





SKILLS MATTER: FURTHER RESULTS FROM THE SURVEY OF ADULT SKILLS

CHILE

Key results

- Younger adults in Chile are more proficient in literacy and numeracy than their older counterparts – by a larger margin than on average across OECD countries.
- Tertiary-educated adults in Chile perform better than their less-educated peers, but their scores in literacy and numeracy are well below the OECD average.
- Gender gaps in Chile, in favour of men, are among the widest observed across OECD countries.
- Workers in Chile use their numeracy and problem-solving skills at work as frequently as do workers on average across OECD countries.
- The impact of literacy proficiency on employability is weaker in Chile than across OECD countries, on average, while the impact on wages is stronger.

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 Chile from 1 April 2014 to 31 March 2015.

Some 5 212 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 Chile who score at the highest levels of proficiency in literacy, numeracy and problem solving in technology-rich environments is considerably smaller than the OECD average.

Only about one in 60 adults (1.6%) in Chile attains 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 1.5% of 16-24 year-olds (9.6 percentage points below the OECD average) to almost 0% among 55-65 year-olds (the OECD average is 4.8%). 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 eight adults (12.9%) 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 of text structures and rhetorical devices.

Some 1.9% of adults in Chile attain Level 4 or 5 in numeracy, far below the OECD average of 11.2%. Around 1.6% of 16-24 year-olds score at this level, compared with the OECD average of 10.1%, and almost 0% of 55-65 year-olds attains 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. One in ten adults (10%) in Chile 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 2.1% of adults in Chile attain Level 3, the highest proficiency level, in problem solving in technology-rich environments. This is the third lowest percentage observed among all participating countries/economies after Turkey and Greece, and significantly lower than the OECD average of 5.4%. Some 2.3% of 16-24 year-olds attain this level — considerably less than 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 eight adults (12.4%) 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 much-larger-than-average proportion of adults in Chile has poor literacy and numeracy skills.

More than one in two adults (53.4%) in Chile are proficient at or below Level 1 in literacy (compared to the OECD average of 18.9%) and almost 61.9% score at or below Level 1 in numeracy (39 percentage points higher than the OECD average of 22.7%). Low proficiency is particularly prevalent among 55-65 year-olds: about three in four adults in this age group score at or below Level 1 in both literacy and numeracy, while the OCDE average among 55-65 year-olds is just under one in three (around 30%). Some 38.5% of 16-24 year-olds are low performers in literacy (the OECD average is 13.8%) and 52.7% are low performers 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 Chile reported no prior experience with computers (compared to the OECD average of 10.0%) and 7.8% failed the ICT core test (compared to the OECD average of 4.7%). The proportion of adults that opted out of the computer-based assessment, while important, is less (7.5%) compared to the OECD average of 9.6%. Some 52.4% of adults score at or below Level 1 in problem solving in technology-rich environments, higher than 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 are much more likely than average to report no prior computer experience or to fail the ICT test (57.9%, compared to the OECD average of 31.8%), and are more likely to opt out of the computer assessment (10.9% compared to the average of 17.6%).

Missing Below Level 1 Level 1 Level 2 Level 3 Level 4 or 5 1.2 7.4 Japan 0.0 Finland 11 Netherlands **2.3** Sweden 0.0 Australia 1.9 New Zealand 1.9 Norway 2.2 Estonia 0.4 Russian Federation² 0.3 Slovak Republic Flanders (Belgium) 5.2 0.9 Canada Czech Republic 0.6 Denmark 0.4 0.3 Korea England (UK) 1.4 Germany **1**.5 OECD average 1.4 United States 4.2 Austria 1.8 Poland 0.0 Ireland 0.5 Northern Ireland (UK) 2.2 Singapore 1.0 France | 0.8 Lithuania **4.5** Cyprus¹ **2.4** Israel Slovenia 10.6 Spain | 0.8 Greece 1.0 Italy ▮ 0.7 Chile | 0.3 Turkey 2.0 Jakarta (Indonesia)0 0 0 20 100 100 80 60 40 20 40 60 80

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

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.

Note: Adults in the missing category were not able to provide enough background information to impute proficiency scores because of language

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

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).

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difficulties, or learning or mental disabilities (referred to as literacy-related non-response).

^{2.} The sample for the Russian Federation does not include the population of the Moscow municipal area.

☐ Below Level 1 Level 2 Missing Level 1 Level 3 Level 4 or 5 Japan 1.2 Finland 0.0 Sweden 0.0 Netherlands 2.3 Norway 2.2 Denmark | 0.4 Slovak Republic | 0.3 Flanders (Belgium) 5.2 Czech Republic 0.6 Austria 1.8 Germany 1.5 Estonia 0.4 New Zealand 1.9 Russian Federation² 0.0 Australia 1.9 Canada 0.9 Singapore 1.0 OECD average 1.4 Lithuania 4.5 Korea 0.3 England (UK) 1.4 Slovenia 0.6 Poland 0.0 Northern Ireland (UK) 2.2 France 0.8 Ireland 0.5 Israel 2.4 Cyprus¹ 17.7 United States 4.2 Greece 1.0 Italy 0.7 Spain 0.8 Turkey 2.0 Chile 0.3 [Jakarta (Indonesia) 0.0 100 % 100 80 60 40 20 0 20 40 60 80

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).

☐ Opted out of the computer based assessment ☐ Below Level 1 ☐ Failed ICT core or had no computer experience Level 1 Level 2 Missing Level 3 New Zealand Sweden Finland Netherlands Norway Denmark Australia Singapore Canada Germany England (UK) Japan Flanders (Belgium) Czech Republic Austria [**United States** OECD average Korea Northern Ireland (UK) Estonia Russian Federation² Slovak Republic Slovenia Ireland Poland Lithuania Greec Cyprus¹ France Spain

Figure 3 **Proficiency in problem solving in technology-rich environments among adults**Percentage of 16-65 year-olds scoring at each proficiency level

format.

1. See note 1 under Figure 1.

100

80

60

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).

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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

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20

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60

80

100

In Chile, the relationship between adults' socio-demographic characteristics and proficiency is stronger than that observed in other countries.

In most countries, including Chile, there are differences in skills proficiency related to socio-demographic characteristics, such as age, level of education and socio-economic status. Differences in proficiency related to age, education and parents' education are especially large in Chile.

Tertiary-educated adults in Chile perform much better than their less-educated compatriots, but their scores are low compared with similarly educated adults in other OECD countries. Tertiary-educated 25-65 year-olds score 35 points higher in literacy than those with an upper secondary degree (the OECD average difference is 33 points) and 77 points higher than adults who had not attained upper secondary education (the OECD average difference is 61 points). Even though the differences in scores between tertiary-educated adults and those who have not attained a tertiary education are among the largest observed across OECD countries, and similar to those observed in Germany and Israel, proficiency levels in Chile are comparatively low. For example, tertiary-educated Chileans perform at the same level as the least-educated Japanese adults and at the level of upper secondary graduates in the United States. Adults in Chile who have not attained upper secondary education score the lowest in literacy of all similarly educated adults among participating OECD countries.

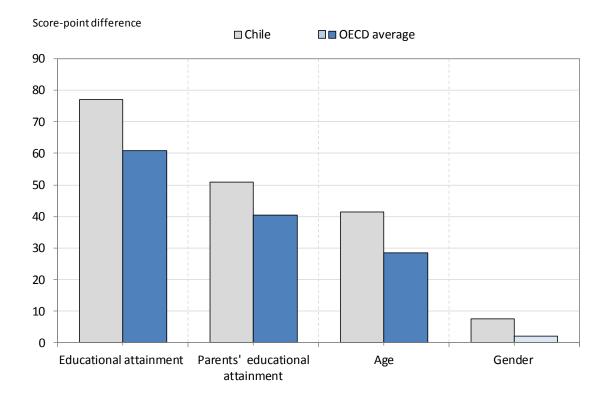
Among 16-24 year-olds, those who left school without an upper secondary degree score 59 points lower in literacy than those who are either still in school or who had earned an upper secondary degree – the largest difference between the two groups observed across participating OECD countries. Worryingly, younger adults in Chile who are in education or who have attained upper secondary education as their highest level of attainment, perform at the same level as young adults in most other OECD countries who left school before completing upper secondary education.

Age is also linked to differences in literacy proficiency. Younger adults (25-34 year-olds) in Chile score 41 points higher in literacy than 55-65 year-olds, a larger difference than the OECD average of 29 score points. This difference could be attributed to a decline in proficiency with increasing age (age depreciation) and/or an improvement in proficiency over the generations (cohorts improving proficiency). But literacy scores in Chile have not improved since the 1990s, when the country participated in the International Adult Literacy Survey. If the large expansion of education over the past few decades (the share of tertiary-educated 25-34 year-olds is around 20 percentage points larger than the share of tertiary-educated 55-65 year-olds) has improved cohorts' literacy scores, this improvement may be offset by Chile's population ageing, so the national average has remained the same.

In Chile, men outperform women in both literacy and numeracy. These gender gaps are among the widest observed across OECD countries, and similar to those seen in Turkey. Women score eight points lower than men in literacy (the OECD average difference is not statistically different from zero), and 21 points lower in numeracy (the OECD average difference is 12 score points).

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) 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/10.1787/88893336 6463).

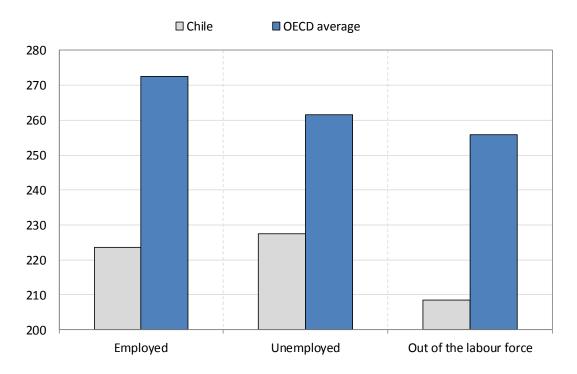
Chile is one of only two countries where unemployed adults are as proficient in literacy as employed adults.

In general, employed adults show higher proficiency than unemployed adults. But in Chile, as in Singapore, employed adults do not have higher literacy levels than unemployed adults.

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Figure 5 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).

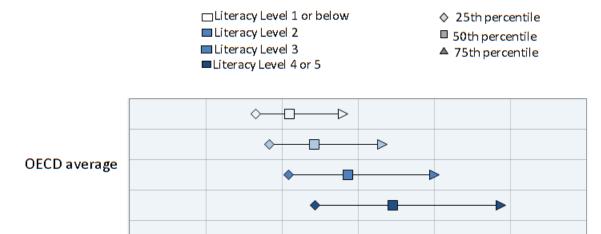
In Chile, higher proficiency in literacy has a positive impact on wages.

In many participating countries and economies, there is a positive relationship between proficiency and labour market outcomes; in Chile, this is seen most clearly in wages. The impact of literacy on wages is stronger than the OECD average, and similar to that observed in Canada and Germany. This relationship remains strong, even after educational attainment and the use of reading skills at work are considered.

The difference in hourly wages between the most- and least-skilled adult is USD 16, on average across OECD countries. In Chile, the best-paid workers who score at Level 4 or 5 in literacy earn about USD 20 more per hour than the worst-paid workers who score at or below Level 1. In addition, wages in Chile are much lower than the OECD average at every proficiency level, except for adults who score at Level 4 or 5 in literacy. The wages of adults who score at proficiency Level 4 or 5 are in the 75th percentile of the earnings distribution. These adults earn only USD 1.8 less per hour than the average among similarly proficient high-earning workers across OECD countries.

Figure 6 Distribution of wages, by literacy proficiency level

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



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15

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25

Hourly wages in USD

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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).

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Chile

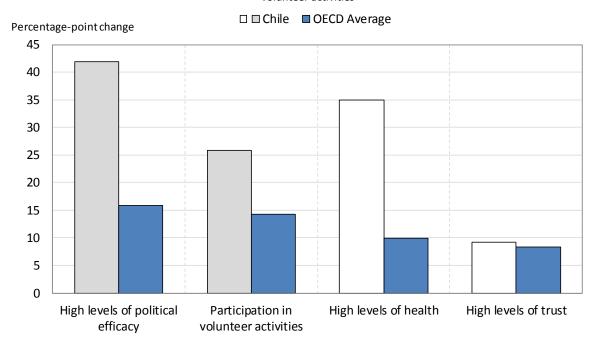
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The link between higher literacy and the belief that one has an impact on the political process is one of the strongest among OECD countries.

In Chile, adults who score at Level 4 or 5 in literacy are more likely than adults who score at or below Level 1 to report that they believe they can influence the political process (political efficacy) and that they participate in volunteer activities. In particular, the relationship between proficiency in literacy and political efficacy is one of the strongest observed, and similar to that recorded in Norway. But there are no statistically significant differences across proficiency levels in the strength of the relationship between literacy and two other social outcomes: trusting others and self-reported health.

Figure 7 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



Note: 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).

Workers in Chile are more likely than workers in all other countries/economies to have lower proficiency in literacy than is required by their jobs (underskilled) and to work in a job that is not related to their area of study (field-of-study mismatch).

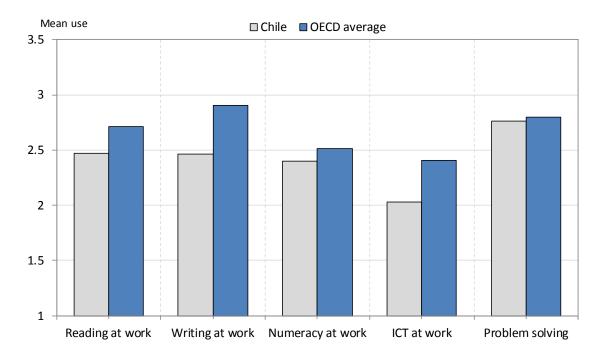
The survey collected information about the use of information-processing and various generic skills in the workplace. Linked with data about workers' proficiency in these skills, this information provides a picture of the match – or mismatch – between workers' skills and the tasks they are asked to perform in their jobs.

On average, workers in Chile engage in numeracy and problem-solving tasks at work as frequently as workers across other OECD countries do; but there is a high degree of mismatch between the literacy and numeracy skills of workers and the skills required in their jobs. Around 10% of workers in Chile are less proficient in literacy than their job requires (underskilled) — the largest proportion among all participating countries/economies (the OECD average proportion of underskilled workers is 3.8%). Some 15.9% of workers in Chile are more proficient in literacy than required by their job (overskilled), well above OECD average of 10.8%.

Field-of-study mismatch arises when workers are employed in a field different from that in which they specialised in their education. In Chile, as in England (United Kingdom) and Korea, around 50% of adults are mismatched with their jobs by field of study. By comparison, across participating OECD countries, 40% of workers, on average, are employed in a field different from that in which they earned their qualifications.

Figure 8 Information-processing skills used at work

Average skills use, working population aged 16-65



Notes: For reading, writing, numeracy and ICT skills, skills use indicators are scales between 1 "Never" and 5 "Every day". Problem-solving skills use refers to respondents' answers to "How often are you usually confronted with more complex problems that take at least 30 minutes to find a good solution?". The set of possible answers also ranges between 1 "Never" and 5 "Every day". **Source:** Survey of Adult Skills (PIAAC) (2012, 2015), Table A4.1 (http://dx.doi.org/10.1787/888933366479).

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 year-olds
 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 1 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, Second Edition* (OECD, 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.

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

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Proficiency levels: Literacy and numeracy

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

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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