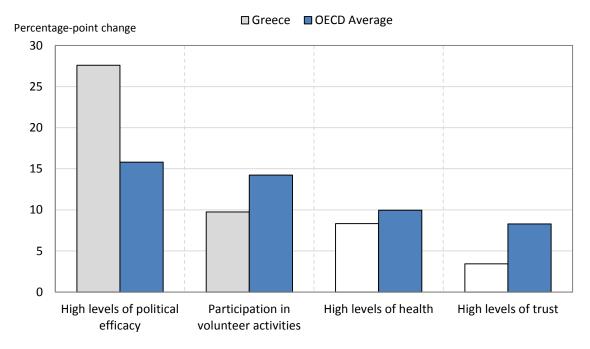
Source: Survey of Adult Skills (PIAAC) (2012,2015), Tables A3.2(L), A3.5 (L), A3.9 (L), A3.12 (L) and A3.14 (L) (http://dx.doi.org/10.1787/888933366463).

The link between higher literacy and the belief that one has an impact on the political process (political efficacy) is stronger than average in Greece; but links between proficiency and other social outcomes, such as trust, participation in volunteer activities and self-perceived health status, are weaker.

Proficiency in information-processing skills is associated with a wide range of non-economic outcomes that affect well-being: trust, political efficacy, participation in volunteer activities and self-reported health. In Greece, adults proficient in literacy at Level 4 or 5 are more likely (86.3%), compared to adults who score at or below Level 1 (58.7%), to report high levels of political efficacy (the sense of being able to influence the political process). However, differences in levels of trust and self-reported health across proficiency levels are smaller than in most other participating countries/economies. Adults with the highest proficiency are more likely than those with the lowest proficiency to participate in volunteer activities, but the difference, similar to that observed in Chile, Jakarta (Indonesia) and Turkey, is one of the smallest across participating countries/economies.

Figure 5. Literacy proficiency and positive social outcomes

Difference between the percentage of adults with high proficiency (Level 4 or 5) and the percentage of adults with low proficiency (Level 1 or below) who reported high levels of trust and political efficacy, good to excellent health, or participating in volunteer activities



Notes: Statistically significant differences are marked in a darker tone. Source: Survey of Adult Skills (PIAAC) (2012, 2015), Table A5.14(L) (http://dx.doi.org/10.1787/888933366489).

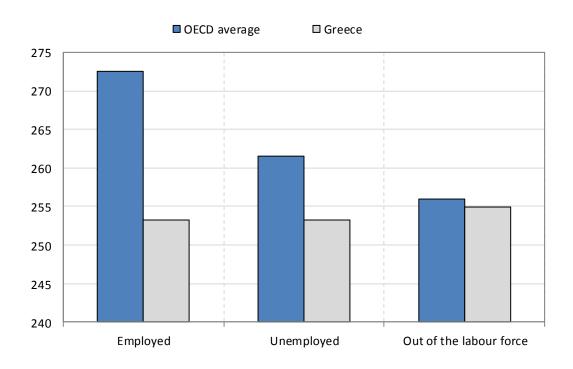
Greece is the only country where adults who are out of the labour force perform as well than those who are employed or are looking for a job.

In most of the participating countries employed population has higher skills than the unemployed and out of the labour. This is not the case in Greece. Adults in Greece who are out of the labour force perform as well in literacy as those who are looking for work and as well as their employed counterparts. There seems to be an equally skilled population in Greece wanting to work or that could be activated to work. In the context of high unemployment rates, there is potential, from a skills perspective, to sustain recovery and meet the demand for employment at different skill levels.

In many participating countries, there is a positive relationship between proficiency in information processing skills and labour market outcomes. In Greece, however, it is educational attainment, rather than proficiency, that has the strongest impact on the likelihood of being employed and on earning higher wages. In fact, higher proficiency in literacy is not rewarded by higher wages. If higher proficiency in literacy is not rewarded with higher wages, workers may have little incentive to seek jobs that match their skill levels. Employers, and the economy as a whole, stand to benefit by rewarding skills. More frequent use of reading skills at work is related to higher hourly wages in Greece.

Figure 6. Literacy and employment status

Mean literacy score by employment status



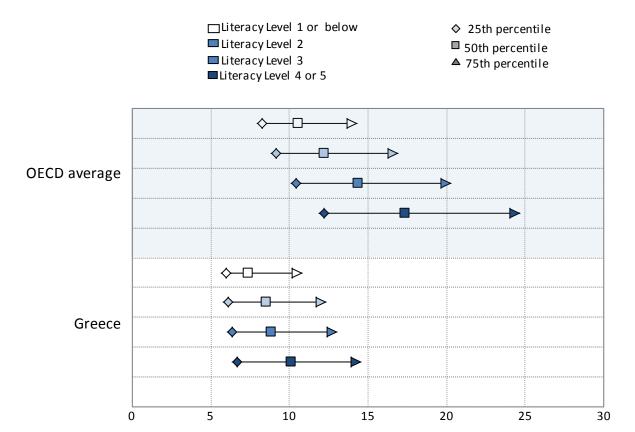
Source: Survey of Adult Skills (PIAAC) (2012, 2015), Table A5.1 (http://dx.doi.org/10.1787/888933366489).

In Greece, higher proficiency in literacy and numeracy is more weakly related to higher wages than across participating OECD countries.

In all participating countries/economies, there is a positive relationship between proficiency in literacy and numeracy and hourly wages. This relationship is less strong in Greece. The difference in hourly wages between the most- and least-skilled adults is more than USD 10 on average across most of the participating countries. In Greece, however, the best-paid workers who score at Level 4 or 5 in literacy earn only about USD 8 more per hour than the worst-paid workers who score at or below Level 1. This is similar to the difference observed in the Czech Republic and the Slovak Republic. In contrast to what is observed on average across OECD countries, there is almost no difference in hourly wages earned by those in the lower percentile of the distribution, irrespective of the skill level.

Figure 7. 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 (2012).

Source: Survey of Adults Skills (PIAAC) (2012, 2015), Table 5.3 (L) (http://dx.doi.org/10.1787/888933366489).

Workers in Greece use numeracy and problem-solving skills at work as frequently as the OECD average.

The Survey of Adult Skills collects information about the frequency with which respondents perform specific tasks in their workplace and in everyday life. Based on this information, the survey measures the use of key information-processing skills: reading, writing, numeracy, ICT and problem solving. The skills use indicators are scales between 1 "Never" and 5 "Every day".

Adults in Greece work with mathematics and solve problems at work as frequently as the OECD average, but they read, write and use computers in their jobs less frequently than the average worker across OECD countries does.

3.5

3

2.5

2

1.5

1

Reading at work

Mean use ☐ Greece ☐ OECD average

Figure 8. Information-processing skills used at work Average skills use, working population aged 16-65

Adults in Greece are more likely than workers in all other participating countries/economies to be more proficient in literacy than their job requires.

ICT at work

Problem solving

Writing at work Numeracy at work

The survey collected information about the use of information-processing and various generic skills in the workplace. In Greece, there is a high level of skills mismatch between the literacy proficiency of workers and the literacy demands of their jobs. Around 28% of workers in Greece are more proficient in literacy than their job requires (overskilled) - the largest proportion across all participating countries/economies, and much larger than the OECD average of 10.8%. Around 7% of workers are less proficient than required for their job (compared with the OECD average of 3.8%) and can be considered underskilled.

Almost one in two workers (41.4%, compared to an average of 39.6%) is employed in a different field than the one in which they earned their highest educational qualification. Such field-of-study mismatch is more strongly associated with overskilling and overqualification (i.e. working in a job for which a lower educational qualification is usually required) than it is in other countries/economies. This suggests that, in Greece, skills are less recognised than educational qualifications. Field-of-study mismatch also entails a wage penalty. Similarly, overskilled workers earn lower wages than workers with similar proficiency but who are well-matched with their jobs. Overskilled workers' skills may not be valued or recognised, reason for which they are more likely to be in jobs that require lower proficiency. These findings suggest that more could be done in Greece to make the organisation of work and pay schemes more flexible to encourage workers to use their full set of skills.

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 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, that are 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

- The Survey of Adults Skills was conducted over two rounds of data collection.
- In the first round, around 166 000 adults aged 16-65 years in 24 countries were surveyed Australia, Austria, Belgium, Canada, Cyprus,* the Czech Republic, Denmark, Estonia, Finland, France, Germany, Ireland, Italy, Japan, Korea, the Netherlands, Norway, Poland, the Russian Federation,** the Slovak Republic, Spain, Sweden, the United Kingdom and the United States. In all but three countries, data collection covered the entire national population. In Belgium, data were collected in Flanders; in the United Kingdom, data were collected in England and Northern Ireland (data are reported separately for England and Northern Ireland in the report). In the Russian Federation, the data do not cover the Moscow municipal area.
- Data collection for Round 1 of the Survey of Adult Skills took place from 1 August 2011 to 31 March 2012 in most participating countries. In Canada, data were collected from November 2011 to June 2012; and France collected data from September to November 2012.
- Nine countries took part in the second round of the assessment: Chile, Greece, Indonesia, Israel, Lithuania, New Zealand, Singapore, Slovenia and Turkey. A total of 50 250 adults were surveyed. In all countries except Indonesia the entire national population was covered. In Indonesia, data were collected in the Jakarta municipal area only.
- Data collection for Round 2 of the Survey of Adult Skills took place from April 2014 to end-March 2015. The duration of fieldwork varied from around 100 to 330 days, depending on the country.
- The language of assessment was the official language(s) of each participating country/economy. In some countries, the assessment was also conducted in widely spoken minority or regional languages.
- The target population for the survey was the non-institutionalised population of 16-65 yearolds residing in the country or region at the time of the data collection, irrespective of nationality, citizenship or language status. The achieved national samples ranged from a minimum of approximately 4 000 persons to a maximum of nearly 27 300 persons.
- The survey was conducted under the supervision of trained interviewers usually in the respondent's home. 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 the respondent's computer skills. Respondents could take as much
 or as little time as needed to complete the assessment. On average, respondents took 50
 minutes to complete the cognitive assessment.
- Identical instruments were used in Rounds 1 and 2 of the survey. The one exception was in Jakarta (Indonesia) where, since only paper-based instruments were used, additional test items were added to the paper-based instruments used in the other countries.

Comparing the results of countries/economies in Round 1 and Round 2

Identical data-collection instruments and methodology were used in Rounds 1 and 2 of the survey. The one difference is that data collection for Rounds 1 and 2 occurred some three years apart. The difference in reference dates for the two rounds of the study is unlikely to have an impact on the proficiency of the adult populations in Round 1 countries/economies compared to that of adults in Round 2 countries/economies. However, data were collected at different points in the economic cycle in the two rounds; this may have some effect on the relationships observed between proficiency and labour market outcomes and jobs characteristics, in particular, in the countries/economies in the two different rounds.

Notes

- * See note under Figure 1.
- ** The data from the Russian Federation are preliminary and may be subject to change. Readers should note that the sample for the Russian Federation does not include the population of the Moscow municipal area. The data published, therefore, do not represent the entire resident population aged 16-65 in Russia but rather the population of Russia excluding the population residing in the Moscow municipal area.

More detailed information regarding the data from the Russian Federation as well as that of other countries can be found in the *Technical Report of the Survey of Adult Skills* (OECD, 2013, forthcoming).

References and further reading

OECD (forthcoming), Technical Report of the Survey of Adult Skills, Second Edition.

OECD (2016a), *Skills Matter: Further Results from the Survey of Adult Skills*, OECD Skills Studies, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264258051-en.

OECD (2016b), *The Survey of Adult Skills: Reader's Companion, Second Edition*, OECD Skills Studies, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264258075-en.

OECD (2016c), *Survey of Adult Skills (PIAAC)* (Database 2012, 2015), <u>www.oecd.org/site/piaac/public</u> dataandanalysis.htm.

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Description of proficiency levels in 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 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 carre 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, noncentral 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	Tasks at this level 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	Tasks at this level 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	Tasks at this level 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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For more information on the Survey of Adult Skills (PIAAC) visit:

www.oecd.org/site/piaac

