

Measuring up: Canadian Results of the OECD PISA Study

The Performance of Canada's Youth in Reading, Mathematics and Science

2009 First Results for Canadians Aged 15



Human Resources and
Skills Development Canada
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Développement des compétences Canada
Statistique
Canada



Council of
Ministers
of Education,
Canada

Conseil des
ministres
de l'Éducation
(Canada)

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Canada owes the success of its statistical system to a long-standing partnership between Statistics Canada, the citizens of Canada, its businesses, governments and other institutions. Accurate and timely statistical information could not be produced without their continued cooperation and goodwill.

Acronyms

The following acronyms are used in this publication:

OECD	Organisation for Economic Co-operation and Development
PISA	Programme for International Student Assessment
PCAP	Pan-Canadian Assessment Program
YITS	Youth in Transition Survey

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Introduction

The skills and knowledge that individuals bring to their jobs, to further studies and to our society, play an important role in determining our economic success and our overall quality of life. The shift to a knowledge-based economy driven by advances in information and communication technologies, reduced trade barriers and the globalization of markets has precipitated changes in the type of knowledge and skills that the present and future economy requires. This includes a rising demand for a strong set of foundation skills upon which further learning is built.

Elementary and secondary education systems play a central role in laying a solid base upon which subsequent knowledge and skills can be developed. Students leaving secondary education without a strong foundation may experience difficulty accessing the postsecondary education system, the labour market and they may benefit less when learning opportunities are presented later in life. Without the tools needed to be effective learners throughout their lives, these individuals with limited skills risk economic and social marginalization.

Governments in industrialized countries have devoted large portions of their budgets to provide high quality schooling. Given these investments, they are interested in the relative effectiveness of their education systems. To address these issues, member countries of the Organisation for Economic Co-operation and Development (OECD) along with partner countries developed a common tool to improve their understanding of what makes young people—and education systems as a whole—successful. This tool is the Programme for International Student Assessment (PISA) which seeks

to measure the extent to which youth, at age 15, have acquired some of the knowledge and skills that are essential for full participation in modern societies.

PISA was first conducted in 2000 with an emphasis on reading skills and again in 2003 and 2006 with an emphasis on mathematics and science achievement respectively. The implementation of PISA 2009 marks the beginning of a new cycle returning to an emphasis on reading achievement. In 2009 students who were assessed in PISA entered primary school at about the time of the first PISA survey in 2000. As such, the 2009 results provide an opportunity to relate policy changes to changes in learning outcomes using the benchmarks set by the original 2000 survey.

The Programme for International Student Assessment

The Programme for International Student Assessment (PISA) is a collaborative effort among member countries of the Organisation for Economic Co-operation and Development (OECD). PISA is designed to provide policy-oriented international indicators of the skills and knowledge of 15-year-old students¹ and sheds light on a range of factors that contribute to successful students, schools and education systems. It measures skills that are generally recognized as key outcomes of the educational process. The assessment focuses on young people's ability to use their knowledge and skills to meet real life challenges. These skills are believed to be prerequisites to efficient learning in adulthood and for full participation in society.

Information gathered through PISA enables a thorough comparative analysis of the performance of students near the end of their compulsory education. PISA also permits exploration of the ways that achievement varies across different social and economic groups and the factors that influence achievement within and among countries.

PISA has brought significant public and educational attention to international assessments and related studies by generating data to enhance the ability of policy makers to make decisions based on evidence. Canadian provinces have used information gathered from PISA along with other sources of information such as the Pan-Canadian Assessment Program² (PCAP) to inform various education-related initiatives. In Canada, PISA is carried out through a partnership consisting of Human Resources and Skills Development Canada, the Council of Ministers of Education, Canada and Statistics Canada.

The project began in 2000 and focuses on the capabilities of 15-year-olds as they near the end of compulsory education. It reports on reading literacy, mathematical literacy and scientific literacy every three years and provides a more detailed look at one of those domains in the years when it is the major focus. As was the case in 2000, reading was the major domain of PISA in 2009 when the focus was on both overall (or combined) reading literacy and the three reading sub-domains (reading retrieving, reading interpreting and reading reflecting). As minor domains in PISA 2009, only overall measures of mathematics and science are available.

Why did Canada participate in PISA?

Canada's continued participation in PISA 2009 stems from many of the same questions motivating other participating countries. In Canada, provinces and territories responsible for education invest significant public resources in the provision of elementary and secondary education and Canadians are interested in the outcomes of compulsory education provided to their youth. How can expenditures be directed to the achievement of higher levels of knowledge and skills upon which lifelong learning is founded and to potentially reduce social inequality in life outcomes?

Elementary and secondary education systems play a key role in providing students with the knowledge and skills that form an essential foundation necessary to further develop human capital either through participation in the workforce, post-secondary education

or lifelong learning. Previous studies based on PISA data have shown the effects of strong skills at age 15 in later life. Youth with strong reading skills were much more likely to have finished high school, pursue post-secondary education and finish it. For example, results from the Youth in Transition Survey (YITS) show that there is a strong association between reading proficiency and education attainment. Canadian students in the bottom quartile of PISA reading scores were much more likely to drop out of secondary school and less likely to have completed a year of post-secondary education than those in the high quartile of reading score. In contrast, Canadian students in the top PISA level (Level 5) of reading performance were twenty times more likely to go to university than those in the lowest PISA level (at or below Level 1)³.

Questions about educational effectiveness can be partly answered with data on the average performance of Canada's youth in key subject areas. However, two other questions with respect to equity can only be answered by examining the distribution of competencies: Who are the students at the lowest levels? Do certain groups or regions appear to be at greater risk? These are important questions because, among other things, acquisition of knowledge and skills during compulsory schooling influences access to postsecondary education, eventual success in the labour market and the effectiveness of continuous, lifelong learning.

What is PISA 2009?

Sixty-five countries and economies participated in PISA 2009, including all 33 OECD countries⁴. Between 5,000 and 10,000 students aged 15 from at least 150 schools were typically tested in each country. In Canada, approximately 23,000 15-year-olds from about 1,000 schools participated across the ten provinces⁵.

The large Canadian sample was required to produce reliable estimates representative of each province and for both French and English language school systems in Nova Scotia, New Brunswick, Quebec, Ontario, Manitoba, Alberta and British Columbia. It should be noted that PISA was administered in English and in French according to the respective school system.

The 2009 PISA assessment was administered in schools, during regular school hours in April and May 2009. This assessment was a two hour paper-and-pencil test. Students also completed a 20-minute student background questionnaire providing information about themselves and their home and a 10-minute

questionnaire on information technology and communications, while school principals completed a 20-minute questionnaire about their schools. As part of PISA 2009, national options could also be implemented. Canada chose to add a 20-minute student questionnaire as a national component to collect more information on the school experiences of 15-year-olds, their work activities and their relationships with others.

Objectives and organization of the report

This report is the first of two reports that provide the initial results from the PISA 2009 assessment for Canada and the provinces. This report provides the first pan-Canadian results of the PISA 2009 assessment of reading, mathematics and science by presenting the national and

provincial results in order to complement the information presented in the PISA 2009 International report⁶. Results are compared to other participating countries and across Canadian provinces.

Chapter 1 provides information on the performance of Canadian 15-year-old students on the PISA 2009 assessment in reading. Chapter 2 presents results on the performance of Canada and the provinces in the minor domains of mathematics and science. Finally, the major findings and opportunities for further study are discussed in the conclusion.

A second report will be released in the early Spring 2011 and will examine the relationship between student background characteristics, school factors, and student engagement with reading achievement.

Table 1

Overview of PISA 2009

	International	Canada
Participating countries/provinces	<ul style="list-style-type: none"> 65 countries and economies 	<ul style="list-style-type: none"> 10 provinces
Population	<ul style="list-style-type: none"> Youth aged 15 	<ul style="list-style-type: none"> Same
Number of participating students	<ul style="list-style-type: none"> Between 5,000 and 10,000 per country with some exceptions for a total of around 470,000 students 	<ul style="list-style-type: none"> Approximately 23,000 students
Domains	<ul style="list-style-type: none"> Major: reading Minor: mathematics and science 	<ul style="list-style-type: none"> Same
Amount of testing time devoted to domains	<ul style="list-style-type: none"> 390 minutes of testing material organized into different combinations of test booklets 210 minutes in length <ul style="list-style-type: none"> 120 minutes devoted to reading 90 minutes devoted to mathematics 90 minutes devoted to science 	<ul style="list-style-type: none"> Same
Languages in which the test was administered	<ul style="list-style-type: none"> 48 languages 	<ul style="list-style-type: none"> English and French
International assessment	<ul style="list-style-type: none"> Two hours of direct assessments of reading, mathematics and science Twenty minute contextual questionnaire administered to youth A school questionnaire administered to school principals 	<ul style="list-style-type: none"> Same
International options	<ul style="list-style-type: none"> Ten-minute optional questionnaire on information technology and communications administered to students Ten-minute optional questionnaire on educational career administered to students Twenty-minute optional questionnaire administered to parents One hour optional electronic reading assessment Grade-based sampling One-hour booklet 	<ul style="list-style-type: none"> Ten-minute optional questionnaire on information technology and communications administered to students
National options	<ul style="list-style-type: none"> Other options were undertaken in a limited number of countries 	<ul style="list-style-type: none"> Twenty minutes of additional questions administered to students regarding their school experiences, work activities and relationships with others.

Notes

1. OECD (1999), *Measuring Student Knowledge and Skills: A New Framework for Assessment*, Paris.
2. Council of Ministers of Education, Canada (2008). *PCAP-13 2007 Report on the Assessment of 13-year-olds in Reading, Mathematics, and Science*. Toronto.
3. OECD (2010). *Pathways to Success: How knowledge and Skills at age 15 shape future lives in Canada*. Paris.
4. OECD countries include Australia, Austria, Belgium, Canada, Chile, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Korea, Luxembourg, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Turkey, United Kingdom, and United States.
5. No data were collected in the three territories and First Nations schools.
6. The PISA 2009 International report is released in five volumes. Results presented in this report correspond to results presented in Volume 1, OECD (2010) *Tomorrow's skills today – Student performance in PISA 2009*. Paris and Volume 5, OECD (2010) *Learning Curves, From PISA 2000 to PISA 2009*. Paris.

Partner countries and economies are: Albania, Argentina, Azerbaijan, Brazil, Bulgaria, Chinese Taipei, Colombia, Croatia, Dubai (UAE), Estonia, Hong Kong – China, Indonesia, Jordan, Kazakhstan, Kyrgyz Republic, Latvia, Liechtenstein, Lithuania, Macao-China, Montenegro, Panama, Peru, Qatar, Romania, Russian Federation, Serbia, Shanghai-China, Singapore, Thailand, Trinidad and Tobago, Tunisia, and Uruguay.

Chapter 1

The performance of Canadian students in reading in an international context

This chapter presents results of the PISA 2009 assessment in the major domain of reading in terms of average scores, variation in performance, and proficiency levels. First, the performance of 15-year-old students across Canada and in the 10 provinces is compared to the performance of 15-year-olds from the other countries and economies that participated in PISA 2009. Next, results are presented on the performance of students enrolled in English-language and French-language schools for those provinces in which the two groups were sampled separately. Following this, gender differences in reading performance are examined. Lastly, change in reading performance over time is discussed.

Defining reading

In the PISA context, the term “reading” is used for “reading literacy” which is meant to focus on the active, purposeful and functional application of reading in a range of situations and for various purposes: “Reading literacy is understanding, using, reflecting on and engaging with written texts, in order to achieve one’s goals, to develop one’s knowledge and potential, and to participate in society”.⁷

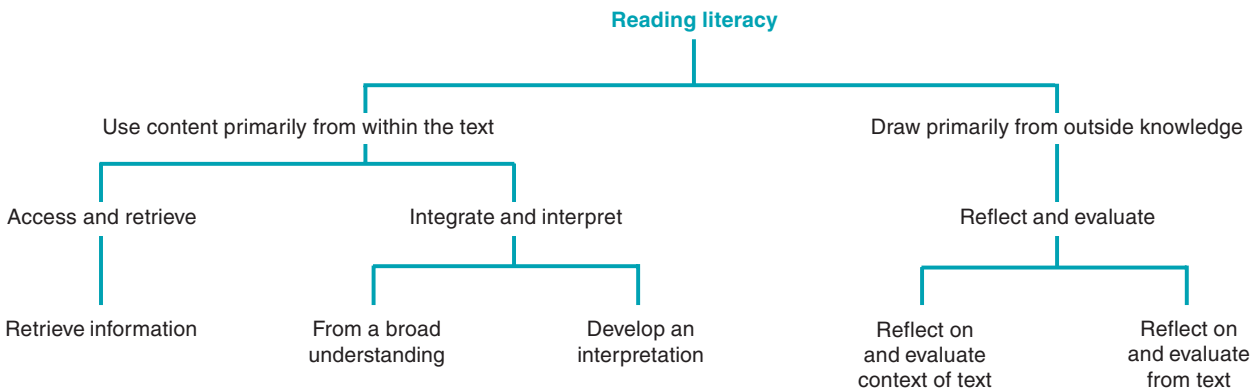
With reading being the first of the PISA domains to be reassessed as major domain, the reading framework developed in 2000 was revisited to account for changes in the domain in the past decade. Much of the substance

of the PISA 2000 reading framework has been retained in 2009, which allows reporting on trends in performance over time. However, two major modifications in the 2009 framework focus on the incorporation of reading of electronic texts and the elaboration of the constructs of reading engagement and metacognition. In 2009, the assessment of reading of electronic texts was implemented as an international option in which Canada elected not to participate. Therefore, this report presents the Canadian results for the core paper-and-pencil assessment of reading in which Canada, along with the other 65 countries and economies participated. Since the same reading scales are relevant to all PISA participating countries it is appropriate to compare the performance of countries involved in this assessment directly and to report on trends in performance between 2000 and 2009.

As was the case in PISA 2000, PISA 2009 reports results globally and for the three aspects identified in the framework (Accessing and Retrieving, Integrating and Interpreting, and Reflecting and Evaluating). Additionally it reports on two text formats used in PISA (Continuous texts and Non-continuous texts). The main features of the reading aspect scales are described in Figure 1.1. Further information is available in the PISA 2009 framework. Although there is a high correlation between these sub-scales, reporting results on each sub-scale may reveal interesting interactions which could be linked to curriculum and teaching methodology used.

Figure 1.1

Main features of the reading subscales



Accessing and retrieving involves going to the information space provided and navigating in that space to locate and retrieve one or more distinct pieces of information.

Integrating and interpreting involves processing what is read to make internal sense of a text.

Reflecting and evaluating involves drawing upon knowledge, ideas or attitudes beyond the text in order to relate the information provided within the text to one's own conceptual and experiential frames of reference.

Continuous texts are formed by sentences organized into paragraphs. These include newspaper articles, essays, short stories, reviews or letters.

Non-continuous texts are documents that combine several text elements such as lists, tables, graphs, diagrams, advertisements, schedules, catalogues, indexes or forms.

In 2009, text formats also included mixed and multiple text formats but these were classified within the other two categories due to their relatively small number of items.

Source: OECD (2009). PISA 2009 Assessment Framework: Key competencies in reading, mathematics and science. Paris.

The PISA scores for reading are expressed on a scale with a mean of 500 points for the OECD countries and a standard deviation of 100. This average was established in 2000 when reading was first introduced as the major domain. This means that approximately two-thirds of all students in OECD countries scored between 400 and 600 (i.e. within one standard deviation of the average).

One way to summarize student performance and to compare the relative standing of countries is by examining their average test scores. However, simply ranking countries based on their average scores can be misleading because there is a margin of error associated with each score. This margin of error must be taken into account in order to identify whether significant differences in average scores exist when comparing countries (see text Box 1 'A note on statistical comparisons'). When interpreting average performances, only those differences between countries that are *statistically significant* should be taken into account.

Box 1

A note on statistical comparisons

The averages were computed from the scores of random samples of students from each country and not from the population of students in each country. Consequently, it cannot be said with certainty that a sample average has the same value as the population average that would have been obtained had all 15-year-old students been assessed. Additionally, a degree of error is associated with the scores describing student performance as these scores are estimated based on student responses to test items. A statistic, called the standard error, is used to express the degree of uncertainty associated with sampling error and measurement error. The standard error can be used to construct a confidence interval, which provides a means of making inferences about the population averages and proportions in a manner that reflects the uncertainty associated with sample estimates. A 95% confidence interval is used in this report and represents a range of plus or minus about two standard errors around the sample average. Using this confidence interval it can be inferred that the population mean or proportion would lie within the confidence interval in 95 out of 100 replications of the measurement, using different samples randomly drawn from the same population.

When comparing scores among countries, provinces, or population subgroups the degree of error in each average must be considered in order to determine if the true population averages are likely different from each other. Standard errors and confidence intervals may be used as the basis for performing these comparative statistical tests. Such tests can identify, with a known probability, whether there are actual differences in the populations being compared.

For example, when an observed difference is significant at the 0.05 level, it implies that the probability is less than 0.05 that the observed difference could have occurred because of sampling or measurement error. When comparing countries and provinces, extensive use is made of this type of statistical test to reduce the likelihood that differences due to sampling or measurement errors will be interpreted as real.

Only statistically significant differences at the 0.05 level are noted in this report, unless otherwise stated. Averages did not differ unless the 95% confidence intervals for the averages being compared did not overlap. Where confidence intervals overlapped slightly an additional t-test was conducted to confirm the statistical difference.

Canadian students continue to perform well in reading in a global context

Overall, Canadian students continue to perform well compared with students in most other countries. As shown in Chart 1.1, Canada had a mean score of 524 on the combined reading scale, well above the OECD average of 496⁸, and was outperformed by only 4 countries. Listed in Table 1.1 are the countries⁹ that performed significantly better than Canada or equally as well as Canada on the combined reading scale and for each of the sub-scales. This means that the average scores of all remaining countries that took part in PISA 2009 were statistically below that of Canada (see Appendix tables B.1.1 to B.1.6). In drawing comparisons with results from previous PISA cycles, it should be noted that Shanghai-China and Singapore participated for the first time in PISA 2009.

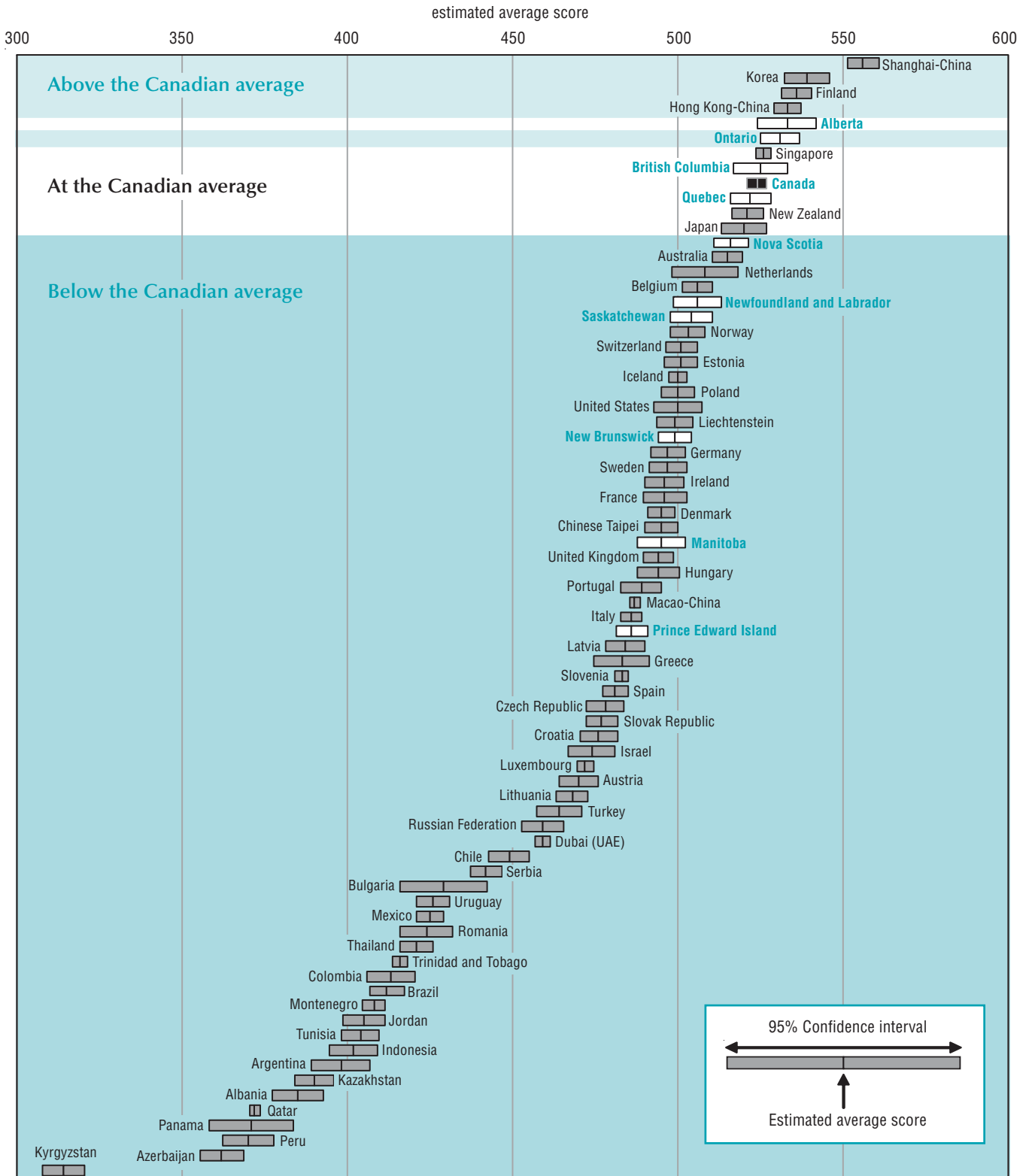
Table 1.1

Countries performing better than, or the same as Canada

	Countries performing significantly better than Canada	Countries performing as well as Canada
Reading – combined reading	Shanghai-China, Korea, Finland, Hong Kong-China	Singapore, New Zealand, Japan
Reading aspect sub-scales		
Reading – accessing and retrieving	Shanghai-China, Korea, Finland, Japan, Hong Kong-China, Singapore	New Zealand, Netherlands, Belgium, Australia, Norway
Reading – integrating and interpreting	Shanghai-China, Korea, Finland, Hong Kong-China	Singapore, Japan, New Zealand
Reading – reflecting and evaluating	Shanghai-China, Korea	Hong Kong-China, Finland, New Zealand
Text format sub-scales		
Reading – continuous texts	Shanghai-China, Korea, Hong Kong-China, Finland	Singapore, Japan
Reading – non-continuous texts	Korea, Singapore, Shanghai-China, Finland	New Zealand, Australia, Hong Kong-China

Chart 1.1

Average scores and confidence intervals for provinces and countries:
Combined reading



Note: The OECD average is 496 with a standard error of 0.6.

Among the 65 countries that participated in PISA 2009, only four countries outperformed Canada on the combined reading scale: Shanghai-China, Korea, Finland and Hong Kong-China while three countries had similar performance to Canada. Across the three reading aspect sub-scales, Canada was outperformed by six countries in Reading Accessing and Retrieving, four countries in Reading Integrating and Interpreting and two countries in Reading Reflecting and Evaluating. When analyzing results for the three aspects of reading, it should be noted that those aspects are not entirely separate and independent but that they can be considered semi-hierarchical: it is not possible to interpret and integrate information without having first retrieved it. Across the three reading aspects, Canadian students performed relatively better in the more encompassing aspect of Reading Reflecting and Evaluating with a mean score of 535 and had relatively lower performance in Reading Accessing and Retrieving with a mean score of 517.

When analyzing results for the two text formats, four countries performed better than Canada on both text format sub-scales with a Canadian mean score of 524 points on the continuous texts sub-scale and 527 points on the non-continuous texts sub-scale¹⁰.

There is significant variation in performance between Canadian provinces in reading

At the provincial level, most 15-year-olds also performed well in reading. Students in nine of the Canadian provinces performed at or above the OECD average on the combined reading scale with only Prince Edward Island performing below the OECD mean. As shown in Table 1.2, provinces fell into one of three groups when compared to the Canadian averages for combined reading and the reading sub-scales. Ontario performed above the Canadian average for both the combined reading and reading sub-scales and Alberta performed above the Canadian average on four of the five reading sub-scales. Although Alberta and Ontario had similar performance on the combined reading and reading accessing and retrieving scale, Alberta’s score was not significantly different than the Canadian average once the standard errors were considered¹¹. British Columbia performed at the Canadian average for both the combined reading and reading sub-scales and Quebec performed at the Canadian average for the combined reading and four of the five reading sub-scales. Newfoundland and Labrador, Prince Edward Island, Nova Scotia, New Brunswick, Manitoba and Saskatchewan performed below the Canadian average for both the combined reading and reading sub-scales.

Table 1.2

Provincial results in reading in relation to the Canadian average

	Provinces performing significantly better than Canada	Provinces performing the same as the Canadian average	Provinces performing significantly lower than the Canadian average
Reading – combined	Ontario	Quebec, Alberta, British Columbia	Newfoundland and Labrador, Prince Edward Island, Nova Scotia, New Brunswick, Manitoba, Saskatchewan
Reading – accessing and retrieving	Ontario	Quebec, Alberta, British Columbia	Newfoundland and Labrador, Prince Edward Island, Nova Scotia, New Brunswick, Manitoba, Saskatchewan
Reading – integrating and interpreting	Ontario, Alberta	Quebec, British Columbia	Newfoundland and Labrador, Prince Edward Island, Nova Scotia, New Brunswick, Manitoba, Saskatchewan
Reading – reflecting and evaluating	Ontario, Alberta	British Columbia	Newfoundland and Labrador, Prince Edward Island, Nova Scotia, New Brunswick, Quebec, Manitoba, Saskatchewan
Reading – continuous texts	Ontario, Alberta	Quebec, British Columbia	Newfoundland and Labrador, Prince Edward Island, Nova Scotia, New Brunswick, Manitoba, Saskatchewan
Reading – non-continuous texts	Ontario, Alberta	Quebec, British Columbia	Newfoundland and Labrador, Prince Edward Island, Nova Scotia, New Brunswick, Manitoba, Saskatchewan

Note: Provinces within each cell are ordered from east to west.

Canada continues to demonstrate strong performance and high equity in reading performance

While mean performance is useful in assessing the overall performance of students, we can learn more about overall performance by looking at how the scores were distributed within each country or province since average scores can mask significant variation within a jurisdiction. Countries aim not only to encourage high performance but also to minimize disparities in performance which can be measured by the gap between the highest and lowest performing student. This is an important indicator of the equity of educational outcomes.

Canada is widely recognized as one of a few PISA countries that has both high performance and high equity. Equity in performance can be measured by examining the relative distribution of scores or the gap that exists between students with the highest and lowest

levels of performance within each jurisdiction. Chart 1.2 shows the difference in average scores between those in the lowest quarter (25th percentile) of student achievement and those in the highest quarter (75th percentile) of student achievement in reading. For Canada overall, those in the highest quarter scored 124 score points higher compared to those in the lowest quarter. This compares to 128 score points across all OECD countries. At the provincial level, the largest gap was in Alberta (133 points) and the smallest in Nova Scotia (117 points).

The amount of within-country variation in performance in reading varied widely among OECD countries (Appendix tables B.1.7 to B.1.12). Both Canada and the majority of the provinces were among the few jurisdictions with higher reading performance and lower variation in student performance (as measured by score point differences between the 75th and 25th percentile).

Chart 1.2

Difference in average scores in reading between students who performed in the bottom quarter of performance and students who performed in the top quarter of performance

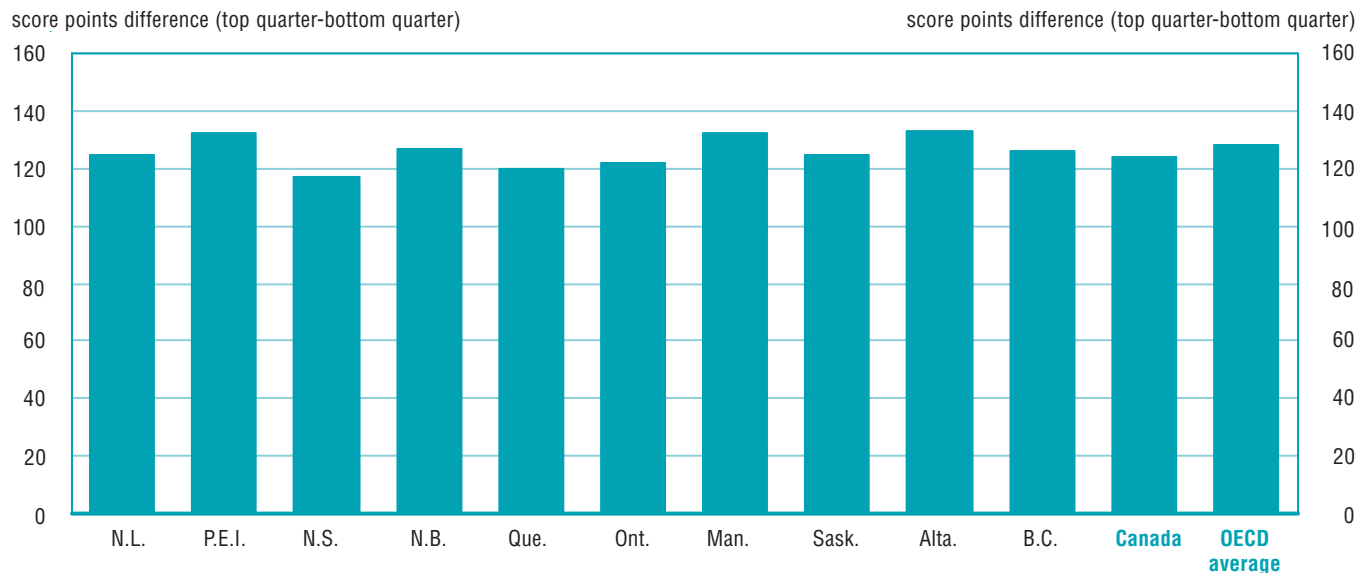


Table 1.3

Summary descriptions for the seven levels of proficiency in reading

Level	Lower score limit	Percentage of students able to perform tasks at this level or above	Characteristics of tasks
6	698.32	0.8% of students across the OECD and 1.8% in Canada can perform tasks at least at Level 6 on the reading scale	<ul style="list-style-type: none"> • Requires the reader to make multiple inferences, comparisons and contrasts that are both detailed and precise. • Requires demonstration of a full and detailed understanding of one or more texts and may involve integrating information from more than one text. • May require the reader to deal with unfamiliar ideas, in the presence of prominent competing information, and to generate abstract categories for interpretations. • Reflect and evaluate tasks may require the reader to hypothesize about or critically evaluate a complex text on an unfamiliar topic, taking into account multiple criteria or perspectives, and applying sophisticated understandings from beyond the text. • Access and retrieve tasks: there is limited data about these tasks at this level, but it appears that a salient condition is precision of analysis and fine attention to detail that is inconspicuous in the texts.
5	625.61	7.7% of students across the OECD and 12.8% in Canada can perform tasks at least at Level 5 on the reading scale	<ul style="list-style-type: none"> • For all aspects of reading, tasks at this level typically involve dealing with concepts that are contrary to expectations. • Retrieving tasks require the reader to locate and organize several pieces of deeply embedded information, inferring which information in the text is relevant. • Reflective tasks require critical evaluation or hypothesis, drawing on specialized knowledge. Both interpretative and reflective tasks require a full and detailed understanding of a text whose content or form is unfamiliar.
4	552.89	28.6% of students across the OECD and 39.6% in Canada can perform tasks at least at Level 4 on the reading scale	<ul style="list-style-type: none"> • Retrieving information tasks require the reader to locate and organize several pieces of embedded information. • Some interpretive tasks at this level require interpreting the meaning of nuances of language in a section of text by taking into account the text as a whole. Other interpretative tasks require understanding and applying categories in an unfamiliar context. • Reflective tasks at this level require readers to use formal or public knowledge to hypothesize about or critically evaluate a text. Readers must demonstrate an accurate understanding of long or complex texts whose content or form may be unfamiliar.
3	480.18	57.4% of students across the OECD and 69.6% in Canada can perform tasks at least at Level 3 on the reading scale	<ul style="list-style-type: none"> • Tasks at this level require the reader to locate, and in some cases recognize the relationship between, several pieces of information that must meet multiple conditions. • Interpretative tasks at this level require the reader to integrate several parts of a text in order to identify a main idea, understand a relationship or construe the meaning of a word or phrase. They need to take into account many features in comparing, contrasting or categorizing. Often the required information is not prominent or there is much competing information; or there are other text obstacles, such as ideas that are contrary to expectation or negatively worded. • Reflective tasks at this level may require connections, comparisons, and explanations, or they may require the reader to evaluate a feature of the text. Some reflective tasks require readers to demonstrate a fine understanding of the text in relation to familiar, everyday knowledge. Other tasks do not require detailed text comprehension but require the reader to draw on less common knowledge.
2	407.47	81.4% of students across the OECD and 89.8% in Canada can perform tasks at least at Level 2 on the reading scale	<ul style="list-style-type: none"> • Some tasks at this level require the reader to locate one or more pieces of information, which may need to be inferred and may need to meet several conditions. • Others tasks require recognizing the main idea in a text, understanding relationships, or construing meaning within a limited part of the text when the information is not prominent and the reader must make low level inferences. • Tasks at this level may involve comparisons or contrasts based on a single feature in the text. • Typical reflective tasks at this level require readers to make a comparison or several connections between the text and outside knowledge, by drawing on personal experience and attitudes.
1a	334.75	94.4% of students across the OECD and 97.7% in Canada can perform tasks at least at Level 1a on the reading scale	<ul style="list-style-type: none"> • Tasks at this level require the reader to locate one or more independent pieces of explicitly stated information; to recognize the main theme or author's purpose in a text about a familiar topic, or to make a simple connection between information in the text and common, everyday knowledge. • Typically the required information in the text is prominent and there is little, if any, competing information. • The reader is explicitly directed to consider relevant factors in the task and in the text.
1b	262.04	98.9% of students across the OECD and 99.7% in Canada can perform tasks at least at Level 1b on the reading scale	<ul style="list-style-type: none"> • Tasks at this level require the reader to locate a single piece of explicitly stated information in a prominent position in a short, syntactically simple text with a familiar context and text type, such as a narrative or a simple list. • The text typically provides support to the reader, such as repetition of information, pictures or familiar symbols. • There is minimal competing information. In tasks requiring interpretation the reader may need to make simple connections between adjacent pieces of information.

Canada had a larger proportion of high achievers and a smaller proportion of low achievers compared to the OECD average

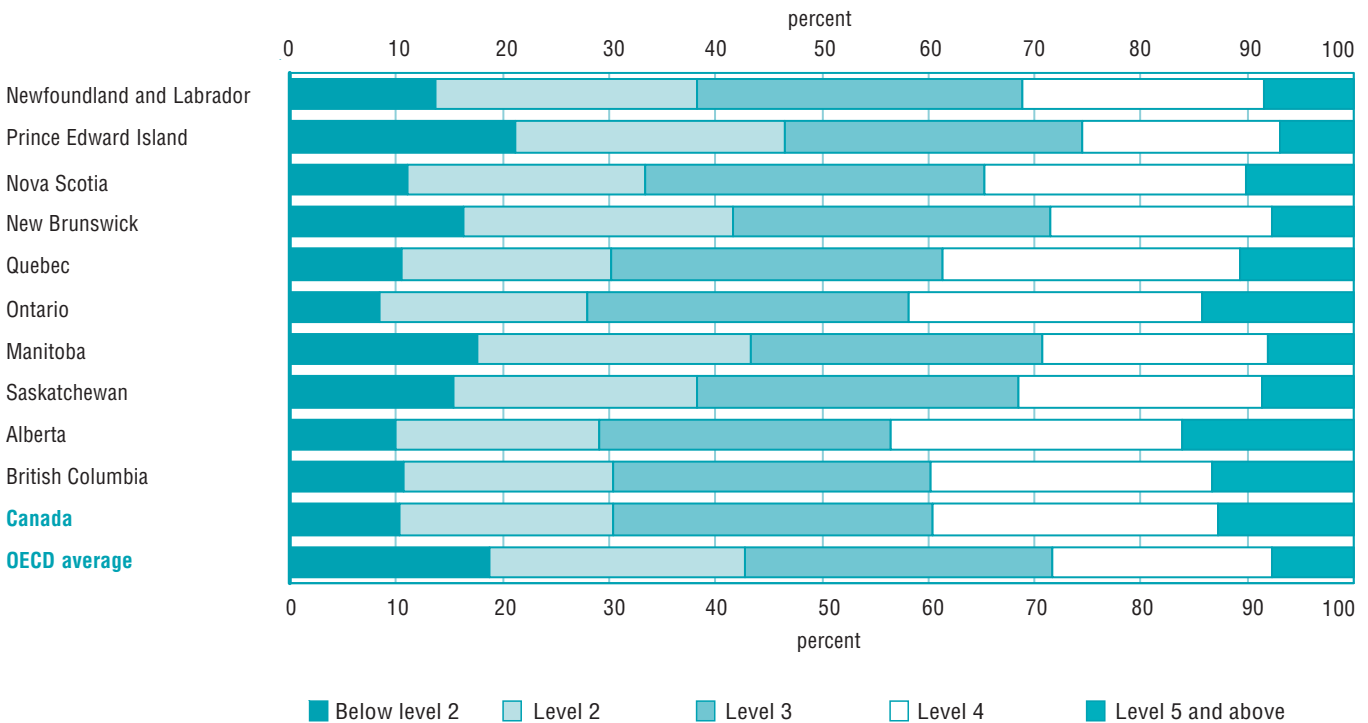
PISA also summarizes student performance on the reading scale by dividing it into levels based on the tasks that are located within each level. Descriptions are provided for each of these levels in order to provide an overall picture of students' accumulated knowledge and skills required to complete these tasks. Tasks at the lower end of the PISA reading scale are deemed easier and less complex than tasks at the higher end and this progression in task difficulty/complexity applies to both the combined reading scale and each aspect and text format sub-scale. As stated previously, the PISA 2009 Reading Literacy framework was very similar to the initial PISA 2000 reading framework with a few notable changes:

- The reading scale was divided into seven levels of proficiency rather than the 5 levels in 2000 (see Table 1.3). The PISA 2009 reading assessment included additional items at the lower and at the higher end so that performance on PISA could be more fully described at the lower and higher ends.
- The inclusion of an optional Electronic Reading Assessment in which Canada did not participate.

Appendix Table B.1.13 shows the distribution of students by proficiency level by country and for the Canadian provinces. Results for countries and provinces are presented in descending order according to the proportion of 15-year-olds who performed at level 2 or higher. According to the OECD, Level 2 can be considered a baseline level of proficiency, at which students begin to demonstrate the reading literacy competencies that will enable them to participate effectively and productively in life¹².

Chart 1.3

Distribution of students by proficiency level on the combined reading scale



On the other hand, students performing at the lowest levels (Below Level 2) can still accomplish some reading tasks successfully but they lack some fundamental skills preparing them to either enter the workforce or pursue post-secondary education. As shown in Chart 1.3, the proportion of Canadian students performing below Level 2 was 10%, almost half the proportion of the OECD average (19%). Only two countries (Shanghai-China, Korea) had a statistically smaller proportion of students below Level 2 and both of these countries also had higher average scores. In addition, the proportion of students below Level 2 in Shanghai-China and Korea was at least half of that observed for Canada (Appendix Table B.1.13). And while the proportion of Canadian students who performed below Level 2 was much lower compared to other participating countries, still one in ten Canadian students do not possess some of the fundamental skills in reading (below Level 2).

On the higher end of the reading scale, students proficient at Level 4 or above have acquired the level of literacy that is required to participate effectively and productively in life and are also capable of the moderately difficult reading tasks in PISA 2009¹³. Forty percent of Canadian students achieved Level 4 or above, compared to 29% at the OECD average.

And when further considering just the top performers (Level 5 and above), almost 13% of Canadian students performed at level 5 or above compared to 8% at the OECD average. Again, countries that outperformed Canada in reading tended to have a higher proportion of high achievers. In Shanghai-China almost one in five students performing at Level 5 or above and in New Zealand and Singapore almost 16% were high achievers.

As shown in Chart 1.3 the proportion of low achievers (Below Level 2) ranged from 9% in Ontario to 21% in Prince Edward Island. The proportion of students who performed Below Level 2 was not statistically different than the Canadian average in Newfoundland and Labrador, Nova Scotia, Quebec, Ontario, Alberta and British Columbia. In Prince Edward Island, New Brunswick, Manitoba and Saskatchewan, the proportion

of low achievers was significantly higher than the Canadian average yet was at or below the OECD average of 19%.

The proportion of high achievers (Level 5 or above) ranged from 7% in Prince Edward Island to 16% in Alberta. The proportion of high performing students was similar to the Canadian average in Nova Scotia, Quebec, Ontario, Alberta and British Columbia. Compared to the Canadian average, a lower proportion of students were at Level 5 and above in Newfoundland and Labrador, Prince Edward Island, New Brunswick, Manitoba and Saskatchewan; however the proportion at Level 5 or above in these provinces was statistically similar to the OECD average of eight percent.

In most Canadian provinces, students in minority-language school systems had lower reading performance than students in majority-language school systems

PISA 2009 also examined the performance of students in English and French school systems for those Canadian provinces that sampled these population groups separately and where the sample was sufficiently large to allow for separate reporting. Reading performance was compared for students in the English-language school system and those in the French-language school system¹⁴ for British Columbia, Alberta, Manitoba, Ontario, Quebec, New Brunswick, and Nova Scotia.

As can be seen in Table 1.4 at the Canada level, students in the English-language school systems outperformed students in the French-language school systems and in five provinces (British Columbia, Alberta, Ontario, New Brunswick and Nova Scotia) students in the English-language school systems outperformed students in the French-language school systems by 38 points or more on the combined reading scale, while in two provinces (Manitoba and Quebec) there were no significant differences between students in the two systems.

Table 1.4

**Estimated average scores and school-language system differences for
combined reading and reading subscales, by province**

	English-language school system		French-language school system		Difference between the English-language and French-language school systems	
	average	standard error	average	standard error	difference	standard error
Combined reading						
Nova Scotia	517	(2.7)	479	(8.5)	38*	(9.0) *
New Brunswick	511	(3.1)	469	(3.3)	41*	(4.8) *
Quebec	520	(4.1)	522	(3.5)	-2	(5.4)
Ontario	533	(3.1)	475	(2.4)	58*	(3.9) *
Manitoba	496	(3.6)	487	(9.2)	8	(10.0)
Alberta	533	(4.6)	475	(7.0)	58*	(8.5) *
British Columbia	525	(4.2)	475	(9.1)	49*	(9.9) *
Canada	527	(1.8)	517	(3.1)	10*	(3.6) *
Accessing and retrieving						
Nova Scotia	507	(3.4)	474	(8.4)	32*	(9.1) *
New Brunswick	497	(4.1)	463	(3.3)	34*	(5.4) *
Quebec	513	(4.3)	515	(4.0)	-2	(5.8)
Ontario	525	(3.2)	465	(2.9)	61*	(4.3) *
Manitoba	497	(3.9)	485	(9.1)	12	(10.1)
Alberta	523	(4.5)	456	(11.3)	66*	(12.2) *
British Columbia	516	(4.5)	465	(9.0)	51*	(10.2) *
Canada	519	(1.8)	510	(3.6)	9*	(4.2) *
Integrating and interpreting						
Nova Scotia	516	(2.9)	470	(8.4)	45*	(8.8) *
New Brunswick	512	(3.4)	468	(3.0)	45*	(4.8) *
Quebec	517	(3.7)	522	(3.7)	-5	(5.3)
Ontario	530	(3.1)	471	(2.6)	59*	(4.0) *
Manitoba	493	(4.1)	486	(8.4)	7	(9.3)
Alberta	532	(4.8)	476	(6.8)	56*	(8.5) *
British Columbia	522	(4.7)	469	(8.9)	53*	(10.3) *
Canada	524	(1.8)	516	(3.3)	8	(3.8) *
Reflecting and evaluating						
Nova Scotia	527	(3.0)	491	(8.0)	37*	(8.6) *
New Brunswick	517	(3.0)	476	(2.8)	41*	(4.2) *
Quebec	527	(4.0)	525	(3.7)	3	(5.4)
Ontario	548	(3.3)	493	(2.4)	55*	(4.1) *
Manitoba	504	(4.1)	499	(10.1)	5	(10.8)
Alberta	546	(4.4)	492	(6.8)	54*	(8.1) *
British Columbia	536	(4.2)	497	(11.6)	39*	(12.3) *
Canada	540	(2.0)	521	(3.3)	19	(3.9) *
Continuous texts						
Nova Scotia	517	(2.9)	471	(8.8)	47*	(9.4) *
New Brunswick	513	(3.2)	467	(2.9)	46*	(4.5) *
Quebec	519	(3.9)	519	(3.6)	0	(5.3)
Ontario	534	(3.2)	471	(2.6)	64*	(3.9) *
Manitoba	497	(4.1)	485	(9.0)	12	(10.1)
Alberta	534	(4.8)	472	(7.4)	61*	(8.9) *
British Columbia	524	(4.5)	470	(10.5)	54*	(11.4) *
Canada	528	(1.8)	513	(3.2)	14	(3.7) *

Table 1.4 (concluded)

Estimated average scores and school-language system differences for combined reading and reading subscales, by province

	English-language school system		French-language school system		Difference between the English-language and French-language school systems	
	average	standard error	average	standard error	difference	standard error
Non-continuous texts						
Nova Scotia	519	(2.9)	499	(10.1)	20*	(10.5) *
New Brunswick	502	(3.2)	469	(2.8)	33*	(4.4) *
Quebec	520	(4.1)	523	(3.9)	-3	(5.7)
Ontario	536	(3.4)	487	(2.9)	49*	(4.4) *
Manitoba	498	(3.6)	494	(8.5)	3	(9.4)
Alberta	539	(4.7)	480	(6.9)	59*	(8.5) *
British Columbia	531	(4.0)	490	(11.0)	41*	(11.5) *
Canada	530	(1.9)	519	(3.4)	12	(4.0) *

* Statistically significant differences.

A similar pattern was observed with respect to performance in the three reading aspects sub-scales. Across all three aspect sub-scales students enrolled in the English-language school system performed significantly better than those in the French-language school system for Canada overall and in Nova Scotia, New Brunswick, Ontario, Alberta and British Columbia while there was no statistical difference in Quebec and Manitoba.

Performance by text type also followed a similar pattern. Students in the English-language school system outperformed those in the French-language school systems on the continuous text sub-scale in Nova Scotia, New Brunswick, Ontario, Alberta and British Columbia while there were no statistical differences in Quebec and Manitoba. On non-continuous text sub-scale, results were higher in the English school system for New Brunswick, Ontario, Alberta and British Columbia and not statistically different in Nova Scotia, Quebec, and Manitoba.

Females continue to outperform males in reading

Other provincial, national and international assessments, as well as past PISA assessments have established a clear pattern of significant gender differences in reading favouring females. This gender gap in performance continued in PISA 2009 among all Canadian provinces and in all countries participating in PISA.

In PISA 2009, Canadian females outperformed Canadian males in reading literacy by 34 points, which was similar to the average gap of 33 points in OECD countries. As presented in Appendix Table B.1.20, provincially, the gender gap ranged from 29 points in Nova Scotia to 48 points in Prince Edward Island. Although the gender gap persisted in all three aspects of the PISA reading literacy assessment, it was more pronounced in Accessing and Retrieving and in Reflecting and Evaluating (38 points) than in Integrating and Interpreting (30 points) with provincial gaps being very consistent across the three aspects.

Overall, females had higher mean scores than males in continuous texts (37 points) than in non-continuous texts (33 points). Provincial gaps ranged from 30 points in Nova Scotia to 51 points in Prince Edward Island for continuous texts. For non-continuous texts the gap ranged from 27 points in Nova Scotia and New Brunswick to over 47 points in Newfoundland and Labrador.

Reading performance in five of the ten Canadian provinces decreased between 2000 and 2009

For the first time, PISA 2009 enables countries to compare their own performance over time from 2000 to 2009. This will provide important information to inform educational policy and instructional practices on the evolution of skills.

PISA 2009 provides the fourth assessment of reading and second full assessment of reading since 2000 when it was first introduced as the major domain. Consequently, it is possible to obtain detailed comparisons about how student performance in reading changed over this nine-year period. While this section looks at change over time, performance differences should be interpreted with caution for several reasons. First, while the measurement approach used in PISA is consistent across cycles, small refinements were made to the assessment framework so small changes should be interpreted prudently. Secondly, in order to allow for comparability over time, some common assessment items were used in each survey. However, because there are a limited number of common items, an additional measurement error must be taken into account for these comparisons over time. Consequently, only changes that are indicated as statistically significant should be considered. In this section data are reported for the 39 countries that participated in both the 2000 and 2009 PISA assessments.

Among OECD countries considered as a whole, reading performance remained unchanged. The OECD average for the 27 countries that participated in PISA in 2000 and 2009¹⁵ of 495 points in reading in 2009 was not significantly different from the average score of 496 in 2000. However, changes in performance were observed across countries. Reading performance increased in 13

countries, remained unchanged in 21 countries and decreased in five countries. Although Canada's mean score in reading decreased from 534 in 2000 to 524 in 2009, this decrease was not statistically significant.

In order to understand how Canada's performance level has evolved, Canada's change in relative performance should be considered alongside with its overall performance. Canada was one of ten countries whose performance in reading was above the OECD average in both 2000 and 2009. However, because Canada did not improve its performance the number of countries that statistically outperformed Canada increased from one in 2000 to three in 2009¹⁶. Only Finland outperformed Canada in 2000 and although Finland saw a decrease in performance in 2009 its relative score remained higher than Canada. In contrast, Korea's performance increased between 2000 and 2009 leading it to outperform Canada in 2009 while Hong Kong-China outperformed Canada because it did not have a significant decrease in performance between 2000 and 2009.

As shown in Table 1.5 there was a significant decrease in reading scores between 2000 and 2009 in five of the ten provinces – Prince Edward Island, Quebec, Manitoba, Saskatchewan and Alberta. These decreases ranged from 14 score points in Quebec to 34 score points in Manitoba. Although reading performance decreased in Quebec, Saskatchewan and Alberta, reading performance in these provinces remained above the OECD average in PISA 2009. In contrast, as a result of its decrease in performance, Manitoba went from performing above the OECD average in 2000 to performing at the OECD average in 2009, while Prince Edward Island went from performing above the OECD average in 2000 to performing below the OECD average in 2009. Reading performance in the remaining five provinces was not significantly different between 2000 and 2009.

Table 1.5

Comparison of performance in reading, PISA 2000, 2003, 2006 and 2009, Canada and the provinces

	PISA combined reading score							
	2000		2003		2006		2009	
	average score	standard error	average score	standard error with linkage error	average score	standard error with linkage error	average score	standard error with linkage error
Newfoundland and Labrador	517	(2.8)	521	(4.9)	514	(5.4)	506	(6.2)
Prince Edward Island	517	(2.4)	495 ¹	(4.4)	497 ¹	(5.1)	486 ¹	(5.5)
Nova Scotia	521	(2.3)	513	(4.4)	505 ¹	(5.7)	516	(5.6)
New Brunswick	501	(1.8)	503	(4.3)	497	(5.0)	499	(5.5)
Quebec	536	(3.0)	525	(5.7)	522	(6.7)	522 ¹	(5.8) ¹
Ontario	533	(3.3)	530	(5.1)	534	(6.4)	531	(5.8)
Manitoba	529	(3.5)	520	(5.0)	516	(5.7)	495 ¹	(6.1) ¹
Saskatchewan	529	(2.7)	512 ¹	(5.6) ¹	507 ¹	(6.3)	504 ¹	(5.9) ¹
Alberta	550	(3.3)	543	(5.7)	535	(6.1)	533 ¹	(6.7) ¹
British Columbia	538	(2.9)	535	(4.5)	528	(7.1)	525	(6.5)
Canada	534	(1.6)	528	(4.1)	527	(5.1)	524	(5.2)

1. Statistically significant differences compared to PISA 2000.

Note: The linkage error is incorporated into the standard error for 2003 and 2006 and 2009.

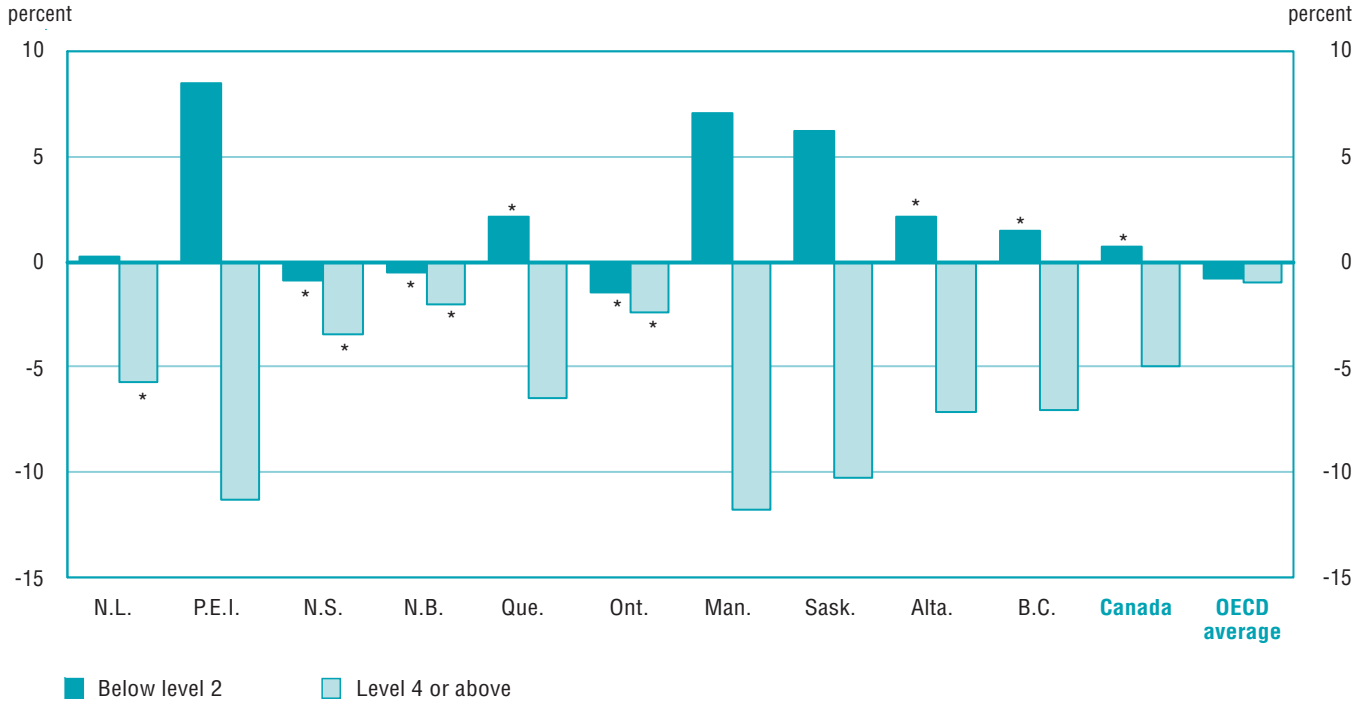
Canada’s proportion of high achievers in reading decreased between 2000 and 2009

Additional insight on Canada’s reading performance over time can be provided by looking at the distribution of students by proficiency levels across the two cycles of PISA. As discussed previously in this chapter, Level 2 can be considered a baseline of proficiency at which students begin to demonstrate the required competencies to use reading for learning. However students at this level have not yet acquired the level of literacy that is required to participate effectively and productively in life. In contrast, students proficient at Level 4 or above have acquired the level of literacy that is required to participate effectively and productively in life and are also capable of the moderately difficult reading tasks in PISA 2009.

Among OECD countries considered as a whole, the proportion of students who were below Level 2 or at Level 4 and above remained stable between 2000 and 2009. As seen in Chart 1.4 and Appendix Table B.1.21, although Canada’s mean score was not statistically different between 2000 and 2009, the proportion of high achievers (Level 4 and above) decreased from 45% in 2000 to 40% in 2009. When examined by province, the proportion of high achievers decreased in seven of the ten provinces by between five and 12 percentage points and remained unchanged in Nova Scotia, New Brunswick and Ontario. When considering the proportion of low achievers, the proportion remained stable in Canada overall and in seven of the ten provinces. In the three provinces where there was a significant decrease in performance, there was also an increase in the proportion of students who were low performers. In Prince Edward Island, Manitoba and Saskatchewan, the proportion of low achievers increased between 2000 and 2009 by between 6 and 8 percentage points.

Chart 1.4

Change in the percentage of students below reading proficiency level 2 and at or above reading proficiency level 4 on the combined reading scale between PISA 2000 and PISA 2009, Canada and the provinces



* Are not statistically significant.

Between 2000 and 2009 the gender gap remained stable in Canada and across nine provinces but was significantly reduced in New Brunswick

As shown previously in this chapter, females outperform males in reading in all countries participating in PISA 2009. Across OECD countries the average difference of 38 points in favour of females represented a significant increase from 32 points in 2000. Across Canada, the gender gap remained similar at 34 score points in 2009 and 32 score points in 2000 and in nine of the ten provinces there were no statistical changes in the magnitude of the reading gap favouring females (Appendix Table B.1.22). On the other hand, in New Brunswick, the reading gap favouring females decreased substantially from 48 score points to 32 score points

favouring females. As a result of this decrease, the gender gap in reading in New Brunswick went from being above the Canadian average in 2000 to being similar to the Canadian average in 2009.

Summary

This chapter presented results for reading, the major domain in PISA 2009. Strong reading skills are not only a foundation for achievement in other subject areas within the educational system, but are also a prerequisite for successful participation in most areas of adult life¹⁷. Results from PISA 2009 corroborate the findings from previous PISA cycles: Canada performed among top-level countries in reading. Among 65 countries, only four countries outperformed Canada while three countries had similar performance to Canada. At the provincial level, most 15-year-olds also performed well in reading. Students in nine of the Canadian provinces performed

at or above the OECD average on the combined reading scale with only Prince Edward Island performing below the OECD mean. As with previous PISA results, females continue to outperform males in reading in Canada and across the provinces.

The PISA results show that Canada had both a high proportion of high achievers (Level 5 or above) and a low proportion of low achievers (below Level 2) compared to the OECD average. Yet one in ten Canadian students performed at a low reading level (Below Level 2) and lack some fundamental skills to prepare them to either enter the workforce or pursue post-secondary education.

In five of the seven provinces where performance was examined by school-language sector, students attending majority-language outperformed students attending minority-language schools by 38 score points or more with no statistical difference in Quebec and Manitoba. A similar pattern was also observed in the reading aspect sub-scales and the reading text format sub-scales.

Canada's change in overall mean performance in reading over time was not significantly different but its relative performance decreased. Among the countries that participated in both the 2000 and 2009 assessments, only one country outperformed Canada in reading in 2000 while three countries outperformed Canada in 2009. This suggests that in order to maintain its' competitive edge in the future, Canada will need to improve at the rate of the top performing countries, rather than simply maintain its competencies in reading.

Across the provinces, reading performance decreased significantly in five of the ten provinces, Prince Edward Island, Quebec, Manitoba, Saskatchewan and Alberta. Although reading performance decreased in Quebec, Saskatchewan and Alberta, reading performance in these provinces remained above the OECD average in PISA 2009. In contrast, as a result of its decrease in performance, Manitoba went from performing above the OECD average in 2000 to performing at the OECD average in 2009, while Prince Edward Island went from performing above the OECD average in 2000 to performing below the OECD average in 2009.

Notes

7. OECD (2009). PISA 2009 Assessment Framework: Key competencies in reading, mathematics and science. Paris.
8. The scores for reading and the reading sub-scales are expressed on a scale with an average or mean among OECD countries of 500 points and a standard deviation of 100 set in PISA 2000 when reading was first the major domain. Approximately two-thirds of the students scored between 400 and 600 (i.e. within one standard deviation of the average) for the OECD countries. Due to a change in performance over time, the OECD mean score in subsequent cycles may not necessarily be 500.
9. In this Canadian report, the term "countries" will also include "economies" which are economic or geographic entities participating in PISA. Also, although the OECD mean score will be used as a benchmark in this Canadian report, references will be made to non-OECD countries in the analyses.
10. It should be noted that continuous texts accounted for approximately 60% of the PISA 2009 reading tasks.
11. As will be discussed in the forthcoming second release of the Pan-Canadian results Alberta has higher variation in performance in reading compared to other provinces, this variation has an impact on increasing the standard error for this province.
12. OECD (2010) Volume 5: Learning Curves, From PISA 2000 to PISA 2009. Paris.
13. OECD (2010) Volume 5: Learning Curves, From PISA 2000 to PISA 2009. Paris.
14. In interpreting the results it should be noted that the proportion of French-speaking and English-speaking students attending French or English schools vary considerably across provinces.
15. Three OECD countries (The Netherlands, the Slovak Republic and Turkey) were not included in the PISA 2000 assessment.
16. Although Shanghai-China outperformed Canada in PISA 2009, it is not included in this comparison since it did not participate in PISA 2000.
17. OECD (2009). PISA 2009 Assessment Framework: Key competencies in reading, mathematics and science. Paris. p. 21.



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Chapter 2

Canadian results in mathematics and science

This chapter presents results of the PISA 2009 assessment in the minor domains of mathematics and science in terms of scores and variation in performance. First, the performance of 15-year-old students across Canada and in the 10 provinces is compared to the performance of 15-year-olds from the other countries and economies that participated in PISA 2009. Next, results are presented for males and females. This is followed by results on the performance of students enrolled in English-language and French-language schools for those provinces in which the two groups were sampled separately. Lastly, change in performance over time is discussed.

Defining mathematics and science

Since mathematics and science were minor domains in the 2009 PISA assessment a smaller amount of assessment time was given to these two domains compared to the major domain of reading. Consequently, PISA 2009 allows only an update on overall performance and not on the sub-domains that were possible when mathematics was the major domain in 2003 and science was the major domain in 2006. Throughout this report, mathematics and science are used to signify mathematical and scientific literacy, which PISA defines as follows:

Mathematical literacy: The capacity to identify, to understand, and to engage in mathematics and make well-founded judgments about the role that mathematics

plays, as needed for individuals' current and future private life, occupational life, social life with peers and relatives and as a constructive, concerned and reflective citizen.¹⁸

Scientific literacy: The capacity to use scientific knowledge, to identify questions and to draw evidence-based conclusions in order to understand and help make decisions about the natural world and the changes made to it through human activity.¹⁹

The scores for mathematics and science are expressed on a scale with an average or mean among OECD countries of 500 points and a standard deviation of 100. This average was established in the year in which the domain became the main focus of the assessment - 2003 for mathematics and 2006 for science. Approximately two-thirds of the students scored between 400 and 600 (i.e. within one standard deviation of the average) for the OECD countries. Due to change in performance over time, the OECD average scores for mathematics and science in PISA 2009 differ slightly from 500.

One way to summarize student performance and to compare the relative standing of countries is by examining their average test scores. However, simply ranking countries based on their average scores can be misleading because there is a margin of error associated with each score. As discussed in Chapter 1, when interpreting average performances, only those differences between countries that are statistically significant should be noted.

Canadian students performed well in mathematics and science

On average, Canadian 15-year olds performed well in mathematics and science (Chart 2.1 and 2.2). Canadian students had an average score of 527 in mathematics and 529 in science, well above the OECD average of 497 and 501 respectively in these two domains. Table 2.1 shows the countries that performed significantly better

than or the same as Canada in mathematics and science. The averages of the students in all of the remaining countries were significantly below those of Canada. Among the 65 countries that participated in PISA 2009, seven countries outperformed Canada in mathematics while six countries outperformed Canada in science. In drawing comparisons with results from previous PISA cycles, it should be noted that countries Shanghai-China, Singapore and Chinese Taipei participated for the first time in PISA 2009.

Table 2.1

Countries performing better than, or the same as Canada

	Countries performing significantly better than Canada	Countries performing the same as Canada
Mathematics	Shanghai-China, Singapore, Hong Kong-China, Korea, Chinese Taipei, Finland, Liechtenstein	Switzerland, Japan, Netherlands, Macao-China
Science	Shanghai-China, Finland, Hong Kong-China, Singapore, Japan, Korea	New Zealand, Estonia, Australia, Netherlands

Most provinces performed at or above the OECD average in mathematics and science

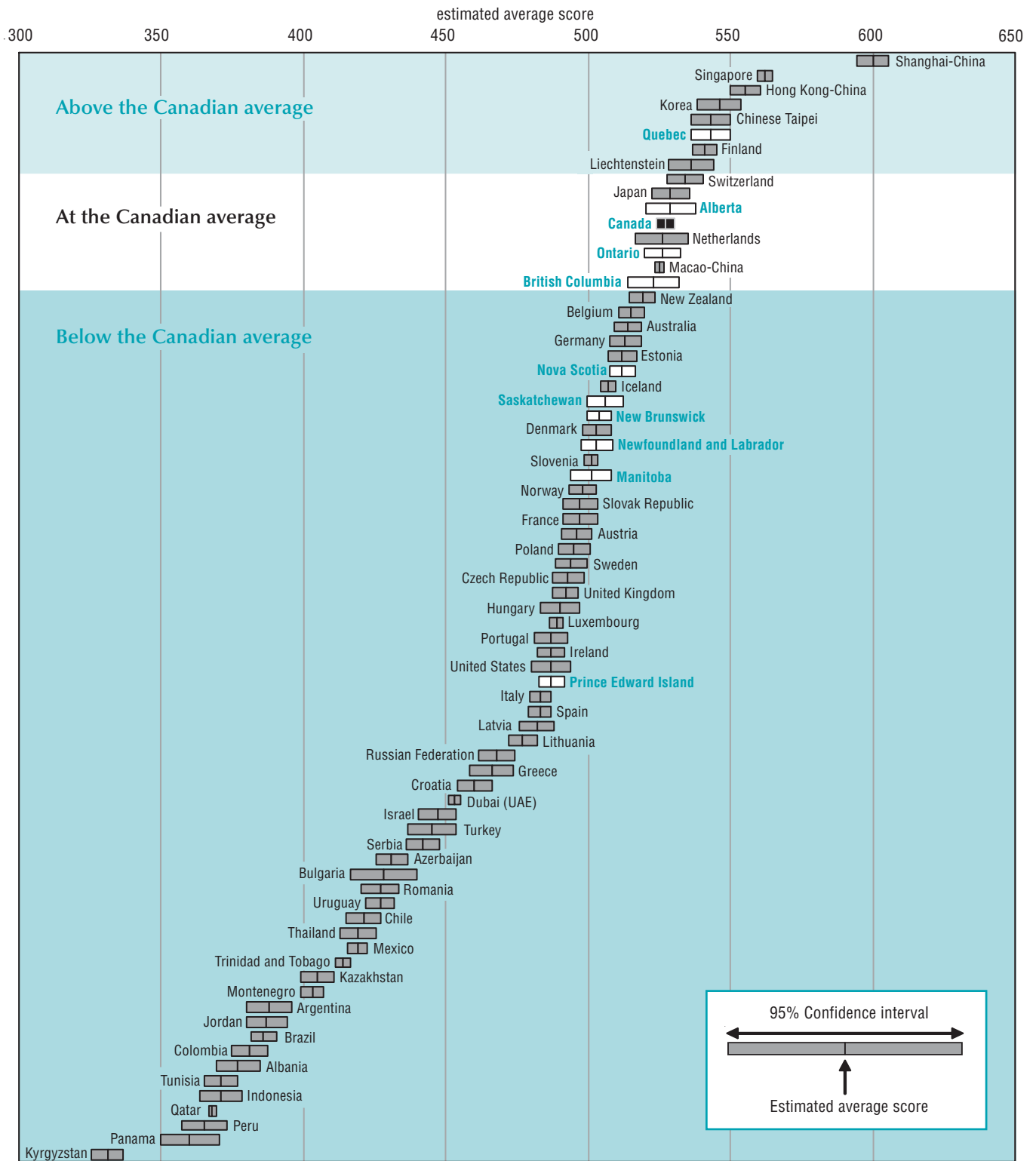
Across the two minor domains of PISA 2009, the performance of students in all provinces, with the exception of Prince Edward Island, was at or above the OECD average. As shown in Chart 2.1 students in Nova Scotia, New Brunswick, Quebec, Ontario, Saskatchewan, Alberta and British Columbia performed above the OECD average in mathematics. Students in Newfoundland and Labrador and Manitoba performed at the OECD average in mathematics while students in Prince Edward Island were below the OECD average. As shown in Chart 2.2, students in Newfoundland and Labrador, Nova Scotia, Quebec, Ontario, Saskatchewan, Alberta and British Columbia performed above the

OECD average in science. Students in New Brunswick and Manitoba performed at the OECD average in science, while students in Prince Edward Island were below the OECD average.

As shown in Table 2.2, students in Quebec performed above the Canadian average in mathematics and at the Canadian average in science while students in Alberta performed above the Canadian average in science and at the Canadian average in mathematics. Students in Ontario and British Columbia performed at the Canadian average in both mathematics and science while students in Nova Scotia performed at the Canadian average in science and below the Canadian average in mathematics. Students in Newfoundland and Labrador, Prince Edward Island, New Brunswick, Manitoba and Saskatchewan performed below the Canadian average in both domains.

Chart 2.1

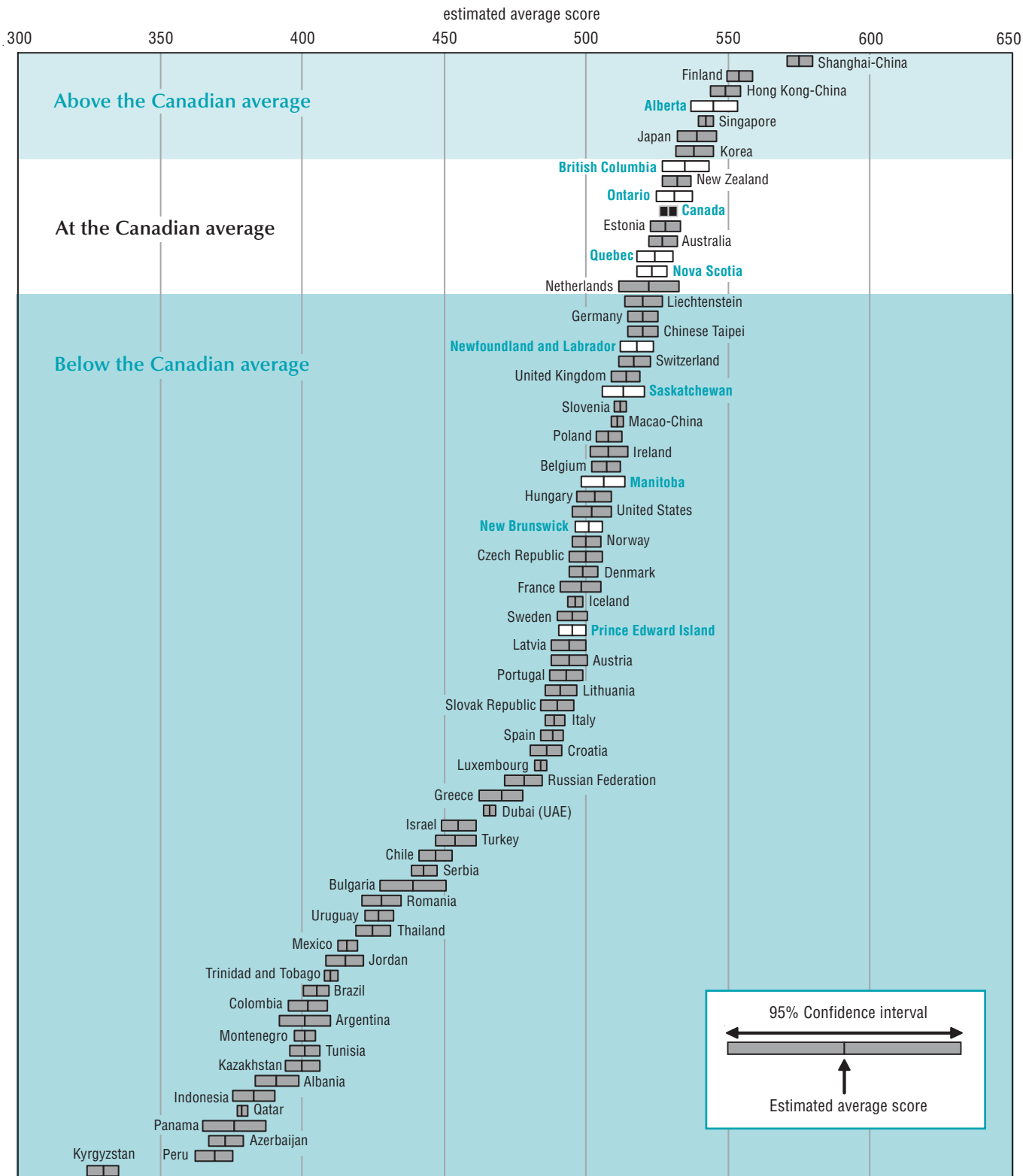
Average scores and confidence intervals for provinces and countries:
Mathematics



Note: The OECD average is 497 with a standard error of 0.5.

Chart 2.2

Average scores and confidence intervals for provinces and countries:
Science



Note: The OECD average is 501 with a standard error of 0.5.

Table 2.2

Provincial results in mathematics and science in relation to the Canadian average

	Provinces performing significantly better than the Canadian average	Provinces performing the same as the Canadian average	Provinces performing significantly lower than the Canadian average
Mathematics	Quebec	Ontario, Alberta, British Columbia	Newfoundland and Labrador, Prince Edward Island, Nova Scotia, New Brunswick, Manitoba, Saskatchewan
Science	Alberta	Nova Scotia, Quebec, Ontario, British Columbia	Newfoundland and Labrador, Prince Edward Island, New Brunswick, Manitoba, Saskatchewan

Note: Provinces within each cell are ordered from east to west.

Canadian males outperformed females in mathematics and science

In mathematics, on average across OECD countries, males outperformed females by 12 score points. In Canada, males also outperformed females by 12 score points. This difference was much smaller than the gender difference favouring females in reading. As shown in Table 2.3 and Appendix table B.2.6, at the provincial level there were no significant gender differences in performance in Newfoundland and Labrador, Prince

Edward Island, Ontario, Manitoba and Saskatchewan. In contrast, males outperformed females by 16 to 18 score points in Nova Scotia, New Brunswick, Quebec, Alberta and British Columbia.

In science, on average across OECD countries, males and females had similar performance. However in Canada, males outperformed females by 5 score points. At the provincial level, gender differences were observed in New Brunswick and Quebec where males outperformed females by 12 and 10 score points respectively.

Table 2.3

Summary of gender differences for Canada and the provinces for mathematics and science

	Males performed significantly higher than females	No significant differences between males and females
Mathematics	Canada, Nova Scotia, New Brunswick, Quebec, Alberta, British Columbia	Newfoundland and Labrador, Prince Edward Island, Ontario, Manitoba, Saskatchewan
Science	Canada, New Brunswick, Quebec	Newfoundland and Labrador, Prince Edward Island, Nova Scotia, Ontario, Manitoba, Saskatchewan, Alberta, British Columbia

Canada has more equity in performance compared to most OECD countries

While mean performance is useful in assessing the overall performance of students, it can mask significant variation within a jurisdiction. Further light on the performance within jurisdictions can be shed by examining the relative distribution of scores or the gap that exists between students with the highest and lowest levels of performance within each jurisdiction. This is an important indicator of the equity of skills in mathematics and science which is a desirable result.

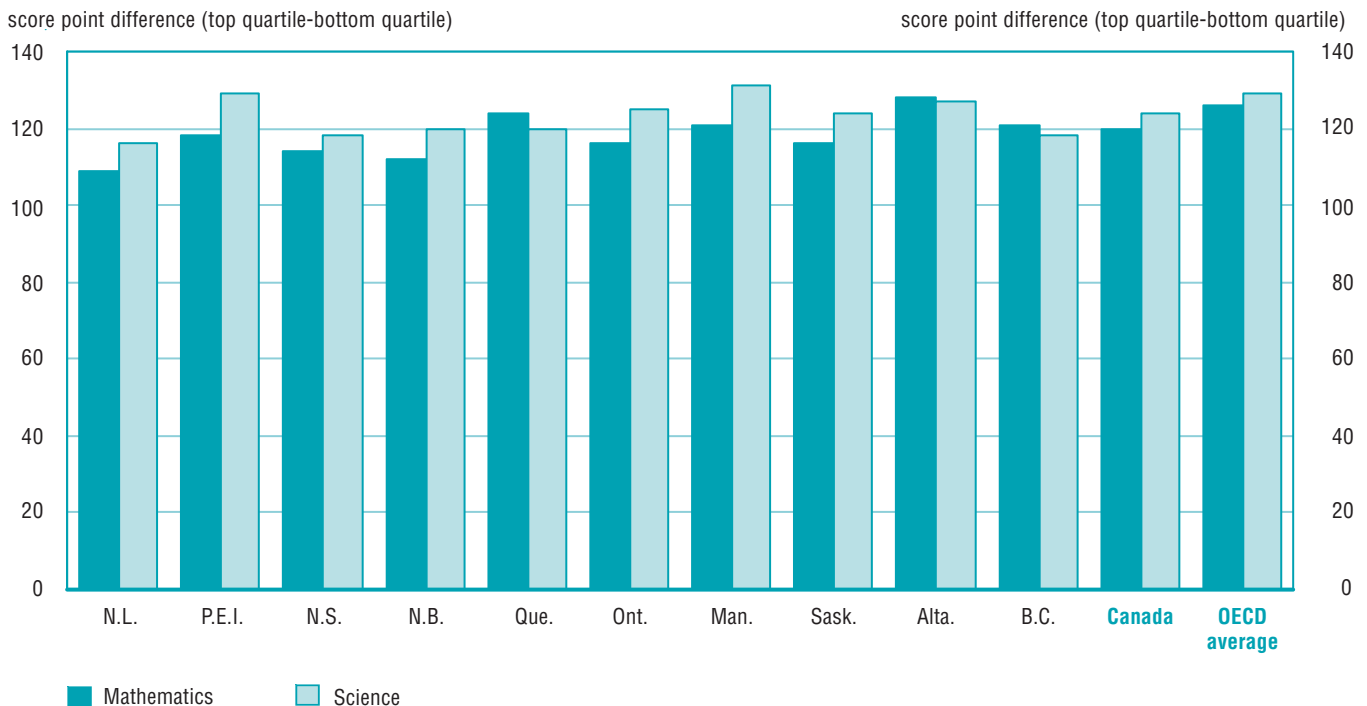
Chart 2.3 shows the difference in average scores between those in the lowest quarter (25th percentile) of student achievement and those in the highest quarter (75th percentile) of student achievement in mathematics and science. For Canada overall, those in the highest

quarter scored 120 points higher on mathematics and 124 points higher in science compared to those in the lowest quarter. This compares to 126 and 129 score points respectively for mathematics and science across all OECD countries. Across the provinces, differences between the lowest and highest quartiles ranged from 109 in Newfoundland and Labrador to 128 in Alberta for mathematics and from 116 in Newfoundland and Labrador to 131 in Manitoba for science.

The amount of within-country spread in performance in mathematics and science varied widely among countries (Appendix Tables B.2.3 and B.2.4). Canada was one of the few countries with high performance and relatively low disparity in student performance (as measured by score point differences between the 75th and 25th percentile) – both of these outcomes being desirable.

Chart 2.3

Difference in average scores in mathematics and science between students who performed in the bottom quarter of performance and students who performed in the top quarter of performance



In most provinces students attending majority-language school systems outperformed students who attend minority language systems

This section examines the performance of students in the English-language and French-language school systems in seven provinces. The performance of the minority language group (students in French-language school systems in Nova Scotia, New Brunswick, Ontario, Manitoba, Alberta and British Columbia and students in the English-language school system in Quebec) are compared to the majority language groups.

As shown in Table 2.4, the performance of students in minority-language school systems compared to students in majority-language school systems varied across provinces and by domain. In mathematics, students in majority-language school systems outperformed their

counterparts attending minority-language school systems in five of the seven provinces. This point difference ranged from 11 score points favouring students attending French-language schools in Quebec to 41 score points favouring students attending English-language schools in British Columbia. In Nova Scotia and Manitoba, although there were differences in performance by school-language system, the differences were not statistically significant.

For science, students in majority-language school systems outperformed their counterparts attending minority-language school systems in five of the seven provinces. Compared to the differences observed for mathematics, the differences between school-language systems were more pronounced ranging from 34 score points in Nova Scotia to 64 score points in Alberta. In Quebec and Manitoba, the differences were not statistically significant.

Table 2.4

Estimated average scores and school language system differences for mathematics and science by province

	English-language school system		French-language school system		Difference between French-language and English-language school system	
	average	standard error	average	standard error	score difference	standard error
Mathematics						
Nova Scotia	512	(2.3)	505	(7.2)	8	(7.8)*
New Brunswick	508	(3.2)	494	(3.1)	14*	(5.0)*
Quebec	533	(4.3)	544	(3.8)	-11*	(5.6)
Ontario	527	(3.3)	500	(2.3)	27*	(3.8)*
Manitoba	501	(3.7)	508	(7.6)	-6	(8.6)
Alberta	529	(4.4)	490	(7.1)	39*	(8.3)*
British Columbia	524	(4.6)	483	(11.1)	41*	(12.0)*
Canada	523	(1.8)	539	(3.4)	-16*	(3.8)*
Science						
Nova Scotia	524	(2.8)	490	(10.2)	34*	(10.8)*
New Brunswick	512	(3.2)	473	(2.9)	40*	(4.8)*
Quebec	521	(3.8)	525	(3.6)	-4	(5.3)
Ontario	533	(3.4)	484	(2.3)	49*	(4.1)*
Manitoba	506	(4.0)	498	(6.1)	8	(7.5)
Alberta	545	(4.3)	481	(7.8)	64*	(8.9)*
British Columbia	535	(4.1)	482	(8.7)	53*	(9.7)*
Canada	532	(1.8)	520	(3.2)	12*	(3.6)*

* Statistically significant differences.

Canadian students' performance in mathematics and science remained stable over time

PISA 2009 is the third assessment of mathematics since PISA 2003, when the first major assessment of mathematics took place, and the second assessment of science since 2006, when the first major assessment of science took place. Since comparisons over time can only be made from the point at which a major assessment of the domain took place, comparisons in mathematics and science are more limited since there have not yet been two full assessments of either area in the nine years of PISA testing. While this section looks at changes over time, performance differences should be interpreted with caution for several reasons. First, since data is available for three points in time for mathematics and two points in time for science it is not possible to determine the extent to which observed differences are indicative of longer-term changes. Secondly, in order to allow for comparability over time some common assessment items were used in each survey. However, because there are a limited number of common items, particularly when the domain was a minor focus, an additional measurement error must be taken into account for these comparisons over time. Consequently only changes that are indicated as statistically significant should be considered.

Across OECD countries as a whole, mathematics performance remained unchanged between PISA 2003 and PISA 2009. However there were changes in performance in some of the 40 countries that participated in both PISA 2003 and 2009. In eight countries mathematics performance improved, in 22 countries mathematics performance remained unchanged and in 10 countries mathematics performance was significantly lower. In Canada, performance in mathematics did not change significantly from 532 in 2003 to 527 in PISA 2006 and 2009.

Across OECD countries as a whole, science performance remained unchanged between PISA 2006 and PISA 2009, although changes in performance were observed in some of the 57 countries that participated in both PISA 2006 and 2009. Science performance increased in 11 countries, remained stable in 40 countries and decreased in six countries. In Canada, science performance remained stable between 2006 (532 score points) and 2009 (529 score points).

In order to understand how Canada's performance level in mathematics and science has evolved, Canada's change in performance should be considered alongside with its overall performance. Although Canada continues to have strong performance in mathematics, and experienced no significant change over time, the number of countries who statistically outperformed Canada increased from two in 2003 to four in 2009²⁰. Finland and Hong-Kong China outperformed Canada in 2003 and continued to do so in PISA 2009. Additionally, Korea outperformed Canada in 2009 as a result of improved performance and Liechtenstein outperformed Canada because it did not have a significant change in performance between 2003 and 2009.

Canada's change in relative performance for science followed a similar pattern. When science was first included as a major domain in PISA 2006, two countries outperformed Canada in science compared to four countries in 2009²¹. Finland and Hong-Kong China outperformed Canada in science 2006 and continued to do so in 2009. Additionally, both Korea and Japan outperformed Canada in 2009 as a result of improved performance between 2006 and 2009.

As shown in Table 2.5 there was a significant decrease in mathematics scores between 2003 and 2009 in Newfoundland and Labrador, Prince Edward Island, New Brunswick, Manitoba, Alberta and British Columbia. Performance in the remaining four provinces was not statistically different. For science, performance decreased in Prince Edward Island and Manitoba, and remained stable in the remaining 8 provinces (Table 2.6).

Despite a decrease in performance in mathematics, Alberta and British Columbia continued to have strong performance in mathematics in 2009, performing above the OECD average. On the other hand, as a result of a decrease in performance in mathematics, Newfoundland and Labrador, New Brunswick and Manitoba went from performing above the OECD average in 2006 to performing at the OECD average in 2009. Additionally, as a result of a decrease in science performance, Manitoba went from performing above the OECD average in 2006 to performing at the OECD average in 2009. Due to its decrease in performance, Prince Edward Island went from performing at the OECD average in mathematics (in 2003) and above the OECD average in science (in 2006) to performing below the OECD average in 2009 in both minor domains. Mathematics performance in Nova Scotia, Quebec, Ontario and Saskatchewan did not change between 2003 and 2009 and remained above the OECD average.

Table 2.5

Comparisons of performance in mathematics in PISA 2003, 2006 and 2009, Canada and the provinces

	PISA mathematics score					
	2003		2006		2009	
	average score	standard error	average score	standard error with linkage error	average score	standard error with linkage error
Newfoundland and Labrador	517	(2.5)	507	(3.1)	503*	(3.4)*
Prince Edward Island	500	(2.0)	501	(2.7)	487*	(3.0)*
Nova Scotia	515	(2.2)	506	(2.8)	512	(3.0)
New Brunswick	512	(1.8)	506	(2.5)	504*	(3.0)*
Quebec	537	(4.7)	540	(4.4)	543	(3.9)
Ontario	530	(3.6)	526	(4.0)	526	(3.8)
Manitoba	528	(3.1)	521	(3.6)	501*	(4.1)*
Saskatchewan	516	(3.9)	507	(3.7)	506	(3.8)
Alberta	549	(4.3)	530*	(4.0)*	529*	(4.8)*
British Columbia	538	(2.4)	523*	(4.7)*	523*	(5.0)*
Canada	532	(1.8)	527	(2.4)	527	(2.6)

* Statistically significant differences compared to PISA 2003

Note: The linkage error is incorporated into the standard error for 2006 and 2009.

Table 2.6

Comparisons of performance in science in PISA 2006 and 2009, Canada and the provinces

	PISA science score			
	2006		2009	
	average score	standard error	average score	standard error with linkage error
Newfoundland and Labrador	526	(2.5)	518	(3.9)
Prince Edward Island	509	(2.7)	495*	(3.5)*
Nova Scotia	520	(2.5)	523	(3.7)
New Brunswick	506	(2.3)	501	(3.5)
Quebec	531	(4.2)	524	(4.1)
Ontario	537	(4.2)	531	(4.2)
Manitoba	523	(3.2)	506*	(4.8)*
Saskatchewan	517	(3.6)	513	(4.5)
Alberta	550	(3.8)	545	(4.9)
British Columbia	539	(4.7)	535	(4.8)
Canada	534	(2.0)	529	(3.0)

* Statistically significant differences.

Note: The linkage error is incorporated into the standard error for 2009.

Summary

Because mathematics and science were considered to be minor domains in PISA 2009, a smaller proportion of students were assessed in those domains compared to the reading assessment, which was the major focus of the PISA 2009. Additionally, a smaller number of items were included in each of these assessments than were included in the reading assessment. Consequently, this chapter focuses on providing an update on overall performance in these two domains.

Canada continues to perform well internationally in both mathematics and science scoring well above the OECD average and being outperformed by seven countries in mathematics and six countries in science among 65 countries that participated in 2009. Across the provinces, students in Nova Scotia, New Brunswick, Quebec, Ontario, Saskatchewan, Alberta and British Columbia performed above the OECD average in mathematics. Students in Newfoundland and Labrador and Manitoba performed at the OECD average in mathematics while students in Prince Edward Island were below the OECD average. At the Canadian level, gender differences in performance existed with males outperforming females in both mathematics and science.

In five of the seven provinces where performance was examined by school-language sector, students attending majority-language schools generally outperformed students attending minority language schools in both mathematics and science. This performance gap was less pronounced in mathematics ranging from 11 to 41 score points compared to science ranging from 34 to 64 score points.

Canadian students' performance in mathematics and science remained stable over time. However, as a result of a lack of improvement in performance, coupled

with increased performance in other countries, more countries outperformed Canada in mathematics and science than in previous PISA assessments. Additionally, a few countries participating in PISA for the first time in 2009 outperformed Canada in mathematics and science.

Although Canada's performance in mathematics remained stable between 2003 and 2009, performance decreased in six of the ten provinces. Two of these provinces, Alberta and British Columbia, continued to have strong performance in PISA 2009, well above the OECD average. On the other hand, as a result of a decrease in performance in mathematics, Newfoundland and Labrador, New Brunswick and Manitoba performed at the OECD average in 2009 while Prince Edward Island performed below the OECD average. In addition, Manitoba and Prince Edward Island had a significant decrease in performance in science and consequently performed at and below the OECD average respectively in 2009.

Notes

18. OECD (2009). PISA 2009 Assessment Framework: Key competencies in reading, mathematics and science. Paris.
19. OECD (2009). PISA 2009 Assessment Framework: Key competencies in reading, mathematics and science. Paris.
20. Although Shanghai-China, Chinese Taipei and Singapore outperformed Canada in mathematics in PISA 2009, they are not included in this comparison since they did not participate in PISA 2003.
21. Although Shanghai-China and Singapore outperformed Canada in science in PISA 2009, they are not included in this comparison since they did not participate in PISA 2006.

Conclusion

Skills and knowledge play a crucial role in determining the economic success of societies and individuals and its importance is evident in today's global economic environment. Equipping young people with the necessary skills provides them with the foundation for full participation in adult life as productive members of society and the economy. As such, the skill levels of youth are an important determinant of a country's economic success. Governments around the world recognize the importance of skills and invest heavily in their education systems. The outcomes of these investments require monitoring and analysis to ensure that these outcomes are meeting countries' needs.

The Programme for International Student Assessment was developed to provide a picture of the extent to which youth have acquired some of the knowledge and skills that are essential for full participation in modern societies. Developed by the Organisation for Economic Co-operation and Development, PISA 2009 measures the skill levels of 15-year olds in 65 countries in three key subject areas – reading, mathematics and science.

In addition to providing information on skill levels of countries, PISA also enables countries to monitor change in their performance over time. Implemented every three years since 2000, the 2009 PISA marks the fourth time that a comprehensive set of information on skills of 15-year olds has been available. For Canada, not only does PISA provide insight on the skill levels of its 15-year olds in an international perspective, it also provides an opportunity for individual provinces to compare themselves nationally and internationally and to monitor their change in performance over time.

The 2009 PISA results revealed that Canadian 15-year olds have relatively strong sets of skills in reading, mathematics and science. That Canada's youth is equipped with a high skill level is an encouraging sign for the country's future economic prosperity. However,

although Canadian results remained statistically similar between 2000 and 2009, its relative ranking declined in all domains. This decline is attributable to improvements in other countries' performance and the introduction of new countries to PISA 2009 that had high performance. In reading, the major domain of PISA 2009, Canadian results also indicate a decrease in the proportion of high achievers between 2000 and 2009. In a global economy, this decrease may be one indication of potential loss of future competitiveness.

Although Canada's performance over time was not significantly different, several provinces experienced significant declines in their 15-year olds' skill levels, mostly in reading and in mathematics. In addition, over the same time period, there was not a significant increase in performance in the three domains in any province. The results also identified gender differences in performance as well as specific groups of 15-year olds who had significantly lower skill levels. Females continued to outperform males in reading, and males outperform females in mathematics and science although the gender gap is less pronounced in these two domains. Additionally, 15-year olds attending minority-language school systems tended to perform lower than those attending majority-language school systems in all three domains.

The results presented in this report are only a highlight of what is possible with a rich database such as PISA. A second Pan-Canadian report, with more detailed analyses of factors associated with student performance, will be published in early 2011. The array of sources of information on the skill levels of Canadians is growing. Along with results from other studies such as the Pan-Canadian Assessment Program, the Progress in International Reading Literacy Study and the forthcoming Programme for International Assessment of Adult Competencies, a more complete picture of competencies of Canadians is emerging. These data sources will help to better our understanding of the levels of skills in the country, as well as the context in which learning is taking place.



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Appendix A

PISA 2009 sampling procedures, exclusion rates and response rates

The accuracy of PISA survey results depends on the quality of the information on which the sample is based as well as the sampling procedures. The PISA 2009 sample for Canada was based on a two-stage stratified sample. The first stage consisted of sampling individual schools in which 15-year-old students were enrolled. Schools were sampled systematically with probabilities proportional to size, the measure of size being a function of the estimated number of eligible (15-year-old) students enrolled in the school. While a minimum of 150 schools were required to be selected in each country, in Canada, a much larger sample of schools was selected in order to produce reliable estimates for each province and for each of the English and French language school systems in these provinces: Nova Scotia, New Brunswick, Quebec, Ontario, Manitoba, Saskatchewan, Alberta and British Columbia.

The second stage of the selection process sampled students within sampled schools. Once schools were selected, a list of all 15-year-old students in each sampled school was prepared. From this list, up to 35 students were then selected with equal probability. All 15-year old students were selected if fewer than 35 were enrolled. Additionally, in Prince Edward Island, Nova Scotia and New Brunswick and in the French-language school systems in Manitoba, Alberta and Saskatchewan more than 35 students were selected where possible in order to meet sample size requirements.

Each country participating in PISA attempted to maximize the coverage of PISA's target population within the sampled schools. Within each sampled school, all eligible students, namely those 15 years of age, regardless of grade, were first listed. Sampled students who were to be excluded by the school had still to be included in the sampling documentation, and a list drawn up stating the reason for their exclusion. Tables A.1.1 and A.1.2 show the total number of excluded students by province which is further described and classified into specific categories. Students could be excluded based on these three international categories: i) students with an intellectual disability – student has a mental or emotional disability and is cognitively delayed such that he/she cannot perform in the PISA testing situation; ii) students with a functional disability – student has a moderate to severe permanent physical disability such that he/she cannot perform in the PISA testing situation; and iii) students with a limited proficiency in the assessment language – student is unable to read or speak any of the languages of the assessment in the country and would be unable to overcome the language barrier in the testing situation (typically a student who has received less than one year of instruction in the language of the assessment may be excluded).

The weighted student exclusion rate for Canada overall was 5.6% and this proportion ranged from 3.8% in Saskatchewan to 6.5% in Ontario. Across all provinces the vast majority of exclusions was a result of an intellectual disability.

Table A.1.1

PISA 2009 student exclusion rate

	Total number of eligible students sampled (participating, not participating and excluded)		Total number of students excluded		Student exclusion rate	
	Unweighted ¹	Weighted ²	Unweighted ¹	Weighted ²	Unweighted ¹	Weighted ²
	number		number		percent	
Canada and the provinces						
Newfoundland and Labrador	1,808	5,442	103	339	5.7	6.2
Prince Edward Island	1,795	1,800	103	103	5.7	5.7
Nova Scotia	2,133	11,591	92	497	4.3	4.3
New Brunswick	2,355	10,028	135	633	5.7	6.3
Quebec	6,283	85,814	331	4,288	5.3	5.0
Ontario	5,526	154,857	325	10,129	5.9	6.5
Manitoba	2,553	14,557	154	908	6.0	6.2
Saskatchewan	2,527	14,900	102	563	4.0	3.8
Alberta	3,239	35,452	117	1,573	3.6	4.4
British Columbia	3,094	46,427	145	2,216	4.7	4.8
Canada	31,313	380,866	1,607	21,249	5.1	5.6

1. Based on students selected to participate.
2. Weighted based on student enrolment such that the total weighted value represents all 15-year olds enrolled in the province and not just those selected for PISA.

Table A.1.2

PISA 2009 student exclusion rate by type of exclusion

	Type of exclusion					
	Exclusion rate: Students with a physical disability		Exclusion rate: Students with an intellectual disability		Exclusion rate: Students with limited language skills	
	Unweighted ¹	Weighted ²	Unweighted ¹	Weighted ²	Unweighted ¹	Weighted ²
Canada and the provinces	percent		percent		percent	
Newfoundland and Labrador	5.6	6.2	0.0	0.0	0.1	0.1
Prince Edward Island	4.2	4.2	0.6	0.6	1.0	1.0
Nova Scotia	4.1	4.0	0.0	0.1	0.2	0.2
New Brunswick	5.4	5.8	0.3	0.3	0.1	0.2
Quebec	4.7	4.5	0.2	0.1	0.4	0.3
Ontario	5.6	6.2	0.1	0.1	0.2	0.3
Manitoba	5.2	5.1	0.2	0.3	0.6	0.8
Saskatchewan	3.3	2.7	0.3	0.4	0.5	0.7
Alberta	3.1	3.4	0.2	0.1	0.3	0.9
British Columbia	4.7	4.7	0.0	0.0	0.0	0.0
Canada	4.7	5.1	0.2	0.1	0.3	0.4

1. Based on students selected to participate.
2. Weighted based on student enrolment such that the total weighted value represents all 15-year olds enrolled in the province and not just those selected for PISA.

In order to minimize the potential for response bias, data quality standards in PISA require minimum participation rates for schools and students. At the national level, a minimum response rate of 85% was required for schools initially selected. School response rates were also considered acceptable where the initial school response rate was between 65% and 85% and replacement schools were selected to achieve a school response rate of 85% or higher. Schools with student participation rates between 25% and 50% were not counted as participating schools, but data for these schools were included in the database. Schools with student participation rates of less than 25% were not counted as participating and their data were excluded from the database.

PISA 2009 also requires a minimum student participation rate of 80% within all participating schools combined (original sample and replacements) at the national level.

Table A.2 shows the response rates for schools and students, before and after replacement for Canada and the 10 provinces. At the national level 1,079 schools were selected to participate in PISA 2009 and 963 of these initially selected schools participated. Rather than calculating school participation rates by dividing the number of participating schools by the total number of schools, school response rates were weighted based on 15-year-old enrolment numbers in each school.

At the provincial level, school response rates ranged from 69% in Quebec to 100% in Newfoundland and Labrador. It should be noted that Quebec had 245 schools that participated in PISA but 52 schools were treated as non-responding schools according to the PISA criteria, because the student participation rates in these schools was less than 50%.

At the student level Canada's response rate was 79.5% which fell short of the international standard set by PISA of 80%. Apart from Quebec, all provinces achieved a student response rate of 80% or higher. Quebec did not meet the required student response rate and this was primarily a result of the requirement in this province to obtain written parental consent in order for a student to participate in PISA.

Because Canada did not meet the international student response rates requirements (by less than 1%), it was required to conduct and submit to the PISA consortium a student non-response bias analysis in order to determine if the data were of acceptable quality for inclusion in the PISA dataset. This non-bias analysis

was undertaken for Quebec students only as this was the only province where student response rates were below the international standard.

Two measures related to student achievement were used for this analysis: a measure of the student's socioeconomic environment which was available for the entire PISA sample and scores in the provincial language assessment which was available only for students in grade 10 (representing approximately 59% of the student sample).²²

Results from the analysis showed that non-responding students came from slightly less favourable socioeconomic environments and while the mean values on the index of socioeconomic environment differed significantly between responding and non responding students, the magnitude of the difference was not large (11.29 versus 12.02). Results from a logistic regression analysis revealed that the socioeconomic environment of students in Quebec was not statistically related to non-response when gender, private/public school status, school-language system and school size were taken into consideration.

Results from the provincial language assessment showed that responding students had slightly higher score on the provincial language assessment than non-responding students (74.9 versus 72.6 respectively on a 100 point scale based on unweighted data and 74.0 versus 71.9 based on weighted data). This difference was significant, although the gap is small, and performance on the provincial language assessment test remained significant when logistic regression analyses was done including school-language system, school size, socioeconomic environment, gender and the private/public school status in the model.

Based on the non-response analysis, the consortium judged that the Canadian data, including Quebec, was of suitable quality to be included fully in the PISA datasets without restrictions.

Note

22. Internal analysis undertaken by the Quebec Ministry of Education, Recreation and Sports broke down non-response further by comparing those who did not participate because of parental refusal and those who did not participate for other reasons. Their results showed that students who did not participate because of parental refusal were more likely to come from more favourable socioeconomic neighbourhoods than both participating and other non-responding students.

Table A.2

PISA 2009 school and student response rates

	Total number of selected schools (participating and not participating)	School response rate before replacement		School response rate after replacement		Total number of eligible students sampled (participating and not participating)		Total number of students participating		Weighted student participation rate after replacement (percent)
		number	weighted percentage	number	weighted percentage	un-weighted	weighted	un-weighted	weighted	
Newfoundland and Labrador	64	63	100.0	63	100.0	1,705	5,103	1,412	4,292	84.1
Prince Edward Island	26	25	99.7	25	99.7	1,692	1,696	1,443	1,447	85.3
Nova Scotia	72	69	97.1	70	98.1	2,011	10,979	1,634	8,788	80.0
New Brunswick	60	58	99.9	58	99.9	2,220	9,395	1,927	8,267	88.0
Quebec	258	193	68.8	194	69.0	4,317	60,674	3,083	43,057	71.0
Ontario	182	171	95.3	171	95.3	5,031	139,963	4,083	112,412	80.3
Manitoba	91	85	97.3	85	97.3	2,314	13,288	1,928	10,955	82.5
Saskatchewan	102	97	96.3	99	97.7	2,347	13,952	1,965	11,686	83.8
Alberta	118	101	95.1	112	95.6	3,081	33,025	2,564	27,486	83.2
British Columbia	106	101	93.5	101	93.5	2,885	43,219	2,344	35,072	81.2
Canada	1,079	963	88.0	978	89.6	27,603	331,293	22,383	263,460	79.5

1. School response rates were weighted based on student enrolment.

Appendix B

Tables

The enclosed tables are based on the Organisation for Economic Co-operation and Development Programme for International Student Assessment, 2009.

The *standard error* associated with the estimates presented is included in parenthesis. The *confidence interval*, when presented, represents the range within which the score for the population is likely to fall, with 95% probability.

Only statistically significant differences at the 0.05 level are noted in this report, unless otherwise stated. This means averages did not differ when the 95% confidence intervals for the averages being compared do not overlap. **Where confidence intervals did overlap an additional t-test was conducted to test for differences.**

In some tables the performance of countries and provinces relative to Canada has been indicated as being higher, the same, or lower using the following legend.

■ Performed significantly higher than Canada	□ Performed the same as Canada	■ Performed significantly lower than Canada
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Note: OECD countries include Australia, Austria, Belgium, Canada, Chile, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Korea, Luxembourg, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Turkey, United Kingdom, and United States.

Countries and economies participating in PISA for the first time in 2009 are Albania, Dubai (UAE), Panama, Shanghai-China, Singapore and Trinidad and Tobago.

Table B.1.1

Estimated average scores and confidence intervals for countries, provinces and economies: Combined reading

Country, economy and province	estimated average score	standard error	confidence interval –	
			95% lower limit	95% upper limit
Shanghai-China	556	(2.4)	551	561
Korea	539	(3.5)	532	546
Finland	536	(2.3)	531	540
Hong Kong-China	533	(2.1)	529	537
Alberta	533	(4.6)	524	542
Ontario	531	(3.0)	525	536
Singapore	526	(1.1)	524	528
British Columbia	525	(4.2)	516	533
Canada	524	(1.5)	521	527
Quebec	522	(3.1)	516	528
New Zealand	521	(2.4)	516	525
Japan	520	(3.5)	513	527
Nova Scotia	516	(2.7)	510	521
Australia	515	(2.3)	510	519
Netherlands	508	(5.1)	498	518
Belgium	506	(2.3)	501	511
Newfoundland and Labrador	506	(3.7)	499	513
Saskatchewan	504	(3.3)	498	511
Norway	503	(2.6)	498	508
Switzerland	501	(2.4)	496	505
Estonia	501	(2.6)	496	506
Iceland	500	(1.4)	498	503
Poland	500	(2.6)	495	506
United States	500	(3.7)	493	507
Liechtenstein	499	(2.8)	494	505
New Brunswick	499	(2.5)	494	504
Germany	497	(2.7)	492	503
Sweden	497	(2.9)	492	503
Ireland	496	(3.0)	490	501
France	496	(3.4)	489	502
Denmark	495	(2.1)	491	499
Chinese Taipei	495	(2.6)	490	500
Manitoba	495	(3.6)	488	502
United Kingdom	494	(2.3)	490	499
Hungary	494	(3.2)	488	500
Portugal	489	(3.1)	483	495
Macao-China	487	(0.9)	485	488
Italy	486	(1.6)	483	489
Prince Edward Island	486	(2.4)	481	490
Latvia	484	(3.0)	478	490
Greece	483	(4.3)	474	491
Slovenia	483	(1.0)	481	485
Spain	481	(2.0)	477	485
Czech Republic	478	(2.9)	473	484
Slovak Republic	477	(2.5)	472	482
Croatia	476	(2.9)	470	481
Israel	474	(3.6)	467	481
Luxembourg	472	(1.3)	470	475
Austria	470	(2.9)	465	476
Lithuania	468	(2.4)	464	473
Turkey	464	(3.5)	457	471

Table B.1.1 (concluded)

Estimated average scores and confidence intervals for countries, provinces and economies: Combined reading

Country, economy and province	estimated average score	standard error	confidence interval –	
			95% lower limit	95% upper limit
Russian Federation	459	(3.3)	453	466
Dubai (UAE)	459	(1.1)	457	462
Chile	449	(3.1)	443	455
Serbia	442	(2.4)	437	447
Bulgaria	429	(6.7)	416	442
Uruguay	426	(2.6)	421	431
Mexico	425	(2.0)	421	429
Romania	424	(4.1)	416	432
Thailand	421	(2.6)	416	427
Trinidad and Tobago	416	(1.2)	414	419
Colombia	413	(3.7)	406	421
Brazil	412	(2.7)	406	417
Montenegro	408	(1.7)	404	411
Jordan	405	(3.3)	399	411
Tunisia	404	(2.9)	398	409
Indonesia	402	(3.7)	394	409
Argentina	398	(4.6)	389	407
Kazakhstan	390	(3.1)	384	396
Albania	385	(4.0)	377	393
Qatar	372	(0.8)	370	373
Panama	371	(6.5)	358	384
Peru	370	(4.0)	362	377
Azerbaijan	362	(3.3)	355	368
Kyrgyzstan	314	(3.2)	308	320

Table B.1.2

Estimated average scores and confidence intervals for countries, provinces and economies: Accessing and retrieving

Country, economy and province	estimated average score	standard error	confidence interval –	
			95% lower limit	95% upper limit
Shanghai-China	549	(2.9)	544	555
Korea	542	(3.6)	535	549
Finland	532	(2.7)	527	538
Japan	530	(3.8)	522	537
Hong Kong-China	530	(2.7)	524	535
Singapore	526	(1.4)	524	529
Ontario	523	(3.1)	517	529
Alberta	522	(4.5)	513	531
New Zealand	521	(2.4)	516	526
Netherlands	519	(5.1)	509	529
Canada	517	(1.5)	514	520
British Columbia	516	(4.5)	507	524
Quebec	515	(3.6)	508	522
Belgium	513	(2.4)	509	518
Australia	513	(2.4)	509	518
Norway	512	(2.8)	506	517
Liechtenstein	508	(4.0)	500	515
Iceland	507	(1.6)	503	510
Nova Scotia	506	(3.3)	499	513
Switzerland	505	(2.7)	500	511
Sweden	505	(2.9)	499	510
Estonia	503	(3.0)	497	509
Denmark	502	(2.6)	497	507
Germany	501	(3.5)	494	507
Hungary	501	(3.7)	494	509
Newfoundland and Labrador	501	(3.8)	493	508
Saskatchewan	501	(3.7)	494	508
Poland	500	(2.8)	495	506
Ireland	498	(3.3)	492	505
Chinese Taipei	496	(2.8)	491	501
Manitoba	496	(3.8)	489	504
Macao-China	493	(1.2)	491	495
Croatia	492	(3.1)	485	498
United States	492	(3.6)	485	499
France	492	(3.8)	484	499
United Kingdom	491	(2.5)	486	496
Slovak Republic	491	(3.0)	485	497
Slovenia	489	(1.1)	487	491
Portugal	488	(3.3)	482	495
New Brunswick	487	(3.1)	481	493
Italy	482	(1.8)	478	485
Prince Edward Island	481	(2.5)	476	486
Spain	480	(2.1)	476	484
Czech Republic	479	(3.2)	473	485
Austria	477	(3.2)	471	484
Lithuania	476	(3.0)	471	482
Latvia	476	(3.6)	469	483
Luxembourg	471	(1.3)	468	473
Russian Federation	469	(3.9)	461	476
Greece	468	(4.4)	459	477
Turkey	467	(4.1)	459	475

Table B.1.2 (concluded)

Estimated average scores and confidence intervals for countries, provinces and economies: Accessing and retrieving

Country, economy and province	estimated average score	standard error	confidence interval –	
			95% lower limit	95% upper limit
Israel	463	(4.1)	455	471
Dubai (UAE)	458	(1.4)	456	461
Serbia	449	(3.1)	443	455
Chile	444	(3.4)	437	451
Mexico	433	(2.1)	429	437
Thailand	431	(3.5)	424	438
Bulgaria	430	(8.3)	413	446
Uruguay	424	(2.9)	419	430
Romania	423	(4.7)	414	432
Trinidad and Tobago	413	(1.6)	410	417
Montenegro	408	(2.3)	403	412
Brazil	407	(3.3)	400	413
Colombia	404	(3.7)	397	411
Indonesia	399	(4.7)	390	408
Kazakhstan	397	(3.7)	390	405
Argentina	394	(4.8)	385	403
Jordan	394	(4.0)	386	402
Tunisia	393	(3.3)	387	400
Albania	380	(4.7)	371	389
Peru	364	(4.3)	355	372
Panama	363	(7.7)	348	378
Azerbaijan	361	(4.5)	352	370
Qatar	354	(1.0)	352	356
Kyrgyzstan	299	(4.0)	291	307

Table B.1.3

Estimated average scores and confidence intervals for countries, provinces and economies: Integrating and interpreting

Country, economy and province	estimated average score	standard error	confidence interval –	
			95% lower limit	95% upper limit
Shanghai-China	558	(2.5)	553	563
Korea	541	(3.4)	534	547
Finland	538	(2.3)	534	543
Alberta	532	(4.8)	522	541
Hong Kong-China	530	(2.2)	526	534
Ontario	528	(3.0)	522	533
Singapore	525	(1.2)	522	527
Canada	522	(1.5)	519	525
British Columbia	522	(4.6)	513	531
Quebec	521	(3.3)	515	528
Japan	520	(3.5)	513	526
New Zealand	517	(2.4)	512	522
Nova Scotia	514	(2.9)	509	520
Australia	513	(2.4)	508	517
Netherlands	504	(5.4)	494	515
Belgium	504	(2.5)	499	509
Iceland	503	(1.5)	500	505
Poland	503	(2.8)	498	508
Norway	502	(2.7)	497	507
Switzerland	502	(2.5)	497	507
Newfoundland and Labrador	502	(3.7)	495	509
Saskatchewan	502	(3.5)	495	508
Germany	501	(2.8)	495	506
Estonia	500	(2.8)	495	506
Chinese Taipei	499	(2.5)	494	504
New Brunswick	499	(2.6)	494	504
Liechtenstein	498	(4.0)	490	505
France	497	(3.6)	490	504
Hungary	496	(3.2)	490	502
United States	495	(3.7)	488	502
Sweden	494	(3.0)	488	500
Ireland	494	(3.0)	488	500
Manitoba	493	(4.0)	485	501
Denmark	492	(2.1)	488	496
United Kingdom	491	(2.4)	486	495
Italy	490	(1.6)	487	493
Slovenia	489	(1.1)	487	491
Macao-China	488	(0.8)	487	490
Czech Republic	488	(2.9)	482	493
Portugal	487	(3.0)	481	493
Latvia	484	(2.8)	479	490
Greece	484	(4.0)	477	492
Prince Edward Island	482	(2.3)	477	486
Spain	481	(2.0)	477	485
Slovak Republic	481	(2.5)	476	486
Luxembourg	475	(1.1)	473	477
Israel	473	(3.4)	466	480
Croatia	472	(2.9)	467	478
Austria	471	(2.9)	466	477
Lithuania	469	(2.4)	464	473
Russian Federation	467	(3.1)	461	473

Table B.1.3 (concluded)

Estimated average scores and confidence intervals for countries, provinces and economies: Integrating and interpreting

Country, economy and province	estimated average score	standard error	confidence interval –	
			95% lower limit	95% upper limit
Turkey	459	(3.3)	453	466
Dubai (UAE)	457	(1.3)	454	459
Chile	452	(3.1)	446	458
Serbia	445	(2.4)	440	450
Bulgaria	436	(6.4)	424	449
Romania	425	(4.0)	417	433
Uruguay	423	(2.6)	418	428
Montenegro	420	(1.6)	417	424
Trinidad and Tobago	419	(1.4)	416	421
Mexico	418	(2.0)	415	422
Thailand	416	(2.6)	411	421
Colombia	411	(3.8)	404	418
Jordan	410	(3.1)	404	416
Brazil	406	(2.7)	401	412
Argentina	398	(4.7)	388	407
Kazakhstan	397	(3.0)	391	403
Indonesia	397	(3.5)	390	404
Albania	393	(3.8)	386	401
Tunisia	393	(2.7)	388	399
Qatar	379	(0.9)	377	380
Azerbaijan	373	(2.9)	367	379
Panama	372	(5.9)	361	384
Peru	371	(4.0)	363	379
Kyrgyzstan	327	(2.9)	321	333

Table B.1.4

Estimated average scores and confidence intervals for countries, provinces and economies: Reflecting and evaluating

Country, economy and province	estimated average score	standard error	confidence interval –	
			95% lower limit	95% upper limit
Shanghai-China	557	(2.4)	552	561
Ontario	546	(3.2)	540	552
Alberta	546	(4.4)	537	554
Korea	542	(3.9)	534	550
Hong Kong-China	540	(2.5)	535	544
Finland	536	(2.2)	531	540
British Columbia	536	(4.2)	528	544
Canada	535	(1.6)	532	538
New Zealand	531	(2.5)	526	536
Singapore	529	(1.1)	527	531
Nova Scotia	527	(3.0)	521	532
Quebec	525	(3.3)	518	531
Australia	523	(2.5)	518	528
Japan	521	(3.9)	513	528
Newfoundland and Labrador	519	(3.3)	512	525
Saskatchewan	517	(3.5)	510	524
United States	512	(4.0)	504	520
Netherlands	510	(5.0)	501	520
Norway	505	(2.7)	500	510
Belgium	505	(2.5)	501	510
New Brunswick	505	(2.3)	500	509
Manitoba	504	(4.0)	496	512
United Kingdom	503	(2.4)	498	508
Estonia	503	(2.6)	497	508
Sweden	502	(3.0)	496	508
Ireland	502	(3.1)	496	509
Liechtenstein	498	(3.2)	491	504
Poland	498	(2.8)	492	503
Switzerland	497	(2.7)	492	503
Prince Edward Island	497	(2.3)	492	501
Iceland	496	(1.4)	493	499
Portugal	496	(3.3)	490	503
France	495	(3.4)	488	502
Denmark	493	(2.6)	488	498
Chinese Taipei	493	(2.8)	487	498
Latvia	492	(3.0)	486	498
Germany	491	(2.8)	486	496
Greece	489	(4.9)	480	499
Hungary	489	(3.3)	482	495
Israel	483	(4.0)	475	491
Spain	483	(2.2)	479	488
Italy	482	(1.8)	478	485
Macao-China	481	(0.8)	479	482
Turkey	473	(4.0)	465	480
Croatia	471	(3.5)	464	478
Luxembourg	471	(1.1)	469	473
Slovenia	470	(1.2)	468	473
Dubai (UAE)	466	(1.1)	463	468
Slovak Republic	466	(2.9)	460	472
Lithuania	463	(2.5)	458	468
Austria	463	(3.4)	456	470

Table B.1.4 (concluded)

Estimated average scores and confidence intervals for countries, provinces and economies: Reflecting and evaluating

Country, economy and province	estimated average score	standard error	confidence interval –	
			95% lower limit	95% upper limit
Czech Republic	462	(3.1)	456	468
Chile	452	(3.2)	446	459
Russian Federation	441	(3.7)	433	448
Uruguay	436	(2.9)	430	441
Mexico	432	(1.9)	428	436
Serbia	430	(2.6)	425	435
Tunisia	427	(3.0)	421	433
Romania	426	(4.5)	418	435
Brazil	424	(2.7)	418	429
Colombia	422	(4.2)	413	430
Thailand	420	(2.8)	415	426
Bulgaria	417	(7.1)	403	431
Trinidad and Tobago	413	(1.3)	411	416
Indonesia	409	(3.8)	401	416
Jordan	407	(3.4)	400	414
Argentina	402	(4.8)	393	412
Montenegro	383	(1.9)	379	387
Panama	377	(6.3)	365	389
Albania	376	(4.6)	367	385
Qatar	376	(1.0)	374	378
Kazakhstan	373	(3.4)	366	380
Peru	368	(4.2)	360	376
Azerbaijan	335	(3.8)	327	342
Kyrgyzstan	300	(4.0)	292	308

Table B.1.5

Estimated average scores and confidence intervals for countries, provinces and economies: Continuous texts

Country, economy and province	estimated average score	standard error	confidence interval –	
			95% lower limit	95% upper limit
Shanghai-China	564	(2.5)	559	569
Korea	538	(3.5)	531	545
Hong Kong-China	538	(2.3)	534	543
Finland	535	(2.3)	531	540
Alberta	533	(4.7)	524	543
Ontario	532	(3.1)	526	538
Canada	524	(1.5)	521	527
British Columbia	524	(4.5)	515	533
Singapore	522	(1.1)	520	524
Japan	520	(3.6)	513	528
Quebec	519	(3.2)	512	525
New Zealand	518	(2.4)	513	523
Nova Scotia	516	(2.9)	511	522
Australia	513	(2.5)	508	518
Newfoundland and Labrador	508	(3.8)	501	516
Netherlands	506	(5.0)	497	516
Saskatchewan	506	(3.2)	500	512
Norway	505	(2.6)	500	510
Belgium	504	(2.4)	500	509
Poland	502	(2.7)	497	507
Iceland	501	(1.6)	497	504
United States	500	(3.7)	492	507
New Brunswick	500	(2.5)	495	505
Sweden	499	(3.0)	493	505
Switzerland	498	(2.5)	493	503
Hungary	497	(3.3)	490	503
Estonia	497	(2.7)	492	503
Ireland	497	(3.3)	490	503
Manitoba	497	(4.0)	489	505
Germany	496	(2.7)	491	501
Denmark	496	(2.1)	492	501
Chinese Taipei	496	(2.6)	491	502
Liechtenstein	495	(3.0)	489	500
United Kingdom	492	(2.4)	487	496
Portugal	492	(3.2)	486	498
France	492	(3.5)	485	499
Italy	489	(1.6)	486	492
Macao-China	488	(0.9)	486	490
Greece	487	(4.3)	478	495
Prince Edward Island	486	(2.4)	481	490
Latvia	484	(3.0)	478	490
Spain	484	(2.1)	480	489
Slovenia	484	(1.1)	482	486
Czech Republic	479	(2.9)	473	485
Slovak Republic	479	(2.6)	474	484
Croatia	478	(2.9)	472	484
Israel	477	(3.6)	470	484
Luxembourg	471	(1.2)	469	474
Lithuania	470	(2.5)	465	475
Austria	470	(2.9)	464	476
Turkey	466	(3.5)	459	473

Table B.1.5 (concluded)

Estimated average scores and confidence intervals for countries, provinces and economies: Continuous texts

Country, economy and province	estimated average score	standard error	confidence interval –	
			95% lower limit	95% upper limit
Russian Federation	461	(3.1)	455	467
Dubai (UAE)	461	(1.2)	458	463
Chile	453	(3.1)	447	459
Serbia	444	(2.3)	439	448
Bulgaria	433	(6.8)	419	446
Uruguay	429	(2.7)	424	434
Mexico	426	(2.0)	422	430
Thailand	423	(2.8)	418	428
Romania	423	(4.0)	415	431
Trinidad and Tobago	418	(1.3)	415	420
Jordan	417	(3.2)	410	423
Colombia	415	(3.7)	408	422
Brazil	414	(2.8)	409	420
Montenegro	411	(1.8)	408	415
Tunisia	408	(2.9)	402	413
Indonesia	405	(3.7)	398	413
Argentina	400	(4.6)	391	409
Kazakhstan	399	(3.1)	393	405
Albania	392	(4.1)	384	400
Qatar	375	(0.9)	374	377
Peru	374	(3.9)	367	382
Panama	373	(6.7)	360	387
Azerbaijan	362	(3.3)	355	368
Kyrgyzstan	319	(3.2)	313	325

Table B.1.6

Estimated average scores and confidence intervals for countries, provinces and economies: Non-continuous texts

Country, economy and province	estimated average score	standard error	confidence interval –	
			95% lower limit	95% upper limit
Korea	542	(3.6)	535	549
Singapore	539	(1.1)	536	541
Shanghai-China	539	(2.4)	535	544
Alberta	539	(4.7)	529	548
Finland	535	(2.4)	530	540
Ontario	534	(3.3)	527	540
New Zealand	532	(2.3)	528	537
British Columbia	531	(4.0)	523	538
Canada	527	(1.6)	524	530
Australia	524	(2.3)	520	529
Quebec	523	(3.5)	516	529
Hong Kong-China	522	(2.3)	518	527
Japan	518	(3.5)	511	524
Nova Scotia	518	(2.8)	513	524
Netherlands	514	(5.1)	505	524
Estonia	512	(2.7)	507	517
Belgium	511	(2.2)	507	515
Newfoundland and Labrador	511	(3.8)	503	518
Liechtenstein	506	(3.2)	500	512
United Kingdom	506	(2.3)	501	510
Saskatchewan	506	(3.5)	500	513
Switzerland	505	(2.5)	500	510
United States	503	(3.5)	496	510
Chinese Taipei	500	(2.8)	495	506
Iceland	499	(1.5)	496	502
Norway	498	(2.6)	492	503
Sweden	498	(2.8)	492	503
France	498	(3.4)	492	505
Manitoba	498	(3.5)	491	504
Germany	497	(2.8)	492	503
Poland	496	(2.8)	490	501
Ireland	496	(3.0)	490	502
Denmark	493	(2.3)	488	497
New Brunswick	492	(2.4)	487	497
Prince Edward Island	490	(2.4)	485	494
Portugal	488	(3.2)	482	494
Latvia	487	(3.4)	480	494
Hungary	487	(3.3)	481	494
Macao-China	481	(1.1)	478	483
Italy	476	(1.7)	473	480
Slovenia	476	(1.1)	474	478
Czech Republic	474	(3.4)	468	481
Spain	473	(2.1)	468	477
Croatia	472	(3.0)	466	478
Luxembourg	472	(1.2)	469	474
Austria	472	(3.2)	466	479
Greece	472	(4.3)	464	480
Slovak Republic	471	(2.8)	466	477
Israel	467	(3.9)	459	475
Lithuania	462	(2.6)	457	467
Turkey	461	(3.8)	454	468

Table B.1.6 (concluded)

Estimated average scores and confidence intervals for countries, provinces and economies: Non-continuous texts

Country, economy and province	estimated average score	standard error	confidence interval –	
			95% lower limit	95% upper limit
Dubai (UAE)	460	(1.3)	457	462
Russian Federation	452	(3.9)	445	460
Chile	444	(3.2)	437	450
Serbia	438	(2.9)	432	443
Romania	424	(4.5)	416	433
Mexico	424	(2.0)	421	428
Thailand	423	(2.7)	418	428
Bulgaria	421	(7.2)	407	435
Uruguay	421	(2.7)	416	426
Trinidad and Tobago	417	(1.4)	414	420
Colombia	409	(4.1)	401	417
Brazil	408	(2.8)	403	414
Indonesia	399	(4.5)	390	407
Montenegro	398	(1.9)	394	401
Tunisia	393	(3.3)	386	399
Argentina	391	(5.2)	381	401
Jordan	387	(4.1)	379	395
Kazakhstan	371	(3.9)	363	378
Albania	366	(4.6)	357	375
Qatar	361	(0.9)	360	363
Panama	359	(6.5)	346	372
Peru	356	(4.4)	348	365
Azerbaijan	351	(4.2)	342	359
Kyrgyzstan	293	(3.7)	285	300

Table B.1.7

Variation in performance: Combined reading

Country, economy and province	Percentile												Difference in score points between the 75th and 25th percentile
	5th		10th		25th		75th		90th		95th		
	score	standard error	score	standard error	score	standard error	score	standard error	score	standard error	score	standard error	
Indonesia	291	(5.8)	315	(5.0)	357	(4.1)	447	(4.6)	487	(5.0)	510	(5.8)	90
Thailand	305	(4.9)	331	(3.8)	373	(3.2)	469	(2.6)	514	(4.0)	542	(5.4)	96
Azerbaijan	235	(5.7)	263	(4.8)	311	(4.3)	413	(4.0)	458	(4.4)	485	(6.2)	102
Macao-China	357	(2.7)	388	(1.9)	437	(1.4)	540	(1.4)	582	(1.8)	608	(1.8)	103
Korea	400	(7.6)	435	(5.9)	490	(4.1)	595	(3.4)	635	(3.0)	658	(3.8)	105
Shanghai-China	417	(5.2)	450	(4.8)	504	(3.5)	613	(2.8)	654	(2.7)	679	(3.3)	109
Hong Kong-China	380	(5.5)	418	(4.5)	482	(3.0)	592	(2.5)	634	(2.9)	659	(3.1)	110
Latvia	348	(6.3)	379	(4.2)	429	(3.8)	541	(3.3)	584	(3.2)	610	(4.3)	112
Turkey	325	(5.1)	356	(4.3)	409	(3.8)	522	(4.5)	569	(5.2)	596	(5.4)	113
Chile	310	(5.1)	342	(5.0)	393	(4.1)	506	(3.3)	556	(3.6)	584	(5.1)	113
Estonia	359	(5.3)	392	(4.4)	446	(3.3)	559	(2.8)	605	(3.6)	633	(4.1)	113
Serbia	299	(4.9)	331	(3.8)	388	(3.2)	501	(2.5)	547	(2.7)	572	(3.3)	113
Denmark	350	(3.8)	383	(3.7)	440	(2.9)	554	(2.8)	599	(3.0)	624	(2.9)	114
Tunisia	258	(4.4)	293	(3.8)	348	(3.4)	462	(3.4)	510	(4.8)	538	(5.2)	114
Mexico	281	(3.9)	314	(2.9)	370	(2.4)	485	(1.9)	531	(2.2)	557	(2.4)	115
Chinese Taipei	343	(4.6)	380	(3.9)	439	(3.2)	555	(2.9)	600	(4.6)	627	(6.3)	116
Finland	382	(3.4)	419	(3.6)	481	(2.7)	597	(2.2)	642	(2.6)	666	(2.6)	116
Spain	326	(4.2)	364	(3.5)	426	(3.3)	543	(2.0)	588	(2.0)	613	(2.4)	117
Nova Scotia	364	(7.4)	401	(5.7)	459	(4.4)	576	(3.9)	627	(4.7)	656	(5.5)	117
Jordan	243	(6.6)	284	(5.0)	350	(4.1)	468	(3.5)	515	(3.9)	542	(4.7)	118
Colombia	269	(6.4)	302	(5.2)	355	(4.4)	473	(3.9)	524	(4.1)	554	(4.0)	118
Liechtenstein	356	(11.8)	385	(10.6)	442	(6.5)	560	(4.7)	599	(7.9)	624	(11.5)	118
Russian Federation	310	(5.8)	344	(5.5)	401	(3.6)	519	(3.2)	572	(4.5)	607	(5.6)	119
Portugal	338	(4.9)	373	(4.9)	432	(4.4)	551	(3.4)	599	(3.5)	624	(3.6)	119
Quebec	369	(7.5)	405	(6.2)	465	(4.2)	585	(3.2)	628	(3.3)	654	(4.3)	120
Lithuania	324	(4.5)	353	(4.2)	409	(3.3)	530	(3.1)	580	(3.4)	608	(4.1)	120
Ontario	378	(5.9)	417	(4.8)	472	(3.6)	594	(3.5)	642	(3.8)	667	(4.6)	122
Croatia	327	(4.9)	359	(3.6)	416	(4.5)	539	(3.1)	586	(3.5)	611	(3.8)	123
Romania	271	(6.9)	304	(5.7)	365	(6.0)	488	(4.7)	537	(4.0)	564	(4.6)	123
Poland	346	(5.6)	382	(4.2)	441	(3.4)	565	(3.2)	613	(3.3)	640	(3.6)	123
Canada	368	(2.9)	406	(2.7)	464	(1.9)	588	(1.7)	637	(1.9)	664	(2.1)	124
Kazakhstan	245	(3.8)	275	(3.8)	327	(3.1)	452	(4.2)	513	(5.0)	545	(5.2)	125
Hungary	332	(7.4)	371	(6.9)	435	(4.3)	559	(3.6)	607	(3.5)	632	(4.0)	125
Newfoundland and Labrador	356	(8.7)	389	(6.3)	445	(5.7)	570	(4.8)	618	(6.0)	651	(8.2)	125
Saskatchewan	346	(7.5)	382	(7.6)	444	(5.8)	569	(3.8)	620	(5.4)	649	(5.9)	125
Norway	346	(4.5)	382	(4.0)	443	(3.6)	568	(2.9)	619	(3.9)	647	(4.4)	125
British Columbia	367	(8.4)	404	(5.7)	464	(5.9)	590	(4.3)	639	(4.2)	666	(5.8)	126
Slovak Republic	324	(6.1)	358	(5.2)	416	(4.1)	543	(2.7)	594	(3.2)	621	(4.3)	126
Brazil	262	(3.0)	293	(3.2)	348	(2.7)	474	(3.9)	537	(4.2)	572	(4.6)	127
Ireland	330	(7.8)	373	(4.7)	435	(3.9)	562	(2.8)	611	(2.8)	638	(3.2)	127
New Brunswick	346	(6.1)	382	(5.9)	436	(3.9)	563	(3.7)	614	(4.8)	645	(6.4)	127
Montenegro	254	(4.2)	288	(3.8)	345	(2.6)	473	(2.4)	526	(2.7)	558	(4.2)	128
Iceland	332	(5.0)	371	(4.1)	439	(2.9)	567	(2.0)	619	(2.6)	648	(3.9)	128
Kyrgyzstan	155	(5.6)	190	(4.7)	249	(4.1)	377	(4.2)	441	(6.4)	483	(7.5)	128
Sweden	326	(5.3)	368	(5.5)	437	(3.3)	565	(3.2)	620	(3.7)	651	(3.9)	129
Greece	318	(7.8)	355	(8.0)	420	(6.3)	550	(3.1)	601	(3.7)	630	(3.7)	129
Slovenia	326	(2.9)	359	(2.1)	421	(1.9)	550	(1.7)	598	(2.9)	623	(3.9)	129
United Kingdom	334	(4.1)	370	(3.1)	430	(2.8)	561	(3.2)	616	(2.6)	646	(3.7)	131
Switzerland	337	(4.1)	374	(4.0)	437	(3.6)	569	(3.0)	617	(3.3)	645	(4.5)	131
Panama	209	(12.0)	246	(10.0)	304	(7.4)	436	(7.7)	502	(9.3)	540	(10.0)	131
Czech Republic	325	(4.8)	357	(4.9)	413	(4.2)	545	(3.3)	598	(3.2)	627	(3.6)	131
Japan	339	(9.8)	386	(7.1)	459	(4.8)	590	(3.0)	639	(3.6)	667	(4.6)	131
Prince Edward Island	319	(5.5)	357	(5.2)	422	(3.5)	554	(3.4)	608	(4.4)	638	(3.6)	132
Manitoba	334	(7.9)	372	(7.6)	432	(5.2)	564	(4.6)	617	(4.9)	644	(5.0)	132
Alberta	372	(7.4)	408	(7.1)	466	(5.7)	599	(5.1)	652	(6.8)	685	(9.9)	133
Netherlands	365	(4.7)	390	(5.0)	442	(6.1)	575	(5.4)	625	(4.6)	650	(4.0)	134
Italy	320	(3.7)	358	(2.6)	422	(2.3)	556	(1.7)	604	(1.7)	631	(2.1)	134

Table B.1.7 (concluded)

Variation in performance: Combined reading

Country, economy and province	Percentile												Difference in score points between the 75th and 25th percentile
	5th		10th		25th		75th		90th		95th		
	score	standard error	score	standard error	score	standard error	score	standard error	score	standard error	score	standard error	
Australia	343	(3.8)	384	(3.1)	450	(2.9)	584	(2.7)	638	(3.2)	668	(3.9)	134
Germany	333	(4.8)	367	(5.1)	432	(4.5)	567	(2.8)	615	(3.2)	640	(3.1)	135
Peru	209	(5.0)	241	(3.9)	302	(4.3)	437	(5.2)	496	(6.4)	530	(7.0)	135
Uruguay	257	(5.2)	297	(4.2)	359	(3.5)	495	(3.1)	552	(3.3)	584	(4.5)	136
United States	339	(4.2)	372	(3.9)	433	(4.0)	569	(4.6)	625	(5.0)	656	(5.8)	136
Singapore	357	(3.4)	394	(3.1)	460	(2.0)	597	(2.1)	648	(2.8)	676	(2.7)	137
Albania	212	(6.9)	254	(5.4)	319	(4.9)	458	(4.8)	509	(4.9)	538	(5.5)	139
France	305	(8.2)	352	(7.0)	429	(4.7)	572	(4.0)	624	(3.9)	651	(4.6)	143
Luxembourg	288	(3.7)	332	(3.6)	403	(2.4)	547	(1.7)	600	(2.0)	630	(3.6)	143
New Zealand	344	(5.8)	383	(4.5)	452	(3.1)	595	(2.8)	649	(2.7)	678	(3.7)	143
Argentina	209	(11.3)	257	(8.3)	329	(5.8)	473	(6.3)	535	(7.1)	568	(6.7)	144
Austria	299	(5.8)	335	(4.9)	399	(4.3)	545	(3.3)	596	(4.0)	624	(4.3)	146
Belgium	326	(6.1)	368	(4.3)	436	(3.8)	583	(2.2)	631	(2.7)	657	(2.9)	147
Dubai (UAE)	277	(3.5)	317	(2.8)	386	(2.4)	536	(2.3)	596	(2.6)	628	(3.1)	149
Israel	277	(8.8)	322	(7.8)	401	(4.4)	554	(3.4)	611	(4.0)	643	(4.3)	153
Trinidad and Tobago	220	(5.8)	265	(3.9)	339	(2.5)	496	(2.3)	559	(2.5)	594	(3.0)	157
Bulgaria	234	(8.4)	276	(7.8)	351	(8.6)	512	(6.5)	572	(7.3)	603	(6.7)	161
Qatar	196	(2.4)	228	(2.2)	288	(1.4)	450	(1.4)	529	(2.1)	573	(2.8)	162

Note: Countries, economies and provinces in ascending order by the difference in score points between the 75th and 25th percentiles.

Table B.1.8

Variation in performance: Accessing and retrieving

Country, economy and province	Percentile												Difference in score points between the 75th and 25th percentile
	5th		10th		25th		75th		90th		95th		
	score	standard error	score	standard error	score	standard error	score	standard error	score	standard error	score	standard error	
Thailand	290	(6.5)	322	(5.5)	374	(3.8)	488	(3.4)	540	(4.6)	573	(5.5)	114
Korea	391	(7.8)	429	(6.3)	486	(4.2)	602	(3.6)	650	(3.7)	677	(4.8)	116
Macao-China	342	(3.3)	379	(2.0)	435	(2.3)	554	(1.5)	603	(2.3)	630	(2.3)	119
Chile	290	(6.5)	328	(5.7)	384	(4.3)	506	(3.7)	559	(4.3)	591	(4.5)	122
Ontario	365	(6.7)	404	(5.9)	465	(3.6)	587	(3.5)	636	(4.1)	664	(4.5)	122
Indonesia	248	(7.6)	281	(6.1)	338	(5.6)	461	(5.3)	515	(7.0)	547	(7.3)	122
Colombia	251	(6.8)	286	(6.3)	344	(4.5)	467	(3.9)	522	(3.7)	553	(4.4)	123
Quebec	354	(7.2)	392	(6.0)	457	(4.6)	580	(3.9)	631	(4.7)	660	(5.2)	123
Estonia	345	(4.8)	381	(4.0)	444	(3.6)	567	(3.6)	617	(4.0)	647	(4.1)	123
Portugal	326	(6.2)	367	(5.5)	430	(4.3)	553	(3.6)	602	(4.5)	631	(4.6)	124
Mexico	271	(4.4)	311	(3.4)	373	(2.6)	498	(2.0)	548	(2.3)	577	(2.7)	124
Hong Kong-China	361	(5.9)	404	(4.8)	471	(3.4)	596	(2.7)	642	(3.5)	669	(5.2)	125
Nova Scotia	345	(9.6)	382	(6.2)	447	(4.4)	572	(4.4)	624	(5.8)	653	(6.4)	125
Latvia	319	(6.7)	356	(5.4)	416	(4.7)	542	(3.8)	590	(4.0)	617	(4.3)	125
Serbia	284	(6.4)	324	(5.6)	389	(3.8)	515	(3.2)	567	(3.9)	595	(3.9)	126
Liechtenstein	344	(22.0)	386	(10.3)	448	(10.0)	574	(6.5)	620	(8.2)	649	(12.2)	126
Newfoundland and Labrador	340	(9.0)	377	(8.4)	439	(6.0)	565	(4.5)	620	(6.8)	650	(6.2)	126
Canada	353	(3.2)	393	(2.7)	456	(2.0)	583	(2.0)	634	(2.3)	664	(2.7)	127
Turkey	303	(7.9)	343	(5.6)	407	(4.2)	534	(4.8)	586	(4.8)	614	(6.0)	127
Ireland	321	(9.7)	372	(5.4)	439	(4.1)	567	(2.8)	616	(4.0)	643	(4.1)	128
Shanghai-China	382	(5.9)	423	(5.3)	489	(3.8)	617	(3.0)	666	(3.4)	695	(4.1)	128

Table B.1.8 (concluded)

Variation in performance: Accessing and retrieving

Country, economy and province	Percentile												Difference in score points between the 75th and 25th percentile
	5th		10th		25th		75th		90th		95th		
	score	standard error	score	standard error	score	standard error	score	standard error	score	standard error	score	standard error	
Denmark	339	(5.6)	376	(4.3)	440	(3.5)	569	(3.1)	619	(3.1)	648	(4.8)	129
Norway	340	(5.2)	382	(4.4)	449	(3.5)	580	(3.4)	634	(3.6)	665	(4.1)	130
Spain	303	(4.3)	350	(3.4)	419	(2.8)	549	(2.3)	602	(2.5)	632	(2.7)	130
British Columbia	350	(10.0)	391	(6.7)	453	(5.1)	584	(4.4)	637	(4.7)	668	(5.4)	131
Australia	337	(4.5)	381	(3.5)	451	(2.7)	583	(2.6)	635	(3.4)	665	(3.6)	132
Finland	357	(5.6)	401	(4.0)	470	(3.6)	602	(2.9)	653	(3.1)	682	(3.7)	132
Switzerland	331	(5.3)	375	(4.6)	443	(4.2)	576	(2.9)	625	(3.8)	653	(4.1)	133
Russian Federation	297	(7.7)	339	(6.1)	403	(4.7)	536	(4.4)	599	(4.6)	636	(6.1)	133
New Brunswick	328	(6.9)	360	(5.0)	422	(5.1)	556	(4.2)	608	(5.4)	639	(6.5)	134
Poland	326	(5.0)	369	(4.0)	435	(3.6)	569	(2.9)	626	(3.9)	660	(4.2)	135
United Kingdom	321	(4.6)	361	(4.4)	426	(3.3)	561	(2.8)	617	(3.5)	650	(4.2)	135
Slovenia	314	(4.0)	355	(2.7)	426	(2.2)	561	(1.8)	610	(3.2)	635	(3.3)	135
Netherlands	364	(6.7)	396	(5.2)	453	(5.8)	588	(5.5)	634	(5.0)	661	(6.3)	136
United States	325	(5.0)	363	(4.6)	425	(4.0)	561	(4.4)	618	(4.4)	650	(5.4)	136
Saskatchewan	324	(11.0)	372	(7.9)	436	(6.6)	572	(3.7)	627	(5.6)	661	(7.9)	136
Sweden	321	(5.9)	368	(4.7)	440	(3.5)	577	(3.1)	631	(4.7)	664	(3.9)	136
Tunisia	221	(5.7)	263	(5.0)	327	(4.1)	463	(4.3)	523	(5.1)	559	(6.7)	136
Croatia	318	(5.8)	359	(5.3)	427	(4.5)	563	(3.4)	616	(3.3)	646	(4.8)	136
Alberta	349	(8.9)	390	(6.4)	455	(6.4)	592	(5.2)	647	(5.2)	680	(7.8)	137
Romania	243	(8.6)	287	(6.9)	357	(6.2)	494	(4.8)	548	(4.7)	576	(5.7)	137
Azerbaijan	189	(7.6)	227	(7.2)	293	(5.5)	432	(5.1)	493	(5.4)	528	(6.0)	138
Czech Republic	309	(6.2)	349	(5.6)	412	(4.3)	551	(3.5)	605	(3.7)	635	(3.6)	139
Hungary	315	(11.0)	362	(8.6)	437	(5.0)	576	(4.0)	627	(4.0)	654	(4.4)	139
Greece	285	(9.5)	330	(8.5)	401	(6.3)	540	(4.0)	595	(3.8)	627	(3.6)	139
Prince Edward Island	307	(7.0)	346	(4.5)	413	(5.0)	552	(4.1)	609	(5.2)	639	(9.9)	139
Lithuania	303	(5.8)	343	(5.5)	408	(4.1)	548	(3.1)	605	(3.7)	637	(3.7)	139
Slovak Republic	312	(8.6)	353	(7.0)	423	(4.0)	563	(3.3)	619	(3.7)	648	(4.6)	140
Singapore	345	(5.2)	388	(3.4)	459	(2.5)	599	(1.6)	651	(3.5)	680	(3.6)	140
Jordan	195	(7.6)	249	(6.2)	328	(4.8)	469	(4.4)	529	(4.7)	564	(5.0)	140
Japan	333	(10.4)	386	(7.9)	464	(4.8)	605	(3.3)	658	(4.7)	691	(4.9)	141
Iceland	319	(5.4)	363	(3.8)	439	(3.4)	580	(2.7)	639	(3.0)	672	(4.2)	141
Chinese Taipei	312	(6.0)	358	(4.1)	429	(3.9)	570	(3.6)	625	(3.8)	656	(4.4)	141
Italy	295	(4.7)	341	(3.2)	415	(2.6)	557	(1.7)	609	(1.7)	639	(2.1)	142
Peru	184	(6.6)	226	(5.2)	293	(4.5)	436	(4.7)	497	(6.8)	534	(8.0)	143
Brazil	232	(4.6)	270	(4.2)	334	(3.3)	478	(4.6)	546	(5.5)	587	(6.1)	144
New Zealand	338	(4.9)	381	(4.4)	452	(3.4)	597	(2.8)	650	(3.0)	680	(3.3)	144
Manitoba	323	(10.0)	362	(8.0)	426	(6.0)	571	(4.3)	625	(5.5)	656	(5.8)	145
Belgium	323	(6.2)	368	(4.6)	444	(3.5)	591	(2.8)	643	(3.0)	673	(3.4)	148
Germany	318	(7.2)	358	(6.0)	429	(5.3)	578	(4.0)	630	(4.1)	658	(4.5)	148
France	298	(9.5)	347	(7.6)	422	(4.7)	571	(4.5)	625	(4.6)	656	(5.0)	149
Uruguay	235	(6.4)	280	(5.0)	352	(3.9)	502	(3.2)	563	(4.2)	599	(4.7)	150
Kazakhstan	218	(6.2)	257	(4.8)	321	(4.3)	473	(4.9)	542	(6.7)	580	(6.4)	152
Argentina	193	(10.9)	242	(7.0)	321	(5.7)	474	(6.1)	539	(6.2)	574	(6.4)	153
Albania	182	(8.2)	232	(6.7)	307	(5.7)	461	(5.4)	520	(5.8)	550	(6.6)	154
Luxembourg	266	(5.7)	318	(3.2)	396	(2.9)	553	(2.3)	612	(2.4)	645	(3.9)	157
Austria	286	(6.6)	326	(5.1)	400	(4.8)	558	(4.1)	618	(4.2)	650	(5.1)	158
Panama	167	(12.5)	211	(12.7)	283	(7.9)	443	(8.6)	521	(10.8)	565	(11.4)	160
Montenegro	206	(5.9)	253	(4.5)	328	(4.0)	490	(3.0)	558	(3.8)	597	(4.2)	162
Israel	247	(12.1)	299	(8.7)	386	(5.5)	548	(3.7)	610	(4.1)	643	(4.8)	162
Kyrgyzstan	95	(7.7)	143	(5.7)	218	(4.9)	380	(5.2)	457	(7.0)	503	(8.7)	163
Dubai (UAE)	258	(5.3)	304	(2.7)	380	(2.5)	543	(2.2)	606	(2.9)	639	(3.6)	164
Trinidad and Tobago	192	(4.8)	246	(4.4)	332	(3.3)	501	(3.0)	567	(3.2)	607	(3.6)	169
Qatar	140	(2.5)	181	(2.9)	258	(2.0)	445	(2.1)	536	(2.6)	586	(4.2)	188
Bulgaria	183	(10.1)	239	(12.7)	339	(10.3)	530	(8.1)	599	(8.8)	637	(9.8)	191

Note: Countries, economies and provinces in ascending order by the difference in score points between the 75th and 25th percentiles.

Table B.1.9

Variation in performance: Integrating and interpreting

Country, economy and province	Percentile												Difference in score points between the 75th and 25th percentile
	5th		10th		25th		75th		90th		95th		
	score	standard error	score	standard error	score	standard error	score	standard error	score	standard error	score	standard error	
Indonesia	291	(4.4)	313	(3.7)	352	(3.7)	442	(4.3)	482	(5.5)	505	(5.2)	90
Azerbaijan	260	(4.5)	285	(4.1)	327	(3.6)	420	(3.1)	460	(4.2)	483	(4.6)	93
Thailand	301	(4.4)	326	(3.8)	367	(2.9)	465	(2.8)	508	(3.9)	537	(6.0)	98
Macao-China	357	(2.7)	388	(2.2)	436	(1.6)	542	(1.4)	588	(2.1)	613	(2.1)	106
Tunisia	258	(4.3)	287	(3.5)	341	(3.2)	449	(3.4)	495	(4.2)	523	(5.1)	108
Korea	398	(8.6)	435	(5.8)	489	(4.3)	598	(3.5)	639	(3.5)	664	(3.7)	109
Jordan	264	(5.9)	300	(5.1)	358	(4.0)	468	(3.5)	513	(3.7)	538	(4.5)	110
Turkey	330	(4.5)	358	(3.3)	405	(3.3)	515	(4.3)	562	(5.1)	588	(5.7)	110
Latvia	352	(5.6)	381	(4.1)	430	(3.6)	541	(3.3)	585	(3.5)	611	(3.4)	111
Shanghai-China	417	(5.7)	449	(4.3)	504	(3.4)	617	(2.8)	659	(3.0)	684	(3.5)	112
Serbia	304	(4.6)	334	(4.0)	389	(3.1)	504	(2.9)	551	(3.2)	577	(3.1)	115
Estonia	358	(5.3)	389	(4.0)	444	(3.5)	559	(3.0)	605	(3.9)	634	(4.3)	115
Denmark	348	(4.9)	381	(3.7)	437	(2.7)	552	(2.3)	597	(3.1)	623	(3.6)	115
Chile	310	(5.2)	342	(4.7)	395	(4.0)	510	(3.4)	562	(4.3)	593	(4.8)	115
Kyrgyzstan	183	(4.7)	215	(4.6)	269	(3.5)	384	(3.8)	440	(5.1)	475	(5.6)	115
Spain	329	(4.2)	366	(3.6)	425	(2.8)	541	(1.9)	588	(1.9)	614	(2.3)	117
Croatia	331	(5.2)	362	(4.0)	415	(4.2)	532	(3.3)	577	(3.0)	602	(3.9)	117
Lithuania	331	(4.4)	358	(3.7)	410	(3.4)	528	(2.8)	578	(3.3)	607	(3.4)	118
Hong Kong-China	372	(5.1)	412	(4.6)	474	(2.9)	592	(2.9)	639	(3.3)	666	(3.8)	119
Chinese Taipei	349	(4.4)	383	(3.8)	441	(3.2)	560	(3.3)	607	(5.0)	635	(5.6)	119
Finland	385	(3.7)	421	(3.6)	482	(2.7)	601	(2.7)	647	(2.9)	674	(3.2)	119
Mexico	272	(3.5)	305	(2.7)	360	(2.3)	479	(2.1)	529	(2.5)	558	(3.0)	120
Kazakhstan	260	(3.4)	287	(3.0)	336	(3.9)	456	(4.2)	513	(4.9)	544	(5.0)	120
Romania	279	(5.8)	310	(6.0)	366	(5.3)	486	(4.9)	535	(4.6)	563	(5.3)	120
Russian Federation	319	(5.1)	352	(4.4)	408	(3.7)	527	(3.8)	582	(5.0)	616	(5.7)	120
Montenegro	276	(3.7)	308	(3.2)	361	(2.2)	481	(2.5)	533	(2.8)	564	(3.5)	120
Colombia	265	(7.4)	299	(5.1)	351	(4.7)	472	(3.7)	525	(4.4)	556	(5.3)	120
Portugal	340	(4.3)	371	(4.1)	427	(4.1)	548	(3.2)	599	(3.7)	627	(3.5)	121
Nova Scotia	361	(8.2)	399	(5.0)	456	(4.3)	578	(3.7)	627	(5.8)	658	(5.8)	122
Poland	349	(4.6)	383	(4.1)	442	(3.3)	567	(3.5)	617	(3.3)	648	(3.6)	125
Slovak Republic	332	(5.4)	366	(4.6)	419	(3.4)	545	(3.0)	596	(3.6)	625	(4.3)	125
Hungary	343	(6.7)	376	(5.6)	435	(4.7)	560	(3.9)	609	(3.7)	634	(4.4)	125
Panama	221	(9.6)	254	(8.5)	309	(7.4)	434	(7.3)	496	(9.5)	531	(9.0)	126
Newfoundland and Labrador	351	(11.0)	384	(5.7)	441	(7.0)	567	(4.5)	618	(6.7)	648	(7.7)	126
Liechtenstein	337	(12.8)	374	(10.8)	436	(7.5)	563	(6.1)	610	(7.8)	632	(16.8)	127
Brazil	258	(2.8)	289	(2.9)	341	(2.7)	468	(3.8)	532	(4.3)	568	(5.2)	127
Norway	341	(4.3)	377	(4.3)	440	(3.1)	567	(3.4)	622	(3.6)	652	(4.4)	128
Quebec	360	(6.8)	397	(6.4)	459	(4.5)	588	(3.2)	637	(3.7)	663	(4.6)	129
Ireland	328	(7.9)	367	(5.3)	432	(4.3)	562	(2.9)	613	(3.3)	641	(3.9)	130
Ontario	374	(6.1)	406	(5.2)	464	(4.3)	594	(3.9)	646	(3.6)	674	(4.6)	130
Saskatchewan	344	(7.0)	379	(5.5)	438	(6.0)	568	(3.8)	619	(4.4)	650	(6.5)	130
Greece	328	(6.5)	362	(7.6)	421	(5.4)	551	(3.6)	602	(3.5)	631	(3.6)	130
Slovenia	335	(3.4)	366	(2.0)	425	(2.3)	555	(2.3)	605	(2.4)	631	(4.8)	130
Uruguay	260	(6.5)	297	(3.8)	358	(3.4)	489	(3.0)	547	(3.6)	580	(3.5)	131
New Brunswick	347	(4.8)	379	(4.6)	434	(4.2)	565	(5.4)	619	(5.6)	651	(8.1)	131
Italy	328	(3.6)	365	(2.6)	427	(2.1)	558	(1.8)	607	(1.9)	635	(2.1)	131
Canada	363	(3.2)	398	(2.9)	458	(1.9)	590	(1.8)	642	(2.1)	670	(3.0)	132
British Columbia	361	(7.0)	396	(6.7)	458	(5.6)	590	(5.2)	642	(5.0)	670	(5.5)	132
Iceland	333	(4.9)	372	(3.1)	438	(3.2)	571	(2.3)	625	(3.0)	654	(2.8)	133
Czech Republic	334	(4.7)	365	(4.7)	421	(4.0)	555	(3.6)	610	(3.2)	639	(3.3)	134
Albania	226	(6.4)	265	(5.9)	329	(4.5)	463	(5.3)	517	(5.1)	547	(4.7)	134
United Kingdom	330	(4.0)	364	(3.2)	424	(3.0)	558	(2.8)	615	(3.2)	650	(3.4)	134
Sweden	319	(6.0)	362	(4.7)	429	(3.5)	564	(3.5)	624	(3.9)	655	(4.2)	136
Peru	207	(5.8)	243	(4.9)	302	(4.3)	439	(5.4)	500	(7.3)	539	(8.1)	136
Japan	340	(9.0)	384	(7.0)	455	(4.8)	591	(3.2)	642	(4.3)	672	(5.1)	137
Switzerland	334	(4.5)	372	(3.9)	436	(2.8)	572	(2.9)	623	(3.7)	652	(3.9)	137
Prince Edward Island	310	(7.1)	351	(5.8)	415	(4.4)	552	(3.5)	607	(4.6)	637	(6.9)	137

Table B.1.9 (concluded)

Variation in performance: Integrating and interpreting

Country, economy and province	Percentile												Difference in score points between the 75th and 25th percentile
	5th		10th		25th		75th		90th		95th		
	score	standard error	score	standard error	score	standard error	score	standard error	score	standard error	score	standard error	
Manitoba	333	(8.7)	369	(6.6)	426	(5.5)	563	(4.5)	617	(5.4)	647	(6.9)	137
Alberta	365	(6.2)	403	(5.5)	463	(5.3)	600	(5.0)	656	(7.4)	690	(8.5)	137
Germany	335	(5.2)	371	(4.4)	433	(4.3)	572	(3.1)	621	(3.0)	649	(3.7)	139
Australia	337	(3.6)	377	(3.1)	444	(2.9)	584	(2.5)	641	(3.6)	673	(4.5)	140
United States	331	(3.9)	364	(3.8)	425	(4.1)	565	(4.6)	626	(5.3)	660	(6.0)	140
Austria	307	(4.8)	341	(4.6)	402	(4.2)	543	(3.1)	596	(3.6)	624	(4.5)	141
Netherlands	353	(5.6)	381	(5.0)	432	(6.2)	575	(6.2)	630	(5.0)	658	(4.9)	142
Singapore	351	(3.6)	389	(3.3)	455	(1.9)	598	(1.8)	652	(2.2)	683	(2.9)	143
Qatar	221	(2.4)	249	(2.1)	303	(1.5)	449	(1.6)	522	(2.7)	565	(2.9)	146
Argentina	210	(10.8)	256	(8.0)	326	(5.4)	473	(5.9)	536	(7.2)	571	(7.1)	146
Luxembourg	294	(4.2)	336	(2.8)	404	(2.2)	551	(1.9)	606	(2.2)	637	(3.3)	147
New Zealand	338	(5.8)	379	(4.7)	445	(3.3)	593	(3.3)	652	(3.6)	681	(5.5)	148
Dubai (UAE)	279	(3.2)	318	(2.4)	383	(2.6)	532	(2.1)	594	(2.9)	627	(3.8)	149
Trinidad and Tobago	232	(3.8)	274	(3.5)	344	(2.2)	494	(2.3)	558	(3.5)	595	(4.3)	150
France	300	(8.9)	348	(6.8)	426	(5.2)	577	(4.3)	634	(5.0)	664	(4.7)	151
Israel	281	(7.8)	324	(6.8)	399	(4.9)	552	(3.3)	609	(3.6)	641	(4.1)	153
Belgium	320	(5.5)	360	(4.6)	430	(3.5)	584	(2.3)	635	(2.8)	662	(3.4)	154
Bulgaria	256	(7.9)	293	(7.8)	360	(8.6)	514	(6.9)	572	(6.5)	604	(6.5)	154

Note: Countries, economies and provinces in ascending order by the difference in score points between the 75th and 25th percentiles.

Table B.1.10

Variation in performance: Reflecting and evaluating

Country, economy and province	Percentile												Difference in score points between the 75th and 25th percentile
	5th		10th		25th		75th		90th		95th		
	score	standard error	score	standard error	score	standard error	score	standard error	score	standard error	score	standard error	
Indonesia	294	(6.4)	321	(5.0)	363	(3.9)	455	(4.6)	497	(5.2)	521	(5.5)	92
Macao-China	345	(2.6)	377	(2.4)	429	(1.4)	536	(1.5)	580	(1.9)	605	(2.4)	107
Thailand	290	(5.4)	318	(4.4)	365	(3.6)	475	(3.0)	522	(3.7)	552	(5.1)	110
Latvia	353	(6.7)	386	(4.6)	439	(3.7)	549	(3.7)	594	(3.5)	619	(3.2)	110
Quebec	377	(8.7)	414	(6.0)	472	(4.5)	584	(3.5)	627	(4.0)	651	(3.4)	112
Hong Kong-China	381	(6.5)	421	(4.9)	487	(3.8)	600	(2.8)	645	(2.9)	669	(3.1)	113
Korea	392	(8.9)	429	(6.1)	489	(4.9)	602	(4.1)	646	(4.0)	671	(4.3)	113
Shanghai-China	408	(5.8)	445	(4.3)	502	(3.3)	616	(2.8)	661	(2.9)	686	(3.4)	114
Estonia	355	(5.7)	391	(4.7)	447	(3.8)	562	(2.8)	611	(3.5)	637	(4.5)	115
Nova Scotia	372	(8.9)	415	(5.7)	472	(4.0)	588	(4.4)	637	(4.8)	665	(5.0)	116
Chile	310	(5.6)	342	(4.8)	396	(4.4)	512	(3.2)	559	(3.8)	586	(3.9)	116
Finland	384	(5.0)	419	(3.4)	480	(3.1)	597	(2.8)	642	(2.4)	668	(3.4)	117
New Brunswick	362	(4.9)	393	(4.6)	448	(3.9)	565	(4.3)	613	(4.3)	640	(6.7)	117
Chinese Taipei	338	(5.3)	376	(3.8)	437	(3.5)	554	(3.1)	599	(3.9)	625	(4.7)	117
Tunisia	269	(5.4)	307	(4.1)	370	(3.9)	489	(3.5)	540	(4.5)	569	(5.3)	119
Denmark	343	(4.8)	377	(3.6)	435	(3.0)	555	(3.2)	603	(3.6)	631	(3.5)	119
Mexico	282	(4.2)	318	(2.8)	375	(2.4)	494	(1.9)	541	(1.9)	568	(2.0)	120
Ontario	391	(8.0)	429	(5.7)	487	(4.1)	608	(4.1)	659	(3.6)	685	(4.4)	121
Poland	340	(4.7)	379	(3.8)	440	(3.1)	562	(3.1)	611	(3.5)	639	(3.5)	122
Canada	377	(3.0)	416	(2.8)	476	(2.3)	598	(1.8)	649	(2.2)	677	(2.3)	122

Table B.1.10 (concluded)

Variation in performance: Reflecting and evaluating

Country, economy and province	Percentile										Difference in score points between the 75th and 25th percentile		
	5th		10th		25th		75th		90th			95th	
	score	standard error	score	standard error	score	standard error	score	standard error	score	standard error		score	standard error
Newfoundland and Labrador	363	(10.0)	399	(7.1)	459	(5.3)	581	(4.0)	634	(5.8)	664	(7.8)	122
Liechtenstein	337	(12.9)	374	(13.7)	440	(6.8)	562	(7.8)	605	(7.2)	631	(8.3)	122
Azerbaijan	181	(8.6)	217	(7.3)	273	(4.7)	397	(4.1)	452	(5.2)	483	(5.4)	125
Colombia	273	(7.7)	305	(6.3)	360	(5.6)	484	(4.8)	538	(4.0)	570	(4.9)	125
Serbia	277	(5.2)	311	(4.2)	369	(3.0)	494	(2.6)	544	(3.4)	572	(3.3)	125
British Columbia	370	(8.3)	411	(6.4)	475	(5.8)	600	(4.4)	652	(4.9)	680	(6.2)	125
Lithuania	311	(5.2)	344	(4.1)	402	(3.4)	527	(3.0)	577	(3.9)	607	(4.7)	125
Spain	312	(5.0)	356	(3.9)	425	(3.1)	550	(2.2)	598	(2.3)	625	(2.5)	125
Iceland	329	(4.5)	370	(3.8)	437	(2.6)	562	(2.4)	611	(2.8)	638	(3.5)	125
Brazil	273	(3.9)	306	(3.5)	360	(3.0)	486	(3.4)	544	(4.2)	577	(4.5)	125
Norway	343	(4.3)	381	(3.9)	445	(3.7)	571	(3.1)	621	(3.5)	650	(3.5)	126
Jordan	236	(7.9)	279	(6.3)	348	(4.2)	474	(3.7)	525	(3.7)	555	(4.4)	126
Netherlands	370	(5.0)	397	(5.9)	447	(6.5)	575	(4.9)	624	(3.9)	649	(3.9)	128
Portugal	335	(4.6)	372	(4.5)	434	(4.5)	562	(3.3)	614	(3.4)	642	(3.7)	129
Sweden	326	(7.0)	372	(5.4)	442	(3.5)	571	(3.5)	626	(4.2)	658	(4.2)	129
Russian Federation	277	(6.6)	316	(6.3)	377	(4.2)	506	(3.7)	563	(4.6)	597	(4.8)	129
Turkey	315	(6.1)	349	(4.8)	409	(4.7)	539	(4.9)	591	(4.7)	621	(5.7)	130
Hungary	327	(7.6)	363	(6.6)	425	(4.8)	556	(3.7)	607	(3.7)	634	(3.8)	131
Saskatchewan	348	(8.2)	388	(9.3)	453	(6.1)	584	(3.3)	637	(4.7)	665	(4.9)	131
Romania	259	(7.9)	298	(6.8)	363	(6.0)	495	(5.2)	547	(5.4)	576	(5.9)	132
Prince Edward Island	330	(6.4)	369	(5.4)	433	(4.0)	565	(3.7)	617	(5.0)	644	(5.5)	132
Alberta	381	(7.0)	416	(7.3)	481	(4.9)	613	(5.3)	669	(6.2)	697	(8.0)	132
Ireland	330	(7.9)	371	(5.6)	439	(4.0)	572	(3.0)	624	(3.3)	652	(3.2)	133
Switzerland	327	(6.1)	368	(5.0)	433	(3.7)	566	(3.3)	616	(3.7)	645	(4.8)	133
Germany	316	(7.6)	357	(6.1)	429	(4.6)	562	(2.8)	609	(2.8)	635	(3.4)	133
United Kingdom	338	(3.7)	375	(3.3)	437	(3.0)	572	(3.2)	628	(3.3)	661	(3.1)	135
Panama	218	(11.5)	251	(9.3)	308	(7.5)	444	(7.4)	513	(8.4)	551	(9.7)	136
Slovak Republic	297	(7.3)	335	(6.3)	400	(4.3)	537	(3.0)	590	(3.6)	619	(3.9)	136
Manitoba	329	(13.0)	374	(7.8)	438	(6.1)	575	(4.7)	629	(4.3)	659	(7.1)	137
Singapore	355	(3.7)	394	(2.7)	462	(2.1)	601	(1.6)	654	(2.5)	684	(4.1)	138
Czech Republic	294	(5.6)	331	(5.3)	394	(3.9)	533	(3.7)	591	(4.4)	623	(3.7)	139
Montenegro	216	(4.0)	253	(3.4)	314	(3.4)	453	(2.5)	510	(3.1)	547	(5.0)	139
United States	347	(5.7)	382	(5.1)	444	(4.2)	583	(4.8)	637	(5.5)	668	(5.8)	139
Australia	344	(3.9)	387	(3.2)	455	(2.8)	595	(2.8)	650	(3.7)	681	(4.6)	140
Kazakhstan	213	(4.6)	245	(3.9)	302	(3.5)	442	(4.5)	508	(5.6)	543	(6.0)	140
Croatia	301	(6.4)	337	(5.7)	402	(4.9)	543	(3.5)	598	(3.5)	628	(4.4)	141
Greece	306	(11.4)	350	(10.2)	423	(7.1)	563	(3.5)	617	(3.6)	649	(3.8)	141
Peru	197	(7.2)	236	(5.8)	298	(4.4)	439	(5.3)	500	(6.3)	536	(7.4)	141
Uruguay	260	(5.7)	299	(5.3)	366	(3.8)	508	(2.9)	569	(4.0)	603	(5.0)	141
Slovenia	296	(3.7)	335	(2.9)	401	(2.0)	544	(2.0)	596	(3.5)	624	(4.0)	143
Italy	298	(4.8)	342	(3.2)	413	(2.4)	558	(1.9)	610	(2.0)	638	(2.2)	144
Luxembourg	283	(4.3)	329	(3.2)	402	(2.2)	546	(1.9)	602	(2.6)	631	(3.3)	144
Japan	323	(11.6)	375	(8.1)	453	(5.7)	598	(3.4)	653	(3.3)	686	(3.9)	145
Kyrgyzstan	120	(6.2)	161	(5.5)	225	(4.7)	372	(4.9)	448	(7.3)	495	(7.5)	146
France	301	(8.2)	349	(6.7)	427	(4.9)	573	(4.0)	627	(4.4)	654	(4.3)	146
Albania	188	(8.9)	233	(7.6)	308	(5.9)	454	(5.2)	511	(5.9)	541	(4.9)	147
Belgium	312	(6.6)	357	(4.7)	436	(4.1)	584	(2.6)	634	(2.6)	661	(3.5)	148
Argentina	209	(9.8)	257	(7.9)	330	(5.1)	480	(5.8)	542	(6.1)	576	(7.8)	150
New Zealand	343	(6.9)	385	(5.4)	458	(3.6)	609	(2.6)	666	(3.0)	696	(3.6)	151
Dubai (UAE)	281	(3.2)	323	(2.4)	392	(2.2)	544	(2.1)	605	(2.9)	636	(2.9)	152
Austria	269	(9.3)	311	(7.5)	389	(5.5)	543	(3.4)	595	(3.8)	624	(5.0)	154
Israel	275	(9.4)	324	(8.5)	410	(5.5)	566	(3.5)	623	(3.9)	655	(4.3)	156
Trinidad and Tobago	210	(5.0)	254	(4.5)	332	(2.7)	497	(2.4)	561	(2.9)	596	(3.4)	165
Bulgaria	206	(10.8)	252	(9.9)	336	(10.3)	505	(6.7)	568	(5.3)	602	(5.1)	168
Qatar	185	(2.2)	221	(1.7)	285	(1.7)	461	(1.9)	543	(2.5)	591	(3.3)	176

Note: Countries, economies and provinces in ascending order by the difference in score points between the 75th and 25th percentiles.

Table B.1.11

Variation in performance: Continuous texts

Country, economy and province	Percentile												Difference in score points between the 75th and 25th percentile
	5th		10th		25th		75th		90th		95th		
	score	standard error	score	standard error	score	standard error	score	standard error	score	standard error	score	standard error	
Indonesia	292	(5.4)	317	(5.0)	359	(3.8)	452	(4.6)	493	(5.4)	519	(6.1)	93
Thailand	304	(4.8)	329	(3.7)	373	(3.4)	472	(3.1)	517	(4.0)	544	(5.4)	99
Azerbaijan	235	(4.7)	262	(4.5)	310	(4.0)	413	(3.5)	459	(4.4)	487	(5.2)	103
Korea	395	(7.4)	431	(6.1)	489	(3.9)	595	(3.4)	635	(3.5)	658	(3.9)	106
Macao-China	352	(2.4)	382	(2.1)	434	(1.5)	543	(1.4)	590	(1.7)	617	(2.4)	109
Estonia	359	(4.9)	391	(4.9)	443	(3.6)	553	(2.8)	599	(3.6)	626	(3.8)	110
Latvia	347	(6.6)	378	(4.6)	430	(4.2)	541	(3.8)	584	(3.1)	608	(4.4)	111
Shanghai-China	422	(5.6)	456	(4.7)	511	(3.5)	623	(2.9)	665	(2.8)	689	(3.0)	112
Serbia	302	(4.8)	336	(3.9)	389	(3.4)	502	(2.6)	547	(3.0)	573	(3.6)	113
Tunisia	260	(4.9)	296	(4.2)	353	(3.5)	467	(3.1)	512	(3.9)	538	(4.3)	114
Turkey	326	(5.5)	357	(4.3)	409	(3.7)	525	(4.2)	573	(4.8)	599	(5.4)	116
Chile	308	(5.2)	340	(4.6)	395	(4.1)	512	(3.3)	563	(3.9)	592	(4.8)	117
Finland	384	(5.2)	419	(3.7)	480	(2.8)	597	(2.3)	641	(2.3)	665	(2.9)	117
Hong Kong-China	379	(6.4)	421	(5.0)	483	(3.4)	600	(2.5)	644	(2.7)	671	(2.9)	117
Russian Federation	312	(5.9)	347	(4.4)	403	(3.7)	520	(3.4)	573	(4.1)	605	(4.8)	117
Mexico	276	(4.2)	311	(3.0)	369	(2.7)	487	(1.9)	534	(1.9)	560	(2.3)	118
Denmark	348	(4.3)	381	(3.2)	439	(2.8)	557	(2.6)	605	(2.7)	632	(3.4)	118
Chinese Taipei	341	(4.8)	379	(4.3)	440	(3.2)	558	(3.5)	604	(4.9)	631	(5.2)	119
Colombia	271	(6.2)	302	(5.8)	356	(4.7)	475	(4.2)	525	(4.5)	556	(5.1)	119
Spain	324	(3.6)	363	(3.5)	428	(3.1)	548	(1.8)	595	(1.9)	622	(2.2)	120
Jordan	252	(6.0)	294	(5.4)	361	(4.3)	481	(3.2)	528	(3.6)	554	(3.8)	120
Kazakhstan	255	(3.5)	286	(3.7)	338	(3.5)	459	(4.5)	516	(4.6)	548	(4.6)	121
Lithuania	325	(5.5)	357	(4.3)	410	(3.6)	531	(2.8)	580	(3.1)	607	(4.8)	121
Nova Scotia	363	(7.4)	401	(6.2)	457	(3.7)	578	(3.5)	629	(4.8)	659	(7.9)	121
Quebec	364	(7.6)	400	(7.1)	461	(4.6)	582	(3.2)	627	(3.5)	653	(4.3)	121
Portugal	336	(4.0)	372	(5.0)	432	(4.4)	555	(3.4)	605	(3.4)	632	(3.6)	123
Poland	349	(4.6)	384	(3.6)	442	(3.5)	566	(3.0)	615	(3.5)	643	(3.5)	124
Romania	265	(6.3)	300	(5.8)	362	(5.4)	488	(4.3)	536	(4.7)	566	(4.7)	125
Croatia	324	(4.6)	358	(4.1)	417	(3.9)	543	(3.2)	591	(3.6)	618	(4.2)	126
Liechtenstein	345	(13.6)	379	(9.1)	431	(7.8)	558	(6.2)	603	(8.3)	625	(11.0)	126
Slovak Republic	326	(5.5)	359	(5.5)	417	(4.0)	544	(2.9)	595	(3.3)	623	(3.7)	127
Hungary	335	(6.9)	370	(7.2)	436	(4.8)	563	(3.6)	613	(3.6)	639	(3.6)	128
Canada	363	(3.7)	401	(2.7)	462	(2.2)	590	(1.9)	642	(2.2)	671	(2.4)	128
Ontario	375	(6.7)	411	(5.5)	469	(3.7)	597	(4.2)	649	(4.4)	677	(4.6)	128
Newfoundland and Labrador	346	(12.0)	384	(8.0)	445	(6.3)	574	(4.6)	628	(6.1)	659	(7.0)	129
Montenegro	256	(2.9)	289	(3.3)	347	(2.5)	476	(3.1)	532	(3.1)	566	(4.8)	130
Ireland	324	(7.8)	368	(6.2)	435	(4.1)	565	(3.5)	616	(4.0)	645	(3.6)	130
New Brunswick	343	(6.0)	381	(4.8)	435	(5.2)	565	(4.3)	619	(4.4)	648	(7.4)	130
Brazil	258	(3.6)	292	(3.1)	348	(2.7)	478	(3.9)	541	(4.2)	576	(5.3)	130
British Columbia	354	(10.0)	397	(7.0)	461	(5.6)	592	(5.3)	645	(4.8)	676	(5.8)	131
Iceland	327	(5.1)	367	(3.4)	438	(2.7)	569	(2.2)	623	(3.4)	652	(4.2)	131
Norway	341	(4.7)	378	(4.2)	442	(2.8)	574	(3.2)	625	(3.2)	653	(3.8)	131
Czech Republic	326	(5.3)	358	(4.9)	413	(3.6)	544	(3.2)	601	(3.5)	632	(3.5)	132
Kyrgyzstan	154	(5.0)	192	(4.5)	252	(4.1)	384	(4.4)	448	(6.0)	487	(6.4)	132
Saskatchewan	342	(8.0)	380	(7.7)	441	(5.2)	573	(3.1)	624	(4.2)	657	(5.4)	132
Netherlands	363	(4.6)	390	(5.0)	440	(6.2)	573	(5.4)	623	(4.7)	650	(5.0)	133
Sweden	323	(6.0)	368	(5.0)	435	(3.8)	569	(3.4)	626	(3.5)	657	(3.9)	133
Switzerland	332	(4.6)	370	(4.3)	434	(3.8)	567	(2.9)	616	(3.6)	644	(4.1)	133
United Kingdom	329	(4.1)	365	(3.2)	425	(3.4)	560	(3.1)	617	(3.0)	649	(4.1)	135
Germany	329	(5.5)	366	(5.1)	431	(4.2)	566	(2.9)	613	(2.9)	641	(3.1)	135
Panama	205	(13.4)	246	(10.2)	307	(7.6)	441	(7.3)	505	(9.1)	543	(9.2)	135
Slovenia	323	(2.3)	355	(2.5)	418	(2.2)	553	(2.2)	605	(2.8)	631	(2.7)	136
Italy	320	(3.7)	358	(3.1)	424	(2.4)	560	(1.8)	609	(1.7)	636	(2.0)	136
Japan	332	(10.6)	382	(8.2)	457	(5.1)	594	(2.9)	644	(3.5)	672	(3.4)	136
Greece	317	(8.5)	355	(7.6)	420	(6.5)	557	(3.6)	610	(3.5)	639	(3.8)	137
Peru	208	(6.6)	244	(4.9)	306	(4.3)	444	(5.0)	502	(6.2)	536	(7.4)	138
Singapore	347	(4.0)	386	(3.8)	455	(2.1)	594	(1.7)	648	(2.8)	677	(3.2)	139

Table B.1.11 (concluded)

Variation in performance: Continuous texts

Country, economy and province	Percentile												Difference in score points between the 75th and 25th percentile
	5th		10th		25th		75th		90th		95th		
	score	standard error	score	standard error	score	standard error	score	standard error	score	standard error	score	standard error	
Manitoba	327	(8.6)	368	(8.4)	431	(6.1)	570	(4.6)	624	(5.1)	652	(5.2)	139
Uruguay	255	(7.0)	295	(6.0)	361	(3.3)	501	(3.5)	559	(3.8)	592	(4.7)	139
Australia	336	(4.0)	377	(3.4)	446	(2.6)	585	(2.8)	641	(3.8)	671	(4.5)	140
Alberta	368	(6.4)	403	(5.2)	464	(5.7)	604	(5.9)	659	(6.0)	692	(7.0)	140
Prince Edward Island	314	(5.8)	354	(5.6)	417	(4.6)	558	(4.0)	613	(4.3)	644	(6.4)	141
Albania	216	(6.6)	257	(6.4)	325	(4.8)	467	(5.0)	520	(4.9)	550	(6.2)	141
United States	334	(4.1)	368	(4.8)	430	(4.0)	571	(4.6)	632	(5.8)	664	(5.2)	141
Austria	301	(6.4)	335	(4.8)	400	(4.0)	544	(3.1)	596	(3.4)	625	(4.7)	145
Luxembourg	284	(4.4)	327	(3.4)	402	(2.7)	548	(2.2)	602	(2.7)	631	(3.0)	146
Argentina	204	(9.3)	256	(8.6)	330	(5.6)	477	(5.8)	537	(6.7)	571	(6.4)	147
New Zealand	336	(5.9)	377	(4.6)	447	(3.3)	594	(2.6)	650	(3.2)	680	(3.5)	147
Belgium	326	(5.6)	365	(4.4)	433	(3.9)	582	(2.3)	631	(2.4)	657	(2.7)	148
Dubai (UAE)	277	(3.7)	317	(3.8)	388	(2.2)	537	(2.3)	598	(3.4)	632	(3.3)	149
France	297	(8.6)	344	(7.0)	422	(5.0)	571	(4.3)	625	(4.2)	654	(4.7)	150
Israel	278	(8.7)	325	(7.6)	405	(4.8)	557	(3.4)	614	(3.6)	646	(4.2)	152
Trinidad and Tobago	215	(5.4)	262	(3.5)	340	(2.6)	500	(2.1)	563	(3.0)	600	(3.4)	160
Bulgaria	230	(7.9)	276	(9.9)	354	(8.2)	517	(6.7)	578	(6.3)	611	(7.2)	164
Qatar	192	(2.1)	225	(1.8)	288	(1.7)	458	(1.7)	535	(1.9)	578	(2.4)	170

Note: Countries, economies and provinces in ascending order by the difference in score points between the 75th and 25th percentiles.

Table B.1.12

Variation in performance: Non-continuous texts

Country, economy and province	Percentile												Difference in score points between the 75th and 25th percentile
	5th		10th		25th		75th		90th		95th		
	score	standard error	score	standard error	score	standard error	score	standard error	score	standard error	score	standard error	
Thailand	302	(4.3)	328	(4.0)	372	(3.6)	472	(2.9)	519	(4.2)	549	(4.8)	100
Macao-China	352	(2.5)	381	(2.3)	431	(2.0)	533	(1.4)	576	(2.0)	600	(2.8)	102
Indonesia	266	(6.6)	295	(5.7)	346	(4.8)	453	(5.3)	500	(6.1)	529	(6.5)	107
Korea	399	(6.5)	436	(6.1)	491	(4.7)	599	(3.6)	643	(3.6)	666	(3.9)	108
Shanghai-China	394	(6.2)	429	(4.6)	486	(3.0)	598	(2.3)	643	(3.4)	668	(3.6)	112
Hong Kong-China	372	(4.9)	409	(4.7)	471	(3.3)	583	(2.6)	625	(2.8)	649	(3.3)	112
Chile	298	(5.3)	333	(4.7)	387	(4.4)	502	(3.3)	552	(4.0)	580	(5.4)	115
Denmark	347	(5.3)	381	(3.9)	436	(2.8)	552	(2.6)	599	(3.1)	625	(3.6)	116
Nova Scotia	366	(9.9)	404	(5.5)	462	(3.9)	579	(4.2)	628	(4.9)	657	(5.6)	117
Mexico	278	(3.5)	311	(2.9)	367	(2.4)	485	(2.0)	533	(2.4)	560	(2.4)	118
Turkey	313	(6.1)	347	(5.2)	404	(4.1)	522	(4.8)	570	(5.1)	596	(6.4)	118
Norway	344	(5.4)	381	(4.3)	440	(2.9)	560	(3.3)	608	(3.7)	636	(3.9)	120
Estonia	357	(7.0)	394	(4.9)	454	(3.7)	573	(2.8)	624	(3.2)	654	(3.4)	120
Finland	378	(4.4)	417	(3.8)	478	(2.9)	598	(3.0)	645	(2.9)	670	(2.9)	120
Ontario	379	(7.3)	418	(5.2)	476	(4.1)	596	(4.0)	645	(4.7)	674	(4.4)	120
Portugal	333	(5.6)	370	(4.7)	430	(4.2)	550	(3.4)	601	(3.6)	628	(4.4)	121
Latvia	337	(5.3)	371	(4.8)	428	(4.3)	549	(3.4)	596	(3.9)	624	(4.3)	122
Slovenia	320	(2.9)	358	(2.6)	418	(2.1)	540	(1.7)	584	(2.4)	609	(2.4)	122
Newfoundland and Labrador	348	(14.0)	391	(7.2)	452	(6.3)	574	(4.9)	624	(5.1)	655	(8.6)	122
Canada	367	(3.3)	407	(2.9)	468	(2.1)	591	(2.0)	641	(2.2)	671	(2.8)	123

Table B.1.12 (concluded)

Variation in performance: Non-continuous texts

Country, economy and province	Percentile										Difference in score points between the 75th and 25th percentile		
	5th		10th		25th		75th		90th			95th	
	score	standard error	score	standard error	score	standard error	score	standard error	score	standard error		score	standard error
Quebec	357	(6.3)	397	(7.6)	464	(5.6)	587	(3.7)	636	(3.9)	665	(5.3)	123
Croatia	319	(5.0)	354	(4.2)	412	(4.4)	536	(3.4)	584	(3.6)	613	(4.3)	124
Saskatchewan	348	(9.5)	386	(7.6)	446	(5.3)	570	(3.9)	620	(4.6)	649	(5.2)	124
British Columbia	373	(7.9)	413	(5.6)	471	(5.7)	595	(4.2)	644	(4.2)	672	(5.3)	124
Spain	306	(5.1)	348	(3.6)	414	(2.5)	538	(2.1)	586	(2.4)	614	(2.5)	124
Lithuania	310	(6.1)	343	(4.2)	401	(3.5)	525	(3.0)	579	(3.4)	607	(4.5)	125
Manitoba	334	(8.5)	375	(7.7)	438	(5.2)	563	(4.3)	615	(5.3)	645	(4.8)	125
Ireland	327	(8.1)	372	(5.9)	438	(4.1)	563	(3.0)	611	(3.6)	638	(4.5)	125
Chinese Taipei	337	(6.1)	377	(5.4)	440	(3.9)	566	(3.3)	615	(4.1)	642	(4.7)	126
Sweden	330	(5.2)	372	(4.1)	439	(3.5)	564	(3.3)	618	(3.5)	647	(4.3)	126
New Brunswick	336	(7.7)	372	(5.5)	431	(3.8)	557	(3.6)	613	(6.1)	640	(5.6)	126
Alberta	376	(8.0)	415	(6.3)	476	(5.5)	602	(5.3)	656	(7.9)	689	(8.8)	126
Azerbaijan	193	(7.1)	229	(6.6)	288	(5.4)	414	(4.3)	469	(4.6)	501	(5.2)	126
Slovak Republic	314	(6.5)	350	(5.2)	410	(3.9)	537	(3.1)	586	(3.7)	615	(4.0)	126
Iceland	331	(5.5)	371	(4.1)	439	(2.8)	566	(1.7)	616	(3.4)	645	(4.2)	127
Liechtenstein	354	(13.2)	391	(8.0)	446	(7.3)	572	(6.5)	608	(7.7)	631	(11.2)	127
Greece	303	(11.3)	344	(9.2)	412	(6.1)	539	(2.9)	588	(2.7)	615	(3.2)	127
Colombia	252	(8.1)	286	(6.7)	346	(5.4)	474	(4.1)	530	(3.9)	561	(4.7)	127
Hungary	326	(9.5)	363	(7.2)	427	(4.6)	554	(3.5)	600	(4.0)	625	(4.4)	127
Tunisia	234	(4.8)	271	(4.3)	330	(3.4)	457	(4.0)	511	(6.1)	543	(7.5)	127
Poland	333	(6.7)	372	(4.0)	434	(3.6)	562	(3.2)	614	(3.8)	645	(3.4)	128
Singapore	373	(3.1)	410	(3.2)	477	(2.0)	605	(1.9)	656	(2.3)	684	(3.3)	128
Serbia	275	(5.2)	313	(4.5)	375	(4.3)	503	(3.4)	555	(3.5)	585	(5.2)	128
Prince Edward Island	322	(8.1)	362	(5.9)	428	(4.6)	557	(3.7)	610	(3.8)	639	(5.9)	129
Switzerland	342	(4.8)	378	(4.3)	443	(3.2)	572	(3.3)	622	(3.9)	650	(4.2)	129
Japan	339	(10.3)	388	(7.1)	457	(4.5)	587	(3.1)	636	(4.2)	665	(5.0)	129
Czech Republic	308	(8.0)	350	(6.4)	412	(4.7)	543	(3.9)	597	(3.9)	627	(4.4)	130
Brazil	253	(3.6)	287	(2.9)	342	(2.9)	473	(4.1)	536	(4.6)	572	(5.6)	131
Russian Federation	288	(7.2)	327	(6.0)	387	(4.4)	519	(4.0)	577	(4.7)	612	(5.8)	132
Romania	261	(7.2)	298	(7.1)	360	(6.1)	492	(5.1)	544	(4.6)	573	(6.1)	132
United States	344	(5.2)	379	(4.2)	438	(4.1)	570	(4.1)	624	(4.2)	654	(4.1)	133
Australia	352	(3.5)	394	(3.5)	461	(2.5)	594	(2.7)	647	(3.4)	677	(4.0)	133
Netherlands	364	(5.1)	395	(5.5)	449	(6.4)	582	(5.4)	632	(4.9)	659	(5.5)	133
United Kingdom	339	(3.7)	379	(3.0)	440	(2.9)	574	(3.1)	630	(3.8)	663	(5.0)	134
Montenegro	230	(4.2)	270	(4.1)	333	(3.0)	468	(2.6)	522	(3.5)	553	(4.4)	135
France	311	(9.7)	360	(7.3)	435	(5.2)	572	(3.8)	621	(4.0)	649	(5.0)	137
Germany	319	(6.2)	361	(4.7)	432	(4.5)	570	(3.3)	618	(2.6)	643	(3.2)	138
Italy	299	(4.2)	342	(3.3)	410	(2.1)	550	(1.7)	601	(1.9)	630	(2.0)	139
Luxembourg	289	(4.1)	334	(3.5)	405	(2.7)	546	(2.0)	597	(2.2)	626	(2.3)	140
Panama	189	(10.1)	227	(9.1)	287	(7.2)	429	(8.0)	500	(10.1)	541	(10.0)	142
Uruguay	244	(6.6)	284	(4.5)	351	(3.3)	494	(3.4)	553	(4.3)	587	(5.0)	142
New Zealand	354	(5.6)	394	(4.1)	462	(3.5)	607	(3.0)	662	(3.2)	690	(3.7)	145
Peru	184	(4.5)	220	(4.3)	283	(4.6)	428	(5.6)	490	(7.1)	528	(8.3)	145
Belgium	321	(6.9)	368	(4.2)	443	(3.6)	588	(2.4)	637	(2.7)	663	(3.2)	146
Kyrgyzstan	113	(6.1)	154	(5.5)	218	(4.4)	364	(4.3)	434	(6.2)	479	(7.0)	146
Albania	178	(7.2)	223	(6.8)	296	(5.5)	444	(5.2)	501	(5.7)	534	(5.5)	148
Jordan	185	(7.4)	237	(6.7)	316	(5.0)	465	(4.1)	528	(5.3)	562	(6.0)	149
Austria	285	(7.5)	326	(8.2)	400	(5.9)	552	(3.0)	602	(2.9)	629	(3.8)	151
Kazakhstan	185	(5.1)	227	(4.3)	295	(4.6)	448	(4.7)	520	(6.0)	559	(6.7)	153
Argentina	194	(9.5)	240	(7.9)	316	(5.3)	472	(6.5)	538	(7.0)	574	(7.3)	155
Trinidad and Tobago	219	(4.8)	265	(4.3)	341	(3.2)	498	(2.4)	561	(2.6)	597	(4.1)	157
Dubai (UAE)	270	(2.9)	311	(2.4)	383	(1.9)	541	(2.5)	602	(2.9)	634	(3.5)	158
Israel	255	(9.9)	305	(8.0)	388	(5.7)	553	(3.8)	615	(4.1)	649	(4.5)	165
Qatar	171	(3.4)	208	(1.9)	273	(1.5)	443	(2.1)	532	(2.3)	581	(2.5)	170
Bulgaria	204	(9.2)	255	(10.2)	339	(10.4)	511	(6.6)	573	(6.6)	609	(6.8)	172

Note: Countries, economies and provinces in ascending order by the difference in score points between the 75th and 25th percentiles.

Table B.1.13

Percent of students at each level for countries, provinces and economies:
Combined reading

Country, economy and province	Proficiency levels															
	Below Level 1b (less than 262.04 score points)		Level 1b (from 262.04 to less than 334.75 score points)		Level 1a (from 334.75 to less than 407.47 score points)		Level 2 (from 407.47 to less than 480.18 score points)		Level 3 (from 480.18 to less than 552.89 score points)		Level 4 (from 552.89 to less than 625.61 score points)		Level 5 (from 625.61 to 698.32 score points)		Level 6 (above 698.32 score points)	
	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
Shanghai-China	0.1	(0.0)	0.6	(0.1)	3.4	(0.5)	13.3	(0.9)	28.5	(1.2)	34.7	(1.0)	17.0	(1.0)	2.4	(0.5)
Korea	0.2	(0.2)	0.9	(0.3)	4.7	(0.6)	15.4	(1.0)	33.0	(1.2)	32.9	(1.4)	11.9	(1.0)	1.1	(0.2)
Finland	0.2	(0.1)	1.5	(0.2)	6.4	(0.4)	16.7	(0.6)	30.1	(0.9)	30.6	(0.9)	12.9	(0.7)	1.6	(0.2)
Hong Kong-China	0.2	(0.1)	1.5	(0.3)	6.6	(0.6)	16.1	(0.8)	31.4	(0.9)	31.8	(0.9)	11.2	(0.7)	1.2	(0.3)
Ontario	0.3	(0.2)	1.6	(0.3)	6.6	(0.6)	19.6	(1.1)	30.1	(1.3)	27.7	(1.2)	12.3	(0.9)	1.9	(0.4)
Alberta	0.3	(0.2)	1.7	(0.6)	8.1	(1.1)	19.0	(1.3)	27.5	(1.2)	27.3	(1.4)	12.6	(1.2)	3.5	(0.9)
Canada	0.4	(0.1)	2.0	(0.2)	7.9	(0.3)	20.2	(0.6)	30.0	(0.7)	26.8	(0.6)	11.0	(0.4)	1.8	(0.2)
Quebec	0.4	(0.1)	1.9	(0.4)	8.1	(0.8)	19.8	(1.1)	31.2	(1.3)	27.9	(1.1)	9.6	(0.8)	1.2	(0.3)
British Columbia	0.4	(0.2)	2.2	(0.5)	8.2	(0.9)	19.7	(1.2)	29.8	(1.3)	26.4	(1.2)	11.4	(1.1)	1.9	(0.5)
Nova Scotia	0.6	(0.3)	2.2	(0.5)	8.3	(1.0)	22.3	(1.4)	31.9	(1.5)	24.5	(1.5)	8.7	(0.8)	1.5	(0.4)
Singapore	0.4	(0.1)	2.7	(0.3)	9.3	(0.5)	18.5	(0.6)	27.6	(0.8)	25.7	(0.7)	13.1	(0.5)	2.6	(0.3)
Estonia	0.3	(0.1)	2.4	(0.4)	10.6	(0.9)	25.6	(1.3)	33.8	(1.0)	21.2	(0.8)	5.4	(0.5)	0.7	(0.2)
Japan	1.3	(0.4)	3.4	(0.5)	8.9	(0.7)	18.0	(0.8)	28.0	(0.9)	27.0	(1.0)	11.5	(0.7)	1.9	(0.4)
Newfoundland and Labrador	0.4	(0.3)	2.6	(0.7)	10.8	(1.5)	24.5	(2.1)	30.7	(2.0)	22.6	(1.9)	7.4	(1.1)	1.1	(0.6)
Australia	1.0	(0.1)	3.3	(0.3)	10.0	(0.4)	20.4	(0.6)	28.5	(0.7)	24.1	(0.7)	10.7	(0.5)	2.1	(0.3)
New Zealand	0.9	(0.2)	3.2	(0.4)	10.2	(0.6)	19.3	(0.8)	25.8	(0.8)	24.8	(0.8)	12.9	(0.8)	2.9	(0.4)
Netherlands	0.1	(0.1)	1.8	(0.3)	12.5	(1.4)	24.7	(1.5)	27.6	(1.2)	23.5	(1.7)	9.1	(1.0)	0.8	(0.2)
Macao-China	0.3	(0.1)	2.6	(0.3)	12.0	(0.4)	30.6	(0.6)	34.8	(0.7)	16.9	(0.5)	2.8	(0.3)	0.1	(0.1)
Poland	0.6	(0.2)	3.1	(0.4)	11.3	(0.7)	24.5	(1.1)	31.0	(1.0)	22.3	(1.0)	6.5	(0.6)	0.7	(0.2)
Norway	0.5	(0.1)	3.4	(0.4)	11.0	(0.7)	23.6	(0.8)	30.9	(0.9)	22.1	(1.2)	7.6	(0.9)	0.8	(0.2)
Denmark	0.4	(0.1)	3.1	(0.3)	11.7	(0.7)	26.0	(0.9)	33.1	(1.2)	20.9	(1.1)	4.4	(0.5)	0.3	(0.1)
Saskatchewan	0.8	(0.3)	3.2	(0.6)	11.5	(1.1)	22.9	(1.5)	30.1	(1.6)	22.8	(1.8)	7.8	(1.1)	0.9	(0.4)
Chinese Taipei	0.7	(0.2)	3.5	(0.4)	11.4	(0.6)	24.6	(0.8)	33.5	(1.1)	21.0	(1.0)	4.8	(0.8)	0.4	(0.2)
Liechtenstein	0.0	(0.0)	2.8	(1.2)	12.8	(1.8)	24.0	(2.9)	31.1	(2.8)	24.6	(2.3)	4.2	(1.4)	0.0	(0.0)
New Brunswick	0.4	(0.2)	3.5	(0.5)	12.3	(0.9)	25.5	(1.3)	29.8	(1.6)	20.8	(1.3)	6.6	(0.8)	1.1	(0.5)
Iceland	1.1	(0.2)	4.2	(0.4)	11.5	(0.7)	22.2	(0.8)	30.6	(0.9)	21.9	(0.8)	7.5	(0.6)	1.0	(0.2)
Switzerland	0.7	(0.2)	4.1	(0.4)	12.1	(0.6)	22.7	(0.7)	29.7	(0.8)	22.6	(0.8)	7.4	(0.7)	0.7	(0.2)
Ireland	1.5	(0.4)	3.9	(0.5)	11.8	(0.7)	23.3	(1.0)	30.6	(0.9)	21.9	(0.9)	6.3	(0.5)	0.7	(0.2)
Sweden	1.5	(0.3)	4.3	(0.4)	11.7	(0.7)	23.5	(1.0)	29.8	(1.0)	20.3	(0.9)	7.7	(0.6)	1.3	(0.3)
Hungary	0.6	(0.2)	4.7	(0.8)	12.3	(1.0)	23.8	(1.2)	31.0	(1.3)	21.6	(1.1)	5.8	(0.7)	0.3	(0.1)
United States	0.6	(0.1)	4.0	(0.5)	13.1	(0.8)	24.4	(0.9)	27.6	(0.8)	20.6	(0.9)	8.4	(0.8)	1.5	(0.4)
Portugal	0.6	(0.1)	4.0	(0.4)	13.0	(1.0)	26.4	(1.1)	31.6	(1.1)	19.6	(0.9)	4.6	(0.5)	0.2	(0.1)
Manitoba	0.9	(0.3)	4.1	(0.8)	12.6	(1.2)	25.7	(1.6)	27.4	(1.8)	21.2	(1.4)	7.1	(0.8)	1.0	(0.3)
Latvia	0.4	(0.2)	3.3	(0.6)	13.9	(1.0)	28.8	(1.5)	33.5	(1.2)	17.2	(1.0)	2.9	(0.4)	0.0	(0.0)
Belgium	1.2	(0.3)	4.7	(0.5)	11.9	(0.6)	20.3	(0.7)	25.8	(0.9)	24.9	(0.8)	10.1	(0.5)	1.1	(0.2)
United Kingdom	1.0	(0.2)	4.1	(0.4)	13.4	(0.6)	24.9	(0.7)	28.8	(0.8)	19.8	(0.8)	7.0	(0.5)	1.0	(0.2)
Germany	0.8	(0.2)	4.4	(0.5)	13.3	(0.8)	22.2	(0.9)	28.8	(1.1)	22.8	(0.9)	7.0	(0.6)	0.6	(0.2)
Spain	1.2	(0.2)	4.7	(0.4)	13.6	(0.6)	26.8	(0.8)	32.6	(1.0)	17.7	(0.7)	3.2	(0.3)	0.2	(0.1)
France	2.3	(0.5)	5.6	(0.5)	11.8	(0.8)	21.1	(1.0)	27.2	(1.0)	22.4	(1.1)	8.5	(0.8)	1.1	(0.3)
Italy	1.4	(0.2)	5.2	(0.3)	14.4	(0.5)	24.0	(0.5)	28.9	(0.6)	20.2	(0.5)	5.4	(0.3)	0.4	(0.1)
Prince Edward Island	1.2	(0.4)	5.6	(0.8)	14.4	(1.1)	25.3	(1.4)	27.9	(1.4)	18.7	(1.2)	6.0	(0.6)	0.9	(0.4)
Greece	1.4	(0.4)	5.6	(0.9)	14.3	(1.1)	25.6	(1.1)	29.3	(1.2)	18.2	(1.0)	5.0	(0.5)	0.6	(0.2)
Slovenia	0.8	(0.1)	5.2	(0.3)	15.2	(0.5)	25.6	(0.7)	29.2	(0.9)	19.3	(0.8)	4.3	(0.5)	0.3	(0.1)
Slovak Republic	0.8	(0.3)	5.6	(0.6)	15.9	(0.8)	28.1	(1.0)	28.5	(1.1)	16.7	(0.8)	4.2	(0.5)	0.3	(0.1)
Croatia	1.0	(0.2)	5.0	(0.5)	16.5	(1.0)	27.4	(1.0)	30.6	(1.2)	16.4	(1.0)	3.1	(0.4)	0.1	(0.1)
Czech Republic	0.8	(0.3)	5.5	(0.6)	16.8	(1.1)	27.4	(1.0)	27.0	(1.0)	17.4	(1.0)	4.7	(0.5)	0.4	(0.1)
Lithuania	0.9	(0.3)	5.5	(0.6)	17.9	(0.9)	30.0	(1.0)	28.6	(0.9)	14.1	(0.8)	2.8	(0.4)	0.2	(0.1)
Turkey	0.8	(0.2)	5.6	(0.6)	18.1	(1.0)	32.2	(1.2)	29.1	(1.1)	12.4	(1.1)	1.8	(0.4)	0.0	(0.0)
Luxembourg	3.1	(0.3)	7.3	(0.5)	15.7	(0.6)	24.0	(0.7)	27.0	(0.7)	17.3	(0.6)	5.2	(0.4)	0.5	(0.2)
Israel	3.9	(0.7)	8.0	(0.7)	14.7	(0.6)	22.5	(1.0)	25.5	(1.0)	18.1	(0.7)	6.4	(0.5)	1.0	(0.2)

Table B.1.13 (concluded)

**Percent of students at each level for countries, provinces and economies:
Combined reading**

Country, economy and province	Proficiency levels															
	Below Level 1b (less than 262.04 score points)		Level 1b (from 262.04 to less than 334.75 score points)		Level 1a (from 334.75 to less than 407.47 score points)		Level 2 (from 407.47 to less than 480.18 score points)		Level 3 (from 480.18 to less than 552.89 score points)		Level 4 (from 552.89 to less than 625.61 score points)		Level 5 (from 625.61 to 698.32 score points)		Level 6 (above 698.32 score points)	
	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
Russian Federation	1.6	(0.4)	6.8	(0.6)	19.0	(0.8)	31.6	(1.0)	26.8	(0.9)	11.1	(0.7)	2.8	(0.4)	0.3	(0.1)
Austria	1.9	(0.4)	8.1	(0.8)	17.5	(1.0)	24.1	(1.0)	26.0	(0.9)	17.4	(0.9)	4.5	(0.5)	0.4	(0.1)
Chile	1.3	(0.2)	7.3	(0.8)	22.0	(1.0)	33.2	(1.1)	25.6	(1.2)	9.3	(0.7)	1.3	(0.3)	0.0	(0.0)
Dubai (UAE)	3.7	(0.2)	9.4	(0.5)	17.9	(0.5)	25.4	(0.7)	23.5	(0.8)	14.8	(0.7)	4.8	(0.5)	0.5	(0.2)
Serbia	2.0	(0.4)	8.7	(0.7)	22.1	(0.9)	33.2	(1.0)	25.3	(1.0)	7.9	(0.6)	0.8	(0.2)	0.0	(0.0)
Mexico	3.2	(0.3)	11.4	(0.5)	25.5	(0.6)	33.0	(0.6)	21.2	(0.6)	5.3	(0.4)	0.4	(0.1)	0.0	(0.0)
Romania	4.1	(0.7)	12.7	(1.1)	23.6	(1.3)	31.6	(1.3)	21.2	(1.3)	6.1	(0.7)	0.7	(0.2)	0.0	(0.0)
Bulgaria	8.1	(1.1)	12.8	(1.4)	20.1	(1.4)	23.4	(1.2)	21.8	(1.4)	11.0	(1.1)	2.6	(0.5)	0.2	(0.1)
Uruguay	5.5	(0.6)	12.5	(0.7)	23.9	(0.7)	28.0	(0.7)	20.3	(0.7)	8.1	(0.5)	1.7	(0.3)	0.1	(0.1)
Thailand	1.2	(0.3)	9.9	(0.8)	31.7	(1.1)	36.8	(1.2)	16.7	(0.8)	3.3	(0.5)	0.3	(0.2)	0.0	(0.0)
Trinidad and Tobago	9.6	(0.5)	14.2	(0.6)	21.0	(0.8)	25.0	(0.9)	19.0	(0.9)	8.9	(0.5)	2.1	(0.3)	0.2	(0.1)
Colombia	4.2	(0.7)	13.9	(1.0)	29.0	(1.2)	30.6	(1.1)	17.1	(1.0)	4.6	(0.5)	0.5	(0.2)	0.0	(0.0)
Jordan	6.9	(0.6)	13.5	(0.8)	27.6	(1.0)	31.8	(1.0)	16.5	(1.0)	3.5	(0.4)	0.2	(0.1)	0.0	(0.0)
Brazil	5.0	(0.4)	16.0	(0.7)	28.6	(0.8)	27.1	(0.8)	15.9	(0.9)	6.1	(0.5)	1.2	(0.2)	0.1	(0.1)
Montenegro	5.9	(0.5)	15.8	(0.8)	27.8	(0.8)	28.0	(0.9)	16.8	(0.9)	5.0	(0.5)	0.6	(0.2)	0.0	(0.0)
Tunisia	5.5	(0.5)	15.0	(0.8)	29.6	(1.1)	31.5	(1.2)	15.1	(1.0)	3.1	(0.5)	0.2	(0.1)	0.0	(0.0)
Argentina	10.7	(1.1)	15.8	(1.3)	25.1	(1.3)	25.4	(1.2)	16.0	(1.0)	6.0	(0.8)	0.9	(0.2)	0.1	(0.1)
Indonesia	1.7	(0.4)	14.1	(1.3)	37.6	(1.6)	34.3	(1.4)	11.2	(1.4)	1.0	(0.3)	0.0	(0.0)	0.0	(0.0)
Albania	11.3	(0.9)	18.7	(1.3)	26.7	(1.2)	25.6	(1.3)	14.4	(1.2)	3.1	(0.5)	0.2	(0.1)	0.0	(0.0)
Kazakhstan	7.5	(0.7)	20.4	(1.0)	30.8	(0.9)	24.1	(0.9)	13.1	(0.9)	3.7	(0.5)	0.4	(0.1)	0.0	(0.0)
Qatar	17.8	(0.3)	22.4	(0.5)	23.2	(0.6)	18.3	(0.4)	11.1	(0.5)	5.4	(0.3)	1.5	(0.2)	0.2	(0.1)
Peru	14.1	(0.9)	22.0	(1.0)	28.7	(1.1)	22.1	(0.9)	10.1	(0.9)	2.6	(0.5)	0.5	(0.2)	0.0	(0.0)
Panama	13.2	(1.8)	23.1	(1.8)	28.9	(1.8)	20.7	(1.4)	10.1	(1.4)	3.4	(0.7)	0.5	(0.2)	0.0	(0.0)
Azerbaijan	9.7	(1.1)	26.1	(1.1)	37.0	(1.2)	21.5	(1.2)	5.3	(0.8)	0.5	(0.2)	0.0	(0.0)	0.0	(0.0)
Kyrgyzstan	29.8	(1.3)	29.7	(0.9)	23.8	(0.9)	11.5	(0.8)	4.2	(0.6)	1.0	(0.3)	0.1	(0.1)	0.0	(0.0)

0 true zero or a value rounded to zero

S.E. Standard error

Table B.1.14

Percent of students at each level for countries, provinces and economies:
Accessing and retrieving

Country, economy and province	Proficiency levels															
	Below Level 1b (less than 262.04 score points)		Level 1b (from 262.04 to less than 334.75 score points)		Level 1a (from 334.75 to less than 407.47 score points)		Level 2 (from 407.47 to less than 480.18 score points)		Level 3 (from 480.18 to less than 552.89 score points)		Level 4 (from 552.89 to less than 625.61 score points)		Level 5 (from 625.61 to 698.32 score points)		Level 6 (above 698.32 score points)	
	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
Korea	0.3	(0.1)	1.2	(0.3)	5.6	(0.7)	15.9	(1.0)	30.1	(1.0)	30.3	(1.2)	13.9	(1.1)	2.7	(0.4)
Shanghai-China	0.5	(0.1)	1.5	(0.3)	5.7	(0.6)	14.8	(0.8)	26.1	(0.9)	29.5	(1.1)	17.3	(0.9)	4.6	(0.5)
Ontario	0.7	(0.2)	2.1	(0.4)	7.7	(0.7)	20.2	(1.2)	30.6	(1.4)	26.4	(1.1)	10.8	(0.8)	1.6	(0.4)
Hong Kong-China	0.8	(0.2)	2.3	(0.3)	7.5	(0.6)	17.5	(0.7)	28.3	(0.9)	29.5	(0.9)	12.2	(0.7)	2.1	(0.4)
Finland	0.8	(0.2)	2.5	(0.3)	7.8	(0.5)	17.2	(1.0)	27.0	(0.9)	27.4	(0.8)	14.2	(0.7)	3.1	(0.4)
Netherlands	0.2	(0.1)	2.1	(0.4)	10.0	(1.0)	21.4	(1.7)	27.4	(1.3)	26.7	(1.5)	10.8	(1.2)	1.4	(0.3)
Canada	0.9	(0.1)	2.7	(0.2)	9.1	(0.4)	20.7	(0.6)	29.8	(0.6)	24.9	(0.5)	10.1	(0.4)	1.8	(0.2)
Quebec	0.9	(0.3)	2.6	(0.5)	9.4	(0.9)	20.5	(1.0)	30.7	(1.5)	24.8	(1.1)	9.6	(1.0)	1.5	(0.3)
British Columbia	1.1	(0.3)	2.9	(0.6)	9.0	(1.1)	21.4	(1.3)	29.3	(1.3)	24.1	(1.4)	10.3	(0.9)	2.0	(0.4)
Japan	1.9	(0.4)	3.2	(0.5)	8.0	(0.7)	16.2	(0.7)	25.4	(1.0)	27.0	(1.0)	14.1	(0.7)	4.2	(0.5)
Singapore	0.9	(0.2)	3.3	(0.4)	9.0	(0.6)	17.7	(1.0)	25.8	(0.7)	26.8	(0.9)	13.5	(0.6)	3.0	(0.3)
Alberta	0.9	(0.3)	3.0	(0.5)	9.3	(1.1)	19.1	(1.2)	27.5	(1.3)	25.2	(1.8)	11.5	(1.0)	3.3	(0.6)
Liechtenstein	0.5	(0.5)	3.9	(1.1)	9.8	(1.9)	23.0	(2.9)	28.5	(3.0)	25.3	(2.5)	7.8	(1.5)	1.3	(0.7)
Australia	1.3	(0.1)	3.5	(0.3)	9.7	(0.5)	19.8	(0.6)	29.0	(0.6)	24.5	(0.6)	10.2	(0.6)	2.0	(0.3)
New Zealand	1.4	(0.2)	3.4	(0.4)	10.0	(0.6)	18.4	(0.7)	26.0	(0.8)	24.6	(0.8)	13.3	(0.7)	3.0	(0.3)
Nova Scotia	1.2	(0.4)	3.0	(0.6)	10.4	(1.1)	22.5	(1.3)	30.7	(1.4)	22.3	(1.4)	8.7	(1.2)	1.1	(0.4)
Norway	1.0	(0.2)	3.5	(0.4)	10.2	(0.6)	20.5	(0.8)	29.6	(0.8)	23.4	(0.9)	9.9	(0.6)	1.9	(0.3)
Estonia	0.6	(0.2)	3.3	(0.5)	11.4	(0.8)	23.5	(1.0)	31.0	(1.2)	21.7	(0.9)	7.5	(0.7)	0.9	(0.3)
Denmark	1.0	(0.2)	3.7	(0.4)	11.6	(0.6)	22.4	(0.7)	30.4	(1.0)	22.6	(1.2)	7.3	(0.6)	1.1	(0.3)
Switzerland	1.0	(0.2)	4.3	(0.4)	11.0	(0.6)	21.1	(0.7)	29.1	(0.8)	23.8	(0.7)	8.6	(0.9)	1.1	(0.3)
Newfoundland and Labrador	0.8	(0.4)	3.9	(0.8)	11.6	(1.6)	24.1	(1.8)	29.9	(1.8)	20.8	(1.6)	7.6	(0.9)	1.3	(0.6)
Sweden	1.8	(0.3)	4.4	(0.5)	10.3	(0.7)	21.5	(0.8)	28.6	(0.8)	22.3	(1.1)	9.2	(0.9)	1.9	(0.3)
Ireland	2.2	(0.5)	3.7	(0.4)	10.6	(0.7)	22.6	(0.9)	30.2	(1.0)	22.6	(1.1)	7.2	(0.8)	0.9	(0.2)
Macao-China	0.8	(0.1)	3.7	(0.3)	12.1	(0.5)	26.3	(0.6)	31.7	(0.8)	19.6	(0.5)	5.3	(0.3)	0.5	(0.1)
Belgium	1.7	(0.3)	4.3	(0.4)	10.9	(0.6)	18.6	(0.6)	25.5	(0.8)	24.7	(0.7)	11.9	(0.6)	2.5	(0.3)
Saskatchewan	1.8	(0.5)	4.0	(0.7)	11.3	(1.2)	23.2	(1.7)	28.2	(1.7)	21.2	(1.3)	8.3	(1.1)	2.0	(0.5)
Hungary	2.1	(0.5)	4.7	(0.6)	10.9	(0.8)	21.0	(0.9)	27.6	(1.2)	23.6	(1.1)	9.0	(0.8)	1.2	(0.3)
Iceland	2.0	(0.2)	4.5	(0.3)	11.2	(0.7)	19.6	(0.8)	28.1	(0.9)	22.1	(1.1)	10.3	(0.8)	2.3	(0.3)
Poland	1.5	(0.3)	4.3	(0.4)	11.9	(0.7)	22.7	(0.8)	28.6	(0.8)	21.0	(0.8)	8.3	(0.5)	1.8	(0.3)
Portugal	1.2	(0.2)	4.6	(0.5)	12.8	(0.8)	25.7	(1.2)	30.5	(1.3)	19.3	(1.1)	5.3	(0.6)	0.5	(0.2)
Manitoba	1.8	(0.4)	4.5	(0.7)	13.3	(1.1)	23.0	(1.3)	26.9	(1.4)	20.8	(1.3)	8.4	(0.9)	1.5	(0.4)
Chinese Taipei	2.0	(0.3)	5.0	(0.5)	12.4	(0.6)	22.2	(0.8)	27.3	(1.0)	21.2	(0.8)	8.3	(0.7)	1.6	(0.3)
Germany	1.5	(0.3)	5.4	(0.6)	12.8	(0.8)	20.6	(1.0)	26.1	(1.0)	22.7	(1.0)	9.4	(0.8)	1.6	(0.3)
United States	1.2	(0.3)	4.9	(0.5)	13.8	(0.8)	24.8	(0.8)	27.5	(1.0)	19.2	(0.9)	7.2	(0.7)	1.3	(0.3)
Croatia	1.7	(0.3)	5.1	(0.5)	13.2	(0.8)	23.6	(1.0)	27.8	(1.3)	20.6	(1.0)	7.1	(0.6)	1.0	(0.2)
Slovenia	1.8	(0.1)	5.5	(0.4)	12.8	(0.7)	23.3	(0.7)	28.6	(0.9)	21.3	(0.8)	6.2	(0.5)	0.4	(0.2)
United Kingdom	1.7	(0.3)	4.8	(0.4)	13.6	(0.6)	23.4	(0.9)	28.3	(0.9)	19.8	(0.9)	7.1	(0.6)	1.2	(0.2)
New Brunswick	1.2	(0.3)	4.4	(0.6)	14.6	(1.5)	26.1	(1.8)	27.5	(1.6)	19.4	(1.5)	6.0	(0.8)	0.8	(0.4)
Slovak Republic	1.8	(0.4)	5.6	(0.6)	13.1	(0.7)	23.2	(1.0)	28.0	(1.2)	19.6	(0.9)	7.5	(0.6)	1.3	(0.3)
France	3.0	(0.6)	5.5	(0.6)	12.5	(0.9)	21.8	(1.0)	26.3	(1.2)	20.9	(1.2)	8.5	(0.9)	1.4	(0.3)
Spain	2.5	(0.3)	5.5	(0.4)	13.7	(0.6)	25.4	(0.7)	29.2	(0.7)	17.7	(0.6)	5.2	(0.4)	0.7	(0.1)
Latvia	1.6	(0.3)	5.2	(0.6)	15.4	(1.0)	27.0	(1.0)	30.2	(1.2)	16.7	(1.1)	3.5	(0.5)	0.3	(0.1)
Italy	2.8	(0.3)	6.4	(0.3)	13.9	(0.4)	22.9	(0.5)	27.6	(0.5)	19.7	(0.5)	6.1	(0.3)	0.7	(0.1)
Prince Edward Island	1.9	(0.4)	6.4	(0.8)	15.3	(1.2)	23.8	(1.6)	28.0	(1.6)	17.7	(1.2)	5.9	(0.8)	1.0	(0.4)
Czech Republic	1.6	(0.4)	6.3	(0.7)	15.7	(0.8)	25.8	(0.9)	26.3	(0.8)	17.9	(1.0)	5.6	(0.5)	0.7	(0.2)
Lithuania	2.1	(0.3)	6.7	(0.6)	16.0	(0.8)	25.1	(0.9)	26.7	(0.9)	16.9	(0.8)	5.6	(0.5)	0.9	(0.2)
Turkey	2.3	(0.5)	6.4	(0.6)	16.6	(0.9)	28.8	(1.1)	27.3	(1.0)	14.9	(1.1)	3.4	(0.6)	0.3	(0.2)

Table B.1.14 (concluded)

**Percent of students at each level for countries, provinces and economies:
Accessing and retrieving**

Country, economy and province	Proficiency levels															
	Below Level 1b (less than 262.04 score points)		Level 1b (from 262.04 to less than 334.75 score points)		Level 1a (from 334.75 to less than 407.47 score points)		Level 2 (from 407.47 to less than 480.18 score points)		Level 3 (from 480.18 to less than 552.89 score points)		Level 4 (from 552.89 to less than 625.61 score points)		Level 5 (from 625.61 to 698.32 score points)		Level 6 (above 698.32 score points)	
	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
Russian Federation	2.6	(0.4)	6.8	(0.7)	16.9	(1.0)	27.7	(0.9)	25.8	(0.8)	14.0	(0.8)	5.0	(0.5)	1.1	(0.3)
Austria	2.7	(0.4)	8.2	(0.7)	15.7	(1.1)	22.5	(1.2)	24.5	(1.0)	18.1	(0.9)	7.2	(0.7)	1.0	(0.3)
Greece	3.3	(0.7)	7.4	(0.8)	16.1	(0.8)	25.3	(0.8)	27.0	(1.1)	15.6	(0.9)	4.6	(0.4)	0.6	(0.1)
Luxembourg	4.7	(0.4)	7.6	(0.4)	15.6	(0.6)	22.4	(0.9)	24.9	(0.8)	17.1	(0.7)	6.7	(0.4)	1.1	(0.2)
Israel	6.2	(0.9)	8.8	(0.6)	15.2	(0.8)	21.8	(0.9)	24.3	(0.8)	16.3	(0.7)	6.2	(0.5)	1.1	(0.2)
Serbia	3.2	(0.5)	8.5	(0.6)	19.3	(0.9)	29.9	(1.2)	26.0	(0.9)	11.0	(0.9)	2.1	(0.3)	0.1	(0.1)
Dubai (UAE)	5.3	(0.4)	9.8	(0.8)	17.1	(0.5)	23.1	(0.8)	22.3	(0.8)	15.5	(0.6)	6.0	(0.4)	0.8	(0.2)
Chile	2.7	(0.5)	8.6	(0.8)	22.2	(1.2)	31.6	(1.0)	23.5	(1.0)	9.3	(0.7)	1.9	(0.3)	0.1	(0.1)
Mexico	4.3	(0.4)	10.3	(0.4)	22.8	(0.6)	30.7	(0.6)	23.0	(0.6)	7.6	(0.4)	1.2	(0.1)	0.1	(0.0)
Thailand	2.6	(0.5)	10.2	(0.9)	26.1	(1.1)	33.0	(1.1)	20.5	(1.1)	6.5	(0.7)	1.1	(0.3)	0.1	(0.1)
Bulgaria	12.6	(1.5)	11.5	(0.9)	16.7	(1.1)	20.1	(1.2)	20.0	(1.3)	12.9	(1.2)	5.0	(0.7)	1.2	(0.3)
Romania	6.7	(0.9)	12.3	(1.1)	22.5	(1.1)	28.3	(1.1)	21.1	(1.2)	7.8	(0.8)	1.1	(0.3)	0.1	(0.1)
Uruguay	7.6	(0.6)	12.8	(0.8)	22.2	(1.0)	25.7	(0.8)	19.9	(0.8)	9.2	(0.6)	2.4	(0.3)	0.3	(0.1)
Trinidad and Tobago	12.1	(0.6)	13.7	(0.7)	19.7	(0.9)	23.1	(0.7)	18.8	(0.6)	9.3	(0.5)	2.8	(0.3)	0.5	(0.1)
Montenegro	11.2	(0.7)	15.7	(1.0)	21.7	(0.7)	23.8	(0.7)	16.8	(0.7)	8.0	(0.5)	2.4	(0.3)	0.4	(0.2)
Brazil	8.7	(0.6)	16.5	(0.6)	25.4	(0.9)	24.9	(0.8)	15.4	(0.7)	6.9	(0.6)	1.9	(0.3)	0.3	(0.1)
Colombia	6.3	(0.8)	15.5	(1.0)	29.3	(1.1)	28.4	(1.0)	15.6	(0.9)	4.3	(0.5)	0.6	(0.2)	0.1	(0.1)
Argentina	12.9	(1.1)	16.0	(1.0)	24.0	(1.3)	23.8	(1.2)	15.6	(1.2)	6.4	(0.8)	1.2	(0.3)	0.1	(0.1)
Jordan	11.7	(0.8)	15.2	(0.8)	26.1	(1.0)	25.4	(0.8)	15.2	(0.8)	5.2	(0.5)	1.0	(0.2)	0.2	(0.1)
Indonesia	6.8	(0.9)	17.0	(1.2)	29.3	(1.3)	28.4	(1.1)	14.1	(1.1)	3.9	(0.7)	0.5	(0.2)	0.0	(0.0)
Kazakhstan	10.8	(0.8)	18.1	(0.9)	25.0	(0.9)	23.0	(0.9)	14.9	(0.8)	6.5	(0.7)	1.5	(0.3)	0.3	(0.1)
Tunisia	9.9	(0.7)	17.7	(1.0)	27.4	(1.0)	25.1	(1.0)	14.3	(1.0)	4.7	(0.6)	0.9	(0.2)	0.1	(0.1)
Albania	14.8	(1.2)	17.8	(1.3)	24.6	(1.1)	23.4	(1.1)	14.7	(1.2)	4.3	(0.7)	0.4	(0.2)	0.0	(0.0)
Panama	19.4	(2.2)	21.3	(1.7)	24.2	(1.5)	18.4	(1.2)	10.6	(1.3)	4.7	(0.9)	1.1	(0.3)	0.2	(0.1)
Peru	16.8	(1.1)	21.7	(1.2)	26.8	(1.1)	21.4	(1.1)	9.8	(0.9)	2.7	(0.5)	0.6	(0.2)	0.1	(0.1)
Qatar	26.0	(0.5)	19.8	(0.5)	19.9	(0.6)	16.1	(0.6)	10.2	(0.4)	5.5	(0.2)	2.0	(0.2)	0.5	(0.1)
Azerbaijan	16.9	(1.4)	22.5	(1.1)	27.6	(1.0)	20.7	(1.0)	9.3	(0.7)	2.6	(0.4)	0.4	(0.2)	0.0	(0.0)
Kyrgyzstan	38.1	(1.3)	23.7	(0.9)	19.7	(0.8)	11.4	(0.8)	5.0	(0.6)	1.7	(0.3)	0.4	(0.2)	0.1	(0.0)

0 true zero or a value rounded to zero

S.E. Standard error

Note: Countries, economies and provinces have been sorted by the total percentage of students who attained level 2 or higher.

Table B.1.15

Percent of students at each level for countries, provinces and economies:
Integrating and interpreting

Country, economy and province	Proficiency levels															
	Below Level 1b (less than 262.04 score points)		Level 1b (from 262.04 to less than 334.75 score points)		Level 1a (from 334.75 to less than 407.47 score points)		Level 2 (from 407.47 to less than 480.18 score points)		Level 3 (from 480.18 to less than 552.89 score points)		Level 4 (from 552.89 to less than 625.61 score points)		Level 5 (from 625.61 to 698.32 score points)		Level 6 (above 698.32 score points)	
	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
Shanghai-China	0.0	(0.0)	0.5	(0.2)	3.4	(0.5)	13.3	(0.8)	28.3	(1.2)	33.2	(0.9)	18.0	(0.9)	3.1	(0.4)
Korea	0.2	(0.1)	0.9	(0.4)	4.8	(0.6)	15.7	(1.1)	31.7	(1.1)	32.4	(1.3)	12.9	(1.2)	1.4	(0.2)
Finland	0.2	(0.1)	1.3	(0.2)	6.3	(0.4)	16.8	(0.7)	29.7	(0.8)	30.0	(0.9)	13.6	(0.7)	2.2	(0.3)
Hong Kong-China	0.4	(0.2)	2.0	(0.3)	7.0	(0.6)	17.8	(0.9)	30.2	(1.0)	29.3	(1.2)	11.5	(0.7)	1.8	(0.2)
Ontario	0.3	(0.2)	1.8	(0.4)	8.2	(0.7)	20.2	(1.2)	29.3	(1.2)	25.3	(1.0)	12.6	(0.9)	2.4	(0.4)
Alberta	0.2	(0.1)	2.0	(0.5)	8.6	(1.1)	19.9	(1.4)	26.3	(1.2)	25.9	(1.5)	13.0	(1.1)	4.1	(0.9)
Nova Scotia	0.6	(0.3)	2.3	(0.5)	9.0	(0.8)	22.6	(1.7)	31.1	(2.0)	24.1	(1.4)	9.0	(1.2)	1.5	(0.4)
Quebec	0.5	(0.1)	2.4	(0.5)	9.0	(0.9)	20.1	(1.1)	29.2	(1.0)	26.2	(1.1)	10.8	(0.8)	1.9	(0.4)
Canada	0.4	(0.1)	2.3	(0.2)	9.1	(0.4)	20.7	(0.6)	28.8	(0.6)	25.0	(0.5)	11.4	(0.4)	2.3	(0.2)
British Columbia	0.3	(0.2)	2.6	(0.5)	9.2	(1.0)	20.2	(1.3)	28.7	(1.3)	25.1	(1.3)	11.7	(1.1)	2.2	(0.6)
Singapore	0.6	(0.1)	3.1	(0.3)	9.9	(0.5)	19.2	(0.7)	26.2	(0.7)	24.8	(0.9)	12.9	(0.6)	3.5	(0.3)
Japan	1.2	(0.3)	3.4	(0.5)	9.3	(0.7)	18.9	(0.8)	27.1	(0.9)	26.2	(1.1)	11.3	(0.7)	2.6	(0.5)
Estonia	0.2	(0.1)	2.4	(0.4)	11.6	(0.8)	25.4	(1.1)	33.2	(1.1)	20.9	(0.9)	5.6	(0.5)	0.7	(0.2)
Macao-China	0.2	(0.1)	2.5	(0.2)	12.4	(0.5)	30.4	(0.7)	33.7	(0.7)	17.5	(0.5)	3.3	(0.3)	0.1	(0.1)
Poland	0.5	(0.1)	3.1	(0.4)	11.5	(0.7)	24.5	(0.9)	29.9	(1.0)	22.0	(0.9)	7.5	(0.6)	1.0	(0.2)
Chinese Taipei	0.4	(0.2)	3.2	(0.4)	11.6	(0.6)	24.5	(0.9)	32.7	(1.0)	21.3	(0.9)	5.9	(0.7)	0.5	(0.2)
Newfoundland and Labrador	0.4	(0.4)	3.1	(0.6)	11.7	(1.5)	25.2	(1.5)	29.8	(1.6)	21.1	(1.4)	7.7	(0.9)	1.0	(0.5)
New Zealand	1.0	(0.3)	3.6	(0.5)	10.9	(0.6)	20.3	(0.7)	25.2	(0.8)	23.3	(0.8)	12.5	(0.8)	3.1	(0.4)
Australia	1.0	(0.1)	3.8	(0.3)	10.9	(0.5)	20.7	(0.5)	27.6	(0.7)	22.9	(0.6)	10.5	(0.5)	2.7	(0.4)
Denmark	0.5	(0.1)	3.1	(0.4)	12.3	(0.6)	26.8	(0.9)	33.0	(0.9)	19.8	(0.9)	4.4	(0.5)	0.2	(0.1)
Norway	0.6	(0.2)	3.7	(0.5)	11.9	(0.7)	23.7	(1.1)	30.0	(1.1)	20.9	(1.0)	8.2	(0.6)	1.1	(0.2)
Saskatchewan	0.7	(0.3)	3.4	(0.6)	12.5	(1.4)	23.7	(1.9)	29.2	(1.7)	21.8	(1.8)	7.5	(0.8)	1.2	(0.3)
Netherlands	0.1	(0.1)	2.7	(0.4)	14.1	(1.5)	24.4	(1.2)	26.2	(1.2)	21.7	(1.7)	9.6	(0.9)	1.3	(0.3)
Liechtenstein	0.0	(0.0)	4.4	(1.2)	12.2	(2.1)	23.5	(2.5)	30.5	(3.2)	23.2	(2.7)	5.2	(1.8)	0.8	(0.6)
Hungary	0.5	(0.2)	3.7	(0.6)	12.8	(0.9)	24.3	(1.3)	30.7	(1.2)	21.7	(1.2)	6.0	(0.7)	0.4	(0.1)
New Brunswick	0.6	(0.2)	3.2	(0.5)	13.1	(1.3)	24.7	(1.8)	29.2	(1.6)	20.4	(1.6)	7.3	(0.8)	1.4	(0.5)
Iceland	1.1	(0.2)	4.1	(0.5)	11.9	(0.8)	21.5	(0.7)	29.4	(0.9)	22.2	(0.8)	8.5	(0.6)	1.3	(0.3)
Latvia	0.4	(0.1)	2.7	(0.5)	14.2	(1.0)	29.8	(1.2)	32.7	(1.1)	17.1	(1.0)	3.0	(0.4)	0.1	(0.1)
Switzerland	0.8	(0.2)	4.3	(0.4)	12.5	(0.7)	22.4	(0.7)	28.0	(0.9)	22.7	(1.0)	8.2	(0.7)	1.3	(0.3)
Germany	0.7	(0.2)	4.2	(0.4)	12.9	(0.8)	22.4	(0.9)	27.9	(1.2)	22.7	(1.2)	8.3	(0.7)	0.9	(0.2)
Ireland	1.5	(0.4)	4.1	(0.6)	12.6	(0.8)	24.0	(0.9)	29.3	(1.1)	20.9	(0.9)	6.9	(0.6)	0.8	(0.2)
Portugal	0.5	(0.2)	3.9	(0.4)	14.4	(0.9)	27.2	(0.9)	30.6	(1.2)	18.1	(0.8)	4.8	(0.6)	0.4	(0.2)
Sweden	1.9	(0.3)	4.6	(0.6)	12.7	(0.9)	23.4	(1.0)	28.5	(1.0)	19.4	(1.0)	8.1	(0.6)	1.5	(0.3)
Belgium	1.4	(0.3)	5.1	(0.4)	12.6	(0.6)	20.5	(0.7)	24.9	(0.7)	23.3	(0.8)	10.6	(0.6)	1.5	(0.3)
Manitoba	0.8	(0.3)	4.3	(0.8)	14.3	(1.5)	26.1	(1.5)	26.3	(1.6)	19.8	(1.3)	7.4	(1.1)	1.0	(0.3)
Italy	1.1	(0.2)	4.6	(0.3)	13.9	(0.4)	24.4	(0.6)	29.2	(0.6)	20.4	(0.5)	5.9	(0.3)	0.6	(0.1)
Spain	1.1	(0.2)	4.5	(0.5)	14.0	(0.7)	27.5	(0.7)	32.2	(0.9)	17.2	(0.6)	3.3	(0.2)	0.2	(0.1)
Slovenia	0.4	(0.1)	4.5	(0.4)	15.0	(0.7)	25.2	(1.0)	29.2	(0.9)	20.0	(0.8)	5.4	(0.5)	0.4	(0.1)
United States	0.7	(0.2)	4.7	(0.5)	14.5	(0.8)	24.9	(0.8)	26.0	(0.8)	19.1	(0.9)	8.2	(0.7)	1.8	(0.4)
United Kingdom	1.0	(0.2)	4.5	(0.4)	14.6	(0.7)	25.0	(0.8)	28.1	(0.8)	18.5	(0.7)	7.1	(0.5)	1.2	(0.2)
Czech Republic	0.6	(0.2)	4.5	(0.5)	15.5	(0.9)	26.3	(1.1)	27.3	(1.1)	18.7	(1.2)	6.4	(0.6)	0.7	(0.2)
France	2.6	(0.5)	5.8	(0.6)	12.3	(0.8)	20.4	(1.0)	25.7	(1.1)	21.6	(1.0)	9.9	(0.8)	1.8	(0.3)
Greece	1.0	(0.3)	5.0	(0.7)	14.7	(1.1)	26.5	(0.9)	28.5	(1.1)	18.5	(1.1)	5.1	(0.5)	0.6	(0.2)
Slovak Republic	0.6	(0.3)	4.7	(0.6)	16.0	(0.8)	28.1	(1.0)	28.6	(1.2)	17.2	(0.9)	4.5	(0.5)	0.4	(0.1)
Croatia	0.6	(0.2)	4.9	(0.6)	17.0	(1.1)	29.3	(1.0)	30.9	(1.1)	15.0	(1.0)	2.2	(0.3)	0.1	(0.1)
Prince Edward Island	1.4	(0.4)	6.2	(0.8)	15.1	(1.3)	25.4	(1.9)	27.0	(1.5)	18.1	(1.3)	5.9	(0.7)	0.9	(0.4)
Lithuania	0.8	(0.2)	4.9	(0.5)	18.5	(0.9)	31.2	(1.3)	27.7	(1.0)	13.8	(0.8)	2.9	(0.4)	0.1	(0.1)

Table B.1.15 (concluded)

Percent of students at each level for countries, provinces and economies:
Integrating and interpreting

Country, economy and province	Proficiency levels															
	Below Level 1b (less than 262.04 score points)		Level 1b (from 262.04 to less than 334.75 score points)		Level 1a (from 334.75 to less than 407.47 score points)		Level 2 (from 407.47 to less than 480.18 score points)		Level 3 (from 480.18 to less than 552.89 score points)		Level 4 (from 552.89 to less than 625.61 score points)		Level 5 (from 625.61 to 698.32 score points)		Level 6 (above 698.32 score points)	
	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
Russian Federation	1.2	(0.3)	6.0	(0.6)	17.9	(0.9)	31.0	(1.0)	27.0	(1.1)	13.0	(1.0)	3.6	(0.5)	0.4	(0.1)
Luxembourg	2.6	(0.3)	7.1	(0.4)	16.2	(0.6)	23.8	(0.8)	26.0	(0.8)	17.7	(0.6)	5.9	(0.4)	0.7	(0.2)
Turkey	0.4	(0.1)	5.3	(0.6)	20.5	(1.0)	33.8	(1.1)	27.8	(1.2)	11.0	(1.1)	1.2	(0.3)	0.0	(0.0)
Israel	3.5	(0.6)	8.2	(0.7)	15.3	(0.7)	22.9	(1.0)	25.4	(1.0)	17.7	(0.7)	6.3	(0.5)	0.9	(0.2)
Austria	1.8	(0.3)	7.5	(0.6)	17.6	(0.9)	25.2	(1.3)	25.7	(1.0)	17.1	(1.0)	4.7	(0.5)	0.4	(0.1)
Chile	1.3	(0.2)	7.5	(0.7)	21.2	(1.1)	32.6	(1.2)	25.5	(1.0)	9.9	(0.8)	1.9	(0.4)	0.1	(0.1)
Serbia	1.7	(0.3)	8.4	(0.6)	22.3	(0.9)	32.7	(0.8)	25.4	(0.8)	8.4	(0.6)	1.1	(0.2)	0.0	(0.0)
Dubai (UAE)	3.5	(0.3)	9.6	(0.6)	19.4	(0.6)	25.5	(0.9)	22.7	(0.8)	14.1	(0.6)	4.6	(0.5)	0.6	(0.2)
Bulgaria	5.6	(0.8)	12.7	(1.3)	20.5	(1.4)	24.9	(1.4)	21.8	(1.5)	11.4	(1.1)	2.7	(0.5)	0.3	(0.1)
Romania	3.4	(0.5)	12.4	(1.0)	25.1	(1.3)	32.2	(1.3)	20.6	(1.3)	5.7	(0.7)	0.7	(0.2)	0.0	(0.0)
Uruguay	5.1	(0.6)	13.1	(0.8)	24.9	(0.9)	29.0	(0.9)	19.1	(0.7)	7.3	(0.5)	1.5	(0.3)	0.1	(0.1)
Mexico	4.1	(0.4)	13.0	(0.6)	26.9	(0.6)	31.3	(0.6)	19.1	(0.6)	5.1	(0.4)	0.5	(0.1)	0.0	(0.0)
Montenegro	3.7	(0.3)	12.8	(0.7)	27.8	(0.9)	30.6	(0.8)	18.8	(0.7)	5.7	(0.4)	0.7	(0.3)	0.0	(0.0)
Trinidad and Tobago	8.2	(0.6)	14.3	(0.6)	22.0	(0.8)	25.9	(1.0)	18.5	(0.8)	8.6	(0.6)	2.2	(0.3)	0.2	(0.1)
Jordan	4.8	(0.6)	12.9	(0.9)	28.3	(1.1)	33.9	(1.0)	17.1	(1.0)	3.0	(0.4)	0.1	(0.1)	0.0	(0.0)
Thailand	1.4	(0.3)	11.1	(0.9)	33.6	(1.1)	35.6	(1.2)	15.2	(0.8)	3.0	(0.5)	0.2	(0.1)	0.0	(0.0)
Colombia	4.7	(0.8)	14.7	(1.1)	28.9	(1.2)	29.8	(1.1)	16.5	(1.0)	4.7	(0.5)	0.6	(0.2)	0.0	(0.0)
Argentina	10.8	(1.1)	16.4	(1.0)	25.0	(1.1)	25.0	(1.3)	15.5	(1.1)	6.0	(0.8)	1.2	(0.3)	0.1	(0.1)
Brazil	5.5	(0.4)	17.4	(0.7)	29.3	(0.8)	26.3	(0.8)	14.7	(0.8)	5.5	(0.5)	1.1	(0.2)	0.1	(0.1)
Albania	9.6	(0.8)	17.4	(1.0)	26.7	(1.4)	27.1	(1.0)	15.1	(1.2)	3.9	(0.5)	0.3	(0.1)	0.0	(0.0)
Tunisia	5.6	(0.6)	17.2	(1.0)	32.9	(1.3)	30.3	(1.3)	11.9	(0.8)	1.9	(0.4)	0.1	(0.1)	0.0	(0.0)
Indonesia	1.8	(0.4)	15.4	(1.3)	39.1	(1.6)	33.3	(1.5)	9.5	(1.2)	0.9	(0.3)	0.0	(0.0)	0.0	(0.0)
Kazakhstan	5.2	(0.4)	19.3	(1.3)	31.8	(1.1)	26.0	(0.9)	13.7	(0.9)	3.6	(0.5)	0.4	(0.1)	0.0	(0.0)
Qatar	12.9	(0.4)	23.7	(0.6)	26.3	(0.6)	19.6	(0.7)	11.3	(0.3)	4.8	(0.3)	1.2	(0.2)	0.1	(0.1)
Peru	14.0	(1.0)	22.3	(1.1)	27.9	(1.1)	21.9	(0.9)	10.1	(0.8)	3.1	(0.5)	0.6	(0.2)	0.1	(0.1)
Panama	11.3	(1.6)	23.7	(1.9)	30.8	(1.8)	21.2	(1.6)	9.9	(1.4)	2.7	(0.6)	0.4	(0.1)	0.0	(0.0)
Azerbaijan	5.3	(0.7)	23.4	(1.4)	40.1	(1.2)	25.8	(1.4)	5.1	(0.7)	0.3	(0.2)	0.0	(0.0)	0.0	(0.0)
Kyrgyzstan	22.4	(1.3)	32.0	(1.4)	28.1	(0.9)	13.0	(0.8)	3.7	(0.4)	0.7	(0.2)	0.0	(0.0)	0.0	(0.0)

0 true zero or a value rounded to zero

S.E. Standard error

Note: Countries, economies and provinces have been sorted by the total percentage of students who attained level 2 or higher.

Table B.1.16

Percent of students at each level for countries, provinces and economies:
Reflecting and evaluating

Country, economy and province	Proficiency levels															
	Below Level 1b (less than 262.04 score points)		Level 1b (from 262.04 to less than 334.75 score points)		Level 1a (from 334.75 to less than 407.47 score points)		Level 2 (from 407.47 to less than 480.18 score points)		Level 3 (from 480.18 to less than 552.89 score points)		Level 4 (from 552.89 to less than 625.61 score points)		Level 5 (from 625.61 to 698.32 score points)		Level 6 (above 698.32 score points)	
	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
Shanghai-China	0.2	(0.1)	0.6	(0.2)	4.2	(0.5)	13.2	(0.7)	27.6	(0.9)	32.9	(0.8)	17.9	(0.8)	3.4	(0.4)
Korea	0.3	(0.1)	1.1	(0.4)	5.3	(0.7)	15.5	(1.1)	30.1	(1.4)	31.7	(1.3)	14.0	(1.1)	2.0	(0.4)
Ontario	0.3	(0.1)	1.2	(0.3)	5.2	(0.6)	16.1	(1.0)	28.1	(1.2)	29.9	(1.4)	15.7	(0.9)	3.4	(0.6)
Finland	0.4	(0.1)	1.3	(0.2)	6.3	(0.6)	16.9	(0.7)	30.5	(0.9)	30.0	(0.9)	12.8	(0.7)	1.8	(0.3)
Hong Kong-China	0.2	(0.1)	1.6	(0.3)	6.2	(0.5)	14.7	(0.7)	29.9	(1.3)	32.0	(1.2)	13.5	(0.9)	1.9	(0.2)
Canada	0.3	(0.1)	1.8	(0.1)	6.5	(0.4)	17.6	(0.5)	29.4	(0.6)	28.5	(0.6)	13.2	(0.4)	2.7	(0.3)
Alberta	0.2	(0.1)	1.5	(0.4)	7.0	(1.1)	16.0	(1.3)	26.6	(1.1)	27.9	(1.2)	15.9	(1.4)	4.9	(0.9)
Nova Scotia	0.4	(0.2)	2.2	(0.4)	6.1	(0.8)	19.6	(1.7)	32.1	(2.0)	27.2	(1.4)	10.5	(1.0)	1.9	(0.4)
Quebec	0.3	(0.1)	1.9	(0.4)	6.5	(0.8)	18.9	(1.0)	32.8	(1.3)	29.2	(1.4)	9.5	(0.8)	0.8	(0.2)
British Columbia	0.4	(0.2)	1.9	(0.4)	7.1	(0.8)	17.1	(1.4)	28.5	(1.6)	28.1	(1.7)	13.9	(1.2)	3.0	(0.5)
Newfoundland and Labrador	0.5	(0.4)	2.0	(0.8)	9.1	(1.5)	21.2	(1.6)	30.4	(2.2)	24.7	(1.5)	10.6	(1.1)	1.5	(0.6)
Singapore	0.6	(0.1)	2.8	(0.3)	9.0	(0.6)	18.0	(0.8)	27.3	(0.8)	25.3	(0.9)	13.6	(0.7)	3.5	(0.5)
Netherlands	0.1	(0.1)	1.6	(0.3)	11.2	(1.4)	24.8	(1.5)	29.1	(1.3)	23.7	(1.7)	8.8	(0.8)	0.7	(0.2)
New Brunswick	0.3	(0.1)	2.3	(0.4)	10.8	(1.1)	25.4	(1.5)	31.3	(1.5)	22.6	(1.4)	6.6	(0.8)	0.8	(0.4)
Australia	1.0	(0.2)	3.2	(0.3)	9.4	(0.5)	18.9	(0.6)	26.8	(0.6)	25.0	(0.6)	12.6	(0.6)	3.2	(0.5)
Estonia	0.4	(0.2)	2.7	(0.4)	10.4	(0.7)	25.3	(1.1)	32.4	(1.2)	21.9	(1.1)	6.1	(0.5)	0.7	(0.2)
Saskatchewan	0.6	(0.3)	3.2	(0.6)	9.7	(1.2)	19.8	(1.4)	29.4	(1.8)	25.0	(1.5)	10.3	(0.9)	2.0	(0.4)
New Zealand	0.9	(0.3)	3.4	(0.4)	9.5	(0.6)	17.5	(0.6)	24.0	(0.7)	25.0	(0.7)	14.9	(0.8)	4.7	(0.5)
Latvia	0.4	(0.2)	2.9	(0.5)	11.6	(0.9)	27.6	(1.2)	34.1	(1.3)	19.2	(1.3)	4.0	(0.4)	0.2	(0.1)
United States	0.5	(0.1)	3.3	(0.5)	11.1	(1.1)	22.2	(1.2)	27.4	(0.9)	23.1	(1.0)	10.2	(0.9)	2.2	(0.4)
Japan	1.9	(0.5)	3.9	(0.5)	9.1	(0.7)	17.8	(0.8)	25.9	(0.9)	25.0	(0.9)	12.7	(0.7)	3.6	(0.4)
Norway	0.7	(0.2)	3.6	(0.5)	11.0	(0.6)	22.6	(0.8)	30.7	(0.8)	22.4	(0.9)	8.1	(0.6)	1.1	(0.3)
Poland	0.9	(0.2)	3.6	(0.4)	11.4	(0.8)	24.3	(0.9)	31.3	(0.7)	21.4	(0.9)	6.5	(0.6)	0.6	(0.2)
Chinese Taipei	0.9	(0.2)	3.8	(0.4)	11.7	(0.8)	24.8	(1.1)	33.2	(1.2)	20.7	(0.9)	4.5	(0.6)	0.4	(0.2)
Manitoba	1.2	(0.5)	4.1	(0.9)	11.0	(1.3)	22.7	(1.8)	28.6	(1.3)	21.5	(1.4)	9.5	(1.0)	1.4	(0.4)
Sweden	1.5	(0.3)	4.2	(0.4)	10.8	(0.7)	22.6	(0.8)	29.6	(0.8)	21.2	(0.9)	8.5	(0.7)	1.6	(0.3)
Denmark	0.7	(0.2)	3.4	(0.4)	12.6	(0.7)	25.7	(0.9)	31.9	(0.8)	20.0	(1.0)	5.3	(0.5)	0.5	(0.1)
Liechtenstein	0.0	(0.0)	4.4	(1.3)	12.1	(2.1)	23.0	(3.2)	31.5	(3.1)	22.9	(2.4)	5.7	(1.4)	0.0	(0.0)
United Kingdom	0.9	(0.2)	3.8	(0.4)	12.2	(0.6)	23.5	(0.8)	28.2	(0.7)	20.9	(1.1)	8.8	(0.6)	1.8	(0.3)
Ireland	1.3	(0.3)	4.2	(0.6)	11.5	(0.7)	21.5	(0.8)	29.2	(1.0)	22.8	(1.0)	8.5	(0.7)	1.1	(0.3)
Portugal	0.7	(0.2)	4.2	(0.5)	12.5	(0.9)	23.7	(0.9)	30.2	(0.9)	20.9	(0.9)	7.1	(0.6)	0.7	(0.2)
Iceland	1.1	(0.2)	4.5	(0.4)	12.0	(0.7)	22.8	(0.7)	31.4	(0.9)	21.1	(0.8)	6.4	(0.5)	0.7	(0.2)
Macao-China	0.4	(0.1)	3.4	(0.3)	13.9	(0.6)	30.6	(0.8)	33.6	(0.9)	15.6	(0.8)	2.4	(0.3)	0.1	(0.1)
Prince Edward Island	1.0	(0.3)	4.5	(0.6)	12.3	(1.0)	23.6	(1.3)	29.1	(1.6)	21.3	(1.7)	7.2	(0.9)	1.0	(0.5)
Switzerland	1.0	(0.2)	4.7	(0.5)	12.4	(0.7)	23.0	(0.8)	29.1	(0.9)	21.7	(1.0)	7.1	(0.6)	1.1	(0.3)
Belgium	2.2	(0.3)	4.9	(0.4)	11.3	(0.7)	18.8	(0.8)	25.9	(0.8)	24.9	(0.8)	10.7	(0.6)	1.4	(0.3)
Germany	1.6	(0.3)	5.5	(0.6)	12.6	(0.7)	22.6	(0.9)	29.3	(1.1)	22.0	(0.9)	6.0	(0.5)	0.5	(0.2)
Hungary	0.9	(0.3)	4.9	(0.7)	14.1	(1.1)	24.4	(1.4)	29.7	(1.1)	19.7	(1.0)	5.9	(0.6)	0.5	(0.2)
Spain	1.9	(0.3)	5.3	(0.4)	13.0	(0.7)	24.9	(0.7)	30.9	(0.8)	19.1	(0.7)	4.5	(0.3)	0.4	(0.1)
France	2.4	(0.5)	5.8	(0.6)	12.0	(0.9)	21.0	(1.1)	26.7	(1.0)	21.8	(1.0)	9.1	(0.8)	1.1	(0.3)
Greece	2.2	(0.6)	5.9	(0.9)	13.0	(0.8)	22.7	(0.8)	27.7	(1.0)	20.2	(0.9)	7.0	(0.5)	1.3	(0.2)
Italy	2.6	(0.3)	6.3	(0.3)	14.5	(0.5)	22.8	(0.5)	27.1	(0.6)	19.7	(0.6)	6.2	(0.4)	0.7	(0.1)
Israel	4.1	(0.7)	7.3	(0.6)	13.0	(0.7)	21.4	(0.8)	25.1	(1.0)	19.5	(0.9)	8.0	(0.7)	1.6	(0.3)
Turkey	1.4	(0.3)	6.0	(0.7)	17.3	(1.0)	27.5	(1.2)	27.5	(1.1)	15.8	(1.1)	4.0	(0.5)	0.5	(0.2)
Croatia	2.1	(0.5)	7.4	(0.7)	17.0	(1.0)	25.6	(1.2)	26.4	(1.1)	16.2	(0.9)	4.8	(0.5)	0.5	(0.1)
Luxembourg	3.5	(0.3)	7.5	(0.5)	15.5	(0.7)	23.9	(0.8)	26.8	(0.7)	16.9	(0.8)	5.3	(0.5)	0.5	(0.1)
Slovenia	2.3	(0.2)	7.6	(0.5)	16.9	(0.6)	24.2	(0.9)	27.2	(1.2)	17.0	(1.0)	4.4	(0.6)	0.4	(0.2)

Table B.1.16 (concluded)

**Percent of students at each level for countries, provinces and economies:
Reflecting and evaluating**

Country, economy and province	Proficiency levels															
	Below Level 1b (less than 262.04 score points)		Level 1b (from 262.04 to less than 334.75 score points)		Level 1a (from 334.75 to less than 407.47 score points)		Level 2 (from 407.47 to less than 480.18 score points)		Level 3 (from 480.18 to less than 552.89 score points)		Level 4 (from 552.89 to less than 625.61 score points)		Level 5 (from 625.61 to 698.32 score points)		Level 6 (above 698.32 score points)	
	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
Lithuania	1.4	(0.3)	6.9	(0.6)	18.7	(0.8)	29.3	(1.2)	27.3	(1.0)	13.5	(0.7)	2.8	(0.5)	0.2	(0.1)
Slovak Republic	2.1	(0.4)	7.8	(0.7)	17.5	(0.8)	26.6	(1.2)	26.4	(1.2)	15.4	(0.9)	3.9	(0.4)	0.4	(0.1)
Chile	1.3	(0.3)	7.4	(0.7)	20.7	(0.9)	32.4	(1.0)	26.8	(1.0)	10.0	(0.7)	1.4	(0.3)	0.0	(0.0)
Czech Republic	2.6	(0.4)	8.0	(0.7)	18.9	(0.9)	26.7	(1.0)	24.8	(1.0)	14.4	(0.9)	4.2	(0.4)	0.4	(0.1)
Dubai (UAE)	3.6	(0.3)	8.4	(0.5)	17.8	(0.7)	23.8	(0.8)	24.2	(0.7)	16.0	(0.6)	5.7	(0.4)	0.7	(0.2)
Austria	4.2	(0.6)	9.0	(0.7)	16.5	(0.8)	22.7	(1.0)	26.2	(1.1)	16.7	(0.8)	4.3	(0.5)	0.4	(0.1)
Russian Federation	3.6	(0.6)	10.1	(0.7)	22.1	(1.0)	29.7	(1.1)	22.5	(0.9)	9.5	(0.7)	2.2	(0.4)	0.3	(0.1)
Mexico	3.3	(0.3)	10.3	(0.4)	23.8	(0.6)	31.9	(0.6)	23.2	(0.6)	6.8	(0.4)	0.7	(0.1)	0.0	(0.0)
Uruguay	5.2	(0.6)	11.9	(0.7)	21.8	(1.0)	26.9	(0.8)	21.1	(0.7)	10.3	(0.9)	2.6	(0.4)	0.3	(0.1)
Serbia	3.5	(0.5)	11.4	(0.6)	24.3	(0.9)	30.3	(1.0)	22.3	(1.0)	7.2	(0.6)	1.0	(0.2)	0.0	(0.0)
Tunisia	4.3	(0.5)	11.0	(0.9)	24.0	(1.1)	32.2	(1.1)	21.0	(1.0)	6.5	(0.7)	0.9	(0.3)	0.1	(0.1)
Romania	5.3	(0.8)	12.2	(1.0)	22.7	(1.2)	29.5	(1.4)	21.6	(1.3)	7.4	(0.9)	1.2	(0.3)	0.1	(0.0)
Colombia	4.0	(0.8)	13.1	(1.0)	26.3	(1.0)	30.1	(1.3)	19.2	(1.2)	6.3	(0.7)	0.9	(0.2)	0.0	(0.0)
Brazil	3.8	(0.4)	13.1	(0.7)	26.6	(0.8)	29.6	(0.8)	18.5	(0.9)	7.0	(0.6)	1.4	(0.2)	0.1	(0.1)
Thailand	2.1	(0.4)	12.3	(0.8)	29.3	(0.9)	33.3	(1.1)	18.0	(0.8)	4.3	(0.5)	0.5	(0.2)	0.0	(0.0)
Bulgaria	11.3	(1.4)	13.4	(1.1)	19.4	(1.2)	23.0	(1.1)	19.9	(1.4)	10.0	(1.0)	2.6	(0.4)	0.4	(0.2)
Trinidad and Tobago	11.1	(0.7)	14.6	(0.7)	20.0	(0.8)	24.1	(1.0)	18.9	(1.0)	8.7	(0.5)	2.4	(0.3)	0.3	(0.1)
Jordan	7.6	(0.7)	13.4	(0.9)	26.3	(1.1)	29.8	(0.9)	17.6	(0.9)	4.7	(0.5)	0.5	(0.2)	0.0	(0.0)
Indonesia	1.9	(0.5)	12.2	(1.1)	35.1	(1.5)	35.8	(1.3)	13.3	(1.3)	1.7	(0.4)	0.0	(0.0)	0.0	(0.0)
Argentina	10.7	(1.1)	15.6	(1.1)	23.5	(1.2)	25.2	(1.1)	17.0	(1.1)	6.6	(0.8)	1.3	(0.3)	0.1	(0.1)
Montenegro	11.7	(0.6)	20.2	(1.0)	26.3	(0.8)	24.8	(0.9)	12.6	(0.9)	3.9	(0.5)	0.5	(0.2)	0.0	(0.0)
Albania	14.6	(1.2)	18.6	(1.0)	26.2	(1.0)	23.6	(1.1)	13.2	(1.1)	3.3	(0.5)	0.3	(0.1)	0.0	(0.0)
Qatar	19.0	(0.5)	20.7	(0.5)	21.6	(0.5)	17.9	(0.5)	12.1	(0.3)	6.1	(0.3)	2.2	(0.2)	0.4	(0.1)
Panama	11.9	(1.8)	23.1	(2.0)	27.9	(2.0)	21.5	(1.8)	10.8	(1.4)	4.1	(0.7)	0.7	(0.2)	0.0	(0.0)
Kazakhstan	13.5	(0.9)	23.0	(0.9)	27.5	(1.2)	20.6	(1.0)	11.3	(0.9)	3.6	(0.5)	0.4	(0.1)	0.0	(0.0)
Peru	15.2	(1.1)	22.5	(1.2)	27.0	(1.2)	21.4	(0.8)	10.7	(0.9)	2.8	(0.5)	0.4	(0.2)	0.0	(0.0)
Azerbaijan	21.4	(1.5)	28.1	(1.0)	28.9	(1.1)	16.2	(0.9)	4.6	(0.6)	0.7	(0.2)	0.1	(0.1)	0.0	(0.0)
Kyrgyzstan	37.1	(1.6)	26.8	(1.2)	19.2	(0.9)	10.5	(0.7)	4.8	(0.6)	1.3	(0.3)	0.2	(0.1)	0.0	(0.0)

0 true zero or a value rounded to zero

S.E. Standard error

Note: Countries, economies and provinces have been sorted by the total percentage of students who attained level 2 or higher.

Table B.1.17

Percent of students at each level for countries, provinces and economies:
Continuous texts

Country, economy and province	Proficiency levels															
	Below Level 1b (less than 262.04 score points)		Level 1b (from 262.04 to less than 334.75 score points)		Level 1a (from 334.75 to less than 407.47 score points)		Level 2 (from 407.47 to less than 480.18 score points)		Level 3 (from 480.18 to less than 552.89 score points)		Level 4 (from 552.89 to less than 625.61 score points)		Level 5 (from 625.61 to 698.32 score points)		Level 6 (above 698.32 score points)	
	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
Shanghai-China	0.1	(0.1)	0.5	(0.1)	3.1	(0.4)	11.9	(0.7)	26.5	(1.1)	34.2	(1.0)	20.1	(1.0)	3.6	(0.4)
Korea	0.3	(0.1)	1.0	(0.3)	5.1	(0.7)	15.5	(1.0)	32.5	(1.2)	32.7	(1.2)	11.9	(1.0)	1.0	(0.2)
Hong Kong-China	0.3	(0.1)	1.8	(0.3)	6.0	(0.5)	16.0	(0.8)	29.4	(1.3)	31.2	(1.0)	13.4	(0.7)	2.0	(0.3)
Finland	0.2	(0.1)	1.5	(0.2)	6.4	(0.5)	17.0	(0.9)	30.2	(0.8)	30.2	(0.8)	13.1	(0.7)	1.4	(0.2)
Ontario	0.3	(0.1)	2.0	(0.3)	7.0	(0.8)	19.2	(1.2)	28.7	(1.1)	26.9	(1.2)	13.1	(1.1)	2.8	(0.4)
Alberta	0.2	(0.1)	2.1	(0.4)	8.7	(1.1)	19.2	(1.3)	26.2	(1.1)	25.8	(1.3)	13.6	(1.4)	4.2	(0.7)
Canada	0.4	(0.1)	2.4	(0.2)	8.3	(0.4)	20.2	(0.7)	28.9	(0.7)	25.9	(0.7)	11.5	(0.5)	2.4	(0.2)
Quebec	0.4	(0.1)	2.3	(0.4)	8.5	(0.9)	20.8	(1.1)	30.6	(1.1)	27.0	(1.3)	9.3	(0.8)	1.2	(0.3)
Nova Scotia	0.6	(0.3)	2.2	(0.6)	8.4	(0.9)	21.7	(1.4)	31.4	(1.8)	24.6	(1.8)	9.6	(1.3)	1.4	(0.5)
British Columbia	0.7	(0.3)	2.9	(0.6)	8.2	(0.9)	19.3	(1.4)	29.2	(1.3)	25.1	(1.4)	12.1	(1.0)	2.6	(0.6)
Japan	1.7	(0.4)	3.5	(0.6)	8.6	(0.7)	17.9	(0.8)	27.1	(0.9)	26.7	(0.9)	12.2	(0.8)	2.4	(0.3)
Singapore	0.6	(0.1)	3.3	(0.3)	9.9	(0.5)	18.8	(0.7)	27.2	(0.7)	25.0	(1.0)	12.4	(0.6)	2.8	(0.3)
Estonia	0.3	(0.2)	2.3	(0.4)	11.5	(0.9)	26.0	(1.3)	34.8	(1.1)	20.0	(0.9)	4.7	(0.5)	0.4	(0.2)
Newfoundland and Labrador	0.4	(0.3)	3.5	(0.9)	10.3	(1.5)	23.2	(1.6)	30.5	(1.8)	21.6	(1.5)	9.1	(1.1)	1.5	(0.6)
Netherlands	0.1	(0.1)	2.0	(0.4)	12.3	(1.3)	25.5	(1.5)	27.7	(1.1)	22.8	(1.7)	8.6	(0.9)	0.8	(0.2)
Poland	0.7	(0.2)	3.0	(0.4)	11.1	(0.6)	24.4	(0.9)	30.9	(0.8)	22.0	(1.0)	7.2	(0.6)	0.8	(0.2)
Australia	1.1	(0.1)	3.8	(0.3)	10.4	(0.5)	20.6	(0.6)	27.3	(0.6)	23.4	(0.5)	11.0	(0.5)	2.4	(0.4)
New Zealand	1.2	(0.3)	3.7	(0.4)	10.7	(0.6)	19.4	(0.8)	25.4	(0.8)	23.8	(0.8)	12.8	(0.7)	3.0	(0.4)
Denmark	0.5	(0.2)	3.3	(0.4)	11.9	(0.6)	25.4	(0.9)	32.4	(0.8)	20.8	(0.8)	5.4	(0.5)	0.5	(0.1)
Saskatchewan	0.8	(0.3)	3.4	(0.7)	11.4	(1.2)	22.4	(1.8)	29.0	(1.6)	23.2	(1.4)	8.1	(0.8)	1.7	(0.4)
Norway	0.8	(0.2)	3.6	(0.4)	11.2	(0.6)	22.4	(0.7)	29.4	(0.9)	22.8	(1.0)	8.5	(0.6)	1.3	(0.2)
Chinese Taipei	0.7	(0.2)	3.8	(0.4)	11.3	(0.7)	24.3	(1.0)	33.0	(1.2)	21.2	(0.9)	5.2	(0.7)	0.6	(0.2)
Macao-China	0.3	(0.1)	3.0	(0.3)	12.8	(0.4)	28.9	(0.7)	33.8	(0.8)	17.4	(0.8)	3.7	(0.4)	0.2	(0.1)
New Brunswick	0.4	(0.2)	3.7	(0.6)	12.3	(1.0)	24.7	(1.5)	29.6	(1.7)	20.6	(1.6)	7.3	(0.8)	1.4	(0.5)
Iceland	1.5	(0.3)	4.3	(0.5)	11.6	(0.6)	21.4	(0.7)	30.4	(1.0)	21.6	(1.1)	8.0	(0.6)	1.3	(0.3)
Hungary	0.8	(0.3)	4.1	(0.7)	12.4	(0.9)	23.5	(1.1)	30.1	(1.1)	21.7	(1.0)	6.7	(0.7)	0.6	(0.2)
Portugal	0.6	(0.2)	4.2	(0.4)	12.7	(0.9)	26.0	(0.9)	30.6	(1.2)	19.9	(1.0)	5.6	(0.5)	0.4	(0.2)
Latvia	0.3	(0.2)	3.4	(0.6)	13.8	(1.0)	29.3	(1.3)	33.1	(1.1)	17.3	(1.1)	2.7	(0.4)	0.1	(0.0)
Sweden	1.7	(0.3)	4.3	(0.4)	11.5	(0.8)	23.1	(1.1)	28.9	(1.1)	20.3	(1.0)	8.6	(0.6)	1.6	(0.3)
Switzerland	0.8	(0.1)	4.5	(0.4)	12.5	(0.7)	23.0	(0.8)	29.0	(1.0)	22.2	(0.9)	7.2	(0.7)	0.9	(0.2)
Ireland	1.8	(0.4)	4.2	(0.5)	11.8	(0.7)	22.6	(0.9)	29.8	(0.9)	21.6	(1.0)	7.4	(0.8)	0.8	(0.2)
Liechtenstein	0.0	(0.0)	3.9	(1.3)	13.9	(2.8)	23.2	(2.9)	32.1	(3.4)	22.1	(3.4)	4.3	(1.7)	0.0	(0.0)
Belgium	1.3	(0.3)	4.7	(0.5)	12.5	(0.6)	20.6	(0.8)	25.4	(0.7)	24.3	(0.7)	10.2	(0.5)	1.1	(0.2)
Germany	0.9	(0.3)	4.7	(0.5)	12.9	(0.8)	22.9	(1.3)	28.4	(1.2)	22.8	(0.9)	6.7	(0.5)	0.6	(0.2)
Manitoba	1.1	(0.3)	4.6	(0.7)	12.9	(1.4)	24.7	(1.4)	26.4	(1.4)	20.7	(1.2)	8.1	(1.0)	1.5	(0.4)
United States	0.8	(0.2)	4.3	(0.5)	13.6	(0.8)	23.7	(0.9)	26.5	(0.8)	20.0	(0.9)	9.1	(0.9)	1.9	(0.3)
Spain	1.3	(0.2)	4.8	(0.4)	13.2	(0.6)	25.8	(0.6)	31.7	(0.7)	18.7	(0.6)	4.1	(0.3)	0.3	(0.1)
United Kingdom	1.1	(0.2)	4.5	(0.4)	14.2	(0.7)	25.0	(0.8)	27.9	(0.7)	18.9	(0.9)	7.2	(0.5)	1.2	(0.2)
Italy	1.4	(0.2)	5.2	(0.3)	13.9	(0.5)	23.1	(0.5)	28.8	(0.5)	21.0	(0.5)	6.0	(0.3)	0.5	(0.1)
Greece	1.4	(0.4)	5.5	(0.8)	14.5	(1.0)	24.3	(0.9)	27.8	(1.0)	19.5	(1.0)	6.1	(0.6)	0.9	(0.2)
France	2.7	(0.5)	6.2	(0.6)	12.5	(0.9)	21.4	(1.2)	25.9	(1.1)	21.4	(1.0)	8.5	(0.8)	1.4	(0.4)
Prince Edward Island	1.4	(0.5)	6.1	(0.8)	14.4	(1.0)	25.3	(1.4)	26.1	(1.7)	19.2	(1.2)	6.6	(0.8)	0.9	(0.4)
Slovenia	0.9	(0.1)	5.6	(0.3)	15.3	(0.6)	24.8	(0.9)	28.2	(0.8)	19.1	(0.8)	5.6	(0.6)	0.4	(0.2)
Croatia	0.9	(0.2)	5.4	(0.5)	15.7	(1.0)	27.1	(1.1)	29.5	(1.3)	17.3	(0.9)	3.7	(0.4)	0.3	(0.1)
Slovak Republic	0.9	(0.3)	5.1	(0.6)	16.2	(0.9)	27.3	(0.9)	28.7	(1.2)	17.2	(1.1)	4.2	(0.5)	0.5	(0.2)
Czech Republic	0.7	(0.2)	5.4	(0.6)	17.0	(0.9)	27.3	(1.0)	27.4	(1.0)	16.4	(0.9)	5.3	(0.4)	0.6	(0.2)
Lithuania	0.9	(0.3)	5.3	(0.6)	17.9	(0.8)	29.4	(0.9)	29.1	(0.9)	14.4	(0.8)	2.9	(0.4)	0.2	(0.1)

Table B.1.17 (concluded)

**Percent of students at each level for countries, provinces and economies:
Continuous texts**

Country, economy and province	Proficiency levels															
	Below Level 1b (less than 262.04 score points)		Level 1b (from 262.04 to less than 334.75 score points)		Level 1a (from 334.75 to less than 407.47 score points)		Level 2 (from 407.47 to less than 480.18 score points)		Level 3 (from 480.18 to less than 552.89 score points)		Level 4 (from 552.89 to less than 625.61 score points)		Level 5 (from 625.61 to 698.32 score points)		Level 6 (above 698.32 score points)	
	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
Turkey	0.9	(0.2)	5.2	(0.6)	18.3	(1.0)	31.3	(1.4)	28.9	(1.2)	13.2	(1.2)	2.1	(0.5)	0.1	(0.1)
Israel	3.7	(0.7)	7.5	(0.7)	14.6	(0.8)	22.2	(1.1)	25.7	(0.9)	18.5	(0.8)	6.8	(0.5)	1.1	(0.2)
Luxembourg	3.3	(0.3)	7.8	(0.5)	15.4	(0.9)	23.8	(0.8)	26.5	(0.7)	17.4	(0.9)	5.3	(0.5)	0.5	(0.1)
Russian Federation	1.4	(0.3)	6.5	(0.8)	18.9	(1.1)	31.7	(1.0)	27.1	(0.9)	11.4	(0.7)	2.8	(0.4)	0.3	(0.1)
Austria	1.9	(0.4)	7.9	(0.7)	17.9	(0.9)	24.5	(0.9)	25.8	(1.0)	17.1	(0.8)	4.6	(0.6)	0.4	(0.1)
Chile	1.5	(0.3)	7.4	(0.7)	20.8	(1.0)	31.8	(1.0)	26.3	(1.2)	10.3	(0.9)	1.9	(0.3)	0.1	(0.1)
Dubai (UAE)	3.9	(0.3)	9.1	(0.5)	17.7	(0.7)	24.9	(0.7)	23.8	(0.7)	14.7	(0.6)	5.2	(0.4)	0.7	(0.2)
Serbia	1.8	(0.3)	7.9	(0.7)	22.3	(1.3)	33.7	(1.2)	25.6	(0.9)	7.8	(0.7)	0.9	(0.2)	0.1	(0.1)
Mexico	3.7	(0.4)	11.4	(0.5)	24.3	(0.6)	32.7	(0.7)	21.8	(0.6)	5.7	(0.4)	0.4	(0.1)	0.0	(0.0)
Bulgaria	8.1	(1.2)	12.4	(1.2)	19.7	(1.4)	22.9	(1.2)	21.5	(1.3)	11.9	(1.3)	3.2	(0.7)	0.4	(0.1)
Uruguay	5.7	(0.6)	12.1	(0.7)	23.0	(1.0)	27.6	(1.2)	20.4	(0.8)	9.0	(0.8)	2.1	(0.3)	0.2	(0.1)
Romania	4.7	(0.7)	12.7	(1.1)	23.5	(1.2)	31.0	(1.3)	21.2	(1.2)	6.2	(0.7)	0.7	(0.2)	0.0	(0.0)
Thailand	1.3	(0.3)	10.1	(0.9)	30.5	(1.1)	36.3	(1.4)	17.9	(1.0)	3.6	(0.6)	0.3	(0.2)	0.0	(0.0)
Jordan	6.0	(0.6)	11.9	(0.7)	24.4	(0.9)	32.3	(0.8)	20.3	(1.0)	4.8	(0.5)	0.3	(0.1)	0.0	(0.0)
Trinidad and Tobago	10.0	(0.5)	13.8	(0.8)	20.6	(0.8)	24.4	(0.9)	19.2	(0.6)	9.3	(0.4)	2.5	(0.3)	0.3	(0.1)
Colombia	4.1	(0.6)	13.8	(1.1)	27.9	(1.2)	31.0	(1.1)	17.9	(1.1)	4.7	(0.5)	0.6	(0.2)	0.0	(0.0)
Montenegro	5.8	(0.4)	15.5	(0.6)	26.5	(0.9)	28.6	(1.0)	17.2	(1.0)	5.7	(0.6)	0.8	(0.2)	0.0	(0.0)
Tunisia	5.2	(0.5)	13.8	(0.9)	28.7	(1.1)	32.4	(1.5)	16.5	(1.0)	3.1	(0.5)	0.2	(0.1)	0.0	(0.0)
Brazil	5.5	(0.4)	15.1	(0.7)	27.8	(0.8)	27.1	(0.7)	16.6	(0.7)	6.5	(0.5)	1.4	(0.3)	0.2	(0.1)
Argentina	10.8	(1.1)	15.4	(1.0)	24.4	(1.3)	25.4	(1.0)	16.5	(1.1)	6.3	(0.8)	1.1	(0.3)	0.0	(0.0)
Indonesia	1.9	(0.4)	13.3	(1.2)	36.3	(1.7)	34.4	(1.3)	12.7	(1.4)	1.4	(0.4)	0.0	(0.0)	0.0	(0.0)
Albania	10.8	(1.0)	17.3	(1.1)	25.7	(1.3)	25.7	(1.2)	15.9	(1.1)	4.4	(0.7)	0.3	(0.1)	0.0	(0.0)
Kazakhstan	5.9	(0.5)	18.0	(1.1)	30.8	(1.0)	26.5	(1.1)	14.4	(1.1)	4.0	(0.6)	0.3	(0.1)	0.0	(0.0)
Qatar	18.0	(0.4)	21.0	(0.6)	22.3	(0.5)	18.9	(0.5)	12.2	(0.4)	5.6	(0.4)	1.7	(0.2)	0.3	(0.1)
Peru	13.5	(1.0)	21.2	(0.9)	27.8	(1.1)	22.7	(1.0)	11.1	(0.8)	3.0	(0.5)	0.5	(0.2)	0.0	(0.0)
Panama	13.3	(2.0)	22.0	(1.8)	27.9	(1.7)	22.3	(1.6)	10.3	(1.2)	3.5	(0.7)	0.6	(0.2)	0.0	(0.0)
Azerbaijan	10.0	(1.1)	26.2	(1.1)	36.2	(1.2)	21.6	(1.3)	5.4	(0.7)	0.5	(0.2)	0.0	(0.0)	0.0	(0.0)
Kyrgyzstan	28.2	(1.2)	28.9	(1.0)	24.5	(0.9)	12.7	(0.8)	4.6	(0.5)	1.1	(0.3)	0.1	(0.0)	0.0	(0.0)

0 true zero or a value rounded to zero

S.E. Standard error

Note: Countries, economies and provinces have been sorted by the total percentage of students who attained level 2 or higher.

Table B.1.18

Percent of students at each level for countries, provinces and economies:
Non-continuous texts

Country, economy and province	Proficiency levels															
	Below Level 1b (less than 262.04 score points)		Level 1b (from 262.04 to less than 334.75 score points)		Level 1a (from 334.75 to less than 407.47 score points)		Level 2 (from 407.47 to less than 480.18 score points)		Level 3 (from 480.18 to less than 552.89 score points)		Level 4 (from 552.89 to less than 625.61 score points)		Level 5 (from 625.61 to 698.32 score points)		Level 6 (above 698.32 score points)	
	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
Korea	0.4	(0.2)	0.9	(0.3)	4.8	(0.7)	15.2	(1.0)	30.8	(1.1)	33.1	(1.3)	13.3	(1.1)	1.6	(0.3)
Shanghai-China	0.2	(0.1)	1.2	(0.3)	5.2	(0.5)	16.2	(0.7)	31.2	(0.9)	31.4	(1.2)	12.8	(0.7)	1.9	(0.3)
Ontario	0.4	(0.1)	1.6	(0.3)	6.4	(0.6)	18.0	(1.0)	30.4	(1.2)	28.3	(1.1)	12.5	(1.0)	2.4	(0.4)
Finland	0.3	(0.1)	1.7	(0.2)	6.5	(0.5)	17.3	(0.6)	29.6	(0.8)	29.6	(0.9)	12.9	(0.8)	2.1	(0.3)
Alberta	0.2	(0.1)	1.7	(0.4)	6.7	(0.9)	17.7	(1.3)	28.0	(1.2)	28.1	(1.4)	13.5	(1.1)	4.0	(0.9)
British Columbia	0.3	(0.2)	2.0	(0.4)	6.9	(0.7)	19.1	(1.3)	29.4	(1.6)	27.5	(1.3)	12.5	(1.1)	2.3	(0.5)
Singapore	0.3	(0.1)	2.0	(0.2)	7.3	(0.5)	16.5	(0.6)	27.8	(0.8)	28.0	(0.9)	14.8	(0.7)	3.5	(0.5)
Hong Kong-China	0.4	(0.1)	1.8	(0.3)	7.5	(0.6)	18.9	(0.9)	33.1	(0.9)	28.3	(0.9)	9.2	(0.7)	0.8	(0.2)
Canada	0.5	(0.1)	2.1	(0.2)	7.5	(0.4)	19.0	(0.5)	30.2	(0.6)	26.9	(0.6)	11.6	(0.5)	2.3	(0.2)
Nova Scotia	0.7	(0.3)	2.3	(0.6)	7.5	(0.8)	21.0	(1.3)	32.7	(1.5)	25.3	(1.6)	9.2	(1.1)	1.4	(0.5)
Quebec	0.6	(0.2)	2.6	(0.5)	8.4	(0.9)	18.6	(1.2)	30.9	(1.4)	26.2	(1.2)	10.9	(0.9)	1.9	(0.4)
Australia	0.9	(0.1)	2.8	(0.3)	8.6	(0.5)	18.9	(0.6)	28.3	(0.7)	25.6	(0.6)	12.2	(0.6)	2.8	(0.4)
New Zealand	0.9	(0.2)	2.6	(0.3)	8.9	(0.5)	17.7	(0.7)	25.2	(1.0)	25.7	(0.8)	15.0	(0.7)	4.1	(0.4)
Estonia	0.6	(0.2)	2.5	(0.4)	9.6	(0.7)	22.0	(1.2)	31.8	(1.2)	23.9	(1.0)	8.2	(0.6)	1.4	(0.3)
Netherlands	0.2	(0.1)	2.1	(0.4)	10.8	(1.1)	23.2	(1.5)	27.6	(1.3)	24.6	(1.5)	10.2	(1.1)	1.4	(0.4)
Newfoundland and Labrador	0.4	(0.2)	3.6	(1.0)	9.2	(1.2)	22.7	(1.5)	31.5	(1.8)	23.0	(1.7)	8.6	(1.2)	1.1	(0.4)
Japan	1.4	(0.4)	3.3	(0.5)	8.5	(0.8)	19.2	(0.8)	29.0	(1.0)	26.2	(1.0)	10.5	(0.7)	2.0	(0.4)
Liechtenstein	0.0	(0.0)	2.8	(1.2)	10.6	(1.7)	22.7	(2.5)	29.1	(2.6)	28.8	(2.9)	5.4	(1.6)	0.0	(0.0)
Saskatchewan	0.8	(0.4)	3.1	(0.7)	10.4	(1.0)	22.6	(1.5)	30.6	(1.7)	23.7	(1.6)	7.7	(1.0)	1.1	(0.4)
Switzerland	0.7	(0.1)	3.8	(0.5)	11.1	(0.8)	21.9	(1.0)	30.1	(1.1)	23.2	(0.8)	8.2	(0.8)	0.9	(0.2)
Norway	0.7	(0.2)	3.4	(0.4)	11.7	(0.7)	24.7	(1.1)	32.0	(0.8)	20.9	(1.0)	6.1	(0.5)	0.6	(0.2)
Chinese Taipei	1.0	(0.2)	3.8	(0.4)	11.1	(0.7)	22.8	(0.9)	31.1	(1.2)	22.4	(1.0)	7.0	(0.7)	0.8	(0.2)
United Kingdom	1.1	(0.2)	3.5	(0.4)	11.7	(0.7)	22.5	(0.7)	28.6	(0.8)	21.8	(0.8)	9.0	(0.6)	1.9	(0.3)
United States	0.5	(0.1)	3.7	(0.4)	11.9	(0.8)	24.0	(1.0)	28.6	(0.9)	21.5	(1.0)	8.5	(0.8)	1.2	(0.2)
Denmark	0.5	(0.1)	3.4	(0.4)	12.3	(0.6)	26.5	(0.9)	32.8	(0.8)	19.6	(0.9)	4.6	(0.5)	0.3	(0.1)
Manitoba	1.0	(0.4)	4.0	(0.9)	11.6	(1.3)	24.7	(1.5)	30.0	(1.4)	20.9	(1.4)	6.7	(0.8)	1.1	(0.3)
Iceland	1.4	(0.2)	4.0	(0.4)	11.4	(0.6)	22.7	(0.7)	31.0	(0.9)	21.7	(0.8)	7.1	(0.6)	0.9	(0.3)
Sweden	1.5	(0.2)	3.9	(0.4)	11.3	(0.8)	23.5	(0.9)	30.7	(0.8)	20.6	(0.8)	7.4	(0.6)	1.1	(0.3)
Macao-China	0.4	(0.1)	2.8	(0.2)	13.6	(0.5)	31.8	(0.7)	34.2	(0.8)	15.0	(0.8)	2.1	(0.2)	0.1	(0.1)
Ireland	1.7	(0.4)	4.1	(0.5)	11.2	(0.7)	22.9	(1.0)	31.0	(1.0)	22.0	(1.0)	6.5	(0.5)	0.6	(0.2)
Belgium	1.6	(0.3)	4.6	(0.4)	10.8	(0.5)	18.5	(0.8)	26.0	(0.8)	25.6	(0.8)	11.3	(0.6)	1.6	(0.3)
Poland	1.1	(0.2)	4.1	(0.5)	12.3	(0.7)	24.5	(0.8)	30.0	(0.8)	20.4	(0.8)	6.8	(0.7)	1.0	(0.2)
France	2.1	(0.4)	5.0	(0.6)	11.3	(0.8)	21.1	(1.1)	28.4	(1.2)	23.1	(1.2)	8.0	(0.8)	1.1	(0.3)
Latvia	0.7	(0.2)	4.0	(0.6)	13.8	(1.0)	26.5	(1.1)	31.4	(1.1)	18.9	(1.0)	4.4	(0.5)	0.3	(0.1)
New Brunswick	0.8	(0.3)	4.0	(0.7)	13.6	(1.3)	26.2	(1.9)	28.9	(1.7)	18.9	(1.2)	6.8	(1.0)	0.8	(0.3)
Portugal	0.9	(0.2)	4.4	(0.6)	13.2	(0.9)	26.6	(1.0)	30.9	(1.0)	18.7	(0.9)	4.9	(0.5)	0.5	(0.2)
Germany	1.4	(0.3)	5.1	(0.6)	12.2	(0.8)	21.4	(1.1)	28.6	(1.0)	23.1	(0.9)	7.4	(0.6)	0.8	(0.2)
Prince Edward Island	1.4	(0.4)	4.8	(0.7)	13.1	(1.0)	25.0	(1.8)	29.4	(1.6)	19.5	(1.6)	6.0	(0.9)	0.9	(0.3)
Hungary	1.2	(0.4)	4.8	(0.8)	13.5	(0.9)	24.5	(1.3)	30.7	(1.2)	20.4	(1.1)	4.6	(0.5)	0.3	(0.1)
Slovenia	1.3	(0.2)	5.4	(0.5)	14.9	(0.7)	27.0	(0.9)	31.5	(0.8)	17.1	(0.8)	2.7	(0.4)	0.1	(0.1)
Spain	2.3	(0.3)	5.9	(0.4)	14.8	(0.6)	26.8	(0.7)	30.7	(0.8)	16.1	(0.7)	3.2	(0.2)	0.2	(0.1)
Croatia	1.3	(0.3)	5.7	(0.5)	16.6	(1.0)	28.0	(0.9)	29.8	(1.1)	15.2	(0.9)	3.2	(0.4)	0.2	(0.1)
Czech Republic	2.1	(0.5)	5.7	(0.7)	15.8	(1.1)	27.6	(1.0)	27.1	(1.1)	16.5	(0.9)	4.7	(0.5)	0.4	(0.1)
Greece	2.2	(0.5)	6.5	(0.9)	14.9	(0.9)	27.0	(0.9)	29.3	(1.3)	16.4	(0.8)	3.4	(0.4)	0.3	(0.1)
Slovak Republic	1.5	(0.4)	6.1	(0.6)	16.5	(0.9)	28.0	(1.0)	28.6	(1.0)	15.6	(0.9)	3.4	(0.5)	0.3	(0.2)
Italy	2.6	(0.3)	6.4	(0.3)	15.2	(0.4)	24.5	(0.6)	27.6	(0.7)	18.1	(0.5)	5.1	(0.3)	0.5	(0.1)
Luxembourg	3.1	(0.3)	7.1	(0.7)	15.4	(0.6)	24.5	(0.7)	27.2	(0.8)	17.6	(0.7)	4.8	(0.3)	0.4	(0.1)

Table B.1.18 (concluded)

Percent of students at each level for countries, provinces and economies:
Non-continuous texts

Country, economy and province	Proficiency levels															
	Below Level 1b (less than 262.04 score points)		Level 1b (from 262.04 to less than 334.75 score points)		Level 1a (from 334.75 to less than 407.47 score points)		Level 2 (from 407.47 to less than 480.18 score points)		Level 3 (from 480.18 to less than 552.89 score points)		Level 4 (from 552.89 to less than 625.61 score points)		Level 5 (from 625.61 to 698.32 score points)		Level 6 (above 698.32 score points)	
	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
Turkey	1.4	(0.3)	6.5	(0.6)	18.5	(1.1)	30.8	(1.4)	28.4	(1.2)	12.4	(1.1)	2.0	(0.5)	0.1	(0.0)
Austria	3.2	(0.5)	8.6	(0.8)	15.3	(0.8)	22.4	(1.1)	26.2	(1.1)	18.5	(0.9)	5.4	(0.6)	0.5	(0.2)
Lithuania	1.5	(0.3)	6.9	(0.6)	19.0	(0.8)	29.3	(1.1)	26.9	(1.1)	13.4	(0.8)	2.8	(0.5)	0.2	(0.1)
Israel	5.5	(0.8)	8.9	(0.6)	15.1	(0.9)	21.9	(0.9)	23.6	(0.7)	16.8	(0.7)	6.9	(0.6)	1.3	(0.2)
Dubai (UAE)	4.4	(0.3)	9.8	(0.4)	17.6	(0.5)	23.6	(0.7)	23.3	(0.7)	15.4	(0.7)	5.3	(0.4)	0.7	(0.2)
Russian Federation	2.9	(0.5)	8.4	(0.7)	20.7	(1.0)	28.8	(0.8)	24.3	(1.0)	11.3	(0.7)	3.1	(0.4)	0.6	(0.2)
Chile	2.1	(0.3)	8.2	(0.7)	22.7	(1.0)	32.6	(1.1)	24.7	(1.2)	8.5	(0.8)	1.2	(0.4)	0.1	(0.0)
Serbia	3.9	(0.5)	10.5	(0.6)	21.4	(1.0)	30.2	(1.1)	23.7	(1.0)	8.9	(0.6)	1.4	(0.3)	0.1	(0.1)
Mexico	3.5	(0.3)	11.8	(0.5)	25.5	(0.5)	32.2	(0.6)	20.9	(0.6)	5.6	(0.3)	0.6	(0.1)	0.0	(0.0)
Romania	5.1	(0.7)	12.8	(1.0)	23.4	(1.2)	29.0	(1.3)	21.6	(1.4)	7.1	(0.8)	1.0	(0.3)	0.1	(0.0)
Thailand	1.5	(0.3)	10.1	(0.9)	30.5	(1.0)	36.2	(1.1)	17.3	(0.9)	4.0	(0.5)	0.4	(0.2)	0.0	(0.1)
Bulgaria	11.0	(1.3)	13.1	(1.2)	19.0	(1.3)	22.7	(1.1)	20.1	(1.4)	10.8	(1.1)	2.8	(0.6)	0.4	(0.2)
Uruguay	6.9	(0.7)	13.7	(0.8)	22.8	(0.8)	27.2	(0.7)	19.4	(0.8)	8.0	(0.6)	1.8	(0.3)	0.2	(0.1)
Trinidad and Tobago	9.7	(0.5)	14.0	(0.8)	21.3	(0.7)	24.4	(0.8)	19.2	(0.7)	9.0	(0.4)	2.2	(0.3)	0.3	(0.1)
Colombia	6.3	(0.9)	14.9	(1.1)	27.8	(1.1)	28.3	(1.1)	16.8	(1.1)	5.1	(0.5)	0.8	(0.2)	0.1	(0.1)
Brazil	6.1	(0.4)	16.5	(0.6)	27.8	(0.9)	26.8	(0.8)	15.5	(0.8)	6.1	(0.5)	1.2	(0.2)	0.1	(0.0)
Montenegro	8.7	(0.6)	16.9	(0.8)	27.0	(1.0)	26.4	(0.9)	16.1	(0.8)	4.4	(0.5)	0.6	(0.2)	0.0	(0.0)
Indonesia	4.6	(0.7)	16.2	(1.3)	33.0	(1.5)	31.0	(1.4)	12.8	(1.3)	2.3	(0.6)	0.1	(0.1)	0.0	(0.0)
Argentina	13.3	(1.2)	17.0	(1.1)	23.7	(1.2)	23.6	(1.1)	14.7	(1.3)	6.5	(0.8)	1.2	(0.3)	0.1	(0.1)
Jordan	13.7	(1.0)	16.5	(1.0)	24.4	(0.9)	25.0	(0.9)	14.4	(0.8)	5.1	(0.5)	1.0	(0.3)	0.1	(0.1)
Tunisia	8.6	(0.7)	18.0	(0.8)	28.6	(0.9)	27.1	(1.0)	13.9	(0.9)	3.4	(0.6)	0.4	(0.2)	0.0	(0.0)
Albania	16.7	(1.3)	20.3	(1.1)	25.9	(0.9)	22.6	(1.4)	11.6	(1.2)	2.7	(0.4)	0.3	(0.1)	0.0	(0.0)
Kazakhstan	16.8	(1.0)	20.8	(1.1)	25.4	(0.9)	20.1	(0.9)	11.3	(0.7)	4.6	(0.6)	1.0	(0.3)	0.1	(0.1)
Qatar	22.1	(0.4)	21.9	(0.5)	22.2	(0.5)	16.2	(0.5)	10.0	(0.3)	5.5	(0.3)	1.8	(0.2)	0.4	(0.1)
Peru	19.0	(1.1)	23.0	(1.0)	26.5	(1.0)	19.7	(1.0)	8.9	(0.9)	2.5	(0.5)	0.5	(0.2)	0.1	(0.1)
Panama	17.8	(2.0)	24.5	(1.6)	26.3	(1.5)	18.4	(1.5)	9.0	(1.2)	3.5	(0.7)	0.5	(0.2)	0.0	(0.0)
Azerbaijan	17.3	(1.5)	25.3	(1.0)	29.8	(1.0)	19.7	(1.2)	6.7	(0.7)	1.1	(0.3)	0.1	(0.1)	0.0	(0.0)
Kyrgyzstan	39.1	(1.4)	26.6	(1.0)	19.7	(0.9)	9.7	(0.8)	3.8	(0.5)	0.9	(0.2)	0.2	(0.1)	0.0	(0.0)

0 true zero or a value rounded to zero

S.E. Standard error

Note: Countries, economies and provinces have been sorted by the total percentage of students who attained level 2 or higher.

Table B.1.19

**Estimated average scores and school-language system differences for
combined reading and reading subscales, by province**

Province	English-language school system		French-language school system		Difference between the English-language and French-language school systems	
	average	standard error	average	standard error	difference	standard error
Combined reading						
Canada	527	(1.8)	517	(3.1)	10*	(3.6)*
Nova Scotia	517	(2.7)	479	(8.5)	38*	(9.0)*
New Brunswick	511	(3.1)	469	(3.3)	41*	(4.8)*
Quebec	520	(4.1)	522	(3.5)	-2	(5.4)
Ontario	533	(3.1)	475	(2.4)	58*	(3.9)*
Manitoba	496	(3.6)	487	(9.2)	8	(10.0)
Alberta	533	(4.6)	475	(7.0)	58*	(8.5)*
British Columbia	525	(4.2)	475	(9.1)	49*	(9.9)*
Accessing and retrieving						
Canada	519	(1.8)	510	(3.6)	9*	(4.2)*
Nova Scotia	507	(3.4)	474	(8.4)	32*	(9.1)*
New Brunswick	497	(4.1)	463	(3.3)	34*	(5.4)*
Quebec	513	(4.3)	515	(4.0)	-2	(5.8)
Ontario	525	(3.2)	465	(2.9)	61*	(4.3)*
Manitoba	497	(3.9)	485	(9.1)	12	(10.1)
Alberta	523	(4.5)	456	(11.3)	66*	(12.2)*
British Columbia	516	(4.5)	465	(9.0)	51*	(10.2)*
Integrating and interpreting						
Canada	524	(1.8)	516	(3.3)	8	(3.8)*
Nova Scotia	516	(2.9)	470	(8.4)	45*	(8.8)*
New Brunswick	512	(3.4)	468	(3.0)	45*	(4.8)*
Quebec	517	(3.7)	522	(3.7)	-5	(5.3)
Ontario	530	(3.1)	471	(2.6)	59*	(4.0)*
Manitoba	493	(4.1)	486	(8.4)	7	(9.3)
Alberta	532	(4.8)	476	(6.8)	56*	(8.5)*
British Columbia	522	(4.7)	469	(8.9)	53*	(10.3)*
Reflecting and evaluating						
Canada	540	(2.0)	521	(3.3)	19	(3.9)*
Nova Scotia	527	(3.0)	491	(8.0)	37*	(8.6)*
New Brunswick	517	(3.0)	476	(2.8)	41*	(4.2)*
Quebec	527	(4.0)	525	(3.7)	3	(5.4)
Ontario	548	(3.3)	493	(2.4)	55*	(4.1)*
Manitoba	504	(4.1)	499	(10.1)	5	(10.8)
Alberta	546	(4.4)	492	(6.8)	54*	(8.1)*
British Columbia	536	(4.2)	497	(11.6)	39*	(12.3)*
Continuous texts						
Canada	528	(1.8)	513	(3.2)	14	(3.7)*
Nova Scotia	517	(2.9)	471	(8.8)	47*	(9.4)*
New Brunswick	513	(3.2)	467	(2.9)	46*	(4.5)*
Quebec	519	(3.9)	519	(3.6)	0	(5.3)
Ontario	534	(3.2)	471	(2.6)	64*	(3.9)*
Manitoba	497	(4.1)	485	(9.0)	12	(10.1)
Alberta	534	(4.8)	472	(7.4)	61*	(8.9)*
British Columbia	524	(4.5)	470	(10.5)	54*	(11.4)*

Table B.1.19 (concluded)

**Estimated average scores and school-language system differences for
combined reading and reading subscales, by province**

Province	English-language school system		French-language school system		Difference between the English-language and French-language school systems	
	average	standard error	average	standard error	difference	standard error
Non-continuous texts						
Canada	530	(1.9)	519	(3.4)	12	(4.0)*
Nova Scotia	519	(2.9)	499	(10.1)	20*	(10.5)*
New Brunswick	502	(3.2)	469	(2.8)	33*	(4.4)*
Quebec	520	(4.1)	523	(3.9)	-3	(5.7)
Ontario	536	(3.4)	487	(2.9)	49*	(4.4)*
Manitoba	498	(3.6)	494	(8.5)	3	(9.4)
Alberta	539	(4.7)	480	(6.9)	59*	(8.5)*
British Columbia	531	(4.0)	490	(11.0)	41*	(11.5)*

0 true zero or a value rounded to zero

* Statistically significant differences.

Table B.1.20

**Estimated average scores and gender differences in student performance:
Combined reading and reading subscales**

Province	Gender differences					
	Females		Males		Difference between female and male	
	mean score	standard error	mean score	standard error	score difference	standard error
Combined reading						
Canada	542	(1.7)	507	(1.8)	34*	(1.9)*
Newfoundland and Labrador	529	(4.5)	483	(4.7)	45*	(5.3)*
Prince Edward Island	510	(3.3)	462	(4.0)	48*	(5.5)*
Nova Scotia	530	(3.2)	501	(3.9)	29*	(4.7)*
New Brunswick	515	(2.9)	483	(3.6)	32*	(4.4)*
Quebec	537	(3.3)	506	(3.9)	31*	(3.9)*
Ontario	549	(3.3)	513	(3.6)	36*	(3.9)*
Manitoba	511	(5.4)	479	(4.6)	32*	(7.2)*
Saskatchewan	524	(3.2)	486	(4.5)	37*	(4.6)*
Alberta	549	(5.7)	517	(4.6)	32*	(4.9)*
British Columbia	543	(4.1)	507	(5.4)	36*	(4.5)*
Accessing and retrieving						
Canada	536	(1.6)	498	(1.9)	38*	(2.0)*
Newfoundland and Labrador	524	(4.9)	477	(5.3)	47*	(6.4)*
Prince Edward Island	506	(3.4)	457	(4.1)	49*	(5.7)*
Nova Scotia	522	(3.8)	491	(4.9)	31*	(5.6)*
New Brunswick	504	(3.4)	470	(4.3)	34*	(5.0)*
Quebec	532	(3.8)	499	(4.3)	33*	(4.0)*
Ontario	542	(3.2)	504	(4.0)	38*	(4.0)*
Manitoba	517	(5.2)	476	(5.6)	41*	(7.7)*
Saskatchewan	528	(3.2)	478	(5.1)	50*	(5.0)*
Alberta	540	(5.3)	504	(4.9)	37*	(5.0)*
British Columbia	537	(4.3)	496	(5.9)	42*	(5.0)*

Table B.1.20 (concluded)

**Estimated average scores and gender differences in student performance:
Combined reading and reading subscales**

Province	Gender differences					
	Females		Males		Difference between female and male	
	mean score	standard error	mean score	standard error	score difference	standard error
Integrating and interpreting						
Canada	537	(1.8)	507	(1.9)	30*	(2.2)*
Newfoundland and Labrador	524	(5.1)	479	(4.6)	45*	(6.0)*
Prince Edward Island	505	(3.3)	459	(4.0)	46*	(5.6)*
Nova Scotia	529	(3.8)	500	(3.8)	29*	(5.0)*
New Brunswick	513	(2.9)	485	(4.2)	28*	(5.0)*
Quebec	535	(3.7)	507	(4.2)	27*	(4.5)*
Ontario	542	(3.5)	513	(3.6)	30*	(4.2)*
Manitoba	506	(5.9)	479	(4.9)	28*	(7.5)*
Saskatchewan	519	(3.5)	486	(4.7)	33*	(4.8)*
Alberta	547	(6.0)	517	(4.7)	30*	(5.0)*
British Columbia	539	(4.6)	506	(5.8)	32*	(4.7)*
Reflecting and evaluating						
Canada	555	(1.9)	516	(1.9)	38*	(2.0)*
Newfoundland and Labrador	541	(4.3)	496	(4.3)	44*	(5.3)*
Prince Edward Island	520	(3.1)	474	(3.8)	46*	(5.3)*
Nova Scotia	541	(3.6)	513	(4.2)	28*	(5.1)*
New Brunswick	524	(2.6)	486	(3.8)	37*	(4.6)*
Quebec	543	(3.4)	506	(4.0)	37*	(3.5)*
Ontario	567	(3.6)	525	(3.8)	43*	(4.1)*
Manitoba	520	(5.9)	487	(5.1)	34*	(7.8)*
Saskatchewan	537	(3.5)	498	(4.6)	39*	(4.7)*
Alberta	563	(5.9)	529	(4.2)	33*	(5.5)*
British Columbia	554	(4.1)	519	(5.4)	35*	(4.7)*
Continuous texts						
Canada	543	(1.7)	506	(1.9)	37*	(2.1)*
Newfoundland and Labrador	533	(4.5)	483	(5.1)	50*	(5.6)*
Prince Edward Island	512	(3.3)	461	(4.0)	51*	(5.5)*
Nova Scotia	531	(3.7)	502	(4.1)	30*	(5.3)*
New Brunswick	517	(3.0)	482	(3.6)	35*	(4.4)*
Quebec	536	(3.4)	501	(3.9)	35*	(3.8)*
Ontario	551	(3.4)	513	(3.9)	38*	(4.3)*
Manitoba	514	(6.0)	479	(5.0)	35*	(7.6)*
Saskatchewan	527	(3.2)	488	(4.5)	39*	(5.0)*
Alberta	550	(5.7)	516	(4.7)	34*	(4.8)*
British Columbia	543	(4.6)	505	(5.8)	38*	(5.3)*
Non-continuous texts						
Canada	544	(1.9)	511	(1.8)	33*	(2.0)*
Newfoundland and Labrador	534	(4.8)	487	(4.7)	47*	(5.4)*
Prince Edward Island	512	(3.1)	468	(4.0)	44*	(5.3)*
Nova Scotia	532	(3.7)	505	(4.3)	27*	(5.6)*
New Brunswick	505	(2.8)	479	(3.7)	27*	(4.6)*
Quebec	536	(3.7)	509	(4.1)	28*	(3.9)*
Ontario	552	(3.7)	516	(3.8)	36*	(4.1)*
Manitoba	513	(4.9)	481	(4.8)	32*	(6.7)*
Saskatchewan	526	(3.5)	489	(4.6)	38*	(4.9)*
Alberta	553	(5.7)	524	(4.8)	30*	(4.9)*
British Columbia	549	(4.1)	513	(5.1)	36*	(4.5)*

* Statistically significant differences.

Table B.1.21

Proportion of students who performed below Level 2 and at Level 4 and above on the combined reading scale, PISA 2000 and PISA 2009, Canada and the provinces

Canada and provinces	Below level 2						Level 4 and above					
	2000		2009		Difference between 2000 and 2009		2000		2009		Difference between 2000 and 2009	
	percent	standard error	percent	standard error	score difference	standard error	percent	standard error	percent	standard error	score difference	standard error
Canada	9.6	(0.4)	10.3	(0.5)	0.7	(0.6)	44.5	(0.7)	39.5	(0.8)	-5.0*	(1.0)*
Newfoundland and Labrador	13.7	(0.9)	13.7	(1.6)	0.0	(1.8)	36.8	(1.3)	31.0	(1.9)	-5.8*	(2.3)*
Prince Edward Island	12.7	(1.1)	21.2	(1.1)	8.4*	(1.5)	37.0	(1.2)	25.6	(1.3)	-11.3*	(1.8)*
Nova Scotia	12.0	(0.9)	11.1	(1.1)	-0.9	(1.4)	38.2	(1.4)	34.7	(1.5)	-3.5	(2.0)
New Brunswick	16.7	(0.8)	16.2	(1.0)	-0.5	(1.3)	30.5	(1.0)	28.5	(1.4)	-2.0	(1.7)
Quebec	8.3	(0.8)	10.4	(1.0)	2.1	(1.3)	45.0	(1.4)	38.6	(1.5)	-6.4*	(2.1)*
Ontario	9.9	(0.9)	8.4	(0.8)	-1.4	(1.2)	44.3	(1.4)	41.9	(1.6)	-2.4	(2.2)
Manitoba	10.5	(1.0)	17.6	(1.4)	7.1*	(1.7)	41.1	(1.7)	29.3	(1.5)	-11.8*	(2.3)*
Saskatchewan	9.2	(0.7)	15.4	(1.5)	6.2*	(1.6)	41.8	(1.6)	31.6	(1.5)	-10.2*	(2.2)*
Alberta	7.8	(0.9)	10.0	(1.2)	2.2	(1.5)	50.7	(1.4)	43.5	(2.1)	-7.2*	(2.5)*
British Columbia	9.3	(0.8)	10.7	(1.1)	1.5	(1.3)	46.8	(1.3)	39.8	(1.9)	-7.0*	(2.3)*

0 true zero or a value rounded to zero

* Statistically significant differences.

Table B.1.22

Score point difference favouring females on the combined reading scale, PISA 2000 and PISA 2009, Canada and the provinces

Canada and provinces	2000		2009	
	score difference	standard error	score difference	standard error
Canada	32	(1.6)	34	(1.9)
Newfoundland and Labrador	42	(4.3)	45	(5.3)
Prince Edward Island	35	(4.6)	48	(5.5)
Nova Scotia	32	(4.2)	29	(4.7)
New Brunswick	48*	(3.5)*	32*	(4.4)*
Quebec	32	(3.2)	31	(3.9)
Ontario	30	(3.4)	36	(3.9)
Manitoba	35	(4.0)	32	(7.2)
Saskatchewan	36	(3.7)	37	(4.6)
Alberta	38	(4.2)	32	(4.9)
British Columbia	31	(4.6)	36	(4.5)

* Statistically significant differences.

Table B.2.1

Estimated average scores and confidence intervals for countries, provinces and economies: Mathematics

Country, economy and province	estimated average score	standard error	confidence interval – 95% lower limit	confidence interval – 95% upper limit
Shanghai-China	600	(2.8)	595	606
Singapore	562	(1.4)	559	565
Hong Kong-China	555	(2.7)	549	560
Korea	546	(4.0)	538	554
Chinese Taipei	543	(3.4)	537	550
Quebec	543	(3.4)	536	550
Finland	541	(2.2)	536	545
Liechtenstein	536	(4.1)	528	544
Switzerland	534	(3.3)	527	540
Japan	529	(3.3)	522	536
Alberta	529	(4.4)	520	538
Canada	527	(1.6)	524	530
Netherlands	526	(4.7)	517	535
Ontario	526	(3.2)	519	532
Macao-China	525	(0.9)	523	527
British Columbia	523	(4.6)	514	532
New Zealand	519	(2.3)	515	524
Belgium	515	(2.3)	511	520
Australia	514	(2.5)	509	519
Germany	513	(2.9)	507	518
Estonia	512	(2.6)	507	517
Nova Scotia	512	(2.3)	508	517
Iceland	507	(1.4)	504	509
Saskatchewan	506	(3.2)	499	512
New Brunswick	504	(2.2)	499	508
Denmark	503	(2.6)	498	508
Newfoundland and Labrador	503	(2.8)	497	508
Slovenia	501	(1.2)	499	504
Manitoba	501	(3.6)	494	509
Norway	498	(2.4)	493	503
Slovak Republic	497	(3.1)	491	503
France	497	(3.1)	491	503
Austria	496	(2.7)	491	501
Poland	495	(2.8)	489	500
Sweden	494	(2.9)	489	500
Czech Republic	493	(2.8)	487	498
United Kingdom	492	(2.4)	488	497
Hungary	490	(3.5)	483	497
Luxembourg	489	(1.2)	487	491
Portugal	487	(2.9)	481	493
Ireland	487	(2.5)	482	492
United States	487	(3.6)	480	494
Prince Edward Island	487	(2.3)	483	492
Italy	483	(1.9)	479	487
Spain	483	(2.1)	479	488
Latvia	482	(3.1)	476	488
Lithuania	477	(2.6)	471	482
Russian Federation	468	(3.3)	461	474
Greece	466	(3.9)	458	474
Croatia	460	(3.1)	454	466
Dubai (UAE)	453	(1.1)	450	455
Israel	447	(3.3)	440	453

Table B.2.1 (concluded)

Estimated average scores and confidence intervals for countries, provinces and economies: Mathematics

Country, economy and province	estimated average score	standard error	confidence interval – 95% lower limit	confidence interval – 95% upper limit
Turkey	445	(4.4)	437	454
Serbia	442	(2.9)	437	448
Azerbaijan	431	(2.8)	426	436
Bulgaria	428	(5.9)	417	440
Romania	427	(3.4)	420	434
Uruguay	427	(2.6)	422	432
Chile	421	(3.1)	415	427
Thailand	419	(3.2)	412	425
Mexico	419	(1.8)	415	422
Trinidad and Tobago	414	(1.3)	412	417
Kazakhstan	405	(3.0)	399	411
Montenegro	403	(2.0)	399	406
Argentina	388	(4.1)	380	396
Jordan	387	(3.7)	379	394
Brazil	386	(2.4)	381	390
Colombia	381	(3.2)	374	387
Albania	377	(4.0)	370	385
Tunisia	371	(3.0)	366	377
Indonesia	371	(3.7)	364	379
Qatar	368	(0.7)	367	369
Peru	365	(4.0)	357	373
Panama	360	(5.2)	349	370
Kyrgyzstan	331	(2.9)	326	337

Table B.2.2

Estimated average scores and confidence intervals for countries, provinces and economies: Science

Country, economy and province	estimated average score	standard error	confidence interval – 95% lower limit	confidence interval – 95% upper limit
Shanghai-China	575	(2.3)	570	579
Finland	554	(2.3)	550	559
Hong Kong-China	549	(2.8)	544	554
Alberta	545	(4.2)	536	553
Singapore	542	(1.4)	539	544
Japan	539	(3.4)	533	546
Korea	538	(3.4)	531	545
British Columbia	535	(4.1)	527	543
New Zealand	532	(2.6)	527	537
Ontario	531	(3.3)	525	538
Canada	529	(1.6)	526	532
Estonia	528	(2.7)	523	533
Australia	527	(2.5)	522	532
Quebec	524	(3.2)	518	531
Nova Scotia	523	(2.7)	518	529
Netherlands	522	(5.4)	512	533
Liechtenstein	520	(3.4)	513	527
Germany	520	(2.8)	515	526
Chinese Taipei	520	(2.6)	515	526
Newfoundland and Labrador	518	(3.0)	512	524
Switzerland	517	(2.8)	511	522
United Kingdom	514	(2.5)	509	519
Saskatchewan	513	(3.7)	506	520
Slovenia	512	(1.1)	510	514
Macao-China	511	(1.0)	509	513
Poland	508	(2.4)	503	513
Ireland	508	(3.3)	502	514
Belgium	507	(2.5)	502	512
Manitoba	506	(4.0)	498	514
Hungary	503	(3.1)	496	509
United States	502	(3.6)	495	509
New Brunswick	501	(2.4)	496	505
Norway	500	(2.6)	495	505
Czech Republic	500	(3.0)	495	506
Denmark	499	(2.5)	494	504
France	498	(3.6)	491	505
Iceland	496	(1.4)	493	498
Sweden	495	(2.7)	490	500
Prince Edward Island	495	(2.4)	490	499
Latvia	494	(3.1)	488	500
Austria	494	(3.2)	488	501
Portugal	493	(2.9)	487	499
Lithuania	491	(2.9)	486	497
Slovak Republic	490	(3.0)	484	496
Italy	489	(1.8)	485	492
Spain	488	(2.1)	484	492
Croatia	486	(2.8)	481	492
Luxembourg	484	(1.2)	482	486
Russian Federation	478	(3.3)	472	485
Greece	470	(4.0)	462	478
Dubai (UAE)	466	(1.2)	464	469
Israel	455	(3.1)	449	461

Table B.2.2 (concluded)

Estimated average scores and confidence intervals for countries, provinces and economies: Science

Country, economy and province	estimated average score	standard error	confidence interval – 95% lower limit	confidence interval – 95% upper limit
Turkey	454	(3.6)	447	461
Chile	447	(2.9)	442	453
Serbia	443	(2.4)	438	447
Bulgaria	439	(5.9)	428	451
Romania	428	(3.4)	422	435
Uruguay	427	(2.6)	422	432
Thailand	425	(3.0)	419	431
Mexico	416	(1.8)	412	419
Jordan	415	(3.5)	408	422
Trinidad and Tobago	410	(1.2)	408	413
Brazil	405	(2.4)	401	410
Colombia	402	(3.6)	395	409
Argentina	401	(4.6)	392	410
Montenegro	401	(2.0)	397	405
Tunisia	401	(2.7)	395	406
Kazakhstan	400	(3.1)	394	407
Albania	391	(3.9)	383	398
Indonesia	383	(3.8)	375	390
Qatar	379	(0.9)	378	381
Panama	376	(5.7)	365	387
Azerbaijan	373	(3.1)	367	379
Peru	369	(3.5)	363	376
Kyrgyzstan	330	(2.9)	324	335

Table B.2.3

Variation in performance: Mathematics

Country, economy and province	Percentile												Difference in score points between the 75th and 25th percentile
	5th		10th		25th		75th		90th		95th		
	score	standard error	score	standard error	score	standard error	score	standard error	score	standard error	score	standard error	
Azerbaijan	334	(3.0)	354	(2.7)	387	(2.9)	469	(3.2)	512	(5.2)	541	(7.0)	82
Indonesia	260	(4.9)	284	(4.6)	324	(3.7)	416	(4.6)	462	(6.4)	493	(8.6)	92
Colombia	259	(5.8)	286	(5.1)	330	(4.0)	431	(3.4)	479	(4.2)	509	(4.2)	101
Panama	235	(8.2)	261	(7.0)	306	(5.6)	408	(6.8)	466	(8.6)	503	(8.8)	102
Thailand	295	(4.5)	321	(4.2)	365	(3.5)	469	(3.7)	522	(5.4)	554	(6.8)	104
Brazil	261	(3.0)	287	(2.7)	331	(2.3)	435	(3.3)	493	(4.7)	531	(5.9)	104
Kyrgyzstan	204	(4.9)	231	(3.9)	278	(3.2)	382	(3.8)	436	(5.3)	473	(7.0)	104
Tunisia	247	(4.8)	273	(4.3)	318	(3.7)	423	(3.4)	471	(4.9)	499	(6.6)	105
Mexico	289	(3.2)	318	(2.6)	366	(2.2)	472	(2.1)	520	(2.8)	547	(3.3)	106
Chile	293	(4.7)	322	(3.8)	366	(3.1)	473	(4.2)	527	(5.1)	559	(5.8)	107
Newfoundland and Labrador	368	(7.5)	397	(7.2)	449	(3.6)	558	(4.2)	606	(5.1)	634	(6.0)	109
Liechtenstein	385	(19.0)	421	(9.4)	484	(7.9)	593	(5.5)	637	(12.0)	669	(15.0)	109
Romania	299	(4.4)	326	(4.1)	372	(4.0)	481	(3.6)	530	(5.4)	560	(6.5)	109
Estonia	378	(6.0)	409	(3.5)	458	(3.7)	567	(2.7)	616	(3.6)	643	(3.6)	109
Latvia	352	(4.9)	379	(4.5)	427	(3.7)	537	(3.8)	584	(3.8)	612	(3.7)	110
Jordan	249	(7.8)	281	(4.8)	333	(3.5)	443	(4.4)	490	(5.5)	520	(6.9)	110
Kazakhstan	276	(4.3)	303	(3.3)	347	(3.5)	458	(4.3)	514	(5.3)	548	(7.0)	111
New Brunswick	363	(6.9)	396	(5.4)	447	(4.5)	559	(4.1)	614	(5.6)	644	(5.2)	112
Montenegro	263	(4.0)	295	(4.4)	346	(2.8)	458	(2.2)	509	(2.7)	543	(3.9)	112
Finland	399	(4.4)	431	(3.7)	487	(3.0)	599	(2.5)	644	(2.6)	669	(3.6)	112
Russian Federation	329	(5.1)	360	(4.5)	411	(4.2)	524	(3.8)	576	(5.3)	609	(7.2)	113
Nova Scotia	371	(7.4)	405	(5.8)	456	(3.4)	570	(3.7)	620	(5.2)	649	(5.2)	114
Ontario	383	(7.0)	416	(4.7)	469	(3.9)	585	(3.8)	631	(3.9)	657	(4.2)	116
Saskatchewan	358	(10.0)	393	(7.4)	450	(5.1)	566	(3.9)	613	(5.1)	640	(6.0)	116
Norway	354	(4.1)	387	(3.6)	441	(3.2)	557	(2.9)	608	(3.4)	636	(4.0)	116
Macao-China	383	(2.7)	415	(2.7)	468	(1.5)	584	(1.3)	634	(1.6)	663	(2.5)	116
Ireland	338	(5.8)	376	(4.4)	432	(3.1)	548	(2.8)	591	(3.1)	617	(4.3)	116
Prince Edward Island	339	(7.5)	374	(4.8)	431	(4.2)	549	(3.6)	595	(4.7)	625	(6.2)	118
United Kingdom	348	(3.5)	380	(3.1)	434	(3.0)	552	(3.2)	606	(3.9)	635	(3.2)	118
Denmark	358	(4.4)	390	(4.0)	445	(3.1)	564	(3.3)	614	(3.4)	644	(4.6)	119
Canada	379	(3.0)	413	(2.7)	468	(2.0)	588	(1.9)	638	(2.2)	665	(2.2)	120
Lithuania	332	(5.3)	363	(4.2)	417	(3.0)	537	(3.1)	590	(4.0)	621	(5.4)	120
Manitoba	361	(6.6)	387	(6.6)	442	(5.7)	563	(3.7)	610	(4.6)	637	(6.1)	121
British Columbia	375	(8.0)	408	(5.8)	465	(5.2)	586	(4.9)	635	(5.0)	664	(5.5)	121
Peru	222	(4.5)	252	(4.0)	303	(3.7)	424	(5.2)	480	(6.4)	516	(9.0)	121
Albania	226	(7.0)	261	(5.0)	317	(5.2)	438	(4.8)	493	(5.7)	526	(6.4)	121
Greece	319	(7.3)	352	(5.9)	406	(4.4)	527	(3.6)	580	(4.1)	613	(4.4)	121
Iceland	352	(4.0)	388	(3.5)	447	(2.0)	569	(2.0)	623	(2.8)	652	(3.3)	122
Croatia	315	(4.8)	347	(4.1)	399	(3.5)	521	(3.8)	574	(5.4)	606	(5.6)	122
Spain	328	(4.1)	364	(2.9)	424	(2.5)	546	(2.3)	597	(2.3)	625	(2.9)	122
Poland	348	(5.2)	380	(3.8)	434	(3.3)	557	(3.2)	609	(4.1)	638	(4.6)	123
Korea	397	(8.4)	430	(6.8)	486	(5.3)	609	(4.3)	659	(4.6)	689	(6.5)	123
Quebec	387	(7.5)	425	(5.9)	484	(5.2)	608	(3.3)	655	(3.3)	681	(5.1)	124
Argentina	231	(7.9)	271	(6.0)	327	(4.3)	451	(5.0)	509	(7.1)	543	(7.0)	124
Serbia	295	(4.8)	327	(4.3)	380	(3.7)	504	(3.2)	560	(4.3)	592	(5.3)	124
Qatar	227	(2.3)	255	(1.5)	300	(1.3)	425	(1.5)	506	(2.4)	557	(3.5)	125
Uruguay	278	(3.9)	310	(4.0)	364	(3.4)	490	(3.1)	546	(4.1)	578	(4.5)	126
Hungary	334	(8.4)	370	(7.1)	428	(4.6)	554	(4.5)	608	(5.6)	637	(5.6)	126
United States	337	(4.3)	368	(4.3)	425	(3.9)	551	(4.9)	607	(4.6)	637	(5.9)	126
Japan	370	(6.4)	407	(5.4)	468	(4.4)	595	(3.7)	648	(4.8)	677	(5.4)	127
Portugal	335	(3.8)	367	(3.5)	424	(3.4)	551	(3.4)	605	(4.3)	635	(5.1)	127
Alberta	380	(8.3)	410	(6.0)	466	(5.2)	594	(5.8)	645	(5.6)	672	(6.4)	128
Italy	330	(3.1)	363	(2.4)	420	(1.9)	548	(2.5)	602	(2.5)	632	(2.8)	128
Sweden	339	(4.4)	374	(4.2)	432	(3.1)	560	(3.3)	613	(3.9)	643	(4.1)	128
Turkey	304	(5.2)	331	(3.6)	378	(3.8)	506	(6.3)	574	(9.0)	613	(12.0)	128
Czech Republic	342	(5.6)	374	(4.3)	428	(3.5)	557	(3.8)	615	(4.3)	649	(4.6)	129
Slovak Republic	342	(6.3)	376	(4.7)	432	(3.7)	561	(3.8)	621	(5.4)	654	(6.4)	129

Table B.2.3 (concluded)

Variation in performance: Mathematics

Country, economy and province	Percentile										Difference in score points between the 75th and 25th percentile		
	5th		10th		25th		75th		90th			95th	
	score	standard error	score	standard error	score	standard error	score	standard error	score	standard error		score	standard error
Australia	357	(3.3)	393	(2.8)	451	(2.5)	580	(3.1)	634	(3.9)	665	(5.0)	129
Hong Kong-China	390	(5.1)	428	(4.9)	492	(3.5)	622	(3.1)	673	(3.9)	703	(4.7)	130
Netherlands	378	(5.6)	406	(5.6)	460	(6.8)	593	(4.4)	640	(4.4)	665	(3.9)	133
Slovenia	345	(3.6)	379	(2.4)	435	(2.5)	569	(2.3)	628	(3.6)	659	(3.6)	134
New Zealand	355	(4.9)	392	(4.4)	454	(2.8)	589	(3.1)	642	(3.9)	671	(3.4)	135
Switzerland	363	(4.8)	401	(3.6)	468	(4.2)	604	(3.9)	658	(4.1)	689	(4.8)	136
Bulgaria	269	(6.9)	302	(5.8)	359	(6.2)	496	(6.6)	555	(9.0)	593	(12.0)	137
Luxembourg	324	(3.9)	360	(3.1)	423	(1.7)	560	(2.2)	613	(2.5)	643	(2.5)	137
Dubai (UAE)	294	(3.1)	326	(2.5)	382	(2.3)	523	(2.1)	584	(3.3)	619	(3.6)	141
Austria	338	(6.6)	370	(4.4)	425	(3.5)	566	(3.5)	620	(3.5)	650	(3.5)	141
France	321	(5.8)	361	(6.3)	429	(4.8)	570	(3.7)	622	(3.9)	652	(5.4)	141
Germany	347	(5.0)	380	(4.7)	443	(4.4)	585	(3.1)	638	(3.5)	666	(3.7)	142
Trinidad and Tobago	252	(4.0)	287	(2.7)	342	(2.5)	484	(2.5)	545	(1.8)	580	(2.4)	142
Shanghai-China	421	(7.1)	462	(5.0)	531	(4.0)	674	(3.2)	726	(4.2)	757	(4.6)	143
Israel	272	(6.7)	310	(6.1)	374	(4.6)	520	(4.2)	581	(5.2)	614	(5.2)	146
Chinese Taipei	366	(5.0)	405	(3.8)	471	(3.6)	618	(4.6)	675	(5.4)	709	(6.6)	147
Singapore	383	(3.0)	422	(4.1)	490	(2.9)	638	(2.0)	693	(2.5)	725	(3.8)	148
Belgium	335	(5.3)	373	(4.9)	444	(3.1)	593	(2.4)	646	(3.0)	675	(3.2)	149

Note: Countries, economies and provinces in ascending order by the difference in score points between the 75th and 25th percentiles.

Table B.2.4

Variation in performance: Science

Country, economy and province	Percentile										Difference in score points between the 75th and 25th percentile		
	5th		10th		25th		75th		90th			95th	
	score	standard error	score	standard error	score	standard error	score	standard error	score	standard error		score	standard error
Macao-China	381	(2.6)	411	(1.9)	461	(2.0)	564	(1.7)	608	(2.5)	632	(3.2)	103
Thailand	297	(5.6)	326	(4.8)	373	(3.2)	477	(3.3)	527	(4.1)	559	(5.7)	104
Latvia	365	(5.7)	392	(4.5)	440	(4.1)	548	(3.2)	593	(4.0)	619	(3.3)	108
Colombia	268	(6.6)	298	(6.2)	348	(4.7)	457	(3.6)	506	(3.6)	536	(4.1)	109
Romania	301	(5.0)	327	(4.2)	373	(4.4)	483	(4.0)	530	(4.2)	558	(4.2)	110
Brazil	275	(3.5)	302	(3.1)	348	(2.3)	458	(3.4)	517	(4.0)	554	(4.8)	110
Turkey	322	(5.0)	350	(4.2)	397	(3.3)	510	(4.6)	560	(5.8)	587	(6.4)	113
Lithuania	351	(6.1)	382	(4.9)	434	(3.7)	549	(3.2)	600	(3.9)	630	(3.7)	115
Newfoundland and Labrador	373	(9.4)	410	(5.4)	461	(4.6)	577	(5.5)	630	(6.4)	660	(9.1)	116
Kazakhstan	262	(4.9)	293	(4.3)	342	(3.4)	458	(3.8)	515	(5.1)	549	(6.1)	116
Croatia	348	(4.7)	377	(4.0)	429	(3.7)	546	(3.5)	595	(4.0)	624	(5.0)	117
Chinese Taipei	370	(4.4)	404	(3.6)	464	(3.1)	581	(3.3)	628	(4.3)	654	(4.4)	117
Nova Scotia	376	(7.4)	412	(5.7)	466	(4.5)	584	(4.6)	633	(5.1)	663	(6.0)	118
British Columbia	382	(7.6)	417	(6.8)	478	(5.5)	596	(4.5)	646	(5.2)	674	(5.6)	118
Peru	225	(5.3)	256	(4.5)	310	(3.7)	428	(4.2)	484	(6.4)	519	(7.8)	118
Montenegro	258	(4.9)	290	(4.1)	343	(3.0)	461	(1.9)	512	(3.0)	543	(3.9)	118
Kyrgyzstan	183	(4.9)	215	(4.7)	269	(3.9)	388	(3.4)	444	(5.0)	482	(6.1)	119
New Brunswick	359	(5.8)	390	(4.9)	439	(4.0)	559	(3.5)	615	(7.1)	647	(5.7)	120
Quebec	374	(8.1)	410	(5.9)	467	(4.1)	587	(3.3)	634	(4.2)	659	(3.5)	120
Russian Federation	331	(5.8)	364	(4.7)	418	(4.0)	539	(3.5)	594	(4.6)	628	(5.2)	121
Panama	232	(7.5)	260	(7.9)	315	(7.6)	436	(6.7)	495	(8.0)	527	(6.2)	121
Finland	400	(4.2)	437	(4.2)	496	(3.3)	617	(2.9)	665	(3.0)	694	(3.6)	121
Norway	346	(4.4)	382	(3.4)	440	(3.0)	563	(2.9)	615	(3.7)	644	(4.0)	123

Table B.2.4 (concluded)

Variation in performance: Science

Country, economy and province	Percentile												Difference in score points between the 75th and 25th percentile
	5th		10th		25th		75th		90th		95th		
	score	standard error	score	standard error	score	standard error	score	standard error	score	standard error	score	standard error	
Albania	242	(5.4)	276	(4.7)	331	(4.5)	454	(4.8)	504	(4.9)	532	(4.8)	123
Canada	377	(2.8)	412	(2.7)	469	(2.0)	593	(1.7)	642	(1.7)	669	(2.6)	124
Saskatchewan	362	(7.5)	395	(6.4)	453	(5.6)	577	(5.1)	627	(5.6)	658	(6.1)	124
Ontario	379	(6.0)	416	(4.9)	471	(4.2)	596	(3.8)	644	(3.7)	671	(5.6)	125
Liechtenstein	374	(10.0)	403	(9.6)	458	(7.4)	583	(6.0)	631	(9.3)	658	(8.2)	125
Iceland	330	(4.3)	370	(4.3)	435	(2.6)	561	(2.2)	616	(2.9)	647	(4.4)	126
Denmark	343	(4.1)	379	(3.9)	438	(3.1)	564	(2.9)	615	(3.7)	645	(3.8)	126
Alberta	392	(6.5)	424	(6.2)	482	(4.8)	609	(5.1)	660	(5.9)	689	(6.7)	127
Prince Edward Island	339	(5.1)	373	(4.5)	431	(3.8)	560	(4.0)	611	(5.0)	642	(6.4)	129
Manitoba	345	(9.4)	383	(6.9)	443	(5.8)	574	(5.2)	625	(5.1)	652	(5.1)	131
Uruguay	268	(5.2)	303	(3.6)	362	(3.4)	493	(3.5)	551	(3.8)	584	(4.2)	131
Japan	361	(8.7)	405	(7.3)	477	(4.8)	610	(3.2)	659	(3.5)	686	(4.1)	133
Italy	325	(3.8)	362	(2.6)	424	(2.3)	557	(2.0)	609	(2.0)	639	(2.3)	133
Switzerland	352	(4.2)	388	(3.6)	452	(3.5)	585	(3.4)	637	(3.8)	666	(4.3)	133
Sweden	327	(4.7)	367	(4.6)	429	(3.8)	564	(3.4)	622	(3.9)	654	(4.8)	135
United Kingdom	348	(4.3)	385	(3.6)	447	(3.7)	583	(3.1)	640	(3.3)	672	(3.9)	136
Argentina	228	(11.0)	271	(7.6)	334	(5.5)	471	(5.5)	530	(6.6)	564	(7.9)	137
Netherlands	362	(6.9)	395	(7.0)	453	(7.6)	594	(5.1)	645	(4.8)	673	(4.9)	141
Germany	345	(7.0)	383	(6.2)	452	(4.1)	594	(3.3)	645	(3.5)	675	(3.8)	142
Luxembourg	304	(4.5)	345	(3.2)	415	(3.1)	558	(2.2)	615	(2.2)	646	(4.0)	143
Belgium	321	(6.2)	364	(4.8)	438	(3.6)	583	(2.8)	634	(3.1)	661	(3.2)	145
Austria	321	(6.9)	358	(6.2)	424	(4.8)	569	(3.6)	623	(3.3)	653	(3.4)	145
Singapore	362	(3.5)	401	(3.1)	471	(2.0)	617	(2.0)	673	(3.0)	704	(4.1)	146
Bulgaria	263	(7.7)	302	(7.0)	367	(7.6)	514	(6.8)	575	(5.7)	607	(7.0)	147
Israel	275	(8.1)	314	(5.5)	382	(4.5)	531	(3.3)	590	(4.0)	623	(4.2)	149
Dubai (UAE)	295	(2.4)	330	(2.5)	391	(1.6)	542	(1.9)	606	(3.0)	638	(3.3)	151
Poland	364	(3.9)	396	(3.3)	448	(2.7)	569	(2.7)	621	(2.9)	650	(3.8)	121
Portugal	354	(4.0)	384	(3.7)	436	(3.7)	551	(3.0)	601	(3.3)	627	(3.8)	115
Spain	338	(3.5)	373	(3.2)	431	(3.0)	549	(2.2)	597	(2.2)	625	(2.3)	118
Mexico	291	(2.8)	318	(2.1)	364	(1.7)	468	(2.1)	517	(2.8)	544	(2.8)	104
Greece	318	(7.6)	353	(6.3)	409	(5.3)	535	(3.8)	586	(3.6)	616	(3.4)	126
Hungary	348	(11.0)	388	(7.6)	446	(4.6)	564	(3.7)	609	(3.6)	636	(4.4)	118
Korea	399	(6.5)	431	(5.2)	485	(4.2)	595	(3.7)	640	(3.7)	665	(4.8)	110
Czech Republic	338	(6.5)	375	(5.6)	437	(3.9)	568	(3.4)	624	(4.0)	657	(4.4)	131
Slovak Republic	335	(6.0)	371	(4.9)	427	(3.9)	556	(3.4)	612	(4.1)	643	(4.6)	129
Hong Kong-China	393	(7.3)	432	(4.9)	494	(3.9)	610	(2.9)	655	(2.9)	681	(3.3)	116
Tunisia	265	(4.1)	296	(3.6)	345	(3.2)	458	(3.3)	504	(4.5)	531	(5.4)	113
Estonia	388	(5.0)	419	(4.7)	472	(3.8)	586	(3.1)	635	(3.5)	665	(4.4)	114
Jordan	264	(6.2)	301	(5.4)	357	(4.4)	477	(3.9)	526	(4.4)	556	(5.0)	120
Qatar	228	(2.4)	257	(1.7)	306	(1.5)	443	(1.7)	524	(2.5)	572	(2.8)	137
Ireland	341	(8.3)	382	(4.9)	445	(3.7)	576	(3.3)	627	(4.0)	656	(4.4)	131
Chile	315	(4.3)	343	(4.1)	392	(3.5)	502	(3.6)	553	(3.8)	583	(5.0)	110
United States	341	(4.8)	374	(4.5)	433	(3.9)	572	(4.7)	629	(5.1)	662	(6.7)	139
Azerbaijan	257	(4.9)	281	(4.0)	321	(3.6)	421	(3.7)	471	(5.1)	502	(5.6)	100
France	314	(8.1)	358	(7.1)	433	(5.6)	572	(3.8)	624	(4.2)	653	(4.6)	139
New Zealand	348	(5.6)	390	(4.3)	461	(4.1)	608	(3.0)	667	(3.3)	697	(3.6)	147
Indonesia	272	(5.4)	296	(4.0)	336	(3.7)	428	(4.6)	472	(6.2)	499	(5.4)	92
Shanghai-China	430	(4.9)	467	(4.3)	523	(3.0)	632	(2.8)	674	(3.4)	700	(3.3)	109
Serbia	302	(5.0)	334	(4.4)	387	(3.1)	501	(3.0)	548	(3.3)	579	(3.2)	114
Slovenia	355	(2.9)	387	(2.3)	446	(2.0)	580	(2.3)	633	(3.0)	661	(4.1)	134
Trinidad and Tobago	234	(3.6)	271	(3.2)	335	(3.1)	484	(2.9)	552	(2.6)	592	(3.2)	149
Australia	355	(4.0)	395	(4.0)	461	(2.8)	597	(2.8)	655	(3.9)	688	(5.0)	136

Note: Countries, economies and provinces in ascending order by the difference in score points between the 75th and 25th percentiles.

Table B.2.5

**Estimated average scores and school language system differences for
mathematics and science by province**

Province	English-language school system		French-language school system		Difference between the English-language and French-language school systems	
	average	standard error	average	standard error	score difference	standard error
Mathematics						
Nova Scotia	512	(2.3)	505	7.2	8	(7.8)
New Brunswick	508	(3.2)	494	3.1	14*	(5.0)*
Quebec	533	(4.3)	544	3.8	-11*	(5.6)*
Ontario	527	(3.3)	500	2.3	27*	(3.8)*
Manitoba	501	(3.7)	508	7.6	-6	(8.6)
Alberta	529	(4.4)	490	7.1	39*	(8.3)*
British Columbia	524	(4.6)	483	11.1	41*	(12.0)*
Canada	523	(1.8)	539	(3.4)	-16*	(3.8)*
Science						
Nova Scotia	524	(2.8)	490	10.2	34*	(10.8)*
New Brunswick	512	(3.2)	473	2.9	40*	(4.8)*
Quebec	521	(3.8)	525	3.6	-4	(5.3)
Ontario	533	(3.4)	484	2.3	49*	(4.1)*
Manitoba	506	(4.0)	498	6.1	8	(7.5)
Alberta	545	(4.3)	481	7.8	64*	(8.9)*
British Columbia	535	(4.1)	482	8.7	53*	(9.7)*
Canada	532	(1.8)	520	(3.2)	12*	(3.6)*

* Statistically significant differences.

Table B.2.6

**Estimated average scores and gender differences in student performance:
Mathematics and science**

	Gender differences					
	Females		Males		Difference between female and male	
	mean score	standard error	mean score	standard error	score difference	standard error
Canada and provinces						
Mathematics						
Newfoundland and Labrador	501	(3.7)	504	(3.9)	-4	(4.9)
Prince Edward Island	485	(3.5)	490	(3.9)	-4	(5.8)
Nova Scotia	504	(3.0)	520	(3.4)	-17*	(4.5)*
New Brunswick	495	(3.1)	513	(3.2)	-18*	(4.4)*
Quebec	534	(3.7)	552	(4.3)	-17*	(3.8)*
Ontario	522	(3.4)	529	(4.0)	-7	(3.7)
Manitoba	497	(4.9)	506	(4.4)	-9	(6.0)
Saskatchewan	503	(3.8)	508	(3.9)	-5	(4.1)
Alberta	521	(5.3)	537	(4.5)	-17*	(4.5)*
British Columbia	515	(4.7)	531	(5.4)	-16*	(4.5)*
Canada	521	(1.7)	533	(2.0)	-12*	(1.8)*
Science						
Newfoundland and Labrador	520	(4.0)	516	(4.2)	3	(5.5)
Prince Edward Island	498	(3.5)	491	(3.9)	6	(5.7)
Nova Scotia	520	(3.2)	526	(3.9)	-6	(4.7)
New Brunswick	495	(2.9)	507	(3.4)	-12*	(4.1)*
Quebec	519	(3.5)	529	(4.1)	-10*	(3.9)*
Ontario	530	(3.9)	533	(3.7)	-3	(3.9)
Manitoba	503	(5.2)	509	(5.2)	-6	(6.9)
Saskatchewan	512	(3.7)	515	(4.9)	-3	(4.9)
Alberta	543	(5.4)	547	(4.2)	-4	(4.8)
British Columbia	534	(4.0)	535	(5.4)	-1	(5.0)
Canada	526	(1.9)	531	(1.9)	-5*	(1.9)*

* Statistically significant differences.



Measuring up: Canadian Results of the OECD PISA Study

The Performance of Canada's Youth in Reading, Mathematics and Science

2009 First Results for Canadians Aged 15

The Program for International Student Assessment (PISA) is a collaborative effort among member countries of the Organisation for Economic Co-operation and Development. In Canada, PISA is administered through a partnership of the Council of Ministers of Education, Canada, Human Resources and Skills Development Canada and Statistics Canada.

This program is designed to assess, on a regular basis, the achievement of 15-year-olds in reading, mathematical and scientific literacy through a common international test. Canada and 64 other countries and economies participated in PISA 2009, which had a special focus on reading. About 23,000 15-year-olds from more than 1,000 schools took part in Canada.

This report provides results of the PISA 2009 assessment of student performance in reading, mathematics and science at the provincial level and compares the achievement of Canadian students to that of students internationally.

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