



Annex B

PISA 2012 DATA

All tables in Annex B are available online

Annex B1: Results for countries and economies

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Annex B2: Results for regions within countries

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Annex B3: List of tables available online

The reader should note that there are gaps
in the numbering of tables because some tables
appear online only and are not included in this publication.

Notes regarding Cyprus

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

Note by all the European Union Member States of the OECD and the European Union: The Republic of Cyprus is recognised by all members of the United Nations with the exception of Turkey. The information in this document relates to the area under the effective control of the Government of the Republic of Cyprus.

A note regarding Israel

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



ANNEX B1

RESULTS FOR COUNTRIES AND ECONOMIES

[Part 1/2]
Table V.2.1 Percentage of students at each proficiency level in problem solving

	Percentage of students at each level											
	Below Level 1 (below 358.49 score points)		Level 1 (from 358.49 to less than 423.42 score points)		Level 2 (from 423.42 to less than 488.35 score points)		Level 3 (from 488.35 to less than 553.28 score points)		Level 4 (from 553.28 to less than 618.21 score points)		Level 5 (from 618.21 to less than 683.14 score points)	
	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia	5.0 (0.3)	10.5 (0.5)	19.4 (0.5)	25.8 (0.7)	22.6 (0.5)	12.3 (0.5)	4.4 (0.3)				
	Austria	6.5 (0.9)	11.9 (0.8)	21.8 (1.1)	26.9 (1.2)	21.9 (1.0)	9.0 (0.8)	2.0 (0.4)				
	Belgium	9.2 (0.6)	11.6 (0.6)	18.3 (0.7)	24.5 (0.6)	22.0 (0.7)	11.4 (0.7)	3.0 (0.3)				
	Canada	5.1 (0.4)	9.6 (0.4)	19.0 (0.6)	25.8 (0.7)	22.9 (0.6)	12.4 (0.6)	5.1 (0.4)				
	Chile	15.1 (1.3)	23.1 (1.1)	28.6 (1.0)	22.2 (1.0)	8.8 (0.7)	1.9 (0.3)	0.2 (0.1)				
	Czech Republic	6.5 (0.7)	11.9 (0.9)	20.7 (1.0)	27.2 (0.9)	21.8 (0.9)	9.5 (0.7)	2.4 (0.3)				
	Denmark	7.3 (0.7)	13.1 (0.7)	24.1 (0.8)	27.8 (0.9)	19.0 (1.1)	7.2 (0.7)	1.6 (0.3)				
	Estonia	4.0 (0.5)	11.1 (0.8)	21.8 (0.7)	29.2 (1.0)	22.2 (0.8)	9.5 (0.7)	2.2 (0.3)				
	Finland	4.5 (0.4)	9.9 (0.5)	20.0 (0.9)	27.1 (1.1)	23.5 (0.8)	11.4 (0.6)	3.6 (0.5)				
	France	6.6 (0.9)	9.8 (0.7)	20.5 (1.0)	28.4 (1.1)	22.6 (0.9)	9.9 (0.7)	2.1 (0.3)				
	Germany	7.5 (0.8)	11.8 (0.9)	20.3 (0.9)	25.6 (1.0)	22.0 (1.0)	10.1 (1.0)	2.7 (0.4)				
	Hungary	17.2 (1.3)	17.8 (0.9)	23.9 (1.2)	22.4 (0.9)	13.0 (1.0)	4.6 (0.7)	1.0 (0.2)				
	Ireland	7.0 (0.8)	13.3 (0.9)	23.8 (0.8)	27.8 (0.9)	18.8 (0.8)	7.3 (0.6)	2.1 (0.3)				
	Israel	21.9 (1.4)	17.0 (0.9)	20.1 (0.8)	18.5 (0.9)	13.7 (0.9)	6.7 (0.8)	2.1 (0.4)				
	Italy	5.2 (0.7)	11.2 (1.1)	22.5 (1.0)	28.0 (1.1)	22.3 (1.1)	8.9 (0.9)	1.8 (0.3)				
	Japan	1.8 (0.4)	5.3 (0.6)	14.6 (0.9)	26.9 (1.1)	29.2 (1.0)	16.9 (1.0)	5.3 (0.7)				
	Korea	2.1 (0.3)	4.8 (0.6)	12.9 (0.9)	23.7 (1.0)	28.8 (0.9)	20.0 (1.2)	7.6 (0.9)				
	Netherlands	7.4 (1.0)	11.2 (1.0)	19.9 (1.2)	26.0 (1.3)	22.0 (1.2)	10.9 (1.0)	2.7 (0.5)				
	Norway	8.1 (0.7)	13.2 (0.7)	21.5 (0.9)	24.7 (0.8)	19.4 (0.8)	9.7 (0.7)	3.4 (0.4)				
	Poland	10.0 (1.1)	15.7 (1.0)	25.7 (0.9)	26.0 (1.0)	15.7 (1.0)	5.8 (0.7)	1.1 (0.2)				
	Portugal	6.5 (0.6)	14.1 (1.0)	25.5 (0.9)	28.1 (1.0)	18.4 (0.9)	6.2 (0.6)	1.2 (0.3)				
	Slovak Republic	10.7 (1.1)	15.4 (1.1)	24.3 (1.0)	25.6 (1.3)	16.2 (1.2)	6.3 (0.6)	1.6 (0.5)				
	Slovenia	11.4 (0.6)	17.1 (1.0)	25.4 (1.2)	23.7 (0.8)	15.8 (0.8)	5.8 (0.5)	0.9 (0.2)				
	Spain	13.1 (1.2)	15.3 (0.8)	23.6 (0.9)	24.2 (1.0)	15.9 (0.8)	6.2 (0.6)	1.6 (0.3)				
	Sweden	8.8 (0.7)	14.6 (0.8)	23.9 (0.9)	26.3 (0.8)	17.6 (0.7)	7.0 (0.5)	1.8 (0.3)				
	Turkey	11.0 (1.1)	24.8 (1.3)	31.4 (1.4)	21.2 (1.2)	9.4 (1.1)	2.0 (0.5)	0.2 (0.1)				
	England (United Kingdom)	5.5 (0.8)	10.8 (0.8)	20.2 (1.3)	26.5 (0.9)	22.7 (1.1)	10.9 (0.8)	3.3 (0.6)				
	United States	5.7 (0.8)	12.5 (0.9)	22.8 (1.0)	27.0 (1.0)	20.4 (0.9)	8.9 (0.7)	2.7 (0.5)				
	OECD average	8.2 (0.2)	13.2 (0.2)	22.0 (0.2)	25.6 (0.2)	19.6 (0.2)	8.9 (0.1)	2.5 (0.1)				
Partners	Brazil	21.9 (1.6)	25.4 (1.4)	26.9 (1.3)	17.4 (1.4)	6.6 (0.8)	1.5 (0.3)	0.4 (0.2)				
	Bulgaria	33.3 (1.9)	23.3 (1.1)	22.1 (1.0)	14.1 (0.8)	5.6 (0.7)	1.4 (0.3)	0.2 (0.1)				
	Colombia	33.2 (1.7)	28.3 (1.1)	22.2 (0.9)	11.3 (0.8)	3.9 (0.5)	0.9 (0.2)	0.2 (0.1)				
	Croatia	12.0 (1.0)	20.2 (1.0)	26.8 (1.2)	22.9 (1.1)	13.2 (1.1)	4.0 (0.6)	0.8 (0.2)				
	Cyprus*	19.6 (0.6)	20.9 (0.6)	25.5 (0.8)	20.4 (0.9)	10.1 (0.6)	3.0 (0.3)	0.5 (0.2)				
	Hong Kong-China	3.3 (0.5)	7.1 (0.7)	16.3 (1.0)	27.4 (1.4)	26.5 (1.0)	14.2 (1.1)	5.1 (0.6)				
	Macao-China	1.6 (0.2)	6.0 (0.4)	17.5 (0.6)	29.5 (0.8)	28.9 (0.9)	13.8 (0.6)	2.8 (0.3)				
	Malaysia	22.7 (1.5)	27.8 (1.2)	27.8 (1.2)	15.7 (0.9)	5.2 (0.6)	0.8 (0.2)	0.1 (0.0)				
	Montenegro	30.0 (0.8)	26.8 (0.8)	23.9 (1.0)	13.8 (0.7)	4.6 (0.4)	0.7 (0.2)	0.1 (0.1)				
	Russian Federation	6.8 (0.7)	15.4 (1.1)	27.0 (0.9)	27.9 (1.2)	15.7 (0.9)	5.9 (0.7)	1.4 (0.3)				
	Serbia	10.3 (1.0)	18.3 (0.8)	26.7 (1.4)	25.8 (1.1)	14.3 (0.8)	4.1 (0.4)	0.6 (0.2)				
	Shanghai-China	3.1 (0.5)	7.5 (0.6)	17.5 (0.8)	27.4 (1.1)	26.2 (1.0)	14.1 (0.9)	4.1 (0.6)				
	Singapore	2.0 (0.2)	6.0 (0.4)	13.8 (0.6)	21.9 (0.7)	27.0 (1.0)	19.7 (0.7)	9.6 (0.4)				
	Chinese Taipei	3.4 (0.6)	8.2 (0.6)	17.8 (0.8)	26.3 (1.0)	25.9 (1.0)	14.6 (0.7)	3.8 (0.4)				
	United Arab Emirates	30.3 (1.2)	24.6 (0.8)	22.0 (0.7)	14.2 (0.6)	6.4 (0.4)	2.1 (0.2)	0.4 (0.1)				
	Uruguay	32.4 (1.6)	25.6 (1.0)	22.4 (1.0)	13.2 (0.7)	5.3 (0.5)	1.1 (0.2)	0.1 (0.1)				

* See notes at the beginning of this Annex.

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[Part 2/2]

Table V.2.1 Percentage of students at each proficiency level in problem solving

	Percentage of students at or above each proficiency level											
	Level 1 or above (above 358.49 score points)		Level 2 or above (above 423.42 score points)		Level 3 or above (above 488.35 score points)		Level 4 or above (above 553.28 score points)		Level 5 or above (above 618.21 score points)		Level 6 (above 683.14 score points)	
	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD												
Australia	95.0	(0.3)	84.5	(0.6)	65.1	(0.8)	39.3	(0.8)	16.7	(0.6)	4.4	(0.3)
Austria	93.5	(0.9)	81.6	(1.3)	59.7	(1.6)	32.9	(1.5)	10.9	(1.0)	2.0	(0.4)
Belgium	90.8	(0.6)	79.2	(0.9)	60.9	(1.0)	36.4	(1.0)	14.4	(0.8)	3.0	(0.3)
Canada	94.9	(0.4)	85.3	(0.7)	66.3	(0.9)	40.5	(1.0)	17.5	(0.8)	5.1	(0.4)
Chile	84.9	(1.3)	61.7	(1.8)	33.1	(1.6)	10.9	(0.9)	2.1	(0.3)	0.2	(0.1)
Czech Republic	93.5	(0.7)	81.6	(1.1)	60.9	(1.5)	33.7	(1.3)	11.9	(0.8)	2.4	(0.3)
Denmark	92.7	(0.7)	79.6	(1.1)	55.6	(1.3)	27.7	(1.2)	8.7	(0.8)	1.6	(0.3)
Estonia	96.0	(0.5)	84.9	(1.0)	63.1	(1.2)	34.0	(1.1)	11.8	(0.8)	2.2	(0.3)
Finland	95.5	(0.4)	85.7	(0.7)	65.6	(1.1)	38.5	(1.1)	15.0	(0.8)	3.6	(0.5)
France	93.4	(0.9)	83.5	(1.1)	63.1	(1.3)	34.6	(1.4)	12.0	(0.9)	2.1	(0.3)
Germany	92.5	(0.8)	80.8	(1.4)	60.5	(1.5)	34.8	(1.4)	12.8	(1.1)	2.7	(0.4)
Hungary	82.8	(1.3)	65.0	(1.5)	41.1	(1.6)	18.6	(1.4)	5.6	(0.8)	1.0	(0.2)
Ireland	93.0	(0.8)	79.7	(1.1)	55.9	(1.4)	28.1	(1.2)	9.4	(0.7)	2.1	(0.3)
Israel	78.1	(1.4)	61.1	(1.8)	41.0	(1.9)	22.5	(1.6)	8.8	(1.0)	2.1	(0.4)
Italy	94.8	(0.7)	83.6	(1.5)	61.1	(1.9)	33.1	(1.8)	10.8	(1.1)	1.8	(0.3)
Japan	98.2	(0.4)	92.9	(0.8)	78.3	(1.3)	51.5	(1.6)	22.3	(1.2)	5.3	(0.7)
Korea	97.9	(0.3)	93.1	(0.8)	80.2	(1.5)	56.5	(2.0)	27.6	(1.7)	7.6	(0.9)
Netherlands	92.6	(1.0)	81.5	(1.5)	61.6	(1.9)	35.6	(2.0)	13.6	(1.2)	2.7	(0.5)
Norway	91.9	(0.7)	78.7	(1.1)	57.2	(1.3)	32.5	(1.3)	13.1	(0.9)	3.4	(0.4)
Poland	90.0	(1.1)	74.3	(1.7)	48.5	(1.9)	22.5	(1.5)	6.9	(0.8)	1.1	(0.2)
Portugal	93.5	(0.6)	79.4	(1.3)	54.0	(1.8)	25.8	(1.4)	7.4	(0.8)	1.2	(0.3)
Slovak Republic	89.3	(1.1)	73.9	(1.6)	49.7	(1.6)	24.0	(1.4)	7.8	(0.9)	1.6	(0.5)
Slovenia	88.6	(0.6)	71.5	(1.0)	46.1	(0.9)	22.4	(0.7)	6.6	(0.5)	0.9	(0.2)
Spain	86.9	(1.2)	71.5	(1.4)	48.0	(1.5)	23.7	(1.3)	7.8	(0.7)	1.6	(0.3)
Sweden	91.2	(0.7)	76.5	(1.1)	52.6	(1.3)	26.3	(1.0)	8.8	(0.6)	1.8	(0.3)
Turkey	89.0	(1.1)	64.2	(1.9)	32.8	(2.2)	11.6	(1.5)	2.2	(0.5)	0.2	(0.1)
England (United Kingdom)	94.5	(0.8)	83.6	(1.3)	63.5	(1.8)	37.0	(1.6)	14.3	(1.1)	3.3	(0.6)
United States	94.3	(0.8)	81.8	(1.3)	59.0	(1.8)	32.0	(1.5)	11.6	(1.0)	2.7	(0.5)
OECD average	91.8	(0.2)	78.6	(0.2)	56.6	(0.3)	31.0	(0.3)	11.4	(0.2)	2.5	(0.1)
Partners												
Brazil	78.1	(1.6)	52.7	(2.3)	25.8	(2.2)	8.4	(1.0)	1.8	(0.4)	0.4	(0.2)
Bulgaria	66.7	(1.9)	43.3	(1.9)	21.3	(1.5)	7.2	(1.0)	1.6	(0.4)	0.2	(0.1)
Colombia	66.8	(1.7)	38.5	(1.6)	16.4	(1.2)	5.0	(0.6)	1.2	(0.3)	0.2	(0.1)
Croatia	88.0	(1.0)	67.7	(1.6)	40.9	(1.9)	18.0	(1.5)	4.7	(0.7)	0.8	(0.2)
Cyprus*	80.4	(0.6)	59.6	(0.8)	34.1	(0.9)	13.7	(0.6)	3.6	(0.3)	0.5	(0.2)
Hong Kong-China	96.7	(0.5)	89.6	(1.1)	73.2	(1.7)	45.8	(1.8)	19.3	(1.3)	5.1	(0.6)
Macao-China	98.4	(0.2)	92.5	(0.5)	75.0	(0.6)	45.5	(0.7)	16.6	(0.6)	2.8	(0.3)
Malaysia	77.3	(1.5)	49.5	(1.8)	21.8	(1.4)	6.1	(0.8)	0.9	(0.2)	0.1	(0.0)
Montenegro	70.0	(0.8)	43.2	(0.9)	19.3	(0.7)	5.5	(0.4)	0.8	(0.2)	0.1	(0.1)
Russian Federation	93.2	(0.7)	77.9	(1.5)	50.9	(1.5)	23.0	(1.4)	7.3	(0.9)	1.4	(0.3)
Serbia	89.7	(1.0)	71.5	(1.5)	44.8	(1.6)	19.0	(1.0)	4.7	(0.4)	0.6	(0.2)
Shanghai-China	96.9	(0.5)	89.4	(0.9)	71.9	(1.4)	44.4	(1.6)	18.3	(1.3)	4.1	(0.6)
Singapore	98.0	(0.2)	92.0	(0.4)	78.2	(0.6)	56.3	(0.8)	29.3	(0.8)	9.6	(0.4)
Chinese Taipei	96.6	(0.6)	88.4	(0.9)	70.5	(1.3)	44.2	(1.3)	18.3	(0.9)	3.8	(0.4)
United Arab Emirates	69.7	(1.2)	45.2	(1.1)	23.2	(0.9)	9.0	(0.5)	2.5	(0.2)	0.4	(0.1)
Uruguay	67.6	(1.6)	42.1	(1.5)	19.7	(1.1)	6.5	(0.6)	1.2	(0.2)	0.1	(0.1)

* See notes at the beginning of this Annex.

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[Part 1/2]

Table V.2.2 Mean score and variation in student performance in problem solving

	Mean score	Standard deviation	Percentiles																
			5th		10th		25th		50th (median)		75th		90th		95th				
			Mean	S.E.	S.D.	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.			
OECD	Australia	523	(1.9)	97	(1.0)	358	(3.5)	396	(2.7)	459	(2.4)	526	(2.3)	591	(2.2)	646	(2.3)	677	(2.8)
	Austria	506	(3.6)	94	(2.9)	345	(8.7)	384	(6.8)	446	(4.6)	511	(3.8)	572	(3.7)	623	(4.4)	650	(4.9)
	Belgium	508	(2.5)	106	(1.8)	317	(6.8)	364	(4.8)	441	(3.4)	518	(2.7)	583	(2.6)	637	(2.5)	665	(3.3)
	Canada	526	(2.4)	100	(1.7)	357	(4.3)	398	(3.8)	462	(3.1)	530	(2.5)	594	(2.8)	649	(3.3)	684	(4.4)
	Chile	448	(3.7)	86	(1.7)	304	(5.7)	337	(5.5)	390	(4.8)	450	(3.8)	507	(3.5)	557	(4.2)	587	(4.0)
	Czech Republic	509	(3.1)	95	(2.0)	344	(6.6)	384	(5.7)	447	(4.5)	515	(3.7)	575	(2.9)	626	(4.0)	656	(3.8)
	Denmark	497	(2.9)	92	(1.9)	339	(5.7)	377	(5.2)	438	(3.8)	500	(3.3)	560	(3.3)	611	(4.5)	641	(4.9)
	Estonia	515	(2.5)	88	(1.5)	368	(4.2)	400	(4.6)	458	(3.4)	517	(2.8)	576	(3.1)	626	(3.7)	654	(4.0)
	Finland	523	(2.3)	93	(1.2)	364	(4.8)	401	(3.1)	462	(3.5)	526	(2.6)	587	(3.1)	640	(3.6)	671	(3.9)
	France	511	(3.4)	96	(4.1)	340	(10.5)	387	(6.8)	455	(4.1)	518	(3.4)	577	(3.5)	626	(3.8)	653	(4.8)
	Germany	509	(3.6)	99	(2.5)	335	(7.0)	377	(6.9)	444	(5.3)	516	(3.6)	579	(4.0)	629	(4.3)	659	(5.8)
	Hungary	459	(4.0)	104	(2.7)	277	(8.4)	319	(8.8)	391	(6.1)	465	(4.4)	532	(5.4)	591	(5.5)	622	(5.8)
	Ireland	498	(3.2)	93	(2.0)	340	(6.5)	378	(5.0)	438	(4.0)	501	(3.1)	562	(3.5)	615	(3.8)	647	(4.6)
	Israel	454	(5.5)	123	(3.2)	242	(10.6)	291	(7.8)	372	(6.2)	460	(6.4)	543	(6.2)	611	(6.7)	647	(7.5)
	Italy	510	(4.0)	91	(2.1)	356	(7.2)	394	(5.8)	451	(5.2)	514	(4.9)	572	(4.5)	621	(4.6)	649	(5.5)
	Japan	552	(3.1)	85	(1.9)	405	(6.5)	441	(5.5)	498	(3.8)	556	(3.4)	610	(3.4)	658	(3.7)	685	(4.4)
	Korea	561	(4.3)	91	(1.8)	406	(6.6)	443	(5.9)	505	(5.1)	568	(4.5)	625	(4.6)	672	(4.4)	698	(5.1)
	Netherlands	511	(4.4)	99	(3.0)	336	(8.6)	378	(8.5)	448	(5.9)	517	(4.9)	581	(4.8)	633	(4.8)	662	(5.1)
	Norway	503	(3.3)	103	(1.9)	328	(6.7)	370	(4.9)	436	(3.9)	507	(3.5)	574	(3.8)	633	(4.3)	665	(6.0)
	Poland	481	(4.4)	96	(3.4)	318	(8.9)	358	(6.3)	421	(5.4)	485	(4.3)	546	(4.6)	600	(4.8)	632	(6.0)
	Portugal	494	(3.6)	88	(1.6)	345	(5.5)	381	(4.3)	436	(4.2)	497	(4.3)	555	(3.7)	604	(4.2)	633	(5.4)
	Slovak Republic	483	(3.6)	98	(2.7)	314	(7.1)	354	(6.2)	420	(4.8)	487	(3.9)	550	(4.2)	606	(5.2)	639	(6.9)
	Slovenia	476	(1.5)	97	(1.3)	310	(5.4)	350	(3.8)	413	(3.0)	479	(2.4)	545	(2.3)	599	(2.8)	628	(3.7)
	Spain	477	(4.1)	104	(2.9)	292	(10.4)	338	(7.8)	411	(5.3)	483	(3.8)	549	(3.9)	605	(4.3)	638	(5.0)
	Sweden	491	(2.9)	96	(1.8)	328	(7.6)	365	(4.0)	428	(3.7)	494	(3.2)	557	(2.9)	612	(3.7)	643	(4.4)
	Turkey	454	(4.0)	79	(2.2)	328	(4.5)	354	(4.3)	399	(4.0)	451	(4.3)	508	(5.7)	560	(6.8)	590	(8.0)
	England (United Kingdom)	517	(4.2)	97	(2.4)	352	(9.2)	391	(6.0)	455	(5.7)	522	(4.8)	584	(4.1)	636	(4.5)	667	(5.0)
	United States	508	(3.9)	93	(2.3)	352	(7.1)	388	(6.0)	446	(4.9)	510	(4.2)	571	(4.1)	626	(4.4)	658	(5.3)
	OECD average	500	(0.7)	96	(0.4)	336	(1.4)	375	(1.1)	438	(0.9)	504	(0.7)	567	(0.7)	620	(0.8)	650	(1.0)
Partners	Brazil	428	(4.7)	92	(2.4)	276	(7.1)	311	(5.7)	368	(5.5)	429	(5.2)	490	(6.3)	545	(5.6)	575	(5.6)
	Bulgaria	402	(5.1)	107	(3.5)	220	(10.2)	263	(8.6)	331	(6.1)	405	(5.5)	476	(5.3)	535	(7.1)	571	(7.6)
	Colombia	399	(3.5)	92	(2.0)	253	(5.4)	284	(4.9)	337	(4.3)	397	(3.7)	459	(4.1)	517	(5.2)	553	(5.6)
	Croatia	466	(3.9)	92	(2.0)	314	(5.6)	349	(4.9)	404	(4.0)	465	(4.2)	530	(4.6)	585	(5.1)	616	(6.2)
	Cyprus*	445	(1.4)	99	(1.0)	278	(4.3)	315	(2.8)	378	(2.4)	447	(1.8)	513	(2.7)	571	(2.8)	604	(3.5)
	Hong Kong-China	540	(3.9)	92	(2.2)	379	(6.7)	421	(6.7)	483	(5.6)	544	(4.2)	601	(3.7)	654	(4.1)	684	(4.9)
	Macao-China	540	(1.0)	79	(0.8)	405	(3.3)	437	(3.0)	488	(1.5)	544	(1.7)	595	(1.6)	640	(2.1)	664	(2.2)
	Malaysia	422	(3.5)	84	(2.0)	287	(4.7)	315	(4.5)	364	(4.2)	422	(4.1)	479	(4.1)	531	(5.0)	561	(6.0)
	Montenegro	407	(1.2)	92	(1.1)	256	(4.3)	289	(3.1)	344	(2.5)	407	(2.2)	470	(2.2)	526	(3.8)	556	(3.4)
	Russian Federation	489	(3.4)	88	(2.0)	345	(4.7)	377	(4.8)	431	(4.0)	490	(3.5)	547	(4.1)	602	(6.1)	635	(5.9)
	Serbia	473	(3.1)	89	(1.9)	322	(6.4)	357	(6.1)	414	(4.3)	476	(3.8)	535	(3.4)	586	(3.4)	616	(3.4)
	Shanghai-China	536	(3.3)	90	(2.2)	381	(7.0)	419	(5.7)	479	(3.9)	541	(3.5)	599	(3.9)	648	(4.7)	676	(4.9)
	Singapore	562	(1.2)	95	(1.0)	398	(3.0)	436	(2.9)	500	(2.0)	568	(2.1)	629	(1.9)	681	(2.1)	710	(3.4)
	Chinese Taipei	534	(2.9)	91	(1.9)	377	(6.7)	414	(5.1)	475	(4.1)	540	(3.3)	601	(2.9)	646	(3.2)	674	(3.2)
	United Arab Emirates	411	(2.8)	106	(1.8)	237	(5.9)	277	(5.3)	342	(3.6)	411	(2.9)	482	(3.1)	546	(3.3)	584	(3.8)
	Uruguay	403	(3.5)	97	(2.0)	244	(5.9)	279	(5.1)	337	(4.7)	403	(3.9)	470	(3.9)	530	(4.3)	566	(6.0)

* See notes at the beginning of this Annex.

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Table V.2.2 Mean score and variation in student performance in problem solving

	Range of performance							
	Inter-quartile range (75th minus 25th percentile)		Inter-decile range (90th minus 10th percentile)		Top range (90th minus 50th percentile)		Bottom range (50th minus 10th percentile)	
	Range	S.E.	Range	S.E.	Range	S.E.	Range	S.E.
OECD								
Australia	132	(2.1)	251	(3.0)	121	(2.2)	130	(2.8)
Austria	126	(4.5)	239	(7.3)	111	(4.0)	128	(5.7)
Belgium	143	(3.2)	272	(5.3)	119	(2.5)	153	(4.5)
Canada	132	(3.0)	251	(4.1)	120	(2.4)	131	(3.1)
Chile	118	(3.8)	220	(5.7)	107	(3.4)	114	(4.2)
Czech Republic	128	(4.0)	243	(6.6)	111	(3.8)	132	(5.0)
Denmark	122	(3.7)	234	(6.3)	111	(5.0)	123	(4.7)
Estonia	118	(3.5)	225	(4.7)	109	(4.2)	117	(4.1)
Finland	125	(3.8)	239	(3.8)	114	(3.6)	125	(3.1)
France	122	(4.4)	239	(7.4)	108	(3.4)	131	(6.6)
Germany	135	(4.8)	252	(7.3)	113	(3.6)	139	(5.9)
Hungary	141	(7.1)	272	(9.5)	126	(4.7)	145	(8.2)
Ireland	124	(3.6)	237	(5.1)	113	(2.7)	123	(4.0)
Israel	172	(5.0)	320	(8.8)	151	(5.3)	168	(6.9)
Italy	121	(4.3)	227	(6.6)	107	(3.5)	121	(4.9)
Japan	112	(3.2)	216	(5.7)	102	(3.1)	115	(4.2)
Korea	120	(3.6)	228	(5.6)	104	(3.5)	124	(4.5)
Netherlands	133	(6.0)	256	(9.0)	116	(4.0)	139	(7.6)
Norway	138	(3.5)	262	(5.8)	126	(3.3)	136	(4.8)
Poland	125	(4.1)	242	(6.6)	115	(3.7)	126	(4.9)
Portugal	119	(3.7)	223	(4.8)	107	(3.9)	116	(3.2)
Slovak Republic	131	(4.6)	251	(7.8)	118	(5.6)	133	(5.1)
Slovenia	132	(3.5)	249	(4.5)	120	(3.4)	129	(4.0)
Spain	138	(4.3)	267	(7.8)	122	(3.5)	145	(6.3)
Sweden	129	(3.1)	247	(4.7)	117	(4.0)	130	(3.6)
Turkey	109	(4.7)	206	(7.0)	109	(4.9)	97	(3.8)
England (United Kingdom)	129	(4.8)	245	(6.2)	114	(4.1)	131	(4.3)
United States	126	(4.2)	237	(6.3)	116	(3.6)	121	(5.0)
OECD average	129	(0.8)	245	(1.2)	115	(0.7)	129	(0.9)
Partners								
Brazil	122	(4.1)	234	(6.1)	116	(4.0)	118	(5.0)
Bulgaria	145	(5.5)	272	(10.2)	131	(6.1)	142	(6.7)
Colombia	122	(3.8)	233	(6.3)	120	(4.4)	112	(3.9)
Croatia	126	(3.5)	237	(5.9)	120	(4.4)	117	(4.4)
Cyprus*	135	(3.1)	256	(4.0)	124	(3.1)	132	(3.3)
Hong Kong-China	119	(4.4)	234	(6.7)	110	(4.2)	123	(5.2)
Macao-China	107	(2.1)	203	(3.1)	95	(2.5)	108	(3.2)
Malaysia	115	(3.8)	217	(5.6)	109	(3.9)	108	(3.4)
Montenegro	126	(3.3)	237	(4.4)	118	(4.6)	118	(3.8)
Russian Federation	116	(3.8)	224	(6.6)	112	(4.6)	113	(4.0)
Serbia	122	(4.0)	229	(6.4)	111	(3.4)	119	(5.4)
Shanghai-China	120	(4.0)	229	(7.1)	107	(3.5)	121	(5.0)
Singapore	130	(2.4)	244	(3.5)	113	(2.9)	131	(3.4)
Chinese Taipei	126	(3.5)	232	(5.4)	107	(3.5)	125	(4.3)
United Arab Emirates	139	(3.5)	269	(5.7)	135	(3.4)	134	(4.4)
Uruguay	134	(4.3)	250	(6.3)	126	(4.0)	124	(4.1)

* See notes at the beginning of this Annex.

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Table V.2.3 Top performers in problem solving and other curricular subjects

	15-year-old students who are:								Percentage of top performers in problem solving who are also top performers in mathematics	Percentage of top performers in problem solving who are also top performers in reading	Percentage of top performers in problem solving who are also top performers in science				
	Not top performers in any of the four domains		Top performers in at least one subject, but not in problem solving		Top performers in problem solving, but not in any of the other subjects assessed		Top performers in problem solving and in at least one other subject								
	%	S.E.	%	S.E.	%	S.E.	%	S.E.							
OECD	Australia	75.6	(0.8)	7.7	(0.4)	4.7	(0.4)	12.0	(0.5)	61.3	(2.0)	47.1	(2.0)	54.9	(1.8)
	Austria	80.8	(1.1)	8.2	(0.7)	3.0	(0.4)	8.0	(0.7)	66.8	(2.9)	31.8	(3.5)	42.8	(3.3)
	Belgium	74.1	(0.7)	11.5	(0.6)	3.5	(0.4)	10.8	(0.6)	70.8	(2.5)	47.4	(2.7)	43.3	(2.5)
	Canada	72.6	(0.9)	9.9	(0.4)	5.5	(0.4)	12.0	(0.6)	57.7	(2.1)	44.5	(1.8)	43.9	(2.0)
	Chile	96.7	(0.4)	1.2	(0.2)	1.1	(0.2)	1.0	(0.2)	40.0	(5.3)	12.8	(3.4)	22.9	(4.5)
	Czech Republic	81.9	(0.9)	6.2	(0.5)	2.9	(0.5)	9.0	(0.7)	70.3	(3.2)	34.9	(2.6)	45.0	(3.1)
	Denmark	84.3	(0.9)	6.9	(0.7)	3.2	(0.5)	5.6	(0.6)	55.9	(4.7)	30.9	(3.1)	42.4	(4.3)
	Estonia	78.4	(0.8)	9.9	(0.7)	2.5	(0.4)	9.3	(0.7)	69.8	(2.5)	41.5	(3.9)	62.1	(3.2)
	Finland	73.1	(0.8)	11.9	(0.8)	3.0	(0.4)	12.0	(0.7)	66.1	(2.5)	49.5	(2.0)	65.4	(2.4)
	France	78.8	(1.0)	9.2	(0.7)	2.5	(0.4)	9.5	(0.8)	67.4	(2.7)	55.3	(3.5)	44.9	(3.4)
	Germany	76.6	(1.2)	10.6	(0.8)	2.9	(0.5)	9.9	(0.8)	72.2	(2.9)	39.0	(2.7)	53.3	(3.6)
	Hungary	86.9	(1.2)	7.5	(0.8)	1.5	(0.4)	4.1	(0.6)	67.8	(5.8)	42.0	(5.3)	50.7	(4.7)
	Ireland	80.5	(0.8)	10.1	(0.6)	2.6	(0.4)	6.8	(0.5)	59.0	(3.5)	52.0	(3.1)	57.2	(3.5)
	Israel	83.6	(1.3)	7.6	(0.7)	2.2	(0.4)	6.6	(0.8)	63.5	(3.0)	51.7	(3.8)	44.3	(3.4)
	Italy	81.7	(1.2)	7.6	(0.7)	4.6	(0.6)	6.2	(0.7)	49.4	(3.7)	27.3	(3.7)	34.3	(4.2)
	Japan	63.7	(1.6)	14.1	(0.9)	6.3	(0.5)	16.0	(1.1)	62.9	(2.4)	47.0	(2.5)	50.7	(2.3)
	Korea	61.0	(2.0)	11.3	(0.8)	6.7	(0.7)	20.9	(1.5)	73.5	(2.1)	40.3	(2.5)	34.1	(2.7)
	Netherlands	75.4	(1.3)	11.0	(0.8)	2.1	(0.5)	11.5	(1.0)	79.1	(2.7)	45.1	(3.9)	57.3	(4.1)
	Norway	79.9	(1.0)	7.0	(0.6)	5.2	(0.8)	7.9	(0.6)	46.9	(3.8)	42.5	(4.2)	36.9	(3.3)
	Poland	78.7	(1.4)	14.4	(1.0)	1.1	(0.3)	5.7	(0.7)	75.8	(4.0)	57.3	(4.2)	61.9	(5.1)
	Portugal	84.8	(1.0)	7.8	(0.6)	2.3	(0.5)	5.1	(0.6)	64.9	(4.5)	34.3	(4.8)	32.5	(4.0)
	Slovak Republic	86.1	(1.0)	6.1	(0.7)	1.8	(0.4)	6.0	(0.8)	74.5	(4.8)	32.3	(5.4)	42.4	(6.4)
	Slovenia	82.6	(0.6)	10.8	(0.5)	1.4	(0.2)	5.3	(0.5)	74.4	(3.1)	34.9	(3.8)	60.1	(3.4)
	Spain	86.1	(0.8)	6.1	(0.6)	3.4	(0.4)	4.4	(0.4)	46.6	(3.3)	28.8	(3.3)	28.5	(2.8)
	Sweden	84.4	(0.9)	6.8	(0.8)	3.2	(0.4)	5.6	(0.5)	52.3	(3.3)	41.3	(3.8)	38.6	(3.2)
	Turkey	91.7	(1.4)	6.1	(1.0)	0.3	(0.2)	1.8	(0.5)	76.2	(7.2)	49.3	(9.9)	30.1	(5.6)
	England (United Kingdom)	78.9	(1.3)	6.8	(0.6)	4.4	(0.5)	9.8	(0.9)	59.0	(3.1)	41.7	(3.6)	52.8	(3.2)
	United States	83.9	(1.0)	4.5	(0.5)	4.1	(0.5)	7.5	(0.7)	54.6	(2.9)	45.1	(2.8)	46.9	(3.1)
	OECD average	80.1	(0.2)	8.5	(0.1)	3.1	(0.1)	8.2	(0.1)	63.5	(0.7)	41.0	(0.7)	45.7	(0.7)
Partners	Brazil	97.6	(0.5)	0.6	(0.2)	1.1	(0.3)	0.7	(0.2)	34.1	(8.4)	14.5	(5.9)	12.0	(5.4)
	Bulgaria	92.6	(0.9)	5.8	(0.7)	0.3	(0.2)	1.2	(0.3)	65.5	(8.2)	50.1	(8.8)	54.1	(12.0)
	Colombia	98.6	(0.3)	0.3	(0.1)	0.9	(0.2)	0.3	(0.1)	17.6	(7.0)	9.3	(6.1)	6.8	(4.0)
	Croatia	89.5	(1.3)	5.8	(0.7)	1.1	(0.2)	3.6	(0.6)	70.3	(5.5)	36.3	(4.8)	46.1	(6.7)
	Cyprus*	92.4	(0.5)	4.0	(0.4)	1.4	(0.2)	2.2	(0.2)	49.4	(4.4)	36.4	(4.9)	28.5	(6.2)
	Hong Kong-China	60.2	(1.5)	20.5	(1.1)	3.4	(0.4)	15.9	(1.1)	79.8	(2.2)	48.9	(3.2)	49.4	(3.1)
	Macao-China	70.8	(0.6)	12.6	(0.5)	4.0	(0.4)	12.6	(0.4)	74.9	(2.3)	26.5	(1.7)	28.3	(1.8)
	Malaysia	98.1	(0.4)	1.0	(0.2)	0.4	(0.1)	0.5	(0.2)	50.7	(9.5)	4.4	(3.3)	20.8	(8.3)
	Montenegro	97.8	(0.3)	1.4	(0.2)	0.4	(0.1)	0.4	(0.1)	39.4	(11.9)	21.3	(11.1)	18.4	(9.7)
	Russian Federation	86.8	(1.1)	5.9	(0.7)	3.0	(0.5)	4.2	(0.6)	50.0	(4.5)	32.1	(3.8)	31.3	(4.0)
	Serbia	92.5	(0.7)	2.7	(0.5)	1.9	(0.3)	2.8	(0.4)	53.0	(6.9)	24.9	(4.8)	23.8	(4.6)
	Shanghai-China	43.6	(1.4)	38.1	(1.5)	0.3	(0.1)	17.9	(1.3)	98.0	(0.7)	71.7	(2.3)	75.1	(2.0)
	Singapore	54.2	(0.7)	16.5	(0.6)	4.3	(0.4)	25.0	(0.7)	84.1	(1.2)	50.2	(1.5)	57.0	(1.7)
	Chinese Taipei	61.3	(1.3)	20.4	(1.0)	1.2	(0.2)	17.1	(0.9)	93.0	(1.2)	43.7	(2.6)	35.3	(2.2)
	United Arab Emirates	94.3	(0.4)	3.2	(0.3)	0.8	(0.1)	1.7	(0.2)	54.9	(3.7)	36.8	(4.5)	46.6	(4.0)
	Uruguay	97.2	(0.5)	1.6	(0.3)	0.5	(0.1)	0.6	(0.2)	44.7	(9.0)	23.8	(5.7)	28.0	(9.6)

* See notes at the beginning of this Annex.

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Table V.2.4 Between- and within-school variation in problem-solving performance

	Total variation in problem-solving performance ¹	Variation in problem-solving performance between schools ²		Variation in problem-solving performance within schools ³		As a percentage of the average total variation in problem-solving performance across OECD countries		
						Total variation	Between-school variation	Within-school variation
		Variance	S.E.	Variance	S.E.	%	%	%
OECD	9 482 (209)	2 569 (178)	6 951 (106)	102.4	27.7	75.1		
Australia	8 801 (547)	4 183 (532)	4 505 (121)	95.1	45.2	48.7		
Belgium	11 314 (392)	5 412 (513)	5 804 (144)	122.2	58.4	62.7		
Canada	10 063 (343)	2 271 (236)	7 692 (168)	108.7	24.5	83.1		
Chile	7 382 (283)	3 153 (299)	4 123 (90)	79.7	34.1	44.5		
Czech Republic	9 056 (371)	4 366 (473)	4 474 (174)	97.8	47.1	48.3		
Denmark	8 522 (363)	2 441 (326)	6 048 (164)	92.0	26.4	65.3		
Estonia	7 658 (252)	1 826 (245)	5 868 (171)	82.7	19.7	63.4		
Finland	8 658 (218)	884 (120)	7 753 (183)	93.5	9.5	83.7		
France	9 250 (812)	w w	w w	99.9	w w	w w		
Germany	9 703 (475)	5 328 (471)	4 334 (111)	104.8	57.5	46.8		
Hungary	10 907 (573)	6 445 (683)	4 245 (113)	117.8	69.6	45.8		
Ireland	8 676 (338)	2 117 (272)	6 486 (162)	93.7	22.9	70.0		
Israel	15 230 (809)	7 751 (860)	7 429 (199)	164.5	83.7	80.2		
Italy	8 219 (363)	3 461 (360)	4 496 (131)	88.8	37.4	48.6		
Japan	7 251 (320)	2 459 (280)	4 768 (124)	78.3	26.6	51.5		
Korea	8 311 (331)	2 604 (288)	5 575 (197)	89.8	28.1	60.2		
Netherlands	9 783 (597)	5 649 (634)	4 147 (146)	105.7	61.0	44.8		
Norway	10 600 (401)	2 264 (340)	8 270 (237)	114.5	24.4	89.3		
Poland	9 303 (639)	3 357 (675)	5 930 (204)	100.5	36.3	64.0		
Portugal	7 712 (280)	2 314 (240)	5 420 (157)	83.3	25.0	58.5		
Slovak Republic	9 597 (526)	4 761 (569)	4 625 (161)	103.7	51.4	50.0		
Slovenia	9 428 (230)	5 114 (434)	4 272 (153)	101.8	55.2	46.1		
Spain	10 890 (613)	3 121 (470)	7 776 (213)	117.6	33.7	84.0		
Sweden	9 260 (348)	1 720 (321)	7 474 (182)	100.0	18.6	80.7		
Turkey	6 246 (367)	3 239 (385)	2 997 (89)	67.5	35.0	32.4		
England (United Kingdom)	9 342 (455)	2 735 (386)	6 606 (179)	100.9	29.5	71.3		
United States	8 610 (398)	2 485 (410)	6 106 (165)	93.0	26.8	65.9		
OECD average	9 259 (85)	3 548 (87)	5 646 (30)	100.0	38.3	61.0		
Partners	Brazil	8 421 (448)	3 988 (491)	4 435 (153)	90.9	43.1	47.9	
	Bulgaria	11 347 (776)	6 294 (750)	4 994 (125)	122.5	68.0	53.9	
	Colombia	8 397 (343)	3 092 (332)	5 262 (156)	90.7	33.4	56.8	
	Croatia	8 472 (346)	3 426 (403)	5 042 (137)	91.5	37.0	54.5	
	Cyprus*	9 781 (194)	3 448 (1 455)	6 641 (167)	105.6	37.2	71.7	
	Hong Kong-China	8 401 (397)	3 034 (365)	5 347 (160)	90.7	32.8	57.8	
	Macao-China	6 269 (129)	1 871 (1 217)	5 035 (166)	67.7	20.2	54.4	
	Malaysia	6 982 (320)	2 614 (306)	4 361 (162)	75.4	28.2	47.1	
	Montenegro	8 390 (201)	3 212 (670)	5 178 (163)	90.6	34.7	55.9	
	Russian Federation	7 725 (360)	2 857 (393)	4 872 (145)	83.4	30.9	52.6	
	Serbia	7 942 (358)	2 935 (333)	4 949 (164)	85.8	31.7	53.4	
	Shanghai-China	8 082 (413)	3 333 (362)	4 723 (151)	87.3	36.0	51.0	
	Singapore	9 021 (181)	3 061 (362)	5 962 (159)	97.4	33.1	64.4	
	Chinese Taipei	8 266 (363)	3 214 (374)	5 010 (150)	89.3	34.7	54.1	
	United Arab Emirates	11 134 (390)	5 607 (477)	5 504 (150)	120.2	60.6	59.4	
	Uruguay	9 457 (383)	4 000 (419)	5 446 (133)	102.1	43.2	58.8	

1. The total variation in student performance is calculated from the square of the standard deviation for all students.

2. In some countries/economies, sub-units within schools were sampled instead of schools; this may affect the estimation of between-school variation components (see Annex A3).

3. Due to the unbalanced clustered nature of the data, the sum of the between- and within-school variation components, as an estimate from a sample, does not necessarily add up to the total.

4. The *index of academic inclusion* is calculated as $100 \times (1 - \rho)$, where ρ stands for the intra-class correlation of performance, i.e. the variation in student performance between schools, divided by the sum of the variation in student performance between schools and the variation in student performance within schools.5. The *index of social inclusion* is calculated as $100 \times (1 - \rho)$, where ρ stands for the intra-class correlation of socio-economic status, i.e. the between-school variation in the PISA index of economic, social and cultural status (ESCS) of students, divided by the sum of the between-school variation in students' socio-economic status and the within-school variation in students' socio-economic status.

* See notes at the beginning of this Annex.

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[Part 2/2]

Table V.2.4 Between- and within-school variation in problem-solving performance

	Index of academic inclusion: Proportion of performance variation within schools ⁴								Index of social inclusion: Proportion of ESCS variation within schools ⁵	
	Problem solving		Mathematics		Reading		Science			
	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD										
Australia	73.0	(1.4)	72.1	(1.8)	73.1	(1.5)	75.6	(1.5)	76.5	(1.2)
Austria	51.9	(3.1)	51.6	(2.4)	46.7	(2.0)	52.0	(2.4)	71.2	(2.9)
Belgium	51.7	(2.5)	48.6	(2.3)	45.6	(2.6)	50.8	(2.4)	72.4	(2.1)
Canada	77.2	(1.8)	80.2	(1.4)	81.1	(1.3)	82.8	(1.4)	82.8	(1.3)
Chile	56.7	(2.4)	56.6	(2.2)	55.5	(2.3)	58.8	(2.2)	47.2	(2.4)
Czech Republic	50.6	(3.0)	48.5	(2.8)	50.0	(2.8)	52.6	(3.1)	76.4	(2.3)
Denmark	71.2	(2.7)	83.5	(2.0)	79.0	(3.8)	82.4	(2.5)	82.3	(1.7)
Estonia	76.3	(2.5)	82.7	(2.4)	78.8	(2.8)	81.1	(2.3)	81.5	(2.1)
Finland	89.8	(1.3)	92.5	(1.2)	90.9	(1.2)	92.3	(1.1)	91.1	(1.1)
France	w	w	w	w	w	w	w	w	w	w
Germany	44.9	(2.3)	47.0	(2.1)	42.7	(2.1)	47.2	(2.5)	73.6	(2.0)
Hungary	39.7	(2.7)	38.1	(2.5)	35.3	(2.2)	42.8	(2.6)	62.6	(2.8)
Ireland	75.4	(2.4)	81.8	(2.3)	77.5	(2.6)	81.7	(2.4)	79.7	(2.3)
Israel	48.9	(2.9)	57.6	(2.8)	54.6	(3.6)	56.6	(3.1)	74.6	(1.9)
Italy	56.5	(2.6)	49.7	(2.9)	49.5	(2.9)	50.6	(2.8)	75.1	(2.4)
Japan	66.0	(2.6)	47.0	(2.5)	55.3	(2.6)	56.6	(2.6)	77.8	(1.8)
Korea	68.2	(2.5)	60.4	(3.2)	63.7	(3.2)	63.7	(3.1)	78.3	(2.0)
Netherlands	42.3	(2.9)	34.1	(2.2)	34.4	(2.7)	38.8	(2.4)	81.8	(1.9)
Norway	78.5	(2.6)	87.1	(1.8)	86.2	(1.9)	86.9	(2.1)	91.0	(1.5)
Poland	63.9	(4.8)	79.5	(3.4)	79.6	(2.6)	82.0	(2.9)	76.4	(2.3)
Portugal	70.1	(2.3)	70.1	(2.5)	68.8	(2.4)	68.5	(2.6)	68.6	(3.6)
Slovak Republic	49.3	(3.1)	50.1	(2.9)	38.1	(2.7)	45.6	(3.0)	64.4	(3.0)
Slovenia	45.5	(2.3)	41.3	(2.5)	39.9	(2.2)	43.9	(2.6)	74.6	(2.0)
Spain	71.4	(3.1)	80.2	(1.8)	80.7	(2.1)	80.6	(2.2)	74.9	(2.3)
Sweden	81.3	(2.9)	87.5	(1.8)	83.5	(2.0)	83.3	(2.0)	86.9	(1.5)
Turkey	48.1	(3.2)	38.2	(3.3)	44.4	(3.2)	43.6	(3.1)	72.3	(3.0)
England (United Kingdom)	70.7	(3.0)	71.1	(2.9)	69.2	(3.1)	70.7	(2.7)	78.7	(2.5)
United States	71.1	(3.5)	76.3	(2.2)	76.3	(2.6)	76.0	(2.3)	73.8	(2.5)
OECD average	61.9	(0.5)	62.8	(0.5)	61.5	(0.5)	64.0	(0.5)	75.7	(0.4)
Partners										
Brazil	52.7	(3.2)	55.3	(3.5)	58.7	(3.2)	57.2	(3.3)	61.2	(3.5)
Bulgaria	44.2	(3.1)	47.2	(2.7)	40.6	(2.4)	45.6	(2.6)	59.6	(2.9)
Colombia	63.0	(2.7)	64.9	(2.9)	61.2	(3.1)	67.0	(3.0)	63.2	(3.0)
Croatia	59.5	(3.0)	55.7	(3.9)	48.9	(2.9)	62.2	(3.3)	75.9	(2.2)
Cyprus*	66.1	(8.3)	67.6	(4.8)	65.5	(4.6)	60.1	(11.9)	76.6	(3.4)
Hong Kong-China	63.8	(2.8)	57.6	(2.2)	58.4	(2.4)	63.5	(2.3)	67.7	(3.6)
Macao-China	72.9	(12.8)	65.6	(22.0)	64.7	(17.2)	66.5	(36.7)	73.7	(4.7)
Malaysia	62.5	(2.9)	67.6	(3.2)	74.9	(2.7)	73.5	(2.7)	71.5	(2.5)
Montenegro	61.7	(5.1)	63.5	(7.3)	62.4	(5.3)	65.3	(5.9)	80.6	(5.6)
Russian Federation	63.0	(3.4)	73.2	(2.6)	67.3	(2.8)	70.5	(2.9)	75.0	(2.5)
Serbia	62.8	(2.7)	54.0	(3.3)	54.5	(2.9)	58.5	(3.0)	78.0	(2.4)
Shanghai-China	58.6	(2.7)	53.1	(2.7)	53.2	(2.7)	53.9	(2.6)	66.8	(2.6)
Singapore	66.1	(2.8)	63.3	(3.2)	64.3	(3.1)	63.0	(3.2)	76.4	(2.7)
Chinese Taipei	60.9	(3.0)	57.9	(3.2)	61.2	(2.9)	58.0	(3.3)	76.7	(2.1)
United Arab Emirates	49.5	(2.2)	55.6	(2.2)	51.0	(2.0)	56.6	(2.1)	73.9	(1.7)
Uruguay	57.7	(2.6)	58.0	(3.0)	54.7	(2.8)	60.8	(2.9)	60.2	(3.8)

1. The total variation in student performance is calculated from the square of the standard deviation for all students.

2. In some countries/economies, sub-units within schools were sampled instead of schools; this may affect the estimation of between-school variation components (see Annex A3).

3. Due to the unbalanced clustered nature of the data, the sum of the between- and within-school variation components, as an estimate from a sample, does not necessarily add up to the total.

4. The *index of academic inclusion* is calculated as $100 \times (1 - \rho)$, where rho stands for the intra-class correlation of performance, i.e. the variation in student performance between schools, divided by the sum of the variation in student performance between schools and the variation in student performance within schools.5. The *index of social inclusion* is calculated as $100 \times (1 - \rho)$, where rho stands for the intra-class correlation of socio-economic status, i.e. the between-school variation in the PISA index of economic, social and cultural status (ESCS) of students, divided by the sum of the between-school variation in students' socio-economic status and the within-school variation in students' socio-economic status.

* See notes at the beginning of this Annex.

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Table V.2.5 [Part 1/2]
Correlation of problem-solving performance with performance in mathematics, reading and science

	Correlation ¹ between performance in problem solving and performance in curricular domains						For comparison: Correlation ¹ between performance in curricular domains							
	Problem solving and mathematics		Problem solving and reading		Problem solving and science		Mathematics and reading		Mathematics and science		Reading and science			
	Corr.	S.E.	Corr.	S.E.	Corr.	S.E.	Corr.	S.E.	Corr.	S.E.	Corr.	S.E.		
OECD	Australia	0.83 (0.00)	0.77 (0.01)	0.81 (0.01)	0.87 (0.00)	0.91 (0.00)	0.90 (0.00)	Austria	0.80 (0.01)	0.76 (0.01)	0.77 (0.02)	0.85 (0.01)	0.91 (0.00)	0.88 (0.01)
	Belgium	0.81 (0.01)	0.76 (0.01)	0.79 (0.01)	0.88 (0.01)	0.92 (0.00)	0.90 (0.00)	Canada	0.76 (0.01)	0.71 (0.01)	0.75 (0.01)	0.82 (0.00)	0.87 (0.00)	0.87 (0.00)
	Chile	0.80 (0.01)	0.72 (0.01)	0.75 (0.01)	0.80 (0.01)	0.86 (0.01)	0.84 (0.01)	Czech Republic	0.88 (0.01)	0.79 (0.01)	0.83 (0.01)	0.84 (0.01)	0.88 (0.01)	0.84 (0.01)
	Denmark	0.77 (0.01)	0.69 (0.02)	0.74 (0.02)	0.84 (0.01)	0.90 (0.00)	0.88 (0.01)	Estonia	0.83 (0.01)	0.77 (0.01)	0.80 (0.01)	0.83 (0.01)	0.88 (0.00)	0.85 (0.01)
	Finland	0.83 (0.01)	0.74 (0.01)	0.79 (0.01)	0.82 (0.01)	0.89 (0.00)	0.87 (0.00)	France	0.83 (0.02)	0.76 (0.02)	0.80 (0.02)	0.86 (0.01)	0.90 (0.01)	0.88 (0.01)
	Germany	0.83 (0.01)	0.77 (0.01)	0.81 (0.01)	0.87 (0.01)	0.92 (0.00)	0.90 (0.00)	Hungary	0.83 (0.01)	0.79 (0.01)	0.81 (0.01)	0.87 (0.01)	0.93 (0.00)	0.88 (0.01)
	Ireland	0.80 (0.01)	0.74 (0.01)	0.79 (0.01)	0.87 (0.01)	0.91 (0.00)	0.90 (0.00)	Israel	0.85 (0.01)	0.79 (0.01)	0.84 (0.01)	0.84 (0.01)	0.91 (0.00)	0.88 (0.01)
	Italy	0.75 (0.01)	0.67 (0.02)	0.73 (0.02)	0.84 (0.01)	0.88 (0.01)	0.85 (0.01)	Japan	0.75 (0.01)	0.68 (0.02)	0.72 (0.01)	0.86 (0.01)	0.89 (0.01)	0.89 (0.01)
	Korea	0.80 (0.01)	0.76 (0.01)	0.77 (0.01)	0.88 (0.01)	0.90 (0.00)	0.88 (0.01)	Netherlands	0.84 (0.01)	0.80 (0.02)	0.85 (0.01)	0.88 (0.01)	0.92 (0.00)	0.89 (0.01)
	Norway	0.79 (0.01)	0.71 (0.01)	0.75 (0.02)	0.84 (0.01)	0.90 (0.00)	0.86 (0.01)	Poland	0.75 (0.02)	0.75 (0.02)	0.75 (0.02)	0.83 (0.01)	0.89 (0.00)	0.87 (0.01)
	Portugal	0.80 (0.01)	0.71 (0.02)	0.76 (0.01)	0.84 (0.01)	0.90 (0.00)	0.86 (0.01)	Slovak Republic	0.85 (0.01)	0.78 (0.01)	0.82 (0.01)	0.85 (0.01)	0.92 (0.01)	0.89 (0.01)
	Slovenia	0.81 (0.01)	0.75 (0.01)	0.80 (0.01)	0.83 (0.01)	0.90 (0.00)	0.90 (0.00)	Spain	0.75 (0.01)	0.67 (0.02)	0.71 (0.01)	0.83 (0.01)	0.89 (0.00)	0.83 (0.01)
	Sweden	0.81 (0.01)	0.71 (0.01)	0.76 (0.01)	0.85 (0.00)	0.89 (0.00)	0.87 (0.00)	Turkey	0.84 (0.01)	0.73 (0.02)	0.77 (0.01)	0.81 (0.01)	0.87 (0.01)	0.84 (0.01)
	England (United Kingdom)	0.86 (0.01)	0.79 (0.01)	0.83 (0.01)	0.90 (0.01)	0.93 (0.00)	0.91 (0.00)	United States	0.86 (0.01)	0.80 (0.01)	0.83 (0.01)	0.89 (0.01)	0.93 (0.00)	0.91 (0.00)
	OECD average	0.81 (0.00)	0.75 (0.00)	0.78 (0.00)	0.85 (0.00)	0.90 (0.00)	0.88 (0.00)							
Partners	Brazil	0.83 (0.01)	0.70 (0.02)	0.75 (0.02)	0.80 (0.01)	0.86 (0.01)	0.82 (0.01)	Bulgaria	0.81 (0.01)	0.75 (0.01)	0.78 (0.01)	0.83 (0.01)	0.89 (0.01)	0.88 (0.01)
	Colombia	0.74 (0.02)	0.65 (0.02)	0.67 (0.02)	0.81 (0.01)	0.86 (0.01)	0.81 (0.01)	Croatia	0.85 (0.01)	0.74 (0.02)	0.79 (0.01)	0.83 (0.01)	0.89 (0.01)	0.84 (0.01)
	Cyprus*	0.80 (0.01)	0.71 (0.01)	0.76 (0.01)	0.82 (0.00)	0.89 (0.00)	0.85 (0.00)	Hong Kong-China	0.76 (0.01)	0.72 (0.02)	0.71 (0.01)	0.86 (0.01)	0.89 (0.01)	0.90 (0.00)
	Macao-China	0.80 (0.01)	0.69 (0.01)	0.74 (0.01)	0.82 (0.01)	0.87 (0.00)	0.86 (0.01)	Malaysia	0.83 (0.01)	0.70 (0.01)	0.78 (0.01)	0.80 (0.01)	0.88 (0.01)	0.85 (0.01)
	Montenegro	0.81 (0.01)	0.68 (0.01)	0.75 (0.01)	0.80 (0.01)	0.89 (0.00)	0.84 (0.00)	Russian Federation	0.74 (0.01)	0.65 (0.02)	0.65 (0.02)	0.78 (0.01)	0.85 (0.01)	0.84 (0.01)
	Serbia	0.83 (0.01)	0.72 (0.01)	0.77 (0.01)	0.82 (0.01)	0.88 (0.01)	0.83 (0.01)	Shanghai-China	0.84 (0.01)	0.79 (0.01)	0.79 (0.01)	0.89 (0.01)	0.92 (0.00)	0.90 (0.01)
	Singapore	0.83 (0.00)	0.74 (0.01)	0.79 (0.01)	0.90 (0.00)	0.94 (0.00)	0.92 (0.00)	Chinese Taipei	0.86 (0.01)	0.81 (0.01)	0.83 (0.01)	0.89 (0.00)	0.93 (0.00)	0.91 (0.00)
	United Arab Emirates	0.80 (0.01)	0.75 (0.01)	0.78 (0.01)	0.85 (0.01)	0.89 (0.00)	0.89 (0.00)	Uruguay	0.79 (0.01)	0.71 (0.01)	0.73 (0.01)	0.81 (0.01)	0.84 (0.01)	0.83 (0.01)

1. The reported correlations are pairwise correlations between the corresponding latent constructs.

2. Total explained variance is the R-squared coefficient from a regression of problem-solving performance on mathematics, reading and science performance. Variation uniquely associated with each domain is measured as the difference between the R-squared of the full regression and the R-squared of a regression of problem solving on the two remaining domains only. The residual variation is computed as: 100 - total explained variation.

3. The variation explained by the mode of delivery is measured as the difference between the R-squared of regression of problem-solving performance on mathematics, reading and science performance and the R-squared of the same regression augmented with computer-based mathematics performance.

* See notes at the beginning of this Annex.

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[Part 2/2]

Table V.2.5 Correlation of problem-solving performance with performance in mathematics, reading and science

	Variation in problem-solving performance associated with mathematics, reading and science performance						Variation in problem-solving performance explained by the mode of delivery, as a percentage of total variation ³							
	Total explained variation ²		Variation uniquely associated with mathematics performance ²		Variation uniquely associated with reading performance ²									
	%	S.E.	%	S.E.	%	S.E.								
OECD														
Australia	71.1	(0.8)	4.5	(0.4)	0.1	(0.1)	0.7	(0.2)	65.7	(0.8)	28.9	(0.8)	2.1	(0.4)
Austria	65.9	(2.3)	4.1	(0.7)	1.6	(0.5)	0.1	(0.1)	60.1	(2.5)	34.1	(2.3)	1.7	(0.7)
Belgium	67.2	(1.4)	3.1	(0.5)	0.2	(0.1)	0.8	(0.2)	63.1	(1.5)	32.8	(1.4)	1.7	(0.4)
Canada	61.3	(1.2)	3.8	(0.5)	0.5	(0.2)	1.2	(0.3)	55.8	(1.3)	38.7	(1.2)	1.4	(0.4)
Chile	66.1	(1.5)	6.7	(0.6)	0.6	(0.2)	0.6	(0.2)	58.2	(1.6)	33.9	(1.5)	0.2	(0.2)
Czech Republic	79.0	(1.2)	7.5	(0.7)	0.4	(0.2)	0.5	(0.2)	70.6	(1.4)	21.0	(1.2)	m	m
Denmark	60.0	(2.3)	4.7	(0.8)	0.1	(0.1)	0.6	(0.3)	54.6	(2.5)	40.0	(2.3)	5.8	(1.1)
Estonia	72.0	(1.4)	4.8	(0.6)	0.8	(0.3)	0.8	(0.3)	65.6	(1.4)	28.0	(1.4)	1.2	(0.6)
Finland	71.3	(1.0)	7.1	(0.6)	0.1	(0.1)	0.6	(0.2)	63.4	(1.0)	28.7	(1.0)	m	m
France	70.3	(3.3)	4.8	(0.6)	0.1	(0.1)	0.9	(0.3)	64.5	(3.1)	29.7	(3.3)	5.3	(2.8)
Germany	71.2	(1.6)	3.9	(0.6)	0.2	(0.1)	0.7	(0.2)	66.4	(1.7)	28.8	(1.6)	1.7	(0.6)
Hungary	71.0	(1.6)	2.5	(0.4)	1.1	(0.4)	0.4	(0.2)	66.9	(1.6)	29.0	(1.6)	1.8	(0.4)
Ireland	65.8	(1.3)	3.1	(0.5)	0.1	(0.1)	1.2	(0.4)	61.4	(1.3)	34.2	(1.3)	0.3	(0.3)
Israel	75.4	(1.3)	4.2	(0.5)	0.6	(0.2)	0.6	(0.2)	69.9	(1.3)	24.6	(1.3)	3.2	(0.6)
Italy	58.4	(2.0)	4.5	(0.8)	0.0	(0.1)	1.4	(0.5)	52.5	(2.0)	41.6	(2.0)	2.0	(0.6)
Japan	58.0	(1.9)	5.7	(0.8)	0.0	(0.0)	0.8	(0.3)	51.5	(1.9)	42.0	(1.9)	7.8	(0.9)
Korea	66.5	(1.6)	3.7	(0.6)	0.6	(0.2)	0.5	(0.2)	61.6	(1.6)	33.5	(1.6)	1.8	(0.4)
Netherlands	74.9	(2.0)	2.1	(0.4)	0.1	(0.1)	2.2	(0.5)	70.4	(2.1)	25.1	(2.0)	m	m
Norway	63.8	(2.1)	6.1	(0.8)	0.3	(0.2)	0.3	(0.2)	57.2	(2.2)	36.2	(2.1)	5.7	(1.0)
Poland	62.4	(2.5)	1.8	(0.5)	2.5	(0.6)	0.6	(0.3)	57.5	(2.4)	37.6	(2.5)	5.2	(1.5)
Portugal	65.5	(2.1)	6.8	(0.8)	0.2	(0.1)	0.2	(0.2)	58.2	(2.2)	34.5	(2.1)	2.2	(0.5)
Slovak Republic	74.1	(1.6)	5.8	(1.0)	0.5	(0.2)	0.1	(0.1)	67.6	(1.9)	25.9	(1.6)	1.0	(0.3)
Slovenia	68.7	(1.1)	4.7	(0.6)	0.4	(0.2)	0.5	(0.2)	63.0	(0.9)	31.3	(1.1)	2.8	(0.4)
Spain	57.1	(2.0)	4.3	(0.9)	0.2	(0.2)	0.8	(0.3)	51.7	(1.9)	42.9	(2.0)	4.4	(0.9)
Sweden	66.4	(1.4)	6.9	(0.8)	0.0	(0.0)	0.6	(0.3)	58.8	(1.3)	33.6	(1.4)	3.2	(0.7)
Turkey	71.0	(1.6)	9.6	(0.8)	0.3	(0.1)	0.2	(0.1)	60.9	(1.9)	29.0	(1.6)	m	m
England (United Kingdom)	74.4	(1.3)	4.5	(0.6)	0.0	(0.0)	0.7	(0.3)	69.1	(1.4)	25.6	(1.3)	m	m
United States	74.8	(1.5)	4.4	(0.6)	0.2	(0.2)	0.3	(0.2)	69.8	(1.6)	25.2	(1.5)	1.0	(0.4)
OECD average	68.0	(0.3)	4.9	(0.1)	0.4	(0.0)	0.7	(0.0)	62.0	(0.3)	32.0	(0.3)	2.8	(0.2)
Partners														
Brazil	69.0	(2.1)	10.4	(1.2)	0.3	(0.2)	0.2	(0.2)	58.1	(2.4)	31.0	(2.1)	2.0	(0.7)
Bulgaria	67.6	(2.0)	5.2	(0.8)	0.7	(0.3)	0.4	(0.2)	61.2	(2.1)	32.4	(2.0)	m	m
Colombia	55.4	(2.5)	7.5	(0.9)	0.5	(0.2)	0.1	(0.1)	47.3	(2.4)	44.6	(2.5)	2.6	(0.7)
Croatia	72.7	(1.6)	8.2	(0.9)	0.2	(0.2)	0.3	(0.1)	64.0	(1.9)	27.3	(1.6)	m	m
Cyprus*	65.4	(1.1)	6.5	(0.5)	0.4	(0.1)	0.3	(0.1)	58.2	(1.1)	34.6	(1.1)	m	m
Hong Kong-China	58.7	(2.1)	4.8	(0.7)	0.9	(0.4)	0.0	(0.1)	52.9	(2.1)	41.3	(2.1)	3.3	(0.7)
Macao-China	64.5	(1.0)	8.5	(0.6)	0.1	(0.1)	0.4	(0.1)	55.6	(1.0)	35.5	(1.0)	1.8	(0.3)
Malaysia	70.4	(1.4)	9.3	(0.9)	0.0	(0.1)	0.5	(0.2)	60.6	(1.6)	29.6	(1.4)	m	m
Montenegro	66.0	(1.3)	9.2	(0.8)	0.1	(0.1)	0.2	(0.1)	56.5	(1.1)	34.0	(1.3)	m	m
Russian Federation	55.9	(2.0)	10.5	(1.1)	1.2	(0.3)	0.1	(0.1)	44.2	(2.6)	44.1	(2.0)	7.8	(1.4)
Serbia	70.0	(1.2)	8.3	(0.9)	0.1	(0.1)	0.6	(0.3)	61.0	(1.5)	30.0	(1.2)	m	m
Shanghai-China	71.1	(1.4)	5.8	(0.6)	0.4	(0.2)	0.0	(0.1)	64.8	(1.6)	28.9	(1.4)	1.6	(0.4)
Singapore	69.7	(0.6)	6.8	(0.7)	0.2	(0.1)	0.3	(0.1)	62.4	(0.9)	30.3	(0.6)	0.5	(0.2)
Chinese Taipei	75.5	(1.1)	4.7	(0.4)	0.4	(0.1)	0.1	(0.1)	70.3	(1.2)	24.5	(1.1)	0.9	(0.3)
United Arab Emirates	66.6	(1.2)	3.7	(0.5)	0.4	(0.2)	1.1	(0.2)	61.4	(1.2)	33.4	(1.2)	1.3	(0.4)
Uruguay	65.1	(1.7)	7.8	(0.8)	0.5	(0.3)	0.6	(0.2)	56.1	(1.8)	34.9	(1.7)	m	m

1. The reported correlations are pairwise correlations between the corresponding latent constructs.

2. Total explained variance is the R-squared coefficient from a regression of problem-solving performance on mathematics, reading and science performance. Variation uniquely associated with each domain is measured as the difference between the R-squared of the full regression and the R-squared of a regression of problem solving on the two remaining domains only. The residual variation is computed as: 100 - total explained variation.

3. The variation explained by the mode of delivery is measured as the difference between the R-squared of regression of problem-solving performance on mathematics, reading and science performance and the R-squared of the same regression augmented with computer-based mathematics performance.

* See notes at the beginning of this Annex.

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[Part 1/3]
Relative performance in problem solving compared with performance in mathematics,
reading and science

Table V.2.6

	Relative performance in problem solving compared with students around the world ¹ with similar scores in...										
	... Mathematics, reading and science (expected performance)				... Mathematics						
	Relative performance across all students ² (actual minus expected score)		Percentage of students who perform above their expected score ³		Relative performance across all students ⁴		Relative performance among strong and top performers in mathematics (at or above Level 4) ⁴		Relative performance among moderate and low performers in mathematics (at or below Level 3) ⁴		Difference in relative performance: strong and top performers minus moderate and low performers
	Score dif.	S.E.	%	S.E.	Score dif.	S.E.	Score dif.	S.E.	Score dif.	S.E.	
OECD											
Australia	7	(1.5)	56.0	(1.2)	10	(1.6)	14	(1.8)	8	(1.7)	
Austria	-5	(2.7)	46.4	(2.1)	-8	(2.8)	-8	(3.5)	-9	(3.3)	
Belgium	-10	(2.1)	43.0	(1.5)	-13	(2.1)	-10	(2.6)	-16	(2.7)	
Canada	0	(1.9)	50.5	(1.2)	1	(2.0)	5	(2.1)	-2	(2.3)	
Chile	1	(2.7)	51.6	(2.3)	3	(2.7)	-1	(3.8)	3	(2.8)	
Czech Republic	1	(2.4)	51.8	(2.3)	0	(2.5)	6	(2.7)	-3	(2.9)	
Denmark	-11	(2.5)	41.7	(2.0)	-14	(2.5)	-8	(3.2)	-16	(2.9)	
Estonia	-15	(1.9)	38.2	(1.6)	-13	(2.0)	-5	(2.2)	-17	(2.4)	
Finland	-8	(2.0)	43.8	(1.7)	-3	(2.0)	7	(2.4)	-9	(2.2)	
France	5	(2.7)	56.5	(1.8)	5	(2.8)	5	(2.8)	6	(3.4)	
Germany	-12	(2.6)	41.0	(2.0)	-12	(2.6)	-6	(3.0)	-16	(3.3)	
Hungary	-34	(2.6)	26.7	(1.7)	-32	(2.8)	-22	(3.5)	-35	(3.2)	
Ireland	-18	(2.9)	36.2	(2.1)	-14	(2.9)	-7	(3.1)	-17	(3.3)	
Israel	-28	(2.8)	33.9	(1.8)	-28	(2.9)	-2	(3.4)	-35	(3.2)	
Italy	10	(3.5)	56.8	(2.5)	9	(3.5)	0	(4.2)	13	(3.8)	
Japan	11	(2.0)	57.7	(1.6)	13	(2.1)	4	(2.4)	21	(2.6)	
Korea	14	(2.6)	61.1	(2.1)	9	(2.6)	6	(2.7)	13	(3.3)	
Netherlands	-16	(3.5)	39.2	(2.4)	-18	(3.8)	-8	(3.8)	-26	(5.0)	
Norway	1	(3.1)	51.0	(2.1)	2	(3.1)	12	(3.1)	-2	(3.4)	
Poland	-44	(3.5)	22.3	(1.8)	-44	(3.5)	-44	(3.4)	-43	(4.2)	
Portugal	-3	(2.7)	47.3	(2.1)	-5	(2.7)	-12	(3.4)	-2	(2.8)	
Slovak Republic	-5	(2.4)	45.7	(2.2)	-11	(2.5)	-11	(4.6)	-11	(2.7)	
Slovenia	-34	(1.3)	27.4	(0.9)	-35	(1.3)	-30	(1.6)	-38	(1.8)	
Spain	-20	(3.8)	39.7	(2.0)	-20	(3.8)	-12	(4.4)	-22	(4.1)	
Sweden	-1	(2.8)	49.2	(2.1)	-2	(2.8)	1	(3.1)	-2	(3.0)	
Turkey	-14	(1.9)	37.1	(1.8)	-12	(2.0)	-28	(3.4)	-9	(2.1)	
England (United Kingdom)	8	(2.4)	57.0	(1.9)	11	(2.5)	15	(2.6)	9	(3.0)	
United States	10	(2.1)	59.4	(1.9)	13	(2.1)	20	(2.6)	11	(2.4)	
OECD average	-7	(0.5)	45.3	(0.4)	-7	(0.5)	-4	(0.6)	-9	(0.6)	
Partners											
Brazil	7	(2.9)	56.3	(2.4)	6	(3.0)	19	(7.9)	6	(3.0)	
Bulgaria	-54	(3.0)	18.0	(1.2)	-57	(3.1)	-46	(4.4)	-59	(3.4)	
Colombia	-7	(2.8)	45.6	(2.1)	-5	(2.8)	14	(7.4)	-6	(2.8)	
Croatia	-22	(2.5)	32.3	(2.0)	-20	(2.5)	-13	(2.7)	-22	(2.8)	
Cyprus*	-12	(1.3)	41.8	(1.2)	-15	(1.3)	-14	(2.9)	-15	(1.4)	
Hong Kong-China	-16	(2.7)	39.2	(1.8)	-19	(2.7)	-23	(3.0)	-12	(3.8)	
Macao-China	8	(1.1)	56.7	(1.0)	0	(1.1)	-8	(1.3)	8	(1.8)	
Malaysia	-14	(2.2)	38.6	(2.0)	-21	(2.3)	-18	(3.9)	-21	(2.5)	
Montenegro	-24	(1.4)	32.0	(1.0)	-27	(1.4)	-20	(5.9)	-28	(1.4)	
Russian Federation	-4	(2.4)	47.4	(1.9)	-7	(2.6)	-12	(4.2)	-5	(2.5)	
Serbia	11	(2.4)	59.0	(2.2)	6	(2.4)	1	(2.9)	7	(2.5)	
Shanghai-China	-51	(2.5)	14.3	(1.3)	-59	(2.5)	-59	(2.6)	-57	(3.7)	
Singapore	2	(1.0)	51.3	(1.0)	-4	(1.0)	-5	(1.4)	-2	(1.3)	
Chinese Taipei	-9	(1.8)	41.7	(1.6)	-21	(1.9)	-29	(2.0)	-10	(2.5)	
United Arab Emirates	-43	(2.1)	24.2	(1.1)	-44	(2.2)	-28	(3.5)	-46	(2.4)	
Uruguay	-27	(2.9)	32.6	(1.9)	-30	(3.0)	-24	(6.0)	-30	(3.1)	

Note: Values that are statistically significant are indicated in bold (see Annex A3).

1. "Students around the world" refers to 15-year-old students in countries and economies that participated in the PISA 2012 assessment of problem solving. National samples are weighted according to the size of the target population using final student weights.

2. This column reports the difference between actual performance and the fitted value from a regression using a second-degree polynomial as regression function (math, math sq., read, read sq., scie, scie sq., math×read, math×scie, read×scie).

3. This column reports the percentage of students for whom the difference between actual performance and the fitted value from a regression is positive. Values that are indicated in bold are significantly larger or smaller than 50%.

4. This column reports the difference between actual performance and the fitted value from a regression using a cubic polynomial as regression function.

* See notes at the beginning of this Annex.

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[Part 2/3]

Relative performance in problem solving compared with performance in mathematics, reading and science

Table V.2.6

	Relative performance in problem solving compared with students around the world ¹ with similar scores in...																
	... Reading						... Science										
	Relative performance across all students ⁴	Relative performance among strong and top performers in mathematics (at or above Level 4) ⁴		Relative performance among moderate and low performers in mathematics (at or below Level 3) ⁴		Difference in relative performance: strong and top performers minus moderate and low performers	Relative performance across all students ⁴	Relative performance among strong and top performers in mathematics (at or above Level 4) ⁴		Relative performance among moderate and low performers in mathematics (at or below Level 3) ⁴		Difference in relative performance: strong and top performers minus moderate and low performers					
		Score dif.	S.E.	Score dif.	S.E.			Score dif.	S.E.	Score dif.	S.E.						
OECD	Australia	10	(1.7)	10	(2.1)	10	(1.8)	0	(2.0)	4	(1.7)	2	(2.0)	6	(1.9)	-4	(1.9)
	Austria	11	(3.0)	11	(4.0)	11	(3.3)	0	(4.2)	0	(2.9)	-2	(3.5)	1	(3.3)	-3	(3.9)
	Belgium	-3	(2.3)	-2	(3.1)	-3	(2.7)	2	(3.4)	2	(2.3)	5	(2.6)	0	(2.8)	5	(3.1)
	Canada	4	(1.9)	2	(2.6)	5	(2.4)	-3	(3.2)	3	(1.9)	4	(2.3)	3	(2.1)	1	(2.4)
	Chile	-9	(2.7)	-8	(4.3)	-9	(2.8)	1	(4.4)	-8	(2.8)	-15	(4.1)	-8	(2.9)	-7	(3.8)
	Czech Republic	11	(2.8)	16	(2.9)	10	(3.2)	5	(3.3)	0	(2.6)	4	(3.3)	-1	(3.0)	5	(3.6)
	Denmark	-3	(2.6)	-6	(4.3)	-2	(3.0)	-3	(4.9)	-3	(2.7)	-10	(3.3)	-1	(3.0)	-8	(3.4)
	Estonia	-1	(2.1)	3	(2.4)	-3	(2.5)	6	(2.5)	-21	(2.0)	-16	(2.2)	-24	(2.6)	8	(2.7)
	Finland	1	(2.2)	-5	(3.0)	4	(2.6)	-9	(3.4)	-16	(2.2)	-17	(2.7)	-15	(2.3)	-2	(2.6)
	France	3	(3.2)	-9	(3.4)	9	(4.0)	-18	(4.3)	10	(2.9)	5	(3.3)	12	(3.4)	-7	(3.8)
	Germany	-1	(2.8)	4	(3.4)	-3	(3.2)	7	(3.7)	-13	(2.8)	-9	(3.3)	-15	(3.3)	7	(3.6)
	Hungary	-35	(2.8)	-23	(4.5)	-39	(3.1)	16	(4.8)	-38	(2.6)	-24	(3.7)	-43	(2.9)	19	(4.2)
	Ireland	-23	(2.8)	-22	(3.1)	-24	(3.2)	2	(3.1)	-21	(3.0)	-22	(3.4)	-21	(3.3)	-2	(3.1)
	Israel	-39	(3.1)	-26	(3.8)	-45	(3.5)	19	(4.3)	-23	(2.9)	-1	(3.6)	-30	(3.2)	29	(4.2)
	Italy	16	(3.7)	-2	(4.1)	22	(4.2)	-24	(4.3)	11	(3.6)	-4	(4.6)	16	(3.9)	-20	(4.5)
	Japan	19	(1.9)	2	(2.5)	34	(2.5)	-32	(3.4)	12	(2.2)	-1	(2.3)	25	(2.9)	-26	(3.0)
	Korea	29	(2.8)	30	(3.0)	29	(3.5)	1	(3.3)	28	(2.9)	30	(3.2)	27	(3.5)	4	(3.4)
	Netherlands	-2	(3.4)	6	(3.5)	-6	(4.4)	12	(4.9)	-9	(3.1)	-3	(3.3)	-13	(4.0)	10	(4.5)
	Norway	-3	(3.2)	-6	(3.7)	-2	(3.5)	-5	(3.3)	6	(3.2)	4	(3.5)	7	(3.4)	-4	(3.1)
	Poland	-37	(3.5)	-35	(3.8)	-38	(4.0)	4	(3.5)	-42	(3.6)	-41	(3.5)	-43	(4.2)	2	(3.7)
	Portugal	1	(2.7)	-11	(3.7)	4	(2.9)	-15	(3.5)	2	(2.9)	-5	(3.4)	4	(3.1)	-9	(2.9)
	Slovak Republic	8	(2.6)	3	(5.2)	10	(2.9)	-6	(5.8)	5	(2.5)	2	(4.8)	6	(2.8)	-4	(5.3)
	Slovenia	-13	(1.6)	-13	(2.3)	-13	(1.9)	0	(2.8)	-37	(1.5)	-34	(2.0)	-39	(2.1)	4	(2.9)
	Spain	-15	(3.8)	-19	(4.7)	-14	(4.1)	-5	(4.2)	-21	(3.8)	-16	(4.8)	-22	(4.0)	6	(3.9)
	Sweden	0	(3.0)	-16	(4.2)	6	(3.1)	-22	(4.0)	1	(3.0)	-8	(3.9)	4	(3.1)	-13	(3.2)
	Turkey	-29	(2.3)	-37	(3.5)	-27	(2.6)	-10	(3.8)	-17	(2.1)	-22	(4.0)	-16	(2.2)	-6	(4.2)
	England (United Kingdom)	13	(2.4)	13	(3.0)	14	(3.1)	0	(3.9)	2	(2.5)	0	(2.6)	4	(3.0)	-4	(3.0)
	United States	7	(2.2)	9	(2.8)	6	(2.4)	3	(3.0)	9	(2.3)	9	(2.8)	9	(2.6)	0	(3.0)
	OECD average	-3	(0.5)	-5	(0.7)	-2	(0.6)	-3	(0.7)	-6	(0.5)	-7	(0.6)	-6	(0.6)	-1	(0.7)
Partners	Brazil	-7	(3.0)	-7	(7.6)	-7	(3.0)	0	(7.6)	2	(2.9)	12	(8.1)	1	(2.9)	10	(7.7)
	Bulgaria	-54	(3.5)	-68	(4.6)	-51	(3.9)	-16	(5.3)	-56	(3.2)	-56	(4.4)	-56	(3.5)	0	(5.0)
	Colombia	-29	(3.2)	-22	(6.8)	-29	(3.2)	7	(6.1)	-19	(3.0)	-2	(9.1)	-20	(3.0)	18	(8.7)
	Croatia	-25	(2.8)	-21	(3.7)	-26	(3.0)	4	(4.0)	-28	(2.7)	-23	(3.7)	-30	(2.9)	7	(3.8)
	Cyprus*	-20	(1.4)	-36	(3.0)	-17	(1.4)	-19	(3.0)	-6	(1.4)	-13	(2.9)	-5	(1.4)	-8	(3.0)
	Hong Kong-China	1	(3.2)	-1	(3.7)	3	(4.0)	-4	(4.3)	-7	(2.9)	-10	(3.1)	-5	(3.7)	-5	(3.8)
	Macao-China	30	(1.2)	18	(1.7)	36	(1.4)	-18	(2.1)	22	(1.2)	15	(1.7)	25	(1.6)	-11	(2.4)
	Malaysia	-2	(2.6)	-7	(7.9)	-2	(2.6)	-6	(7.4)	-13	(2.6)	-8	(5.2)	-13	(2.6)	5	(5.1)
	Montenegro	-36	(1.5)	-50	(4.3)	-35	(1.6)	-15	(4.7)	-21	(1.4)	-22	(5.7)	-21	(1.5)	-1	(6.1)
	Russian Federation	6	(2.4)	-10	(4.7)	9	(2.5)	-19	(4.7)	-1	(2.5)	-16	(4.0)	2	(2.6)	-18	(4.0)
	Serbia	12	(2.7)	1	(3.8)	14	(2.9)	-14	(4.4)	17	(2.9)	11	(4.0)	18	(3.0)	-7	(4.5)
	Shanghai-China	-22	(2.6)	-17	(2.9)	-29	(3.4)	12	(3.4)	-31	(2.6)	-28	(2.9)	-36	(3.6)	8	(3.7)
	Singapore	26	(1.1)	18	(1.7)	33	(1.5)	-15	(2.4)	19	(1.0)	12	(1.3)	27	(1.5)	-14	(2.1)
	Chinese Taipei	13	(2.1)	14	(2.5)	12	(2.5)	2	(2.7)	13	(2.1)	20	(2.3)	10	(2.5)	11	(2.5)
	United Arab Emirates	-47	(2.0)	-32	(3.7)	-49	(2.1)	16	(3.9)	-48	(2.1)	-37	(3.4)	-50	(2.3)	13	(3.5)
	Uruguay	-32	(3.0)	-35	(7.2)	-32	(3.1)	-3	(7.7)	-30	(2.9)	-37	(6.2)	-29	(3.0)	-8	(6.4)

Note: Values that are statistically significant are indicated in bold (see Annex A3).

1. "Students around the world" refers to 15-year-old students in countries and economies that participated in the PISA 2012 assessment of problem solving. National samples are weighted according to the size of the target population using final student weights.

2. This column reports the difference between actual performance and the fitted value from a regression using a second-degree polynomial as regression function (math, math sq., read, read sq., scie, scie sq., mathxread, mathxscie, readxscie).

3. This column reports the percentage of students for whom the difference between actual performance and the fitted value from a regression is positive. Values that are indicated in bold are significantly larger or smaller than 50%.

4. This column reports the difference between actual performance and the fitted value from a regression using a cubic polynomial as regression function.

* See notes at the beginning of this Annex.

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[Part 3/3]

Relative performance in problem solving compared with performance in mathematics, reading and science

Table V.2.6

	Relative performance in problem solving compared with students in countries/economies that also assessed mathematics on computers who have similar scores in...					
	...Paper-based mathematics (A)		...Computer-based mathematics (B)		Mode effects: Score-point difference attributed to computer delivery (A - B)	
	Relative performance across all students ³		Relative performance across all students ⁴			
	Score dif.	S.E.	Score dif.	S.E.	Score dif.	S.E.
OECD						
Australia	8	(1.6)	12	(1.7)	-4	(1.3)
Austria	-10	(2.8)	-4	(2.8)	-6	(2.4)
Belgium	-15	(2.2)	-7	(2.4)	-8	(1.6)
Canada	-1	(1.9)	2	(2.0)	-3	(1.4)
Chile	1	(2.8)	3	(3.6)	-2	(2.3)
Czech Republic	-2	(2.5)	m	m	m	m
Denmark	-15	(2.6)	-4	(2.4)	-12	(1.9)
Estonia	-14	(2.1)	-3	(2.6)	-11	(1.7)
Finland	-5	(2.1)	m	m	m	m
France	4	(2.7)	-1	(2.3)	4	(2.3)
Germany	-14	(2.6)	-3	(2.5)	-10	(2.0)
Hungary	-34	(2.8)	-19	(2.7)	-14	(2.2)
Ireland	-15	(3.0)	0	(3.5)	-15	(2.2)
Israel	-29	(3.0)	-6	(3.0)	-23	(2.5)
Italy	8	(3.5)	7	(3.2)	1	(2.7)
Japan	12	(2.1)	15	(2.0)	-3	(1.7)
Korea	8	(2.6)	12	(2.7)	-5	(2.0)
Netherlands	-19	(3.9)	m	m	m	m
Norway	0	(3.2)	1	(3.0)	-1	(2.2)
Poland	-45	(3.5)	-14	(3.1)	-31	(2.2)
Portugal	-7	(2.7)	0	(2.9)	-6	(2.1)
Slovak Republic	-13	(2.5)	-19	(2.8)	6	(1.8)
Slovenia	-37	(1.3)	-17	(1.3)	-20	(0.9)
Spain	-21	(3.8)	-6	(3.6)	-15	(2.6)
Sweden	-3	(2.8)	-5	(3.0)	1	(2.3)
Turkey	-14	(2.1)	m	m	m	m
England (United Kingdom)	9	(2.6)	m	m	m	m
United States	11	(2.1)	6	(2.2)	6	(1.6)
OECD average	-9	(0.5)	-2	(0.6)	-7	(0.4)
Partners						
Brazil	5	(2.9)	-7	(2.7)	12	(2.3)
Bulgaria	-59	(3.2)	m	m	m	m
Colombia	-7	(2.8)	-16	(3.0)	9	(2.3)
Croatia	-22	(2.6)	m	m	m	m
Cyprus*	-16	(1.4)	m	m	m	m
Hong Kong-China	-20	(2.8)	-7	(3.1)	-12	(2.1)
Macao-China	-1	(1.2)	-1	(1.4)	-1	(1.0)
Malaysia	-23	(2.5)	m	m	m	m
Montenegro	-29	(1.5)	m	m	m	m
Russian Federation	-8	(2.6)	-6	(2.4)	-3	(1.9)
Serbia	4	(2.4)	m	m	m	m
Shanghai-China	-59	(2.5)	-20	(2.7)	-39	(2.2)
Singapore	-5	(1.0)	3	(1.2)	-8	(1.0)
Chinese Taipei	-22	(2.0)	-2	(2.6)	-20	(2.0)
United Arab Emirates	-45	(2.2)	-36	(1.9)	-9	(1.7)
Uruguay	-32	(3.0)	m	m	m	m

Note: Values that are statistically significant are indicated in bold (see Annex A3).

1. "Students around the world" refers to 15-year-old students in countries and economies that participated in the PISA 2012 assessment of problem solving. National samples are weighted according to the size of the target population using final student weights.

2. This column reports the difference between actual performance and the fitted value from a regression using a second-degree polynomial as regression function (math, math sq., read, read sq., scie, scie sq., mathxread, mathxscie, readxscie).

3. This column reports the percentage of students for whom the difference between actual performance and the fitted value from a regression is positive. Values that are indicated in bold are significantly larger or smaller than 50%.

4. This column reports the difference between actual performance and the fitted value from a regression using a cubic polynomial as regression function.

* See notes at the beginning of this Annex.

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[Part 1/1]

Table V.3.1 Performance in problem solving, by nature of the problem situation

	Average proportion of full-credit responses						Relative likelihood of success on interactive tasks, based on success in performing all other tasks (OECD average = 1.00)			
	All items (42 items)		Items referring to a static problem situation (15 items)		Items referring to an interactive problem situation (27 items)		Accounting for booklet effects ¹	Accounting for booklet and country/economy-specific response-format effects ²		
	%	S.E.	%	S.E.	%	S.E.		Odds ratio	S.E.	Odds ratio
OECD										
Australia	50.9	(0.4)	52.8	(0.5)	49.9	(0.5)	1.03	(0.02)	1.02	(0.02)
Austria	44.9	(0.8)	48.3	(1.0)	43.0	(0.8)	0.93	(0.03)	0.93	(0.03)
Belgium	46.4	(0.5)	48.3	(0.6)	45.4	(0.6)	1.03	(0.02)	1.02	(0.02)
Canada	51.3	(0.6)	52.7	(0.7)	50.5	(0.7)	1.06	(0.02)	1.05	(0.02)
Chile	32.9	(0.8)	34.9	(0.9)	31.8	(0.8)	1.01	(0.03)	1.01	(0.03)
Czech Republic	45.0	(0.7)	46.2	(0.7)	44.4	(0.7)	1.02	(0.02)	1.02	(0.02)
Denmark	44.3	(0.8)	47.9	(0.9)	42.3	(0.8)	0.92	(0.02)	0.91	(0.02)
Estonia	47.1	(0.7)	49.7	(0.8)	45.6	(0.8)	0.98	(0.03)	0.97	(0.03)
Finland	49.3	(0.5)	52.1	(0.6)	47.7	(0.6)	0.92	(0.01)	0.92	(0.01)
France	48.5	(0.7)	50.3	(0.8)	47.6	(0.7)	1.06	(0.03)	1.06	(0.03)
Germany	47.4	(0.7)	49.4	(0.8)	46.3	(0.8)	1.02	(0.03)	1.02	(0.03)
Hungary	35.4	(0.9)	38.2	(1.1)	33.9	(0.9)	0.96	(0.03)	0.96	(0.03)
Ireland	44.6	(0.8)	44.4	(0.9)	44.6	(0.9)	1.17	(0.04)	1.16	(0.03)
Israel	37.1	(1.3)	39.7	(1.4)	35.6	(1.3)	0.96	(0.03)	0.98	(0.03)
Italy	47.8	(0.9)	49.5	(1.0)	46.8	(0.9)	1.05	(0.03)	1.04	(0.03)
Japan	56.9	(0.7)	58.7	(0.8)	55.9	(0.7)	1.04	(0.02)	1.05	(0.02)
Korea	58.1	(0.9)	58.9	(1.0)	57.7	(1.0)	1.11	(0.03)	1.14	(0.03)
Netherlands	47.9	(1.1)	50.4	(1.2)	46.5	(1.2)	0.94	(0.02)	0.94	(0.02)
Norway	46.3	(0.9)	49.4	(1.0)	44.5	(0.9)	0.95	(0.03)	0.94	(0.03)
Poland	41.3	(1.0)	44.1	(1.0)	39.7	(1.1)	0.96	(0.03)	0.97	(0.03)
Portugal	42.7	(0.9)	44.0	(0.9)	42.0	(1.0)	1.07	(0.03)	1.07	(0.03)
Slovak Republic	40.7	(0.8)	44.2	(1.0)	38.8	(0.9)	0.92	(0.03)	0.92	(0.03)
Slovenia	38.9	(0.7)	42.9	(0.8)	36.7	(0.8)	0.89	(0.03)	0.89	(0.03)
Spain	40.7	(0.8)	42.3	(0.9)	39.8	(0.8)	1.05	(0.02)	1.04	(0.02)
Sweden	43.8	(0.7)	47.7	(0.9)	41.6	(0.7)	0.90	(0.02)	0.91	(0.02)
Turkey	33.8	(0.9)	35.8	(0.9)	32.7	(0.9)	0.95	(0.02)	0.96	(0.02)
England (United Kingdom)	48.5	(1.1)	49.5	(1.0)	47.9	(1.1)	1.03	(0.02)	1.03	(0.02)
United States	46.2	(1.0)	46.6	(1.1)	45.9	(1.0)	1.13	(0.04)	1.13	(0.04)
OECD average	45.0	(0.2)	47.1	(0.2)	43.8	(0.2)	1.00	(0.01)	1.00	(0.01)
Partners										
Brazil	29.4	(0.9)	29.8	(1.0)	29.1	(1.0)	1.12	(0.04)	1.13	(0.04)
Bulgaria	24.5	(0.8)	28.4	(0.9)	22.3	(0.8)	0.79	(0.02)	0.82	(0.02)
Colombia	24.6	(0.7)	26.3	(0.8)	23.7	(0.7)	1.01	(0.03)	1.02	(0.03)
Croatia	36.9	(0.9)	39.3	(1.0)	35.6	(0.9)	0.94	(0.02)	0.94	(0.02)
Cyprus*	33.4	(0.4)	37.0	(0.5)	31.4	(0.5)	0.85	(0.02)	0.87	(0.02)
Hong Kong-China	53.6	(0.8)	56.1	(0.9)	52.2	(0.8)	0.99	(0.02)	1.00	(0.02)
Macao-China	53.6	(0.5)	57.0	(0.6)	51.7	(0.6)	0.93	(0.02)	0.95	(0.03)
Malaysia	28.4	(0.8)	30.1	(0.8)	27.4	(0.8)	0.96	(0.02)	0.98	(0.02)
Montenegro	26.9	(0.4)	30.3	(0.5)	25.1	(0.4)	0.84	(0.02)	0.85	(0.02)
Russian Federation	41.2	(0.8)	43.8	(0.9)	39.7	(0.8)	0.98	(0.02)	0.98	(0.02)
Serbia	38.1	(0.8)	40.3	(0.8)	36.8	(0.8)	0.94	(0.02)	0.95	(0.02)
Shanghai-China	52.6	(0.8)	56.7	(1.0)	50.3	(0.9)	0.89	(0.03)	0.92	(0.03)
Singapore	58.3	(0.7)	59.8	(0.8)	57.5	(0.7)	1.05	(0.03)	1.06	(0.03)
Chinese Taipei	52.3	(0.8)	56.3	(0.9)	50.1	(0.8)	0.90	(0.03)	0.92	(0.03)
United Arab Emirates	28.1	(0.5)	29.9	(0.6)	27.1	(0.6)	1.01	(0.03)	1.02	(0.03)
Uruguay	25.8	(0.6)	27.5	(0.7)	24.8	(0.6)	0.95	(0.02)	0.97	(0.02)

Note: Values that are statistically significant are indicated in bold (see Annex A3).

1. Generalised odds ratios estimated with logistic regression on the pooled PISA sample. The average logit coefficient on country dummies for OECD countries is set at 0; booklet dummies are added to the estimation.

2. Generalised odds ratios estimated with logistic regression on the pooled PISA sample. The average logit coefficient on country dummies for OECD countries is set at 0; booklet dummies and response-format dummies interacted with country/economy dummies are added to the estimation.

* See notes at the beginning of this Annex.

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[Part 1/2]

Table V.3.2 Performance in problem solving, by process

		Average proportion of full-credit responses									
		All items (42 items)		Items assessing the process of “exploring and understanding” (10 items)		Items assessing the process of “representing and formulating” (8 items)		Items assessing the process of “planning and executing” (17 items)		Items assessing the process of “monitoring and reflecting” (7 items)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia	50.9	(0.4)	54.9	(0.5)	49.3	(0.6)	51.5	(0.5)	45.9	(0.5)
	Austria	44.9	(0.8)	49.2	(1.0)	41.8	(1.0)	47.4	(0.9)	37.2	(0.9)
	Belgium	46.4	(0.5)	49.0	(0.7)	44.8	(0.8)	47.5	(0.6)	42.4	(0.7)
	Canada	51.3	(0.6)	54.1	(0.7)	50.9	(0.9)	52.1	(0.6)	46.0	(0.8)
	Chile	32.9	(0.8)	32.5	(1.0)	29.3	(0.9)	35.2	(0.8)	33.2	(0.8)
	Czech Republic	45.0	(0.7)	46.9	(0.9)	42.9	(0.9)	46.9	(0.6)	40.7	(0.7)
	Denmark	44.3	(0.8)	46.1	(1.0)	42.1	(1.2)	48.1	(0.8)	36.1	(0.9)
	Estonia	47.1	(0.7)	48.9	(1.0)	44.4	(1.0)	49.5	(0.8)	42.5	(0.8)
	Finland	49.3	(0.5)	53.7	(0.6)	46.3	(0.7)	51.0	(0.6)	42.7	(0.6)
	France	48.5	(0.7)	52.2	(1.0)	46.9	(0.9)	49.4	(0.8)	43.8	(0.8)
	Germany	47.4	(0.7)	50.6	(1.1)	44.1	(1.1)	49.5	(0.8)	42.2	(0.9)
	Hungary	35.4	(0.9)	37.7	(1.1)	32.4	(1.1)	37.6	(0.9)	30.9	(1.1)
	Ireland	44.6	(0.8)	47.5	(1.2)	41.4	(0.9)	45.5	(0.8)	42.2	(1.1)
	Israel	37.1	(1.3)	41.9	(1.5)	35.2	(1.5)	37.0	(1.3)	32.7	(1.3)
	Italy	47.8	(0.9)	51.5	(1.2)	47.2	(1.2)	48.0	(0.9)	42.8	(0.9)
	Japan	56.9	(0.7)	62.2	(0.9)	55.7	(0.9)	56.3	(0.7)	52.1	(0.7)
	Korea	58.1	(0.9)	64.7	(1.1)	60.7	(1.3)	54.5	(0.9)	53.7	(1.1)
	Netherlands	47.9	(1.1)	51.8	(1.2)	44.2	(1.3)	49.7	(1.1)	42.8	(1.2)
	Norway	46.3	(0.9)	51.3	(1.0)	43.6	(1.2)	48.1	(1.0)	38.4	(1.1)
	Poland	41.3	(1.0)	43.8	(1.2)	38.5	(1.3)	43.7	(1.0)	35.6	(1.1)
	Portugal	42.7	(0.9)	43.5	(1.3)	39.4	(1.3)	45.7	(1.0)	39.0	(1.1)
	Slovak Republic	40.7	(0.8)	43.6	(1.2)	37.1	(1.1)	43.2	(0.9)	35.7	(0.9)
	Slovenia	38.9	(0.7)	39.6	(1.0)	35.8	(1.0)	42.3	(0.7)	34.2	(0.8)
	Spain	40.7	(0.8)	42.5	(1.0)	37.3	(0.9)	42.3	(0.9)	39.0	(1.0)
	Sweden	43.8	(0.7)	48.3	(1.1)	41.9	(1.0)	44.6	(0.7)	38.0	(0.9)
	Turkey	33.8	(0.9)	33.5	(1.0)	31.9	(1.1)	36.0	(0.9)	31.4	(1.0)
	England (United Kingdom)	48.5	(1.1)	51.3	(1.3)	47.7	(1.3)	49.1	(1.0)	44.0	(1.0)
	United States	46.2	(1.0)	48.9	(1.2)	43.9	(1.3)	47.1	(1.0)	43.1	(1.2)
	OECD average	45.0	(0.2)	47.9	(0.2)	42.7	(0.2)	46.4	(0.2)	40.3	(0.2)
Partners	Brazil	29.4	(0.9)	30.2	(1.1)	25.4	(1.2)	32.0	(1.1)	27.1	(0.9)
	Bulgaria	24.5	(0.8)	27.8	(0.9)	19.1	(0.9)	26.7	(0.8)	21.6	(0.9)
	Colombia	24.6	(0.7)	24.7	(0.9)	18.7	(0.8)	27.7	(0.8)	24.9	(0.8)
	Croatia	36.9	(0.9)	37.2	(1.0)	33.0	(1.1)	40.5	(0.9)	33.5	(0.9)
	Cyprus*	33.4	(0.4)	36.2	(0.5)	30.7	(0.6)	34.8	(0.5)	29.8	(0.5)
	Hong Kong-China	53.6	(0.8)	60.2	(1.2)	54.9	(1.0)	51.1	(0.8)	48.2	(1.1)
	Macao-China	53.6	(0.5)	59.4	(0.9)	57.1	(0.9)	51.3	(0.5)	45.7	(0.8)
	Malaysia	28.4	(0.8)	30.1	(0.9)	27.9	(1.0)	29.3	(0.7)	24.5	(0.8)
	Montenegro	26.9	(0.4)	27.3	(0.6)	23.6	(0.5)	30.0	(0.5)	23.6	(0.5)
	Russian Federation	41.2	(0.8)	42.0	(1.0)	38.6	(1.1)	43.8	(0.8)	37.3	(0.9)
	Serbia	38.1	(0.8)	39.5	(0.9)	35.7	(0.9)	40.7	(0.8)	33.1	(0.9)
	Shanghai-China	52.6	(0.8)	58.3	(1.1)	55.3	(1.2)	49.8	(0.7)	47.2	(1.1)
	Singapore	58.3	(0.7)	64.1	(1.0)	59.7	(0.9)	55.4	(0.7)	55.2	(0.8)
	Chinese Taipei	52.3	(0.8)	58.1	(1.0)	55.5	(1.2)	50.1	(0.8)	44.7	(1.0)
	United Arab Emirates	28.1	(0.5)	30.0	(0.6)	26.6	(0.8)	29.0	(0.6)	25.4	(0.7)
	Uruguay	25.8	(0.6)	27.1	(0.7)	22.2	(0.7)	27.9	(0.7)	23.7	(0.7)

Note: Values that are statistically significant are indicated in bold (see Annex A3).

1. Generalised odds ratios estimated with logistic regression on the pooled PISA sample. The average logit coefficient on country dummies for OECD countries is set at 0; booklet dummies are added to the estimation.

2. Generalised odds ratios estimated with logistic regression on the pooled PISA sample. The average logit coefficient on country dummies for OECD countries is set at 0; booklet dummies and response-format dummies interacted with country/economy dummies are added to the estimation.

* See notes at the beginning of this Annex.

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[Part 2/2]

Table V.3.2 Performance in problem solving, by process

	Relative likelihood of success, based on success in performing all other tasks (OECD average = 1.00)											
	On items assessing the process of "exploring and understanding"				On items assessing the process of "representing and formulating"				On items assessing the process of "planning and executing"			
	Accounting for booklet effects ¹		Accounting for booklet and country/ economy-specific response-format effects ²		Accounting for booklet effects ¹		Accounting for booklet and country/ economy-specific response-format effects ²		Accounting for booklet effects ¹		Accounting for booklet and country/ economy-specific response-format effects ²	
	Odds ratio	S.E.	Odds ratio	S.E.	Odds ratio	S.E.	Odds ratio	S.E.	Odds ratio	S.E.	Odds ratio	S.E.
OECD	Australia	1.06 (0.02)	1.14 (0.02)	1.06 (0.02)	1.06 (0.02)	0.93 (0.02)	0.89 (0.02)	0.98 (0.02)	0.98 (0.02)	0.98 (0.02)	0.98 (0.02)	
	Austria	1.08 (0.03)	1.13 (0.04)	0.97 (0.04)	0.97 (0.04)	1.06 (0.03)	1.04 (0.03)	0.85 (0.03)	0.85 (0.03)	0.85 (0.03)	0.85 (0.03)	
	Belgium	0.98 (0.02)	1.03 (0.02)	1.05 (0.03)	1.05 (0.03)	0.96 (0.02)	0.93 (0.02)	1.03 (0.03)	1.03 (0.03)	1.03 (0.03)	1.03 (0.03)	
	Canada	0.99 (0.02)	1.02 (0.02)	1.12 (0.03)	1.12 (0.03)	0.95 (0.02)	0.92 (0.02)	0.97 (0.02)	0.97 (0.02)	0.97 (0.02)	0.97 (0.02)	
	Chile	0.83 (0.03)	0.77 (0.03)	0.92 (0.03)	0.92 (0.03)	1.06 (0.03)	1.09 (0.03)	1.27 (0.04)	1.28 (0.04)			
	Czech Republic	0.92 (0.02)	0.89 (0.02)	0.92 (0.02)	0.92 (0.02)	1.09 (0.02)	1.11 (0.02)	1.05 (0.02)	1.06 (0.02)			
	Denmark	0.94 (0.03)	0.97 (0.03)	1.02 (0.04)	1.02 (0.04)	1.15 (0.03)	1.14 (0.04)	0.82 (0.03)	0.82 (0.03)	0.82 (0.03)		
	Estonia	0.94 (0.03)	0.96 (0.03)	1.00 (0.03)	1.00 (0.03)	1.05 (0.03)	1.04 (0.03)	1.00 (0.03)	1.00 (0.03)	1.00 (0.03)		
	Finland	1.06 (0.02)	1.08 (0.02)	0.88 (0.02)	0.89 (0.02)	1.09 (0.02)	1.09 (0.02)	0.94 (0.02)	0.95 (0.02)			
	France	1.02 (0.03)	1.03 (0.04)	1.07 (0.03)	1.07 (0.03)	0.95 (0.03)	0.94 (0.03)	1.00 (0.04)	1.00 (0.04)	1.00 (0.04)		
	Germany	1.02 (0.03)	1.05 (0.04)	0.97 (0.03)	0.97 (0.03)	1.03 (0.03)	1.01 (0.03)	0.97 (0.03)	0.97 (0.03)	0.97 (0.03)		
	Hungary	0.98 (0.03)	0.93 (0.04)	0.97 (0.03)	0.97 (0.03)	1.05 (0.03)	1.09 (0.04)	0.98 (0.03)	0.98 (0.03)	0.98 (0.03)		
	Ireland	1.00 (0.04)	1.06 (0.04)	0.97 (0.03)	0.97 (0.03)	0.95 (0.03)	0.91 (0.03)	1.12 (0.04)	1.11 (0.04)			
	Israel	1.12 (0.03)	1.05 (0.03)	1.02 (0.03)	1.02 (0.03)	0.90 (0.02)	0.94 (0.03)	1.00 (0.03)	1.01 (0.03)	1.01 (0.03)		
	Italy	1.05 (0.03)	1.07 (0.04)	1.12 (0.03)	1.12 (0.03)	0.90 (0.02)	0.89 (0.03)	0.98 (0.03)	0.98 (0.03)	0.98 (0.03)		
	Japan	1.15 (0.03)	1.11 (0.03)	1.08 (0.02)	1.08 (0.02)	0.86 (0.02)	0.88 (0.02)	0.99 (0.02)	1.00 (0.03)	1.00 (0.02)		
	Korea	1.25 (0.04)	1.16 (0.04)	1.33 (0.05)	1.32 (0.05)	0.69 (0.02)	0.71 (0.02)	1.00 (0.03)	1.02 (0.03)	1.02 (0.03)		
	Netherlands	1.02 (0.02)	1.03 (0.03)	0.85 (0.02)	0.85 (0.02)	1.09 (0.02)	1.10 (0.02)	1.02 (0.02)	1.02 (0.02)	1.02 (0.02)		
	Norway	1.12 (0.04)	1.19 (0.04)	1.00 (0.03)	1.00 (0.03)	1.01 (0.03)	0.99 (0.03)	0.84 (0.03)	0.84 (0.03)	0.84 (0.03)		
	Poland	0.98 (0.03)	0.96 (0.03)	0.99 (0.03)	0.99 (0.03)	1.05 (0.03)	1.08 (0.03)	0.94 (0.03)	0.94 (0.03)	0.94 (0.03)		
	Portugal	0.90 (0.03)	0.90 (0.03)	0.96 (0.04)	0.96 (0.04)	1.09 (0.04)	1.08 (0.04)	1.04 (0.05)	1.04 (0.05)			
	Slovak Republic	1.00 (0.03)	1.00 (0.04)	0.94 (0.03)	0.94 (0.03)	1.06 (0.03)	1.07 (0.04)	0.97 (0.03)	0.96 (0.03)			
	Slovenia	0.89 (0.03)	0.85 (0.03)	0.97 (0.03)	0.97 (0.03)	1.13 (0.02)	1.16 (0.03)	0.98 (0.03)	0.98 (0.03)			
	Spain	0.94 (0.03)	0.94 (0.03)	0.96 (0.03)	0.95 (0.03)	0.99 (0.03)	0.99 (0.03)	1.15 (0.03)	1.15 (0.03)			
	Sweden	1.09 (0.04)	1.09 (0.04)	1.04 (0.03)	1.04 (0.03)	0.94 (0.03)	0.95 (0.04)	0.94 (0.03)	0.94 (0.03)			
	Turkey	0.82 (0.02)	0.75 (0.02)	0.92 (0.02)	0.93 (0.02)	1.14 (0.02)	1.19 (0.03)	1.15 (0.03)	1.15 (0.03)			
	England (United Kingdom)	0.97 (0.02)	0.99 (0.02)	0.98 (0.03)	0.99 (0.03)	1.01 (0.02)	0.99 (0.02)	1.05 (0.03)	1.05 (0.02)			
	United States	0.99 (0.03)	1.01 (0.03)	1.02 (0.04)	1.02 (0.04)	0.95 (0.03)	0.94 (0.03)	1.08 (0.04)	1.08 (0.04)			
	OECD average	1.00 (0.01)	1.00 (0.01)	1.00 (0.01)	1.00 (0.01)	1.00 (0.00)	1.00 (0.01)	1.00 (0.01)	1.00 (0.01)	1.00 (0.01)		
Partners	Brazil	0.90 (0.03)	0.84 (0.03)	0.89 (0.04)	0.89 (0.04)	1.10 (0.04)	1.16 (0.05)	1.10 (0.05)	1.10 (0.05)			
	Bulgaria	1.05 (0.03)	0.90 (0.02)	0.69 (0.02)	0.69 (0.02)	1.17 (0.03)	1.35 (0.04)	1.07 (0.03)	1.09 (0.03)			
	Colombia	0.86 (0.03)	0.77 (0.03)	0.74 (0.03)	0.74 (0.03)	1.18 (0.04)	1.29 (0.05)	1.28 (0.05)	1.29 (0.05)			
	Croatia	0.85 (0.02)	0.79 (0.02)	0.82 (0.02)	0.83 (0.02)	1.24 (0.03)	1.30 (0.03)	1.09 (0.03)	1.09 (0.03)			
	Cyprus*	0.98 (0.02)	0.90 (0.02)	0.88 (0.02)	0.88 (0.02)	1.07 (0.02)	1.14 (0.02)	1.06 (0.02)	1.07 (0.02)			
	Hong Kong-China	1.23 (0.04)	1.17 (0.05)	1.23 (0.04)	1.23 (0.04)	0.76 (0.02)	0.78 (0.03)	0.96 (0.03)	0.97 (0.03)			
	Macao-China	1.18 (0.04)	1.09 (0.04)	1.38 (0.04)	1.38 (0.04)	0.77 (0.02)	0.80 (0.02)	0.85 (0.02)	0.86 (0.03)			
	Malaysia	0.93 (0.02)	0.80 (0.02)	1.00 (0.03)	1.00 (0.03)	1.04 (0.02)	1.15 (0.03)	1.03 (0.03)	1.04 (0.03)			
	Montenegro	0.86 (0.02)	0.77 (0.02)	0.82 (0.02)	0.82 (0.02)	1.24 (0.03)	1.35 (0.03)	1.05 (0.03)	1.06 (0.03)			
	Russian Federation	0.90 (0.02)	0.87 (0.03)	1.00 (0.03)	1.00 (0.03)	1.07 (0.03)	1.08 (0.04)	1.03 (0.04)	1.03 (0.04)			
	Serbia	0.90 (0.02)	0.87 (0.02)	0.90 (0.02)	0.90 (0.02)	1.16 (0.02)	1.19 (0.03)	1.00 (0.03)	1.01 (0.02)			
	Shanghai-China	1.17 (0.04)	1.04 (0.03)	1.33 (0.05)	1.33 (0.05)	0.74 (0.02)	0.78 (0.03)	0.96 (0.03)	0.98 (0.03)			
	Singapore	1.18 (0.04)	1.19 (0.04)	1.23 (0.04)	1.23 (0.04)	0.73 (0.02)	0.71 (0.02)	1.07 (0.03)	1.08 (0.03)			
	Chinese Taipei	1.18 (0.03)	1.11 (0.04)	1.36 (0.04)	1.36 (0.04)	0.77 (0.02)	0.79 (0.02)	0.86 (0.03)	0.87 (0.03)			
	United Arab Emirates	0.97 (0.02)	0.88 (0.02)	1.04 (0.03)	1.04 (0.03)	0.96 (0.02)	1.02 (0.03)	1.07 (0.03)	1.07 (0.03)			
	Uruguay	0.91 (0.02)	0.80 (0.02)	0.80 (0.02)	0.80 (0.02)	1.15 (0.03)	1.28 (0.04)	1.14 (0.03)	1.15 (0.03)			

Note: Values that are statistically significant are indicated in bold (see Annex A3).

1. Generalised odds ratios estimated with logistic regression on the pooled PISA sample. The average logit coefficient on country dummies for OECD countries is set at 0; booklet dummies are added to the estimation.

2. Generalised odds ratios estimated with logistic regression on the pooled PISA sample. The average logit coefficient on country dummies for OECD countries is set at 0; booklet dummies and response-format dummies interacted with country/economy dummies are added to the estimation.

* See notes at the beginning of this Annex.

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[Part 1/1]

Table V.3.3 Performance in problem solving, by technology setting

	Average proportion of full-credit responses						Relative likelihood of success on tasks set in a technology context, based on success in performing all other tasks (OECD average = 1.00)			
	All items (42 items)		Items not involving a technological device (24 items)		Items involving a technological device (18 items)		Accounting for booklet effects ¹		Accounting for booklet and country/economy-specific response-format effects ²	
	%	S.E.	%	S.E.	%	S.E.	Odds ratio	S.E.	Odds ratio	S.E.
OECD										
Australia	50.9	(0.4)	49.1	(0.4)	52.7	(0.5)	1.14	(0.02)	1.13	(0.02)
Austria	44.9	(0.8)	44.4	(0.9)	45.4	(0.8)	1.02	(0.03)	1.01	(0.03)
Belgium	46.4	(0.5)	45.6	(0.6)	47.3	(0.6)	1.05	(0.02)	1.04	(0.02)
Canada	51.3	(0.6)	50.3	(0.6)	52.3	(0.7)	1.06	(0.02)	1.05	(0.02)
Chile	32.9	(0.8)	32.3	(0.8)	33.5	(0.8)	1.04	(0.03)	1.04	(0.03)
Czech Republic	45.0	(0.7)	43.5	(0.7)	46.6	(0.8)	0.96	(0.01)	0.97	(0.01)
Denmark	44.3	(0.8)	45.4	(0.9)	43.2	(0.8)	0.89	(0.02)	0.88	(0.02)
Estonia	47.1	(0.7)	47.1	(0.8)	47.1	(0.8)	0.98	(0.03)	0.97	(0.03)
Finland	49.3	(0.5)	49.7	(0.6)	48.8	(0.6)	0.82	(0.01)	0.82	(0.01)
France	48.5	(0.7)	47.8	(0.8)	49.2	(0.7)	1.06	(0.03)	1.06	(0.03)
Germany	47.4	(0.7)	46.9	(0.8)	47.8	(0.8)	1.02	(0.02)	1.02	(0.02)
Hungary	35.4	(0.9)	35.3	(1.0)	35.5	(0.9)	0.98	(0.03)	0.99	(0.03)
Ireland	44.6	(0.8)	42.6	(0.9)	46.5	(0.9)	1.16	(0.04)	1.15	(0.04)
Israel	37.1	(1.3)	36.6	(1.4)	37.5	(1.3)	1.00	(0.04)	1.02	(0.04)
Italy	47.8	(0.9)	47.3	(1.0)	48.3	(0.9)	1.03	(0.03)	1.03	(0.03)
Japan	56.9	(0.7)	56.0	(0.8)	57.8	(0.7)	1.05	(0.03)	1.07	(0.03)
Korea	58.1	(0.9)	57.8	(1.0)	58.4	(1.0)	1.01	(0.03)	1.03	(0.03)
Netherlands	47.9	(1.1)	47.1	(1.2)	48.7	(1.1)	0.90	(0.02)	0.91	(0.02)
Norway	46.3	(0.9)	46.4	(0.9)	46.2	(1.0)	0.97	(0.03)	0.97	(0.03)
Poland	41.3	(1.0)	41.1	(1.1)	41.4	(1.1)	1.00	(0.03)	1.00	(0.03)
Portugal	42.7	(0.9)	42.1	(0.9)	43.3	(1.0)	1.04	(0.03)	1.03	(0.03)
Slovak Republic	40.7	(0.8)	41.1	(0.9)	40.3	(1.0)	0.95	(0.03)	0.95	(0.03)
Slovenia	38.9	(0.7)	39.0	(0.9)	38.8	(0.8)	0.96	(0.04)	0.96	(0.04)
Spain	40.7	(0.8)	40.3	(0.9)	41.1	(0.8)	1.02	(0.03)	1.01	(0.03)
Sweden	43.8	(0.7)	43.8	(0.8)	43.8	(0.8)	0.98	(0.03)	0.98	(0.03)
Turkey	33.8	(0.9)	34.0	(0.9)	33.6	(1.0)	0.83	(0.02)	0.85	(0.02)
England (United Kingdom)	48.5	(1.1)	46.1	(1.0)	50.9	(1.2)	1.03	(0.02)	1.03	(0.02)
United States	46.2	(1.0)	44.6	(1.2)	47.8	(0.9)	1.12	(0.04)	1.11	(0.04)
OECD average	45.0	(0.2)	44.4	(0.2)	45.5	(0.2)	1.00	(0.01)	1.00	(0.01)
Partners										
Brazil	29.4	(0.9)	28.9	(1.0)	29.8	(1.0)	1.03	(0.04)	1.03	(0.04)
Bulgaria	24.5	(0.8)	25.2	(0.8)	23.7	(0.9)	0.78	(0.02)	0.81	(0.02)
Colombia	24.6	(0.7)	24.6	(0.7)	24.5	(0.8)	0.98	(0.03)	0.99	(0.03)
Croatia	36.9	(0.9)	36.9	(0.9)	36.9	(0.9)	0.85	(0.02)	0.86	(0.02)
Cyprus*	33.4	(0.4)	33.0	(0.4)	33.9	(0.5)	0.88	(0.02)	0.90	(0.02)
Hong Kong-China	53.6	(0.8)	52.2	(0.9)	55.0	(0.9)	1.10	(0.03)	1.12	(0.03)
Macao-China	53.6	(0.5)	54.7	(0.6)	52.4	(0.6)	0.89	(0.02)	0.90	(0.02)
Malaysia	28.4	(0.8)	28.8	(0.8)	28.0	(0.8)	0.82	(0.02)	0.84	(0.02)
Montenegro	26.9	(0.4)	27.7	(0.5)	26.2	(0.4)	0.79	(0.02)	0.80	(0.02)
Russian Federation	41.2	(0.8)	40.6	(0.9)	41.7	(0.8)	1.03	(0.02)	1.03	(0.02)
Serbia	38.1	(0.8)	38.4	(0.8)	37.7	(0.8)	0.82	(0.02)	0.83	(0.02)
Shanghai-China	52.6	(0.8)	54.3	(0.9)	50.8	(1.0)	0.86	(0.02)	0.87	(0.03)
Singapore	58.3	(0.7)	56.3	(0.7)	60.4	(0.8)	1.17	(0.04)	1.17	(0.04)
Chinese Taipei	52.3	(0.8)	52.1	(0.9)	52.5	(0.9)	1.00	(0.02)	1.01	(0.03)
United Arab Emirates	28.1	(0.5)	27.4	(0.6)	28.8	(0.6)	1.06	(0.02)	1.07	(0.02)
Uruguay	25.8	(0.6)	25.9	(0.7)	25.6	(0.7)	0.83	(0.02)	0.86	(0.02)

Note: Values that are statistically significant are indicated in bold (see Annex A3).

1. Generalised odds ratios estimated with logistic regression on the pooled PISA sample. The average logit coefficient on country dummies for OECD countries is set at 0; booklet dummies are added to the estimation.

2. Generalised odds ratios estimated with logistic regression on the pooled PISA sample. The average logit coefficient on country dummies for OECD countries is set at 0; booklet dummies and response-format dummies interacted with country/economy dummies are added to the estimation.

* See notes at the beginning of this Annex.

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[Part 1/1]

Table V.3.4 Performance in problem solving, by social focus

	Average proportion of full-credit responses						Relative likelihood of success on tasks set in a social context, based on success in performing all other tasks (OECD average = 1.00)			
	All items (42 items)		Items relating primarily to the self, family, and peer groups (personal contexts) (29 items)		Items relating to the community or society in general (social contexts) (13 items)		Accounting for booklet effects ¹		Accounting for booklet and country/economy-specific response-format effects ²	
	%	S.E.	%	S.E.	%	S.E.	Odds ratio	S.E.	Odds ratio	S.E.
OECD										
Australia	50.9	(0.4)	47.1	(0.4)	55.6	(0.5)	1.02	(0.02)	1.07	(0.02)
Austria	44.9	(0.8)	41.4	(0.9)	49.2	(0.8)	1.00	(0.02)	1.03	(0.03)
Belgium	46.4	(0.5)	42.8	(0.6)	50.8	(0.6)	1.00	(0.02)	1.04	(0.02)
Canada	51.3	(0.6)	47.8	(0.6)	55.5	(0.8)	0.99	(0.02)	1.01	(0.03)
Chile	32.9	(0.8)	30.5	(0.8)	35.9	(0.9)	0.93	(0.03)	0.90	(0.03)
Czech Republic	45.0	(0.7)	41.7	(0.7)	49.0	(0.8)	1.02	(0.01)	1.02	(0.02)
Denmark	44.3	(0.8)	41.9	(0.8)	47.3	(0.8)	0.90	(0.02)	0.92	(0.02)
Estonia	47.1	(0.7)	44.3	(0.8)	50.4	(0.8)	0.93	(0.03)	0.94	(0.03)
Finland	49.3	(0.5)	46.2	(0.6)	53.0	(0.6)	1.00	(0.02)	1.01	(0.02)
France	48.5	(0.7)	45.3	(0.6)	52.6	(0.9)	0.96	(0.03)	0.97	(0.03)
Germany	47.4	(0.7)	44.1	(0.8)	51.4	(0.8)	0.98	(0.02)	0.99	(0.03)
Hungary	35.4	(0.9)	32.5	(0.9)	39.0	(1.0)	0.97	(0.03)	0.93	(0.03)
Ireland	44.6	(0.8)	40.4	(0.8)	49.6	(0.9)	1.06	(0.03)	1.11	(0.03)
Israel	37.1	(1.3)	34.3	(1.3)	40.4	(1.4)	0.95	(0.03)	0.89	(0.03)
Italy	47.8	(0.9)	44.1	(0.9)	52.2	(1.0)	1.01	(0.03)	1.02	(0.03)
Japan	56.9	(0.7)	51.9	(0.7)	62.9	(0.8)	1.15	(0.02)	1.12	(0.02)
Korea	58.1	(0.9)	53.9	(0.9)	63.2	(1.1)	1.07	(0.03)	0.99	(0.03)
Netherlands	47.9	(1.1)	43.2	(1.2)	53.6	(1.1)	1.16	(0.02)	1.19	(0.03)
Norway	46.3	(0.9)	43.2	(0.9)	50.0	(0.9)	0.96	(0.03)	0.97	(0.03)
Poland	41.3	(1.0)	37.7	(1.0)	45.6	(1.1)	1.01	(0.02)	0.99	(0.03)
Portugal	42.7	(0.9)	38.5	(0.9)	47.8	(1.0)	1.06	(0.03)	1.10	(0.03)
Slovak Republic	40.7	(0.8)	37.9	(0.9)	44.1	(0.9)	0.94	(0.02)	0.93	(0.02)
Slovenia	38.9	(0.7)	36.3	(0.8)	42.1	(0.8)	0.92	(0.02)	0.90	(0.03)
Spain	40.7	(0.8)	37.6	(0.8)	44.4	(0.9)	0.96	(0.03)	0.96	(0.03)
Sweden	43.8	(0.7)	40.0	(0.7)	48.4	(0.8)	1.02	(0.03)	1.01	(0.03)
Turkey	33.8	(0.9)	31.4	(0.9)	36.6	(1.0)	0.96	(0.02)	0.92	(0.02)
England (United Kingdom)	48.5	(1.1)	44.5	(1.1)	53.3	(1.1)	1.09	(0.02)	1.13	(0.03)
United States	46.2	(1.0)	42.5	(1.0)	50.7	(1.1)	1.02	(0.02)	1.03	(0.03)
OECD average	45.0	(0.2)	41.5	(0.2)	49.1	(0.2)	1.00	(0.00)	1.00	(0.01)
Partners										
Brazil	29.4	(0.9)	26.5	(0.9)	32.9	(1.0)	1.00	(0.03)	0.96	(0.04)
Bulgaria	24.5	(0.8)	21.1	(0.8)	28.6	(1.0)	1.15	(0.03)	1.05	(0.03)
Colombia	24.6	(0.7)	21.9	(0.7)	27.9	(0.8)	1.01	(0.04)	0.95	(0.05)
Croatia	36.9	(0.9)	33.6	(0.9)	41.0	(1.0)	1.05	(0.02)	1.04	(0.02)
Cyprus*	33.4	(0.4)	30.6	(0.5)	36.9	(0.5)	1.01	(0.02)	0.96	(0.02)
Hong Kong-China	53.6	(0.8)	49.5	(0.9)	58.5	(0.8)	1.05	(0.03)	0.99	(0.03)
Macao-China	53.6	(0.5)	49.4	(0.5)	58.6	(0.7)	1.06	(0.02)	0.99	(0.03)
Malaysia	28.4	(0.8)	25.8	(0.8)	31.6	(0.8)	1.01	(0.02)	0.92	(0.02)
Montenegro	26.9	(0.4)	24.1	(0.4)	30.3	(0.5)	1.05	(0.02)	1.00	(0.03)
Russian Federation	41.2	(0.8)	37.7	(0.8)	45.4	(0.9)	1.00	(0.04)	1.00	(0.04)
Serbia	38.1	(0.8)	35.1	(0.8)	41.7	(0.8)	1.01	(0.02)	1.00	(0.02)
Shanghai-China	52.6	(0.8)	48.3	(0.9)	57.7	(0.9)	1.06	(0.03)	0.97	(0.03)
Singapore	58.3	(0.7)	53.8	(0.7)	63.8	(0.8)	1.10	(0.03)	1.10	(0.03)
Chinese Taipei	52.3	(0.8)	47.1	(0.8)	58.5	(0.9)	1.16	(0.03)	1.11	(0.03)
United Arab Emirates	28.1	(0.5)	24.4	(0.5)	32.5	(0.7)	1.09	(0.03)	1.04	(0.03)
Uruguay	25.8	(0.6)	23.3	(0.6)	28.8	(0.7)	1.01	(0.02)	0.93	(0.02)

Note: Values that are statistically significant are indicated in bold (see Annex A3).

1. Generalised odds ratios estimated with logistic regression on the pooled PISA sample. The average logit coefficient on country dummies for OECD countries is set at 0; booklet dummies are added to the estimation.

2. Generalised odds ratios estimated with logistic regression on the pooled PISA sample. The average logit coefficient on country dummies for OECD countries is set at 0; booklet dummies and response-format dummies interacted with country/economy dummies are added to the estimation.

* See notes at the beginning of this Annex.

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[Part 1/1]

Performance in problem solving, by response format

Table V.3.5

	Average proportion of full-credit responses						Relative likelihood of success on constructed response items, based on success in performing all other tasks, accounting for booklet effects (OECD average = 1.00) ^{1,2}	
	All items (42 items)		Items requiring simple or complex multiple-choice selections (14 items)		Items requiring constructed responses (28 items)			
	%	S.E.	%	S.E.	%	S.E.		
OECD								
Australia	50.9	(0.4)	53.9	(0.5)	49.5	(0.5)	1.10 (0.02)	
Austria	44.9	(0.8)	48.4	(0.9)	43.2	(0.9)	1.06 (0.03)	
Belgium	46.4	(0.5)	49.5	(0.6)	44.9	(0.6)	1.09 (0.02)	
Canada	51.3	(0.6)	54.9	(0.8)	49.5	(0.6)	1.05 (0.02)	
Chile	32.9	(0.8)	37.7	(0.9)	30.5	(0.8)	0.95 (0.03)	
Czech Republic	45.0	(0.7)	48.9	(0.7)	43.1	(0.7)	0.98 (0.02)	
Denmark	44.3	(0.8)	47.4	(1.0)	42.8	(0.8)	1.08 (0.03)	
Estonia	47.1	(0.7)	50.6	(0.8)	45.4	(0.8)	1.06 (0.03)	
Finland	49.3	(0.5)	52.6	(0.6)	47.6	(0.6)	1.01 (0.02)	
France	48.5	(0.7)	52.4	(0.9)	46.5	(0.7)	1.02 (0.03)	
Germany	47.4	(0.7)	51.1	(0.8)	45.5	(0.8)	1.05 (0.03)	
Hungary	35.4	(0.9)	40.6	(1.0)	32.8	(0.9)	0.93 (0.03)	
Ireland	44.6	(0.8)	47.6	(1.0)	43.1	(0.8)	1.09 (0.04)	
Israel	37.1	(1.3)	43.5	(1.3)	33.9	(1.4)	0.86 (0.03)	
Italy	47.8	(0.9)	52.1	(1.1)	45.7	(0.9)	1.01 (0.03)	
Japan	56.9	(0.7)	63.1	(0.8)	53.8	(0.7)	0.89 (0.02)	
Korea	58.1	(0.9)	65.6	(1.0)	54.4	(1.0)	0.81 (0.02)	
Netherlands	47.9	(1.1)	51.3	(1.0)	46.2	(1.3)	1.00 (0.02)	
Norway	46.3	(0.9)	49.9	(0.9)	44.5	(1.0)	1.05 (0.04)	
Poland	41.3	(1.0)	46.3	(1.1)	38.7	(1.1)	0.96 (0.03)	
Portugal	42.7	(0.9)	46.3	(1.0)	40.9	(1.0)	1.05 (0.03)	
Slovak Republic	40.7	(0.8)	45.1	(0.9)	38.5	(0.9)	1.00 (0.03)	
Slovenia	38.9	(0.7)	43.5	(0.8)	36.6	(0.7)	0.98 (0.03)	
Spain	40.7	(0.8)	44.7	(0.8)	38.7	(0.9)	1.02 (0.03)	
Sweden	43.8	(0.7)	48.8	(0.9)	41.3	(0.7)	0.96 (0.03)	
Turkey	33.8	(0.9)	38.1	(0.9)	31.6	(0.9)	0.93 (0.02)	
England (United Kingdom)	48.5	(1.1)	51.1	(1.2)	47.2	(1.1)	1.06 (0.02)	
United States	46.2	(1.0)	50.1	(1.0)	44.2	(1.0)	1.03 (0.03)	
OECD average	45.0	(0.2)	49.1	(0.2)	42.9	(0.2)	1.00 (0.01)	
Partners								
Brazil	29.4	(0.9)	34.3	(1.1)	26.9	(0.9)	0.92 (0.03)	
Bulgaria	24.5	(0.8)	30.6	(0.9)	21.4	(0.8)	0.76 (0.02)	
Colombia	24.6	(0.7)	29.8	(0.8)	22.0	(0.7)	0.87 (0.03)	
Croatia	36.9	(0.9)	40.9	(0.8)	34.9	(0.9)	0.96 (0.02)	
Cyprus*	33.4	(0.4)	38.6	(0.4)	30.9	(0.5)	0.88 (0.02)	
Hong Kong-China	53.6	(0.8)	60.7	(0.9)	50.0	(0.8)	0.84 (0.02)	
Macao-China	53.6	(0.5)	61.0	(0.7)	49.8	(0.6)	0.82 (0.02)	
Malaysia	28.4	(0.8)	34.4	(0.8)	25.4	(0.8)	0.81 (0.02)	
Montenegro	26.9	(0.4)	31.3	(0.5)	24.7	(0.4)	0.89 (0.02)	
Russian Federation	41.2	(0.8)	45.8	(0.9)	38.9	(0.8)	0.98 (0.03)	
Serbia	38.1	(0.8)	41.8	(0.8)	36.2	(0.8)	0.98 (0.02)	
Shanghai-China	52.6	(0.8)	61.2	(0.9)	48.3	(0.9)	0.77 (0.02)	
Singapore	58.3	(0.7)	63.3	(0.8)	55.8	(0.7)	0.95 (0.03)	
Chinese Taipei	52.3	(0.8)	59.3	(0.8)	48.7	(0.9)	0.84 (0.02)	
United Arab Emirates	28.1	(0.5)	33.8	(0.6)	25.2	(0.6)	0.86 (0.02)	
Uruguay	25.8	(0.6)	31.1	(0.7)	23.1	(0.6)	0.82 (0.02)	

Note: Values that are statistically significant are indicated in bold (see Annex A3).

1. This classification is not independent of the classification of items by process or context (personal/social). Items measuring the process of "exploring and understanding" and items related to social contexts are under-represented among constructed-response items.

2. Generalised odds ratios estimated with logistic regression on the pooled PISA sample. The average logit coefficient on country dummies for OECD countries is set at 0; booklet dummies and response-format dummies interacted with country/economy dummies are added to the estimation.

* See notes at the beginning of this Annex.

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[Part 1/1]

Table V.3.6 Relative performance on knowledge-acquisition and knowledge-utilisation tasks

	Average proportion of full-credit responses				Relative likelihood of success on knowledge-acquisition tasks, based on success on knowledge-utilisation tasks (OECD average = 1.00)			
	Knowledge-acquisition tasks ¹ (18 items)		Knowledge-utilisation tasks ² (17 items)		Accounting for booklet effects ³		Accounting for booklet and country/economy-specific response-format effects ⁴	
	%	S.E.	%	S.E.	Odds ratio	S.E.	Odds ratio	S.E.
OECD								
Australia	52.3	(0.5)	51.5	(0.5)	1.11	(0.02)	1.16	(0.02)
Austria	45.7	(0.9)	47.4	(0.9)	0.99	(0.03)	1.03	(0.03)
Belgium	47.0	(0.6)	47.5	(0.6)	1.05	(0.02)	1.08	(0.03)
Canada	52.6	(0.8)	52.1	(0.6)	1.08	(0.03)	1.12	(0.03)
Chile	30.9	(0.9)	35.2	(0.8)	0.85	(0.03)	0.79	(0.03)
Czech Republic	45.0	(0.8)	46.9	(0.6)	0.87	(0.02)	0.85	(0.02)
Denmark	44.2	(0.9)	48.1	(0.8)	0.94	(0.03)	0.98	(0.03)
Estonia	46.8	(0.9)	49.5	(0.8)	0.94	(0.03)	0.96	(0.03)
Finland	50.2	(0.6)	51.0	(0.6)	0.91	(0.02)	0.91	(0.02)
France	49.6	(0.8)	49.4	(0.8)	1.07	(0.03)	1.07	(0.04)
Germany	47.5	(1.0)	49.5	(0.8)	0.97	(0.03)	1.00	(0.04)
Hungary	35.2	(1.0)	37.6	(0.9)	0.95	(0.03)	0.91	(0.03)
Ireland	44.6	(1.0)	45.5	(0.8)	1.04	(0.03)	1.06	(0.04)
Israel	38.7	(1.4)	37.0	(1.3)	1.13	(0.03)	1.09	(0.04)
Italy	49.5	(1.1)	48.0	(0.9)	1.15	(0.03)	1.17	(0.04)
Japan	59.1	(0.8)	56.3	(0.7)	1.20	(0.03)	1.17	(0.03)
Korea	62.8	(1.1)	54.5	(0.9)	1.53	(0.05)	1.51	(0.05)
Netherlands	48.2	(1.2)	49.7	(1.1)	0.89	(0.02)	0.89	(0.02)
Norway	47.7	(1.0)	48.1	(1.0)	1.05	(0.03)	1.09	(0.04)
Poland	41.3	(1.2)	43.7	(1.0)	0.96	(0.03)	0.94	(0.03)
Portugal	41.6	(1.1)	45.7	(1.0)	0.91	(0.03)	0.90	(0.03)
Slovak Republic	40.5	(1.0)	43.2	(0.9)	0.94	(0.03)	0.94	(0.04)
Slovenia	37.8	(0.9)	42.3	(0.7)	0.86	(0.02)	0.84	(0.03)
Spain	40.0	(0.8)	42.3	(0.9)	0.96	(0.03)	0.95	(0.03)
Sweden	45.2	(1.0)	44.6	(0.7)	1.08	(0.04)	1.08	(0.04)
Turkey	32.8	(1.0)	36.0	(0.9)	0.81	(0.02)	0.77	(0.02)
England (United Kingdom)	49.6	(1.2)	49.1	(1.0)	0.96	(0.02)	0.98	(0.02)
United States	46.5	(1.1)	47.1	(1.0)	1.04	(0.03)	1.05	(0.04)
OECD average	45.5	(0.2)	46.4	(0.2)	1.00	(0.01)	1.00	(0.01)
Partners								
Brazil	28.0	(1.1)	32.0	(1.1)	0.87	(0.03)	0.81	(0.04)
Bulgaria	23.7	(0.9)	26.7	(0.8)	0.80	(0.02)	0.68	(0.02)
Colombia	21.8	(0.8)	27.7	(0.8)	0.75	(0.03)	0.65	(0.03)
Croatia	35.2	(1.0)	40.5	(0.9)	0.75	(0.02)	0.71	(0.02)
Cyprus*	33.6	(0.5)	34.8	(0.5)	0.89	(0.02)	0.83	(0.02)
Hong Kong-China	57.7	(1.0)	51.1	(0.8)	1.41	(0.04)	1.39	(0.05)
Macao-China	58.3	(0.7)	51.3	(0.5)	1.44	(0.05)	1.44	(0.05)
Malaysia	29.1	(0.9)	29.3	(0.7)	0.92	(0.02)	0.83	(0.02)
Montenegro	25.6	(0.5)	30.0	(0.5)	0.75	(0.02)	0.68	(0.02)
Russian Federation	40.4	(1.0)	43.8	(0.8)	0.92	(0.03)	0.90	(0.04)
Serbia	37.7	(0.9)	40.7	(0.8)	0.84	(0.02)	0.82	(0.02)
Shanghai-China	56.9	(1.0)	49.8	(0.7)	1.45	(0.04)	1.43	(0.05)
Singapore	62.0	(0.8)	55.4	(0.7)	1.42	(0.04)	1.46	(0.04)
Chinese Taipei	56.9	(1.0)	50.1	(0.8)	1.43	(0.04)	1.43	(0.05)
United Arab Emirates	28.4	(0.6)	29.0	(0.6)	1.02	(0.03)	0.96	(0.03)
Uruguay	24.8	(0.7)	27.9	(0.7)	0.79	(0.02)	0.70	(0.02)

Note: Values that are statistically significant are indicated in bold (see Annex A3).

1. "Knowledge-acquisition tasks" are tasks measuring the processes of "exploring and understanding" or "representing and formulating".

2. "Knowledge-utilisation tasks" are tasks measuring the process of "planning and executing".

3. Generalised odds ratios estimated with logistic regression on the pooled PISA sample. The average logit coefficient on country dummies for OECD countries is set at 0; booklet dummies are added to the estimation.

4. Generalised odds ratios estimated with logistic regression on the pooled PISA sample. The average logit coefficient on country dummies for OECD countries is set at 0; booklet dummies and response-format dummies interacted with country/economy dummies are added to the estimation.

* See notes at the beginning of this Annex.

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[Part 1/2]
**Strength of the relationship between problem-solving and mathematics performance,
between and within schools¹**

Table V.4.1

	Variation in student performance in problem solving						Variation accounted for by students' performance in mathematics ⁴		
	Total ²		Between schools ³		Within schools ³		Total	Between schools	Within schools
	Variance	S.E.	Variance	S.E.	Variance	S.E.	%	%	%
OECD									
Australia	9 482	(198)	2 569	(178)	6 951	(106)	69.4	53.8	75.4
Austria	8 801	(550)	4 183	(532)	4 505	(121)	63.2	71.3	59.1
Belgium	11 314	(393)	5 412	(513)	5 804	(144)	65.3	73.8	57.7
Canada	10 063	(333)	2 271	(236)	7 692	(168)	57.8	32.7	63.8
Chile	7 382	(289)	3 153	(299)	4 123	(90)	63.7	69.4	59.3
Czech Republic	9 056	(389)	4 366	(473)	4 474	(174)	77.5	84.1	70.3
Denmark	8 522	(354)	2 441	(326)	6 048	(164)	58.8	29.0	71.3
Estonia	7 658	(267)	1 826	(245)	5 868	(171)	69.1	48.8	75.5
Finland	8 658	(225)	884	(120)	7 753	(183)	69.7	27.0	74.6
France	9 250	(786)	w	w	w	w	68.5	w	w
Germany	9 703	(486)	5 328	(471)	4 334	(111)	69.6	73.1	64.9
Hungary	10 907	(568)	6 445	(683)	4 245	(113)	68.5	80.2	48.9
Ireland	8 676	(365)	2 117	(272)	6 486	(162)	63.5	46.8	68.9
Israel	15 230	(792)	7 751	(860)	7 429	(199)	72.9	77.9	66.2
Italy	8 219	(376)	3 461	(360)	4 496	(131)	56.6	65.8	49.1
Japan	7 251	(325)	2 459	(280)	4 768	(124)	57.0	77.8	45.9
Korea	8 311	(321)	2 604	(288)	5 575	(197)	64.4	75.1	59.1
Netherlands	9 783	(592)	5 649	(634)	4 147	(146)	71.3	78.4	61.3
Norway	10 600	(395)	2 264	(340)	8 270	(237)	62.8	22.9	73.7
Poland	9 303	(645)	3 357	(675)	5 930	(204)	56.5	41.9	64.8
Portugal	7 712	(281)	2 314	(240)	5 420	(157)	64.7	62.5	65.9
Slovak Republic	9 597	(539)	4 761	(569)	4 625	(161)	72.9	76.6	68.9
Slovenia	9 428	(251)	5 114	(434)	4 272	(153)	66.2	73.5	58.7
Spain	10 890	(596)	3 121	(470)	7 776	(213)	55.6	32.8	64.7
Sweden	9 260	(349)	1 720	(321)	7 474	(182)	65.5	35.7	72.0
Turkey	6 246	(349)	3 239	(385)	2 997	(89)	70.0	83.4	55.6
England (United Kingdom)	9 342	(459)	2 735	(386)	6 606	(179)	73.4	65.6	76.8
United States	8 610	(419)	2 485	(410)	6 106	(165)	73.7	59.9	79.2
OECD average	9 259	(85)	3 548	(87)	5 646	(30)	66.0	60.3	65.0
Partners									
Brazil	8 421	(434)	3 988	(491)	4 435	(153)	68.2	68.6	68.3
Bulgaria	11 347	(752)	6 294	(750)	4 994	(125)	65.1	73.8	51.9
Colombia	8 397	(358)	3 092	(332)	5 262	(156)	54.4	58.0	53.0
Croatia	8 472	(361)	3 426	(403)	5 042	(137)	71.9	78.8	67.2
Cyprus*	9 781	(195)	3 448	(1 455)	6 641	(167)	64.0	70.7	62.0
Hong Kong-China	8 401	(403)	3 034	(365)	5 347	(160)	57.0	70.8	49.2
Macao-China	6 269	(129)	1 078	(237)	5 040	(167)	63.6	84.5	58.5
Malaysia	6 982	(330)	2 614	(306)	4 361	(162)	69.4	72.0	67.6
Montenegro	8 390	(200)	3 212	(670)	5 178	(163)	65.5	79.6	56.3
Russian Federation	7 725	(353)	2 857	(393)	4 872	(145)	54.6	42.8	62.1
Serbia	7 942	(342)	2 935	(333)	4 949	(164)	69.0	76.6	64.2
Shanghai-China	8 082	(404)	3 333	(362)	4 723	(151)	70.4	76.9	65.6
Singapore	9 021	(182)	3 061	(362)	5 962	(159)	69.3	65.9	71.0
Chinese Taipei	8 266	(350)	3 214	(374)	5 010	(150)	74.6	82.6	69.4
United Arab Emirates	11 134	(385)	5 607	(477)	5 504	(150)	63.5	68.4	57.3
Uruguay	9 457	(388)	4 000	(419)	5 446	(133)	63.0	66.2	60.5

1. The total variation in student performance is calculated from the square of the standard deviation for all students.

2. In some countries/economies, sub-units within schools were sampled instead of schools; this may affect the estimation of between-school variance components (see Annex A3).

3. Due to the unbalanced clustered nature of the data, the sum of the between- and within-school variation components, as an estimate from a sample, does not necessarily add up to the total.

4. Based on the residual variation in a model with student performance in mathematics.

5. Based on the residual variation in a model with student performance in mathematics and school average performance in mathematics.

* See notes at the beginning of this Annex.

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[Part 2/2]

Strength of the relationship between problem-solving and mathematics performance, between and within schools¹

Table V.4.1

	Variation accounted for by students' and schools' performance in mathematics ²			Variation in student performance unique to problem solving ⁵						
	Total	Between schools		Within schools	Total		Between schools		Within schools	
		%	%		Variance	S.E.	Variance	S.E.	Variance	S.E.
OECD	Australia	69.7	55.4	75.4	2 868	(77)	1 145	(81)	1 712	(33)
	Austria	63.3	71.8	59.1	3 232	(230)	1 179	(221)	1 841	(63)
	Belgium	65.4	74.1	57.7	3 915	(160)	1 404	(169)	2 454	(69)
	Canada	58.0	34.2	63.8	4 223	(186)	1 494	(155)	2 781	(93)
	Chile	63.8	69.7	59.3	2 669	(115)	955	(106)	1 679	(42)
	Czech Republic	77.6	84.2	70.4	2 030	(112)	688	(112)	1 327	(51)
	Denmark	58.9	29.3	71.3	3 507	(221)	1 726	(226)	1 734	(61)
	Estonia	69.1	48.9	75.5	2 369	(132)	934	(141)	1 439	(37)
	Finland	70.1	29.4	74.6	2 592	(79)	624	(73)	1 967	(60)
	France	68.5	w	w	2 910	(494)	w	w	w	w
	Germany	69.8	73.7	65.0	2 932	(166)	1 400	(161)	1 519	(47)
	Hungary	69.2	82.9	48.9	3 357	(155)	1 103	(129)	2 169	(80)
	Ireland	63.5	46.8	68.9	3 164	(128)	1 127	(137)	2 017	(54)
	Israel	74.3	82.4	66.2	3 914	(192)	1 367	(166)	2 510	(109)
	Italy	56.6	65.8	49.1	3 568	(180)	1 183	(152)	2 290	(77)
	Japan	57.2	78.8	46.0	3 105	(99)	522	(75)	2 577	(64)
	Korea	64.5	75.3	59.1	2 954	(127)	644	(81)	2 278	(94)
	Netherlands	71.3	78.6	61.3	2 808	(227)	1 208	(215)	1 604	(47)
	Norway	63.0	24.4	73.7	3 917	(246)	1 711	(238)	2 175	(66)
	Poland	56.8	42.9	64.8	4 019	(445)	1 917	(436)	2 088	(80)
	Portugal	64.7	62.6	65.9	2 722	(162)	865	(125)	1 847	(58)
	Slovak Republic	73.0	76.9	68.9	2 593	(124)	1 098	(124)	1 437	(53)
	Slovenia	66.2	73.6	58.7	3 183	(97)	1 351	(140)	1 763	(69)
	Spain	55.6	33.0	64.7	4 835	(400)	2 092	(336)	2 743	(79)
	Sweden	65.6	36.2	72.0	3 186	(190)	1 098	(175)	2 092	(71)
	Turkey	70.0	83.4	55.6	1 873	(72)	538	(69)	1 330	(33)
	England (United Kingdom)	73.5	65.9	76.8	2 478	(132)	933	(126)	1 534	(41)
	United States	73.7	59.9	79.2	2 265	(173)	996	(181)	1 270	(38)
	OECD average	66.2	61.0	65.0	3 114	(40)	1 177	(37)	1 907	(12)
Partners	Brazil	68.2	68.8	68.3	2 674	(158)	1 244	(172)	1 406	(44)
	Bulgaria	66.1	77.2	51.9	3 845	(234)	1 432	(209)	2 400	(87)
	Colombia	54.5	58.3	53.0	3 817	(229)	1 289	(146)	2 474	(147)
	Croatia	71.9	78.8	67.2	2 384	(92)	727	(87)	1 653	(43)
	Cyprus*	64.0	70.7	62.0	3 518	(124)	1 010	(212)	2 523	(89)
	Hong Kong-China	57.1	70.9	49.2	3 606	(160)	882	(114)	2 719	(89)
	Macao-China	63.8	85.8	58.5	2 269	(60)	154	(51)	2 090	(69)
	Malaysia	69.8	73.4	67.6	2 111	(93)	696	(78)	1 412	(50)
	Montenegro	66.3	83.0	56.3	2 828	(109)	547	(114)	2 261	(84)
	Russian Federation	54.7	42.9	62.1	3 502	(199)	1 631	(193)	1 848	(63)
	Serbia	69.1	77.2	64.2	2 456	(111)	669	(99)	1 772	(50)
	Shanghai-China	70.4	77.0	65.6	2 395	(123)	766	(108)	1 626	(44)
	Singapore	69.4	66.5	71.0	2 756	(61)	1 026	(136)	1 729	(40)
	Chinese Taipei	74.6	82.6	69.4	2 101	(86)	558	(77)	1 534	(37)
	United Arab Emirates	64.3	71.2	57.3	3 978	(151)	1 614	(161)	2 350	(83)
	Uruguay	63.0	66.4	60.5	3 496	(176)	1 344	(169)	2 149	(58)

1. The total variation in student performance is calculated from the square of the standard deviation for all students.

2. In some countries/economies, sub-units within schools were sampled instead of schools; this may affect the estimation of between-school variance components (see Annex A3).

3. Due to the unbalanced clustered nature of the data, the sum of the between- and within-school variation components, as an estimate from a sample, does not necessarily add up to the total.

4. Based on the residual variation in a model with student performance in mathematics.

5. Based on the residual variation in a model with student performance in mathematics and school average performance in mathematics.

* See notes at the beginning of this Annex.

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[Part 1/1]
Table V.4.2 Performance in problem solving and programme orientation

	Percentage of students				Performance in problem solving				Difference in problem-solving performance: Students in vocational programmes minus students in general programmes (V - G)								
	General programmes (G)		Vocational (incl. pre-vocational) study programmes (V)		Modular programmes		General programmes (G)		Vocational (incl. pre-vocational) study programmes (V)		Modular programmes		Observed		After accounting for socio-demographic characteristics of students ¹		
	%	S.E.	%	S.E.	%	S.E.	Mean score	S.E.	Mean score	S.E.	Mean score	S.E.	Score dif.	S.E.	Score dif.	S.E.	
OECD	Australia	89.1	(0.5)	10.9	(0.5)	0.0	c	526	(2.0)	497	(3.3)	c	c	-29	(3.5)	-22	(3.3)
	Austria	30.7	(0.9)	69.3	(0.9)	0.0	c	534	(7.9)	494	(3.6)	c	c	-40	(8.6)	-28	(7.9)
	Belgium	56.0	(1.1)	44.0	(1.1)	0.0	c	541	(3.3)	465	(3.5)	c	c	-76	(5.0)	-57	(4.8)
	Canada	0.0	c	0.0	c	100.0	c	c	c	c	526	(2.4)	c	c	c	c	
	Chile	97.2	(0.2)	2.8	(0.2)	0.0	c	448	(3.7)	446	(9.4)	c	c	-2	(8.7)	17	(8.2)
	Czech Republic	69.0	(1.2)	31.0	(1.2)	0.0	c	515	(3.9)	496	(4.9)	c	c	-19	(6.1)	-13	(5.7)
	Denmark	100.0	c	0.0	c	0.0	c	497	(2.9)	c	c	c	c	c	c	c	c
	Estonia	99.6	(0.2)	0.4	(0.2)	0.0	c	515	(2.5)	c	c	c	c	c	c	c	c
	Finland	100.0	c	0.0	c	0.0	c	523	(2.3)	c	c	c	c	c	c	c	c
	France	84.7	(1.2)	15.3	(1.2)	0.0	c	518	(3.8)	474	(7.1)	c	c	-44	(8.1)	-31	(7.9)
	Germany	98.0	(0.9)	2.0	(0.9)	0.0	c	510	(3.6)	446	(13.4)	c	c	-64	(14.1)	-61	(13.0)
	Hungary	85.7	(1.1)	14.3	(1.1)	0.0	c	475	(4.1)	361	(10.2)	c	c	-114	(10.7)	-83	(11.8)
	Ireland	99.2	(0.2)	0.8	(0.2)	0.0	c	499	(3.2)	400	(13.7)	c	c	-99	(13.7)	-77	(13.9)
	Israel	96.9	(0.2)	3.1	(0.2)	0.0	c	w	w	w	w	c	c	w	w	w	w
	Italy	48.5	(1.6)	51.5	(1.6)	0.0	c	530	(5.4)	490	(5.8)	c	c	-40	(8.2)	-36	(8.2)
	Japan	75.8	(0.8)	24.2	(0.8)	0.0	c	560	(3.6)	529	(6.3)	c	c	-31	(7.2)	-22	(6.8)
	Korea	80.1	(1.4)	19.9	(1.4)	0.0	c	572	(4.7)	518	(9.9)	c	c	-54	(11.0)	-42	(10.5)
	Netherlands	77.8	(1.7)	22.2	(1.7)	0.0	c	538	(5.3)	417	(7.9)	c	c	-121	(9.3)	-108	(8.6)
	Norway	100.0	c	0.0	c	0.0	c	503	(3.3)	c	c	c	c	c	c	c	c
	Poland	99.9	(0.0)	0.1	(0.0)	0.0	c	481	(4.4)	c	c	c	c	c	c	c	c
	Portugal	83.3	(2.0)	16.7	(2.0)	0.0	c	504	(3.4)	446	(7.4)	c	c	-58	(7.4)	-38	(7.2)
	Slovak Republic	65.7	(1.5)	8.2	(1.4)	26.1	(1.3)	488	(4.2)	407	(11.1)	496	(5.8)	-81	(11.8)	-60	(10.2)
	Slovenia	46.8	(0.5)	53.2	(0.5)	0.0	c	521	(2.7)	436	(1.7)	c	c	-84	(3.2)	-70	(3.8)
	Spain	99.2	(0.2)	0.8	(0.2)	0.0	c	478	(4.1)	361	(21.8)	c	c	-116	(22.3)	-100	(19.5)
	Sweden	99.6	(0.1)	0.4	(0.1)	0.0	c	491	(2.9)	c	c	c	c	c	c	c	c
	Turkey	61.9	(0.5)	38.1	(0.5)	0.0	c	467	(5.8)	434	(4.1)	c	c	-33	(6.9)	-25	(5.9)
	England (United Kingdom)	98.8	(0.2)	1.2	(0.2)	0.0	c	518	(4.2)	445	(14.8)	c	c	-72	(15.0)	-70	(15.5)
	United States	100.0	c	0.0	c	0.0	c	508	(3.9)	c	c	c	c	c	c	c	c
	OECD average	80.1	(0.2)	15.4	(0.2)	4.5	(0.0)	508	(0.8)	443	(2.3)	511	(3.1)	-67	(2.4)	-59	(2.3)
Partners	Brazil	100.0	c	0.0	c	0.0	c	428	(4.7)	c	c	c	c	c	c	c	c
	Bulgaria	59.2	(1.6)	40.8	(1.6)	0.0	c	420	(6.2)	375	(8.5)	c	c	-45	(10.6)	-26	(8.7)
	Colombia	74.8	(2.3)	25.2	(2.3)	0.0	c	391	(3.8)	425	(5.5)	c	c	34	(6.1)	31	(5.2)
	Croatia	29.9	(1.2)	70.1	(1.2)	0.0	c	531	(5.8)	439	(4.1)	c	c	-93	(6.9)	-89	(6.8)
	Cyprus*	89.2	(0.1)	10.8	(0.1)	0.0	c	456	(1.5)	349	(3.1)	c	c	-108	(3.2)	-92	(4.0)
	Hong Kong-China	100.0	c	0.0	c	0.0	c	540	(3.9)	c	c	c	c	c	c	c	c
	Macao-China	98.4	(0.1)	1.6	(0.1)	0.0	c	541	(1.0)	531	(7.6)	c	c	-10	(7.6)	-9	(7.5)
	Malaysia	86.7	(1.2)	13.3	(1.2)	0.0	c	423	(3.9)	422	(6.6)	c	c	-1	(7.6)	2	(6.7)
	Montenegro	34.0	(0.2)	66.0	(0.2)	0.0	c	452	(2.5)	383	(1.4)	c	c	-69	(2.9)	-56	(3.3)
	Russian Federation	95.9	(1.1)	4.1	(1.1)	0.0	c	491	(3.3)	436	(14.1)	c	c	-55	(13.9)	-46	(11.5)
	Serbia	25.6	(1.0)	74.4	(1.0)	0.0	c	528	(6.2)	455	(3.8)	c	c	-74	(7.4)	-56	(8.0)
	Shanghai-China	78.8	(0.6)	21.2	(0.6)	0.0	c	548	(4.0)	493	(4.8)	c	c	-56	(6.3)	-42	(6.4)
	Singapore	100.0	c	0.0	c	0.0	c	562	(1.2)	c	c	c	c	c	c	c	c
	Chinese Taipei	65.5	(1.4)	34.5	(1.4)	0.0	c	551	(3.1)	503	(4.5)	c	c	-47	(5.3)	-35	(5.2)
	United Arab Emirates	97.3	(0.0)	2.7	(0.0)	0.0	c	410	(2.8)	435	(5.2)	c	c	25	(5.8)	20	(6.3)
	Uruguay	97.3	(0.4)	1.4	(0.4)	1.3	(0.3)	405	(3.4)	365	(25.3)	318	(16.0)	-41	(25.0)	-25	(21.7)

Note: Values that are statistically significant are indicated in bold (see Annex A3).

1. The adjusted result corresponds to the coefficient from a regression where the PISA index of economic, social and cultural status (ESCS), ESCS squared, boy, and an immigrant (first-generation) dummy are introduced as further independent variables.

* See notes at the beginning of this Annex.

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[Part 1/3]
**Differences in problem-solving, mathematics, reading and science performance
related to programme orientation**

Table V.4.3

	Programme orientation effects: Mean score difference between students in vocational programmes and students in general programmes											
	Problem solving		Mathematics		Reading		Science		Computer-based mathematics		Digital reading	
	Score dif.	S.E.	Score dif.	S.E.	Score dif.	S.E.	Score dif.	S.E.	Score dif.	S.E.	Score dif.	S.E.
OECD												
Australia	-29	(3.5)	-34	(3.5)	-34	(3.3)	-31	(3.7)	-29	(3.6)	-34	(3.8)
Austria	-40	(8.6)	-38	(6.7)	-55	(6.7)	-42	(6.2)	-32	(8.8)	-27	(9.7)
Belgium	-76	(5.0)	-92	(4.4)	-98	(4.3)	-89	(4.2)	-79	(4.5)	-79	(5.5)
Canada	c	c	c	c	c	c	c	c	c	c	c	
Chile	-2	(8.7)	-2	(7.2)	-2	(7.8)	-9	(7.5)	-1	(6.9)	-10	(8.1)
Czech Republic	-19	(6.1)	-15	(5.5)	-14	(5.2)	-16	(5.6)	m	m	m	m
Denmark	c	c	c	c	c	c	c	c	c	c	c	
Estonia	c	c	c	c	c	c	c	c	c	c	c	
Finland	c	c	c	c	c	c	c	c	m	m	m	
France	-44	(8.1)	-56	(7.2)	-76	(8.6)	-61	(9.5)	-42	(6.5)	-56	(9.9)
Germany	-64	(14.1)	-37	(13.9)	-59	(13.3)	-57	(12.5)	-25	(10.5)	-38	(18.5)
Hungary	-114	(10.7)	-100	(5.8)	-108	(7.8)	-100	(6.7)	-104	(11.3)	-139	(12.4)
Ireland	-99	(13.7)	-106	(11.6)	-106	(14.4)	-119	(13.5)	-101	(13.6)	-86	(14.4)
Israel	w	w	w	w	w	w	w	w	w	w	w	
Italy	-40	(8.2)	-59	(7.1)	-80	(7.4)	-64	(7.6)	-43	(8.0)	-63	(8.2)
Japan	-31	(7.2)	-52	(7.9)	-51	(8.4)	-43	(8.2)	-41	(7.5)	-31	(7.5)
Korea	-54	(11.0)	-88	(10.3)	-67	(9.1)	-67	(8.3)	-73	(10.5)	-50	(8.6)
Netherlands	-121	(9.3)	-132	(5.3)	-132	(7.2)	-133	(6.1)	m	m	m	m
Norway	c	c	c	c	c	c	c	c	c	c	c	
Poland	c	c	c	c	c	c	c	c	c	c	c	
Portugal	-58	(7.4)	-78	(6.1)	-91	(6.0)	-79	(5.8)	-52	(5.7)	-80	(6.3)
Slovak Republic	-81	(11.8)	-95	(10.2)	-106	(14.1)	-94	(13.1)	-73	(11.4)	-99	(12.7)
Slovenia	-84	(3.2)	-94	(3.1)	-99	(2.9)	-93	(2.9)	-86	(2.5)	-105	(2.9)
Spain	-116	(22.3)	-114	(9.1)	-134	(12.6)	-114	(17.8)	-88	(14.2)	-150	(16.0)
Sweden	c	c	c	c	c	c	c	c	c	c	c	
Turkey	-33	(6.9)	-63	(7.8)	-50	(7.1)	-49	(6.4)	m	m	m	m
England (United Kingdom)	-72	(15.0)	-80	(13.0)	-83	(13.9)	-90	(12.7)	m	m	m	m
United States	c	c	c	c	c	c	c	c	c	c	c	
OECD average	-67	(2.4)	-74	(2.0)	-83	(2.2)	-76	(2.0)	-63	(2.4)	-78	(3.1)
Partners												
Brazil	c	c	c	c	c	c	c	c	c	c	c	
Bulgaria	-45	(10.6)	-38	(7.6)	-57	(11.1)	-42	(8.7)	m	m	m	m
Colombia	34	(6.1)	31	(5.5)	34	(5.8)	29	(5.2)	23	(5.8)	36	(7.1)
Croatia	-93	(6.9)	-105	(7.2)	-105	(5.7)	-93	(6.0)	m	m	m	m
Cyprus*	-108	(3.2)	-106	(3.0)	-151	(4.3)	-111	(3.4)	m	m	m	m
Hong Kong-China	c	c	c	c	c	c	c	c	c	c	c	
Macao-China	-10	(7.6)	-17	(8.0)	0	(7.6)	-15	(7.5)	-4	(7.0)	5	(9.3)
Malaysia	-1	(7.6)	-16	(9.0)	-9	(9.7)	-12	(8.5)	m	m	m	m
Montenegro	-69	(2.9)	-78	(2.7)	-85	(3.0)	-77	(2.5)	m	m	m	m
Russian Federation	-55	(13.9)	-21	(8.9)	-31	(12.8)	-31	(11.2)	-42	(13.1)	-33	(19.8)
Serbia	-74	(7.4)	-89	(9.3)	-85	(9.4)	-76	(8.8)	m	m	m	m
Shanghai-China	-56	(6.3)	-92	(6.3)	-69	(5.2)	-76	(5.5)	-75	(7.0)	-63	(7.0)
Singapore	c	c	c	c	c	c	c	c	c	c	c	
Chinese Taipei	-47	(5.3)	-77	(5.4)	-55	(5.3)	-56	(4.1)	-57	(5.1)	-46	(5.8)
United Arab Emirates	25	(5.8)	14	(5.4)	11	(5.5)	5	(6.3)	7	(5.3)	14	(6.0)
Uruguay	-41	(25.0)	-23	(17.2)	-53	(21.2)	-36	(22.2)	m	m	m	m

Note: Values that are statistically significant are indicated in bold (see Annex A3).

* See notes at the beginning of this Annex.

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[Part 2/3]
Differences in problem-solving, mathematics, reading and science performance related to programme orientation

Table V.4.3

	Programme orientation effect size: Programme orientation effect divided by the variation in scores within each country/economy (standard deviation)											
	Problem solving		Mathematics		Reading		Science		Computer-based mathematics		Digital reading	
	Effect size	S.E.	Effect size	S.E.	Effect size	S.E.	Effect size	S.E.	Effect size	S.E.	Effect size	S.E.
OECD												
Australia	-0.30	(0.04)	-0.35	(0.04)	-0.35	(0.03)	-0.31	(0.04)	-0.31	(0.04)	-0.35	(0.04)
Austria	-0.43	(0.09)	-0.41	(0.07)	-0.59	(0.07)	-0.46	(0.07)	-0.36	(0.10)	-0.26	(0.10)
Belgium	-0.72	(0.04)	-0.90	(0.04)	-0.96	(0.04)	-0.88	(0.04)	-0.80	(0.04)	-0.80	(0.05)
Canada	c	c	c	c	c	c	c	c	c	c	c	c
Chile	-0.02	(0.10)	-0.03	(0.09)	-0.02	(0.10)	-0.12	(0.09)	-0.01	(0.08)	-0.12	(0.10)
Czech Republic	-0.20	(0.06)	-0.16	(0.06)	-0.16	(0.06)	-0.17	(0.06)	m	m	m	m
Denmark	c	c	c	c	c	c	c	c	c	c	c	c
Estonia	c	c	c	c	c	c	c	c	c	c	c	c
Finland	c	c	c	c	c	c	c	c	m	m	m	m
France	-0.45	(0.09)	-0.58	(0.07)	-0.70	(0.07)	-0.61	(0.09)	-0.46	(0.07)	-0.57	(0.10)
Germany	-0.65	(0.15)	-0.38	(0.14)	-0.65	(0.14)	-0.59	(0.13)	-0.27	(0.11)	-0.38	(0.19)
Hungary	-1.09	(0.09)	-1.07	(0.06)	-1.18	(0.08)	-1.11	(0.07)	-1.13	(0.11)	-1.24	(0.09)
Ireland	-1.07	(0.14)	-1.26	(0.14)	-1.23	(0.17)	-1.31	(0.15)	-1.26	(0.17)	-1.05	(0.17)
Israel	w	w	w	w	w	w	w	w	w	w	w	w
Italy	-0.44	(0.09)	-0.63	(0.07)	-0.81	(0.06)	-0.67	(0.07)	-0.52	(0.09)	-0.66	(0.08)
Japan	-0.36	(0.08)	-0.55	(0.08)	-0.52	(0.08)	-0.45	(0.08)	-0.47	(0.08)	-0.40	(0.09)
Korea	-0.59	(0.12)	-0.88	(0.09)	-0.78	(0.10)	-0.82	(0.09)	-0.81	(0.11)	-0.62	(0.10)
Netherlands	-1.22	(0.08)	-1.44	(0.05)	-1.42	(0.06)	-1.40	(0.06)	m	m	m	m
Norway	c	c	c	c	c	c	c	c	c	c	c	c
Poland	c	c	c	c	c	c	c	c	c	c	c	c
Portugal	-0.65	(0.08)	-0.83	(0.06)	-0.97	(0.06)	-0.89	(0.06)	-0.61	(0.06)	-0.90	(0.06)
Slovak Republic	-0.78	(0.11)	-0.88	(0.09)	-0.95	(0.12)	-0.86	(0.11)	-0.80	(0.12)	-0.97	(0.12)
Slovenia	-0.87	(0.03)	-1.02	(0.03)	-1.08	(0.03)	-1.02	(0.03)	-0.98	(0.03)	-1.06	(0.03)
Spain	-1.12	(0.22)	-1.31	(0.11)	-1.45	(0.14)	-1.32	(0.20)	-1.07	(0.17)	-1.53	(0.16)
Sweden	c	c	c	c	c	c	c	c	c	c	c	c
Turkey	-0.42	(0.08)	-0.69	(0.07)	-0.59	(0.08)	-0.62	(0.07)	m	m	m	m
England (United Kingdom)	-0.75	(0.16)	-0.83	(0.14)	-0.84	(0.15)	-0.89	(0.13)	m	m	m	m
United States	c	c	c	c	c	c	c	c	c	c	c	c
OECD average	-0.67	(0.02)	-0.78	(0.02)	-0.85	(0.02)	-0.81	(0.02)	-0.69	(0.03)	-0.79	(0.03)
Partners												
Brazil	c	c	c	c	c	c	c	c	c	c	c	c
Bulgaria	-0.43	(0.09)	-0.40	(0.08)	-0.48	(0.09)	-0.41	(0.08)	m	m	m	m
Colombia	0.37	(0.07)	0.41	(0.07)	0.41	(0.07)	0.39	(0.07)	0.31	(0.08)	0.39	(0.08)
Croatia	-1.01	(0.06)	-1.19	(0.06)	-1.22	(0.05)	-1.09	(0.05)	m	m	m	m
Cyprus*	-1.09	(0.03)	-1.14	(0.03)	-1.36	(0.03)	-1.15	(0.03)	m	m	m	m
Hong Kong-China	c	c	c	c	c	c	c	c	c	c	c	c
Macao-China	-0.13	(0.10)	-0.18	(0.08)	0.00	(0.09)	-0.20	(0.09)	-0.04	(0.08)	0.06	(0.13)
Malaysia	-0.01	(0.09)	-0.19	(0.11)	-0.10	(0.12)	-0.15	(0.11)	m	m	m	m
Montenegro	-0.76	(0.03)	-0.94	(0.03)	-0.92	(0.03)	-0.91	(0.03)	m	m	m	m
Russian Federation	-0.63	(0.15)	-0.24	(0.10)	-0.34	(0.14)	-0.36	(0.13)	-0.52	(0.16)	-0.39	(0.23)
Serbia	-0.83	(0.08)	-0.98	(0.09)	-0.92	(0.10)	-0.87	(0.09)	m	m	m	m
Shanghai-China	-0.62	(0.07)	-0.92	(0.06)	-0.86	(0.07)	-0.92	(0.07)	-0.80	(0.07)	-0.76	(0.08)
Singapore	c	c	c	c	c	c	c	c	c	c	c	c
Chinese Taipei	-0.52	(0.06)	-0.66	(0.04)	-0.60	(0.05)	-0.67	(0.05)	-0.65	(0.05)	-0.52	(0.06)
United Arab Emirates	0.23	(0.05)	0.15	(0.06)	0.12	(0.06)	0.05	(0.07)	0.08	(0.06)	0.13	(0.05)
Uruguay	-0.42	(0.26)	-0.27	(0.20)	-0.56	(0.22)	-0.38	(0.23)	m	m	m	m

Note: Values that are statistically significant are indicated in bold (see Annex A3).

* See notes at the beginning of this Annex.

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[Part 3/3]
Differences in problem-solving, mathematics, reading and science performance related to programme orientation

Table V.4.3

	Difference in programme orientation effect sizes between problem solving (PS) and...							
	... Mathematics (PS - M)		... Reading (PS - R)		... Science (PS - S)		... Computer-based mathematics (PS - CBM)	
	Effect size dif.	S.E.	Effect size dif.	S.E.	Effect size dif.	S.E.	Effect size dif.	S.E.
OECD								
Australia	0.06	(0.03)	0.05	(0.03)	0.01	(0.03)	0.02	(0.03)
Austria	-0.02	(0.07)	0.16	(0.07)	0.03	(0.07)	-0.07	(0.06)
Belgium	0.19	(0.03)	0.25	(0.03)	0.17	(0.03)	0.08	(0.03)
Canada	c	c	c	c	c	c	c	c
Chile	0.01	(0.06)	0.00	(0.08)	0.10	(0.06)	-0.01	(0.09)
Czech Republic	-0.04	(0.05)	-0.03	(0.06)	-0.02	(0.05)	m	m
Denmark	c	c	c	c	c	c	c	c
Estonia	c	c	c	c	c	c	c	c
Finland	c	c	c	c	c	m	m	m
France	0.12	(0.06)	0.25	(0.07)	0.16	(0.08)	0.01	(0.06)
Germany	-0.26	(0.10)	0.00	(0.12)	-0.05	(0.11)	-0.38	(0.12)
Hungary	-0.03	(0.09)	0.08	(0.10)	0.01	(0.08)	0.03	(0.10)
Ireland	0.19	(0.12)	0.16	(0.18)	0.24	(0.16)	0.19	(0.12)
Israel	w	w	w	w	w	w	w	w
Italy	0.20	(0.07)	0.37	(0.07)	0.24	(0.07)	0.08	(0.06)
Japan	0.19	(0.06)	0.15	(0.06)	0.09	(0.06)	0.10	(0.05)
Korea	0.30	(0.07)	0.19	(0.10)	0.23	(0.10)	0.22	(0.09)
Netherlands	0.22	(0.06)	0.20	(0.06)	0.18	(0.06)	m	m
Norway	c	c	c	c	c	c	c	c
Poland	c	c	c	c	c	c	c	c
Portugal	0.18	(0.08)	0.32	(0.07)	0.24	(0.06)	-0.04	(0.07)
Slovak Republic	0.10	(0.07)	0.17	(0.10)	0.08	(0.09)	0.02	(0.08)
Slovenia	0.16	(0.03)	0.21	(0.03)	0.16	(0.02)	0.11	(0.02)
Spain	0.20	(0.20)	0.33	(0.17)	0.20	(0.19)	-0.04	(0.29)
Sweden	c	c	c	c	c	c	c	c
Turkey	0.27	(0.05)	0.17	(0.07)	0.20	(0.06)	m	m
England (United Kingdom)	0.08	(0.11)	0.10	(0.12)	0.14	(0.10)	m	m
United States	c	c	c	c	c	c	c	c
OECD average	0.11	(0.02)	0.18	(0.02)	0.13	(0.02)	0.01	(0.03)
Partners								
Brazil	c	c	c	c	c	c	c	c
Bulgaria	-0.02	(0.06)	0.05	(0.07)	-0.01	(0.07)	m	m
Colombia	-0.04	(0.05)	-0.04	(0.06)	-0.02	(0.06)	0.06	(0.06)
Croatia	0.18	(0.03)	0.21	(0.04)	0.08	(0.05)	m	m
Cyprus*	0.05	(0.03)	0.27	(0.04)	0.06	(0.04)	m	m
Hong Kong-China	c	c	c	c	c	c	c	c
Macao-China	0.05	(0.06)	-0.13	(0.08)	0.07	(0.08)	-0.08	(0.07)
Malaysia	0.18	(0.06)	0.09	(0.07)	0.14	(0.06)	m	m
Montenegro	0.18	(0.02)	0.16	(0.02)	0.15	(0.02)	m	m
Russian Federation	-0.38	(0.16)	-0.29	(0.19)	-0.27	(0.17)	-0.10	(0.10)
Serbia	0.16	(0.05)	0.10	(0.07)	0.05	(0.06)	m	m
Shanghai-China	0.30	(0.06)	0.24	(0.06)	0.31	(0.07)	0.18	(0.07)
Singapore	c	c	c	c	c	c	c	c
Chinese Taipei	0.14	(0.04)	0.08	(0.04)	0.15	(0.04)	0.13	(0.05)
United Arab Emirates	0.08	(0.04)	0.12	(0.05)	0.18	(0.05)	0.15	(0.05)
Uruguay	-0.15	(0.11)	0.15	(0.10)	-0.04	(0.10)	m	m

Note: Values that are statistically significant are indicated in bold (see Annex A3).

* See notes at the beginning of this Annex.

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[Part 1/1]

Table V.4.4 Relative performance in problem solving, by programme orientation

	Problem-solving performance of students in vocational and pre-vocational programmes compared with that of students in general programmes with similar performance in mathematics, reading and science															
	Average difference in problem solving compared with students in general programmes with similar performance in mathematics ¹		Percentage of students in vocational programmes who outperform students in general programmes with similar performance in mathematics ²		Average difference in problem solving compared with students in general programmes with similar performance in reading ¹		Percentage of students in vocational programmes who outperform students in general programmes with similar performance in reading ²		Average difference in problem solving compared with students in general programmes with similar performance in science ¹		Percentage of students in vocational programmes who outperform students in general programmes with similar performance in science ²		Average difference in problem solving compared with students in general programmes with similar performance in mathematics, reading and science ³		Percentage of students in vocational programmes who outperform students in general programmes with similar performance in mathematics, reading and science ²	
	Score dif.	S.E.	%	S.E.	Score dif.	S.E.	%	S.E.	Score dif.	S.E.	%	S.E.	Score dif.	S.E.	%	S.E.
OECD																
Australia	-1	(2.4)	49.8	(1.9)	-2	(2.4)	49.3	(1.9)	-5	(2.5)	47.2	(2.0)	-1	(2.3)	49.9	(2.0)
Austria	-11	(7.8)	43.3	(6.1)	1	(8.4)	51.6	(5.8)	-8	(8.1)	45.8	(5.9)	-2	(8.2)	49.8	(6.4)
Belgium	1	(4.0)	51.1	(2.7)	3	(4.6)	53.3	(2.7)	-1	(4.3)	49.9	(2.9)	4	(4.1)	53.3	(2.9)
Canada	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
Chile	0	(4.9)	52.3	(5.2)	0	(6.5)	51.7	(6.1)	6	(5.3)	55.4	(5.3)	1	(4.7)	51.5	(5.1)
Czech Republic	-7	(4.6)	43.9	(4.4)	-7	(5.6)	45.5	(4.3)	-6	(4.8)	46.9	(3.9)	-6	(4.5)	44.8	(4.6)
Denmark	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
Estonia	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
Finland	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
France	2	(6.0)	52.9	(4.9)	9	(6.9)	55.4	(4.9)	5	(7.1)	54.0	(5.4)	6	(6.0)	56.0	(5.3)
Germany	-32	(9.1)	22.7	(7.3)	-14	(10.7)	38.7	(11.3)	-15	(10.5)	41.8	(8.8)	-24	(8.8)	30.7	(8.2)
Hungary	-22	(11.1)	37.8	(6.9)	-17	(11.1)	39.3	(6.2)	-22	(9.4)	37.4	(6.2)	-13	(11.0)	41.9	(6.9)
Ireland	-6	(10.4)	44.3	(9.0)	-14	(14.6)	42.8	(10.2)	-4	(13.6)	45.6	(10.0)	-1	(12.2)	48.0	(11.0)
Israel	w	w	w	w	w	w	w	w	w	w	w	w	w	w	w	w
Italy	5	(6.6)	54.4	(4.2)	14	(7.3)	58.5	(4.1)	8	(6.9)	56.4	(4.5)	12	(6.6)	58.6	(4.1)
Japan	4	(4.8)	53.6	(3.3)	-1	(4.7)	49.6	(3.2)	-3	(5.1)	48.1	(3.3)	3	(4.8)	53.4	(3.3)
Korea	13	(7.1)	59.2	(5.2)	2	(8.9)	50.5	(5.9)	5	(8.8)	51.7	(6.0)	13	(7.8)	58.4	(5.6)
Netherlands	-4	(9.6)	50.2	(5.9)	-14	(9.9)	42.8	(5.9)	-6	(10.0)	46.8	(6.7)	2	(10.5)	51.9	(7.6)
Norway	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
Poland	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
Portugal	0	(6.6)	50.5	(4.8)	0	(6.2)	50.9	(4.3)	-1	(5.8)	50.4	(4.1)	4	(6.4)	53.1	(4.7)
Slovak Republic	-1	(7.9)	50.3	(7.6)	0	(9.9)	52.3	(7.2)	-5	(9.5)	47.7	(7.2)	3	(8.6)	54.0	(8.1)
Slovenia	-11	(5.3)	45.1	(3.3)	-8	(6.1)	45.4	(3.6)	-6	(4.5)	47.7	(2.8)	-3	(5.0)	49.3	(3.3)
Spain	-14	(20.5)	43.9	(14.4)	-18	(19.7)	38.0	(13.7)	-23	(17.5)	37.1	(11.3)	-9	(19.2)	43.3	(13.4)
Sweden	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
Turkey	14	(4.1)	62.9	(3.8)	5	(5.7)	54.2	(4.5)	8	(5.2)	56.2	(4.2)	14	(4.2)	62.9	(4.1)
England (United Kingdom)	-2	(10.1)	45.6	(10.7)	-7	(10.9)	47.1	(11.5)	0	(9.5)	52.6	(10.0)	1	(9.5)	52.2	(11.6)
United States	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
OECD average	-5	(2.4)	47.5	(1.6)	-4	(2.2)	48.1	(1.7)	-4	(2.1)	48.0	(1.5)	0	(2.2)	50.3	(1.7)
Partners																
Brazil	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
Bulgaria	-11	(7.5)	45.4	(4.4)	-6	(8.0)	48.1	(4.4)	-10	(7.9)	46.2	(4.4)	-7	(7.5)	47.7	(4.6)
Colombia	6	(4.4)	55.4	(3.7)	10	(5.2)	56.7	(3.8)	11	(5.0)	57.9	(3.5)	5	(4.5)	55.0	(3.9)
Croatia	-2	(6.5)	49.3	(4.9)	-16	(12.3)	39.8	(6.5)	-22	(7.5)	35.5	(4.7)	3	(8.1)	52.5	(6.1)
Cyprus*	-19	(3.3)	38.4	(2.8)	-20	(3.8)	40.6	(2.5)	-27	(3.2)	35.8	(2.5)	-14	(3.7)	42.6	(3.3)
Hong Kong-China	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
Macao-China	2	(4.9)	51.7	(6.3)	-10	(5.7)	42.5	(7.6)	1	(5.6)	49.4	(7.2)	2	(4.8)	53.1	(5.3)
Malaysia	13	(4.4)	62.8	(4.4)	7	(4.9)	56.3	(4.2)	10	(4.1)	58.6	(3.7)	12	(4.3)	62.4	(4.5)
Montenegro	1	(2.4)	50.8	(1.8)	-10	(3.1)	43.9	(2.3)	-4	(2.6)	47.2	(1.8)	3	(2.7)	51.7	(2.0)
Russian Federation	-39	(13.4)	29.1	(6.9)	-35	(14.4)	30.7	(7.3)	-35	(13.1)	31.6	(7.1)	-38	(13.6)	29.4	(8.1)
Serbia	0	(6.3)	50.0	(4.7)	-13	(8.5)	42.4	(5.2)	-13	(8.3)	41.4	(5.7)	1	(6.4)	51.0	(5.0)
Shanghai-China	17	(5.5)	64.0	(4.5)	9	(6.0)	57.3	(4.7)	14	(6.5)	60.7	(4.5)	18	(5.7)	65.0	(4.6)
Singapore	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
Chinese Taipei	4	(3.8)	54.4	(3.5)	-3	(4.1)	47.7	(3.3)	4	(4.0)	53.2	(3.2)	5	(3.7)	54.7	(3.3)
United Arab Emirates	11	(4.1)	58.8	(4.2)	17	(4.4)	58.8	(5.6)	21	(4.7)	64.6	(4.3)	14	(4.1)	60.7	(4.6)
Uruguay	-20	(13.1)	37.1	(9.6)	-2	(13.3)	51.1	(9.6)	-14	(12.4)	43.6	(9.3)	-13	(11.1)	43.7	(10.6)

Note: Values that are statistically significant are indicated in bold (see Annex A3).

1. This column reports the difference between actual performance and the fitted value from a regression using a cubic polynomial as regression function.

2. This column reports the percentage of students for whom the difference between actual performance and the fitted value from a regression is positive. Values that are indicated in bold are significantly larger or smaller than 50%.

3. This column reports the difference between actual performance and the fitted value from a regression using a second-degree polynomial as regression function (math, math sq., read, read sq, scie, scie sq., mathxread, mathxscie, readxscie).

* See notes at the beginning of this Annex.

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[Part 1/2]

Table V.4.6 Percentage of students at each proficiency level in problem solving, by gender

	Boys														
	Below Level 1 (below 358.49 score points)		Level 1 (from 358.49 to less than 423.42 score points)		Level 2 (from 423.42 to less than 488.35 score points)		Level 3 (from 488.35 to less than 553.28 score points)		Level 4 (from 553.28 to less than 618.21 score points)		Level 5 (from 618.21 to less than 683.14 score points)		Level 6 (above 683.14 score points)		
	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.			
OECD	Australia	5.3	(0.4)	10.8	(0.7)	18.8	(0.6)	24.9	(0.9)	22.5	(0.8)	12.6	(0.7)	5.1	(0.5)
	Austria	6.4	(1.1)	11.1	(1.1)	20.6	(1.3)	25.8	(1.4)	22.9	(1.3)	10.3	(1.0)	2.9	(0.6)
	Belgium	9.4	(0.8)	11.6	(0.8)	17.0	(0.8)	23.2	(0.9)	22.3	(1.0)	12.7	(0.8)	3.8	(0.5)
	Canada	5.3	(0.6)	9.6	(0.5)	18.1	(0.7)	25.1	(0.8)	23.0	(0.7)	13.1	(0.7)	5.9	(0.6)
	Chile	14.4	(1.5)	21.2	(1.5)	27.2	(1.4)	23.9	(1.2)	10.5	(1.0)	2.6	(0.4)	0.3	(0.1)
	Czech Republic	7.2	(0.9)	10.6	(1.0)	19.7	(1.1)	26.3	(1.2)	22.8	(1.3)	10.6	(1.1)	2.8	(0.4)
	Denmark	7.0	(0.9)	13.0	(1.0)	22.5	(1.0)	26.9	(1.3)	20.4	(1.5)	8.1	(1.0)	2.1	(0.4)
	Estonia	4.3	(0.6)	11.0	(1.0)	21.1	(1.0)	28.1	(1.2)	22.2	(1.2)	10.5	(0.8)	2.8	(0.4)
	Finland	5.2	(0.6)	10.8	(0.7)	20.5	(1.0)	26.1	(1.3)	22.1	(1.0)	11.2	(0.7)	4.1	(0.6)
	France	7.1	(1.0)	9.6	(0.8)	20.0	(1.4)	26.6	(1.4)	23.0	(1.1)	11.3	(0.9)	2.6	(0.5)
	Germany	7.9	(0.9)	12.1	(1.1)	18.7	(1.2)	24.2	(1.1)	22.2	(1.2)	11.4	(1.3)	3.5	(0.6)
	Hungary	19.0	(1.8)	16.5	(1.2)	22.0	(1.5)	21.5	(1.4)	13.9	(1.2)	5.5	(0.8)	1.5	(0.4)
	Ireland	7.5	(1.2)	13.1	(1.3)	22.7	(1.2)	27.2	(1.2)	18.6	(1.2)	8.0	(0.9)	3.0	(0.6)
	Israel	24.0	(2.2)	15.2	(1.4)	17.0	(1.2)	17.1	(1.2)	14.9	(1.6)	8.6	(1.3)	3.2	(0.7)
	Italy	5.6	(0.9)	10.7	(1.5)	19.4	(1.3)	25.7	(1.4)	24.0	(1.4)	11.9	(1.1)	2.7	(0.5)
	Japan	1.9	(0.5)	4.9	(0.6)	13.2	(1.0)	23.8	(1.3)	28.9	(1.4)	20.0	(1.5)	7.3	(0.9)
	Korea	2.3	(0.4)	4.8	(0.7)	11.6	(1.1)	21.8	(1.3)	28.6	(1.5)	21.5	(1.4)	9.4	(1.1)
	Netherlands	7.7	(1.2)	11.0	(1.2)	19.0	(1.3)	24.7	(1.6)	22.5	(1.7)	12.1	(1.4)	3.1	(0.6)
	Norway	9.0	(0.9)	13.1	(0.9)	21.4	(1.2)	24.0	(1.0)	18.8	(1.1)	9.9	(1.0)	3.8	(0.5)
	Poland	11.8	(1.2)	15.5	(1.2)	23.4	(1.2)	24.2	(1.6)	16.9	(1.2)	6.6	(0.8)	1.5	(0.3)
	Portugal	6.3	(0.8)	12.8	(1.2)	23.2	(1.5)	27.7	(1.3)	20.6	(1.2)	7.7	(0.8)	1.7	(0.4)
	Slovak Republic	9.4	(1.1)	14.9	(1.2)	23.2	(1.3)	23.7	(1.3)	18.1	(1.6)	8.3	(0.9)	2.4	(0.8)
	Slovenia	13.2	(0.8)	16.8	(1.3)	24.3	(1.6)	22.3	(1.2)	16.3	(1.0)	6.1	(0.7)	1.1	(0.4)
	Spain	14.1	(1.4)	15.6	(0.9)	21.5	(1.3)	23.5	(1.5)	16.2	(1.2)	7.0	(0.8)	2.2	(0.4)
	Sweden	10.2	(0.9)	14.8	(1.1)	23.1	(1.0)	24.8	(1.0)	17.6	(0.9)	7.3	(0.7)	2.2	(0.4)
	Turkey	9.4	(1.2)	23.7	(1.6)	30.6	(1.8)	22.4	(1.4)	10.9	(1.3)	2.7	(0.6)	0.3	(0.1)
	England (United Kingdom)	5.7	(1.1)	10.4	(1.0)	19.5	(1.3)	25.5	(1.3)	23.2	(1.3)	12.1	(1.3)	3.6	(0.9)
	United States	6.6	(1.0)	12.4	(1.1)	21.4	(1.3)	25.8	(1.2)	20.8	(1.2)	9.8	(0.9)	3.2	(0.5)
	OECD average	8.7	(0.2)	12.8	(0.2)	20.7	(0.2)	24.5	(0.2)	20.2	(0.2)	10.0	(0.2)	3.1	(0.1)
Partners	Brazil	19.1	(1.8)	23.5	(1.5)	26.7	(1.5)	19.0	(1.8)	8.9	(1.3)	2.1	(0.5)	0.6	(0.3)
	Bulgaria	36.7	(2.1)	22.7	(1.2)	20.9	(1.3)	12.9	(1.1)	5.3	(0.8)	1.4	(0.4)	0.2	(0.1)
	Colombia	27.1	(1.9)	27.6	(1.4)	23.8	(1.3)	14.1	(1.1)	5.7	(0.7)	1.3	(0.4)	0.3	(0.1)
	Croatia	12.2	(1.4)	18.7	(1.4)	24.6	(1.5)	22.4	(1.4)	15.3	(1.4)	5.6	(0.8)	1.2	(0.3)
	Cyprus*	22.9	(0.8)	19.7	(1.1)	23.4	(1.1)	19.2	(1.1)	10.3	(1.0)	3.7	(0.4)	0.7	(0.3)
	Hong Kong-China	3.1	(0.6)	6.6	(0.8)	15.3	(1.0)	25.9	(1.5)	27.2	(1.2)	15.7	(1.3)	6.1	(0.8)
	Macao-China	1.5	(0.3)	5.6	(0.7)	16.7	(0.9)	27.9	(1.2)	29.2	(1.1)	15.6	(0.8)	3.5	(0.5)
	Malaysia	22.4	(1.7)	26.2	(1.5)	27.3	(1.5)	16.6	(1.2)	6.1	(0.9)	1.2	(0.4)	0.1	(0.1)
	Montenegro	32.4	(1.0)	25.7	(1.1)	22.4	(1.0)	13.6	(0.8)	4.8	(0.7)	1.0	(0.3)	0.1	(0.1)
	Russian Federation	6.4	(0.7)	14.6	(1.1)	26.0	(1.2)	28.6	(1.8)	16.2	(1.0)	6.7	(1.0)	1.5	(0.4)
	Serbia	9.2	(1.2)	17.1	(1.2)	25.5	(2.0)	26.4	(1.6)	15.8	(1.1)	5.3	(0.6)	0.8	(0.3)
	Shanghai-China	2.6	(0.5)	6.2	(0.7)	15.0	(1.2)	25.6	(1.3)	27.8	(1.8)	17.0	(1.2)	5.7	(0.7)
	Singapore	2.3	(0.4)	6.3	(0.5)	13.0	(0.7)	20.1	(0.9)	25.8	(0.9)	20.4	(1.0)	12.0	(0.7)
	Chinese Taipei	4.2	(0.8)	7.9	(0.8)	15.8	(1.2)	23.9	(1.3)	25.9	(1.7)	17.3	(1.2)	5.0	(0.8)
	United Arab Emirates	37.1	(2.0)	22.4	(1.5)	18.5	(1.0)	12.7	(0.9)	6.7	(0.7)	2.2	(0.3)	0.5	(0.1)
	Uruguay	31.5	(1.8)	23.6	(1.3)	22.0	(1.3)	14.6	(1.1)	6.5	(0.8)	1.6	(0.4)	0.1	(0.1)

Note: Values that are statistically significant are indicated in bold (see Annex A3).

* See notes at the beginning of this Annex.

StatLink <http://dx.doi.org/10.1787/888933003706>



[Part 2/2]

Table V.4.6 Percentage of students at each proficiency level in problem solving, by gender

	Girls												Increased likelihood of boys scoring below Level 2 (less than 423.42 score points)	Increased likelihood of boys scoring at or above Level 5 (above 618.21 score points)			
	Below Level 1 (below 358.49 score points)		Level 1 (from 358.49 to less than 423.42 score points)		Level 2 (from 423.42 to less than 488.35 score points)		Level 3 (from 488.35 to less than 553.28 score points)		Level 4 (from 553.28 to less than 618.21 score points)		Level 5 (from 618.21 to less than 683.14 score points)						
	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.					
OECD	Australia	4.7	(0.4)	10.1	(0.5)	20.0	(0.8)	26.7	(1.0)	22.7	(0.7)	12.0	(0.6)	3.7	(0.3)	1.09 (0.06)	1.13 (0.07)
	Austria	6.5	(1.0)	12.8	(1.2)	23.1	(2.2)	28.0	(1.8)	20.9	(1.4)	7.6	(0.9)	1.1	(0.3)	0.91 (0.10)	1.52 (0.21)
	Belgium	9.0	(0.8)	11.6	(0.8)	19.7	(1.2)	25.8	(0.9)	21.8	(0.9)	10.0	(0.8)	2.2	(0.3)	1.02 (0.08)	1.36 (0.11)
	Canada	4.9	(0.4)	9.7	(0.6)	19.9	(1.0)	26.6	(1.0)	22.8	(0.8)	11.8	(0.7)	4.3	(0.4)	1.02 (0.05)	1.18 (0.06)
	Chile	15.9	(1.5)	25.0	(1.2)	30.0	(1.3)	20.6	(1.3)	7.2	(0.8)	1.3	(0.3)	0.1	(0.0)	0.87 (0.05)	2.09 (0.57)
	Czech Republic	5.9	(0.8)	13.2	(1.2)	21.8	(1.4)	28.2	(1.3)	20.6	(1.2)	8.3	(0.8)	2.0	(0.4)	0.93 (0.09)	1.30 (0.14)
	Denmark	7.6	(0.7)	13.1	(1.0)	25.6	(1.1)	28.8	(1.8)	17.7	(1.4)	6.2	(0.7)	1.0	(0.3)	0.96 (0.07)	1.41 (0.17)
	Estonia	3.8	(0.5)	11.1	(1.1)	22.4	(1.0)	30.2	(1.5)	22.2	(1.0)	8.6	(0.9)	1.6	(0.5)	1.03 (0.10)	1.30 (0.13)
	Finland	3.7	(0.4)	8.9	(0.6)	19.5	(1.3)	28.2	(1.6)	25.1	(1.2)	11.6	(0.8)	3.0	(0.5)	1.27 (0.10)	1.05 (0.08)
	France	6.2	(1.0)	10.1	(0.9)	20.9	(1.2)	30.2	(1.4)	22.3	(1.2)	8.6	(0.9)	1.7	(0.4)	1.03 (0.1)	1.35 (0.13)
	Germany	7.0	(0.9)	11.5	(1.0)	21.9	(1.1)	27.2	(1.4)	21.9	(1.2)	8.7	(0.9)	1.8	(0.4)	1.08 (0.07)	1.41 (0.13)
	Hungary	15.6	(1.5)	18.9	(1.2)	25.7	(1.4)	23.3	(1.2)	12.3	(1.2)	3.7	(0.7)	0.5	(0.2)	1.03 (0.07)	1.67 (0.22)
	Ireland	6.5	(0.7)	13.5	(1.0)	24.9	(1.2)	28.4	(1.1)	19.0	(1.0)	6.6	(0.7)	1.1	(0.3)	1.03 (0.10)	1.41 (0.20)
	Israel	19.8	(1.3)	18.8	(1.0)	23.1	(1.0)	19.8	(1.0)	12.5	(0.9)	4.8	(0.6)	1.1	(0.3)	1.02 (0.07)	1.97 (0.31)
	Italy	4.6	(0.8)	11.8	(1.2)	26.2	(1.6)	30.7	(1.5)	20.3	(1.6)	5.5	(1.0)	0.8	(0.3)	1.00 (0.14)	2.31 (0.37)
	Japan	1.7	(0.4)	5.8	(0.8)	16.1	(1.2)	30.3	(1.3)	29.5	(1.2)	13.6	(1.1)	3.2	(0.6)	0.92 (0.1)	1.63 (0.13)
	Korea	2.0	(0.4)	4.7	(0.7)	14.5	(1.3)	25.9	(1.3)	29.1	(1.5)	18.3	(1.7)	5.5	(0.9)	1.06 (0.17)	1.30 (0.12)
	Netherlands	7.0	(1.0)	11.4	(1.1)	20.8	(1.4)	27.4	(1.6)	21.5	(1.6)	9.8	(1.0)	2.2	(0.6)	1.02 (0.07)	1.26 (0.13)
	Norway	7.2	(0.8)	13.3	(1.0)	21.5	(1.2)	25.4	(1.1)	20.1	(1.2)	9.5	(1.1)	3.0	(0.5)	1.08 (0.08)	1.09 (0.11)
	Poland	8.3	(1.2)	15.9	(1.4)	28.0	(1.4)	27.7	(1.3)	14.4	(1.2)	4.9	(0.8)	0.7	(0.3)	1.13 (0.1)	1.44 (0.20)
	Portugal	6.6	(0.7)	15.4	(1.1)	27.7	(1.2)	28.6	(1.6)	16.2	(1.0)	4.6	(0.6)	0.7	(0.3)	0.87 (0.05)	1.76 (0.21)
	Slovak Republic	12.2	(1.5)	15.9	(1.6)	25.5	(1.5)	27.7	(1.8)	14.1	(1.3)	4.1	(0.6)	0.6	(0.3)	0.86 (0.07)	2.28 (0.30)
	Slovenia	9.4	(0.8)	17.5	(1.0)	26.6	(1.6)	25.2	(1.3)	15.2	(1.1)	5.4	(0.9)	0.6	(0.2)	1.11 (0.06)	1.21 (0.24)
	Spain	12.1	(1.2)	15.0	(1.0)	25.7	(1.1)	25.0	(1.2)	15.7	(1.0)	5.4	(0.6)	1.0	(0.3)	1.09 (0.06)	1.43 (0.16)
	Sweden	7.4	(0.8)	14.4	(0.9)	24.8	(1.3)	27.8	(1.2)	17.5	(0.9)	6.7	(0.8)	1.4	(0.3)	1.15 (0.08)	1.17 (0.14)
	Turkey	12.6	(1.4)	25.9	(1.6)	32.3	(1.6)	20.0	(1.5)	7.9	(1.3)	1.3	(0.6)	0.0	(0.1)	0.86 (0.05)	2.36 (0.04)
	England (United Kingdom)	5.4	(1.0)	11.2	(1.1)	20.8	(1.7)	27.5	(1.3)	22.2	(1.5)	9.9	(1.0)	3.0	(0.6)	0.97 (0.10)	1.22 (0.14)
	United States	4.7	(0.7)	12.7	(1.2)	24.2	(1.3)	28.3	(1.3)	19.9	(1.2)	7.9	(0.8)	2.3	(0.5)	1.09 (0.1)	1.27 (0.12)
	OECD average	7.8	(0.2)	13.5	(0.2)	23.3	(0.3)	26.8	(0.3)	19.0	(0.2)	7.7	(0.2)	1.8	(0.1)	1.02 (0.02)	1.50 (0.05)
Partners	Brazil	24.5	(1.9)	27.2	(1.9)	27.0	(1.6)	15.8	(1.7)	4.5	(0.7)	0.9	(0.3)	0.1	(0.1)	0.83 (0.03)	2.62 (0.67)
	Bulgaria	29.8	(2.0)	24.0	(1.4)	23.3	(1.2)	15.3	(1.2)	6.0	(0.9)	1.4	(0.4)	0.2	(0.1)	1.10 (0.04)	1.00 (0.31)
	Colombia	38.5	(1.9)	29.0	(1.3)	20.7	(1.3)	8.9	(0.9)	2.2	(0.5)	0.5	(0.2)	0.2	(0.1)	0.81 (0.03)	2.17 (0.82)
	Croatia	11.9	(1.1)	21.9	(1.3)	29.2	(1.5)	23.4	(1.5)	11.1	(1.3)	2.2	(0.6)	0.3	(0.1)	0.92 (0.06)	2.71 (0.53)
	Cyprus*	16.0	(0.8)	22.1	(0.9)	27.7	(1.4)	21.7	(1.5)	9.8	(0.7)	2.3	(0.4)	0.4	(0.2)	1.12 (0.05)	1.66 (0.35)
	Hong Kong-China	3.6	(0.6)	7.7	(1.2)	17.6	(1.4)	29.1	(2.0)	25.8	(1.3)	12.4	(1.5)	3.9	(1.0)	0.87 (0.11)	1.34 (0.16)
	Macao-China	1.6	(0.3)	6.4	(0.6)	18.4	(0.8)	31.1	(1.1)	28.6	(1.2)	12.0	(0.8)	2.0	(0.3)	0.90 (0.11)	1.37 (0.10)
	Malaysia	22.9	(1.7)	29.3	(1.4)	28.2	(1.3)	14.8	(1.2)	4.4	(0.6)	0.4	(0.3)	0.0	(0.0)	0.93 (0.04)	3.29 (2.44)
	Montenegro	27.6	(1.1)	28.0	(1.2)	25.3	(1.5)	14.1	(1.0)	4.4	(0.6)	0.4	(0.2)	0.1	(0.1)	1.04 (0.03)	2.41 (1.50)
	Russian Federation	7.1	(0.9)	16.2	(1.5)	28.0	(1.2)	27.2	(1.5)	15.2	(1.2)	5.1	(0.7)	1.2	(0.4)	0.90 (0.06)	1.31 (0.16)
	Serbia	11.4	(1.1)	19.4	(1.1)	27.8	(2.0)	25.2	(1.5)	12.8	(0.9)	2.9	(0.5)	0.5	(0.2)	0.85 (0.06)	1.80 (0.35)
	Shanghai-China	3.5	(0.6)	8.8	(0.8)	19.9	(1.0)	29.2	(1.4)	24.6	(1.2)	11.4	(1.2)	2.6	(0.6)	0.72 (0.07)	1.63 (0.17)
	Singapore	1.7	(0.3)	5.5	(0.5)	14.6	(0.8)	23.8	(1.3)	28.3	(1.6)	19.0	(1.0)	7.1	(0.6)	1.20 (0.13)	1.24 (0.05)
	Chinese Taipei	2.7	(0.5)	8.5	(0.9)	19.8	(1.2)	28.6	(1.2)	25.9	(1.2)	12.0	(1.3)	2.5	(0.6)	1.07 (0.12)	1.54 (0.25)
	United Arab Emirates	23.7	(1.4)	26.6	(1.3)	25.3	(1.0)	15.7	(0.8)	6.2	(0.6)	2.0	(0.3)	0.4	(0.1)	1.18 (0.05)	1.14 (0.20)
	Uruguay	33.1	(1.9)	27.3	(1.6)	22.7	(1.2)	11.9	(0.9)	4.3	(0.6)	0.6	(0.2)	0.0	(0.0)	0.91 (0.03)	2.88 (0.99)

Note: Values that are statistically significant are indicated in bold (see Annex A3).

* See notes at the beginning of this Annex.

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[Part 1/3]

Table V.4.7 Mean score and variation in student performance in problem solving, by gender

	Mean score						Standard deviation						5th percentile						
	Boys		Girls		Difference (B - G)		Boys		Girls		Difference (B - G)		Boys		Girls		Difference (B - G)		
	Mean	S.E.	Mean	S.E.	Score dif.	S.E.	S.D.	S.E.	S.D.	S.E.	Dif.	S.E.	Score	S.E.	Score	S.E.	Score dif.	S.E.	
OECD	Australia	524	(2.4)	522	(2.2)	2	(2.6)	100	(1.3)	95	(1.3)	5	(1.6)	355	(3.9)	361	(4.8)	-5	(5.3)
	Austria	512	(4.4)	500	(4.1)	12	(4.8)	98	(4.0)	90	(2.7)	8	(3.3)	345	(11.3)	344	(9.8)	0	(12.7)
	Belgium	512	(3.1)	504	(3.1)	8	(3.7)	110	(2.4)	102	(2.1)	8	(2.6)	313	(8.7)	321	(8.7)	-8	(10.6)
	Canada	528	(2.8)	523	(2.5)	5	(2.2)	104	(2.6)	96	(1.3)	8	(2.4)	355	(5.4)	359	(5.0)	-5	(6.9)
	Chile	455	(4.5)	441	(3.7)	13	(3.8)	89	(2.2)	82	(1.9)	7	(2.3)	303	(7.1)	304	(6.2)	-1	(6.7)
	Czech Republic	513	(3.9)	505	(3.5)	8	(4.1)	98	(2.6)	92	(2.3)	6	(2.9)	334	(10.4)	351	(7.3)	-17	(9.9)
	Denmark	502	(3.7)	492	(2.9)	10	(3.1)	94	(2.3)	90	(2.1)	5	(2.2)	342	(7.6)	336	(6.4)	6	(8.4)
	Estonia	517	(3.3)	513	(2.6)	5	(3.1)	91	(2.0)	84	(1.7)	6	(2.1)	366	(6.5)	369	(5.5)	-3	(7.6)
	Finland	520	(2.8)	526	(2.6)	-6	(3.0)	96	(1.5)	89	(1.6)	7	(2.0)	355	(6.1)	373	(4.7)	-18	(7.5)
	France	513	(4.0)	509	(3.5)	5	(3.1)	100	(4.3)	93	(4.5)	7	(3.3)	335	(13.1)	344	(13.1)	-8	(13.8)
	Germany	512	(4.1)	505	(3.7)	7	(2.9)	103	(2.8)	94	(2.5)	9	(2.2)	333	(7.9)	338	(8.6)	-5	(8.1)
	Hungary	461	(5.0)	457	(4.3)	3	(4.8)	110	(3.3)	99	(3.3)	12	(3.8)	272	(10.1)	286	(14.2)	-14	(16.8)
	Ireland	501	(4.8)	496	(3.2)	5	(5.0)	97	(3.1)	89	(1.8)	9	(3.4)	336	(9.7)	343	(7.4)	-8	(11.5)
	Israel	457	(8.9)	451	(4.1)	6	(8.5)	134	(4.1)	112	(2.8)	22	(3.3)	227	(13.8)	259	(10.2)	-32	(13.3)
	Italy	518	(5.2)	500	(4.5)	18	(5.7)	97	(2.6)	82	(2.7)	15	(3.0)	351	(12.5)	362	(8.4)	-11	(13.1)
	Japan	561	(4.1)	542	(3.0)	19	(3.7)	89	(2.5)	79	(2.0)	10	(2.3)	406	(9.0)	405	(6.8)	1	(8.7)
	Korea	567	(5.1)	554	(5.1)	13	(5.5)	95	(2.5)	87	(2.0)	8	(2.9)	403	(8.7)	408	(6.9)	-6	(9.7)
	Netherlands	513	(4.9)	508	(4.5)	5	(3.3)	101	(3.5)	96	(3.3)	5	(3.2)	334	(10.4)	339	(9.6)	-5	(9.7)
	Norway	502	(3.6)	505	(3.8)	-3	(3.6)	106	(2.4)	99	(2.2)	7	(2.5)	318	(8.1)	340	(7.1)	-22	(8.4)
	Poland	481	(4.9)	481	(4.6)	0	(3.3)	103	(3.7)	90	(3.4)	14	(2.6)	306	(10.7)	331	(10.2)	-25	(9.5)
	Portugal	502	(4.0)	486	(3.6)	16	(2.6)	91	(1.9)	84	(1.8)	7	(1.8)	345	(7.2)	346	(5.5)	-1	(6.6)
	Slovak Republic	494	(4.2)	472	(4.1)	22	(4.4)	100	(3.4)	94	(2.8)	6	(3.2)	327	(7.4)	302	(9.7)	24	(9.2)
	Slovenia	474	(2.1)	478	(2.2)	-4	(3.0)	102	(1.6)	91	(2.0)	11	(2.6)	300	(4.3)	325	(6.9)	-25	(7.4)
	Spain	478	(4.8)	476	(4.1)	2	(3.4)	109	(3.3)	99	(3.1)	10	(2.7)	285	(12.9)	301	(10.0)	-16	(10.5)
	Sweden	489	(3.7)	493	(3.1)	-4	(3.6)	101	(2.4)	91	(2.0)	9	(2.7)	317	(7.4)	340	(8.1)	-22	(10.3)
	Turkey	462	(4.3)	447	(4.6)	15	(4.0)	81	(2.4)	77	(2.6)	4	(2.3)	334	(6.4)	324	(4.4)	10	(6.9)
	England (United Kingdom)	520	(5.4)	514	(4.6)	6	(5.5)	98	(3.0)	95	(2.9)	4	(3.4)	351	(11.8)	353	(10.5)	-2	(14.5)
	United States	509	(4.2)	506	(4.2)	3	(3.1)	97	(3.0)	88	(2.0)	9	(2.5)	345	(9.4)	361	(7.4)	-16	(8.8)
	OECD average	503	(0.8)	497	(0.7)	7	(0.8)	100	(0.5)	91	(0.5)	8	(0.5)	332	(1.7)	340	(1.6)	-8	(1.9)
Partners	Brazil	440	(5.4)	418	(4.6)	22	(3.3)	95	(3.1)	87	(2.2)	8	(2.5)	282	(9.7)	272	(6.7)	10	(8.6)
	Bulgaria	394	(5.8)	410	(5.3)	-17	(4.9)	110	(3.8)	102	(4.0)	8	(3.4)	205	(11.0)	237	(10.7)	-32	(10.8)
	Colombia	415	(4.1)	385	(3.9)	31	(3.8)	92	(2.3)	89	(2.3)	4	(2.5)	267	(6.6)	242	(6.3)	25	(6.2)
	Croatia	474	(4.8)	459	(4.0)	15	(4.4)	98	(2.4)	85	(2.3)	13	(2.5)	311	(7.3)	318	(7.2)	-7	(9.2)
	Cyprus*	440	(1.8)	449	(2.0)	-9	(2.5)	107	(1.5)	90	(1.3)	17	(1.9)	263	(6.4)	298	(5.8)	-36	(6.5)
	Hong Kong-China	546	(4.6)	532	(4.8)	13	(5.2)	93	(2.3)	90	(3.1)	3	(3.1)	384	(9.1)	376	(7.2)	7	(8.1)
	Macao-China	546	(1.5)	535	(1.3)	10	(2.0)	81	(1.3)	77	(1.3)	4	(2.0)	407	(4.6)	403	(4.5)	4	(5.6)
	Malaysia	427	(3.9)	419	(4.0)	8	(3.7)	86	(2.5)	81	(1.9)	6	(2.1)	289	(5.6)	285	(6.3)	3	(6.5)
	Montenegro	404	(1.8)	409	(1.8)	-6	(2.8)	95	(1.8)	88	(1.4)	7	(2.5)	251	(5.7)	263	(4.7)	-12	(6.9)
	Russian Federation	493	(3.9)	485	(3.7)	8	(3.1)	89	(2.2)	87	(2.5)	2	(2.6)	347	(6.0)	343	(6.0)	4	(7.9)
	Serbia	481	(3.8)	466	(3.2)	15	(3.5)	90	(2.5)	88	(2.2)	2	(2.6)	330	(7.5)	314	(6.5)	16	(6.8)
	Shanghai-China	549	(3.4)	524	(3.8)	25	(2.9)	90	(2.2)	88	(2.8)	3	(2.0)	390	(8.1)	373	(8.2)	17	(7.4)
	Singapore	567	(1.8)	558	(1.7)	9	(2.5)	100	(1.3)	89	(1.2)	11	(1.7)	394	(4.7)	402	(5.9)	-8	(8.0)
	Chinese Taipei	540	(4.5)	528	(4.1)	12	(6.3)	96	(2.9)	85	(2.1)	11	(3.1)	369	(10.7)	384	(5.8)	-16	(10.2)
	United Arab Emirates	398	(4.6)	424	(3.2)	-26	(5.6)	114	(2.9)	95	(2.2)	20	(3.8)	215	(9.0)	270	(6.3)	-54	(10.6)
	Uruguay	409	(4.0)	398	(3.8)	11	(3.4)	102	(2.2)	93	(2.2)	9	(1.8)	242	(7.6)	245	(6.7)	-3	(7.1)

Note: Values that are statistically significant are indicated in bold (see Annex A3).

* See notes at the beginning of this Annex.

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[Part 2/3]

Table V.4.7 Mean score and variation in student performance in problem solving, by gender

	10th percentile												25th percentile												50th percentile (median)															
	Boys				Girls				Difference (B - G)		Boys				Girls				Difference (B - G)		Boys				Girls				Difference (B - G)											
	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.										
OECD	Australia	392	(3.1)	400	(3.2)	-8	(3.6)	457	(3.3)	460	(2.9)	-3	(3.6)	528	(3.0)	524	(2.6)	3	(3.3)																					
	Austria	386	(8.9)	382	(7.1)	4	(8.4)	449	(5.6)	442	(5.7)	7	(6.9)	517	(4.7)	506	(4.9)	12	(6.1)																					
	Belgium	363	(7.1)	365	(6.0)	-3	(8.6)	441	(5.0)	440	(4.1)	1	(5.9)	522	(3.5)	513	(3.5)	9	(4.5)																					
	Canada	397	(4.0)	400	(4.6)	-3	(4.6)	464	(3.9)	460	(3.4)	3	(3.9)	533	(2.9)	526	(2.8)	7	(2.7)																					
	Chile	338	(6.1)	335	(5.6)	4	(5.2)	395	(6.1)	385	(4.9)	9	(5.3)	458	(5.3)	443	(4.5)	15	(5.2)																					
	Czech Republic	381	(8.4)	386	(6.0)	-5	(9.3)	452	(6.0)	443	(4.8)	9	(6.6)	521	(4.8)	510	(4.5)	11	(5.9)																					
	Denmark	379	(6.6)	376	(5.7)	3	(6.0)	441	(5.0)	436	(3.7)	5	(4.8)	505	(4.5)	496	(3.4)	10	(4.9)																					
	Estonia	399	(5.9)	402	(5.4)	-3	(6.8)	459	(4.6)	457	(4.0)	2	(5.2)	520	(4.1)	515	(3.1)	5	(4.5)																					
	Finland	394	(4.9)	409	(4.7)	-15	(7.1)	456	(3.7)	469	(3.8)	-13	(4.0)	523	(3.3)	530	(3.2)	-7	(3.8)																					
	France	384	(7.6)	391	(8.3)	-7	(8.2)	454	(5.5)	456	(4.3)	-2	(5.5)	521	(4.7)	516	(3.4)	5	(4.5)																					
	Germany	373	(7.5)	382	(6.9)	-9	(5.5)	443	(6.8)	445	(5.1)	-2	(5.6)	519	(4.3)	512	(4.2)	7	(4.0)																					
	Hungary	308	(10.2)	328	(8.9)	-20	(12.7)	384	(10.5)	396	(6.1)	-12	(10.8)	467	(5.5)	463	(4.9)	5	(6.3)																					
	Ireland	377	(7.9)	380	(5.4)	-3	(9.6)	438	(6.2)	438	(4.1)	0	(7.0)	504	(4.4)	499	(3.7)	5	(5.3)																					
	Israel	277	(11.5)	304	(7.9)	-28	(11.9)	362	(10.0)	379	(5.1)	-17	(9.9)	464	(11.4)	456	(5.3)	8	(11.3)																					
	Italy	391	(7.4)	397	(7.3)	-6	(9.2)	455	(8.1)	448	(5.3)	7	(8.5)	526	(5.6)	503	(4.6)	23	(6.1)																					
	Japan	445	(6.3)	438	(5.7)	6	(6.1)	504	(5.2)	492	(4.0)	12	(5.0)	567	(4.5)	546	(3.6)	22	(4.7)																					
	Korea	444	(8.1)	443	(6.9)	1	(9.1)	510	(6.9)	501	(6.5)	10	(7.7)	575	(5.5)	559	(5.6)	16	(6.3)																					
	Netherlands	377	(10.4)	379	(8.7)	-2	(8.6)	449	(7.2)	447	(6.2)	1	(6.2)	521	(5.7)	514	(5.0)	7	(4.2)																					
	Norway	365	(5.9)	376	(5.9)	-11	(6.7)	433	(4.8)	439	(4.7)	-6	(5.4)	505	(3.8)	508	(4.1)	-3	(4.2)																					
	Poland	347	(7.5)	368	(7.0)	-21	(6.8)	416	(5.7)	426	(6.1)	-10	(6.0)	486	(5.6)	483	(4.7)	3	(5.6)																					
	Portugal	384	(5.7)	378	(5.1)	6	(5.0)	441	(5.3)	431	(4.3)	10	(3.8)	507	(5.2)	489	(4.4)	18	(4.7)																					
	Slovak Republic	363	(7.3)	345	(8.7)	18	(7.5)	426	(5.8)	414	(6.4)	12	(6.6)	495	(5.4)	480	(4.9)	15	(6.1)																					
	Slovenia	341	(4.3)	361	(4.6)	-21	(6.8)	408	(4.5)	417	(4.3)	-9	(5.5)	477	(3.5)	480	(3.4)	-4	(4.5)																					
	Spain	334	(9.7)	344	(8.0)	-10	(8.0)	406	(6.0)	416	(5.1)	-10	(5.6)	485	(5.1)	482	(3.9)	3	(4.9)																					
	Sweden	357	(6.4)	373	(5.7)	-17	(7.3)	423	(5.3)	432	(3.6)	-10	(5.2)	493	(4.1)	495	(3.9)	-2	(4.7)																					
	Turkey	361	(5.6)	349	(4.3)	12	(5.8)	404	(5.0)	394	(4.7)	11	(5.2)	459	(4.7)	444	(5.0)	14	(5.0)																					
	England (United Kingdom)	391	(8.2)	391	(7.2)	0	(9.3)	457	(6.7)	453	(6.2)	3	(6.5)	525	(6.2)	518	(5.2)	7	(6.8)																					
	United States	383	(7.2)	394	(6.5)	-11	(6.4)	443	(6.0)	447	(4.9)	-4	(5.1)	513	(4.9)	507	(4.6)	6	(4.1)																					
	OECD average	372	(1.4)	378	(1.2)	-5	(1.5)	438	(1.2)	438	(0.9)	0	(1.2)	508	(1.0)	501	(0.8)	8	(1.0)																					
Partners	Brazil	319	(8.4)	305	(5.7)	14	(8.4)	377	(6.5)	360	(5.1)	17	(5.2)	440	(6.6)	419	(5.9)	21	(4.6)																					
	Bulgaria	250	(10.0)	278	(8.3)	-28	(9.5)	321	(7.2)	343	(6.4)	-22	(6.7)	396	(6.8)	413	(5.8)	-17	(6.4)																					
	Colombia	300	(5.0)	273	(5.6)	27	(6.3)	353	(4.9)	326	(4.5)	27	(4.4)	413	(4.3)	384	(4.8)	29	(5.0)																					
	Croatia	347	(6.8)	350	(5.0)	-3	(6.8)	406	(5.6)	402	(4.6)	5	(6.0)	473	(6.1)	459	(4.7)	14	(6.0)																					
	Cyprus*	299	(4.8)	333	(4.5)	-34	(6.3)	366	(3.4)	388	(3.4)	-22	(4.9)	444	(2.7)	451	(2.4)	-7	(3.6)																					
	Hong Kong-China	425	(7.1)	416	(8.1)	9	(7.8)	488	(5.9)	477	(5.9)	11	(6.3)	551	(5.0)	537	(5.1)	14	(5.7)																					
	Macao-China	439	(3.9)	434	(3.4)	5	(5.4)	492	(2.8)	485	(2.1)	7	(3.7)	550	(2.7)	539	(2.3)	11	(4.0)																					
	Malaysia	315	(4.6)	314	(6.0)	1	(5.6)	365	(5.0)	364	(4.7)	2	(5.0)	426	(4.6)	418	(4.7)	8	(4.5)																					
	Montenegro	282	(4.0)	296	(4.8)	-14	(6.8)	338	(3.0)	351	(3.6)	-13	(4.3)	403	(2.9)	411	(3.2)	-9	(4.7)																					
	Russian Federation	380	(4.8)	374	(5.8)	6	(5.3)	435	(4.6)	428	(4.7)	7	(4.6)	495	(4.0)	485	(4.1)	10	(4.7)																					
	Serbia	363	(6.9)	350	(6.9)	13	(6.4)	420	(5.3)	408	(3.7)	11	(4.8)	484	(5.1)	469	(4.4)	15	(5.3)																					
	Shanghai-China	431	(6.7)	411	(7.1)	21	(7.2)	491	(4.8)	468	(5.0)	23	(4.7)	554	(4.9)	528	(4.4)	26	(4.6)																					
	Singapore	432	(4.1)	440	(4.2)	-8	(5.4)	501	(2.9)	498	(2.8)	2	(4.1)	573	(2.5)	562	(3.0)	11	(3.6)																					
	Chinese Taipei	410	(8.0)	417	(4.4)	-7	(7.4)	479	(5.7)	471	(4																													



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Table V.4.7 Mean score and variation in student performance in problem solving, by gender

	75th percentile					90th percentile					95th percentile				
	Boys		Girls		Difference (B - G)	Boys		Girls		Difference (B - G)	Boys		Girls		Difference (B - G)
	Score	S.E.	Score	S.E.	Score dif.	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score dif.
OECD	Australia	594 (3.1)	588 (2.7)	6	(3.6)	651 (3.4)	641 (2.8)	10	(4.2)	684 (4.1)	671 (3.1)	12	(4.6)		
	Austria	581 (4.8)	564 (4.6)	17	(6.0)	631 (5.9)	612 (5.0)	19	(6.9)	661 (7.2)	639 (5.3)	22	(8.2)		
	Belgium	591 (2.9)	576 (3.0)	15	(3.3)	644 (3.3)	627 (3.9)	17	(4.3)	673 (4.0)	656 (4.6)	18	(5.2)		
	Canada	599 (3.4)	589 (2.9)	10	(3.1)	656 (3.9)	643 (3.4)	13	(4.0)	690 (5.0)	675 (4.1)	15	(5.2)		
	Chile	517 (4.5)	499 (4.0)	18	(4.5)	567 (5.3)	546 (4.4)	21	(5.6)	597 (5.9)	576 (5.7)	21	(7.2)		
	Czech Republic	582 (4.3)	568 (4.2)	13	(5.4)	632 (5.1)	620 (4.5)	12	(5.9)	662 (5.5)	650 (5.2)	12	(7.5)		
	Denmark	568 (4.4)	553 (4.1)	16	(5.8)	619 (5.6)	604 (4.8)	15	(6.4)	650 (6.3)	631 (5.0)	19	(5.9)		
	Estonia	580 (3.8)	571 (3.4)	9	(4.3)	632 (3.5)	619 (4.2)	12	(4.4)	661 (4.9)	647 (5.7)	14	(6.5)		
	Finland	586 (3.8)	588 (3.4)	-2	(4.3)	642 (5.0)	638 (4.1)	3	(5.5)	675 (6.4)	667 (3.9)	8	(6.8)		
	France	583 (4.1)	571 (3.9)	12	(4.3)	634 (4.3)	619 (4.8)	14	(4.8)	659 (5.6)	647 (4.9)	12	(5.8)		
	Germany	586 (5.1)	572 (4.6)	14	(4.8)	637 (4.9)	620 (5.3)	17	(5.3)	669 (6.0)	649 (6.8)	20	(7.3)		
	Hungary	540 (5.8)	525 (6.0)	15	(5.6)	600 (7.5)	581 (6.1)	19	(5.3)	633 (7.2)	611 (5.8)	22	(6.2)		
	Ireland	566 (5.9)	558 (3.7)	8	(6.7)	622 (7.6)	607 (4.1)	15	(8.3)	660 (7.1)	635 (4.0)	25	(8.1)		
	Israel	560 (10.3)	529 (4.8)	31	(10.4)	628 (8.2)	591 (4.9)	37	(7.5)	664 (8.1)	626 (5.4)	38	(9.0)		
	Italy	587 (5.1)	557 (5.3)	30	(6.4)	635 (4.3)	599 (6.2)	36	(6.5)	662 (5.2)	627 (6.9)	36	(7.3)		
	Japan	623 (4.2)	596 (3.5)	27	(4.6)	670 (4.7)	641 (3.9)	29	(5.4)	697 (6.0)	667 (5.1)	30	(5.8)		
	Korea	633 (5.0)	615 (5.6)	18	(6.1)	680 (5.4)	661 (5.9)	19	(6.2)	709 (6.5)	686 (6.1)	23	(7.1)		
	Netherlands	586 (5.3)	576 (5.8)	10	(4.6)	638 (5.2)	626 (6.3)	12	(5.6)	665 (5.0)	656 (7.4)	9	(6.9)		
	Norway	575 (4.8)	574 (4.0)	1	(4.5)	636 (5.4)	630 (4.9)	7	(6.4)	669 (8.5)	662 (5.8)	7	(7.8)		
	Poland	553 (5.2)	540 (4.8)	14	(4.8)	607 (5.1)	592 (6.0)	15	(5.6)	639 (6.5)	623 (6.6)	16	(6.7)		
	Portugal	565 (4.4)	544 (3.7)	21	(3.5)	615 (4.6)	591 (5.2)	24	(4.5)	644 (6.0)	622 (6.4)	23	(6.4)		
	Slovak Republic	564 (4.8)	536 (4.4)	28	(5.7)	622 (7.1)	585 (5.5)	37	(7.0)	654 (7.9)	615 (5.6)	39	(6.9)		
	Slovenia	548 (3.4)	542 (3.8)	6	(5.5)	602 (4.4)	596 (4.8)	6	(7.4)	631 (5.8)	624 (6.7)	6	(9.5)		
	Spain	554 (4.5)	545 (4.5)	9	(4.9)	613 (5.6)	597 (5.8)	16	(7.2)	647 (6.3)	628 (7.1)	19	(9.2)		
	Sweden	559 (3.6)	555 (3.7)	4	(4.3)	615 (5.3)	608 (4.2)	7	(6.4)	649 (6.3)	639 (4.2)	9	(6.6)		
	Turkey	517 (5.7)	498 (6.1)	18	(5.1)	570 (6.7)	549 (8.1)	21	(6.0)	599 (7.4)	579 (9.4)	21	(7.5)		
	England (United Kingdom)	589 (5.4)	579 (5.3)	10	(6.2)	640 (5.3)	630 (5.8)	9	(7.2)	671 (8.3)	663 (7.2)	9	(10.4)		
	United States	577 (4.6)	566 (4.4)	11	(4.7)	632 (4.9)	619 (5.7)	13	(5.6)	666 (6.3)	650 (7.2)	17	(7.1)		
	OECD average	574 (0.9)	560 (0.8)	14	(1.0)	627 (1.0)	610 (1.0)	17	(1.1)	659 (1.2)	640 (1.1)	19	(1.4)		
Partners	Brazil	505 (7.0)	478 (6.1)	27	(4.6)	560 (6.8)	529 (5.6)	31	(5.8)	589 (7.1)	557 (6.3)	31	(6.6)		
	Bulgaria	470 (6.1)	481 (6.2)	-11	(6.5)	532 (8.5)	538 (7.9)	-6	(8.1)	569 (8.3)	572 (8.9)	-3	(8.0)		
	Colombia	477 (5.4)	443 (5.0)	33	(5.9)	537 (6.0)	497 (6.4)	40	(7.4)	569 (7.8)	531 (6.9)	38	(8.9)		
	Croatia	543 (6.2)	517 (5.1)	26	(6.5)	600 (6.4)	568 (5.8)	33	(5.9)	631 (6.8)	597 (6.6)	33	(7.0)		
	Cyprus*	516 (3.6)	510 (3.8)	6	(4.8)	576 (3.3)	565 (3.8)	11	(5.2)	613 (4.2)	596 (5.1)	17	(7.5)		
	Hong Kong-China	609 (5.1)	592 (5.9)	17	(7.2)	661 (4.7)	644 (7.5)	17	(8.8)	690 (4.9)	673 (9.1)	17	(10.5)		
	Macao-China	602 (2.2)	589 (2.2)	14	(3.0)	647 (3.2)	631 (3.0)	16	(4.9)	672 (3.8)	656 (3.2)	16	(5.4)		
	Malaysia	485 (4.8)	474 (4.6)	12	(5.2)	540 (7.0)	524 (5.7)	15	(6.8)	571 (7.9)	551 (5.9)	20	(8.0)		
	Montenegro	469 (3.1)	470 (3.4)	-1	(5.0)	528 (5.6)	524 (3.9)	4	(6.4)	561 (5.8)	552 (5.8)	9	(8.3)		
	Russian Federation	551 (4.9)	542 (4.7)	9	(4.9)	608 (7.2)	596 (6.1)	12	(7.0)	640 (7.3)	628 (7.0)	12	(6.5)		
	Serbia	544 (4.5)	528 (3.8)	16	(5.4)	596 (4.0)	576 (4.2)	20	(5.3)	626 (4.5)	604 (4.8)	23	(6.5)		
	Shanghai-China	612 (4.4)	585 (5.1)	27	(5.8)	661 (4.2)	633 (6.9)	28	(5.5)	689 (4.6)	661 (6.4)	28	(5.4)		
	Singapore	639 (2.6)	620 (2.5)	19	(3.5)	692 (3.2)	667 (3.8)	25	(4.6)	720 (3.8)	697 (4.7)	24	(6.3)		
	Chinese Taipei	610 (4.5)	590 (5.3)	21	(7.6)	657 (4.7)	634 (6.0)	23	(8.8)	683 (4.7)	661 (7.1)	22	(9.8)		
	United Arab Emirates	476 (6.1)	486 (3.9)	-10	(7.6)	548 (5.9)	545 (4.6)	4	(8.4)	589 (6.1)	580 (4.8)	9	(8.5)		
	Uruguay	481 (5.0)	461 (4.8)	20	(5.8)	543 (5.0)	519 (4.9)	24	(5.3)	580 (5.5)	552 (6.7)	28	(6.6)		

Note: Values that are statistically significant are indicated in bold (see Annex A3).

* See notes at the beginning of this Annex.

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[Part 1/3]

Table V.4.8 Differences in problem-solving, mathematics, reading and science performance related to gender

	Gender gap: Mean score difference between boys and girls												
	Problem solving (B - G)		Mathematics (B - G)		Reading (B - G)		Science (B - G)		Computer-based mathematics (B - G)		Digital reading (B - G)		
	Score dif.	S.E.	Score dif.	S.E.	Score dif.	S.E.	Score dif.	S.E.	Score dif.	S.E.	Score dif.	S.E.	
OECD	Australia	2	(2.6)	12	(3.1)	-34	(2.9)	5	(3.0)	9	(2.8)	-31	(2.9)
	Austria	12	(4.8)	22	(4.9)	-37	(5.0)	9	(5.0)	21	(4.9)	-27	(6.1)
	Belgium	8	(3.7)	11	(3.4)	-32	(3.5)	4	(3.6)	14	(3.1)	-25	(4.0)
	Canada	5	(2.2)	10	(2.0)	-35	(2.1)	3	(2.1)	17	(1.9)	-21	(1.8)
	Chile	13	(3.8)	25	(3.6)	-23	(3.3)	7	(3.3)	19	(3.9)	-9	(4.4)
	Czech Republic	8	(4.1)	12	(4.6)	-39	(3.7)	1	(4.0)	m	m	m	m
	Denmark	10	(3.1)	14	(2.3)	-31	(2.8)	10	(2.7)	20	(2.5)	-23	(2.4)
	Estonia	5	(3.1)	5	(2.6)	-44	(2.4)	-2	(2.7)	9	(2.5)	-37	(2.8)
	Finland	-6	(3.0)	-3	(2.9)	-62	(3.1)	-16	(3.0)	m	m	m	m
	France	5	(3.1)	9	(3.4)	-44	(4.2)	-2	(3.7)	15	(3.0)	-22	(3.6)
	Germany	7	(2.9)	14	(2.8)	-44	(2.5)	-1	(3.0)	10	(2.7)	-30	(3.0)
	Hungary	3	(4.8)	9	(3.7)	-40	(3.6)	3	(3.3)	12	(3.8)	-33	(4.9)
	Ireland	5	(5.0)	15	(3.8)	-29	(4.2)	4	(4.4)	19	(3.7)	-25	(4.3)
	Israel	6	(8.5)	12	(7.6)	-44	(7.9)	-1	(7.6)	3	(8.9)	-27	(6.4)
	Italy	18	(5.7)	10	(4.8)	-45	(5.4)	-7	(5.5)	18	(5.0)	-21	(6.0)
	Japan	19	(3.7)	18	(4.3)	-24	(4.1)	11	(4.3)	15	(3.8)	-16	(3.8)
	Korea	13	(5.5)	18	(6.2)	-23	(5.4)	3	(5.1)	18	(6.7)	-7	(5.1)
	Netherlands	5	(3.3)	10	(2.8)	-26	(3.1)	3	(2.9)	m	m	m	m
	Norway	-3	(3.6)	2	(3.0)	-46	(3.3)	-4	(3.2)	3	(2.8)	-46	(3.1)
	Poland	0	(3.3)	4	(3.4)	-42	(2.9)	-3	(3.0)	11	(3.2)	-34	(3.4)
	Portugal	16	(2.6)	11	(2.5)	-39	(2.7)	-2	(2.6)	20	(2.3)	-17	(3.0)
	Slovak Republic	22	(4.4)	9	(4.5)	-39	(4.6)	7	(4.5)	11	(3.9)	-19	(4.3)
	Slovenia	-4	(3.0)	3	(3.1)	-56	(2.7)	-9	(2.8)	3	(3.0)	-39	(2.7)
	Spain	2	(3.4)	13	(2.9)	-32	(2.7)	3	(2.7)	12	(2.5)	-27	(3.1)
	Sweden	-4	(3.6)	-3	(3.0)	-51	(3.6)	-7	(3.3)	13	(2.8)	-33	(3.3)
	Turkey	15	(4.0)	8	(4.7)	-46	(4.0)	-10	(4.2)	m	m	m	m
	England (United Kingdom)	6	(5.5)	13	(5.5)	-24	(5.4)	14	(5.5)	m	m	m	m
	United States	3	(3.1)	5	(2.8)	-31	(2.6)	-2	(2.7)	0	(3.0)	-28	(2.6)
	OECD average	7	(0.8)	10	(0.7)	-38	(0.7)	1	(0.7)	13	(0.8)	-26	(0.8)
Partners	Brazil	22	(3.3)	21	(2.4)	-27	(2.9)	2	(2.9)	22	(2.4)	-19	(3.2)
	Bulgaria	-17	(4.9)	-2	(4.1)	-70	(5.2)	-20	(4.5)	m	m	m	m
	Colombia	31	(3.8)	25	(3.2)	-19	(3.5)	18	(3.4)	12	(3.3)	-4	(4.3)
	Croatia	15	(4.4)	12	(4.1)	-48	(4.0)	-2	(3.8)	m	m	m	m
	Cyprus*	-9	(2.5)	0	(2.2)	-64	(3.0)	-13	(2.5)	m	m	m	m
	Hong Kong-China	13	(5.2)	15	(5.7)	-25	(4.7)	7	(4.2)	17	(4.3)	-19	(5.0)
	Macao-China	10	(2.0)	3	(1.9)	-36	(1.7)	-1	(1.7)	13	(2.0)	-18	(1.7)
	Malaysia	8	(3.7)	-8	(3.8)	-40	(3.1)	-11	(3.5)	m	m	m	m
	Montenegro	-6	(2.8)	0	(2.4)	-62	(3.1)	-17	(2.4)	m	m	m	m
	Russian Federation	8	(3.1)	-2	(3.0)	-40	(3.0)	-6	(2.9)	14	(2.8)	-18	(3.0)
	Serbia	15	(3.5)	9	(3.9)	-46	(3.8)	-4	(3.9)	m	m	m	m
	Shanghai-China	25	(2.9)	6	(3.3)	-24	(2.5)	5	(2.7)	18	(2.9)	-10	(2.8)
	Singapore	9	(2.5)	-3	(2.5)	-32	(2.6)	-1	(2.6)	1	(2.3)	-18	(2.2)
	Chinese Taipei	12	(6.3)	5	(8.9)	-32	(6.4)	1	(6.4)	15	(6.7)	-17	(5.3)
	United Arab Emirates	-26	(5.6)	-5	(4.7)	-55	(4.8)	-28	(5.1)	-13	(4.4)	-50	(6.5)
	Uruguay	11	(3.4)	11	(3.1)	-35	(3.5)	-1	(3.4)	m	m	m	m

Note: Values that are statistically significant are indicated in bold (see Annex A3).

* See notes at the beginning of this Annex.

StatLink <http://dx.doi.org/10.1787/888933003706>



[Part 2/3]

Table V.4.8 Differences in problem-solving, mathematics, reading and science performance related to gender

	Gender effect size: Gender difference divided by the variation in scores within each country/economy (standard deviation)											
	Problem solving (B - G)		Mathematics (B - G)		Reading (B - G)		Science (B - G)		Computer-based mathematics (B - G)		Digital reading (B - G)	
	Effect size	S.E.	Effect size	S.E.	Effect size	S.E.	Effect size	S.E.	Effect size	S.E.	Effect size	S.E.
OECD	Australia	0.03 (0.03)	0.13 (0.03)	-0.35 (0.03)	0.05 (0.03)	0.10 (0.03)	-0.32 (0.03)					
	Austria	0.13 (0.05)	0.24 (0.05)	-0.40 (0.05)	0.09 (0.05)	0.23 (0.06)	-0.26 (0.06)					
	Belgium	0.07 (0.03)	0.11 (0.03)	-0.31 (0.03)	0.04 (0.04)	0.15 (0.03)	-0.26 (0.04)					
	Canada	0.05 (0.02)	0.11 (0.02)	-0.38 (0.02)	0.03 (0.02)	0.19 (0.02)	-0.24 (0.02)					
	Chile	0.16 (0.04)	0.31 (0.04)	-0.29 (0.04)	0.08 (0.04)	0.24 (0.05)	-0.11 (0.05)					
	Czech Republic	0.08 (0.04)	0.12 (0.05)	-0.44 (0.04)	0.01 (0.04)	m	m	m	m			
	Denmark	0.11 (0.03)	0.17 (0.03)	-0.36 (0.03)	0.11 (0.03)	0.23 (0.03)	-0.27 (0.03)					
	Estonia	0.06 (0.04)	0.07 (0.03)	-0.54 (0.03)	-0.03 (0.03)	0.11 (0.03)	-0.39 (0.03)					
	Finland	-0.07 (0.03)	-0.03 (0.03)	-0.65 (0.03)	-0.18 (0.03)	m	m	m	m			
	France	0.05 (0.03)	0.09 (0.03)	-0.40 (0.04)	-0.02 (0.04)	0.16 (0.03)	-0.23 (0.04)					
	Germany	0.07 (0.03)	0.14 (0.03)	-0.48 (0.03)	-0.01 (0.03)	0.10 (0.03)	-0.30 (0.03)					
	Hungary	0.03 (0.05)	0.10 (0.04)	-0.43 (0.04)	0.03 (0.04)	0.13 (0.04)	-0.29 (0.04)					
	Ireland	0.06 (0.05)	0.18 (0.05)	-0.33 (0.05)	0.04 (0.05)	0.23 (0.05)	-0.31 (0.05)					
	Israel	0.05 (0.07)	0.11 (0.07)	-0.38 (0.07)	-0.01 (0.07)	0.02 (0.08)	-0.24 (0.05)					
	Italy	0.20 (0.07)	0.11 (0.05)	-0.46 (0.05)	-0.08 (0.06)	0.22 (0.06)	-0.22 (0.06)					
	Japan	0.22 (0.04)	0.19 (0.05)	-0.24 (0.04)	0.12 (0.04)	0.17 (0.04)	-0.20 (0.05)					
	Korea	0.14 (0.06)	0.18 (0.06)	-0.27 (0.06)	0.04 (0.06)	0.20 (0.07)	-0.09 (0.06)					
	Netherlands	0.05 (0.03)	0.11 (0.03)	-0.28 (0.03)	0.03 (0.03)	m	m	m	m			
	Norway	-0.03 (0.03)	0.02 (0.03)	-0.46 (0.03)	-0.04 (0.03)	0.03 (0.03)	-0.46 (0.03)					
	Poland	0.00 (0.03)	0.04 (0.04)	-0.48 (0.03)	-0.03 (0.04)	0.13 (0.04)	-0.35 (0.04)					
	Portugal	0.18 (0.03)	0.12 (0.03)	-0.42 (0.03)	-0.02 (0.03)	0.24 (0.03)	-0.19 (0.03)					
	Slovak Republic	0.22 (0.04)	0.09 (0.04)	-0.38 (0.05)	0.07 (0.04)	0.13 (0.05)	-0.20 (0.05)					
	Slovenia	-0.04 (0.03)	0.04 (0.03)	-0.61 (0.03)	-0.10 (0.03)	0.03 (0.03)	-0.40 (0.03)					
	Spain	0.01 (0.03)	0.15 (0.03)	-0.34 (0.03)	0.04 (0.03)	0.15 (0.03)	-0.28 (0.03)					
	Sweden	-0.04 (0.04)	-0.03 (0.03)	-0.48 (0.03)	-0.07 (0.03)	0.16 (0.03)	-0.35 (0.03)					
	Turkey	0.19 (0.05)	0.09 (0.05)	-0.53 (0.04)	-0.13 (0.05)	m	m	m	m			
	England (United Kingdom)	0.06 (0.06)	0.13 (0.06)	-0.25 (0.05)	0.14 (0.05)	m	m	m	m			
	United States	0.03 (0.03)	0.05 (0.03)	-0.33 (0.03)	-0.02 (0.03)	0.00 (0.03)	-0.32 (0.03)					
	OECD average	0.07 (0.01)	0.11 (0.01)	-0.40 (0.01)	0.01 (0.01)	0.15 (0.01)	-0.27 (0.01)					
Partners	Brazil	0.24 (0.04)	0.27 (0.03)	-0.32 (0.03)	0.02 (0.04)	0.26 (0.03)	-0.21 (0.03)					
	Bulgaria	-0.16 (0.05)	-0.03 (0.04)	-0.59 (0.04)	-0.20 (0.04)	m	m	m	m			
	Colombia	0.33 (0.04)	0.34 (0.04)	-0.22 (0.04)	0.23 (0.05)	0.16 (0.04)	-0.05 (0.05)					
	Croatia	0.16 (0.05)	0.13 (0.05)	-0.56 (0.04)	-0.03 (0.04)	m	m	m	m			
	Cyprus*	-0.09 (0.02)	0.00 (0.02)	-0.57 (0.02)	-0.13 (0.03)	m	m	m	m			
	Hong Kong-China	0.15 (0.06)	0.16 (0.06)	-0.30 (0.05)	0.08 (0.05)	0.20 (0.05)	-0.20 (0.05)					
	Macao-China	0.13 (0.02)	0.03 (0.02)	-0.43 (0.02)	-0.02 (0.02)	0.15 (0.02)	-0.26 (0.02)					
	Malaysia	0.09 (0.04)	-0.10 (0.05)	-0.48 (0.04)	-0.14 (0.05)	m	m	m	m			
	Montenegro	-0.06 (0.03)	0.00 (0.03)	-0.67 (0.03)	-0.20 (0.03)	m	m	m	m			
	Russian Federation	0.09 (0.04)	-0.02 (0.04)	-0.44 (0.03)	-0.07 (0.03)	0.18 (0.03)	-0.21 (0.04)					
	Serbia	0.17 (0.04)	0.10 (0.04)	-0.50 (0.04)	-0.05 (0.04)	m	m	m	m			
	Shanghai-China	0.28 (0.03)	0.06 (0.03)	-0.30 (0.03)	0.06 (0.03)	0.20 (0.03)	-0.12 (0.03)					
	Singapore	0.10 (0.03)	-0.03 (0.02)	-0.32 (0.03)	-0.01 (0.02)	0.01 (0.02)	-0.20 (0.02)					
	Chinese Taipei	0.13 (0.07)	0.05 (0.08)	-0.35 (0.07)	0.01 (0.08)	0.17 (0.07)	-0.19 (0.06)					
	United Arab Emirates	-0.25 (0.05)	-0.05 (0.05)	-0.58 (0.05)	-0.30 (0.05)	-0.15 (0.05)	-0.45 (0.06)					
	Uruguay	0.12 (0.03)	0.13 (0.04)	-0.37 (0.03)	-0.01 (0.04)	m	m	m	m			

Note: Values that are statistically significant are indicated in bold (see Annex A3).

* See notes at the beginning of this Annex.

StatLink <http://dx.doi.org/10.1787/888933003706>



[Part 3/3]

Table V.4.8 Differences in problem-solving, mathematics, reading and science performance related to gender

	Difference in gender effect sizes between problem solving (PS) and...										
	... Mathematics (PS - M)		... Reading (PS - R)		... Science (PS - S)		... Computer-based mathematics (PS - CBM)				
	Effect size dif.	S.E.	Effect size dif.	S.E.	Effect size dif.	S.E.	Effect size dif.	S.E.			
OECD	Australia	-0.10	(0.02)	0.38	(0.02)	-0.02	(0.02)	-0.07	(0.02)	0.34	(0.02)
	Austria	-0.11	(0.03)	0.53	(0.03)	0.03	(0.03)	-0.11	(0.04)	0.38	(0.05)
	Belgium	-0.03	(0.02)	0.39	(0.02)	0.04	(0.02)	-0.07	(0.02)	0.33	(0.03)
	Canada	-0.06	(0.02)	0.44	(0.02)	0.02	(0.02)	-0.13	(0.02)	0.29	(0.02)
	Chile	-0.15	(0.03)	0.45	(0.03)	0.07	(0.03)	-0.08	(0.04)	0.27	(0.04)
	Czech Republic	-0.04	(0.03)	0.52	(0.03)	0.07	(0.03)	m	m	m	m
	Denmark	-0.06	(0.02)	0.47	(0.03)	0.00	(0.03)	-0.12	(0.02)	0.38	(0.03)
	Estonia	-0.01	(0.02)	0.60	(0.02)	0.09	(0.03)	-0.05	(0.02)	0.45	(0.03)
	Finland	-0.03	(0.02)	0.58	(0.02)	0.11	(0.02)	m	m	m	m
	France	-0.04	(0.03)	0.45	(0.03)	0.07	(0.03)	-0.12	(0.02)	0.28	(0.03)
	Germany	-0.07	(0.02)	0.55	(0.02)	0.07	(0.02)	-0.03	(0.02)	0.37	(0.02)
	Hungary	-0.06	(0.03)	0.46	(0.03)	0.00	(0.03)	-0.09	(0.03)	0.32	(0.03)
	Ireland	-0.12	(0.04)	0.39	(0.05)	0.01	(0.04)	-0.17	(0.05)	0.36	(0.05)
	Israel	-0.06	(0.03)	0.43	(0.03)	0.06	(0.03)	0.03	(0.03)	0.28	(0.04)
	Italy	0.08	(0.05)	0.65	(0.05)	0.27	(0.05)	-0.03	(0.05)	0.42	(0.05)
	Japan	0.03	(0.03)	0.47	(0.03)	0.11	(0.03)	0.06	(0.03)	0.43	(0.03)
	Korea	-0.04	(0.04)	0.41	(0.04)	0.10	(0.04)	-0.05	(0.05)	0.23	(0.05)
	Netherlands	-0.06	(0.02)	0.34	(0.02)	0.02	(0.02)	m	m	m	m
	Norway	-0.05	(0.02)	0.43	(0.03)	0.00	(0.02)	-0.07	(0.02)	0.43	(0.02)
	Poland	-0.04	(0.02)	0.48	(0.02)	0.03	(0.02)	-0.12	(0.02)	0.35	(0.02)
	Portugal	0.06	(0.02)	0.60	(0.03)	0.20	(0.02)	-0.06	(0.02)	0.37	(0.03)
	Slovak Republic	0.13	(0.03)	0.60	(0.03)	0.15	(0.03)	0.09	(0.03)	0.42	(0.03)
	Slovenia	-0.08	(0.02)	0.56	(0.02)	0.06	(0.02)	-0.07	(0.02)	0.36	(0.02)
	Spain	-0.13	(0.02)	0.36	(0.03)	-0.02	(0.02)	-0.14	(0.03)	0.29	(0.02)
	Sweden	-0.01	(0.02)	0.44	(0.03)	0.04	(0.03)	-0.19	(0.02)	0.31	(0.02)
	Turkey	0.10	(0.03)	0.72	(0.03)	0.32	(0.04)	m	m	m	m
	England (United Kingdom)	-0.07	(0.03)	0.31	(0.04)	-0.08	(0.03)	m	m	m	m
	United States	-0.02	(0.02)	0.37	(0.02)	0.05	(0.02)	0.03	(0.02)	0.35	(0.02)
	OECD average	-0.04	(0.01)	0.48	(0.01)	0.07	(0.01)	-0.07	(0.01)	0.35	(0.01)
Partners	Brazil	-0.03	(0.03)	0.55	(0.03)	0.22	(0.03)	-0.02	(0.03)	0.45	(0.03)
	Bulgaria	-0.13	(0.03)	0.43	(0.03)	0.04	(0.03)	m	m	m	m
	Colombia	-0.01	(0.03)	0.56	(0.03)	0.10	(0.03)	0.17	(0.04)	0.38	(0.04)
	Croatia	0.03	(0.03)	0.72	(0.03)	0.19	(0.03)	m	m	m	m
	Cyprus*	-0.09	(0.02)	0.48	(0.02)	0.04	(0.02)	m	m	m	m
	Hong Kong-China	-0.01	(0.03)	0.45	(0.04)	0.07	(0.04)	-0.05	(0.04)	0.35	(0.04)
	Macao-China	0.10	(0.02)	0.57	(0.02)	0.15	(0.02)	-0.02	(0.02)	0.39	(0.02)
	Malaysia	0.19	(0.02)	0.57	(0.03)	0.24	(0.02)	m	m	m	m
	Montenegro	-0.06	(0.02)	0.61	(0.02)	0.14	(0.02)	m	m	m	m
	Russian Federation	0.11	(0.02)	0.53	(0.03)	0.16	(0.04)	-0.08	(0.02)	0.30	(0.02)
	Serbia	0.07	(0.03)	0.67	(0.03)	0.22	(0.03)	m	m	m	m
	Shanghai-China	0.22	(0.02)	0.58	(0.03)	0.22	(0.03)	0.08	(0.02)	0.40	(0.03)
	Singapore	0.13	(0.01)	0.42	(0.02)	0.11	(0.02)	0.09	(0.02)	0.30	(0.02)
	Chinese Taipei	0.09	(0.02)	0.49	(0.03)	0.12	(0.03)	-0.04	(0.03)	0.32	(0.03)
	United Arab Emirates	-0.19	(0.04)	0.33	(0.04)	0.05	(0.04)	-0.10	(0.04)	0.20	(0.04)
	Uruguay	-0.01	(0.02)	0.49	(0.02)	0.13	(0.02)	m	m	m	m

Note: Values that are statistically significant are indicated in bold (see Annex A3).

* See notes at the beginning of this Annex.

StatLink <http://dx.doi.org/10.1787/888933003706>



[Part 1/2]

Table V.4.9 Relative variation in performance in problem solving, mathematics, reading and science, by gender

	Variation ratio: Variation in performance among boys as a proportion of the variation in performance among girls											
	Problem solving (B/G)		Mathematics (B/G)		Reading (B/G)		Science (B/G)		Computer-based mathematics (B/G)		Digital reading (B/G)	
	Ratio	S.E.	Ratio	S.E.	Ratio	S.E.	Ratio	S.E.	Ratio	S.E.	Ratio	S.E.
OECD	Australia	1.12 (0.04)	1.12 (0.05)	1.20 (0.05)	1.12 (0.04)	1.12 (0.05)	1.14 (0.04)					
	Austria	1.18 (0.08)	1.12 (0.07)	1.22 (0.07)	1.18 (0.07)	1.23 (0.08)	1.07	(0.09)				
	Belgium	1.16 (0.06)	1.14 (0.05)	1.22 (0.06)	1.22 (0.06)	1.16 (0.05)	1.21 (0.09)					
	Canada	1.17 (0.06)	1.15 (0.04)	1.21 (0.04)	1.17 (0.04)	1.15 (0.04)	1.13 (0.05)					
	Chile	1.18 (0.06)	1.11 (0.05)	1.16 (0.06)	1.14 (0.05)	1.11 (0.05)	1.14 (0.06)					
	Czech Republic	1.14 (0.07)	1.08 (0.06)	1.13 (0.06)	1.12 (0.07)	m	m	m	m			
	Denmark	1.11 (0.05)	1.05 (0.05)	1.17 (0.06)	1.16 (0.06)	1.08 (0.04)	1.15 (0.04)					
	Estonia	1.15 (0.06)	1.14 (0.05)	1.19 (0.06)	1.15 (0.05)	1.19 (0.05)	1.14 (0.06)					
	Finland	1.16 (0.05)	1.23 (0.05)	1.23 (0.06)	1.20 (0.05)	m	m	m	m			
	France	1.16 (0.08)	1.21 (0.06)	1.28 (0.07)	1.25 (0.07)	1.18 (0.09)	1.16 (0.08)					
	Germany	1.20 (0.05)	1.10 (0.05)	1.14 (0.04)	1.11 (0.05)	1.12 (0.05)	1.13 (0.05)					
	Hungary	1.25 (0.09)	1.18 (0.06)	1.21 (0.07)	1.12 (0.06)	1.28 (0.09)	1.21 (0.07)					
	Ireland	1.21 (0.09)	1.09 (0.06)	1.19 (0.07)	1.13 (0.07)	1.14 (0.06)	1.16 (0.07)					
	Israel	1.44 (0.07)	1.43 (0.06)	1.56 (0.09)	1.45 (0.06)	1.43 (0.09)	1.28 (0.08)					
	Italy	1.41 (0.10)	1.25 (0.06)	1.34 (0.08)	1.22 (0.07)	1.10 (0.07)	1.32 (0.10)					
	Japan	1.25 (0.07)	1.22 (0.08)	1.31 (0.08)	1.23 (0.07)	1.27 (0.08)	1.24 (0.10)					
	Korea	1.20 (0.08)	1.27 (0.08)	1.37 (0.10)	1.25 (0.08)	1.19 (0.10)	1.32 (0.10)					
	Netherlands	1.11 (0.07)	1.05 (0.05)	1.18 (0.09)	1.06 (0.06)	m	m	m	m			
	Norway	1.14 (0.06)	1.10 (0.06)	1.22 (0.07)	1.12 (0.06)	1.08 (0.06)	1.20 (0.07)					
	Poland	1.33 (0.07)	1.19 (0.06)	1.33 (0.08)	1.17 (0.05)	1.27 (0.06)	1.26 (0.07)					
	Portugal	1.18 (0.05)	1.17 (0.04)	1.25 (0.06)	1.17 (0.06)	1.24 (0.05)	1.25 (0.06)					
	Slovak Republic	1.13 (0.07)	1.13 (0.06)	1.08 (0.06)	1.10 (0.06)	1.13 (0.06)	1.06 (0.07)					
	Slovenia	1.25 (0.07)	1.07 (0.05)	1.23 (0.05)	1.14 (0.05)	1.14 (0.05)	1.25 (0.05)					
	Spain	1.22 (0.06)	1.18 (0.05)	1.24 (0.06)	1.18 (0.05)	1.12 (0.05)	1.23 (0.05)					
	Sweden	1.22 (0.07)	1.19 (0.06)	1.30 (0.07)	1.26 (0.07)	1.20 (0.06)	1.33 (0.07)					
	Turkey	1.11 (0.06)	1.11 (0.06)	1.20 (0.07)	1.18 (0.07)	m	m	m	m			
	England (United Kingdom)	1.08 (0.08)	1.00 (0.06)	1.04 (0.08)	1.02 (0.07)	m	m	m	m			
	United States	1.22 (0.06)	1.13 (0.05)	1.23 (0.06)	1.20 (0.06)	1.26 (0.06)	1.29 (0.07)					
	OECD average	1.20 (0.01)	1.15 (0.01)	1.23 (0.01)	1.17 (0.01)	1.18 (0.01)	1.20 (0.02)					
Partners	Brazil	1.19 (0.06)	1.14 (0.05)	1.13 (0.06)	1.16 (0.06)	1.13 (0.05)	1.13 (0.06)					
	Bulgaria	1.16 (0.07)	1.17 (0.05)	1.21 (0.06)	1.16 (0.06)	m	m	m	m			
	Colombia	1.08 (0.06)	1.20 (0.08)	1.19 (0.06)	1.16 (0.06)	1.18 (0.09)	1.13 (0.09)					
	Croatia	1.33 (0.07)	1.19 (0.06)	1.30 (0.07)	1.25 (0.06)	m	m	m	m			
	Cyprus*	1.41 (0.06)	1.52 (0.06)	1.56 (0.07)	1.48 (0.06)	m	m	m	m			
	Hong Kong-China	1.08 (0.07)	1.23 (0.06)	1.25 (0.06)	1.22 (0.07)	1.27 (0.07)	1.21 (0.06)					
	Macao-China	1.10 (0.06)	1.12 (0.05)	1.27 (0.05)	1.20 (0.04)	1.23 (0.05)	1.22 (0.05)					
	Malaysia	1.14 (0.06)	1.08 (0.07)	1.18 (0.06)	1.13 (0.07)	m	m	m	m			
	Montenegro	1.16 (0.06)	1.13 (0.05)	1.23 (0.07)	1.16 (0.06)	m	m	m	m			
	Russian Federation	1.06 (0.06)	1.04 (0.04)	1.12 (0.05)	1.14 (0.04)	1.10 (0.05)	1.06 (0.06)					
	Serbia	1.05 (0.06)	1.05 (0.05)	1.16 (0.07)	1.09 (0.06)	m	m	m	m			
	Shanghai-China	1.06 (0.05)	1.14 (0.04)	1.21 (0.05)	1.16 (0.05)	1.17 (0.05)	1.12 (0.05)					
	Singapore	1.27 (0.05)	1.24 (0.04)	1.20 (0.05)	1.25 (0.05)	1.25 (0.05)	1.20 (0.05)					
	Chinese Taipei	1.28 (0.09)	1.21 (0.09)	1.27 (0.09)	1.22 (0.10)	1.35 (0.10)	1.29 (0.07)					
	United Arab Emirates	1.46 (0.11)	1.31 (0.07)	1.42 (0.07)	1.30 (0.07)	1.42 (0.09)	1.41 (0.08)					
	Uruguay	1.21 (0.05)	1.21 (0.05)	1.26 (0.06)	1.22 (0.05)	m	m	m	m			

Note: Values that are statistically significant are indicated in bold (see Annex A3).

* See notes at the beginning of this Annex.

StatLink <http://dx.doi.org/10.1787/888933003706>



[Part 2/2]

Table V.4.9 Relative variation in performance in problem solving, mathematics, reading and science, by gender

	Relative variation ratio: Variation ratio in problem solving (PS), as a proportion of the variation ratio in...								
	... Mathematics (PS/M)		... Reading (PS/R)		... Science (PS/S)		... Computer-based mathematics (PS/CBM)		
	Ratio	S.E.	Ratio	S.E.	Ratio	S.E.	Ratio	S.E.	
OECD	Australia	1.00	(0.04)	0.93	(0.04)	1.00	(0.04)	1.00	(0.04)
	Austria	1.06	(0.06)	0.97	(0.05)	1.00	(0.06)	0.97	(0.06)
	Belgium	1.02	(0.04)	0.96	(0.04)	0.96	(0.04)	1.00	(0.04)
	Canada	1.01	(0.04)	0.97	(0.04)	0.99	(0.04)	1.01	(0.04)
	Chile	1.07	(0.05)	1.02	(0.06)	1.04	(0.05)	1.06	(0.07)
	Czech Republic	1.06	(0.04)	1.01	(0.04)	1.02	(0.04)	m	m
	Denmark	1.05	(0.06)	0.95	(0.05)	0.96	(0.05)	1.03	(0.05)
	Estonia	1.01	(0.03)	0.96	(0.05)	1.00	(0.04)	0.96	(0.05)
	Finland	0.95	(0.04)	0.94	(0.04)	0.97	(0.04)	m	m
	France	0.96	(0.05)	0.91	(0.05)	0.93	(0.05)	0.99	(0.04)
	Germany	1.09	(0.04)	1.06	(0.04)	1.08	(0.04)	1.07	(0.04)
	Hungary	1.06	(0.05)	1.04	(0.06)	1.12	(0.06)	0.98	(0.06)
	Ireland	1.11	(0.07)	1.02	(0.07)	1.07	(0.07)	1.06	(0.08)
	Israel	1.00	(0.05)	0.92	(0.06)	0.99	(0.05)	1.00	(0.06)
	Italy	1.13	(0.06)	1.05	(0.07)	1.16	(0.07)	1.28	(0.10)
	Japan	1.03	(0.06)	0.96	(0.07)	1.02	(0.06)	0.99	(0.05)
	Korea	0.94	(0.05)	0.87	(0.04)	0.96	(0.05)	1.01	(0.07)
	Netherlands	1.06	(0.06)	0.94	(0.05)	1.05	(0.05)	m	m
	Norway	1.04	(0.05)	0.94	(0.05)	1.02	(0.05)	1.06	(0.05)
	Poland	1.11	(0.07)	1.00	(0.04)	1.13	(0.06)	1.04	(0.05)
	Portugal	1.00	(0.04)	0.94	(0.05)	1.01	(0.05)	0.95	(0.04)
	Slovak Republic	1.00	(0.05)	1.04	(0.05)	1.02	(0.05)	1.00	(0.05)
	Slovenia	1.16	(0.06)	1.01	(0.05)	1.10	(0.05)	1.10	(0.05)
	Spain	1.03	(0.05)	0.98	(0.05)	1.04	(0.05)	1.09	(0.05)
	Sweden	1.02	(0.04)	0.94	(0.05)	0.97	(0.04)	1.02	(0.05)
	Turkey	1.00	(0.04)	0.93	(0.04)	0.94	(0.05)	m	m
	England (United Kingdom)	1.07	(0.07)	1.04	(0.07)	1.06	(0.07)	m	m
	United States	1.08	(0.04)	0.99	(0.04)	1.01	(0.04)	0.97	(0.04)
	OECD average	1.04	(0.01)	0.97	(0.01)	1.02	(0.01)	1.03	(0.01)
Partners	Brazil	1.04	(0.06)	1.05	(0.07)	1.02	(0.06)	1.05	(0.05)
	Bulgaria	1.00	(0.05)	0.96	(0.05)	1.00	(0.06)	m	m
	Colombia	0.91	(0.05)	0.91	(0.05)	0.94	(0.04)	0.92	(0.06)
	Croatia	1.12	(0.04)	1.03	(0.05)	1.07	(0.06)	m	m
	Cyprus*	0.93	(0.03)	0.90	(0.04)	0.95	(0.04)	m	m
	Hong Kong-China	0.87	(0.05)	0.86	(0.06)	0.88	(0.06)	0.85	(0.05)
	Macao-China	0.98	(0.04)	0.87	(0.04)	0.91	(0.05)	0.90	(0.04)
	Malaysia	1.05	(0.04)	0.97	(0.05)	1.01	(0.04)	m	m
	Montenegro	1.03	(0.04)	0.95	(0.05)	1.00	(0.05)	m	m
	Russian Federation	1.02	(0.07)	0.94	(0.05)	0.93	(0.06)	0.97	(0.05)
	Serbia	1.00	(0.05)	0.91	(0.05)	0.97	(0.06)	m	m
	Shanghai-China	0.93	(0.03)	0.88	(0.03)	0.92	(0.04)	0.91	(0.04)
	Singapore	1.02	(0.03)	1.06	(0.04)	1.02	(0.04)	1.02	(0.04)
	Chinese Taipei	1.06	(0.05)	1.01	(0.05)	1.05	(0.05)	0.95	(0.05)
	United Arab Emirates	1.12	(0.07)	1.03	(0.06)	1.12	(0.08)	1.03	(0.07)
	Uruguay	1.01	(0.04)	0.96	(0.05)	0.99	(0.05)	m	m

Note: Values that are statistically significant are indicated in bold (see Annex A3).

* See notes at the beginning of this Annex.

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[Part 1/1]

Table V.4.10 Relative performance in problem solving, by gender

	Girls' performance in problem solving, compared to boys with similar performance in mathematics, reading and science																
	Average difference in problem solving compared with boys with similar performance in mathematics ¹		Percentage of girls who outperform boys with similar performance in mathematics ²		Average difference in problem solving compared with boys with similar performance in reading ¹		Percentage of girls who outperform boys with similar performance in reading ²		Average difference in problem solving compared with boys with similar performance in science ¹		Percentage of girls who outperform boys with similar performance in science ²		Average difference in problem solving compared with boys with similar performance in mathematics, reading and science ³		Percentage of girls who outperform boys with similar performance in mathematics, reading and science ²		
	Score dif.	S.E.	%	S.E.	Score dif.	S.E.	%	S.E.	Score dif.	S.E.	%	S.E.	Score dif.	S.E.	%	S.E.	
OECD	Australia	8	(1.4)	56.8	(1.3)	-30	(1.8)	30.6	(1.4)	1	(1.7)	51.5	(1.5)	7	(2.2)	56.0	(1.9)
	Austria	7	(2.9)	55.1	(2.5)	-42	(2.9)	20.4	(2.1)	-5	(2.8)	46.7	(2.4)	-20	(4.7)	34.1	(3.5)
	Belgium	1	(2.2)	50.9	(1.7)	-34	(2.0)	29.1	(1.3)	-4	(2.2)	47.5	(1.5)	-5	(2.5)	46.5	(1.8)
	Canada	3	(1.4)	52.4	(1.3)	-34	(1.5)	30.4	(0.9)	-3	(1.4)	48.4	(0.9)	-5	(1.8)	47.0	(1.5)
	Chile	9	(2.3)	57.5	(2.1)	-32	(2.1)	28.5	(1.7)	-8	(2.4)	44.6	(2.1)	1	(2.6)	51.1	(2.5)
	Czech Republic	3	(2.4)	53.0	(2.5)	-43	(2.3)	20.6	(1.9)	-7	(2.4)	44.7	(2.0)	-8	(3.7)	42.8	(3.2)
	Denmark	2	(2.4)	52.0	(1.9)	-34	(2.1)	28.9	(1.4)	-2	(2.4)	48.3	(1.7)	-2	(5.4)	48.7	(3.7)
	Estonia	0	(1.8)	50.9	(1.8)	-45	(2.0)	18.4	(1.4)	-7	(2.5)	44.7	(2.3)	-14	(4.2)	37.7	(3.9)
	Finland	4	(1.4)	53.6	(1.4)	-44	(2.0)	22.2	(1.2)	-7	(1.6)	45.2	(1.3)	-6	(2.9)	45.5	(2.7)
	France	2	(2.3)	54.4	(2.4)	-35	(2.2)	26.4	(2.1)	-6	(2.3)	47.5	(2.2)	-3	(3.9)	49.5	(4.2)
	Germany	5	(2.0)	54.3	(1.7)	-47	(2.0)	19.5	(1.5)	-7	(2.0)	44.5	(2.0)	-8	(3.6)	43.9	(2.9)
	Hungary	5	(2.8)	53.4	(2.3)	-41	(3.1)	23.0	(1.6)	0	(3.2)	50.2	(2.3)	-10	(4.3)	42.4	(3.6)
	Ireland	9	(3.9)	57.0	(3.2)	-29	(4.3)	31.1	(2.6)	-2	(4.0)	49.5	(3.2)	2	(5.3)	51.8	(4.7)
	Israel	6	(3.3)	54.2	(2.5)	-46	(3.2)	24.9	(1.8)	-6	(3.4)	46.3	(2.4)	-7	(3.8)	45.2	(3.0)
	Italy	-10	(4.4)	42.1	(3.4)	-49	(4.0)	19.3	(2.2)	-23	(4.1)	34.2	(3.0)	-21	(5.4)	34.3	(4.0)
	Japan	-7	(2.6)	45.7	(2.0)	-34	(2.4)	28.0	(1.7)	-12	(2.6)	42.0	(2.0)	-9	(3.0)	43.8	(2.7)
	Korea	-1	(3.1)	49.9	(2.7)	-32	(3.2)	27.4	(2.3)	-11	(3.3)	43.0	(2.5)	-10	(3.7)	42.7	(3.3)
	Netherlands	4	(2.1)	54.7	(2.0)	-28	(1.9)	31.3	(1.8)	-2	(2.0)	48.9	(1.8)	-3	(2.3)	47.6	(2.4)
	Norway	5	(2.3)	53.4	(1.7)	-33	(2.7)	30.7	(1.6)	1	(2.3)	50.8	(1.6)	-1	(3.2)	49.3	(2.2)
	Poland	3	(2.2)	52.9	(1.8)	-38	(1.9)	25.4	(1.7)	-3	(1.9)	48.7	(2.0)	-21	(3.5)	35.6	(2.7)
	Portugal	-7	(1.8)	44.7	(1.8)	-44	(2.1)	20.8	(1.6)	-17	(1.7)	37.6	(1.5)	-17	(2.8)	36.7	(2.9)
	Slovak Republic	-14	(2.6)	38.6	(2.4)	-54	(2.6)	15.4	(1.5)	-16	(2.8)	38.4	(2.2)	-29	(3.5)	26.4	(2.6)
	Slovenia	7	(2.0)	54.9	(2.0)	-44	(2.3)	22.5	(1.9)	-4	(2.1)	48.3	(2.5)	-7	(4.3)	45.2	(3.2)
	Spain	10	(2.2)	57.4	(1.9)	-27	(2.5)	36.3	(1.7)	2	(2.2)	51.7	(1.8)	4	(3.3)	54.2	(2.4)
	Sweden	1	(2.3)	50.9	(2.3)	-31	(2.4)	31.1	(1.5)	-1	(2.5)	49.2	(2.1)	2	(3.4)	51.3	(2.8)
	Turkey	-9	(2.4)	41.2	(2.4)	-49	(2.2)	15.6	(1.4)	-23	(2.6)	32.6	(2.2)	-24	(2.4)	27.9	(2.1)
	England (United Kingdom)	5	(3.0)	55.1	(2.7)	-26	(3.2)	32.4	(2.1)	5	(3.4)	54.5	(2.7)	7	(4.0)	56.4	(3.6)
	United States	1	(1.6)	51.4	(1.9)	-29	(1.9)	28.9	(1.7)	-5	(1.6)	46.6	(2.1)	-5	(2.2)	46.5	(2.4)
	OECD average	2	(0.5)	51.7	(0.4)	-38	(0.5)	25.7	(0.3)	-6	(0.5)	45.9	(0.4)	-8	(0.7)	44.3	(0.6)
Partners	Brazil	-1	(2.6)	49.4	(2.3)	-44	(2.3)	23.3	(1.4)	-20	(2.7)	37.8	(2.0)	-10	(3.5)	42.1	(2.7)
	Bulgaria	14	(2.9)	60.4	(2.2)	-34	(3.2)	31.4	(2.4)	0	(3.1)	51.9	(2.1)	2	(3.8)	53.0	(2.7)
	Colombia	-8	(2.5)	44.8	(2.0)	-44	(2.6)	23.6	(1.7)	-16	(2.7)	39.7	(2.0)	-18	(3.3)	37.6	(2.4)
	Croatia	-5	(2.5)	46.4	(2.4)	-59	(2.6)	12.7	(1.3)	-16	(2.8)	38.2	(2.2)	-18	(3.1)	34.4	(2.8)
	Cyprus*	9	(1.8)	56.6	(1.5)	-36	(2.1)	29.0	(1.3)	-1	(2.1)	49.8	(1.5)	-1	(2.5)	48.7	(1.9)
	Hong Kong-China	-3	(2.9)	48.9	(2.2)	-33	(3.3)	29.5	(2.2)	-9	(3.3)	44.8	(2.1)	-12	(3.8)	42.2	(2.8)
	Macao-China	-9	(1.4)	43.7	(1.6)	-35	(1.9)	25.5	(1.5)	-11	(1.5)	42.5	(1.4)	-13	(2.1)	39.6	(1.8)
	Malaysia	-15	(1.7)	37.3	(1.6)	-39	(2.7)	24.9	(1.6)	-17	(1.8)	37.3	(1.8)	-19	(2.1)	33.5	(2.0)
	Montenegro	6	(1.6)	54.3	(1.5)	-42	(2.2)	24.8	(1.3)	-8	(1.9)	45.1	(1.8)	-1	(2.8)	49.0	(2.7)
	Russian Federation	-9	(2.0)	44.0	(1.5)	-35	(2.7)	27.8	(1.8)	-11	(2.8)	43.3	(1.8)	-18	(2.8)	37.0	(2.2)
	Serbia	-8	(2.3)	44.1	(2.0)	-50	(2.3)	19.2	(1.5)	-18	(2.6)	37.5	(2.3)	-18	(2.8)	35.1	(2.4)
	Shanghai-China	-21	(1.9)	33.0	(1.9)	-47	(2.0)	16.9	(1.5)	-21	(2.1)	34.7	(1.8)	-32	(2.6)	24.3	(2.2)
	Singapore	-13	(1.3)	40.2	(1.2)	-33	(1.8)	29.4	(1.4)	-11	(1.5)	43.2	(1.4)	-9	(1.8)	42.8	(1.6)
	Chinese Taipei	-9	(1.9)	42.1	(1.9)	-40	(2.3)	20.2	(1.8)	-12	(2.2)	41.1	(2.4)	-19	(2.5)	33.0	(2.5)
	United Arab Emirates	22	(3.7)	64.5	(2.5)	-23	(3.9)	36.5	(2.5)	1	(3.7)	51.6	(2.6)	13	(4.6)	59.5	(3.2)
	Uruguay	-1	(2.3)	50.9	(1.8)	-39	(2.1)	27.3	(1.4)	-12	(2.0)	43.3	(1.7)	-13	(2.7)	42.0	(2.0)

Note: Values that are statistically significant are indicated in bold (see Annex A3).

1. This column reports the difference between actual performance and the fitted value from a regression using a cubic polynomial as regression function.

2. This column reports the percentage of students for whom the difference between actual performance and the fitted value from a regression is positive. Values that are indicated in bold are significantly larger or smaller than 50%.

3. This column reports the difference between actual performance and the fitted value from a regression using a second-degree polynomial as regression function (math, math^{sq}, read, read^{sq}, scie, scie^{sq}, math×read, math×scie, read×scie).

* See notes at the beginning of this Annex.

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[Part 1/1]

Table V.4.11a Performance on problem-solving tasks, by nature of problem and by gender

	Performance on problem-solving tasks, by nature of problem and by gender											
	Items referring to a static problem situation						Items referring to an interactive problem situation					
	Average proportion of full-credit responses			Relative likelihood of success, in favour of girls (boys = 1.00)			Average proportion of full-credit responses			Relative likelihood of success, in favour of girls (boys = 1.00)		
	Boys	Girls	Gender difference (B - G)	Accounting for booklet effects ¹	Based on success on remaining test items ²		Boys	Girls	Gender difference (B - G)	Accounting for booklet effects ¹	Based on success on remaining test items ²	
	%	S.E.	%	S.E.	%	dif.	%	S.E.	%	S.E.	%	S.E.
OECD												
Australia	53.5	(0.8)	52.1	(0.6)	-1.4	(1.1)	0.93	(0.04)	0.97	(0.03)	50.2	(0.7)
Austria	49.0	(1.4)	47.7	(1.4)	-1.4	(1.9)	0.95	(0.07)	1.02	(0.07)	43.9	(1.1)
Belgium	50.0	(1.0)	46.6	(1.0)	-3.4	(1.5)	0.86	(0.05)	0.94	(0.05)	46.4	(0.9)
Canada	54.4	(1.1)	51.0	(0.8)	-3.4	(1.4)	0.87	(0.05)	0.89	(0.05)	50.8	(0.8)
Chile	35.2	(1.3)	34.7	(1.1)	-0.4	(1.7)	0.97	(0.07)	1.28	(0.09)	34.7	(1.2)
Czech Republic	46.8	(1.0)	45.5	(0.9)	-1.3	(1.3)	0.95	(0.05)	1.00	(0.04)	45.0	(1.0)
Denmark	48.0	(1.6)	47.9	(1.1)	0.0	(2.1)	1.01	(0.08)	1.16	(0.10)	44.3	(1.2)
Estonia	48.9	(1.5)	50.6	(1.0)	1.7	(2.1)	1.08	(0.09)	1.17	(0.10)	46.7	(1.1)
Finland	50.1	(0.8)	54.3	(0.9)	4.2	(1.2)	1.18	(0.06)	1.11	(0.05)	47.0	(0.8)
France	51.6	(1.1)	49.0	(1.4)	-2.6	(1.9)	0.91	(0.07)	0.98	(0.08)	48.8	(1.1)
Germany	50.5	(1.2)	48.3	(1.1)	-2.2	(1.7)	0.93	(0.06)	0.97	(0.06)	46.7	(1.1)
Hungary	36.8	(1.5)	39.6	(1.5)	2.8	(2.0)	1.13	(0.09)	1.20	(0.10)	34.5	(1.5)
Ireland	45.4	(1.5)	43.5	(1.1)	-1.8	(1.9)	0.91	(0.07)	0.98	(0.07)	45.3	(1.5)
Israel	40.2	(2.5)	39.2	(1.3)	-0.9	(2.7)	0.95	(0.11)	1.10	(0.08)	37.1	(2.4)
Italy	51.1	(1.5)	47.5	(1.5)	-3.6	(2.2)	0.88	(0.07)	1.02	(0.09)	48.6	(1.3)
Japan	60.1	(1.1)	57.1	(0.9)	-3.1	(1.3)	0.87	(0.05)	1.05	(0.06)	57.9	(1.0)
Korea	60.9	(1.2)	56.6	(1.5)	-4.3	(1.8)	0.83	(0.06)	0.95	(0.07)	59.1	(1.2)
Netherlands	51.4	(1.5)	49.4	(1.2)	-2.0	(1.3)	0.92	(0.05)	0.93	(0.06)	46.6	(1.3)
Norway	49.6	(1.5)	49.2	(1.3)	-0.4	(2.0)	0.95	(0.08)	1.01	(0.09)	44.9	(1.3)
Poland	46.3	(1.5)	41.8	(1.2)	-4.4	(1.7)	0.88	(0.06)	0.96	(0.08)	41.3	(1.5)
Portugal	46.8	(1.4)	41.1	(1.3)	-5.8	(2.0)	0.79	(0.06)	0.85	(0.07)	43.0	(1.3)
Slovak Republic	46.7	(1.2)	41.3	(1.4)	-5.4	(1.9)	0.80	(0.06)	1.00	(0.08)	41.1	(1.2)
Slovenia	42.1	(1.4)	43.8	(1.3)	1.7	(2.2)	1.08	(0.09)	1.12	(0.12)	37.2	(1.1)
Spain	44.9	(1.4)	39.7	(1.0)	-5.2	(1.8)	0.82	(0.06)	0.88	(0.06)	40.8	(1.0)
Sweden	46.7	(1.5)	48.6	(1.2)	1.9	(2.1)	1.06	(0.08)	0.98	(0.08)	40.5	(1.1)
Turkey	37.5	(1.1)	33.9	(1.2)	-3.6	(1.3)	0.86	(0.05)	0.98	(0.04)	34.1	(1.1)
England (United Kingdom)	50.4	(1.2)	48.6	(1.3)	-1.8	(1.7)	0.93	(0.06)	0.98	(0.06)	48.6	(1.4)
United States	48.3	(1.5)	44.9	(1.4)	-3.4	(1.9)	0.86	(0.06)	0.86	(0.07)	45.9	(1.1)
OECD average	48.0	(0.3)	46.2	(0.2)	-1.8	(0.3)	0.93	(0.01)	1.01	(0.01)	44.7	(0.2)
Partners												
Brazil	31.8	(1.4)	27.9	(1.5)	-3.8	(2.1)	0.84	(0.09)	1.02	(0.12)	31.1	(1.3)
Bulgaria	27.1	(1.1)	29.7	(1.1)	2.6	(1.2)	1.14	(0.07)	0.97	(0.05)	21.0	(0.9)
Colombia	28.8	(1.4)	24.0	(1.0)	-4.8	(1.7)	0.78	(0.07)	1.08	(0.09)	26.8	(1.2)
Croatia	39.9	(1.3)	38.7	(1.1)	-1.2	(1.4)	0.95	(0.05)	1.12	(0.06)	37.5	(1.1)
Cyprus*	36.8	(0.8)	37.2	(0.7)	0.4	(1.1)	1.02	(0.05)	1.00	(0.06)	31.2	(0.6)
Hong Kong-China	58.2	(1.2)	53.9	(1.4)	-4.3	(1.8)	0.81	(0.06)	0.98	(0.07)	53.9	(1.0)
Macao-China	59.2	(0.9)	54.7	(1.1)	-4.5	(1.6)	0.84	(0.05)	0.95	(0.07)	53.3	(1.0)
Malaysia	31.2	(1.0)	29.1	(1.0)	-2.1	(1.1)	0.91	(0.05)	0.97	(0.06)	28.1	(1.0)
Montenegro	30.7	(0.9)	29.9	(0.8)	-0.8	(1.2)	0.98	(0.06)	0.83	(0.05)	23.6	(0.7)
Russian Federation	44.4	(1.1)	43.1	(1.4)	-1.3	(1.7)	0.95	(0.06)	0.94	(0.06)	39.7	(0.9)
Serbia	42.1	(1.2)	38.6	(0.9)	-3.6	(1.4)	0.85	(0.05)	1.05	(0.04)	39.1	(1.1)
Shanghai-China	60.2	(1.3)	53.5	(1.4)	-6.8	(1.8)	0.74	(0.05)	0.98	(0.07)	53.7	(1.0)
Singapore	61.6	(1.1)	58.0	(1.1)	-3.6	(1.6)	0.85	(0.06)	0.88	(0.06)	57.8	(0.9)
Chinese Taipei	57.5	(1.4)	55.0	(1.3)	-2.5	(2.0)	0.91	(0.08)	1.10	(0.08)	52.5	(1.6)
United Arab Emirates	28.4	(1.1)	31.3	(0.9)	3.0	(1.6)	1.16	(0.09)	0.91	(0.06)	24.8	(0.9)
Uruguay	27.8	(0.9)	27.2	(0.8)	-0.6	(1.0)	0.97	(0.05)	1.07	(0.06)	25.8	(0.8)

Note: Values that are statistically significant are indicated in bold (see Annex A3).

1. Generalised odds ratios estimated with logistic regression on national PISA samples. A success indicator for each item is regressed on an item type dummy, a female dummy, and an interaction term (female × item type). Booklet dummies are added to the estimation. This column presents the difference between the logit coefficient on the interaction term and the logit coefficient on the item type dummy in exponentiated form.

2. Generalised odds ratios estimated with logistic regression on national PISA samples. A success indicator for each item is regressed on an item type dummy, a female dummy, and an interaction term (female × item type). Booklet dummies are added to the estimation. This column presents the logit coefficient on the interaction term in exponentiated form.

* See notes at the beginning of this Annex.

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[Part 1/2]

Table V.4.11b Performance on problem-solving tasks, by process and by gender

	Items assessing the process of "exploring and understanding"										Items assessing the process of "representing and formulating"										
	Average proportion of full-credit responses					Relative likelihood of success, in favour of girls (boys = 1.00)					Average proportion of full-credit responses					Relative likelihood of success, in favour of girls (boys = 1.00)					
	Boys		Girls		Gender difference (B - G)	Accounting for booklet effects ¹		Based on success on remaining test items ²		Boys		Girls		Gender difference (B - G)	Accounting for booklet effects ¹		Based on success on remaining test items ²				
	%	S.E.	%	S.E.	% dif.	S.E.	Odds ratio	S.E.	Odds ratio	%	S.E.	%	S.E.	% dif.	S.E.	Odds ratio	S.E.	Odds ratio	S.E.		
OECD	Australia	56.0	(0.9)	53.9	(0.7)	-2.1	(1.1)	0.91 (0.04)	0.94 (0.03)	51.1	(0.9)	47.5	(0.8)	-3.6	(1.2)	0.85 (0.04)	0.87 (0.03)				
	Austria	49.6	(1.6)	48.8	(1.5)	-0.9	(2.2)	0.97 (0.09)	1.03 (0.07)	43.6	(1.4)	40.0	(1.5)	-3.7	(2.0)	0.85 (0.07)	0.88 (0.06)				
	Belgium	49.8	(1.1)	48.2	(1.1)	-1.6	(1.8)	0.93 (0.07)	1.05 (0.06)	47.4	(1.2)	42.1	(1.1)	-5.3	(1.7)	0.80 (0.06)	0.86 (0.05)				
	Canada	54.1	(1.0)	54.0	(1.0)	-0.2	(1.3)	0.99 (0.06)	1.08 (0.06)	52.7	(1.2)	48.9	(1.0)	-3.8	(1.4)	0.86 (0.05)	0.90 (0.05)				
	Chile	34.4	(1.5)	30.6	(1.2)	-3.8 (1.8)	0.83 (0.07)	1.00 (0.07)	32.3	(1.6)	26.3	(1.2)	-6.1 (2.1)	0.73 (0.07)	0.86 (0.07)						
	Czech Republic	47.4	(1.0)	46.4	(1.2)	-1.0	(1.4)	0.96 (0.05)	1.01 (0.04)	44.5	(1.2)	41.3	(1.0)	-3.2	(1.3)	0.88 (0.05)	0.90 (0.03)				
	Denmark	47.7	(1.4)	44.6	(1.3)	-3.0	(1.8)	0.90 (0.06)	0.98 (0.06)	45.0	(1.6)	39.4	(1.4)	-5.5	(2.0)	0.82 (0.06)	0.86 (0.06)				
	Estonia	48.0	(1.5)	49.7	(1.4)	1.7	(2.2)	1.08 (0.10)	1.14 (0.08)	46.5	(1.4)	42.5	(1.4)	-4.0	(1.9)	0.86 (0.07)	0.85 (0.06)				
	Finland	52.8	(0.9)	54.7	(1.0)	1.9	(1.4)	1.08 (0.06)	0.97 (0.04)	46.0	(1.0)	46.6	(1.0)	0.6	(1.4)	1.02 (0.06)	0.91 (0.04)				
	France	53.9	(1.3)	50.5	(1.4)	-3.4	(2.0)	0.88 (0.07)	0.94 (0.07)	48.6	(1.4)	45.4	(1.2)	-3.2	(1.9)	0.90 (0.07)	0.97 (0.05)				
	Germany	51.7	(1.4)	49.5	(1.5)	-2.2	(1.8)	0.91 (0.07)	0.96 (0.06)	45.3	(1.4)	42.8	(1.4)	-2.5	(1.8)	0.89 (0.07)	0.92 (0.06)				
	Hungary	36.8	(1.5)	38.6	(1.4)	1.8	(1.8)	1.08 (0.08)	1.09 (0.08)	33.8	(1.7)	31.0	(1.4)	-2.8	(2.3)	0.87 (0.09)	0.84 (0.06)				
	Ireland	48.2	(2.1)	46.9	(1.3)	-1.3	(2.5)	0.93 (0.10)	1.01 (0.08)	42.8	(1.5)	40.1	(1.2)	-2.7	(2.0)	0.87 (0.08)	0.92 (0.06)				
	Israel	43.1	(2.7)	40.9	(1.1)	-2.2	(2.8)	0.90 (0.10)	1.01 (0.07)	37.5	(2.6)	33.0	(1.6)	-4.5	(3.0)	0.80 (0.10)	0.87 (0.07)				
	Italy	53.4	(1.7)	49.2	(1.5)	-4.2	(2.2)	0.85 (0.07)	0.98 (0.07)	49.4	(1.7)	44.6	(1.5)	-4.8 (2.1)	0.83 (0.07)	0.95 (0.06)					
	Japan	64.3	(1.3)	59.9	(1.1)	-4.4 (1.5)	0.81 (0.05)	0.95 (0.05)	58.9	(1.2)	52.3	(1.0)	-6.6 (1.4)	0.75 (0.04)	0.85 (0.03)						
	Korea	67.4	(1.4)	61.6	(1.5)	-5.8 (1.9)	0.76 (0.06)	0.86 (0.06)	64.7	(1.6)	56.0	(1.9)	-8.6 (2.3)	0.67 (0.06)	0.74 (0.05)						
	Netherlands	52.5	(1.4)	51.0	(1.4)	-1.5	(1.4)	0.94 (0.05)	0.97 (0.05)	44.8	(1.6)	43.6	(1.6)	-1.2	(1.7)	0.95 (0.06)	0.98 (0.04)				
	Norway	51.4	(1.4)	51.2	(1.5)	-0.3	(2.0)	0.95 (0.08)	1.02 (0.07)	44.9	(1.5)	42.2	(1.7)	-2.7	(2.2)	0.86 (0.08)	0.90 (0.07)				
	Poland	44.7	(1.7)	42.8	(1.4)	-1.9	(1.8)	0.97 (0.08)	1.10 (0.08)	42.2	(1.8)	34.8	(1.6)	-7.3 (2.2)	0.76 (0.07)	0.81 (0.06)					
	Portugal	46.4	(1.6)	40.5	(1.4)	-5.9 (1.6)	0.78 (0.06)	0.87 (0.07)	42.3	(1.8)	36.4	(1.4)	-5.9 (1.8)	0.78 (0.06)	0.87 (0.06)						
	Slovak Republic	46.0	(1.5)	40.6	(1.5)	-5.4 (2.1)	0.80 (0.07)	1.00 (0.07)	40.9	(1.4)	32.5	(1.6)	-8.4 (2.2)	0.69 (0.07)	0.83 (0.05)						
	Slovenia	39.2	(1.3)	40.1	(1.6)	0.9	(2.0)	1.04 (0.09)	1.06 (0.09)	36.5	(1.5)	35.0	(1.3)	-1.5	(2.0)	0.94 (0.08)	0.92 (0.06)				
	Spain	45.7	(1.4)	39.2	(1.4)	-6.5 (1.9)	0.77 (0.06)	0.83 (0.06)	39.2	(1.4)	35.4	(1.2)	-3.8 (1.9)	0.85 (0.07)	0.95 (0.06)						
	Sweden	47.9	(1.6)	48.6	(1.3)	0.7	(2.0)	1.01 (0.08)	0.92 (0.07)	41.7	(1.4)	42.0	(1.4)	0.3	(1.9)	0.99 (0.08)	0.90 (0.06)				
	Turkey	35.4	(1.0)	31.6	(1.3)	-3.7 (1.3)	0.85 (0.05)	0.96 (0.04)	33.7	(1.4)	29.9	(1.3)	-3.8 (1.5)	0.84 (0.06)	0.96 (0.04)						
	England (United Kingdom)	53.0	(1.5)	49.8	(1.7)	-3.1	(2.1)	0.88 (0.07)	0.91 (0.06)	49.9	(1.6)	45.7	(1.6)	-4.2 (1.8)	0.85 (0.06)	0.87 (0.04)					
	United States	49.4	(1.5)	48.5	(1.3)	-0.9	(1.6)	0.96 (0.07)	1.02 (0.07)	45.4	(1.5)	42.4	(1.7)	-3.1	(1.9)	0.88 (0.07)	0.91 (0.07)				
	OECD average	48.9	(0.3)	46.9	(0.3)	-2.1 (0.4)	0.91 (0.01)	0.99 (0.01)	44.7	(0.3)	40.7	(0.3)	-4.0 (0.4)	0.84 (0.01)	0.89 (0.01)						
Partners	Brazil	33.0	(1.6)	27.6	(1.4)	-5.3 (1.8)	0.77 (0.07)	0.91 (0.08)	28.5	(1.5)	22.5	(1.5)	-5.9 (1.8)	0.73 (0.07)	0.85 (0.06)						
	Bulgaria	26.7	(1.2)	29.0	(1.1)	2.3	(1.3)	1.13 (0.07)	0.96 (0.04)	18.3	(1.1)	20.0	(1.1)	1.7	(1.2)	1.12 (0.09)	0.96 (0.05)				
	Colombia	28.5	(1.5)	21.4	(1.1)	-7.1 (1.8)	0.68 (0.07)	0.89 (0.09)	23.0	(1.4)	14.8	(0.8)	-8.2 (1.6)	0.57 (0.06)	0.74 (0.06)						
	Croatia	38.8	(1.2)	35.7	(1.1)	-3.1 (1.4)	0.88 (0.05)	0.98 (0.04)	35.1	(1.6)	30.9	(1.3)	-4.1 (1.7)	0.83 (0.06)	0.92 (0.04)						
	Cyprus*	35.8	(0.8)	36.5	(0.7)	0.7	(0.9)	1.03 (0.04)	1.02 (0.04)	31.5	(0.8)	29.9	(0.8)	-1.6	(1.1)	0.93 (0.05)	0.89 (0.04)				
	Hong Kong-China	63.5	(1.6)	56.4	(1.5)	-7.0 (1.9)	0.72 (0.06)	0.84 (0.06)	58.8	(1.3)	50.2	(1.5)	-8.7 (2.0)	0.68 (0.05)	0.78 (0.05)						
	Macao-China	62.4	(1.3)	56.4	(1.0)	-6.0 (1.5)	0.78 (0.06)	0.87 (0.06)	60.1	(1.2)	54.2	(1.2)	-5.9 (1.7)	0.78 (0.05)	0.88 (0.05)						
	Malaysia	30.8	(1.1)	29.3	(1.0)	-1.5	(1.2)	0.93 (0.05)	1.01 (0.05)	29.7	(1.4)	26.2	(1.2)	-3.5 (1.5)	0.84 (0.06)	0.88 (0.05)					
	Montenegro	26.9	(0.9)	27.7	(0.8)	0.8	(1.3)	1.07 (0.07)	0.95 (0.06)	22.6	(0.9)	24.5	(0.7)	1.9	(1.2)	1.13 (0.07)	1.03 (0.06)				
	Russian Federation	42.5	(1.3)	41.6	(1.6)	-0.9	(2.1)	0.97 (0.08)	0.97 (0.07)	39.5	(1.4)	37.6	(1.6)	-1.9	(2.1)	0.93 (0.08)	0.92 (0.06)				
	Serbia	41.1	(1.4)	37.9	(0.9)	-3.2 (1.5)	0.87 (0.05)	1.07 (0.05)	39.6	(1.3)	31.8	(0.9)	-7.9 (1.4)	0.70 (0.04)	0.81 (0.04)						
	Shanghai-China	60.2	(1.3)	56.6	(1.6)	-3.6	(1.9)	0.84 (0.07)	1.17 (0.10)	61.8	(1.4)	49.3	(1.6)	-12.5 (1.7)	0.58 (0.04)	0.73 (0.05)					
	Singapore	65.5	(1.3)	62.5	(1.2)	-3.0	(1.6)	0.87 (0.07)	0.92 (0.06)	62.2	(1.3)	57.1	(1.2)	-5.1 (1.9)	0.80 (0.06)	0.83 (0.06)					
	Chinese Taipei	61.1	(1.6)	55.3	(1.4)	-5.9 (2.2)	0.79 (0.08)	0.90 (0.06)	59.1	(2.1)	52.1	(1.6)	-7.0 (2.8)	0.75 (0.09)	0.84 (0.06)						
	United Arab Emirates	28.0	(1.0)	31.8	(0.9)	3.9 (1.4)	1.21 (0.08)	0.99 (0.05)	24.8	(1.1)	28.2	(1.0)	3.5 (1.5)	1.20 (0.10)	0.98 (0.06)						
	Uruguay	27.7	(1.1)	26.6	(0.8)	-1.1	(1.2)	0.95 (0.06)	1.02 (0.06)	23.9	(1.0)	20.6	(0.9)	-3.2 (1.1)	0.83 (0.05)	0.87 (0.05)					

Note: Values that are statistically significant are indicated in bold (see Annex A3).

1. Generalised odds ratios estimated with logistic regression on national PISA samples. A success indicator for each item is regressed on an item type dummy, a female dummy, and an interaction term (female × item type). Booklet dummies are added to the estimation. This column presents the difference between the logit coefficient on the interaction term and the logit coefficient on the item type dummy in exponentiated form.

2. Generalised odds ratios estimated with logistic regression on national PISA samples. A success indicator for each item is regressed on an item type dummy, a female dummy, and an interaction term (female × item type). Booklet dummies are added to the estimation. This column presents the logit coefficient on the interaction term in exponentiated form.

* See notes at the beginning of this Annex.

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[Part 2/2]

Table V.4.11b Performance on problem-solving tasks, by process and by gender

	Performance on problem-solving tasks, by process and by gender											
	Items assessing the process of "planning and executing"						Items assessing the process of "monitoring and reflecting"					
	Average proportion of full-credit responses			Relative likelihood of success, in favour of girls (boys = 1.00)			Average proportion of full-credit responses			Relative likelihood of success, in favour of girls (boys = 1.00)		
	Boys	Girls	Gender difference (B - G)	Accounting for booklet effects ¹	Based on success on remaining test items ²	Boys	Girls	Gender difference (B - G)	Accounting for booklet effects ¹	Based on success on remaining test items ²	Boys	Girls
	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD												
Australia	51.3 (0.7)	51.7 (0.6)	0.4 (0.9)	1.01 (0.04)	1.10 (0.03)	45.5 (0.7)	46.4 (0.7)	0.9 (1.0)	1.03 (0.04)	1.09 (0.04)		
Austria	47.8 (1.2)	47.1 (1.2)	-0.8 (1.5)	0.98 (0.06)	1.07 (0.06)	38.0 (1.3)	36.5 (1.2)	-1.5 (1.8)	0.94 (0.07)	1.00 (0.07)		
Belgium	48.5 (0.8)	46.6 (0.9)	-1.9 (1.2)	0.92 (0.05)	1.04 (0.04)	43.2 (1.0)	41.6 (1.0)	-1.6 (1.4)	0.93 (0.06)	1.05 (0.06)		
Canada	53.1 (0.8)	51.1 (0.8)	-2.0 (1.1)	0.92 (0.04)	0.97 (0.04)	46.0 (1.0)	46.1 (1.0)	0.1 (1.3)	1.01 (0.05)	1.09 (0.05)		
Chile	37.2 (1.1)	33.3 (0.9)	-4.0 (1.4)	0.82 (0.05)	0.99 (0.05)	33.6 (1.3)	32.8 (1.0)	-0.8 (1.7)	0.95 (0.07)	1.19 (0.09)		
Czech Republic	47.1 (0.9)	46.7 (0.8)	-0.5 (1.1)	0.98 (0.04)	1.05 (0.03)	41.0 (1.0)	40.4 (0.9)	-0.6 (1.2)	0.98 (0.05)	1.03 (0.04)		
Denmark	49.1 (1.4)	47.1 (1.1)	-2.0 (1.8)	0.93 (0.06)	1.02 (0.06)	35.3 (1.6)	36.8 (1.2)	1.5 (2.0)	1.08 (0.10)	1.21 (0.10)		
Estonia	50.2 (1.3)	48.9 (1.0)	-1.3 (1.7)	0.96 (0.07)	0.97 (0.06)	42.0 (1.2)	42.9 (1.3)	0.9 (1.9)	1.05 (0.09)	1.09 (0.08)		
Finland	49.3 (0.7)	52.9 (0.7)	3.6 (1.0)	1.15 (0.04)	1.08 (0.04)	41.2 (0.8)	44.2 (0.8)	3.0 (1.1)	1.13 (0.05)	1.03 (0.04)		
France	50.2 (1.1)	48.6 (1.1)	-1.6 (1.5)	0.95 (0.06)	1.06 (0.05)	44.9 (1.1)	42.7 (1.3)	-2.2 (1.7)	0.94 (0.07)	1.02 (0.07)		
Germany	49.9 (1.1)	49.1 (1.0)	-0.8 (1.4)	0.98 (0.06)	1.06 (0.06)	42.6 (1.2)	41.9 (1.2)	-0.6 (1.6)	0.98 (0.06)	1.04 (0.07)		
Hungary	36.8 (1.5)	38.4 (1.2)	1.6 (1.9)	1.07 (0.09)	1.11 (0.06)	31.6 (1.7)	30.2 (1.4)	-1.4 (2.2)	0.93 (0.09)	0.91 (0.07)		
Ireland	46.2 (1.4)	44.8 (1.0)	-1.3 (1.9)	0.94 (0.07)	1.02 (0.06)	42.4 (1.6)	42.1 (1.3)	-0.3 (2.0)	0.97 (0.08)	1.06 (0.08)		
Israel	37.5 (2.4)	36.4 (1.3)	-1.1 (2.8)	0.94 (0.11)	1.09 (0.07)	33.8 (2.1)	31.7 (1.4)	-2.2 (2.4)	0.89 (0.10)	1.00 (0.07)		
Italy	49.7 (1.4)	45.8 (1.3)	-3.9 (2.0)	0.86 (0.06)	1.00 (0.07)	43.7 (1.4)	41.7 (1.4)	-1.9 (2.2)	0.93 (0.09)	1.09 (0.10)		
Japan	57.1 (1.0)	55.5 (0.8)	-1.6 (1.1)	0.93 (0.04)	1.16 (0.05)	54.0 (1.1)	50.1 (0.8)	-3.9 (1.3)	0.84 (0.04)	1.00 (0.05)		
Korea	54.7 (1.2)	54.2 (1.3)	-0.5 (1.7)	0.98 (0.07)	1.24 (0.07)	53.8 (1.4)	53.5 (1.5)	-0.3 (1.9)	0.99 (0.08)	1.19 (0.07)		
Netherlands	50.1 (1.3)	49.3 (1.2)	-0.9 (1.1)	0.97 (0.04)	1.00 (0.04)	42.5 (1.5)	43.1 (1.3)	0.6 (1.6)	1.02 (0.07)	1.07 (0.06)		
Norway	48.1 (1.4)	48.1 (1.2)	0.0 (1.8)	0.96 (0.07)	1.04 (0.06)	38.5 (1.5)	38.3 (1.6)	-0.2 (2.2)	0.96 (0.09)	1.03 (0.07)		
Poland	45.1 (1.4)	42.2 (1.2)	-2.9 (1.7)	0.93 (0.06)	1.06 (0.06)	37.1 (1.4)	34.0 (1.3)	-3.1 (1.8)	0.92 (0.07)	1.02 (0.07)		
Portugal	46.3 (1.3)	45.1 (1.3)	-1.3 (1.6)	0.95 (0.06)	1.15 (0.08)	39.6 (1.6)	38.4 (1.3)	-1.3 (1.9)	0.96 (0.08)	1.12 (0.08)		
Slovak Republic	45.2 (1.1)	40.8 (1.2)	-4.3 (1.7)	0.84 (0.06)	1.08 (0.05)	37.1 (1.1)	33.9 (1.4)	-3.2 (1.8)	0.86 (0.07)	1.09 (0.06)		
Slovenia	41.7 (0.9)	42.9 (1.1)	1.1 (1.4)	1.05 (0.06)	1.09 (0.06)	35.3 (1.1)	33.0 (1.4)	-2.3 (1.9)	0.90 (0.08)	0.88 (0.06)		
Spain	43.0 (1.4)	41.5 (1.0)	-1.5 (1.6)	0.96 (0.06)	1.13 (0.07)	39.5 (1.1)	38.5 (1.3)	-1.0 (1.4)	0.99 (0.06)	1.13 (0.08)		
Sweden	42.9 (1.2)	46.2 (0.9)	3.3 (1.5)	1.13 (0.07)	1.08 (0.06)	35.8 (1.4)	40.0 (1.2)	4.2 (1.9)	1.19 (0.09)	1.13 (0.07)		
Turkey	37.3 (1.0)	34.6 (1.0)	-2.7 (1.2)	0.89 (0.05)	1.04 (0.05)	32.6 (1.1)	30.2 (1.2)	-2.5 (1.3)	0.89 (0.06)	1.03 (0.05)		
England (United Kingdom)	49.1 (1.2)	49.2 (1.3)	0.1 (1.5)	1.00 (0.06)	1.10 (0.04)	43.5 (1.3)	44.5 (1.3)	1.1 (1.7)	1.05 (0.07)	1.13 (0.05)		
United States	47.7 (1.2)	46.6 (1.3)	-1.1 (1.6)	0.95 (0.06)	1.00 (0.06)	42.7 (1.3)	43.4 (1.5)	0.7 (1.5)	1.02 (0.06)	1.09 (0.07)		
OECD average	46.9 (0.2)	45.9 (0.2)	-1.0 (0.3)	0.96 (0.01)	1.06 (0.01)	40.6 (0.2)	40.0 (0.2)	-0.6 (0.3)	0.97 (0.01)	1.06 (0.01)		
Partners												
Brazil	33.0 (1.2)	31.1 (1.3)	-2.0 (1.5)	0.92 (0.07)	1.19 (0.07)	28.8 (1.2)	25.6 (1.4)	-3.3 (1.9)	0.85 (0.08)	1.02 (0.09)		
Bulgaria	25.1 (0.9)	28.4 (1.1)	3.3 (1.2)	1.19 (0.07)	1.04 (0.05)	20.2 (1.0)	23.2 (1.2)	3.0 (1.2)	1.20 (0.09)	1.04 (0.05)		
Colombia	30.2 (1.2)	25.6 (1.1)	-4.6 (1.7)	0.79 (0.07)	1.12 (0.09)	25.7 (1.2)	24.1 (1.1)	-1.5 (1.6)	0.92 (0.08)	1.31 (0.10)		
Croatia	41.5 (1.1)	39.5 (1.0)	-1.9 (1.2)	0.92 (0.05)	1.07 (0.04)	34.9 (1.2)	32.2 (0.9)	-2.7 (1.2)	0.89 (0.05)	1.00 (0.04)		
Cyprus*	34.7 (0.6)	34.9 (0.7)	0.2 (0.9)	1.01 (0.04)	0.98 (0.03)	28.3 (0.7)	31.3 (0.7)	3.0 (1.0)	1.15 (0.05)	1.16 (0.05)		
Hong Kong-China	51.2 (1.0)	51.0 (1.3)	-0.2 (1.7)	0.96 (0.06)	1.28 (0.07)	48.9 (1.3)	47.3 (1.7)	-1.6 (2.1)	0.91 (0.08)	1.13 (0.08)		
Macao-China	52.2 (0.8)	50.4 (0.9)	-1.8 (1.4)	0.94 (0.05)	1.14 (0.06)	46.5 (1.1)	44.9 (1.1)	-1.7 (1.5)	0.94 (0.06)	1.11 (0.06)		
Malaysia	30.1 (0.9)	28.5 (0.9)	-1.6 (1.0)	0.93 (0.04)	1.00 (0.04)	24.2 (0.9)	24.9 (1.0)	0.7 (1.1)	1.04 (0.06)	1.15 (0.06)		
Montenegro	29.3 (0.8)	30.6 (0.7)	1.3 (1.0)	1.09 (0.05)	0.97 (0.05)	22.1 (0.9)	24.9 (0.6)	2.8 (1.1)	1.19 (0.08)	1.10 (0.05)		
Russian Federation	44.0 (0.9)	43.6 (1.2)	-0.4 (1.5)	0.99 (0.05)	1.00 (0.06)	36.2 (1.0)	38.5 (1.5)	2.3 (1.7)	1.12 (0.08)	1.15 (0.09)		
Serbia	42.4 (1.1)	39.1 (0.8)	-3.3 (1.2)	0.87 (0.04)	1.08 (0.04)	34.9 (1.2)	31.3 (1.0)	-3.5 (1.3)	0.84 (0.05)	1.02 (0.04)		
Shanghai-China	53.4 (1.0)	46.5 (1.3)	-6.9 (1.7)	0.74 (0.04)	0.98 (0.06)	48.6 (1.5)	45.8 (1.5)	-2.9 (2.0)	0.88 (0.08)	1.22 (0.09)		
Singapore	55.2 (1.0)	55.5 (1.2)	0.3 (1.6)	1.01 (0.06)	1.15 (0.07)	55.3 (1.1)	55.1 (1.1)	-0.3 (1.6)	0.99 (0.07)	1.08 (0.07)		
Chinese Taipei	50.7 (1.3)	49.5 (1.1)	-1.2 (1.9)	0.96 (0.07)	1.21 (0.07)	46.7 (1.6)	42.8 (1.4)	-3.9 (2.2)	0.86 (0.08)	1.01 (0.07)		
United Arab Emirates	26.4 (1.0)	31.4 (0.9)	5.0 (1.5)	1.28 (0.09)	1.08 (0.05)	24.2 (1.1)	26.4 (0.9)	2.2 (1.5)	1.13 (0.09)	0.91 (0.05)		
Uruguay	28.4 (0.8)	27.4 (0.7)	-1.0 (0.8)	0.95 (0.04)	1.04 (0.04)	23.9 (0.8)	23.5 (0.9)	-0.4 (0.9)	0.98 (0.05)	1.06 (0.04)		

Note: Values that are statistically significant are indicated in bold (see Annex A3).

1. Generalised odds ratios estimated with logistic regression on national PISA samples. A success indicator for each item is regressed on an item type dummy, a female dummy, and an interaction term (female × item type). Booklet dummies are added to the estimation. This column presents the difference between the logit coefficient on the interaction term and the logit coefficient on the item type dummy in exponentiated form.

2. Generalised odds ratios estimated with logistic regression on national PISA samples. A success indicator for each item is regressed on an item type dummy, a female dummy, and an interaction term (female × item type). Booklet dummies are added to the estimation. This column presents the logit coefficient on the interaction term in exponentiated form.

* See notes at the beginning of this Annex.

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[Part 1/2]
Performance in problem solving, by socio-economic status
Results based on students' self-reports

Table V.4.12

	PISA index of economic, social and cultural status (ESCS)									
	All students		Bottom quarter		Second quarter		Third quarter		Top quarter	
	Mean index	S.E.	Mean index	S.E.	Mean index	S.E.	Mean index	S.E.	Mean index	S.E.
OECD										
Australia	0.25	(0.01)	-0.84	(0.02)	0.05	(0.02)	0.61	(0.01)	1.18	(0.01)
Austria	0.08	(0.02)	-0.97	(0.03)	-0.25	(0.02)	0.33	(0.03)	1.19	(0.03)
Belgium	0.15	(0.02)	-1.05	(0.03)	-0.19	(0.03)	0.55	(0.02)	1.27	(0.02)
Canada	0.41	(0.02)	-0.75	(0.02)	0.16	(0.02)	0.79	(0.02)	1.44	(0.01)
Chile	-0.58	(0.04)	-1.97	(0.05)	-1.02	(0.04)	-0.27	(0.05)	0.95	(0.03)
Czech Republic	-0.07	(0.02)	-0.98	(0.02)	-0.37	(0.02)	0.16	(0.02)	0.93	(0.02)
Denmark	0.43	(0.02)	-0.70	(0.03)	0.16	(0.04)	0.81	(0.03)	1.44	(0.02)
Estonia	0.11	(0.01)	-0.92	(0.02)	-0.23	(0.02)	0.44	(0.02)	1.16	(0.01)
Finland	0.36	(0.02)	-0.68	(0.02)	0.13	(0.02)	0.73	(0.02)	1.28	(0.01)
France	-0.04	(0.02)	-1.10	(0.02)	-0.30	(0.02)	0.29	(0.02)	0.95	(0.01)
Germany	0.19	(0.02)	-0.99	(0.03)	-0.16	(0.03)	0.52	(0.04)	1.42	(0.02)
Hungary	-0.25	(0.03)	-1.46	(0.04)	-0.65	(0.03)	0.09	(0.04)	1.01	(0.03)
Ireland	0.13	(0.02)	-0.97	(0.02)	-0.19	(0.03)	0.48	(0.03)	1.20	(0.02)
Israel	0.17	(0.03)	-0.98	(0.04)	-0.03	(0.04)	0.58	(0.03)	1.12	(0.02)
Italy	-0.03	(0.03)	-1.24	(0.03)	-0.37	(0.03)	0.26	(0.03)	1.25	(0.04)
Japan	-0.07	(0.02)	-0.99	(0.02)	-0.35	(0.02)	0.20	(0.02)	0.85	(0.02)
Korea	0.01	(0.03)	-0.97	(0.03)	-0.23	(0.03)	0.33	(0.03)	0.92	(0.02)
Netherlands	0.23	(0.02)	-0.82	(0.03)	0.02	(0.03)	0.58	(0.02)	1.15	(0.02)
Norway	0.46	(0.02)	-0.56	(0.02)	0.27	(0.02)	0.79	(0.02)	1.35	(0.02)
Poland	-0.21	(0.03)	-1.22	(0.02)	-0.69	(0.02)	-0.01	(0.05)	1.08	(0.03)
Portugal	-0.48	(0.05)	-1.85	(0.03)	-1.06	(0.04)	-0.23	(0.07)	1.21	(0.07)
Slovak Republic	-0.18	(0.03)	-1.25	(0.04)	-0.57	(0.02)	0.02	(0.04)	1.06	(0.03)
Slovenia	0.07	(0.01)	-1.03	(0.01)	-0.31	(0.02)	0.39	(0.02)	1.22	(0.02)
Spain	-0.18	(0.03)	-1.49	(0.03)	-0.59	(0.03)	0.18	(0.05)	1.17	(0.03)
Sweden	0.28	(0.02)	-0.82	(0.02)	0.02	(0.02)	0.65	(0.02)	1.25	(0.01)
Turkey	-1.46	(0.04)	-2.74	(0.03)	-1.96	(0.03)	-1.21	(0.05)	0.07	(0.06)
England (United Kingdom)	0.29	(0.02)	-0.76	(0.03)	0.02	(0.04)	0.62	(0.03)	1.27	(0.02)
United States	0.17	(0.04)	-1.14	(0.05)	-0.11	(0.04)	0.60	(0.04)	1.35	(0.04)
OECD average	0.01	(0.00)	-1.11	(0.01)	-0.31	(0.01)	0.33	(0.01)	1.13	(0.01)
Partners										
Brazil	-1.11	(0.04)	-2.60	(0.04)	-1.56	(0.04)	-0.74	(0.05)	0.47	(0.06)
Bulgaria	-0.28	(0.04)	-1.59	(0.06)	-0.67	(0.03)	0.10	(0.04)	1.06	(0.03)
Colombia	-1.26	(0.04)	-2.82	(0.04)	-1.65	(0.05)	-0.83	(0.04)	0.24	(0.05)
Croatia	-0.34	(0.02)	-1.35	(0.02)	-0.70	(0.02)	-0.14	(0.03)	0.84	(0.02)
Cyprus*	0.09	(0.01)	-1.06	(0.02)	-0.28	(0.01)	0.43	(0.02)	1.25	(0.02)
Hong Kong-China	-0.79	(0.05)	-2.00	(0.03)	-1.20	(0.05)	-0.46	(0.07)	0.50	(0.06)
Macao-China	-0.89	(0.01)	-1.91	(0.01)	-1.23	(0.01)	-0.68	(0.01)	0.28	(0.02)
Malaysia	-0.72	(0.03)	-1.99	(0.04)	-1.07	(0.03)	-0.38	(0.05)	0.54	(0.04)
Montenegro	-0.25	(0.01)	-1.40	(0.02)	-0.57	(0.02)	0.09	(0.02)	0.89	(0.02)
Russian Federation	-0.11	(0.02)	-1.10	(0.03)	-0.37	(0.03)	0.22	(0.03)	0.82	(0.02)
Serbia	-0.30	(0.02)	-1.37	(0.02)	-0.70	(0.03)	-0.05	(0.03)	0.95	(0.03)
Shanghai-China	-0.36	(0.04)	-1.63	(0.05)	-0.70	(0.04)	0.06	(0.04)	0.83	(0.03)
Singapore	-0.26	(0.01)	-1.46	(0.02)	-0.54	(0.02)	0.09	(0.02)	0.88	(0.02)
Chinese Taipei	-0.40	(0.02)	-1.47	(0.03)	-0.70	(0.03)	-0.11	(0.03)	0.68	(0.03)
United Arab Emirates	0.32	(0.02)	-0.82	(0.03)	0.19	(0.02)	0.67	(0.01)	1.26	(0.01)
Uruguay	-0.88	(0.03)	-2.23	(0.02)	-1.40	(0.03)	-0.59	(0.04)	0.69	(0.05)

Note: Values that are statistically significant are indicated in bold (see Annex A3).

1. Single-level bivariate regression of performance on the *PISA index of economic, social and cultural status (ESCS)*. The slope of the gradient is the regression coefficient for ESCS; the strength of the relationship is the R-squared.

* See notes at the beginning of this Annex.

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[Part 2/2]
Performance in problem solving, by socio-economic status
 Results based on students' self-reports

Table V.4.12

	Performance in problem solving, by national quarters of this index						Increased likelihood of students in the bottom quarter of the ESCS index scoring in the bottom quarter of the problem-solving performance distribution	Slope of the socio-economic gradient ¹	Strength of the relationship between student performance and ESCS ¹	
	Bottom quarter	Second quarter	Third quarter	Top quarter	Relative risk	S.E.			Score-point difference in problem solving associated with one-unit increase in the ESCS	S.E.
	Mean score	S.E.	Mean score	S.E.	Mean score	S.E.	Mean score	S.E.	Mean score	S.E.
OECD										
Australia	487 (2.6)	512 (2.4)	538 (3.1)	560 (2.5)	1.88 (0.07)	36 (1.3)	8.5 (0.6)			
Austria	467 (4.7)	495 (5.4)	518 (4.8)	547 (4.9)	1.98 (0.13)	36 (2.6)	10.7 (1.4)			
Belgium	458 (4.3)	495 (4.0)	529 (3.3)	557 (3.5)	2.22 (0.13)	43 (2.3)	14.0 (1.5)			
Canada	503 (3.4)	518 (2.8)	534 (3.3)	555 (3.2)	1.52 (0.07)	23 (1.7)	4.0 (0.6)			
Chile	405 (5.9)	439 (4.6)	454 (4.0)	493 (4.8)	2.12 (0.17)	30 (1.9)	15.8 (1.8)			
Czech Republic	460 (4.9)	500 (5.0)	519 (4.1)	557 (4.2)	2.25 (0.17)	49 (2.8)	14.9 (1.5)			
Denmark	465 (5.2)	488 (4.0)	511 (3.7)	529 (3.5)	1.89 (0.14)	31 (2.3)	7.9 (1.2)			
Estonia	495 (3.8)	503 (3.8)	516 (4.1)	547 (3.4)	1.39 (0.11)	25 (2.0)	5.4 (0.8)			
Finland	495 (3.7)	513 (3.0)	531 (3.7)	556 (3.0)	1.67 (0.10)	30 (2.2)	6.5 (0.9)			
France	472 (6.0)	497 (4.1)	521 (4.4)	559 (4.1)	2.01 (0.15)	43 (2.8)	12.7 (1.2)			
Germany	469 (5.6)	500 (4.5)	539 (4.4)	555 (4.2)	2.17 (0.15)	37 (2.4)	12.7 (1.4)			
Hungary	397 (7.2)	445 (4.8)	474 (5.2)	520 (6.4)	2.74 (0.20)	49 (3.3)	20.5 (2.3)			
Ireland	460 (4.7)	489 (4.2)	510 (3.5)	538 (4.8)	1.93 (0.14)	35 (2.2)	10.2 (1.1)			
Israel	393 (5.7)	437 (6.9)	477 (7.1)	513 (7.1)	2.14 (0.14)	53 (3.0)	13.2 (1.4)			
Italy	481 (5.6)	500 (4.4)	524 (5.3)	535 (5.6)	1.68 (0.15)	23 (2.5)	5.9 (1.2)			
Japan	526 (5.3)	547 (3.6)	562 (4.0)	576 (4.2)	1.73 (0.13)	27 (3.1)	5.2 (1.1)			
Korea	534 (5.3)	552 (5.1)	571 (5.2)	588 (5.5)	1.60 (0.13)	28 (3.0)	5.4 (1.1)			
Netherlands	473 (6.7)	502 (5.3)	523 (5.3)	549 (6.3)	1.84 (0.18)	38 (3.8)	9.1 (1.6)			
Norway	473 (4.5)	495 (4.1)	518 (4.7)	533 (5.0)	1.66 (0.12)	31 (2.7)	5.2 (0.9)			
Poland	441 (5.5)	467 (5.2)	491 (5.8)	526 (6.3)	1.95 (0.18)	36 (2.7)	11.6 (1.7)			
Portugal	449 (4.7)	485 (4.5)	504 (4.7)	543 (5.8)	2.27 (0.15)	30 (1.9)	16.1 (2.0)			
Slovak Republic	424 (7.5)	477 (4.2)	495 (4.2)	541 (5.5)	2.83 (0.27)	49 (3.3)	21.3 (2.0)			
Slovenia	434 (2.6)	463 (3.4)	488 (3.4)	522 (2.8)	1.91 (0.12)	40 (1.6)	12.6 (1.0)			
Spain	437 (7.2)	469 (4.3)	485 (4.9)	517 (6.6)	1.84 (0.13)	29 (3.0)	7.9 (1.5)			
Sweden	460 (3.7)	482 (4.1)	507 (4.7)	521 (4.5)	1.62 (0.11)	29 (2.3)	6.2 (1.0)			
Turkey	419 (4.3)	443 (4.0)	459 (5.1)	497 (6.2)	1.95 (0.15)	28 (1.9)	15.1 (1.8)			
England (United Kingdom)	486 (5.4)	505 (5.5)	531 (5.0)	555 (4.6)	1.74 (0.13)	33 (2.8)	7.8 (1.1)			
United States	473 (5.7)	493 (4.7)	518 (5.1)	549 (4.7)	1.87 (0.17)	30 (2.0)	10.1 (1.2)			
OECD average	462 (1.0)	490 (0.8)	512 (0.9)	541 (0.9)	1.94 (0.03)	35 (0.5)	10.6 (0.3)			
Partners										
Brazil	385 (6.2)	420 (6.8)	436 (6.8)	477 (7.0)	2.13 (0.19)	30 (2.5)	14.6 (2.4)			
Bulgaria	343 (8.3)	387 (5.9)	416 (6.6)	465 (6.8)	2.33 (0.19)	45 (3.6)	20.0 (2.5)			
Colombia	359 (4.5)	388 (4.5)	406 (4.3)	442 (5.9)	1.97 (0.14)	27 (1.9)	12.6 (1.6)			
Croatia	434 (5.1)	458 (4.4)	469 (4.9)	504 (5.5)	1.70 (0.12)	32 (2.6)	8.6 (1.2)			
Cyprus*	406 (3.1)	438 (3.3)	450 (3.0)	488 (3.0)	1.84 (0.11)	34 (1.6)	9.5 (0.9)			
Hong Kong-China	517 (5.5)	533 (5.0)	546 (4.1)	567 (6.9)	1.58 (0.12)	21 (2.9)	4.9 (1.3)			
Macao-China	530 (2.4)	540 (2.3)	545 (2.0)	548 (2.3)	1.27 (0.07)	9 (1.3)	1.0 (0.3)			
Malaysia	385 (4.2)	409 (3.8)	427 (4.8)	469 (5.4)	1.99 (0.14)	33 (2.1)	14.9 (1.7)			
Montenegro	371 (2.5)	400 (3.0)	410 (3.2)	447 (3.1)	1.92 (0.13)	32 (1.6)	9.8 (1.0)			
Russian Federation	450 (3.9)	472 (4.3)	502 (4.2)	531 (6.0)	1.96 (0.16)	41 (3.1)	12.3 (1.5)			
Serbia	437 (5.0)	461 (4.1)	476 (4.5)	519 (3.5)	1.90 (0.13)	35 (1.9)	12.8 (1.3)			
Shanghai-China	492 (6.5)	528 (3.8)	548 (3.6)	578 (5.1)	2.24 (0.17)	35 (2.6)	14.1 (1.9)			
Singapore	522 (2.6)	552 (2.9)	575 (2.8)	602 (2.5)	2.04 (0.13)	35 (1.3)	11.1 (0.9)			
Chinese Taipei	498 (4.9)	528 (4.0)	542 (3.2)	570 (3.8)	1.98 (0.13)	33 (2.3)	9.4 (1.2)			
United Arab Emirates	367 (4.2)	403 (2.9)	432 (3.6)	445 (4.2)	1.90 (0.11)	35 (1.9)	7.7 (0.8)			
Uruguay	358 (4.6)	384 (4.8)	410 (5.2)	463 (5.2)	2.07 (0.17)	36 (1.9)	17.8 (1.6)			

Note: Values that are statistically significant are indicated in bold (see Annex A3).

1. Single-level bivariate regression of performance on the PISA index of economic, social and cultural status (ESCS). The slope of the gradient is the regression coefficient for ESCS; the strength of the relationship is the R-squared.

* See notes at the beginning of this Annex.

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[Part 1/3]
Strength of the relationship between socio-economic status and performance in problem solving, mathematics, reading and science
Results based on students' self-reports

Table V.4.13

	Slope of the socio-economic gradient: ¹ Score-point difference associated with a one-unit increase in ESCS												
	Problem solving		Mathematics		Reading		Science		Computer-based mathematics		Digital reading		
	Score dif.	S.E.	Score dif.	S.E.	Score dif.	S.E.	Score dif.	S.E.	Score dif.	S.E.	Score dif.	S.E.	
OECD	Australia	36	(1.3)	42	(1.3)	42	(1.3)	43	(1.3)	35	(1.5)	39	(1.4)
	Austria	36	(2.6)	43	(2.2)	42	(2.3)	46	(2.2)	36	(2.5)	44	(3.1)
	Belgium	43	(2.3)	49	(1.7)	47	(1.8)	48	(1.7)	43	(1.9)	41	(2.1)
	Canada	23	(1.7)	31	(1.2)	30	(1.3)	29	(1.4)	26	(1.5)	25	(1.7)
	Chile	30	(1.9)	34	(1.6)	31	(1.5)	32	(1.7)	28	(1.8)	31	(1.9)
	Czech Republic	49	(2.8)	51	(2.7)	46	(2.7)	46	(3.1)	m	m	m	m
	Denmark	31	(2.3)	39	(1.7)	39	(1.9)	43	(2.2)	32	(1.8)	34	(1.6)
	Estonia	25	(2.0)	29	(1.7)	26	(1.9)	27	(1.9)	28	(1.9)	26	(2.4)
	Finland	30	(2.2)	33	(1.8)	33	(2.2)	33	(2.1)	m	m	m	m
	France	43	(2.8)	57	(2.2)	58	(2.9)	58	(2.4)	47	(2.1)	50	(2.9)
	Germany	37	(2.4)	43	(2.0)	37	(2.0)	42	(2.2)	40	(2.3)	33	(2.5)
	Hungary	49	(3.3)	47	(2.8)	42	(2.3)	44	(2.3)	41	(2.8)	52	(3.3)
	Ireland	35	(2.2)	38	(1.8)	39	(1.9)	41	(2.0)	33	(2.0)	32	(1.8)
	Israel	53	(3.0)	51	(2.6)	44	(2.9)	48	(2.9)	46	(2.9)	51	(2.8)
	Italy	23	(2.5)	30	(2.3)	31	(2.5)	30	(2.3)	24	(2.3)	23	(2.5)
	Japan	27	(3.1)	41	(3.9)	38	(3.9)	36	(3.9)	34	(4.0)	29	(2.7)
	Korea	28	(3.0)	42	(3.3)	33	(2.8)	29	(2.6)	40	(3.0)	32	(2.4)
	Netherlands	38	(3.8)	40	(3.1)	39	(3.2)	43	(3.1)	m	m	m	m
	Norway	31	(2.7)	32	(2.4)	33	(2.7)	34	(2.8)	28	(2.4)	34	(2.6)
	Poland	36	(2.7)	41	(2.4)	36	(2.2)	36	(2.4)	35	(2.4)	40	(2.6)
	Portugal	30	(1.9)	35	(1.6)	31	(1.8)	32	(1.6)	28	(1.7)	31	(1.9)
	Slovak Republic	49	(3.3)	54	(2.9)	56	(3.3)	56	(2.9)	47	(2.7)	50	(2.7)
	Slovenia	40	(1.6)	42	(1.5)	40	(1.6)	39	(1.5)	35	(1.3)	39	(1.7)
	Spain	29	(3.0)	33	(1.7)	31	(1.9)	30	(1.9)	28	(1.8)	31	(2.6)
	Sweden	29	(2.3)	36	(1.9)	38	(2.5)	38	(2.4)	25	(2.1)	28	(2.2)
	Turkey	28	(1.9)	32	(2.4)	30	(2.1)	24	(1.8)	m	m	m	m
	England (United Kingdom)	33	(2.8)	41	(2.8)	41	(2.8)	46	(2.8)	m	m	m	m
	United States	30	(2.0)	35	(1.7)	33	(1.8)	36	(1.8)	31	(2.1)	33	(1.8)
	OECD average	35	(0.5)	40	(0.4)	38	(0.4)	39	(0.4)	34	(0.5)	36	(0.5)
Partners	Brazil	30	(2.5)	26	(2.7)	23	(2.4)	24	(2.4)	30	(2.7)	28	(2.6)
	Bulgaria	45	(3.6)	42	(2.7)	53	(2.9)	47	(2.8)	m	m	m	m
	Colombia	27	(1.9)	25	(1.7)	28	(1.9)	23	(1.8)	18	(1.7)	29	(2.0)
	Croatia	32	(2.6)	36	(2.6)	34	(2.5)	31	(2.3)	m	m	m	m
	Cyprus*	34	(1.6)	38	(1.6)	35	(1.9)	39	(1.7)	m	m	m	m
	Hong Kong-China	21	(2.9)	27	(2.6)	20	(2.5)	21	(2.3)	19	(2.8)	19	(2.6)
	Macao-China	9	(1.3)	17	(1.5)	11	(1.4)	13	(1.8)	13	(1.3)	13	(1.1)
	Malaysia	33	(2.1)	30	(2.1)	23	(2.2)	25	(1.9)	m	m	m	m
	Montenegro	32	(1.6)	33	(1.3)	34	(1.5)	32	(1.4)	m	m	m	m
	Russian Federation	41	(3.1)	38	(3.2)	43	(3.2)	43	(3.1)	33	(2.5)	37	(2.7)
	Serbia	35	(1.9)	34	(2.4)	30	(2.3)	29	(2.2)	m	m	m	m
	Shanghai-China	35	(2.6)	41	(2.7)	33	(2.0)	33	(2.1)	39	(2.4)	37	(2.7)
	Singapore	35	(1.3)	44	(1.4)	43	(1.4)	46	(1.6)	39	(1.4)	34	(1.2)
	Chinese Taipei	33	(2.3)	58	(2.5)	42	(2.2)	40	(1.8)	42	(1.9)	38	(2.4)
	United Arab Emirates	35	(1.9)	33	(1.9)	30	(1.9)	33	(2.1)	30	(1.8)	44	(2.5)
	Uruguay	36	(1.9)	37	(1.8)	35	(2.0)	37	(1.9)	m	m	m	m

Note: Values that are statistically significant are indicated in bold (see Annex A3).

1. Single-level bivariate regression of performance on the PISA index of economic, social and cultural status (ESCS); the slope is the regression coefficient for ESCS.

2. R-squared from the regression coefficient of performance on the PISA index of economic, social and cultural status (ESCS).

* See notes at the beginning of this Annex.

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[Part 2/3]
Strength of the relationship between socio-economic status and performance in problem solving, mathematics, reading and science
 Results based on students' self-reports

Table V.4.13

	Strength of the relationship between performance and ESCS: ² Percentage of explained variation in performance											
	Problem solving		Mathematics		Reading		Science		Computer-based mathematics		Digital reading	
	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD												
Australia	8.5	(0.6)	12.3	(0.8)	12.0	(0.8)	11.9	(0.7)	9.6	(0.8)	10.2	(0.7)
Austria	10.7	(1.4)	15.8	(1.5)	15.3	(1.6)	18.3	(1.7)	12.2	(1.6)	13.4	(1.5)
Belgium	14.0	(1.5)	19.6	(1.4)	18.2	(1.4)	19.2	(1.4)	15.8	(1.3)	14.4	(1.4)
Canada	4.0	(0.6)	9.4	(0.7)	8.1	(0.7)	7.8	(0.7)	6.1	(0.7)	6.0	(0.8)
Chile	15.8	(1.8)	23.1	(1.9)	20.4	(1.8)	20.2	(1.9)	15.4	(1.9)	17.9	(2.0)
Czech Republic	14.9	(1.5)	16.2	(1.5)	14.8	(1.5)	14.3	(1.7)	m	m	m	m
Denmark	7.9	(1.2)	16.5	(1.4)	15.3	(1.3)	15.7	(1.5)	9.7	(1.1)	11.9	(1.2)
Estonia	5.4	(0.8)	8.6	(0.9)	6.8	(1.0)	7.4	(0.9)	7.8	(1.0)	5.2	(0.9)
Finland	6.5	(0.9)	9.4	(0.9)	7.5	(0.9)	7.9	(0.9)	m	m	m	m
France	12.7	(1.2)	22.5	(1.3)	18.7	(1.5)	21.5	(1.3)	16.9	(1.8)	17.2	(1.8)
Germany	12.7	(1.4)	16.9	(1.4)	15.0	(1.4)	17.1	(1.4)	15.4	(1.4)	9.8	(1.2)
Hungary	20.5	(2.3)	23.1	(2.3)	20.0	(2.1)	22.4	(2.2)	18.3	(2.1)	19.8	(1.8)
Ireland	10.2	(1.1)	14.6	(1.2)	15.1	(1.2)	14.5	(1.2)	11.9	(1.3)	10.9	(1.1)
Israel	13.2	(1.4)	17.2	(1.5)	11.2	(1.4)	14.7	(1.4)	12.6	(1.5)	13.8	(1.5)
Italy	5.9	(1.2)	9.4	(1.2)	9.3	(1.3)	9.2	(1.3)	7.9	(1.3)	5.6	(1.1)
Japan	5.2	(1.1)	9.8	(1.6)	7.9	(1.5)	7.3	(1.4)	7.8	(1.5)	6.9	(1.1)
Korea	5.4	(1.1)	10.1	(1.4)	7.9	(1.2)	6.7	(1.1)	10.6	(1.3)	8.6	(1.2)
Netherlands	9.1	(1.6)	11.5	(1.7)	10.8	(1.7)	12.5	(1.8)	m	m	m	m
Norway	5.2	(0.9)	7.4	(1.0)	6.3	(1.0)	6.9	(1.0)	6.0	(1.0)	6.8	(0.9)
Poland	11.6	(1.7)	16.6	(1.7)	13.4	(1.6)	14.4	(1.7)	13.8	(1.7)	14.2	(1.7)
Portugal	16.1	(2.0)	19.6	(1.8)	16.5	(1.7)	18.7	(1.7)	14.9	(1.8)	17.6	(1.8)
Slovak Republic	21.3	(2.0)	24.6	(2.1)	24.1	(2.1)	26.4	(2.0)	24.9	(2.1)	23.8	(1.9)
Slovenia	12.6	(1.0)	15.6	(1.0)	14.2	(1.1)	14.1	(1.0)	11.9	(0.8)	11.9	(1.0)
Spain	7.9	(1.5)	15.7	(1.6)	12.0	(1.5)	13.2	(1.6)	11.8	(1.4)	10.6	(1.6)
Sweden	6.2	(1.0)	10.6	(1.1)	9.1	(1.1)	10.4	(1.2)	5.8	(0.9)	5.8	(0.9)
Turkey	15.1	(1.8)	14.5	(1.8)	14.5	(1.8)	11.0	(1.6)	m	m	m	m
England (United Kingdom)	7.8	(1.1)	12.4	(1.4)	11.8	(1.3)	13.7	(1.4)	m	m	m	m
United States	10.1	(1.2)	14.8	(1.3)	12.6	(1.3)	14.2	(1.4)	11.9	(1.5)	13.5	(1.4)
OECD average	10.6	(0.3)	14.9	(0.3)	13.2	(0.3)	14.0	(0.3)	12.1	(0.3)	12.0	(0.3)
Partners												
Brazil	14.6	(2.4)	15.5	(2.9)	10.3	(2.0)	13.2	(2.3)	17.6	(2.9)	12.9	(2.4)
Bulgaria	20.0	(2.5)	22.3	(2.3)	21.9	(2.2)	23.8	(2.3)	m	m	m	m
Colombia	12.6	(1.6)	15.4	(1.8)	15.6	(1.9)	12.7	(1.8)	8.3	(1.5)	14.3	(1.8)
Croatia	8.6	(1.2)	12.0	(1.4)	11.2	(1.4)	9.8	(1.2)	m	m	m	m
Cyprus*	9.5	(0.9)	14.1	(1.1)	8.2	(0.8)	13.7	(1.0)	m	m	m	m
Hong Kong-China	4.9	(1.3)	7.5	(1.5)	5.2	(1.2)	6.0	(1.3)	4.5	(1.3)	3.9	(1.1)
Macao-China	1.0	(0.3)	2.6	(0.4)	1.5	(0.4)	2.1	(0.6)	1.7	(0.4)	2.4	(0.4)
Malaysia	14.9	(1.7)	13.4	(1.6)	7.7	(1.4)	10.3	(1.4)	m	m	m	m
Montenegro	9.8	(1.0)	12.7	(0.9)	10.9	(1.0)	11.6	(0.9)	m	m	m	m
Russian Federation	12.3	(1.5)	11.4	(1.7)	13.1	(1.6)	14.6	(1.9)	9.9	(1.4)	10.7	(1.4)
Serbia	12.8	(1.3)	11.7	(1.4)	8.7	(1.2)	8.8	(1.2)	m	m	m	m
Shanghai-China	14.1	(1.9)	15.1	(1.9)	15.6	(1.8)	15.3	(2.0)	15.9	(1.9)	17.6	(2.3)
Singapore	11.1	(0.9)	14.4	(0.9)	15.2	(0.9)	16.5	(1.0)	13.0	(0.9)	12.2	(0.9)
Chinese Taipei	9.4	(1.2)	17.9	(1.4)	15.1	(1.4)	16.7	(1.4)	15.7	(1.3)	13.0	(1.4)
United Arab Emirates	7.7	(0.8)	9.8	(1.0)	7.1	(0.9)	8.9	(1.0)	8.8	(1.0)	11.6	(1.1)
Uruguay	17.8	(1.6)	22.8	(1.9)	17.5	(1.8)	19.8	(1.8)	m	m	m	m

Note: Values that are statistically significant are indicated in bold (see Annex A3).

1. Single-level bivariate regression of performance on the *PISA index of economic, social and cultural status* (ESCS); the slope is the regression coefficient for ESCS.

2. R-squared from the regression coefficient of performance on the *PISA index of economic, social and cultural status* (ESCS).

* See notes at the beginning of this Annex.

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[Part 3/3]
Strength of the relationship between socio-economic status and performance in problem solving, mathematics, reading and science
Results based on students' self-reports

Table V.4.13

	Strength of the relationship between performance in problem solving (PS) and ESCS, ² compared to...							
	... Mathematics (PS - M)		... Reading (PS - R)		... Science (PS - S)		... Computer-based mathematics (PS - CBM)	
	% dif.	S.E.	% dif.	S.E.	% dif.	S.E.	% dif.	S.E.
OECD								
Australia	-3.9	(0.6)	-3.5	(0.6)	-3.4	(0.5)	-1.1	(0.6)
Austria	-5.1	(1.2)	-4.6	(1.2)	-7.5	(1.3)	-1.5	(1.2)
Belgium	-5.7	(0.8)	-4.2	(1.0)	-5.3	(1.0)	-1.8	(0.9)
Canada	-5.4	(0.5)	-4.1	(0.5)	-3.8	(0.5)	-2.0	(0.5)
Chile	-7.2	(1.4)	-4.6	(1.4)	-4.3	(1.5)	0.4	(1.9)
Czech Republic	-1.3	(0.7)	0.1	(1.0)	0.6	(0.9)	m	m
Denmark	-8.6	(1.2)	-7.4	(1.4)	-7.8	(1.2)	-1.7	(0.9)
Estonia	-3.2	(0.6)	-1.4	(0.8)	-1.9	(0.8)	-2.4	(0.8)
Finland	-2.9	(0.6)	-1.0	(0.7)	-1.4	(0.6)	m	m
France	-9.8	(1.0)	-6.0	(1.2)	-8.9	(1.0)	-4.3	(1.5)
Germany	-4.2	(1.0)	-2.3	(1.2)	-4.4	(1.1)	-2.7	(1.3)
Hungary	-2.5	(1.1)	0.6	(1.2)	-1.9	(1.0)	2.2	(1.2)
Ireland	-4.5	(1.0)	-4.9	(1.1)	-4.3	(1.0)	-1.7	(1.1)
Israel	-3.9	(0.8)	2.0	(0.8)	-1.5	(0.8)	0.7	(0.8)
Italy	-3.5	(0.9)	-3.4	(1.0)	-3.3	(1.0)	-2.0	(1.2)
Japan	-4.6	(1.0)	-2.7	(0.8)	-2.2	(0.9)	-2.7	(0.8)
Korea	-4.7	(0.7)	-2.5	(0.8)	-1.4	(0.7)	-5.2	(0.9)
Netherlands	-2.4	(1.0)	-1.6	(1.1)	-3.4	(1.1)	m	m
Norway	-2.2	(0.7)	-1.1	(0.8)	-1.6	(0.7)	-0.8	(0.6)
Poland	-5.1	(1.2)	-1.8	(1.3)	-2.8	(1.4)	-2.2	(1.2)
Portugal	-3.6	(1.0)	-0.4	(1.2)	-2.7	(1.2)	1.1	(1.3)
Slovak Republic	-3.3	(1.6)	-2.8	(1.6)	-5.1	(1.7)	-3.6	(1.7)
Slovenia	-3.0	(0.9)	-1.6	(1.1)	-1.5	(0.7)	0.7	(0.7)
Spain	-7.8	(1.0)	-4.1	(1.0)	-5.3	(1.0)	-3.9	(1.2)
Sweden	-4.5	(0.7)	-2.9	(0.9)	-4.3	(0.9)	0.3	(0.8)
Turkey	0.6	(0.8)	0.6	(1.1)	4.1	(0.9)	m	m
England (United Kingdom)	-4.6	(0.9)	-4.0	(1.0)	-5.8	(0.9)	m	m
United States	-4.7	(0.9)	-2.6	(1.0)	-4.2	(1.0)	-1.9	(1.1)
OECD average	-4.3	(0.2)	-2.6	(0.2)	-3.4	(0.2)	-1.6	(0.2)
Partners								
Brazil	-0.9	(1.4)	4.3	(1.4)	1.4	(1.5)	-3.0	(1.6)
Bulgaria	-2.3	(1.2)	-1.9	(1.4)	-3.7	(1.4)	m	m
Colombia	-2.8	(1.2)	-3.0	(1.5)	0.0	(1.4)	4.4	(1.1)
Croatia	-3.4	(0.7)	-2.6	(0.9)	-1.2	(0.8)	m	m
Cyprus*	-4.7	(0.7)	1.3	(0.7)	-4.3	(0.7)	m	m
Hong Kong-China	-2.6	(0.9)	-0.3	(0.9)	-1.1	(0.9)	0.4	(1.1)
Macao-China	-1.6	(0.3)	-0.5	(0.3)	-1.1	(0.5)	-0.7	(0.2)
Malaysia	1.5	(1.0)	7.2	(1.1)	4.6	(1.1)	m	m
Montenegro	-3.0	(0.6)	-1.1	(0.9)	-1.8	(0.9)	m	m
Russian Federation	0.9	(1.4)	-0.8	(1.2)	-2.3	(1.4)	2.4	(1.0)
Serbia	1.1	(0.8)	4.2	(0.9)	4.0	(1.0)	m	m
Shanghai-China	-1.0	(0.9)	-1.6	(1.0)	-1.2	(1.1)	-1.9	(1.2)
Singapore	-3.3	(0.6)	-4.1	(0.7)	-5.4	(0.8)	-1.8	(0.6)
Chinese Taipei	-8.5	(0.6)	-5.6	(0.7)	-7.3	(0.7)	-6.3	(0.7)
United Arab Emirates	-2.1	(0.7)	0.6	(0.6)	-1.1	(0.8)	-1.1	(0.6)
Uruguay	-5.0	(1.6)	0.4	(1.7)	-2.0	(1.6)	m	m

Note: Values that are statistically significant are indicated in bold (see Annex A3).

1. Single-level bivariate regression of performance on the *PISA index of economic, social and cultural status* (ESCS); the slope is the regression coefficient for ESCS.

2. R-squared from the regression coefficient of performance on the *PISA index of economic, social and cultural status* (ESCS).

* See notes at the beginning of this Annex.

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[Part 1/1]
Strength of the relationship between socio-economic status and performance in problem solving, between and within schools¹

Table V.4.14 Results based on students' self-reports

	Variation components expressed as a percentage of total variation in student performance in problem solving ²								
	Variation in problem solving		Variation in problem solving accounted for by the socio-economic status of students and schools ³		Variation unique to problem solving ⁴		Variation unique to problem solving accounted for by the socio-economic status of students and schools ⁵		
	Between schools	Within schools	Between schools	Within schools	Between schools	Within schools	Between schools	Within schools	
OECD	%	%	%	%	%	%	%	%	
Australia	27.1	73.3	10.9	2.4	12.1	18.1	0.3	0.6	
Austria	47.5	51.2	18.8	1.2	13.4	20.9	0.0	0.4	
Belgium	47.8	51.3	24.3	1.7	12.4	21.7	0.0	0.2	
Canada	22.6	76.4	5.3	3.6	14.8	27.6	0.4	1.9	
Chile	42.7	55.9	23.6	0.1	12.9	22.7	0.1	0.0	
Czech Republic	48.2	49.4	31.8	1.1	7.6	14.6	0.3	0.2	
Denmark	28.6	71.0	6.0	4.3	20.3	20.4	0.0	0.8	
Estonia	23.8	76.6	8.0	1.4	12.2	18.8	0.2	0.5	
Finland	10.2	89.5	1.9	5.5	7.2	22.7	0.1	0.7	
France	w	w	w	w	w	w	w	w	
Germany	54.9	44.7	31.6	0.0	14.4	15.7	1.6	0.0	
Hungary	59.1	38.9	41.4	0.8	10.1	19.9	0.3	1.1	
Ireland	24.4	74.8	10.0	4.7	13.0	23.2	0.1	0.5	
Israel	50.9	48.8	25.9	1.0	9.0	16.5	0.1	0.8	
Italy	42.1	54.7	13.9	0.0	14.4	27.9	0.1	0.5	
Japan	33.9	65.8	17.6	0.1	7.2	35.5	0.0	0.4	
Korea	31.3	67.1	13.1	0.5	7.7	27.4	0.0	0.2	
Netherlands	57.7	42.4	27.8	0.5	12.3	16.4	0.0	0.1	
Norway	21.4	78.0	4.6	3.1	16.1	20.5	0.5	0.0	
Poland	36.1	63.7	10.3	4.8	20.6	22.4	0.2	0.7	
Portugal	30.0	70.3	14.9	4.7	11.2	23.9	0.7	0.5	
Slovak Republic	49.6	48.2	31.2	2.0	11.4	15.0	0.2	0.1	
Slovenia	54.2	45.3	30.5	0.5	14.3	18.7	0.0	0.2	
Spain	28.7	71.4	5.9	3.0	19.2	25.2	0.3	0.6	
Sweden	18.6	80.7	2.6	4.4	11.9	22.6	0.0	0.8	
Turkey	51.9	48.0	30.8	1.0	8.6	21.3	0.7	0.4	
England (United Kingdom)	29.3	70.7	12.9	2.4	10.0	16.4	0.2	0.4	
United States	28.9	70.9	10.2	3.0	11.6	14.8	0.1	0.4	
OECD average	37.8	61.5	17.6	2.1	12.6	20.9	0.2	0.5	
Partners	Brazil	47.4	52.7	21.5	1.2	14.8	16.7	0.3	0.0
	Bulgaria	55.5	44.0	36.2	0.9	12.6	21.2	0.9	0.1
	Colombia	36.8	62.7	15.8	2.8	15.4	29.5	0.3	1.7
	Croatia	40.4	59.5	20.6	0.4	8.6	19.5	0.1	0.5
	Cyprus*	35.3	67.9	17.1	1.7	10.3	25.8	0.1	0.6
	Hong Kong-China	36.1	63.7	12.1	0.0	10.5	32.4	0.2	0.0
	Macao-China	17.2	80.4	2.2	0.2	2.4	33.3	0.0	1.4
	Malaysia	37.4	62.5	20.4	2.9	10.0	20.2	0.7	0.6
	Montenegro	38.3	61.7	27.1	0.7	6.5	27.0	0.1	0.1
	Russian Federation	37.0	63.1	15.2	3.0	21.1	23.9	2.7	0.3
	Serbia	37.0	62.3	24.2	1.7	8.4	22.3	0.9	0.6
	Shanghai-China	41.2	58.4	26.9	0.7	9.5	20.1	1.1	0.1
	Singapore	33.9	66.1	16.2	2.3	11.4	19.2	0.2	0.0
	Chinese Taipei	38.9	60.6	23.0	0.7	6.8	18.6	0.0	0.5
	United Arab Emirates	50.4	49.4	18.2	1.1	14.5	21.1	0.3	0.4
	Uruguay	42.3	57.6	23.8	1.8	14.2	22.7	0.4	0.1

1. In some countries/economies, sub-units within schools were sampled instead of schools; this may affect the estimation of between-school variance components (see Annex A3).

2. Due to the unbalanced clustered nature of the data, the sum of the between- and within-school variation components, as an estimate from a sample, does not necessarily add up to the total. All models were estimated on samples excluding students with missing information on the PISA index of economic, social and cultural status (ESCS).

3. Based on the residual variation in a model with student ESCS and school average ESCS. Negative estimates of explained variance values are reported as 0.0.

4. Based on the residual variation in a model with student performance in mathematics and school average performance in mathematics.

5. Based on the residual variation in a model with student performance in mathematics, student ESCS, school average performance in mathematics, and school average ESCS. Negative estimates of explained variance values are reported as 0.0.

* See notes at the beginning of this Annex.

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[Part 1/1]

Performance in problem solving and parents' highest occupational status

Results based on students' self-reports

Table V.4.15

	Percentage of students by parents' highest occupation			Performance in problem solving by parents' highest occupation			Difference in problem-solving performance: Skilled minus semi-skilled or elementary occupations	Increased likelihood of students with at least one parent working in a skilled occupation scoring below Level 2 (less than 423.42 score points)	Increased likelihood of students with at least one parent working in a skilled occupation scoring at Level 5 or above (above 618.21 score points)					
	Skilled (ISCO 1 to 3)	Semi-skilled or elementary (ISCO 4 to 9)	Missing data on father's and mother's occupation	Skilled (ISCO 1 to 3)	Semi-skilled or elementary (ISCO 4 to 9)	Missing data on father's and mother's occupation								
	%	S.E.	%	S.E.	Mean score	S.E.	Mean score	S.E.	Score dif.	S.E.	Relative risk	S.E.	Relative risk	S.E.
OECD	Australia	64.5 (0.6)	30.7 (0.5)	4.8 (0.2)	539 (2.0)	499 (2.5)	462 (4.8)	40 (2.1)	0.53 (0.03)	1.92 (0.12)				
	Austria	48.7 (1.0)	47.2 (1.0)	4.1 (0.4)	532 (4.1)	482 (4.0)	488 (9.6)	50 (4.0)	0.48 (0.05)	2.60 (0.34)				
	Belgium	53.1 (0.9)	41.3 (0.9)	5.6 (0.4)	537 (2.7)	479 (3.3)	438 (9.3)	58 (3.6)	0.42 (0.03)	2.33 (0.23)				
	Canada	60.6 (0.7)	32.5 (0.6)	6.9 (0.3)	541 (2.5)	508 (2.6)	478 (8.5)	32 (2.4)	0.59 (0.03)	1.66 (0.10)				
	Chile	33.1 (1.2)	60.9 (1.1)	5.9 (0.4)	481 (4.2)	432 (3.9)	421 (7.7)	49 (4.5)	0.53 (0.04)	5.39 (2.38)				
	Czech Republic	43.6 (1.0)	52.2 (1.0)	4.3 (0.4)	542 (3.0)	486 (3.8)	446 (14.5)	56 (3.6)	0.37 (0.04)	2.83 (0.32)				
	Denmark	58.6 (1.3)	37.4 (1.1)	4.0 (0.4)	516 (2.9)	475 (3.6)	431 (13.8)	40 (3.8)	0.52 (0.04)	2.32 (0.37)				
	Estonia	54.2 (0.9)	42.9 (0.8)	2.9 (0.3)	531 (2.8)	497 (3.2)	471 (9.1)	34 (3.3)	0.53 (0.05)	1.95 (0.26)				
	Finland	64.1 (0.8)	33.5 (0.8)	2.4 (0.2)	536 (2.4)	503 (3.3)	457 (9.4)	33 (3.5)	0.55 (0.05)	1.88 (0.21)				
	France	55.0 (1.0)	38.9 (1.0)	6.1 (0.4)	535 (3.4)	488 (4.5)	442 (8.9)	47 (4.1)	0.44 (0.04)	2.42 (0.27)				
	Germany	43.0 (0.9)	37.5 (1.0)	19.5 (0.9)	542 (3.7)	488 (4.2)	476 (7.8)	54 (4.3)	0.40 (0.04)	2.47 (0.28)				
	Hungary	40.9 (1.2)	51.8 (1.2)	7.3 (0.6)	502 (4.8)	433 (4.6)	403 (10.5)	68 (6.0)	0.44 (0.04)	4.44 (0.81)				
	Ireland	55.7 (0.9)	40.8 (0.9)	3.5 (0.3)	520 (3.4)	476 (3.6)	416 (8.2)	44 (3.3)	0.52 (0.04)	2.64 (0.38)				
	Israel	63.3 (1.5)	26.5 (1.1)	10.2 (0.9)	485 (6.0)	407 (5.9)	387 (10.2)	78 (6.8)	0.52 (0.04)	4.49 (0.93)				
	Italy	40.7 (1.3)	54.8 (1.3)	4.4 (0.6)	533 (4.7)	496 (4.4)	462 (9.3)	37 (4.3)	0.48 (0.06)	1.83 (0.24)				
	Japan	45.6 (0.7)	44.7 (0.8)	9.7 (0.6)	565 (3.5)	545 (3.5)	522 (5.7)	20 (3.5)	0.57 (0.08)	1.34 (0.10)				
	Korea	55.7 (1.2)	42.5 (1.2)	1.8 (0.2)	572 (4.4)	548 (4.4)	514 (13.9)	24 (3.2)	0.66 (0.08)	1.41 (0.09)				
	Netherlands	66.0 (1.1)	29.0 (1.0)	5.0 (0.5)	530 (4.3)	481 (6.2)	422 (11.4)	49 (5.6)	0.48 (0.06)	2.72 (0.53)				
	Norway	68.0 (0.8)	27.1 (0.8)	4.9 (0.4)	517 (3.4)	479 (4.1)	450 (9.4)	37 (4.0)	0.63 (0.04)	1.87 (0.22)				
	Poland	42.5 (1.4)	53.7 (1.3)	3.8 (0.3)	512 (4.9)	458 (4.6)	452 (9.7)	54 (4.5)	0.45 (0.05)	3.43 (0.67)				
	Portugal	34.3 (1.7)	61.0 (1.6)	4.6 (0.5)	529 (4.1)	478 (3.6)	457 (7.9)	51 (4.3)	0.43 (0.05)	2.83 (0.41)				
	Slovak Republic	32.8 (1.2)	59.3 (1.1)	7.9 (0.7)	532 (4.4)	468 (3.6)	396 (8.5)	63 (5.2)	0.33 (0.03)	3.37 (0.62)				
	Slovenia	53.9 (0.8)	42.4 (0.8)	3.7 (0.3)	501 (2.1)	450 (2.3)	413 (9.2)	51 (3.1)	0.52 (0.03)	3.24 (0.80)				
	Spain	42.2 (1.3)	55.9 (1.3)	1.8 (0.3)	503 (4.6)	458 (4.5)	437 (12.9)	45 (4.6)	0.54 (0.04)	2.07 (0.30)				
	Sweden	60.7 (0.9)	34.3 (0.8)	5.0 (0.5)	510 (3.3)	468 (3.2)	416 (10.7)	42 (3.4)	0.57 (0.04)	3.02 (0.45)				
	Turkey	18.6 (0.9)	69.2 (1.0)	12.2 (0.7)	488 (6.4)	448 (3.6)	438 (6.0)	40 (5.0)	0.62 (0.06)	4.31 (1.39)				
	England (United Kingdom)	61.8 (1.4)	31.8 (1.1)	6.4 (0.6)	536 (3.8)	496 (4.8)	432 (10.8)	40 (4.6)	0.55 (0.06)	2.22 (0.32)				
	United States	60.9 (1.4)	33.4 (1.2)	5.7 (0.5)	526 (3.8)	484 (4.2)	457 (8.2)	42 (3.9)	0.52 (0.05)	2.69 (0.34)				
	OECD average	50.8 (0.2)	43.3 (0.2)	5.9 (0.1)	525 (0.7)	479 (0.8)	446 (1.8)	46 (0.8)	0.51 (0.01)	2.70 (0.13)				
Partners	Brazil	32.9 (1.4)	58.9 (1.4)	8.3 (0.6)	462 (5.5)	416 (5.4)	380 (7.2)	46 (5.9)	0.61 (0.05)	4.69 (2.02)				
	Bulgaria	41.1 (1.4)	49.2 (1.2)	9.7 (0.7)	448 (5.3)	378 (5.3)	328 (11.5)	70 (6.5)	0.58 (0.03)	9.42 (5.55)				
	Colombia	23.0 (1.0)	70.9 (0.9)	6.1 (0.5)	435 (5.6)	389 (3.5)	383 (6.8)	47 (5.0)	0.68 (0.04)	3.37 (1.32)				
	Croatia	39.2 (1.0)	56.0 (1.0)	4.8 (0.3)	498 (4.6)	448 (4.0)	428 (8.4)	50 (4.6)	0.52 (0.04)	3.43 (0.61)				
	Cyprus*	40.0 (0.8)	53.6 (0.8)	6.4 (0.4)	477 (2.2)	427 (2.1)	392 (5.0)	49 (3.1)	0.60 (0.03)	4.07 (0.92)				
	Hong Kong-China	39.5 (1.9)	52.5 (1.8)	7.9 (0.6)	559 (5.0)	532 (4.0)	492 (6.7)	27 (5.3)	0.61 (0.09)	1.58 (0.16)				
	Macao-China	27.1 (0.6)	70.3 (0.6)	2.6 (0.2)	551 (2.2)	538 (1.2)	496 (9.3)	13 (2.6)	0.68 (0.09)	1.19 (0.11)				
	Malaysia	37.5 (1.3)	56.3 (1.3)	6.2 (0.5)	455 (4.6)	405 (3.1)	381 (7.2)	50 (4.3)	0.60 (0.04)	14.21 (12.86)				
	Montenegro	37.9 (0.7)	45.9 (0.8)	16.2 (0.6)	441 (2.3)	394 (1.8)	362 (3.6)	48 (3.2)	0.64 (0.03)	4.23 (3.01)				
	Russian Federation	53.7 (1.1)	42.2 (1.1)	4.1 (0.4)	512 (3.9)	462 (3.3)	477 (8.4)	50 (3.4)	0.47 (0.04)	4.01 (0.68)				
	Serbia	40.5 (1.1)	55.9 (1.1)	3.6 (0.3)	507 (2.9)	451 (3.5)	449 (10.0)	56 (3.7)	0.44 (0.03)	4.43 (0.88)				
	Shanghai-China	56.5 (1.3)	41.9 (1.3)	1.6 (0.2)	555 (3.3)	514 (4.0)	461 (13.7)	41 (4.1)	0.46 (0.05)	2.09 (0.22)				
	Singapore	67.5 (0.6)	29.8 (0.6)	2.7 (0.2)	579 (1.6)	532 (2.5)	477 (8.1)	47 (3.2)	0.43 (0.06)	1.93 (0.16)				
	Chinese Taipei	41.6 (1.2)	53.4 (1.1)	4.9 (0.3)	561 (2.9)	521 (3.1)	448 (8.5)	40 (3.4)	0.39 (0.05)	1.82 (0.13)				
	United Arab Emirates	70.0 (0.8)	15.0 (0.5)	15.0 (0.6)	432 (2.6)	369 (4.3)	355 (5.0)	63 (3.7)	0.65 (0.02)	5.56 (2.45)				
	Uruguay	26.2 (0.9)	68.8 (0.9)	5.0 (0.3)	460 (4.4)	386 (3.6)	349 (7.5)	74 (5.0)	0.52 (0.03)	8.06 (3.05)				

Note: Values that are statistically significant are indicated in bold (see Annex A3).

1. Increased likelihood relative to students with parents in semi-skilled or elementary occupations. Students who did not report their parents' occupation are excluded from this calculation.

* See notes at the beginning of this Annex.

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[Part 1/3]

Differences in problem-solving, mathematics, reading and science performance related to parents' occupational status
Results based on students' self-reports
Table V.4.16

	Difference in performance related to parents' highest occupation: Skilled (ISCO 1 to 3) minus semi-skilled or elementary (ISCO 4 to 9)											
	Problem solving		Mathematics		Reading		Science		Computer-based mathematics		Digital reading	
	Score dif.	S.E.	Score dif.	S.E.	Score dif.	S.E.	Score dif.	S.E.	Score dif.	S.E.	Score dif.	S.E.
OECD												
Australia	40	(2.1)	46	(2.2)	45	(2.3)	48	(2.3)	38	(2.2)	43	(2.2)
Austria	50	(4.0)	54	(3.6)	55	(3.6)	58	(3.6)	47	(4.0)	54	(4.8)
Belgium	58	(3.6)	70	(3.3)	69	(3.2)	68	(3.1)	60	(3.4)	61	(3.6)
Canada	32	(2.4)	41	(2.0)	37	(2.2)	36	(2.1)	33	(2.2)	29	(2.6)
Chile	49	(4.5)	59	(4.6)	53	(4.2)	55	(4.4)	51	(4.8)	52	(4.5)
Czech Republic	56	(3.6)	61	(3.8)	54	(3.4)	55	(3.5)	m	m	m	m
Denmark	40	(3.8)	48	(3.1)	49	(3.2)	52	(3.7)	40	(3.4)	46	(3.2)
Estonia	34	(3.3)	40	(3.0)	40	(3.3)	40	(3.2)	38	(3.3)	40	(3.8)
Finland	33	(3.5)	37	(2.8)	37	(3.3)	38	(3.1)	m	m	m	m
France	47	(4.1)	67	(3.5)	71	(4.6)	66	(3.7)	53	(3.0)	59	(4.0)
Germany	54	(4.3)	62	(4.3)	58	(4.1)	60	(4.5)	57	(4.1)	51	(4.5)
Hungary	68	(6.0)	65	(5.2)	60	(4.5)	62	(4.2)	60	(5.1)	73	(6.0)
Ireland	44	(3.3)	43	(2.9)	46	(3.3)	47	(3.0)	35	(3.2)	33	(3.3)
Israel	78	(6.8)	73	(5.9)	66	(6.5)	70	(6.2)	62	(6.4)	75	(6.6)
Italy	37	(4.3)	42	(4.3)	47	(4.6)	48	(4.4)	37	(4.2)	40	(4.7)
Japan	20	(3.5)	32	(3.9)	30	(4.0)	28	(3.9)	25	(4.0)	22	(2.8)
Korea	24	(3.2)	34	(3.8)	26	(3.0)	24	(3.1)	35	(3.5)	30	(3.0)
Netherlands	49	(5.6)	52	(4.2)	53	(4.4)	54	(4.7)	m	m	m	m
Norway	37	(4.0)	37	(3.7)	38	(4.1)	39	(4.1)	34	(3.3)	40	(3.8)
Poland	54	(4.5)	58	(4.6)	54	(3.9)	53	(4.3)	51	(4.3)	60	(4.4)
Portugal	51	(4.3)	64	(4.2)	58	(4.6)	58	(4.3)	48	(4.3)	59	(4.7)
Slovak Republic	63	(5.2)	71	(5.1)	71	(5.3)	71	(5.2)	58	(4.6)	62	(4.7)
Slovenia	51	(3.1)	53	(3.2)	54	(3.2)	53	(2.9)	46	(2.9)	54	(3.2)
Spain	45	(4.6)	54	(3.2)	50	(3.3)	47	(3.3)	45	(3.7)	50	(4.1)
Sweden	42	(3.4)	50	(3.3)	52	(3.9)	53	(3.9)	34	(3.5)	43	(3.6)
Turkey	40	(5.0)	51	(6.1)	50	(5.6)	40	(4.9)	m	m	m	m
England (United Kingdom)	40	(4.6)	49	(4.3)	51	(4.4)	55	(4.3)	m	m	m	m
United States	42	(3.9)	50	(3.1)	49	(3.2)	51	(3.1)	45	(3.4)	49	(3.1)
OECD average	46	(0.8)	52	(0.7)	51	(0.8)	51	(0.7)	45	(0.8)	49	(0.9)
Partners												
Brazil	46	(5.9)	47	(6.6)	39	(6.1)	44	(5.9)	49	(6.3)	41	(6.7)
Bulgaria	70	(6.5)	71	(5.1)	86	(6.2)	76	(5.5)	m	m	m	m
Colombia	47	(5.0)	44	(4.3)	50	(4.4)	43	(4.0)	35	(4.4)	53	(5.2)
Croatia	50	(4.6)	56	(4.8)	52	(4.6)	49	(4.2)	m	m	m	m
Cyprus*	49	(3.1)	58	(2.8)	51	(3.4)	60	(3.2)	m	m	m	m
Hong Kong-China	27	(5.3)	36	(4.9)	24	(4.3)	27	(4.2)	24	(4.5)	25	(4.2)
Macao-China	13	(2.6)	22	(2.9)	14	(2.7)	19	(3.1)	16	(2.7)	16	(2.2)
Malaysia	50	(4.3)	46	(4.1)	37	(4.0)	38	(3.8)	m	m	m	m
Montenegro	48	(3.2)	48	(2.9)	51	(3.1)	48	(2.8)	m	m	m	m
Russian Federation	50	(3.4)	46	(4.2)	52	(4.3)	50	(4.2)	38	(3.4)	39	(3.5)
Serbia	56	(3.7)	58	(4.5)	53	(4.3)	50	(4.1)	m	m	m	m
Shanghai-China	41	(4.1)	49	(4.5)	40	(3.5)	39	(3.8)	44	(3.9)	44	(4.5)
Singapore	47	(3.2)	60	(3.3)	57	(3.3)	62	(3.5)	53	(3.3)	45	(3.1)
Chinese Taipei	40	(3.4)	71	(4.3)	50	(3.6)	48	(3.0)	48	(3.0)	46	(3.5)
United Arab Emirates	63	(3.7)	53	(3.1)	49	(3.4)	51	(3.4)	48	(2.9)	69	(4.4)
Uruguay	74	(5.0)	76	(5.0)	73	(5.2)	75	(5.1)	m	m	m	m

Note: Values that are statistically significant are indicated in bold (see Annex A3).

* See notes at the beginning of this Annex.

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[Part 2/3]
Differences in problem-solving, mathematics, reading and science performance related to parents' occupational status
Results based on students' self-reports

Table V.4.16

	Occupational status effect size: Difference in performance related to parents' highest occupation divided by the variation in scores within each country/economy (standard deviation)												
	Problem solving		Mathematics		Reading		Science		Computer-based mathematics		Digital reading		
	Effect size	S.E.	Effect size	S.E.	Effect size	S.E.	Effect size	S.E.	Effect size	S.E.	Effect size	S.E.	
OECD	Australia	0.42	(0.02)	0.49	(0.02)	0.48	(0.02)	0.49	(0.02)	0.43	(0.02)	0.46	(0.02)
	Austria	0.53	(0.04)	0.59	(0.04)	0.61	(0.03)	0.64	(0.04)	0.53	(0.04)	0.54	(0.05)
	Belgium	0.55	(0.03)	0.70	(0.03)	0.70	(0.03)	0.70	(0.03)	0.62	(0.03)	0.62	(0.03)
	Canada	0.33	(0.02)	0.48	(0.02)	0.42	(0.02)	0.41	(0.02)	0.37	(0.02)	0.34	(0.03)
	Chile	0.58	(0.05)	0.73	(0.05)	0.69	(0.05)	0.69	(0.05)	0.63	(0.05)	0.64	(0.05)
	Czech Republic	0.60	(0.03)	0.65	(0.03)	0.63	(0.03)	0.62	(0.03)	m	m	m	m
	Denmark	0.44	(0.04)	0.60	(0.04)	0.59	(0.04)	0.57	(0.04)	0.47	(0.04)	0.57	(0.04)
	Estonia	0.39	(0.04)	0.50	(0.03)	0.50	(0.04)	0.51	(0.04)	0.46	(0.04)	0.44	(0.04)
	Finland	0.36	(0.04)	0.44	(0.03)	0.40	(0.03)	0.42	(0.03)	m	m	m	m
	France	0.50	(0.04)	0.70	(0.03)	0.66	(0.04)	0.67	(0.03)	0.59	(0.04)	0.62	(0.04)
	Germany	0.56	(0.04)	0.65	(0.04)	0.65	(0.04)	0.63	(0.04)	0.60	(0.04)	0.53	(0.04)
	Hungary	0.67	(0.05)	0.71	(0.04)	0.68	(0.04)	0.71	(0.04)	0.66	(0.04)	0.67	(0.04)
	Ireland	0.48	(0.03)	0.51	(0.03)	0.54	(0.03)	0.53	(0.03)	0.44	(0.04)	0.41	(0.04)
	Israel	0.64	(0.05)	0.72	(0.05)	0.60	(0.06)	0.67	(0.05)	0.56	(0.06)	0.67	(0.06)
	Italy	0.41	(0.05)	0.46	(0.04)	0.50	(0.04)	0.51	(0.04)	0.45	(0.04)	0.42	(0.04)
	Japan	0.24	(0.04)	0.35	(0.04)	0.32	(0.04)	0.30	(0.04)	0.29	(0.04)	0.29	(0.03)
	Korea	0.27	(0.03)	0.35	(0.04)	0.30	(0.03)	0.29	(0.04)	0.38	(0.03)	0.37	(0.03)
	Netherlands	0.51	(0.05)	0.58	(0.04)	0.59	(0.04)	0.59	(0.05)	m	m	m	m
	Norway	0.37	(0.04)	0.41	(0.04)	0.40	(0.04)	0.41	(0.04)	0.40	(0.04)	0.42	(0.04)
	Poland	0.56	(0.04)	0.65	(0.04)	0.62	(0.04)	0.62	(0.04)	0.59	(0.04)	0.62	(0.04)
	Portugal	0.58	(0.05)	0.69	(0.04)	0.63	(0.04)	0.67	(0.04)	0.57	(0.05)	0.66	(0.04)
	Slovak Republic	0.67	(0.04)	0.72	(0.04)	0.72	(0.04)	0.74	(0.04)	0.71	(0.04)	0.70	(0.04)
	Slovenia	0.53	(0.03)	0.58	(0.03)	0.59	(0.03)	0.59	(0.03)	0.53	(0.03)	0.55	(0.03)
	Spain	0.43	(0.04)	0.62	(0.04)	0.55	(0.03)	0.56	(0.04)	0.55	(0.04)	0.52	(0.04)
	Sweden	0.45	(0.04)	0.56	(0.03)	0.51	(0.04)	0.55	(0.04)	0.41	(0.04)	0.45	(0.04)
	Turkey	0.50	(0.06)	0.56	(0.06)	0.59	(0.06)	0.51	(0.06)	m	m	m	m
	England (United Kingdom)	0.43	(0.05)	0.53	(0.04)	0.54	(0.04)	0.57	(0.04)	m	m	m	m
	United States	0.46	(0.04)	0.56	(0.03)	0.54	(0.03)	0.55	(0.03)	0.52	(0.04)	0.56	(0.03)
	OECD average	0.48	(0.01)	0.57	(0.01)	0.56	(0.01)	0.56	(0.01)	0.51	(0.01)	0.52	(0.01)
Partners	Brazil	0.51	(0.06)	0.60	(0.07)	0.47	(0.06)	0.56	(0.06)	0.59	(0.07)	0.46	(0.07)
	Bulgaria	0.68	(0.05)	0.77	(0.04)	0.76	(0.04)	0.77	(0.04)	m	m	m	m
	Colombia	0.51	(0.05)	0.59	(0.05)	0.60	(0.05)	0.56	(0.05)	0.47	(0.06)	0.58	(0.05)
	Croatia	0.55	(0.04)	0.64	(0.04)	0.62	(0.04)	0.57	(0.04)	m	m	m	m
	Cyprus*	0.51	(0.03)	0.63	(0.03)	0.48	(0.03)	0.64	(0.03)	m	m	m	m
	Hong Kong-China	0.29	(0.06)	0.38	(0.05)	0.29	(0.05)	0.33	(0.05)	0.29	(0.05)	0.27	(0.04)
	Macao-China	0.17	(0.03)	0.24	(0.03)	0.18	(0.03)	0.24	(0.04)	0.19	(0.03)	0.23	(0.03)
	Malaysia	0.60	(0.04)	0.57	(0.04)	0.45	(0.04)	0.49	(0.04)	m	m	m	m
	Montenegro	0.53	(0.04)	0.59	(0.03)	0.56	(0.03)	0.58	(0.03)	m	m	m	m
	Russian Federation	0.57	(0.03)	0.53	(0.05)	0.58	(0.04)	0.59	(0.05)	0.48	(0.04)	0.46	(0.04)
	Serbia	0.63	(0.03)	0.64	(0.04)	0.58	(0.04)	0.58	(0.04)	m	m	m	m
	Shanghai-China	0.46	(0.04)	0.49	(0.04)	0.51	(0.04)	0.48	(0.04)	0.47	(0.04)	0.53	(0.04)
	Singapore	0.50	(0.03)	0.58	(0.03)	0.57	(0.03)	0.60	(0.03)	0.55	(0.03)	0.51	(0.03)
	Chinese Taipei	0.46	(0.03)	0.63	(0.03)	0.57	(0.03)	0.60	(0.03)	0.56	(0.03)	0.54	(0.03)
	United Arab Emirates	0.61	(0.03)	0.60	(0.03)	0.53	(0.03)	0.55	(0.03)	0.58	(0.03)	0.64	(0.04)
	Uruguay	0.76	(0.04)	0.86	(0.04)	0.77	(0.04)	0.80	(0.04)	m	m	m	m

Note: Values that are statistically significant are indicated in bold (see Annex A3).

* See notes at the beginning of this Annex.

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[Part 3/3]
Differences in problem-solving, mathematics, reading and science performance related to parents' occupational status

Table V.4.16
 Results based on students' self-reports

	Difference in occupational status effect sizes between problem solving (PS) and...							
	... Mathematics (PS - M)		... Reading (PS - R)		... Science (PS - S)		... Computer-based mathematics (PS - CBM)	
	Effect size dif.	S.E.	Effect size dif.	S.E.	Effect size dif.	S.E.	Effect size dif.	S.E.
OECD								
Australia	-0.07	(0.02)	-0.06	(0.02)	-0.08	(0.02)	-0.01	(0.02)
Austria	-0.06	(0.03)	-0.07	(0.03)	-0.10	(0.03)	0.00	(0.03)
Belgium	-0.15	(0.02)	-0.15	(0.02)	-0.14	(0.02)	-0.07	(0.02)
Canada	-0.15	(0.02)	-0.09	(0.02)	-0.08	(0.02)	-0.04	(0.02)
Chile	-0.16	(0.02)	-0.11	(0.03)	-0.12	(0.03)	-0.05	(0.04)
Czech Republic	-0.05	(0.02)	-0.03	(0.03)	-0.02	(0.02)	m	m
Denmark	-0.15	(0.03)	-0.15	(0.04)	-0.13	(0.03)	-0.02	(0.03)
Estonia	-0.11	(0.02)	-0.11	(0.03)	-0.12	(0.03)	-0.07	(0.03)
Finland	-0.09	(0.02)	-0.04	(0.03)	-0.06	(0.02)	m	m
France	-0.20	(0.03)	-0.17	(0.03)	-0.17	(0.03)	-0.10	(0.03)
Germany	-0.09	(0.02)	-0.09	(0.03)	-0.07	(0.02)	-0.04	(0.03)
Hungary	-0.04	(0.03)	-0.01	(0.03)	-0.04	(0.03)	0.01	(0.02)
Ireland	-0.03	(0.02)	-0.06	(0.03)	-0.05	(0.02)	0.04	(0.03)
Israel	-0.08	(0.02)	0.04	(0.03)	-0.03	(0.02)	0.08	(0.02)
Italy	-0.05	(0.03)	-0.09	(0.03)	-0.10	(0.03)	-0.04	(0.04)
Japan	-0.11	(0.03)	-0.08	(0.03)	-0.06	(0.03)	-0.04	(0.03)
Korea	-0.08	(0.02)	-0.04	(0.02)	-0.02	(0.02)	-0.12	(0.03)
Netherlands	-0.07	(0.03)	-0.07	(0.03)	-0.08	(0.03)	m	m
Norway	-0.04	(0.03)	-0.03	(0.03)	-0.04	(0.03)	-0.03	(0.03)
Poland	-0.08	(0.03)	-0.06	(0.03)	-0.05	(0.04)	-0.03	(0.03)
Portugal	-0.10	(0.02)	-0.05	(0.03)	-0.09	(0.03)	0.01	(0.03)
Slovak Republic	-0.05	(0.03)	-0.04	(0.02)	-0.07	(0.02)	-0.04	(0.03)
Slovenia	-0.05	(0.02)	-0.06	(0.03)	-0.06	(0.02)	0.00	(0.02)
Spain	-0.19	(0.03)	-0.12	(0.03)	-0.12	(0.03)	-0.12	(0.03)
Sweden	-0.11	(0.03)	-0.07	(0.03)	-0.11	(0.03)	0.04	(0.03)
Turkey	-0.06	(0.03)	-0.09	(0.04)	0.00	(0.03)	m	m
England (United Kingdom)	-0.10	(0.03)	-0.12	(0.03)	-0.15	(0.03)	m	m
United States	-0.10	(0.03)	-0.08	(0.03)	-0.09	(0.03)	-0.06	(0.03)
OECD average	-0.09	(0.00)	-0.07	(0.01)	-0.08	(0.01)	-0.03	(0.01)
Partners								
Brazil	-0.09	(0.03)	0.04	(0.04)	-0.05	(0.03)	-0.08	(0.04)
Bulgaria	-0.09	(0.02)	-0.07	(0.03)	-0.08	(0.03)	m	m
Colombia	-0.08	(0.03)	-0.09	(0.04)	-0.05	(0.04)	0.04	(0.04)
Croatia	-0.09	(0.02)	-0.07	(0.03)	-0.03	(0.03)	m	m
Cyprus*	-0.13	(0.03)	0.03	(0.03)	-0.14	(0.03)	m	m
Hong Kong-China	-0.08	(0.03)	0.00	(0.04)	-0.03	(0.04)	0.01	(0.04)
Macao-China	-0.08	(0.03)	-0.01	(0.04)	-0.07	(0.04)	-0.02	(0.03)
Malaysia	0.03	(0.03)	0.15	(0.03)	0.11	(0.03)	m	m
Montenegro	-0.06	(0.03)	-0.04	(0.03)	-0.05	(0.03)	m	m
Russian Federation	0.04	(0.03)	0.00	(0.03)	-0.02	(0.03)	0.09	(0.03)
Serbia	-0.01	(0.02)	0.06	(0.02)	0.06	(0.03)	m	m
Shanghai-China	-0.03	(0.02)	-0.06	(0.02)	-0.02	(0.03)	-0.02	(0.03)
Singapore	-0.07	(0.02)	-0.06	(0.02)	-0.10	(0.02)	-0.05	(0.02)
Chinese Taipei	-0.17	(0.02)	-0.11	(0.02)	-0.14	(0.02)	-0.10	(0.02)
United Arab Emirates	0.01	(0.03)	0.08	(0.03)	0.06	(0.03)	0.03	(0.03)
Uruguay	-0.10	(0.03)	-0.01	(0.04)	-0.04	(0.04)	m	m

Note: Values that are statistically significant are indicated in bold (see Annex A3).

* See notes at the beginning of this Annex.

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[Part 1/1]
Relative performance in problem solving, by parents' occupational status
Results based on students' self-reports

Table V.4.17

	Problem-solving performance of students whose parents' highest occupation is semi-skilled or elementary (ISCO 4 to 9), compared to students with similar performance in mathematics, reading and science with at least one parent working in a skilled occupation (ISCO 1 to 3)																
	Average difference in problem solving compared with students from high-status families with similar performance in mathematics ¹		Percentage of students from low-status families who outperform students from high-status families with similar performance in mathematics ²		Average difference in problem solving compared with students from high-status families with similar performance in reading ¹		Percentage of students from low-status families who outperform students from high-status families with similar performance in reading ²		Average difference in problem solving compared with students from high-status families with similar performance in science ¹		Percentage of students from low-status families who outperform students from high-status families with similar performance in science ²		Average difference in problem solving compared with students from high-status families with similar performance in mathematics, reading and science ³		Percentage of students from low-status families who outperform students from high-status families with similar performance in mathematics, reading and science ²		
	Score dif.	S.E.	%	S.E.	Score dif.	S.E.	%	S.E.	Score dif.	S.E.	%	S.E.	Score dif.	S.E.	%	S.E.	
OECD	Australia	-1	(1.5)	50.4	(1.3)	-5	(1.7)	47.7	(1.3)	-2	(1.5)	49.5	(1.2)	1	(1.5)	51.5	(1.3)
	Austria	-4	(3.1)	46.7	(2.6)	-6	(3.1)	46.0	(2.3)	-2	(3.9)	48.6	(3.1)	-1	(3.3)	49.5	(3.1)
	Belgium	0	(2.4)	50.3	(1.7)	-4	(2.6)	48.3	(1.7)	-1	(2.3)	49.8	(1.5)	3	(2.2)	51.9	(1.7)
	Canada	3	(1.7)	53.0	(1.2)	-3	(1.9)	48.4	(1.5)	-2	(1.8)	49.0	(1.3)	4	(1.6)	53.2	(1.3)
	Chile	0	(2.6)	51.4	(2.0)	-5	(3.0)	46.9	(2.1)	-5	(3.0)	47.6	(2.2)	3	(2.7)	53.1	(2.2)
	Czech Republic	-3	(2.7)	48.2	(2.7)	-12	(2.9)	42.2	(2.0)	-8	(3.1)	44.4	(2.3)	-2	(2.5)	49.2	(2.5)
	Denmark	1	(2.7)	51.0	(2.3)	-3	(3.0)	48.2	(2.1)	-2	(2.8)	47.6	(2.2)	2	(2.6)	51.4	(2.2)
	Estonia	2	(2.2)	54.2	(2.2)	-1	(2.4)	50.0	(2.3)	1	(2.3)	51.7	(2.1)	5	(2.1)	55.6	(2.3)
	Finland	1	(2.1)	51.4	(2.1)	-6	(2.4)	46.0	(1.8)	-3	(2.3)	47.9	(2.0)	2	(2.0)	51.8	(2.0)
	France	9	(2.7)	59.6	(2.2)	1	(2.9)	52.8	(2.2)	5	(2.5)	55.7	(2.0)	10	(2.6)	60.8	(2.2)
	Germany	-2	(2.5)	50.5	(2.0)	-5	(2.8)	48.3	(2.1)	-3	(2.5)	48.1	(2.0)	1	(2.3)	51.4	(1.7)
	Hungary	-9	(3.8)	43.4	(2.7)	-14	(3.9)	39.9	(2.7)	-9	(3.7)	43.6	(2.8)	-6	(3.7)	45.2	(2.7)
	Ireland	-6	(2.3)	44.4	(2.0)	-7	(2.7)	44.6	(2.3)	-6	(2.5)	46.0	(1.9)	-4	(2.4)	46.3	(2.0)
	Israel	-2	(3.0)	50.0	(2.2)	-20	(3.3)	39.0	(2.3)	-9	(3.3)	44.0	(2.1)	-2	(2.8)	49.2	(2.2)
	Italy	-7	(3.1)	47.0	(2.2)	-7	(3.1)	46.6	(2.1)	-5	(3.2)	49.0	(2.3)	-4	(3.0)	48.9	(2.2)
	Japan	1	(2.5)	51.8	(1.6)	-3	(2.7)	48.3	(1.7)	-3	(2.5)	48.9	(1.7)	1	(2.5)	51.6	(1.5)
	Korea	0	(1.7)	51.2	(1.5)	-3	(2.1)	47.9	(1.8)	-4	(2.1)	47.2	(1.7)	0	(1.8)	50.8	(1.6)
	Netherlands	-3	(3.4)	50.3	(2.8)	-5	(3.2)	48.9	(2.5)	-2	(3.5)	50.0	(2.8)	0	(3.3)	51.9	(2.8)
	Norway	-4	(2.7)	47.7	(2.3)	-9	(3.1)	45.8	(1.9)	-7	(3.0)	47.1	(2.1)	-3	(2.6)	47.9	(2.1)
	Poland	-8	(3.5)	46.4	(2.3)	-10	(3.3)	44.8	(2.4)	-10	(3.7)	44.5	(2.7)	-4	(3.3)	48.2	(2.5)
	Portugal	-3	(2.4)	48.0	(2.2)	-12	(2.9)	41.8	(2.1)	-8	(2.9)	44.7	(2.6)	-2	(2.3)	48.8	(2.1)
	Slovak Republic	-9	(2.9)	43.6	(2.4)	-16	(3.0)	39.7	(2.1)	-12	(3.0)	42.6	(2.3)	-7	(3.0)	44.9	(2.6)
	Slovenia	-6	(2.4)	46.8	(1.6)	-10	(2.7)	44.4	(1.8)	-7	(2.4)	46.9	(1.8)	-4	(2.5)	48.8	(2.0)
	Spain	4	(3.2)	54.0	(2.0)	-6	(3.2)	47.3	(1.6)	-3	(3.4)	49.6	(2.1)	4	(3.3)	54.1	(2.0)
	Sweden	1	(2.8)	50.8	(2.2)	-8	(2.7)	46.2	(1.9)	-2	(2.7)	48.9	(2.2)	2	(2.6)	51.7	(2.2)
	Turkey	-3	(2.4)	47.4	(2.5)	-4	(3.6)	47.1	(2.9)	-7	(2.5)	44.7	(2.0)	-1	(2.5)	48.6	(2.5)
	England (United Kingdom)	2	(3.0)	52.6	(2.6)	0	(3.4)	51.3	(2.7)	5	(2.8)	54.6	(2.4)	4	(2.9)	54.6	(2.6)
	United States	3	(2.3)	52.8	(2.6)	-2	(2.5)	48.1	(2.2)	0	(2.4)	50.5	(2.4)	4	(2.3)	53.7	(2.4)
	OECD average	-2	(0.5)	49.8	(0.4)	-7	(0.5)	46.3	(0.4)	-4	(0.5)	48.0	(0.4)	0	(0.5)	50.9	(0.4)
Partners	Brazil	-3	(2.8)	48.1	(2.3)	-16	(3.5)	39.9	(2.2)	-8	(3.1)	45.4	(2.3)	-3	(2.8)	48.2	(2.2)
	Bulgaria	-9	(3.3)	46.4	(2.2)	-15	(3.6)	42.6	(2.0)	-11	(3.6)	45.1	(2.2)	-5	(3.2)	48.7	(2.0)
	Colombia	-5	(3.5)	47.5	(2.5)	-9	(3.8)	44.9	(2.4)	-11	(4.1)	43.5	(2.6)	-3	(3.7)	48.5	(2.6)
	Croatia	-2	(2.4)	50.2	(2.2)	-9	(2.8)	43.8	(1.8)	-9	(2.9)	44.1	(2.1)	-1	(2.3)	50.4	(2.1)
	Cyprus*	0	(3.2)	49.9	(2.4)	-17	(2.8)	40.5	(1.9)	-2	(2.8)	49.0	(1.9)	1	(3.0)	50.5	(2.3)
	Hong Kong-China	-1	(3.1)	50.7	(2.5)	-7	(3.5)	46.2	(2.3)	-5	(3.7)	47.0	(2.3)	-1	(3.1)	50.0	(2.5)
	Macao-China	1	(2.0)	51.8	(1.7)	-5	(2.4)	47.7	(2.0)	-1	(2.3)	50.6	(2.1)	1	(2.1)	52.0	(1.7)
	Malaysia	-11	(2.3)	41.7	(2.4)	-24	(2.6)	34.6	(1.9)	-19	(2.3)	36.5	(1.9)	-11	(2.2)	41.2	(2.2)
	Montenegro	-5	(2.7)	46.2	(2.4)	-13	(2.8)	41.9	(2.2)	-9	(3.0)	44.2	(2.0)	-4	(2.8)	46.6	(2.4)
	Russian Federation	-16	(2.5)	39.5	(1.8)	-18	(2.4)	38.9	(1.5)	-17	(2.7)	40.1	(1.6)	-15	(2.6)	40.4	(1.9)
	Serbia	-10	(2.3)	42.9	(2.1)	-20	(2.4)	37.8	(1.6)	-18	(2.5)	38.3	(1.8)	-9	(2.3)	42.8	(2.0)
	Shanghai-China	-5	(2.1)	47.1	(2.0)	-5	(2.2)	47.4	(1.7)	-7	(2.4)	45.4	(1.9)	-3	(2.1)	48.4	(1.9)
	Singapore	-3	(2.0)	48.3	(1.9)	-8	(2.2)	45.4	(1.7)	-3	(2.1)	48.6	(2.4)	-2	(2.0)	48.4	(1.8)
	Chinese Taipei	7	(1.8)	57.1	(2.1)	-1	(2.2)	49.0	(1.8)	3	(2.0)	52.5	(2.0)	7	(1.9)	56.9	(1.9)
	United Arab Emirates	-15	(3.2)	42.4	(2.2)	-23	(3.2)	36.9	(1.9)	-20	(3.0)	38.2	(2.1)	-14	(3.0)	41.6	(2.1)
	Uruguay	-8	(4.3)	46.4	(2.9)	-23	(4.2)	37.2	(2.3)	-18	(3.8)	39.9	(2.3)	-5	(3.7)	47.8	(2.7)

Note: Values that are statistically significant are indicated in bold (see Annex A3).

1. This column reports the difference between actual performance and the fitted value from a regression using a cubic polynomial as regression function.

2. This column reports the percentage of students for whom the difference between actual performance and the fitted value from a regression is positive. Values that are indicated in bold are significantly larger or smaller than 50%.

3. This column reports the difference between actual performance and the fitted value from a regression using a second-degree polynomial as regression function (math, math sq., read, read sq., scie, scie sq., mathxread, mathxscie, readxscie).

* See notes at the beginning of this Annex.

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[Part 1/1]

Performance on problem-solving tasks, by nature of problem and by parents' occupational status
Results based on students' self-reports

Table V.4.18a

	Items referring to a static problem situation												Items referring to an interactive problem situation												
	Average proportion of full-credit responses, by parents' highest occupation						Relative likelihood of success, in favour of students with at least one parent working in a skilled occupation (semi-skilled or elementary = 1.00)						Average proportion of full-credit responses, by parents' highest occupation						Relative likelihood of success, in favour of students with at least one parent working in a skilled occupation (semi-skilled or elementary = 1.00)						
	Semi-skilled or elementary (ISCO 4 to 9)		Skilled (ISCO 1 to 3)		Difference related to parents' occupational status (skilled - semi-skilled or elementary)		Accounting for booklet effects ¹		Based on success on remaining test items ²		Semi-skilled or elementary (ISCO 4 to 9)		Skilled (ISCO 1 to 3)		Difference related to parents' occupational status (skilled - semi-skilled or elementary)		Accounting for booklet effects ¹		Based on success on remaining test items ²						
	%	S.E.	%	S.E.	% dif.	S.E.	Odds ratio	S.E.	Odds ratio	S.E.	%	S.E.	%	S.E.	% dif.	S.E.	Odds ratio	S.E.	Odds ratio	S.E.					
OECD	Australia	47.1	(0.8)	55.9	(0.5)	8.8	(0.9)	1.41	(0.05)	1.00	(0.04)	44.3	(0.8)	53.1	(0.5)	8.8	(0.8)	1.41	(0.04)	1.00	(0.04)				
	Austria	44.3	(1.5)	53.2	(1.2)	8.9	(1.7)	1.47	(0.10)	0.94	(0.08)	38.1	(1.2)	48.4	(1.1)	10.3	(1.5)	1.57	(0.10)	1.07	(0.09)				
	Belgium	41.0	(1.2)	56.3	(0.9)	15.3	(1.6)	1.84	(0.12)	1.14	(0.07)	40.0	(0.9)	51.9	(0.8)	11.9	(1.3)	1.60	(0.08)	0.87	(0.05)				
	Canada	49.2	(1.0)	55.2	(0.9)	6.0	(1.4)	1.31	(0.07)	0.92	(0.06)	45.8	(0.9)	53.9	(0.8)	8.0	(1.2)	1.42	(0.07)	1.08	(0.07)				
	Chile	31.5	(1.0)	41.7	(1.7)	10.2	(2.0)	1.55	(0.14)	0.91	(0.08)	27.8	(0.9)	39.8	(1.3)	12.0	(1.6)	1.70	(0.12)	1.10	(0.09)				
	Czech Republic	41.3	(0.9)	53.8	(0.8)	12.5	(1.2)	1.66	(0.08)	0.98	(0.05)	39.5	(0.9)	52.5	(0.8)	13.0	(1.1)	1.70	(0.08)	1.02	(0.05)				
	Denmark	43.1	(1.6)	52.0	(1.1)	8.9	(2.0)	1.46	(0.11)	0.96	(0.07)	37.2	(1.3)	46.8	(0.8)	9.6	(1.5)	1.52	(0.10)	1.04	(0.08)				
	Estonia	46.0	(1.3)	53.8	(1.3)	7.8	(2.1)	1.36	(0.11)	1.04	(0.09)	42.4	(1.1)	49.0	(1.3)	6.6	(1.7)	1.31	(0.09)	0.96	(0.08)				
	Finland	47.1	(1.0)	55.0	(0.7)	7.9	(1.2)	1.38	(0.07)	1.05	(0.05)	43.6	(1.0)	50.2	(0.7)	6.6	(1.2)	1.31	(0.06)	0.95	(0.04)				
	France	45.1	(1.4)	55.1	(1.1)	10.0	(1.9)	1.52	(0.11)	0.92	(0.08)	41.5	(1.2)	53.2	(0.9)	11.7	(1.5)	1.65	(0.10)	1.08	(0.09)				
	Germany	45.1	(1.6)	56.6	(1.1)	11.5	(2.1)	1.59	(0.12)	0.96	(0.08)	41.0	(1.4)	53.4	(1.0)	12.3	(1.5)	1.66	(0.11)	1.04	(0.08)				
	Hungary	32.0	(1.3)	48.5	(1.6)	16.6	(1.9)	2.09	(0.18)	1.03	(0.08)	28.1	(1.1)	43.1	(1.4)	14.9	(1.8)	2.02	(0.17)	0.97	(0.07)				
	Ireland	39.6	(1.7)	49.4	(1.1)	9.8	(2.1)	1.47	(0.12)	0.95	(0.08)	39.2	(1.3)	49.9	(1.1)	10.8	(1.7)	1.55	(0.11)	1.05	(0.09)				
	Israel	30.6	(1.6)	46.5	(1.7)	15.9	(2.2)	2.06	(0.20)	0.88	(0.07)	24.8	(1.3)	42.5	(1.6)	17.6	(1.7)	2.34	(0.19)	1.13	(0.09)				
	Italy	48.5	(1.4)	52.0	(1.4)	3.5	(2.0)	1.21	(0.09)	0.98	(0.08)	45.6	(1.3)	49.9	(1.3)	4.3	(1.8)	1.24	(0.09)	1.02	(0.09)				
	Japan	57.4	(1.1)	60.7	(1.0)	3.3	(1.4)	1.14	(0.06)	0.94	(0.05)	53.9	(0.9)	58.9	(0.9)	5.0	(1.2)	1.21	(0.06)	1.06	(0.06)				
	Korea	56.0	(1.3)	61.4	(1.3)	5.5	(1.7)	1.31	(0.09)	1.10	(0.08)	56.1	(1.4)	59.1	(1.3)	3.1	(1.8)	1.18	(0.08)	0.91	(0.07)				
	Netherlands	42.2	(1.5)	54.9	(1.2)	12.7	(1.6)	1.67	(0.11)	0.97	(0.06)	38.0	(1.6)	51.3	(1.2)	13.3	(1.8)	1.73	(0.13)	1.03	(0.06)				
	Norway	44.2	(1.8)	52.4	(1.1)	8.2	(2.0)	1.44	(0.12)	0.98	(0.09)	38.8	(1.6)	47.4	(1.1)	8.6	(1.9)	1.47	(0.12)	1.02	(0.09)				
	Poland	39.5	(1.4)	50.9	(1.4)	11.4	(2.1)	1.60	(0.13)	0.95	(0.08)	34.8	(1.2)	47.1	(1.6)	12.3	(1.8)	1.69	(0.13)	1.05	(0.09)				
	Portugal	41.6	(1.3)	50.2	(1.6)	8.6	(2.2)	1.52	(0.14)	0.86	(0.06)	38.0	(1.1)	50.6	(1.3)	12.5	(1.5)	1.77	(0.11)	1.16	(0.09)				
	Slovak Republic	41.1	(1.2)	54.0	(1.3)	12.9	(1.6)	1.71	(1.1)	1.11	(0.08)	36.9	(1.1)	47.0	(1.3)	10.1	(1.9)	1.53	(0.12)	0.90	(0.07)				
	Slovenia	36.2	(1.2)	49.8	(1.2)	13.6	(1.9)	1.81	(0.14)	1.06	(0.10)	31.0	(1.1)	42.5	(1.2)	11.5	(1.6)	1.72	(0.13)	0.95	(0.09)				
	Spain	38.4	(1.1)	47.7	(1.2)	9.4	(1.7)	1.47	(0.10)	1.01	(0.07)	36.1	(0.9)	45.1	(1.1)	9.0	(1.3)	1.46	(0.08)	0.99	(0.07)				
	Sweden	43.1	(1.5)	51.7	(1.2)	8.6	(2.2)	1.44	(0.12)	0.96	(0.09)	36.5	(1.2)	45.7	(0.9)	9.2	(1.5)	1.51	(0.09)	1.05	(0.10)				
	Turkey	34.5	(0.9)	42.4	(1.7)	7.9	(1.6)	1.41	(0.09)	0.93	(0.06)	31.3	(0.8)	40.5	(1.7)	9.2	(1.4)	1.51	(0.09)	1.08	(0.07)				
	England (United Kingdom)	45.9	(1.0)	52.9	(1.2)	7.0	(1.4)	1.32	(0.07)	1.00	(0.07)	44.7	(1.3)	51.7	(1.2)	7.0	(1.6)	1.31	(0.09)	1.00	(0.07)				
	United States	39.3	(1.5)	51.2	(1.2)	11.8	(1.9)	1.67	(0.13)	1.08	(0.08)	40.0	(1.3)	50.2	(1.2)	10.1	(1.7)	1.55	(0.11)	0.93	(0.07)				
	OECD average	42.5	(0.2)	52.3	(0.2)	9.8	(0.3)	1.52	(0.02)	0.98	(0.01)	39.1	(0.2)	49.1	(0.2)	10.0	(0.3)	1.54	(0.02)	1.02	(0.01)				
Partners	Brazil	27.8	(1.5)	35.3	(1.8)	7.4	(2.6)	1.45	(0.17)	0.92	(0.11)	26.3	(1.2)	35.5	(1.6)	9.2	(1.9)	1.57	(0.14)	1.08	(0.12)				
	Bulgaria	24.4	(1.0)	37.0	(1.3)	12.5	(1.6)	1.82	(0.13)	0.89	(0.05)	18.1	(0.7)	31.1	(1.1)	13.0	(1.2)	2.04	(0.14)	1.12	(0.07)				
	Colombia	24.2	(1.0)	33.0	(2.0)	8.8	(2.2)	1.55	(0.16)	0.99	(0.08)	21.9	(0.7)	30.4	(1.4)	8.5	(1.5)	1.57	(0.12)	1.01	(0.08)				
	Croatia	35.4	(1.0)	45.7	(1.3)	10.2	(1.4)	1.53	(0.09)	1.01	(0.06)	32.1	(0.9)	41.8	(1.2)	9.7	(1.3)	1.52	(0.08)	0.99	(0.06)				
	Cyprus*	33.3	(0.7)	43.7	(0.9)	10.3	(1.2)	1.55	(0.08)	0.97	(0.05)	27.9	(0.6)	38.2	(0.8)	10.3	(1.0)	1.60	(0.07)	1.03	(0.05)				
	Hong Kong-China	56.4	(1.2)	58.0	(1.4)	1.6	(1.9)	1.06	(0.08)	0.83	(0.07)	50.7	(0.9)	56.7	(1.5)	6.0	(1.8)	1.28	(0.09)	1.21	(0.10)				
	Macao-China	56.6	(0.7)	59.4	(1.4)	2.8	(1.6)	1.13	(0.08)	1.00	(0.08)	51.0	(0.8)	54.0	(1.0)	3.0	(1.4)	1.13	(0.07)	1.00	(0.08)				
	Malaysia	26.8	(0.7)	36.0	(1.4)	9.2	(1.5)	1.54	(0.10)	0.86	(0.05)	23.0	(0.7)	34.9	(1.2)	11.9	(1.2)	1.79	(0.10)	1.16	(0.07)				
	Montenegro	28.3	(0.8)	34.8	(1.0)	6.6	(1.2)	1.35	(0.08)	0.94	(0.05)	23.1	(0.7)	30.2	(0.8)	7.1	(1.1)	1.44	(0.08)	1.07	(0.06)				
	Russian Federation	38.6	(1.3)	48.4	(1.3)	9.8	(2.0)	1.51	(0.13)	0.99	(0.07)	34.3	(1.0)	43.9	(1.1)	9.6	(1.4)	1.53	(0.09)	1.01	(0.07)				
	Serbia	34.3	(1.0)	48.6	(1.0)	14.2	(1.4)	1.80	(0.11)	1.08	(0.06)	31.9	(0.9)	43.8	(1.0)	11.9	(1.4)	1.66	(0.10)	0.92	(0.05)				
	Shanghai-China	51.1	(1.4)	60.6	(1.3)	9.5	(1.6)	1.45	(0.10)	0.99	(0.07)	44.7	(1.3)	54.5	(1.0)	9.8	(1.4)	1.46	(0.09)	1.01	(0.07)				
	Singapore	53.7	(1.5)	63.4	(0.9)	9.7	(1.8)	1.53	(0.11)	1.12	(0.09)	53.2	(1.4)	60.2	(1.0)	7.0	(1.9)	1.36	(0.10)	0.89	(0.07)				
	Chinese Taipei	52.7	(1.3)	63.3	(1.3)	10.6	(1.9)	1.58	(0.13)	1.05	(0.07)	46.6	(1.2)	56.5	(1.1)	9.8	(1.7)	1.50	(0.09)	0.95	(0.07)				
	United Arab Emirates</																								

[Part 1/2]
Performance on problem-solving tasks, by process and by parents' occupational status
Results based on students' self-reports

Table V.4.18b

	Items assessing the process of "exploring and understanding"										Items assessing the process of "representing and formulating"									
	Average proportion of full-credit responses, by parents' highest occupation					Relative likelihood of success, in favour of students with at least one parent working in a skilled occupation (semi-skilled or elementary = 1.00)					Average proportion of full-credit responses, by parents' highest occupation					Relative likelihood of success, in favour of students with at least one parent working in a skilled occupation (semi-skilled or elementary = 1.00)				
	Semi-skilled or elementary (ISCO 4 to 9)	Skilled (ISCO 1 to 3)	Difference related to parents' occupational status (skilled - semi-skilled or elementary)	Accounting for booklet effects ¹	Based on remaining test items ²	Semi-skilled or elementary (ISCO 4 to 9)	Skilled (ISCO 1 to 3)	Difference related to parents' occupational status (skilled - semi-skilled or elementary)	Accounting for booklet effects ¹	Based on remaining test items ²										
	%	S.E.	%	S.E.	% diff.	S.E.	Odds ratio	S.E.	Odds ratio	S.E.	%	S.E.	%	S.E.	% diff.	S.E.	Odds ratio	S.E.	Odds ratio	S.E.
OECD																				
Australia	48.8	(1.0)	58.5	(0.6)	9.7	(1.0)	1.47	(0.04)	1.05	(0.04)	43.9	(1.0)	52.5	(0.7)	8.6	(1.1)	1.40	(0.06)	0.99	(0.04)
Austria	42.4	(1.3)	56.8	(1.5)	14.4	(1.8)	1.85	(0.15)	1.28	(0.09)	36.0	(1.4)	47.7	(1.5)	11.7	(1.9)	1.68	(0.14)	1.12	(0.08)
Belgium	41.7	(1.2)	57.3	(1.0)	15.6	(1.6)	1.87	(0.13)	1.15	(0.07)	38.5	(1.2)	52.3	(0.9)	13.7	(1.4)	1.74	(0.10)	1.05	(0.06)
Canada	47.7	(1.2)	58.6	(0.8)	10.8	(1.4)	1.61	(0.10)	1.22	(0.06)	45.6	(1.1)	54.4	(1.1)	8.8	(1.4)	1.48	(0.08)	1.09	(0.05)
Chile	28.8	(1.1)	39.8	(1.8)	11.1	(2.0)	1.62	(0.15)	0.98	(0.07)	24.0	(1.1)	39.9	(1.7)	15.9	(2.1)	2.08	(0.21)	1.35	(0.10)
Czech Republic	41.3	(1.0)	55.9	(0.9)	14.7	(1.1)	1.81	(0.08)	1.10	(0.04)	37.9	(1.0)	50.9	(1.0)	12.9	(1.3)	1.70	(0.09)	1.01	(0.04)
Denmark	40.9	(1.3)	50.5	(1.3)	9.6	(1.9)	1.51	(0.11)	1.01	(0.06)	36.1	(1.8)	47.2	(1.3)	11.1	(2.0)	1.63	(0.14)	1.11	(0.07)
Estonia	44.5	(1.6)	52.9	(1.7)	8.5	(2.5)	1.41	(0.15)	1.08	(0.09)	42.1	(1.4)	47.0	(1.5)	4.9	(2.1)	1.23	(0.10)	0.91	(0.05)
Finland	47.2	(1.1)	57.4	(0.8)	10.2	(1.3)	1.52	(0.08)	1.18	(0.05)	41.7	(1.3)	49.0	(0.9)	7.3	(1.7)	1.35	(0.09)	1.01	(0.05)
France	46.1	(1.5)	57.9	(1.3)	11.8	(2.0)	1.64	(0.13)	1.03	(0.07)	40.8	(1.4)	52.9	(1.2)	12.1	(1.9)	1.67	(0.13)	1.06	(0.07)
Germany	44.7	(1.9)	59.7	(1.2)	15.0	(2.2)	1.86	(0.16)	1.18	(0.08)	38.0	(1.6)	52.3	(1.4)	14.3	(2.2)	1.80	(0.17)	1.13	(0.08)
Hungary	31.1	(1.3)	48.1	(1.8)	17.0	(2.2)	2.17	(0.21)	1.08	(0.08)	26.3	(1.3)	42.1	(1.7)	15.9	(2.2)	2.16	(0.23)	1.07	(0.08)
Ireland	41.4	(2.0)	53.8	(1.2)	12.4	(2.2)	1.66	(0.16)	1.12	(0.09)	36.2	(1.5)	46.8	(1.3)	10.6	(2.0)	1.57	(0.13)	1.04	(0.08)
Israel	30.5	(1.8)	49.6	(1.7)	19.1	(2.2)	2.35	(0.24)	1.08	(0.09)	25.0	(1.7)	42.0	(1.9)	17.1	(2.3)	2.30	(0.26)	1.04	(0.09)
Italy	48.7	(1.6)	57.3	(1.8)	8.6	(2.3)	1.49	(0.13)	1.29	(0.10)	46.3	(1.4)	49.8	(1.6)	3.5	(1.8)	1.20	(0.10)	0.97	(0.07)
Japan	60.1	(1.2)	65.2	(1.1)	5.1	(1.3)	1.23	(0.07)	1.05	(0.05)	53.8	(1.1)	58.6	(1.0)	4.8	(1.3)	1.20	(0.07)	1.02	(0.04)
Korea	61.5	(1.4)	67.6	(1.4)	6.1	(1.8)	1.38	(0.11)	1.16	(0.07)	58.1	(1.9)	62.8	(1.5)	4.7	(2.1)	1.28	(0.11)	1.06	(0.07)
Netherlands	42.6	(1.8)	56.8	(1.2)	14.2	(1.8)	1.79	(0.13)	1.06	(0.04)	34.2	(1.6)	49.7	(1.4)	15.4	(1.8)	1.91	(0.15)	1.15	(0.06)
Norway	45.5	(2.1)	54.5	(1.1)	8.9	(2.3)	1.49	(0.15)	1.03	(0.08)	37.4	(1.8)	46.7	(1.4)	9.3	(2.2)	1.52	(0.15)	1.06	(0.09)
Poland	38.9	(1.4)	51.3	(1.8)	12.4	(2.2)	1.67	(0.15)	1.01	(0.07)	32.6	(1.4)	47.4	(1.8)	14.9	(2.0)	1.90	(0.15)	1.19	(0.08)
Portugal	39.8	(1.6)	51.9	(1.7)	12.2	(2.3)	1.74	(0.18)	1.05	(0.10)	35.1	(1.6)	48.6	(1.8)	13.5	(2.4)	1.85	(0.19)	1.13	(0.11)
Slovak Republic	41.7	(1.4)	51.9	(1.9)	10.1	(2.2)	1.51	(0.14)	0.93	(0.07)	34.2	(1.3)	47.3	(1.6)	13.0	(2.0)	1.75	(0.15)	1.12	(0.07)
Slovenia	32.4	(1.4)	46.7	(1.5)	14.4	(2.2)	1.91	(0.19)	1.12	(0.10)	29.1	(1.4)	42.3	(1.3)	13.2	(1.9)	1.87	(0.15)	1.09	(0.08)
Spain	38.2	(1.0)	48.3	(1.5)	10.1	(1.6)	1.52	(0.11)	1.05	(0.06)	32.6	(1.1)	43.6	(1.4)	11.1	(1.8)	1.61	(0.13)	1.13	(0.08)
Sweden	42.8	(1.6)	52.9	(1.2)	10.1	(1.9)	1.55	(0.12)	1.06	(0.08)	34.4	(1.5)	47.5	(1.3)	13.2	(2.0)	1.80	(0.15)	1.28	(0.09)
Turkey	31.7	(0.8)	43.5	(2.2)	11.7	(2.1)	1.67	(0.14)	1.18	(0.07)	30.2	(1.0)	40.3	(2.0)	10.1	(1.8)	1.58	(0.12)	1.09	(0.06)
England (United Kingdom)	48.7	(1.4)	54.6	(1.4)	5.8	(1.8)	1.26	(0.09)	0.94	(0.05)	42.6	(1.4)	52.4	(1.4)	9.8	(1.8)	1.48	(0.11)	1.16	(0.06)
United States	40.5	(1.6)	54.6	(1.2)	14.1	(1.9)	1.83	(0.16)	1.20	(0.08)	39.1	(1.8)	47.6	(1.6)	8.5	(2.3)	1.45	(0.14)	0.89	(0.06)
OECD average	42.5	(0.3)	54.1	(0.3)	11.6	(0.4)	1.64	(0.03)	1.09	(0.01)	37.6	(0.3)	48.6	(0.3)	11.1	(0.4)	1.63	(0.03)	1.08	(0.01)
Partners																				
Brazil	28.3	(1.5)	35.6	(1.8)	7.2	(2.1)	1.41	(0.14)	0.90	(0.07)	21.4	(1.3)	33.7	(2.4)	12.3	(2.7)	1.88	(0.25)	1.30	(0.12)
Bulgaria	23.5	(1.0)	37.2	(1.4)	13.7	(1.7)	1.94	(0.15)	0.99	(0.05)	14.9	(0.9)	27.8	(1.3)	12.9	(1.5)	2.20	(0.20)	1.16	(0.08)
Colombia	22.3	(1.0)	32.9	(2.2)	10.6	(2.4)	1.71	(0.20)	1.13	(0.12)	16.5	(0.9)	26.3	(2.0)	9.7	(2.1)	1.81	(0.21)	1.20	(0.11)
Croatia	32.9	(1.0)	44.6	(1.4)	11.8	(1.5)	1.65	(0.10)	1.11	(0.05)	29.1	(1.1)	39.8	(1.7)	10.8	(1.6)	1.61	(0.12)	1.08	(0.06)
Cyprus*	32.9	(0.8)	42.3	(0.9)	9.4	(1.2)	1.50	(0.08)	0.93	(0.04)	26.6	(0.7)	38.3	(1.0)	11.7	(1.2)	1.72	(0.09)	1.11	(0.04)
Hong Kong-China	58.8	(1.3)	65.0	(1.7)	6.2	(1.9)	1.31	(0.11)	1.12	(0.07)	53.7	(1.2)	59.2	(1.7)	5.5	(2.0)	1.27	(0.10)	1.08	(0.08)
Macao-China	58.2	(1.0)	63.6	(1.4)	5.4	(1.6)	1.28	(0.10)	1.17	(0.08)	56.9	(1.1)	58.6	(1.3)	1.7	(1.7)	1.08	(0.08)	0.94	(0.06)
Malaysia	26.2	(0.8)	37.0	(1.5)	10.7	(1.6)	1.65	(0.12)	0.96	(0.05)	23.4	(0.9)	35.9	(1.5)	12.5	(1.5)	1.83	(0.13)	1.11	(0.05)
Montenegro	24.6	(0.9)	32.6	(1.0)	8.0	(1.4)	1.47	(0.10)	1.07	(0.06)	21.6	(0.7)	28.8	(1.1)	7.3	(1.4)	1.47	(0.11)	1.06	(0.06)
Russian Federation	35.5	(1.4)	47.6	(1.6)	12.1	(2.1)	1.68	(0.16)	1.14	(0.09)	32.3	(1.7)	43.2	(1.3)	11.0	(2.1)	1.62	(0.15)	1.09	(0.09)
Serbia	33.5	(1.2)	47.8	(1.2)	14.3	(1.7)	1.81	(0.13)	1.08	(0.06)	30.1	(1.0)	43.5	(1.3)	13.4	(1.7)	1.79	(0.13)	1.06	(0.07)
Shanghai-China	53.1	(1.6)	62.2	(1.4)	9.1	(2.0)	1.43	(0.12)	0.98	(0.08)	48.3	(1.9)	60.7	(1.5)	12.4	(2.2)	1.63	(0.15)	1.15	(0.10)
Singapore	56.6	(1.7)	68.6	(1.1)	12.0	(2.0)	1.72	(0.15)	1.29	(0.10)	54.9	(1.7)	62.6	(1.2)	7.7	(2.3)	1.41	(0.13)	0.99	(0.08)
Chinese Taipei	54.5	(1.4)	65.6	(1.4)	11.1	(1.9)	1.61	(0.13)	1.07	(0.07)	51.7	(1.6)	62.1	(1.5)	10.4	(2.1)	1.54	(0.13)	1.01	(0.06)
United Arab Emirates	21.5	(1.5)	33.6	(0.8)	12.1	(1.7)	1.91	(0.19)	1.01	(0.09)	17.4	(1.5)	30.3	(0.8)	13.0	(1.5)	2.11	(0.21)	1.14	(0.12)
Uruguay	23.8	(0.6)	37.9	(1.6)	14.1	(1.7)	1.95	(0.14)	1.05	(0.05)	18.4	(0.8)	34.1	(1.7)	15.7	(1.8)	2.30	(0.20)	1.28	(0.07)

Note: Values that are statistically significant are indicated in bold (see Annex A3).

- Generalised odds ratios estimated with logistic regression on national PISA samples. A success indicator for each item is regressed on an item type dummy, an occupational status dummy, and an interaction term (occupational status × item type). Booklet dummies are added to the estimation. This column presents the difference between the logit coefficient on the interaction term and the logit coefficient on the item type dummy in exponentiated form.
- Generalised odds ratios estimated with logistic regression on national PISA samples. A success indicator for each item is regressed on an item type dummy, an occupational status dummy, and an interaction term (occupational status × item type). Booklet dummies are added to the estimation. This column presents the logit coefficient on the interaction term in exponentiated form.

* See notes at the beginning of this Annex.

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[Part 2/2]

Performance on problem-solving tasks, by process and by parents' occupational status

Results based on students' self-reports

Table V.4.18b

	Items assessing the process of "planning and executing"									Items assessing the process of "monitoring and reflecting"									
	Average proportion of full-credit responses, by parents' highest occupation				Relative likelihood of success, in favour of students with at least one parent working in a skilled occupation (semi-skilled or elementary = 1.00)					Average proportion of full-credit responses, by parents' highest occupation				Relative likelihood of success, in favour of students with at least one parent working in a skilled occupation (semi-skilled or elementary = 1.00)					
	Semi-skilled or elementary (ISCO 4 to 9)		Skilled (ISCO 1 to 3)		Difference related to parents' occupational status (skilled - semi-skilled or elementary)	Accounting for booklet effects ¹	Based on success on remaining test items ²		Semi-skilled or elementary (ISCO 4 to 9)	Skilled (ISCO 1 to 3)	Difference related to parents' occupational status (skilled - semi-skilled or elementary)	Accounting for booklet effects ¹	Based on success on remaining test items ²						
	%	S.E.	%	S.E.	% dif.	S.E.	Odds ratio	S.E.	%	S.E.	%	S.E.	% dif.	S.E.	Odds ratio	S.E.	Odds ratio	S.E.	
OECD	Australia	46.3 (0.8)	54.4 (0.5)	8.2 (0.9)	1.37 (0.05)	0.96 (0.03)	39.9 (0.8)	49.3 (0.5)	9.4 (0.9)	1.46 (0.06)	1.04 (0.04)								
	Austria	43.9 (1.4)	51.5 (1.0)	7.5 (1.6)	1.39 (0.09)	0.85 (0.05)	34.5 (1.6)	40.4 (1.0)	5.9 (1.8)	1.32 (0.11)	0.83 (0.07)								
	Belgium	41.7 (0.9)	53.9 (0.9)	12.2 (1.5)	1.61 (0.09)	0.93 (0.05)	37.6 (1.0)	48.3 (1.1)	10.8 (1.6)	1.54 (0.10)	0.90 (0.05)								
	Canada	49.3 (0.9)	54.3 (0.8)	5.0 (1.2)	1.25 (0.06)	0.85 (0.04)	42.7 (1.1)	48.3 (1.0)	5.6 (1.4)	1.28 (0.08)	0.91 (0.06)								
	Chile	31.9 (0.9)	41.5 (1.2)	9.6 (1.4)	1.50 (0.10)	0.87 (0.05)	29.6 (1.0)	39.5 (1.4)	9.9 (1.9)	1.54 (0.13)	0.92 (0.06)								
	Czech Republic	42.3 (0.8)	54.3 (0.8)	12.0 (1.1)	1.62 (0.07)	0.94 (0.03)	36.3 (1.0)	48.2 (0.9)	12.0 (1.2)	1.64 (0.09)	0.97 (0.03)								
	Denmark	42.8 (1.5)	52.5 (0.9)	9.6 (1.7)	1.51 (0.10)	1.01 (0.06)	32.9 (1.5)	39.0 (1.1)	6.1 (1.9)	1.33 (0.11)	0.87 (0.08)								
	Estonia	45.9 (1.1)	53.5 (1.2)	7.6 (1.7)	1.35 (0.09)	1.03 (0.07)	39.6 (1.2)	45.7 (1.2)	6.2 (1.7)	1.29 (0.10)	0.97 (0.07)								
	Finland	47.3 (0.9)	53.4 (0.7)	6.1 (1.1)	1.28 (0.05)	0.94 (0.04)	40.0 (1.0)	44.4 (0.7)	4.4 (1.2)	1.20 (0.06)	0.88 (0.04)								
	France	43.7 (1.4)	54.3 (0.9)	10.6 (1.7)	1.57 (0.10)	0.96 (0.06)	38.7 (1.2)	49.0 (1.2)	10.3 (1.7)	1.56 (0.12)	0.96 (0.07)								
	Germany	45.4 (1.3)	55.7 (1.0)	10.3 (1.6)	1.52 (0.10)	0.89 (0.05)	38.4 (1.4)	47.3 (1.2)	8.8 (1.6)	1.44 (0.10)	0.86 (0.06)								
	Hungary	31.6 (1.1)	47.6 (1.4)	16.1 (1.8)	2.05 (0.16)	1.00 (0.06)	26.6 (1.3)	38.3 (1.8)	11.7 (2.0)	1.76 (0.17)	0.84 (0.06)								
	Ireland	40.8 (1.3)	50.1 (1.0)	9.3 (1.7)	1.44 (0.10)	0.92 (0.05)	37.2 (1.7)	46.8 (1.4)	9.6 (2.1)	1.47 (0.13)	0.96 (0.08)								
	Israel	27.5 (1.5)	43.8 (1.7)	16.3 (1.9)	2.14 (0.19)	0.94 (0.07)	22.9 (1.3)	38.4 (1.5)	15.5 (1.7)	2.19 (0.19)	0.98 (0.07)								
	Italy	47.7 (1.2)	49.4 (1.4)	1.7 (1.8)	1.12 (0.08)	0.86 (0.05)	41.9 (1.3)	44.9 (1.4)	2.9 (2.0)	1.17 (0.10)	0.94 (0.07)								
	Japan	54.8 (1.0)	58.5 (0.9)	3.7 (1.3)	1.15 (0.06)	0.96 (0.04)	50.6 (0.9)	54.8 (1.1)	4.2 (1.5)	1.18 (0.07)	0.99 (0.05)								
	Korea	53.1 (1.2)	55.7 (1.3)	2.6 (1.8)	1.15 (0.08)	0.90 (0.05)	52.2 (1.6)	55.1 (1.4)	2.9 (2.1)	1.16 (0.10)	0.93 (0.07)								
	Netherlands	42.2 (1.6)	54.2 (1.2)	12.0 (1.8)	1.63 (0.12)	0.92 (0.04)	35.7 (1.6)	46.8 (1.3)	11.1 (1.8)	1.59 (0.12)	0.92 (0.05)								
	Norway	42.4 (1.7)	51.1 (1.1)	8.6 (1.9)	1.47 (0.12)	1.01 (0.07)	34.6 (1.5)	40.4 (1.4)	5.8 (1.9)	1.32 (0.12)	0.89 (0.06)								
	Poland	39.4 (1.3)	50.2 (1.4)	10.8 (1.9)	1.56 (0.12)	0.91 (0.06)	31.4 (1.3)	41.9 (1.6)	10.5 (2.1)	1.59 (0.15)	0.95 (0.07)								
	Portugal	42.5 (1.0)	53.3 (1.6)	10.7 (1.8)	1.64 (0.12)	0.97 (0.07)	36.5 (1.3)	44.4 (1.9)	7.9 (2.2)	1.47 (0.14)	0.86 (0.07)								
	Slovak Republic	40.4 (1.1)	52.6 (1.3)	12.2 (1.7)	1.65 (0.11)	1.06 (0.06)	34.4 (1.2)	42.1 (1.4)	7.8 (2.0)	1.41 (0.13)	0.87 (0.07)								
	Slovenia	36.6 (1.0)	48.2 (1.1)	11.6 (1.5)	1.66 (0.11)	0.92 (0.05)	29.6 (1.2)	39.4 (1.0)	9.9 (1.6)	1.60 (0.12)	0.90 (0.07)								
	Spain	39.1 (1.1)	46.9 (1.0)	7.8 (1.4)	1.38 (0.08)	0.91 (0.06)	35.7 (1.2)	43.8 (1.4)	8.1 (1.8)	1.40 (0.11)	0.95 (0.07)								
	Sweden	40.8 (1.2)	48.0 (0.9)	7.2 (1.6)	1.36 (0.08)	0.88 (0.05)	34.5 (1.2)	40.8 (1.3)	6.2 (1.8)	1.33 (0.10)	0.88 (0.06)								
	Turkey	35.0 (0.8)	41.5 (1.3)	6.5 (1.2)	1.33 (0.07)	0.84 (0.04)	30.5 (0.9)	38.4 (2.0)	7.9 (2.0)	1.43 (0.12)	0.97 (0.07)								
	England (United Kingdom)	45.1 (1.2)	53.0 (1.1)	7.9 (1.4)	1.37 (0.08)	1.06 (0.05)	43.4 (1.5)	46.3 (1.1)	2.9 (1.7)	1.12 (0.08)	0.82 (0.05)								
	United States	40.8 (1.4)	51.3 (1.1)	10.4 (1.6)	1.56 (0.10)	0.98 (0.05)	37.4 (1.8)	46.9 (1.3)	9.6 (2.1)	1.51 (0.13)	0.94 (0.07)								
	OECD average	42.2 (0.2)	51.2 (0.2)	9.1 (0.3)	1.47 (0.02)	0.94 (0.01)	36.6 (0.2)	44.6 (0.2)	8.0 (0.3)	1.42 (0.02)	0.92 (0.01)								
Partners	Brazil	29.9 (1.4)	37.7 (1.6)	7.8 (2.1)	1.45 (0.14)	0.92 (0.07)	24.5 (1.1)	32.4 (1.6)	8.0 (2.0)	1.52 (0.16)	0.99 (0.09)								
	Bulgaria	22.7 (0.8)	35.2 (1.1)	12.5 (1.2)	1.85 (0.11)	0.92 (0.04)	17.8 (0.8)	29.8 (1.3)	12.1 (1.4)	1.97 (0.15)	1.02 (0.05)								
	Colombia	26.1 (1.0)	34.2 (1.6)	8.1 (1.9)	1.48 (0.13)	0.92 (0.06)	23.7 (1.0)	28.8 (1.5)	5.2 (1.7)	1.32 (0.11)	0.82 (0.08)								
	Croatia	37.5 (0.9)	46.0 (1.2)	8.5 (1.3)	1.42 (0.07)	0.89 (0.04)	29.9 (0.9)	39.0 (1.2)	9.1 (1.2)	1.50 (0.08)	0.98 (0.05)								
	Cyprus*	31.3 (0.6)	41.3 (0.9)	9.9 (1.0)	1.54 (0.07)	0.96 (0.03)	26.2 (0.6)	36.8 (0.9)	10.6 (1.1)	1.64 (0.09)	1.05 (0.05)								
	Hong Kong-China	51.0 (1.0)	53.1 (1.5)	2.2 (1.9)	1.08 (0.08)	0.85 (0.05)	47.2 (1.2)	52.4 (1.8)	5.2 (2.2)	1.24 (0.11)	1.04 (0.08)								
	Macao-China	50.8 (0.6)	53.4 (1.3)	2.5 (1.4)	1.11 (0.06)	0.98 (0.06)	45.8 (1.0)	47.1 (1.3)	1.2 (1.7)	1.05 (0.08)	0.91 (0.06)								
	Malaysia	25.4 (0.7)	35.7 (1.1)	10.3 (1.1)	1.63 (0.08)	0.94 (0.04)	20.5 (0.6)	31.1 (1.2)	10.6 (1.3)	1.75 (0.11)	1.04 (0.05)								
	Montenegro	28.1 (0.8)	35.0 (0.8)	6.8 (1.2)	1.37 (0.08)	0.96 (0.05)	22.4 (0.8)	27.7 (1.0)	5.2 (1.2)	1.32 (0.09)	0.93 (0.05)								
	Russian Federation	39.5 (1.0)	47.5 (1.0)	8.0 (1.5)	1.40 (0.09)	0.87 (0.05)	32.5 (1.1)	41.2 (1.4)	8.6 (1.6)	1.48 (0.10)	0.97 (0.06)								
	Serbia	35.7 (0.9)	47.8 (0.9)	12.1 (1.2)	1.65 (0.09)	0.94 (0.04)	28.4 (1.2)	39.6 (1.1)	11.2 (1.7)	1.65 (0.13)	0.96 (0.05)								
	Shanghai-China	45.6 (1.2)	52.8 (1.0)	7.2 (1.4)	1.31 (0.08)	0.84 (0.06)	39.7 (1.6)	52.6 (1.3)	13.0 (1.8)	1.67 (0.13)	1.18 (0.08)								
	Singapore	51.7 (1.4)	57.6 (1.0)	5.9 (1.8)	1.29 (0.09)	0.86 (0.05)	50.6 (1.6)	58.1 (1.1)	7.5 (2.1)	1.38 (0.11)	0.97 (0.07)								
	Chinese Taipei	47.2 (1.2)	55.8 (1.1)	8.6 (1.8)	1.43 (0.10)	0.90 (0.05)	40.4 (1.3)	52.4 (1.5)	11.9 (2.0)	1.64 (0.13)	1.09 (0.08)								
	United Arab Emirates	21.8 (1.3)	32.7 (0.7)	10.9 (1.3)	1.83 (0.13)	0.94 (0.06)	19.2 (1.2)	29.0 (0.8)	9.8 (1.5)	1.80 (0.17)	0.94 (0.08)								
	Uruguay	25.0 (0.7)	37.1 (1.3)	12.1 (1.5)	1.77 (0.12)	0.90 (0.04)	21.5 (0.7)	31.0 (1.5)	9.5 (1.5)	1.64 (0.12)	0.85 (0.04)								

Note: Values that are statistically significant are indicated in bold (see Annex A3).

- Generalised odds ratios estimated with logistic regression on national PISA samples. A success indicator for each item is regressed on an item type dummy, an occupational status dummy, and an interaction term (occupational status × item type). Booklet dummies are added to the estimation. This column presents the difference between the logit coefficient on the interaction term and the logit coefficient on the item type dummy in exponentiated form.
- Generalised odds ratios estimated with logistic regression on national PISA samples. A success indicator for each item is regressed on an item type dummy, an occupational status dummy, and an interaction term (occupational status × item type). Booklet dummies are added to the estimation. This column presents the logit coefficient on the interaction term in exponentiated form.

* See notes at the beginning of this Annex.

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[Part 1/2]
Performance in problem solving and immigrant background
Results based on students' self-reports

Table V.4.19

	Non-immigrant students				Second-generation immigrant students				First-generation immigrant students				Students with an immigrant background (first- or second-generation immigrant students)			
	Percentage of students		Performance in problem solving		Percentage of students		Performance in problem solving		Percentage of students		Performance in problem solving		Percentage of students		Performance in problem solving	
	%	S.E.	Mean score	S.E.	%	S.E.	Mean score	S.E.	%	S.E.	Mean score	S.E.	%	S.E.	Mean score	S.E.
OECD																
Australia	77.3	(0.7)	524	(1.9)	12.4	(0.6)	537	(4.8)	10.3	(0.4)	524	(4.0)	22.7	(0.7)	531	(3.4)
Austria	83.5	(1.1)	516	(3.6)	10.9	(0.7)	465	(6.0)	5.6	(0.6)	454	(8.6)	16.5	(1.1)	461	(5.7)
Belgium	84.7	(0.9)	522	(2.5)	8.0	(0.6)	438	(7.0)	7.3	(0.6)	455	(7.7)	15.3	(0.9)	446	(6.0)
Canada	70.4	(1.3)	532	(2.2)	16.6	(0.8)	519	(5.6)	13.0	(0.7)	521	(5.9)	29.6	(1.3)	520	(5.0)
Chile	99.1	(0.2)	448	(3.7)	0.2	(0.1)	c	c	0.7	(0.1)	454	(15.7)	0.9	(0.2)	448	(15.5)
Czech Republic	96.7	(0.4)	510	(3.2)	1.4	(0.3)	477	(20.6)	1.9	(0.2)	482	(11.5)	3.3	(0.4)	480	(11.4)
Denmark	90.8	(0.6)	505	(2.9)	6.1	(0.5)	436	(7.6)	3.0	(0.2)	424	(7.6)	9.2	(0.6)	432	(6.0)
Estonia	91.9	(0.5)	519	(2.5)	7.5	(0.5)	489	(7.3)	0.7	(0.2)	c	c	8.1	(0.5)	486	(7.3)
Finland	96.6	(0.2)	526	(2.3)	1.5	(0.1)	461	(5.7)	1.9	(0.2)	426	(8.2)	3.4	(0.2)	442	(5.2)
France	85.0	(1.1)	523	(3.5)	10.0	(0.8)	464	(8.7)	5.0	(0.5)	432	(10.3)	15.0	(1.1)	454	(7.1)
Germany	86.6	(0.8)	523	(3.4)	10.6	(0.7)	475	(6.8)	2.8	(0.3)	463	(10.6)	13.4	(0.8)	473	(6.1)
Hungary	98.3	(0.2)	459	(4.0)	1.0	(0.2)	482	(14.7)	0.8	(0.2)	c	c	1.7	(0.2)	479	(14.0)
Ireland	89.8	(0.7)	501	(3.4)	1.7	(0.2)	493	(14.1)	8.5	(0.7)	487	(5.6)	10.2	(0.7)	488	(5.1)
Israel	81.7	(1.2)	452	(5.7)	12.7	(0.8)	481	(9.4)	5.6	(0.6)	460	(10.7)	18.3	(1.2)	474	(8.4)
Italy	92.7	(0.6)	514	(4.1)	1.9	(0.3)	493	(10.1)	5.4	(0.5)	451	(10.5)	7.3	(0.6)	462	(9.2)
Japan	99.7	(0.1)	553	(3.1)	0.2	(0.1)	c	c	0.1	(0.0)	c	c	0.3	(0.1)	c	c
Korea	100.0	(0.0)	562	(4.3)	0.0	(0.0)	c	c	0.0	(0.0)	c	c	0.0	(0.0)	c	c
Netherlands	89.1	(1.0)	520	(4.0)	8.1	(0.9)	450	(9.7)	2.7	(0.4)	440	(15.8)	10.9	(1.0)	448	(9.5)
Norway	90.5	(0.9)	510	(3.0)	4.7	(0.6)	467	(17.1)	4.8	(0.5)	446	(8.7)	9.5	(0.9)	457	(10.5)
Poland	99.8	(0.1)	482	(4.4)	0.2	(0.1)	c	c	0.0	(0.0)	c	c	0.2	(0.1)	c	c
Portugal	93.1	(0.6)	498	(3.6)	3.3	(0.4)	459	(10.5)	3.6	(0.5)	475	(8.0)	6.9	(0.6)	468	(7.7)
Slovak Republic	99.3	(0.2)	485	(3.5)	0.4	(0.1)	c	c	0.3	(0.1)	c	c	0.7	(0.2)	512	(29.8)
Slovenia	91.3	(0.5)	481	(1.4)	6.5	(0.4)	453	(5.5)	2.2	(0.2)	383	(13.9)	8.7	(0.5)	435	(6.0)
Spain	89.6	(0.8)	482	(4.0)	1.4	(0.2)	458	(15.2)	9.0	(0.7)	440	(6.9)	10.4	(0.8)	443	(7.1)
Sweden	85.1	(0.9)	501	(3.2)	8.7	(0.6)	461	(5.8)	6.2	(0.5)	417	(9.1)	14.9	(0.9)	443	(5.1)
Turkey	99.1	(0.2)	455	(4.0)	0.7	(0.2)	489	(28.6)	0.2	(0.1)	c	c	0.9	(0.2)	466	(25.1)
England (United Kingdom)	85.7	(1.3)	523	(4.0)	6.4	(0.6)	474	(8.5)	7.9	(1.0)	503	(10.3)	14.3	(1.3)	490	(7.8)
United States	78.4	(2.0)	512	(3.8)	14.8	(1.4)	503	(6.9)	6.8	(0.8)	487	(11.4)	21.6	(2.0)	498	(7.1)
OECD average	90.2	(0.2)	505	(0.7)	5.6	(0.1)	475	(2.4)	4.2	(0.1)	458	(2.2)	9.8	(0.2)	469	(2.2)
Partners																
Brazil	99.3	(0.2)	431	(4.7)	0.4	(0.2)	c	c	0.3	(0.1)	c	c	0.7	(0.2)	409	(18.7)
Bulgaria	99.5	(0.2)	405	(5.0)	0.4	(0.2)	c	c	0.2	(0.1)	c	c	0.5	(0.2)	c	c
Colombia	99.7	(0.1)	400	(3.5)	0.2	(0.0)	c	c	0.1	(0.1)	c	c	0.3	(0.1)	322	(24.3)
Croatia	87.9	(0.8)	467	(4.0)	8.4	(0.5)	458	(6.0)	3.7	(0.4)	469	(8.5)	12.1	(0.8)	461	(5.4)
Cyprus*	91.5	(0.4)	447	(1.5)	1.8	(0.2)	457	(10.4)	6.7	(0.3)	429	(6.2)	8.5	(0.4)	435	(5.2)
Hong Kong-China	65.3	(1.5)	545	(4.7)	20.5	(0.8)	544	(3.7)	14.2	(1.0)	519	(5.1)	34.7	(1.5)	534	(3.7)
Macao-China	34.9	(0.6)	538	(1.8)	49.7	(0.7)	545	(1.7)	15.4	(0.4)	535	(3.0)	65.1	(0.6)	543	(1.4)
Malaysia	98.3	(0.3)	424	(3.5)	1.7	(0.3)	417	(8.6)	0.1	(0.0)	c	c	1.7	(0.3)	415	(8.4)
Montenegro	94.2	(0.4)	406	(1.2)	2.7	(0.2)	439	(9.6)	3.1	(0.3)	412	(8.7)	5.8	(0.4)	425	(6.9)
Russian Federation	89.1	(0.8)	490	(3.6)	7.7	(0.6)	485	(5.9)	3.2	(0.4)	476	(8.7)	10.9	(0.8)	482	(5.5)
Serbia	91.5	(0.8)	474	(3.2)	6.6	(0.6)	480	(7.1)	1.9	(0.3)	473	(14.5)	8.5	(0.8)	478	(7.1)
Shanghai-China	99.1	(0.2)	538	(3.2)	0.3	(0.1)	c	c	0.6	(0.1)	437	(13.8)	0.9	(0.2)	428	(12.7)
Singapore	81.7	(0.8)	561	(1.4)	5.9	(0.3)	592	(5.4)	12.4	(0.7)	567	(4.3)	18.3	(0.8)	575	(3.2)
Chinese Taipei	99.5	(0.1)	535	(2.9)	0.4	(0.1)	c	c	0.1	(0.0)	c	c	0.5	(0.1)	534	(15.4)
United Arab Emirates	45.2	(1.4)	376	(3.4)	23.2	(0.7)	424	(3.8)	31.6	(1.0)	459	(3.7)	54.8	(1.4)	444	(3.2)
Uruguay	99.5	(0.1)	405	(3.4)	0.2	(0.1)	c	c	0.3	(0.1)	c	c	0.5	(0.1)	c	c

Notes: Values that are statistically significant are indicated in bold (see Annex A3). This table was calculated considering all students with information on their immigrant status (students with missing data on the PISA index of economic, social and cultural status included).

* See notes at the beginning of this Annex.

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[Part 2/2]
Performance in problem solving and immigrant background
 Results based on students' self-reports

Table V.4.19

	Difference in problem-solving performance							Students with an immigrant background minus non-immigrant students, after accounting for students' socio-economic status	Increased likelihood of students with an immigrant background scoring below Level 2 (less than 423.42 score points)	Increased likelihood of students with an immigrant background scoring at or above Level 5 (above 618.21 score points)
	Second-generation immigrant students minus non-immigrant students		First-generation immigrant students minus non-immigrant students		First-generation immigrant students minus second-generation immigrant students		Students with an immigrant background minus non-immigrant students			
	Score dif.	S.E.	Score dif.	S.E.	Score dif.	S.E.	Score dif.	S.E.	Relative risk	S.E.
OECD										
Australia	13	(4.6)	0	(3.9)	-14	(5.9)	7	(3.1)	10	(3.0)
Austria	-51	(5.6)	-62	(9.2)	-12	(8.6)	-55	(5.8)	-32	(5.1)
Belgium	-84	(6.9)	-67	(7.5)	17	(8.7)	-76	(5.8)	-56	(4.9)
Canada	-13	(5.7)	-11	(5.9)	2	(5.6)	-12	(5.1)	-9	(4.8)
Chile	c	c	6	(15.2)	c	c	0	(14.6)	-9	(13.7)
Czech Republic	-34	(20.3)	-28	(12.0)	6	(22.7)	-30	(11.5)	-22	(11.0)
Denmark	-69	(8.5)	-80	(7.5)	-12	(9.7)	-72	(6.7)	-51	(5.8)
Estonia	-30	(7.2)	c	c	c	c	-33	(7.1)	-33	(6.8)
Finland	-65	(6.1)	-100	(7.9)	-35	(10.4)	-85	(5.1)	-65	(4.4)
France	-59	(8.6)	-91	(10.5)	-32	(12.7)	-69	(7.2)	-48	(6.8)
Germany	-48	(6.7)	-60	(10.4)	-12	(11.9)	-50	(5.9)	-24	(5.4)
Hungary	23	(14.4)	c	c	c	c	19	(13.7)	0	(14.4)
Ireland	-8	(14.2)	-14	(6.0)	-7	(15.5)	-13	(5.5)	-15	(5.2)
Israel	28	(8.3)	8	(11.4)	-20	(10.8)	22	(7.8)	32	(6.9)
Italy	-21	(9.5)	-63	(9.8)	-42	(12.3)	-52	(8.4)	-42	(8.4)
Japan	c	c	c	c	c	c	c	c	c	c
Korea	c	c	c	c	c	c	c	c	c	c
Netherlands	-70	(9.1)	-80	(14.7)	-10	(15.9)	-73	(8.4)	-52	(9.1)
Norway	-43	(16.7)	-63	(8.7)	-20	(16.2)	-53	(10.1)	-37	(10.1)
Poland	c	c	c	c	c	c	c	c	c	c
Portugal	-38	(10.4)	-23	(7.8)	16	(11.0)	-30	(7.5)	-25	(8.5)
Slovak Republic	c	c	c	c	c	c	27	(29.7)	26	(24.0)
Slovenia	-28	(5.6)	-98	(13.9)	-69	(14.1)	-46	(6.1)	-21	(5.7)
Spain	-24	(14.7)	-41	(6.3)	-17	(13.6)	-39	(6.4)	-25	(6.2)
Sweden	-40	(5.8)	-84	(9.6)	-44	(11.0)	-58	(5.4)	-43	(5.4)
Turkey	34	(28.6)	c	c	c	c	11	(25.2)	4	(22.0)
England (United Kingdom)	-49	(8.4)	-20	(9.8)	29	(11.7)	-33	(7.5)	-28	(6.2)
United States	-9	(6.6)	-25	(11.2)	-16	(10.8)	-14	(6.7)	9	(5.9)
OECD average	-30	(2.4)	-47	(2.2)	-15	(2.8)	-32	(2.2)	-22	(2.0)
Partners										
Brazil	c	c	c	c	c	c	-22	(18.1)	-39	(19.1)
Bulgaria	c	c	c	c	c	c	c	c	c	c
Colombia	c	c	c	c	c	c	-78	(24.2)	-75	(22.1)
Croatia	-9	(6.0)	2	(8.2)	11	(9.3)	-6	(5.2)	3	(4.9)
Cyprus*	10	(10.6)	-18	(6.1)	-28	(12.3)	-12	(5.3)	-6	(5.0)
Hong Kong-China	-1	(4.2)	-26	(5.7)	-25	(4.7)	-11	(4.3)	3	(3.8)
Macao-China	7	(2.7)	-2	(3.6)	-9	(3.5)	5	(2.5)	8	(2.6)
Malaysia	-7	(8.6)	c	c	c	c	-9	(8.4)	11	(8.9)
Montenegro	33	(9.7)	6	(8.9)	-28	(11.8)	18	(7.1)	14	(6.7)
Russian Federation	-5	(5.3)	-14	(8.6)	-9	(9.1)	-8	(5.0)	-5	(4.5)
Serbia	6	(7.0)	-1	(14.1)	-7	(14.4)	5	(6.9)	4	(6.3)
Shanghai-China	c	c	-101	(13.6)	c	c	-110	(12.7)	-86	(13.4)
Singapore	31	(5.8)	6	(4.6)	-25	(7.4)	14	(3.7)	-1	(3.9)
Chinese Taipei	c	c	c	c	c	c	-1	(14.9)	16	(14.0)
United Arab Emirates	48	(4.3)	84	(4.4)	36	(4.0)	69	(3.9)	65	(3.8)
Uruguay	c	c	c	c	c	c	c	c	c	c

Notes: Values that are statistically significant are indicated in bold (see Annex A3).

This table was calculated considering all students with information on their immigrant status (students with missing data on the PISA index of economic, social and cultural status included).

* See notes at the beginning of this Annex.

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[Part 1/3]
Differences in problem-solving, mathematics, reading and science performance related to immigrant background
Results based on students' self-reports

Table V.4.20

	Score-point difference related to immigrant background: Immigrant minus non-immigrant students											
	Problem solving		Mathematics		Reading		Science		Computer-based mathematics		Digital reading	
	Score dif.	S.E.	Score dif.	S.E.	Score dif.	S.E.	Score dif.	S.E.	Score dif.	S.E.	Score dif.	S.E.
OECD												
Australia	7	(3.1)	26	(3.5)	19	(3.0)	11	(3.5)	22	(3.5)	18	(3.4)
Austria	-55	(5.8)	-60	(5.2)	-51	(5.8)	-70	(5.0)	-48	(5.9)	-62	(6.8)
Belgium	-76	(5.8)	-76	(5.1)	-66	(5.8)	-76	(5.3)	-57	(4.7)	-71	(6.4)
Canada	-12	(5.1)	-2	(4.5)	3	(4.2)	-10	(4.7)	7	(5.5)	1	(4.0)
Chile	0	(14.6)	-1	(13.3)	9	(14.2)	2	(13.1)	17	(13.5)	32	(15.5)
Czech Republic	-30	(11.5)	-28	(11.5)	-20	(10.4)	-38	(10.7)	m	m	m	m
Denmark	-72	(6.7)	-67	(3.5)	-59	(3.5)	-80	(3.8)	-62	(5.3)	-61	(3.6)
Estonia	-33	(7.1)	-30	(5.8)	-35	(5.2)	-32	(5.9)	-41	(5.5)	-45	(7.4)
Finland	-85	(5.1)	-86	(4.9)	-93	(5.1)	-106	(5.4)	m	m	m	m
France	-69	(7.2)	-67	(6.9)	-67	(8.5)	-77	(8.6)	-58	(7.1)	-54	(8.4)
Germany	-50	(5.9)	-56	(5.9)	-49	(5.7)	-66	(6.1)	-40	(6.2)	-44	(6.0)
Hungary	19	(13.7)	32	(13.1)	16	(14.0)	24	(11.5)	4	(13.1)	16	(16.9)
Ireland	-13	(5.5)	-3	(4.7)	-11	(4.9)	-2	(5.0)	1	(5.1)	-11	(5.8)
Israel	22	(7.8)	7	(5.7)	8	(6.2)	10	(6.4)	7	(6.4)	14	(6.7)
Italy	-52	(8.4)	-49	(7.4)	-64	(8.9)	-52	(7.6)	-53	(5.9)	-42	(8.4)
Japan	c	c	c	c	c	c	c	c	c	c	c	c
Korea	c	c	c	c	c	c	c	c	c	c	c	c
Netherlands	-73	(8.4)	-58	(7.0)	-56	(7.8)	-68	(6.8)	m	m	m	m
Norway	-53	(10.1)	-47	(6.7)	-50	(6.5)	-69	(7.4)	-35	(6.9)	-65	(8.6)
Poland	c	c	c	c	c	c	c	c	c	c	c	c
Portugal	-30	(7.5)	-44	(7.1)	-38	(7.8)	-44	(7.5)	-35	(6.0)	-45	(6.4)
Slovak Republic	27	(29.7)	6	(21.1)	7	(20.3)	-10	(21.5)	31	(19.0)	2	(25.4)
Slovenia	-46	(6.1)	-52	(5.2)	-46	(4.8)	-58	(4.6)	-40	(4.9)	-43	(5.5)
Spain	-39	(6.4)	-57	(5.1)	-53	(4.9)	-52	(5.7)	-64	(4.8)	-57	(6.7)
Sweden	-58	(5.4)	-60	(5.1)	-63	(5.8)	-72	(5.6)	-41	(4.3)	-54	(5.6)
Turkey	11	(25.2)	3	(31.1)	-12	(26.9)	-17	(27.5)	m	m	m	m
England (United Kingdom)	-33	(7.5)	-15	(8.4)	-13	(8.1)	-26	(8.0)	m	m	m	m
United States	-14	(6.7)	-13	(5.8)	-7	(5.2)	-26	(5.8)	-16	(6.2)	-19	(6.6)
OECD average	-32	(2.2)	-32	(2.0)	-32	(2.0)	-40	(1.9)	-25	(1.8)	-30	(2.2)
Partners												
Brazil	-22	(18.1)	-78	(16.1)	-84	(22.8)	-78	(17.4)	-99	(23.7)	-86	(20.9)
Bulgaria	c	c	c	c	c	c	c	m	m	m	m	m
Colombia	-78	(24.2)	-69	(13.0)	-92	(21.7)	-81	(16.2)	-89	(13.9)	-122	(25.8)
Croatia	-6	(5.2)	-19	(5.2)	-19	(6.4)	-23	(5.7)	m	m	m	m
Cyprus*	-12	(5.3)	-21	(5.0)	-10	(5.3)	-16	(5.2)	m	m	m	m
Hong Kong-China	-11	(4.3)	-7	(4.4)	0	(4.3)	-6	(3.8)	-7	(4.0)	-6	(4.4)
Macao-China	5	(2.5)	16	(2.8)	22	(2.2)	16	(2.3)	14	(2.8)	15	(2.1)
Malaysia	-9	(8.4)	-21	(8.9)	2	(11.8)	-15	(9.6)	m	m	m	m
Montenegro	18	(7.1)	21	(6.5)	3	(7.1)	24	(6.2)	m	m	m	m
Russian Federation	-8	(5.0)	-22	(4.5)	-29	(4.7)	-30	(4.8)	-20	(3.9)	-8	(5.5)
Serbia	5	(6.9)	15	(6.2)	24	(6.8)	13	(6.7)	m	m	m	m
Shanghai-China	-110	(12.7)	-126	(14.6)	-90	(13.8)	-109	(12.7)	-92	(11.1)	-123	(14.4)
Singapore	14	(3.7)	26	(4.3)	18	(4.1)	22	(3.9)	21	(4.3)	-3	(3.2)
Chinese Taipei	-1	(14.9)	-32	(23.1)	-17	(15.3)	-14	(14.6)	-56	(15.3)	-27	(17.1)
United Arab Emirates	69	(3.9)	66	(3.1)	63	(3.1)	66	(3.2)	54	(3.3)	79	(4.4)
Uruguay	c	c	c	c	c	c	c	m	m	m	m	m

Note: Values that are statistically significant are indicated in bold (see Annex A3).

* See notes at the beginning of this Annex.

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[Part 2/3]
Differences in problem-solving, mathematics, reading and science performance related to immigrant background
Results based on students' self-reports

Table V.4.20

	Immigrant effect size: Performance difference related to immigrant background divided by the variation in scores within each country/economy (standard deviation)											
	Problem solving		Mathematics		Reading		Science		Computer-based mathematics		Digital reading	
	Effect size	S.E.	Effect size	S.E.	Effect size	S.E.	Effect size	S.E.	Effect size	S.E.	Effect size	S.E.
OECD												
Australia	0.07	(0.03)	0.27	(0.04)	0.20	(0.03)	0.11	(0.03)	0.24	(0.04)	0.19	(0.03)
Austria	-0.59	(0.06)	-0.65	(0.05)	-0.55	(0.06)	-0.76	(0.05)	-0.55	(0.06)	-0.60	(0.06)
Belgium	-0.72	(0.05)	-0.75	(0.05)	-0.66	(0.06)	-0.77	(0.05)	-0.59	(0.05)	-0.72	(0.06)
Canada	-0.12	(0.05)	-0.03	(0.05)	0.03	(0.05)	-0.11	(0.05)	0.08	(0.06)	0.02	(0.05)
Chile	0.00	(0.17)	-0.02	(0.16)	0.11	(0.18)	0.03	(0.16)	0.21	(0.16)	0.39	(0.19)
Czech Republic	-0.32	(0.12)	-0.30	(0.12)	-0.23	(0.12)	-0.42	(0.12)	m	m	m	m
Denmark	-0.79	(0.07)	-0.83	(0.04)	-0.70	(0.05)	-0.88	(0.04)	-0.72	(0.06)	-0.74	(0.05)
Estonia	-0.38	(0.08)	-0.37	(0.07)	-0.44	(0.07)	-0.41	(0.07)	-0.50	(0.07)	-0.49	(0.08)
Finland	-0.91	(0.05)	-1.02	(0.06)	-1.00	(0.06)	-1.16	(0.06)	m	m	m	m
France	-0.72	(0.08)	-0.70	(0.07)	-0.62	(0.08)	-0.77	(0.08)	-0.63	(0.07)	-0.56	(0.09)
Germany	-0.52	(0.06)	-0.58	(0.06)	-0.54	(0.06)	-0.69	(0.06)	-0.42	(0.06)	-0.45	(0.06)
Hungary	0.19	(0.13)	0.34	(0.14)	0.17	(0.15)	0.27	(0.13)	0.04	(0.14)	0.14	(0.15)
Ireland	-0.14	(0.06)	-0.04	(0.06)	-0.13	(0.06)	-0.03	(0.06)	0.01	(0.06)	-0.14	(0.07)
Israel	0.18	(0.06)	0.07	(0.05)	0.07	(0.06)	0.09	(0.06)	0.07	(0.06)	0.12	(0.06)
Italy	-0.57	(0.09)	-0.54	(0.08)	-0.67	(0.09)	-0.55	(0.08)	-0.64	(0.07)	-0.44	(0.09)
Japan	c	c	c	c	c	c	c	c	c	c	c	
Korea	c	c	c	c	c	c	c	c	c	c	c	
Netherlands	-0.74	(0.08)	-0.64	(0.07)	-0.61	(0.08)	-0.73	(0.07)	m	m	m	m
Norway	-0.52	(0.10)	-0.53	(0.07)	-0.51	(0.07)	-0.71	(0.07)	-0.41	(0.08)	-0.66	(0.08)
Poland	c	c	c	c	c	c	c	c	c	c	c	
Portugal	-0.35	(0.08)	-0.48	(0.08)	-0.42	(0.09)	-0.50	(0.08)	-0.42	(0.07)	-0.51	(0.07)
Slovak Republic	0.27	(0.31)	0.06	(0.21)	0.07	(0.20)	-0.10	(0.21)	0.36	(0.22)	0.02	(0.27)
Slovenia	-0.47	(0.06)	-0.57	(0.06)	-0.51	(0.05)	-0.64	(0.05)	-0.46	(0.06)	-0.44	(0.06)
Spain	-0.37	(0.06)	-0.66	(0.06)	-0.59	(0.05)	-0.62	(0.06)	-0.78	(0.06)	-0.58	(0.07)
Sweden	-0.61	(0.06)	-0.66	(0.06)	-0.61	(0.06)	-0.74	(0.06)	-0.48	(0.05)	-0.56	(0.06)
Turkey	0.14	(0.32)	0.04	(0.34)	-0.14	(0.31)	-0.21	(0.35)	m	m	m	m
England (United Kingdom)	-0.34	(0.08)	-0.16	(0.09)	-0.14	(0.08)	-0.27	(0.08)	m	m	m	m
United States	-0.15	(0.07)	-0.15	(0.06)	-0.08	(0.06)	-0.27	(0.06)	-0.19	(0.07)	-0.21	(0.08)
OECD average	-0.34	(0.02)	-0.36	(0.02)	-0.34	(0.02)	-0.43	(0.02)	-0.29	(0.02)	-0.31	(0.02)
Partners												
Brazil	-0.24	(0.20)	-0.98	(0.20)	-0.99	(0.26)	-1.00	(0.22)	-1.18	(0.27)	-0.94	(0.22)
Bulgaria	c	c	c	c	c	c	c	m	m	m	m	
Colombia	-0.86	(0.26)	-0.93	(0.17)	-1.10	(0.26)	-1.06	(0.21)	-1.22	(0.19)	-1.34	(0.28)
Croatia	-0.06	(0.06)	-0.21	(0.06)	-0.22	(0.07)	-0.27	(0.07)	m	m	m	m
Cyprus*	-0.12	(0.05)	-0.23	(0.05)	-0.09	(0.05)	-0.17	(0.05)	m	m	m	m
Hong Kong-China	-0.12	(0.05)	-0.08	(0.05)	-0.01	(0.05)	-0.07	(0.05)	-0.09	(0.05)	-0.07	(0.05)
Macao-China	0.06	(0.03)	0.17	(0.03)	0.27	(0.03)	0.21	(0.03)	0.17	(0.03)	0.21	(0.03)
Malaysia	-0.11	(0.10)	-0.26	(0.11)	0.03	(0.14)	-0.19	(0.12)	m	m	m	m
Montenegro	0.20	(0.08)	0.26	(0.08)	0.03	(0.08)	0.29	(0.07)	m	m	m	m
Russian Federation	-0.09	(0.06)	-0.25	(0.05)	-0.32	(0.05)	-0.36	(0.06)	-0.26	(0.05)	-0.09	(0.06)
Serbia	0.05	(0.08)	0.16	(0.07)	0.26	(0.07)	0.15	(0.08)	m	m	m	m
Shanghai-China	-1.23	(0.14)	-1.25	(0.14)	-1.13	(0.17)	-1.34	(0.15)	-0.99	(0.12)	-1.48	(0.16)
Singapore	0.15	(0.04)	0.25	(0.04)	0.18	(0.04)	0.22	(0.04)	0.22	(0.04)	-0.03	(0.04)
Chinese Taipei	-0.01	(0.16)	-0.28	(0.20)	-0.19	(0.17)	-0.17	(0.18)	-0.64	(0.17)	-0.31	(0.19)
United Arab Emirates	0.66	(0.03)	0.74	(0.03)	0.67	(0.03)	0.71	(0.03)	0.65	(0.03)	0.72	(0.04)
Uruguay	c	c	c	c	c	c	c	m	m	m	m	

Note: Values that are statistically significant are indicated in bold (see Annex A3).

* See notes at the beginning of this Annex.

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[Part 3/3]
Differences in problem-solving, mathematics, reading and science performance related to immigrant background
Results based on students' self-reports

Table V.4.20

	Difference in immigrant effect sizes between problem solving (PS) and...							
	... Mathematics (PS - M)		... Reading (PS - R)		... Science (PS - S)		... Computer-based mathematics (PS - CBM)	
	Effect size dif.	S.E.	Effect size dif.	S.E.	Effect size dif.	S.E.	Effect size dif.	S.E.
OECD								
Australia	-0.20	(0.02)	-0.12	(0.02)	-0.04	(0.02)	-0.16	(0.02)
Austria	0.06	(0.04)	-0.03	(0.05)	0.18	(0.04)	-0.04	(0.05)
Belgium	0.03	(0.03)	-0.06	(0.04)	0.05	(0.04)	-0.14	(0.04)
Canada	-0.09	(0.03)	-0.15	(0.03)	-0.01	(0.03)	-0.20	(0.04)
Chile	0.02	(0.11)	-0.11	(0.11)	-0.03	(0.13)	-0.21	(0.13)
Czech Republic	-0.02	(0.05)	-0.09	(0.08)	0.10	(0.06)	m	m
Denmark	0.04	(0.05)	-0.09	(0.08)	0.09	(0.06)	-0.07	(0.04)
Estonia	0.00	(0.05)	0.07	(0.06)	0.03	(0.06)	0.12	(0.06)
Finland	0.10	(0.04)	0.08	(0.04)	0.25	(0.04)	m	m
France	-0.03	(0.05)	-0.10	(0.06)	0.05	(0.06)	-0.10	(0.04)
Germany	0.07	(0.04)	0.02	(0.04)	0.18	(0.04)	-0.10	(0.04)
Hungary	-0.15	(0.09)	0.01	(0.12)	-0.08	(0.09)	0.14	(0.14)
Ireland	-0.11	(0.04)	-0.01	(0.05)	-0.12	(0.04)	-0.15	(0.05)
Israel	0.12	(0.04)	0.11	(0.04)	0.09	(0.04)	0.12	(0.05)
Italy	-0.04	(0.06)	0.10	(0.07)	-0.02	(0.05)	0.06	(0.06)
Japan	c	c	c	c	c	c	c	c
Korea	c	c	c	c	c	c	c	c
Netherlands	-0.11	(0.08)	-0.13	(0.09)	-0.01	(0.07)	m	m
Norway	0.01	(0.05)	-0.01	(0.07)	0.19	(0.06)	-0.11	(0.08)
Poland	c	c	c	c	c	c	c	c
Portugal	0.13	(0.05)	0.08	(0.06)	0.16	(0.07)	0.07	(0.05)
Slovak Republic	0.22	(0.28)	0.21	(0.24)	0.38	(0.28)	-0.08	(0.20)
Slovenia	0.09	(0.05)	0.03	(0.05)	0.16	(0.04)	-0.02	(0.04)
Spain	0.29	(0.05)	0.22	(0.06)	0.25	(0.05)	0.40	(0.07)
Sweden	0.05	(0.05)	0.00	(0.05)	0.13	(0.05)	-0.13	(0.05)
Turkey	0.10	(0.09)	0.28	(0.14)	0.35	(0.14)	m	m
England (United Kingdom)	-0.18	(0.05)	-0.21	(0.05)	-0.08	(0.05)	m	m
United States	-0.01	(0.04)	-0.07	(0.05)	0.12	(0.05)	0.03	(0.05)
OECD average	0.02	(0.02)	0.00	(0.02)	0.09	(0.02)	-0.03	(0.02)
Partners								
Brazil	0.74	(0.15)	0.75	(0.20)	0.75	(0.15)	0.94	(0.23)
Bulgaria	c	c	c	c	c	c	m	m
Colombia	0.08	(0.26)	0.24	(0.29)	0.20	(0.26)	0.36	(0.27)
Croatia	0.15	(0.04)	0.16	(0.05)	0.21	(0.04)	m	m
Cyprus*	0.10	(0.04)	-0.03	(0.04)	0.05	(0.04)	m	m
Hong Kong-China	-0.04	(0.03)	-0.11	(0.03)	-0.05	(0.03)	-0.03	(0.03)
Macao-China	-0.10	(0.03)	-0.21	(0.02)	-0.14	(0.03)	-0.11	(0.03)
Malaysia	0.15	(0.09)	-0.14	(0.12)	0.08	(0.11)	m	m
Montenegro	-0.06	(0.04)	0.17	(0.06)	-0.09	(0.06)	m	m
Russian Federation	0.16	(0.05)	0.23	(0.05)	0.26	(0.06)	0.16	(0.04)
Serbia	-0.11	(0.04)	-0.21	(0.05)	-0.10	(0.05)	m	m
Shanghai-China	0.02	(0.12)	-0.10	(0.16)	0.10	(0.13)	-0.25	(0.11)
Singapore	-0.10	(0.02)	-0.02	(0.03)	-0.07	(0.02)	-0.07	(0.03)
Chinese Taipei	0.26	(0.13)	0.18	(0.13)	0.15	(0.14)	0.63	(0.11)
United Arab Emirates	-0.08	(0.03)	-0.01	(0.03)	-0.05	(0.03)	0.01	(0.02)
Uruguay	c	c	c	c	c	c	m	m

Note: Values that are statistically significant are indicated in bold (see Annex A3).

* See notes at the beginning of this Annex.

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[Part 1/1]
Relative performance in problem solving, by immigrant background
Results based on students' self-reports

Table V.4.21

	Problem-solving performance among immigrant students, compared to that of non-immigrant students with similar performance in mathematics, reading and science																
	Average difference in problem solving compared with non-immigrant students with similar performance in mathematics ¹		Percentage of immigrant students who outperform non-immigrant students with similar performance in mathematics ²		Average difference in problem solving compared with non-immigrant students with similar performance in reading ¹		Percentage of immigrant students who outperform non-immigrant students with similar performance in reading ²		Average difference in problem solving compared with non-immigrant students with similar performance in science ¹		Percentage of immigrant students who outperform non-immigrant students with similar performance in science ²		Average difference in problem solving compared with non-immigrant students with similar performance in mathematics, reading and science ³		Percentage of immigrant students who outperform non-immigrant students with similar performance in mathematics, reading and science ²		
	Score dif.	S.E.	%	S.E.	Score dif.	S.E.	%	S.E.	Score dif.	S.E.	%	S.E.	Score dif.	S.E.	%	S.E.	
OECD																	
Australia	-14	(2.0)	40.1	(1.8)	-8	(2.2)	45.7	(1.7)	-1	(2.2)	49.7	(1.8)	-12	(2.0)	41.7	(1.7)	
Austria	-7	(3.9)	44.3	(3.2)	-16	(4.3)	38.9	(3.3)	0	(4.5)	50.1	(3.4)	-7	(4.0)	43.3	(4.0)	
Belgium	-13	(4.1)	42.4	(2.9)	-23	(4.3)	38.2	(2.5)	-13	(4.2)	43.3	(2.6)	-11	(4.0)	43.6	(2.6)	
Canada	-10	(2.9)	44.1	(2.2)	-14	(3.2)	41.4	(2.3)	-4	(3.0)	48.1	(2.1)	-9	(2.8)	44.3	(2.2)	
Chile	2	(9.1)	52.0	(10.3)	-7	(8.5)	48.2	(8.1)	-1	(10.3)	49.0	(9.8)	0	(8.5)	52.6	(11.0)	
Czech Republic	-4	(4.7)	49.5	(5.6)	-13	(7.1)	43.2	(6.9)	2	(6.0)	51.7	(7.5)	-2	(4.8)	50.1	(7.5)	
Denmark	-15	(5.5)	40.2	(3.6)	-30	(7.3)	33.6	(3.4)	-17	(6.3)	39.9	(3.8)	-14	(5.9)	40.9	(3.9)	
Estonia	-6	(4.4)	45.2	(4.0)	-3	(4.9)	48.8	(4.4)	-4	(4.8)	46.8	(4.9)	-2	(4.3)	48.7	(4.6)	
Finland	-6	(4.4)	46.8	(4.4)	-17	(3.5)	40.2	(3.6)	0	(3.9)	51.4	(3.6)	0	(4.1)	51.7	(3.8)	
France	-15	(5.3)	42.2	(4.0)	-26	(5.3)	34.5	(3.4)	-11	(5.6)	45.0	(3.8)	-11	(5.5)	44.6	(4.3)	
Germany	-3	(3.4)	49.1	(3.2)	-10	(3.7)	46.1	(3.0)	5	(3.9)	55.2	(3.6)	1	(3.4)	52.7	(3.5)	
Hungary	-10	(8.5)	43.7	(8.1)	5	(10.6)	53.4	(8.1)	-4	(8.8)	46.7	(10.0)	-7	(8.4)	43.7	(9.9)	
Ireland	-11	(3.7)	40.5	(2.9)	-4	(4.2)	47.0	(3.0)	-11	(3.9)	41.3	(3.3)	-10	(3.6)	41.3	(3.9)	
Israel	15	(4.6)	61.1	(2.9)	15	(4.9)	59.0	(3.5)	12	(4.9)	58.4	(3.5)	14	(4.5)	60.0	(3.3)	
Italy	-16	(5.8)	42.7	(3.9)	-12	(6.5)	43.1	(4.4)	-17	(5.5)	43.0	(3.9)	-13	(5.9)	44.4	(4.3)	
Japan	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c		
Korea	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c		
Netherlands	-22	(8.2)	38.9	(4.6)	-27	(8.7)	36.2	(4.4)	-13	(7.7)	42.8	(5.6)	-15	(7.7)	42.3	(5.0)	
Norway	-11	(6.4)	42.5	(4.5)	-17	(7.6)	41.9	(4.0)	1	(7.2)	51.4	(4.2)	-7	(6.8)	45.3	(4.8)	
Poland	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c		
Portugal	4	(4.0)	55.5	(3.9)	-4	(4.6)	48.5	(4.2)	3	(5.2)	54.4	(4.3)	4	(4.1)	56.6	(4.5)	
Slovak Republic	22	(26.7)	52.7	(13.7)	22	(23.6)	59.1	(12.0)	35	(26.4)	62.6	(13.7)	23	(25.8)	52.8	(14.0)	
Slovenia	-1	(4.5)	53.6	(3.7)	-10	(4.6)	44.2	(4.8)	3	(4.2)	55.8	(3.8)	2	(4.2)	54.7	(3.8)	
Spain	15	(4.8)	60.9	(3.1)	4	(6.0)	54.4	(4.2)	10	(4.9)	55.3	(3.3)	16	(4.5)	61.6	(3.0)	
Sweden	-7	(4.7)	44.6	(3.5)	-18	(4.6)	39.5	(3.2)	-5	(4.7)	46.6	(3.3)	-4	(4.9)	46.0	(3.6)	
Turkey	10	(7.1)	63.5	(9.3)	18	(11.5)	59.9	(10.2)	23	(10.6)	67.0	(11.0)	13	(7.4)	63.1	(9.1)	
England (United Kingdom)	-19	(4.0)	35.6	(4.8)	-23	(4.4)	35.2	(3.0)	-12	(4.5)	42.0	(4.7)	-17	(3.8)	37.6	(5.0)	
United States	-2	(4.0)	48.4	(3.7)	-8	(4.6)	43.6	(3.5)	7	(4.4)	55.9	(3.7)	-1	(4.2)	49.4	(3.4)	
OECD average	-5	(1.5)	47.2	(1.1)	-9	(1.5)	45.0	(1.0)	0	(1.6)	50.1	(1.2)	-3	(1.5)	48.5	(1.2)	
Partners		55	(14.4)	82.4	(13.9)	40	(14.8)	75.6	(11.2)	43	(11.5)	80.0	(10.2)	59	(13.3)	84.7	(12.4)
Brazil	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c		
Bulgaria	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c		
Colombia	-17	(22.1)	42.3	(13.6)	-16	(22.1)	42.7	(13.5)	-17	(21.4)	43.0	(13.5)	-10	(22.0)	45.5	(13.5)	
Croatia	11	(3.1)	59.4	(3.2)	10	(3.7)	55.9	(3.2)	15	(3.0)	60.7	(2.7)	13	(3.1)	60.7	(3.0)	
Cyprus*	6	(4.0)	55.2	(3.2)	-6	(3.8)	46.7	(3.3)	1	(3.5)	51.5	(3.7)	4	(3.7)	53.0	(3.0)	
Hong Kong-China	-6	(2.6)	47.9	(2.2)	-10	(2.7)	44.6	(1.9)	-6	(2.8)	46.8	(2.2)	-7	(2.8)	46.8	(2.4)	
Macao-China	-6	(2.0)	45.7	(1.6)	-10	(1.9)	43.6	(1.5)	-7	(2.0)	45.6	(1.7)	-7	(1.9)	44.6	(1.5)	
Malaysia	9	(7.0)	57.4	(8.6)	-11	(8.0)	41.0	(7.5)	3	(8.0)	50.5	(8.9)	7	(7.1)	54.9	(7.8)	
Montenegro	-1	(3.9)	49.9	(3.9)	17	(4.9)	62.1	(3.8)	-2	(5.2)	48.8	(5.0)	-1	(4.0)	49.1	(3.8)	
Russian Federation	8	(4.0)	55.5	(3.3)	10	(4.2)	56.2	(2.7)	12	(4.7)	58.2	(3.1)	9	(3.9)	56.6	(3.6)	
Serbia	-7	(3.8)	43.4	(3.9)	-12	(4.2)	43.8	(4.0)	-6	(4.4)	46.7	(4.3)	-8	(3.8)	42.3	(3.6)	
Shanghai-China	-16	(9.9)	39.5	(11.8)	-30	(12.6)	30.6	(8.8)	-15	(11.0)	40.6	(10.8)	-15	(10.8)	40.0	(10.3)	
Singapore	-5	(1.9)	46.0	(2.0)	2	(2.5)	51.1	(1.8)	-2	(2.3)	48.9	(1.9)	-6	(2.0)	45.6	(2.1)	
Chinese Taipei	20	(10.3)	66.4	(11.8)	13	(10.7)	60.6	(11.1)	11	(11.6)	58.7	(10.8)	18	(10.1)	66.7	(12.4)	
United Arab Emirates	11	(3.5)	58.3	(2.4)	19	(3.2)	61.1	(2.0)	13	(2.8)	59.3	(1.9)	8	(3.0)	56.3	(2.3)	
Uruguay	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c		

Note: Values that are statistically significant are indicated in bold (see Annex A3).

1. This column reports the difference between actual performance and the fitted value from a regression using a cubic polynomial as regression function.

2. This column reports the percentage of students for whom the difference between actual performance and the fitted value from a regression is positive. Values that are indicated in bold are significantly larger or smaller than 50%.

3. This column reports the difference between actual performance and the fitted value from a regression using a second-degree polynomial as regression function (math, math \times read, read \times scie, scie \times math, math \times read, math \times scie, read \times scie).

* See notes at the beginning of this Annex.

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[Part 1/1]

Performance on problem-solving tasks, by nature of problem and by immigrant background

Results based on students' self-reports

	Items referring to a static problem situation												Items referring to an interactive problem situation												
	Average proportion of full-credit responses						Relative likelihood of success, in favour of immigrant students (non-immigrant students = 1.00)						Average proportion of full-credit responses						Relative likelihood of success, in favour of immigrant students (non-immigrant students = 1.00)						
	Non-immigrant students		Immigrant students		Difference between immigrant and non-immigrant students		Accounting for booklet effects ¹		Based on success on remaining test items ²		Non-immigrant students		Immigrant students		Difference between immigrant and non-immigrant students		Accounting for booklet effects ¹		Based on success on remaining test items ²						
	%	S.E.	%	S.E.	% dif.	S.E.	Odds ratio	S.E.	Odds ratio	S.E.	%	S.E.	%	S.E.	% dif.	S.E.	Odds ratio	S.E.	Odds ratio	S.E.					
OECD	Australia	53.1	(0.5)	54.1	(1.1)	1.0	(1.2)	1.05	(0.05)	1.00	(0.04)	50.3	(0.5)	51.4	(1.0)	1.0	(1.0)	1.05	(0.04)	1.00	(0.04)				
	Austria	50.2	(1.0)	41.0	(2.6)	-9.2	(2.7)	0.66	(0.07)	1.05	(0.10)	45.0	(0.8)	34.7	(1.8)	-10.3	(1.9)	0.63	(0.05)	0.95	(0.09)				
	Belgium	51.2	(0.8)	35.3	(1.9)	-16.0	(2.3)	0.51	(0.05)	1.02	(0.09)	48.3	(0.6)	32.1	(1.7)	-16.1	(1.9)	0.50	(0.04)	0.98	(0.09)				
	Canada	54.6	(0.7)	49.4	(1.8)	-5.3	(2.1)	0.81	(0.07)	0.90	(0.06)	51.7	(0.7)	49.1	(1.6)	-2.7	(1.8)	0.90	(0.07)	1.11	(0.08)				
	Chile	35.0	(0.9)	c	c	c	c	c	c	c	c	31.8	(0.8)	c	c	c	c	c	c	c	c	c	c	c	
	Czech Republic	46.4	(0.7)	39.2	(4.0)	-7.2	(4.2)	0.74	(0.13)	0.96	(0.14)	44.7	(0.7)	38.6	(2.3)	-6.1	(2.4)	0.77	(0.08)	1.04	(0.15)				
	Denmark	49.0	(1.0)	37.8	(1.9)	-11.2	(2.0)	0.61	(0.05)	1.07	(0.09)	43.7	(0.8)	31.3	(1.5)	-12.4	(1.6)	0.57	(0.04)	0.93	(0.08)				
	Estonia	50.4	(0.8)	44.6	(3.2)	-5.8	(3.3)	0.79	(0.10)	0.94	(0.13)	45.9	(0.9)	41.8	(2.9)	-4.1	(3.1)	0.84	(0.10)	1.07	(0.15)				
	Finland	52.7	(0.6)	37.3	(2.2)	-15.4	(2.3)	0.54	(0.05)	1.08	(0.09)	48.3	(0.6)	31.5	(2.3)	-16.8	(2.3)	0.50	(0.05)	0.93	(0.08)				
	France	51.9	(0.8)	41.0	(2.9)	-10.8	(3.0)	0.63	(0.08)	1.07	(0.12)	49.6	(0.8)	37.6	(2.3)	-12.1	(2.4)	0.59	(0.06)	0.94	(0.11)				
	Germany	51.8	(0.9)	47.9	(3.1)	-4.0	(3.2)	0.80	(0.10)	1.32	(0.17)	49.1	(0.9)	38.2	(2.7)	-10.9	(2.8)	0.60	(0.07)	0.76	(0.10)				
	Hungary	38.2	(1.1)	c	c	c	c	c	c	c	c	33.8	(0.9)	c	c	c	c	c	c	c	c	c	c	c	
	Ireland	44.8	(1.0)	43.2	(2.7)	-1.7	(3.0)	0.93	(0.11)	1.11	(0.15)	45.2	(1.0)	40.8	(2.4)	-4.4	(2.8)	0.84	(0.09)	0.90	(0.12)				
	Israel	40.3	(1.6)	39.9	(2.2)	-0.4	(2.3)	1.01	(0.10)	0.88	(0.07)	35.6	(1.4)	38.3	(2.3)	2.7	(2.3)	1.15	(0.12)	1.14	(0.09)				
	Italy	51.0	(1.1)	34.7	(3.1)	-16.3	(3.4)	0.51	(0.08)	0.70	(0.08)	47.6	(1.0)	39.9	(2.3)	-7.7	(2.3)	0.72	(0.08)	1.43	(0.16)				
	Japan	58.8	(0.8)	c	c	c	c	c	c	c	c	56.0	(0.7)	c	c	c	c	c	c	c	c	c	c	c	
	Korea	59.1	(1.0)	c	c	c	c	c	c	c	c	57.9	(1.0)	c	c	c	c	c	c	c	c	c	c	c	
	Netherlands	52.2	(1.0)	37.6	(3.2)	-14.6	(2.8)	0.55	(0.07)	1.03	(0.10)	48.3	(1.0)	33.5	(3.3)	-14.8	(3.0)	0.54	(0.07)	0.98	(0.09)				
	Norway	50.5	(1.0)	44.9	(3.2)	-5.5	(3.5)	0.76	(0.10)	1.56	(0.21)	46.2	(1.0)	30.8	(3.2)	-15.4	(3.4)	0.49	(0.07)	0.64	(0.09)				
	Poland	44.2	(1.0)	c	c	c	c	c	c	c	c	39.8	(1.1)	c	c	c	c	c	c	c	c	c	c	c	
	Portugal	44.7	(1.0)	40.6	(3.2)	-4.1	(3.3)	0.82	(0.11)	1.07	(0.16)	42.8	(1.0)	37.5	(2.6)	-5.3	(2.6)	0.77	(0.09)	0.94	(0.14)				
	Slovak Republic	44.7	(1.0)	c	c	c	c	c	c	c	c	39.0	(0.8)	c	c	c	c	c	c	c	c	c	c	c	
	Slovenia	44.3	(0.9)	29.0	(3.1)	-15.3	(3.6)	0.55	(0.09)	0.85	(0.15)	37.9	(0.9)	27.2	(2.0)	-10.7	(2.2)	0.64	(0.07)	1.18	(0.21)				
	Spain	43.9	(0.8)	31.8	(2.8)	-12.1	(2.9)	0.62	(0.08)	0.95	(0.10)	41.4	(0.8)	30.9	(2.1)	-10.5	(2.4)	0.65	(0.07)	1.06	(0.11)				
	Sweden	49.4	(1.0)	40.6	(2.0)	-8.8	(2.3)	0.71	(0.06)	0.95	(0.10)	43.2	(0.9)	36.0	(1.8)	-7.2	(2.1)	0.75	(0.07)	1.05	(0.11)				
	Turkey	36.0	(0.9)	c	c	c	c	c	c	c	c	32.8	(0.9)	c	c	c	c	c	c	c	c	c	c	c	
	England (United Kingdom)	50.6	(1.0)	43.5	(3.1)	-7.1	(3.3)	0.74	(0.10)	0.98	(0.07)	49.0	(1.1)	42.4	(3.0)	-6.6	(3.1)	0.76	(0.10)	1.02	(0.08)				
	United States	48.3	(1.2)	41.0	(2.4)	-7.3	(2.7)	0.76	(0.08)	0.79	(0.10)	46.5	(1.2)	45.2	(2.3)	-1.3	(2.6)	0.96	(0.10)	1.26	(0.15)				
	OECD average	48.1	(0.2)	40.7	(0.6)	-8.4	(0.6)	0.70	(0.02)	1.00	(0.02)	44.7	(0.2)	37.6	(0.5)	-8.2	(0.5)	0.70	(0.02)	1.00	(0.02)				
Partners	Brazil	30.5	(1.0)	c	c	c	c	c	c	c	c	29.7	(1.0)	c	c	c	c	c	c	c	c	c	c	c	
	Bulgaria	28.8	(0.9)	c	c	c	c	c	c	c	c	22.8	(0.8)	c	c	c	c	c	c	c	c	c	c	c	
	Colombia	26.5	(0.9)	c	c	c	c	c	c	c	c	23.9	(0.7)	c	c	c	c	c	c	c	c	c	c	c	
	Croatia	39.3	(1.0)	39.2	(1.9)	-0.1	(1.9)	1.00	(0.08)	1.14	(0.09)	36.1	(0.9)	33.0	(1.4)	-3.1	(1.5)	0.87	(0.06)	0.87	(0.07)				
	Cyprus*	37.5	(0.5)	33.3	(1.5)	-4.3	(1.6)	0.83	(0.06)	0.89	(0.06)	31.9	(0.5)	30.3	(1.5)	-1.6	(1.6)	0.93	(0.07)	1.12	(0.07)				
	Hong Kong-China	56.8	(1.3)	56.0	(1.3)	-0.8	(2.0)	0.96	(0.08)	1.04	(0.10)	53.3	(1.1)	51.7	(1.0)	-1.6	(1.6)	0.92	(0.06)	0.96	(0.09)				
	Macao-China	57.9	(1.3)	56.7	(0.9)	-1.2	(1.8)	0.95	(0.07)	0.94	(0.07)	51.4	(1.0)	51.9	(0.8)	0.5	(1.4)	1.01	(0.05)	1.06	(0.07)				
	Malaysia	30.4	(0.8)	c	c	c	c	c	c	c	c	27.7	(0.8)	c	c	c	c	c	c	c	c	c	c	c	
	Montenegro	30.2	(0.6)	32.4	(2.6)	2.2	(2.8)	1.11	(0.14)	0.93	(0.11)	25.0	(0.4)	28.5	(2.0)	3.5	(2.1)	1.19	(0.13)	1.08	(0.13)				
	Russian Federation	44.1	(0.9)	41.2	(2.8)	-2.9	(2.8)	0.91	(0.11)	1.05	(0.13)	40.1	(0.9)	36.2	(1.8)	-3.8	(2.0)	0.87	(0.08)	0.95	(0.12)				
	Serbia	40.4	(0.8)	41.5	(2.7)	1.1	(2.6)	1.05	(0.11)	1.06	(0.08)	37.0	(0.8)	36.6	(2.2)	-0.4	(2.2)	0.99	(0.09)	0.94	(0.07)				
	Shanghai-China	56.9	(1.0)	c	c	c	c	c	c	c	c	50.7	(0.9)	c	c	c	c	c	c	c	c	c	c	c	
	Singapore	59.8	(0.9)	62.8	(2.2)	3.1	(2.6)	1.13	(0.13)	0.97	(0.10)	57.1	(0.8)	60.7	(1.9)	3.7	(2.2)	1.16	(0.10)	1.03	(0.10)				
	Chinese Taipei	56.6	(0.9)	c	c	c	c	c	c	c	c	50.4	(0.8)	c	c	c	c	c	c	c	c	c	c	c	
	United Arab Emirates	23.8	(0.8)	35.6	(0.9)	11.8	(1.4)	1.78	(0.12)	0.81	(0.06)	19.0	(0.9)	34.1	(0.7)	15.1	(1.1)	2.21	(0.14)	1.24	(0.09)				
	Uruguay	27.8	(0.7)	c	c	c	c	c	c	c	c	25.2	(0.6)	c	c	c	c	c	c	c	c	c	c	c	

Note: Values that are statistically significant are indicated in bold (see Annex A3).

1. Generalised odds ratios estimated with logistic regression on national PISA samples. A success indicator for each item is regressed on an item type dummy, an immigrant dummy, and an interaction term (immigrant × item type). Booklet dummies are added to the estimation. This column presents the difference between the logit coefficient on the interaction term and the logit coefficient on the item type dummy in exponentiated form.

2. Generalised odds ratios estimated with logistic regression on national PISA samples. A success indicator for each item is regressed on an item type dummy, an immigrant dummy, and an interaction term (immigrant × item type). Booklet dummies are added to the estimation. This column presents the logit coefficient on the interaction term in exponentiated form.

* See notes at the beginning of this Annex.

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[Part 1/2]

Performance on problem-solving tasks, by process and by immigrant background

Results based on students' self-reports

Table V.4.22b

	Items assessing the process of "exploring and understanding"										Items assessing the process of "representing and formulating"										
	Average proportion of full-credit responses					Relative likelihood of success, in favour of immigrant students (non-immigrant students = 1.00)					Average proportion of full-credit responses					Relative likelihood of success, in favour of immigrant students (non-immigrant students = 1.00)					
	Non-immigrant students		Immigrant students		Difference between immigrant and non-immigrant students	Accounting for booklet effects ¹		Based on success on remaining test items ²		Non-immigrant students		Immigrant students		Difference between immigrant and non-immigrant students	Accounting for booklet effects ¹		Based on success on remaining test items ²				
	%	S.E.	%	S.E.	% dif.	S.E.	Odds ratio	S.E.	Odds ratio	S.E.	%	S.E.	%	S.E.	% dif.	S.E.	Odds ratio	S.E.	Odds ratio	S.E.	
OECD	Australia	54.9	(0.6)	57.6	(1.2)	2.7	(1.3)	1.14	(0.06)	1.11	(0.04)	49.9	(0.7)	51.5	(1.2)	1.7	(1.3)	1.09	(0.06)	1.04	(0.04)
	Austria	51.1	(1.2)	41.5	(2.6)	-9.6	(2.9)	0.65	(0.08)	1.03	(0.09)	44.7	(1.0)	28.7	(2.5)	-16.0	(2.5)	0.48	(0.06)	0.69	(0.07)
	Belgium	52.3	(0.8)	34.2	(2.0)	-18.1	(2.3)	0.47	(0.05)	0.91	(0.06)	48.1	(0.9)	28.8	(1.8)	-19.3	(2.1)	0.43	(0.04)	0.82	(0.06)
	Canada	55.6	(0.8)	51.9	(1.8)	-3.6	(2.1)	0.87	(0.08)	0.99	(0.06)	52.5	(1.0)	49.0	(1.8)	-3.5	(2.1)	0.87	(0.08)	1.00	(0.05)
	Chile	32.6	(1.0)	c	c	c	c	c	c	c	c	29.3	(0.9)	c	c	c	c	c	c	c	
	Czech Republic	47.3	(0.9)	39.9	(3.8)	-7.3	(4.1)	0.73	(0.13)	0.96	(0.14)	43.2	(0.9)	36.7	(3.4)	-6.4	(3.7)	0.76	(0.12)	0.99	(0.12)
	Denmark	47.4	(1.1)	34.3	(1.8)	-13.1	(2.1)	0.56	(0.05)	0.94	(0.07)	43.4	(1.2)	31.0	(2.1)	-12.4	(2.3)	0.57	(0.06)	0.96	(0.09)
	Estonia	49.7	(1.1)	39.7	(3.6)	-9.9	(3.7)	0.67	(0.11)	0.75	(0.10)	44.5	(1.1)	44.9	(3.8)	0.5	(4.0)	1.02	(0.16)	1.31	(0.16)
	Finland	54.4	(0.6)	36.9	(2.4)	-17.5	(2.4)	0.50	(0.05)	0.96	(0.09)	46.9	(0.7)	29.8	(3.1)	-17.1	(3.2)	0.49	(0.07)	0.93	(0.10)
	France	54.0	(1.0)	42.0	(2.9)	-12.0	(3.1)	0.60	(0.08)	0.99	(0.10)	49.1	(0.9)	36.3	(2.9)	-12.8	(3.0)	0.57	(0.08)	0.93	(0.10)
	Germany	54.0	(1.2)	43.5	(3.1)	-10.5	(3.2)	0.61	(0.08)	0.89	(0.09)	46.7	(1.2)	36.9	(3.1)	-9.8	(3.4)	0.63	(0.09)	0.93	(0.11)
	Hungary	37.7	(1.1)	c	c	c	c	c	c	c	c	32.5	(1.1)	c	c	c	c	c	c	c	
	Ireland	48.5	(1.4)	41.1	(3.2)	-7.5	(3.7)	0.73	(0.12)	0.80	(0.10)	41.4	(1.1)	42.9	(2.9)	1.5	(3.3)	1.08	(0.14)	1.31	(0.17)
	Israel	42.1	(1.7)	43.9	(2.4)	1.8	(2.7)	1.11	(0.13)	1.02	(0.08)	35.4	(1.5)	37.0	(3.1)	1.5	(3.0)	1.10	(0.15)	1.00	(0.10)
	Italy	52.9	(1.3)	38.4	(3.8)	-14.5	(3.9)	0.54	(0.10)	0.81	(0.13)	48.0	(1.3)	39.4	(3.4)	-8.6	(3.3)	0.70	(0.11)	1.12	(0.15)
	Japan	62.3	(0.9)	c	c	c	c	c	c	c	c	55.9	(0.9)	c	c	c	c	c	c	c	
	Korea	64.9	(1.1)	c	c	c	c	c	c	c	c	60.9	(1.3)	c	c	c	c	c	c	c	
	Netherlands	53.5	(1.1)	38.7	(3.6)	-14.8	(3.2)	0.55	(0.08)	1.01	(0.09)	46.2	(1.2)	29.2	(3.8)	-17.1	(3.5)	0.48	(0.08)	0.85	(0.08)
	Norway	53.1	(1.2)	38.8	(3.2)	-14.3	(3.7)	0.52	(0.08)	0.88	(0.12)	45.0	(1.3)	31.8	(3.8)	-13.3	(4.0)	0.53	(0.10)	0.90	(0.13)
	Poland	43.9	(1.2)	c	c	c	c	c	c	c	c	38.7	(1.3)	c	c	c	c	c	c	c	
	Portugal	44.5	(1.4)	39.8	(3.2)	-4.6	(3.5)	0.80	(0.13)	1.02	(0.19)	40.3	(1.3)	35.6	(4.0)	-4.7	(4.0)	0.78	(0.13)	0.98	(0.16)
	Slovak Republic	44.1	(1.1)	c	c	c	c	c	c	c	c	37.3	(1.1)	c	c	c	c	c	c	c	
	Slovenia	41.1	(1.1)	26.9	(2.7)	-14.1	(3.1)	0.55	(0.09)	0.89	(0.14)	37.2	(1.0)	23.5	(2.7)	-13.8	(2.9)	0.54	(0.09)	0.85	(0.13)
	Spain	44.1	(1.1)	30.5	(3.1)	-13.6	(3.2)	0.57	(0.09)	0.86	(0.11)	38.8	(1.0)	28.3	(2.5)	-10.4	(2.7)	0.64	(0.08)	0.99	(0.11)
	Sweden	49.9	(1.1)	42.2	(2.5)	-7.7	(2.7)	0.75	(0.09)	1.02	(0.12)	44.1	(1.2)	33.1	(2.4)	-10.9	(2.7)	0.63	(0.08)	0.83	(0.08)
	Turkey	33.7	(1.0)	c	c	c	c	c	c	c	c	32.0	(1.1)	c	c	c	c	c	c	c	
	England (United Kingdom)	52.5	(1.3)	45.1	(3.4)	-7.3	(3.5)	0.73	(0.10)	0.97	(0.06)	48.7	(1.3)	41.5	(3.5)	-7.2	(3.5)	0.74	(0.11)	0.97	(0.07)
	United States	50.6	(1.2)	44.0	(3.2)	-6.6	(3.4)	0.77	(0.10)	0.84	(0.10)	44.1	(1.6)	44.9	(2.4)	0.8	(2.9)	1.03	(0.12)	1.22	(0.09)
	OECD average	49.0	(0.2)	40.5	(0.6)	-9.6	(0.7)	0.67	(0.02)	0.93	(0.02)	43.7	(0.2)	36.2	(0.6)	-8.4	(0.7)	0.69	(0.02)	0.97	(0.02)
Partners	Brazil	31.0	(1.1)	c	c	c	c	c	c	c	c	26.2	(1.2)	c	c	c	c	c	c	c	
	Bulgaria	28.3	(0.9)	c	c	c	c	c	c	c	c	19.6	(0.9)	c	c	c	c	c	c	c	
	Colombia	24.9	(0.9)	c	c	c	c	c	c	c	c	18.8	(0.8)	c	c	c	c	c	c	c	
	Croatia	37.6	(1.0)	35.4	(1.8)	-2.2	(1.8)	0.91	(0.07)	0.99	(0.07)	33.6	(1.2)	29.1	(1.8)	-4.5	(1.6)	0.81	(0.06)	0.86	(0.06)
	Cyprus*	36.7	(0.5)	34.3	(1.9)	-2.4	(1.9)	0.91	(0.08)	1.02	(0.06)	31.2	(0.6)	28.2	(1.9)	-3.0	(2.0)	0.87	(0.09)	0.96	(0.07)
	Hong Kong-China	61.9	(1.6)	58.7	(1.3)	-3.2	(2.0)	0.86	(0.08)	0.89	(0.07)	56.1	(1.3)	54.2	(1.5)	-1.9	(2.0)	0.91	(0.08)	0.96	(0.07)
	Macao-China	59.0	(1.3)	59.9	(1.2)	0.9	(1.8)	1.03	(0.07)	1.06	(0.07)	56.5	(1.5)	57.9	(1.1)	1.4	(1.9)	1.06	(0.08)	1.09	(0.07)
	Malaysia	30.4	(0.9)	c	c	c	c	c	c	c	c	28.2	(1.0)	c	c	c	c	c	c	c	
	Montenegro	27.2	(0.6)	30.5	(2.7)	3.3	(2.8)	1.18	(0.16)	1.02	(0.11)	23.7	(0.6)	24.2	(2.4)	0.5	(2.5)	1.03	(0.14)	0.86	(0.08)
	Russian Federation	42.3	(1.1)	39.1	(2.7)	-3.2	(3.0)	0.90	(0.13)	1.02	(0.15)	38.6	(1.2)	37.0	(2.7)	-1.5	(2.7)	0.95	(0.12)	1.10	(0.12)
	Serbia	39.5	(1.0)	41.5	(2.4)	2.0	(2.5)	1.09	(0.11)	1.11	(0.08)	35.9	(0.9)	35.9	(2.6)	0.0	(2.5)	1.00	(0.11)	1.00	(0.07)
	Shanghai-China	58.5	(1.1)	c	c	c	c	c	c	c	c	55.8	(1.2)	c	c	c	c	c	c	c	
	Singapore	64.2	(1.1)	66.7	(2.3)	2.6	(2.5)	1.11	(0.13)	0.95	(0.08)	58.8	(1.0)	65.5	(2.3)	6.7	(2.6)	1.33	(0.15)	1.20	(0.10)
	Chinese Taipei	58.6	(1.0)	c	c	c	c	c	c	c	c	55.7	(1.2)	c	c	c	c	c	c	c	
	United Arab Emirates	22.4	(0.9)	36.7	(1.0)	14.2	(1.4)	2.02	(0.15)	0.99	(0.06)	20.1	(1.1)	32.6	(1.0)	12.5	(1.4)	1.94	(0.15)	0.94	(0.06)
	Uruguay	27.4	(0.7)	c	c	c	c	c	c	c	c	22.5	(0.8)	c	c	c	c	c	c	c	

Note: Values that are statistically significant are indicated in bold (see Annex A3).

1. Generalised odds ratios estimated with logistic regression on national PISA samples. A success indicator for each item is regressed on an item type dummy, an immigrant dummy, and an interaction term (immigrant × item type). Booklet dummies are added to the estimation. This column presents the difference between the logit coefficient on the interaction term and the logit coefficient on the item type dummy in exponentiated form.
2. Generalised odds ratios estimated with logistic regression on national PISA samples. A success indicator for each item is regressed on an item type dummy, an immigrant dummy, and an interaction term (immigrant × item type). Booklet dummies are added to the estimation. This column presents the logit coefficient on the interaction term in exponentiated form.

* See notes at the beginning of this Annex.

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[Part 2/2]
Performance on problem-solving tasks, by process and by immigrant background
Results based on students' self-reports

Table V.4.22b

	Items assessing the process of "planning and executing"						Items assessing the process of "monitoring and reflecting"					
	Average proportion of full-credit responses			Relative likelihood of success, in favour of immigrant students (non-immigrant students = 1.00)			Average proportion of full-credit responses			Relative likelihood of success, in favour of immigrant students (non-immigrant students = 1.00)		
	Non-immigrant students	Immigrant students	Difference between immigrant and non-immigrant students	Accounting for booklet effects ¹	Based on success on remaining test items ²	Non-immigrant students	Immigrant students	Difference between immigrant and non-immigrant students	Accounting for booklet effects ¹	Based on success on remaining test items ²		
	%	S.E.	%	S.E.	% dif.	S.E.	Odds ratio	S.E.	%	S.E.	%	S.E.
OECD												
Australia	52.1 (0.5)	51.7 (1.0)	-0.4 (1.0)	1.00 (0.04)	0.91 (0.03)	46.3 (0.5)	46.9 (1.1)	0.6 (1.2)	1.03 (0.05)	0.97 (0.04)		
Austria	49.2 (0.9)	40.1 (2.1)	-9.1 (2.3)	0.66 (0.06)	1.06 (0.09)	38.2 (0.9)	33.9 (2.4)	-4.3 (2.4)	0.80 (0.09)	1.31 (0.16)		
Belgium	50.2 (0.6)	36.1 (1.8)	-14.1 (2.0)	0.55 (0.05)	1.17 (0.07)	44.9 (0.8)	31.1 (1.8)	-13.8 (2.0)	0.54 (0.05)	1.10 (0.09)		
Canada	54.0 (0.6)	49.0 (1.7)	-5.0 (1.8)	0.82 (0.06)	0.91 (0.05)	46.5 (0.8)	46.0 (1.9)	-0.5 (2.1)	0.99 (0.08)	1.17 (0.07)		
Chile	35.2 (0.8)	c c	c c	c c	c c	33.0 (0.8)	c c	c c	c c	c c	c c	
Czech Republic	47.2 (0.7)	39.7 (2.8)	-7.5 (2.9)	0.73 (0.09)	0.94 (0.09)	40.8 (0.7)	37.9 (3.7)	-2.9 (3.8)	0.88 (0.14)	1.19 (0.19)		
Denmark	49.5 (0.9)	36.4 (1.5)	-13.1 (1.6)	0.56 (0.04)	0.94 (0.06)	36.9 (1.0)	29.9 (1.6)	-7.0 (1.9)	0.71 (0.07)	1.27 (0.11)		
Estonia	49.9 (0.9)	46.2 (2.4)	-3.7 (2.6)	0.86 (0.09)	1.07 (0.09)	43.0 (0.9)	36.8 (3.0)	-6.2 (3.2)	0.77 (0.10)	0.92 (0.10)		
Finland	51.7 (0.6)	35.9 (2.0)	-15.8 (2.0)	0.53 (0.04)	1.05 (0.07)	43.2 (0.6)	28.4 (2.9)	-14.7 (2.9)	0.53 (0.07)	1.04 (0.10)		
France	51.1 (0.8)	39.8 (2.4)	-11.3 (2.6)	0.62 (0.06)	1.03 (0.08)	45.6 (0.9)	35.1 (2.4)	-10.5 (2.6)	0.63 (0.07)	1.05 (0.10)		
Germany	52.2 (0.8)	44.5 (2.9)	-7.6 (3.0)	0.69 (0.09)	1.04 (0.11)	44.0 (1.1)	38.8 (2.3)	-5.3 (2.4)	0.75 (0.07)	1.16 (0.12)		
Hungary	37.6 (0.9)	c c	c c	c c	c c	30.9 (1.1)	c c	c c	c c	c c	c c	
Ireland	46.0 (0.9)	43.1 (2.5)	-2.9 (2.7)	0.89 (0.09)	1.03 (0.11)	42.8 (1.1)	37.6 (2.8)	-5.2 (3.1)	0.81 (0.11)	0.92 (0.13)		
Israel	37.4 (1.5)	38.5 (2.2)	1.1 (2.2)	1.07 (0.10)	0.96 (0.07)	32.5 (1.4)	34.9 (2.3)	2.4 (2.5)	1.13 (0.13)	1.04 (0.09)		
Italy	49.3 (1.0)	35.1 (2.7)	-14.2 (2.9)	0.55 (0.07)	0.80 (0.10)	43.0 (1.0)	42.3 (3.7)	-0.6 (3.9)	0.98 (0.17)	1.68 (0.28)		
Japan	56.4 (0.7)	c c	c c	c c	c c	52.1 (0.7)	c c	c c	c c	c c	c c	
Korea	54.6 (0.9)	c c	c c	c c	c c	53.9 (1.1)	c c	c c	c c	c c	c c	
Netherlands	51.6 (1.0)	36.7 (2.8)	-14.9 (2.5)	0.54 (0.06)	1.00 (0.09)	44.2 (1.0)	33.0 (3.6)	-11.2 (3.3)	0.62 (0.09)	1.17 (0.10)		
Norway	49.5 (1.0)	39.3 (3.3)	-10.1 (3.4)	0.62 (0.09)	1.13 (0.12)	39.5 (1.2)	29.7 (3.6)	-9.8 (3.7)	0.61 (0.11)	1.07 (0.13)		
Poland	43.8 (1.0)	c c	c c	c c	c c	35.6 (1.1)	c c	c c	c c	c c	c c	
Portugal	46.4 (1.0)	40.3 (3.3)	-6.2 (3.3)	0.75 (0.09)	0.93 (0.12)	39.4 (1.1)	36.9 (3.7)	-2.5 (3.7)	0.88 (0.15)	1.13 (0.18)		
Slovak Republic	43.5 (0.9)	c c	c c	c c	c c	36.0 (0.9)	c c	c c	c c	c c	c c	
Slovenia	43.4 (0.8)	32.2 (2.2)	-11.2 (2.5)	0.66 (0.07)	1.15 (0.12)	35.3 (0.8)	25.4 (2.4)	-9.9 (2.6)	0.66 (0.09)	1.11 (0.11)		
Spain	43.8 (0.9)	33.9 (2.4)	-9.9 (2.6)	0.68 (0.08)	1.11 (0.09)	40.6 (1.0)	30.0 (3.1)	-10.6 (3.3)	0.65 (0.10)	1.03 (0.12)		
Sweden	46.4 (0.8)	37.5 (1.6)	-9.0 (1.9)	0.70 (0.05)	0.93 (0.08)	38.5 (1.0)	37.1 (2.4)	-1.3 (2.8)	0.96 (0.12)	1.38 (0.14)		
Turkey	36.1 (0.9)	c c	c c	c c	c c	31.6 (1.0)	c c	c c	c c	c c	c c	
England (United Kingdom)	50.3 (1.1)	42.8 (2.8)	-7.5 (2.9)	0.73 (0.09)	0.95 (0.06)	44.8 (0.9)	41.3 (3.4)	-3.5 (3.5)	0.85 (0.12)	1.17 (0.11)		
United States	48.3 (1.2)	43.7 (1.8)	-4.6 (2.1)	0.85 (0.07)	0.94 (0.07)	43.6 (1.3)	41.9 (2.4)	-1.7 (2.5)	0.95 (0.10)	1.10 (0.08)		
OECD average	47.4 (0.2)	40.1 (0.5)	-8.4 (0.5)	0.70 (0.02)	1.00 (0.02)	40.9 (0.2)	35.9 (0.6)	-5.6 (0.6)	0.78 (0.02)	1.13 (0.03)		
<i>Partners</i>												
Brazil	32.6 (1.1)	c c	c c	c c	c c	27.5 (0.9)	c c	c c	c c	c c	c c	
Bulgaria	27.1 (0.8)	c c	c c	c c	c c	22.1 (0.9)	c c	c c	c c	c c	c c	
Colombia	28.0 (0.8)	c c	c c	c c	c c	25.1 (0.8)	c c	c c	c c	c c	c c	
Croatia	40.5 (0.9)	40.3 (1.7)	-0.2 (1.6)	0.99 (0.07)	1.14 (0.05)	33.8 (0.9)	31.2 (1.6)	-2.6 (1.8)	0.89 (0.07)	0.96 (0.06)		
Cyprus*	35.2 (0.6)	33.3 (1.4)	-1.9 (1.5)	0.93 (0.06)	1.06 (0.06)	30.3 (0.6)	26.6 (1.4)	-3.7 (1.6)	0.84 (0.07)	0.93 (0.05)		
Hong Kong-China	51.7 (1.1)	51.4 (1.0)	-0.3 (1.5)	0.98 (0.06)	1.08 (0.06)	48.7 (1.4)	48.5 (1.4)	-0.2 (1.9)	0.98 (0.08)	1.06 (0.08)		
Macao-China	52.2 (1.1)	50.9 (0.7)	-1.3 (1.4)	0.95 (0.05)	0.93 (0.05)	46.4 (1.3)	45.5 (1.2)	-1.0 (1.9)	0.95 (0.07)	0.95 (0.06)		
Malaysia	29.6 (0.8)	c c	c c	c c	c c	24.9 (0.8)	c c	c c	c c	c c	c c	
Montenegro	29.9 (0.6)	33.4 (2.1)	3.4 (2.2)	1.17 (0.12)	1.02 (0.09)	23.4 (0.6)	28.2 (2.5)	4.8 (2.6)	1.29 (0.17)	1.13 (0.13)		
Russian Federation	44.3 (0.8)	40.4 (2.5)	-3.9 (2.4)	0.87 (0.09)	0.98 (0.11)	37.8 (1.1)	32.2 (2.6)	-5.6 (3.0)	0.80 (0.11)	0.89 (0.11)		
Serbia	41.0 (0.8)	40.4 (2.4)	-0.6 (2.3)	0.98 (0.09)	0.96 (0.06)	33.2 (0.9)	31.9 (2.7)	-1.3 (2.7)	0.95 (0.12)	0.93 (0.08)		
Shanghai-China	50.1 (0.7)	c c	c c	c c	c c	47.6 (1.1)	c c	c c	c c	c c	c c	
Singapore	55.1 (0.9)	57.9 (1.9)	2.8 (2.3)	1.12 (0.10)	0.95 (0.07)	55.2 (0.9)	57.4 (2.3)	2.3 (2.5)	1.10 (0.12)	0.95 (0.09)		
Chinese Taipei	50.5 (0.8)	c c	c c	c c	c c	45.1 (1.0)	c c	c c	c c	c c	c c	
United Arab Emirates	21.3 (0.8)	35.6 (0.8)	14.3 (1.1)	2.04 (0.12)	1.01 (0.05)	18.1 (0.9)	32.2 (1.0)	14.1 (1.5)	2.16 (0.19)	1.08 (0.07)		
Uruguay	28.2 (0.7)	c c	c c	c c	c c	24.1 (0.7)	c c	c c	c c	c c	c c	

Note: Values that are statistically significant are indicated in bold (see Annex A3).

1. Generalised odds ratios estimated with logistic regression on national PISA samples. A success indicator for each item is regressed on an item type dummy, an immigrant dummy, and an interaction term (immigrant × item type). Booklet dummies are added to the estimation. This column presents the difference between the logit coefficient on the interaction term and the logit coefficient on the item type dummy in exponentiated form.

* See notes at the beginning of this Annex.

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Table V.4.23

[Part 1/1]
Association between problem-solving performance and perseverance/openness to problem solving
Results based on students' self-reports

	Score-point difference that is associated with students' perseverance, by performance decile in problem solving						Score-point difference that is associated with students' openness to problem solving, by performance decile in problem solving						
	Mean		10th percentile ¹		90th percentile ¹		Mean		10th percentile ²		90th percentile ²		
	Score dif.	S.E.	Score dif.	S.E.	Score dif.	S.E.	Score dif.	S.E.	Score dif.	S.E.	Score dif.	S.E.	
OECD	Australia	23	(1.4)	20	(2.4)	22	(2.9)	31	(1.3)	25	(3.1)	37	(2.3)
	Austria	10	(2.2)	9	(6.3)	9	(4.5)	26	(1.9)	19	(4.2)	30	(3.7)
	Belgium	13	(2.1)	9	(4.7)	17	(3.2)	26	(2.0)	19	(4.6)	31	(2.4)
	Canada	20	(1.3)	20	(2.5)	18	(2.4)	33	(1.2)	29	(2.9)	34	(2.6)
	Chile	14	(1.7)	15	(3.1)	13	(3.6)	19	(1.7)	13	(3.5)	24	(3.2)
	Czech Republic	9	(2.4)	8	(5.8)	9	(4.4)	31	(2.2)	23	(6.1)	36	(5.3)
	Denmark	17	(2.0)	13	(4.5)	18	(4.5)	26	(2.5)	20	(4.3)	29	(4.0)
	Estonia	1	(2.0)	0	(4.2)	0	(3.6)	27	(2.0)	17	(4.7)	34	(2.9)
	Finland	30	(1.6)	28	(3.1)	31	(3.2)	37	(1.6)	32	(3.4)	41	(3.0)
	France	18	(2.0)	11	(4.6)	22	(2.3)	22	(1.9)	12	(4.5)	29	(2.8)
	Germany	13	(2.5)	4	(4.4)	16	(4.3)	19	(2.1)	9	(5.0)	24	(4.5)
	Hungary	14	(2.7)	11	(7.8)	15	(4.2)	24	(3.3)	17	(7.7)	22	(4.8)
	Ireland	23	(2.1)	21	(4.4)	27	(3.6)	30	(1.7)	20	(4.0)	38	(3.6)
	Israel	1	(1.8)	8	(4.1)	0	(4.2)	12	(2.5)	5	(5.7)	24	(4.2)
	Italy	0	(2.1)	0	(5.3)	1	(3.7)	13	(2.7)	8	(5.9)	18	(3.9)
	Japan	14	(2.5)	13	(3.7)	16	(3.2)	23	(2.3)	22	(3.9)	23	(2.6)
	Korea	20	(2.9)	21	(5.1)	19	(5.4)	37	(2.3)	39	(4.0)	29	(4.1)
	Netherlands	6	(2.5)	6	(4.2)	10	(5.6)	19	(2.3)	13	(4.5)	29	(5.7)
	Norway	22	(1.9)	21	(4.7)	23	(2.8)	26	(1.8)	21	(3.1)	29	(3.0)
	Poland	20	(2.0)	19	(3.7)	19	(4.3)	20	(1.9)	18	(4.3)	20	(4.4)
	Portugal	21	(1.9)	20	(2.9)	20	(3.2)	25	(2.0)	15	(3.6)	33	(3.9)
	Slovak Republic	12	(2.0)	1	(6.9)	16	(4.3)	19	(2.4)	9	(5.0)	26	(4.7)
	Slovenia	7	(2.3)	7	(4.9)	7	(5.5)	25	(2.4)	18	(3.7)	35	(5.3)
	Spain	16	(2.3)	15	(5.3)	19	(2.9)	25	(2.0)	19	(5.0)	34	(4.3)
	Sweden	25	(2.1)	20	(5.3)	28	(3.5)	27	(1.9)	15	(4.2)	33	(2.9)
	Turkey	10	(1.7)	9	(2.7)	11	(3.5)	14	(2.0)	9	(3.4)	25	(3.3)
	England (United Kingdom)	20	(2.0)	19	(4.8)	19	(3.8)	34	(2.2)	30	(4.9)	39	(4.0)
	United States	19	(1.8)	15	(3.3)	23	(4.6)	26	(1.7)	15	(3.4)	35	(3.3)
	OECD average	15	(0.4)	13	(0.9)	16	(0.7)	25	(0.4)	18	(0.9)	30	(0.7)
Partners	Brazil	18	(1.9)	16	(3.9)	17	(5.1)	16	(2.7)	5	(4.1)	22	(5.3)
	Bulgaria	17	(2.1)	19	(3.4)	12	(3.7)	8	(2.3)	2	(4.2)	14	(4.3)
	Colombia	9	(1.8)	7	(3.9)	11	(4.2)	8	(2.1)	3	(4.3)	17	(3.9)
	Croatia	6	(1.6)	10	(2.7)	2	(2.9)	16	(2.2)	6	(4.1)	29	(5.0)
	Cyprus*	20	(2.3)	20	(4.9)	20	(3.5)	23	(1.9)	17	(3.8)	28	(3.3)
	Hong Kong-China	7	(2.6)	12	(4.4)	3	(4.7)	22	(2.1)	21	(4.0)	23	(4.5)
	Macao-China	13	(1.9)	14	(4.6)	11	(3.7)	22	(1.5)	23	(3.3)	19	(3.2)
	Malaysia	13	(2.0)	12	(3.5)	14	(3.2)	8	(1.8)	-1	(3.4)	19	(4.6)
	Montenegro	13	(1.7)	13	(2.9)	14	(2.8)	1	(2.0)	-5	(3.7)	8	(4.0)
	Russian Federation	6	(1.7)	6	(3.7)	6	(3.2)	20	(2.1)	12	(3.2)	28	(4.2)
	Serbia	10	(1.7)	11	(3.3)	6	(3.4)	12	(2.0)	5	(4.1)	20	(3.8)
	Shanghai-China	9	(2.1)	8	(3.7)	7	(3.9)	26	(2.0)	26	(2.9)	23	(3.3)
	Singapore	13	(2.1)	13	(3.6)	11	(4.4)	18	(2.0)	12	(4.4)	20	(3.3)
	Chinese Taipei	13	(1.7)	10	(4.4)	11	(3.6)	21	(1.7)	17	(3.3)	22	(3.7)
	United Arab Emirates	26	(1.5)	29	(2.4)	22	(3.6)	10	(1.8)	2	(3.3)	19	(3.6)
	Uruguay	13	(2.3)	10	(4.7)	16	(2.7)	14	(2.1)	2	(2.9)	28	(3.6)

Note: Values that are statistically significant are indicated in bold (see Annex A3).

1. Results based on quantile regression of problem-solving performance on the *index of perseverance*.

2. Results based on quantile regression of problem-solving performance on the *index of openness to problem solving*.

* See notes at the beginning of this Annex.

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[Part 1/1]
Performance in problem solving and access to a computer at home
Results based on students' self-reports

Table V.4.24

	Students who have at least one computer at home to use for school work												
	Percentage of students										Difference in problem-solving performance		
	All students		Boys		Girls		Gender difference (B - G)		Parents' highest occupation: Skilled (ISCO 1 to 3)		Parents' highest occupation: Semi-skilled or elementary (ISCO 4 to 9)		
	%	S.E.	%	S.E.	%	S.E.	% dif.	S.E.	%	S.E.	% dif.	S.E.	
OECD	Australia	97.8	(0.1)	97.3	(0.1)	98.2	(0.1)	-0.9	(0.1)	98.6	(0.1)	97.0	(0.1)
	Austria	98.6	(0.2)	98.6	(0.3)	98.5	(0.2)	0.1	(0.3)	99.3	(0.1)	97.8	(0.3)
	Belgium	97.0	(0.1)	96.7	(0.2)	97.2	(0.1)	-0.5	(0.3)	98.2	(0.1)	96.3	(0.2)
	Canada	97.2	(0.1)	97.1	(0.1)	97.4	(0.1)	-0.4	(0.2)	98.3	(0.1)	95.9	(0.2)
	Chile	86.3	(0.5)	86.2	(0.6)	86.3	(0.5)	-0.1	(0.4)	95.5	(0.3)	81.3	(0.6)
	Czech Republic	97.3	(0.1)	96.9	(0.2)	97.8	(0.1)	-0.9	(0.3)	99.4	(0.1)	96.5	(0.2)
	Denmark	99.0	(0.1)	98.8	(0.1)	99.2	(0.1)	-0.4	(0.1)	99.5	(0.1)	98.6	(0.2)
	Estonia	89.3	(0.3)	91.9	(0.3)	86.8	(0.4)	5.0	(0.4)	90.2	(0.3)	88.5	(0.4)
	Finland	98.9	(0.1)	98.6	(0.1)	99.2	(0.1)	-0.6	(0.1)	99.3	(0.1)	98.2	(0.2)
	France	96.8	(0.1)	96.6	(0.2)	97.0	(0.2)	-0.4	(0.3)	98.2	(0.1)	95.2	(0.3)
	Germany	98.2	(0.1)	97.8	(0.2)	98.7	(0.1)	-0.8	(0.2)	99.2	(0.1)	97.6	(0.2)
	Hungary	94.1	(0.3)	94.6	(0.3)	93.7	(0.4)	0.9	(0.4)	96.7	(0.2)	93.6	(0.3)
	Ireland	95.2	(0.2)	93.5	(0.2)	97.0	(0.2)	-3.5	(0.3)	96.0	(0.2)	94.6	(0.3)
	Israel	94.3	(0.3)	96.5	(0.3)	92.3	(0.4)	4.2	(0.5)	96.1	(0.3)	92.1	(0.5)
	Italy	96.6	(0.1)	96.0	(0.2)	97.4	(0.2)	-1.4	(0.3)	97.5	(0.2)	96.3	(0.2)
	Japan	70.1	(0.4)	67.1	(0.5)	73.4	(0.5)	-6.3	(0.6)	74.6	(0.5)	66.5	(0.5)
	Korea	94.6	(0.2)	93.9	(0.3)	95.5	(0.3)	-1.6	(0.4)	95.2	(0.2)	93.9	(0.3)
	Netherlands	98.3	(0.1)	98.1	(0.2)	98.5	(0.1)	-0.4	(0.2)	98.7	(0.1)	97.5	(0.2)
	Norway	98.6	(0.1)	98.2	(0.1)	99.0	(0.1)	-0.7	(0.2)	99.2	(0.1)	97.6	(0.2)
	Poland	97.4	(0.2)	97.5	(0.3)	97.3	(0.2)	0.2	(0.3)	98.8	(0.1)	96.6	(0.3)
	Portugal	96.7	(0.2)	96.2	(0.2)	97.3	(0.2)	-1.1	(0.3)	98.6	(0.2)	96.0	(0.3)
	Slovak Republic	91.9	(0.3)	91.8	(0.4)	91.9	(0.4)	-0.1	(0.5)	98.5	(0.2)	91.6	(0.4)
	Slovenia	98.6	(0.1)	98.3	(0.1)	98.9	(0.2)	-0.6	(0.2)	98.9	(0.1)	98.6	(0.2)
	Spain	96.1	(0.2)	96.2	(0.3)	96.0	(0.2)	0.2	(0.3)	97.9	(0.1)	94.9	(0.3)
	Sweden	98.7	(0.1)	98.6	(0.1)	98.7	(0.1)	-0.1	(0.2)	99.1	(0.1)	98.2	(0.1)
	Turkey	68.3	(0.5)	68.5	(0.7)	68.0	(0.6)	0.5	(0.8)	86.7	(0.7)	65.7	(0.5)
	England (United Kingdom)	96.8	(0.2)	96.6	(0.4)	97.0	(0.2)	-0.4	(0.4)	97.9	(0.2)	96.1	(0.3)
	United States	91.1	(0.3)	89.8	(0.4)	92.5	(0.3)	-2.8	(0.4)	95.0	(0.3)	85.6	(0.4)
	OECD average	94.1	(0.0)	93.8	(0.1)	94.3	(0.1)	-0.5	(0.1)	96.5	(0.0)	92.8	(0.1)
Partners	Brazil	73.2	(0.6)	74.9	(0.8)	71.6	(0.7)	3.4	(0.8)	90.7	(0.4)	64.9	(0.8)
	Bulgaria	93.0	(0.3)	92.7	(0.4)	93.2	(0.6)	-0.5	(0.9)	99.0	(0.1)	90.9	(0.3)
	Colombia	62.9	(0.7)	62.9	(0.7)	62.9	(0.9)	0.0	(0.9)	84.5	(0.8)	56.5	(0.7)
	Croatia	94.2	(0.2)	94.9	(0.2)	93.5	(0.3)	1.4	(0.4)	95.5	(0.2)	93.6	(0.2)
	Cyprus*	96.7	(0.1)	95.2	(0.2)	98.2	(0.1)	-3.0	(0.2)	98.4	(0.1)	96.1	(0.2)
	Hong Kong-China	98.8	(0.1)	98.7	(0.1)	98.9	(0.1)	-0.2	(0.2)	98.9	(0.1)	98.8	(0.1)
	Macao-China	97.1	(0.1)	96.5	(0.2)	97.9	(0.1)	-1.4	(0.2)	97.7	(0.2)	97.2	(0.1)
	Malaysia	69.6	(0.9)	68.8	(1.0)	70.4	(1.0)	-1.6	(0.7)	84.6	(0.8)	59.8	(1.0)
	Montenegro	91.8	(0.2)	92.6	(0.3)	91.0	(0.3)	1.6	(0.4)	96.5	(0.2)	89.4	(0.3)
	Russian Federation	93.0	(0.3)	92.9	(0.4)	93.2	(0.4)	-0.3	(0.5)	96.9	(0.3)	89.0	(0.4)
	Serbia	95.4	(0.2)	95.9	(0.2)	94.9	(0.3)	1.0	(0.3)	98.8	(0.1)	93.2	(0.3)
	Shanghai-China	83.3	(0.5)	81.2	(0.7)	85.3	(0.5)	-4.0	(0.7)	87.4	(0.3)	78.0	(1.1)
	Singapore	94.6	(0.2)	94.2	(0.2)	95.1	(0.2)	-0.9	(0.3)	96.1	(0.2)	91.6	(0.4)
	Chinese Taipei	90.6	(0.2)	89.3	(0.4)	91.9	(0.3)	-2.5	(0.6)	93.5	(0.2)	89.2	(0.4)
	United Arab Emirates	92.9	(0.2)	91.7	(0.2)	94.1	(0.2)	-2.5	(0.3)	94.5	(0.2)	91.2	(0.3)
	Uruguay	88.9	(0.2)	89.8	(0.4)	88.2	(0.4)	1.6	(0.6)	97.2	(0.2)	86.3	(0.3)

Note: Values that are statistically significant are indicated in bold (see Annex A3).

1. The difference in problem-solving performance after accounting for socio-demographic characteristics of students corresponds to the coefficient from a regression where the PISA index of economic, social and cultural status (ESCS), ESCS squared, boy, and an immigrant (first generation) dummy are introduced as further independent variables.

* See notes at the beginning of this Annex.

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[Part 1/1]
Performance in problem solving and use of a computer at home
 Results based on students' self-reports

Table V.4.25

	Students who use a desktop, laptop or tablet computer at home																	
	Percentage of students												Difference in problem-solving performance					
	All students		Boys		Girls		Gender difference (B - G)		Parents' highest occupation: Skilled (ISCO 1 to 3)		Parents' highest occupation: Semi-skilled or elementary (ISCO 4 to 9)		Difference related to parents' highest occupation: Skilled - semi-skilled or elementary	Observed	After accounting for socio-demographic characteristics of students ¹			
	%	S.E.	%	S.E.	%	S.E.	% dif.	S.E.	%	S.E.	%	S.E.	% dif.	S.E.	Score dif.	S.E.		
OECD																		
Australia	97.1	(0.1)	96.7	(0.1)	97.5	(0.1)	-0.8	(0.2)	98.2	(0.1)	95.6	(0.2)	2.6	(0.2)	75	(5.9)	50	(6.4)
Austria	98.7	(0.1)	98.7	(0.2)	98.8	(0.1)	-0.1	(0.2)	99.3	(0.1)	98.2	(0.2)	1.1	(0.2)	72	(18.8)	50	(20.0)
Belgium	98.2	(0.1)	98.1	(0.2)	98.4	(0.1)	-0.3	(0.2)	98.9	(0.1)	97.6	(0.2)	1.2	(0.2)	85	(11.3)	60	(10.2)
Canada	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m		
Chile	87.0	(0.5)	86.8	(0.5)	87.2	(0.6)	-0.4	(0.5)	96.1	(0.3)	82.1	(0.6)	14.1	(0.6)	55	(5.8)	21	(4.3)
Czech Republic	97.4	(0.2)	97.3	(0.2)	97.5	(0.2)	-0.2	(0.2)	99.5	(0.1)	96.3	(0.2)	3.2	(0.2)	115	(12.6)	59	(13.1)
Denmark	99.2	(0.1)	99.0	(0.1)	99.4	(0.1)	-0.4	(0.1)	99.5	(0.1)	98.9	(0.1)	0.6	(0.1)	71	(18.2)	44	(17.2)
Estonia	98.6	(0.1)	98.6	(0.1)	98.6	(0.1)	0.0	(0.2)	99.2	(0.1)	97.9	(0.2)	1.3	(0.2)	47	(11.3)	33	(12.0)
Finland	99.1	(0.1)	99.0	(0.1)	99.2	(0.1)	-0.2	(0.1)	99.3	(0.1)	98.9	(0.1)	0.5	(0.1)	43	(16.4)	24	(14.6)
France	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m			
Germany	99.1	(0.1)	99.0	(0.1)	99.2	(0.1)	-0.2	(0.2)	99.4	(0.1)	99.1	(0.1)	0.2	(0.2)	59	(18.0)	32	(20.1)
Hungary	94.7	(0.2)	95.1	(0.3)	94.3	(0.4)	0.8	(0.6)	97.5	(0.2)	94.4	(0.3)	3.1	(0.4)	99	(10.7)	40	(10.0)
Ireland	97.0	(0.1)	96.7	(0.2)	97.3	(0.2)	-0.6	(0.2)	97.8	(0.1)	96.2	(0.2)	1.6	(0.3)	31	(10.3)	11	(10.3)
Israel	96.1	(0.1)	96.4	(0.2)	95.7	(0.2)	0.7	(0.4)	97.9	(0.1)	93.7	(0.5)	4.2	(0.5)	94	(11.8)	47	(11.7)
Italy	97.4	(0.2)	96.9	(0.3)	98.0	(0.2)	-1.2	(0.3)	98.6	(0.1)	96.9	(0.3)	1.7	(0.4)	52	(18.9)	30	(20.0)
Japan	81.4	(0.4)	81.1	(0.4)	81.6	(0.5)	-0.5	(0.5)	85.6	(0.5)	78.0	(0.4)	7.7	(0.5)	35	(4.3)	24	(3.9)
Korea	83.5	(0.5)	83.0	(0.5)	84.1	(0.7)	-1.1	(0.8)	87.1	(0.4)	79.6	(0.7)	7.5	(0.6)	45	(4.6)	33	(4.2)
Netherlands	98.9	(0.1)	98.7	(0.1)	99.0	(0.1)	-0.3	(0.2)	99.1	(0.1)	98.5	(0.2)	0.6	(0.2)	92	(14.7)	77	(13.0)
Norway	98.7	(0.1)	98.2	(0.1)	99.1	(0.1)	-0.9	(0.1)	99.0	(0.1)	98.5	(0.2)	0.5	(0.2)	87	(15.6)	58	(15.6)
Poland	96.1	(0.2)	96.5	(0.2)	95.6	(0.3)	0.9	(0.3)	98.5	(0.2)	94.5	(0.4)	4.0	(0.6)	74	(8.5)	38	(8.6)
Portugal	96.0	(0.2)	95.6	(0.2)	96.4	(0.3)	-0.8	(0.3)	98.4	(0.2)	94.7	(0.3)	3.7	(0.3)	63	(8.6)	31	(8.2)
Slovak Republic	94.3	(0.2)	94.4	(0.3)	94.1	(0.3)	0.4	(0.4)	98.3	(0.2)	94.1	(0.2)	4.2	(0.3)	107	(9.1)	51	(7.3)
Slovenia	96.2	(0.2)	95.2	(0.3)	97.4	(0.2)	-2.2	(0.3)	97.0	(0.2)	95.9	(0.2)	1.1	(0.3)	37	(8.6)	22	(7.9)
Spain	96.6	(0.2)	96.6	(0.3)	96.5	(0.2)	0.2	(0.4)	98.3	(0.1)	95.5	(0.4)	2.8	(0.4)	63	(9.3)	37	(8.3)
Sweden	98.5	(0.1)	98.4	(0.1)	98.7	(0.1)	-0.3	(0.2)	98.9	(0.1)	98.4	(0.1)	0.4	(0.2)	65	(15.5)	47	(14.7)
Turkey	68.3	(0.5)	69.9	(0.6)	66.7	(0.6)	3.1	(0.8)	85.9	(0.6)	65.7	(0.5)	20.2	(0.7)	48	(3.9)	24	(3.4)
England (United Kingdom)	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m			
United States	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m			
OECD average	94.5	(0.0)	94.4	(0.1)	94.6	(0.1)	-0.2	(0.1)	97.0	(0.0)	93.3	(0.1)	3.7	(0.1)	67	(2.5)	39	(2.5)
Partners																		
Brazil	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m			
Bulgaria	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m			
Colombia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m			
Croatia	97.0	(0.1)	97.0	(0.1)	97.0	(0.2)	0.0	(0.2)	98.4	(0.1)	96.4	(0.2)	2.0	(0.2)	73	(11.3)	53	(11.1)
Cyprus*	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m			
Hong Kong-China	97.5	(0.1)	97.6	(0.2)	97.3	(0.2)	0.2	(0.3)	98.2	(0.2)	97.2	(0.1)	1.0	(0.2)	59	(9.9)	42	(10.8)
Macao-China	97.2	(0.1)	96.4	(0.2)	97.9	(0.1)	-1.5	(0.2)	98.9	(0.1)	96.9	(0.1)	2.0	(0.2)	36	(7.7)	33	(8.0)
Malaysia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m			
Montenegro	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m			
Russian Federation	91.6	(0.4)	91.2	(0.4)	92.0	(0.6)	-0.8	(0.7)	95.9	(0.3)	87.4	(0.5)	8.5	(0.4)	52	(4.7)	19	(4.3)
Serbia	91.1	(0.3)	92.8	(0.4)	89.4	(0.3)	3.4	(0.5)	96.2	(0.2)	87.8	(0.4)	8.4	(0.5)	79	(5.2)	56	(5.8)
Shanghai-China	85.5	(0.5)	84.0	(0.6)	87.0	(0.6)	-3.0	(0.5)	90.7	(0.3)	79.0	(0.9)	11.7	(0.9)	56	(6.7)	28	(5.1)
Singapore	95.4	(0.1)	95.6	(0.2)	95.1	(0.2)	0.5	(0.3)	96.7	(0.1)	92.7	(0.3)	4.0	(0.3)	50	(6.3)	24	(5.7)
Chinese Taipei	94.7	(0.1)	94.6	(0.3)	94.8	(0.2)	-0.2	(0.4)	96.9	(0.2)	93.5	(0.2)	3.4	(0.3)	50	(8.1)	25	(7.9)
United Arab Emirates	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m			
Uruguay	84.4	(0.4)	85.9	(0.5)	83.2	(0.4)	2.7	(0.6)	96.3	(0.3)	80.6	(0.5)	15.8	(0.7)	59	(5.2)	21	(5.3)

Note: Values that are statistically significant are indicated in bold (see Annex A3).

1. The difference in problem-solving performance after accounting for socio-demographic characteristics of students corresponds to the coefficient from a regression where the PISA index of economic, social and cultural status (ESCS), ESCS squared, boy, and an immigrant (first generation) dummy are introduced as further independent variables.

* See notes at the beginning of this Annex.

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[Part 1/1]
Performance in problem solving and use of computers at school
Results based on students' self-reports

Table V.4.26

	Students who use a desktop, laptop or tablet computer at school																	
	Percentage of students												Difference in problem-solving performance					
	All students		Boys		Girls		Gender difference (B - G)		Parents' highest occupation: Skilled (ISCO 1 to 3)		Parents' highest occupation: Semi-skilled or elementary (ISCO 4 to 9)		Difference related to parents' highest occupation: Skilled - semi-skilled or elementary		Observed		After accounting for socio-demographic characteristics of students ¹	
	%	S.E.	%	S.E.	%	S.E.	% dif.	S.E.	%	S.E.	%	S.E.	% dif.	S.E.	Score dif.	S.E.	Score dif.	S.E.
OECD																		
Australia	93.7	(0.1)	93.5	(0.1)	93.8	(0.2)	-0.4	(0.2)	94.5	(0.1)	92.6	(0.2)	1.8	(0.2)	34	(4.3)	25	(4.0)
Austria	81.6	(0.5)	81.3	(0.6)	81.9	(0.6)	-0.6	(0.8)	78.9	(0.6)	84.7	(0.6)	-5.8	(0.6)	-3	(5.2)	1	(4.7)
Belgium	65.3	(0.4)	65.6	(0.5)	65.1	(0.5)	0.4	(0.7)	65.0	(0.4)	65.7	(0.6)	-0.8	(0.7)	13	(4.2)	10	(3.9)
Canada	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	
Chile	61.3	(0.7)	59.8	(1.0)	62.8	(0.8)	-3.0	(1.2)	61.6	(1.2)	60.9	(0.7)	0.7	(1.1)	1	(4.0)	-3	(3.5)
Czech Republic	84.0	(0.6)	82.8	(0.9)	85.2	(0.7)	-2.4	(0.8)	82.6	(0.8)	85.2	(0.6)	-2.6	(0.7)	-11	(5.8)	-7	(5.1)
Denmark	86.9	(0.4)	86.4	(0.4)	87.4	(0.5)	-1.1	(0.4)	85.6	(0.5)	89.3	(0.5)	-3.6	(0.6)	-16	(5.4)	-14	(5.4)
Estonia	61.3	(0.5)	59.4	(0.7)	63.2	(0.7)	-3.8	(0.9)	60.2	(0.6)	62.7	(0.6)	-2.5	(0.7)	-8	(3.2)	-8	(3.0)
Finland	89.4	(0.4)	87.5	(0.4)	91.5	(0.5)	-4.0	(0.4)	89.4	(0.4)	89.8	(0.4)	-0.5	(0.4)	-5	(4.1)	-7	(4.3)
France	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m		
Germany	68.2	(0.6)	69.1	(0.7)	67.4	(0.6)	1.7	(0.6)	66.3	(0.9)	71.8	(0.7)	-5.6	(0.8)	-9	(4.1)	-7	(3.8)
Hungary	75.4	(0.6)	75.8	(0.8)	74.9	(0.6)	0.9	(0.7)	74.2	(0.7)	76.7	(0.8)	-2.5	(0.7)	-4	(4.2)	-4	(3.8)
Ireland	63.4	(0.6)	62.0	(0.8)	64.9	(0.7)	-2.8	(0.9)	62.8	(0.7)	64.0	(0.8)	-1.2	(0.8)	0	(3.8)	1	(3.7)
Israel	55.2	(0.7)	56.3	(0.9)	53.9	(0.8)	2.4	(1.1)	53.8	(0.8)	56.8	(1.0)	-2.9	(1.2)	-25	(5.1)	-24	(4.5)
Italy	66.5	(0.6)	70.6	(1.0)	61.9	(1.0)	8.7	(1.7)	60.6	(0.7)	70.3	(0.7)	-9.6	(0.7)	-10	(5.0)	-6	(4.6)
Japan	59.7	(0.9)	56.7	(0.9)	63.1	(1.2)	-6.4	(1.0)	59.7	(1.0)	59.8	(0.9)	-0.1	(0.8)	-4	(3.8)	-4	(3.5)
Korea	42.7	(0.9)	40.9	(1.0)	44.8	(1.2)	-3.9	(1.2)	43.0	(0.9)	42.5	(1.2)	0.4	(1.0)	0	(5.3)	0	(4.7)
Netherlands	93.9	(0.3)	93.6	(0.4)	94.1	(0.3)	-0.4	(0.4)	94.0	(0.4)	93.6	(0.4)	0.4	(0.4)	30	(9.9)	28	(9.0)
Norway	91.9	(0.3)	90.7	(0.4)	93.1	(0.3)	-2.5	(0.4)	92.1	(0.4)	92.3	(0.5)	-0.2	(0.6)	28	(7.8)	22	(7.5)
Poland	61.0	(0.7)	60.8	(0.7)	61.1	(0.9)	-0.4	(0.8)	58.2	(0.8)	63.3	(0.8)	-5.1	(0.7)	-1	(3.9)	1	(3.6)
Portugal	69.4	(0.6)	71.5	(0.8)	67.3	(0.6)	4.2	(0.8)	66.8	(1.0)	71.3	(0.6)	-4.5	(1.0)	-21	(4.3)	-16	(4.0)
Slovak Republic	80.0	(0.4)	77.5	(0.5)	82.8	(0.6)	-5.2	(0.6)	79.6	(0.6)	81.5	(0.5)	-1.9	(0.5)	26	(5.3)	21	(4.4)
Slovenia	57.1	(0.4)	58.0	(0.5)	56.2	(0.6)	1.8	(0.8)	55.7	(0.5)	58.7	(0.6)	-3.0	(0.8)	6	(3.4)	5	(3.1)
Spain	75.3	(0.6)	75.8	(0.6)	74.7	(0.8)	1.1	(0.6)	75.0	(0.8)	75.5	(0.7)	-0.5	(0.7)	12	(5.1)	11	(4.8)
Sweden	87.8	(0.7)	87.0	(0.7)	88.6	(0.8)	-1.6	(0.5)	88.7	(0.8)	86.8	(0.6)	1.9	(0.7)	21	(6.5)	17	(5.4)
Turkey	49.2	(0.8)	50.7	(0.9)	47.8	(0.9)	3.0	(0.7)	48.5	(1.2)	50.1	(0.8)	-1.7	(1.1)	8	(3.7)	4	(3.3)
England (United Kingdom)	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m		
United States	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m		
OECD average	71.7	(0.1)	71.4	(0.1)	72.0	(0.1)	-0.6	(0.2)	70.7	(0.2)	72.7	(0.1)	-2.0	(0.2)	3	(1.0)	2	(1.0)
Partners																		
Brazil	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m		
Bulgaria	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m		
Colombia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m		
Croatia	78.5	(0.5)	80.3	(0.5)	76.5	(0.7)	3.8	(0.7)	76.2	(0.9)	80.5	(0.5)	-4.3	(0.8)	-9	(5.2)	-8	(4.5)
Cyprus*	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m		
Hong Kong-China	83.5	(0.4)	80.9	(0.5)	86.5	(0.4)	-5.6	(0.5)	82.1	(0.8)	85.0	(0.4)	-2.9	(0.9)	7	(6.4)	9	(5.9)
Macao-China	87.9	(0.3)	86.2	(0.4)	89.6	(0.3)	-3.4	(0.4)	88.9	(0.5)	87.9	(0.3)	1.1	(0.5)	11	(4.3)	11	(4.1)
Malaysia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m		
Montenegro	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m		
Russian Federation	80.4	(0.4)	79.5	(0.5)	81.3	(0.5)	-1.8	(0.6)	80.2	(0.4)	80.6	(0.6)	-0.4	(0.6)	4	(5.1)	2	(4.5)
Serbia	82.4	(0.5)	82.5	(0.4)	82.4	(0.7)	0.2	(0.7)	83.8	(0.7)	82.0	(0.5)	1.8	(0.7)	20	(5.2)	15	(4.5)
Shanghai-China	38.7	(0.6)	38.1	(0.6)	39.3	(0.7)	-1.3	(0.6)	39.6	(0.7)	37.9	(0.8)	1.7	(0.9)	16	(4.0)	12	(3.5)
Singapore	69.7	(0.3)	67.2	(0.4)	72.2	(0.4)	-5.0	(0.6)	69.0	(0.4)	70.9	(0.5)	-2.0	(0.6)	-18	(3.2)	-16	(2.9)
Chinese Taipei	78.8	(0.4)	75.6	(0.6)	82.0	(0.4)	-6.3	(0.6)	80.2	(0.6)	78.4	(0.5)	1.9	(0.7)	13	(4.1)	11	(3.7)
United Arab Emirates	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m		
Uruguay	49.7	(0.6)	55.4	(0.8)	44.8	(0.7)	10.5	(0.8)	51.7	(1.5)	48.9	(0.6)	2.8	(1.5)	-16	(5.4)	-23	(4.3)

Note: Values that are statistically significant are indicated in bold (see Annex A3).

1. The difference in problem-solving performance after accounting for socio-demographic characteristics of students corresponds to the coefficient from a regression where the PISA index of economic, social and cultural status (ESCS), ESCS squared, boy, and an immigrant (first-generation) dummy are introduced as further independent variables.

* See notes at the beginning of this Annex.

StatLink <http://dx.doi.org/10.1787/888933003706>



[Part 1/3]

Differences in problem-solving, mathematics, reading and science performance related to computer use
Results based on students' self-reports

Table V.4.27

	Difference in performance associated with the use of computers at home, after accounting for socio-demographic characteristics of students ¹											
	Problem solving (use - no use)		Mathematics (use - no use)		Reading (use - no use)		Science (use - no use)		Computer-based mathematics (use - no use)		Digital reading (use - no use)	
	Score dif.	S.E.	Score dif.	S.E.	Score dif.	S.E.	Score dif.	S.E.	Score dif.	S.E.	Score dif.	S.E.
OECD												
Australia	50	(6.4)	51	(5.7)	53	(6.5)	52	(6.4)	52	(4.7)	56	(6.6)
Austria	50	(20.0)	39	(15.6)	45	(16.2)	36	(14.7)	36	(13.8)	36	(13.3)
Belgium	60	(10.2)	43	(9.0)	48	(8.8)	42	(8.0)	51	(9.7)	67	(10.8)
Canada	m	m	m	m	m	m	m	m	m	m	m	
Chile	21	(4.3)	16	(3.5)	20	(4.3)	18	(4.1)	14	(4.0)	20	(4.2)
Czech Republic	59	(13.1)	45	(11.4)	50	(11.5)	51	(12.3)	m	m	m	m
Denmark	44	(17.2)	45	(12.6)	60	(15.7)	54	(15.8)	53	(15.8)	58	(13.7)
Estonia	33	(12.0)	32	(10.8)	38	(12.3)	32	(12.6)	17	(12.1)	33	(13.8)
Finland	24	(14.6)	1	(12.0)	15	(13.2)	10	(11.9)	m	m	m	m
France	m	m	m	m	m	m	m	m	m	m	m	
Germany	32	(20.1)	34	(16.0)	28	(15.1)	44	(17.1)	37	(15.0)	50	(20.2)
Hungary	40	(10.0)	30	(6.7)	41	(8.5)	36	(7.8)	23	(7.8)	32	(9.8)
Ireland	11	(10.3)	5	(7.9)	4	(7.7)	3	(7.9)	7	(7.1)	3	(7.3)
Israel	47	(11.7)	42	(8.6)	49	(9.4)	50	(8.0)	44	(9.9)	56	(10.4)
Italy	30	(20.0)	35	(14.7)	44	(14.7)	32	(13.8)	29	(11.8)	40	(14.6)
Japan	24	(3.9)	24	(3.6)	23	(3.8)	24	(3.6)	26	(3.8)	23	(3.5)
Korea	33	(4.2)	45	(4.3)	39	(4.0)	36	(3.6)	35	(4.1)	29	(3.5)
Netherlands	77	(13.0)	78	(12.4)	88	(13.1)	76	(13.2)	m	m	m	m
Norway	58	(15.6)	55	(12.3)	70	(14.8)	58	(13.2)	42	(13.0)	81	(17.6)
Poland	38	(8.6)	24	(8.3)	27	(7.9)	26	(8.0)	32	(7.5)	38	(9.0)
Portugal	31	(8.2)	39	(8.0)	42	(8.3)	36	(8.7)	25	(6.6)	40	(8.1)
Slovak Republic	51	(7.3)	44	(7.3)	49	(7.0)	45	(7.0)	35	(6.1)	56	(8.0)
Slovenia	22	(7.9)	12	(7.0)	24	(7.4)	23	(6.7)	14	(6.7)	32	(7.6)
Spain	37	(8.3)	30	(6.3)	35	(7.0)	30	(7.0)	37	(6.9)	29	(8.1)
Sweden	47	(14.7)	37	(12.6)	61	(14.7)	51	(14.5)	45	(11.9)	34	(14.5)
Turkey	24	(3.4)	19	(3.6)	18	(3.1)	17	(3.2)	m	m	m	m
England (United Kingdom)	m	m	m	m	m	m	m	m	m	m	m	
United States	m	m	m	m	m	m	m	m	m	m	m	
OECD average	39	(2.5)	34	(2.0)	40	(2.2)	37	(2.1)	33	(2.2)	41	(2.5)
Partners												
Brazil	m	m	m	m	m	m	m	m	m	m	m	
Bulgaria	m	m	m	m	m	m	m	m	m	m	m	
Colombia	m	m	m	m	m	m	m	m	m	m	m	
Croatia	53	(11.1)	46	(7.6)	42	(7.8)	44	(7.1)	m	m	m	m
Cyprus*	m	m	m	m	m	m	m	m	m	m	m	
Hong Kong-China	42	(10.8)	44	(10.1)	36	(9.9)	41	(9.8)	44	(11.2)	37	(11.6)
Macao-China	33	(8.0)	35	(8.1)	31	(7.1)	31	(7.2)	31	(7.8)	26	(6.5)
Malaysia	m	m	m	m	m	m	m	m	m	m	m	
Montenegro	m	m	m	m	m	m	m	m	m	m	m	
Russian Federation	19	(4.3)	24	(6.2)	25	(5.2)	20	(6.1)	18	(4.9)	36	(6.5)
Serbia	56	(5.8)	52	(4.8)	53	(5.4)	45	(5.8)	m	m	m	m
Shanghai-China	28	(5.1)	13	(4.5)	13	(3.2)	10	(3.8)	18	(5.1)	25	(4.1)
Singapore	24	(5.7)	35	(6.2)	36	(5.6)	34	(6.1)	29	(5.6)	28	(4.9)
Chinese Taipei	25	(7.9)	26	(8.0)	21	(5.6)	19	(5.2)	23	(5.7)	32	(5.8)
United Arab Emirates	m	m	m	m	m	m	m	m	m	m	m	
Uruguay	21	(5.3)	23	(4.7)	26	(4.6)	21	(4.1)	m	m	m	m

Note: Values that are statistically significant are indicated in bold (see Annex A3).

1. The adjusted effects correspond to the coefficient from a regression where the PISA index of economic, social and cultural status (ESCS), ESCS squared, boy, and an immigrant (first generation) dummy are introduced as further independent variables.

* See notes at the beginning of this Annex.

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[Part 2/3]
Differences in problem-solving, mathematics, reading and science performance related to computer use
Results based on students' self-reports

Table V.4.27

	Computer use effect size: Difference in performance related to computer use, after accounting for socio-demographic characteristics of students, ¹ divided by the variation in scores within each country/economy (standard deviation)												
	Problem solving (use - no use)		Mathematics (use - no use)		Reading (use - no use)		Science (use - no use)		Computer-based mathematics (use - no use)		Digital reading (use - no use)		
	Effect size	S.E.	Effect size	S.E.	Effect size	S.E.	Effect size	S.E.	Effect size	S.E.	Effect size	S.E.	
OECD	Australia	0.51	(0.07)	0.54	(0.06)	0.56	(0.07)	0.53	(0.06)	0.58	(0.05)	0.58	(0.07)
	Austria	0.53	(0.21)	0.43	(0.17)	0.50	(0.18)	0.40	(0.16)	0.41	(0.16)	0.40	(0.15)
	Belgium	0.59	(0.10)	0.43	(0.09)	0.51	(0.09)	0.44	(0.08)	0.54	(0.10)	0.70	(0.11)
	Canada	m	m	m	m	m	m	m	m	m	m	m	
	Chile	0.24	(0.05)	0.19	(0.04)	0.25	(0.05)	0.22	(0.05)	0.18	(0.05)	0.24	(0.05)
	Czech Republic	0.63	(0.14)	0.47	(0.12)	0.57	(0.13)	0.57	(0.14)	m	m	m	m
	Denmark	0.48	(0.19)	0.56	(0.15)	0.74	(0.19)	0.61	(0.18)	0.62	(0.18)	0.71	(0.17)
	Estonia	0.37	(0.14)	0.40	(0.13)	0.48	(0.15)	0.40	(0.16)	0.21	(0.15)	0.36	(0.15)
	Finland	0.26	(0.16)	0.02	(0.15)	0.17	(0.15)	0.11	(0.13)	m	m	m	m
	France	m	m	m	m	m	m	m	m	m	m	m	
	Germany	0.34	(0.21)	0.36	(0.17)	0.33	(0.17)	0.49	(0.19)	0.40	(0.16)	0.52	(0.21)
	Hungary	0.39	(0.09)	0.33	(0.07)	0.46	(0.09)	0.41	(0.09)	0.25	(0.08)	0.29	(0.09)
	Ireland	0.12	(0.11)	0.06	(0.09)	0.05	(0.09)	0.03	(0.09)	0.08	(0.09)	0.04	(0.09)
	Israel	0.38	(0.09)	0.41	(0.08)	0.45	(0.09)	0.48	(0.08)	0.40	(0.09)	0.48	(0.09)
	Italy	0.34	(0.22)	0.39	(0.16)	0.46	(0.15)	0.34	(0.14)	0.35	(0.14)	0.42	(0.15)
	Japan	0.28	(0.04)	0.26	(0.04)	0.23	(0.04)	0.26	(0.04)	0.30	(0.04)	0.30	(0.04)
	Korea	0.36	(0.04)	0.46	(0.04)	0.45	(0.04)	0.44	(0.04)	0.38	(0.04)	0.36	(0.04)
	Netherlands	0.82	(0.14)	0.88	(0.14)	1.01	(0.15)	0.85	(0.14)	m	m	m	m
	Norway	0.56	(0.15)	0.61	(0.14)	0.72	(0.15)	0.59	(0.14)	0.49	(0.15)	0.82	(0.18)
	Poland	0.40	(0.09)	0.27	(0.09)	0.31	(0.09)	0.30	(0.09)	0.37	(0.09)	0.39	(0.09)
	Portugal	0.35	(0.09)	0.42	(0.09)	0.46	(0.09)	0.41	(0.10)	0.29	(0.08)	0.45	(0.09)
	Slovak Republic	0.53	(0.07)	0.44	(0.07)	0.48	(0.07)	0.46	(0.07)	0.42	(0.07)	0.60	(0.08)
	Slovenia	0.23	(0.08)	0.13	(0.08)	0.27	(0.08)	0.26	(0.08)	0.16	(0.08)	0.32	(0.08)
	Spain	0.36	(0.08)	0.35	(0.07)	0.39	(0.08)	0.36	(0.08)	0.45	(0.08)	0.30	(0.08)
	Sweden	0.49	(0.15)	0.42	(0.14)	0.60	(0.14)	0.53	(0.15)	0.53	(0.14)	0.35	(0.15)
	Turkey	0.30	(0.04)	0.21	(0.04)	0.21	(0.04)	0.22	(0.04)	m	m	m	m
	England (United Kingdom)	m	m	m	m	m	m	m	m	m	m	m	
	United States	m	m	m	m	m	m	m	m	m	m	m	
	OECD average	0.41	(0.03)	0.38	(0.02)	0.44	(0.02)	0.40	(0.02)	0.37	(0.02)	0.43	(0.03)
Partners	Brazil	m	m	m	m	m	m	m	m	m	m	m	
	Bulgaria	m	m	m	m	m	m	m	m	m	m	m	
	Colombia	m	m	m	m	m	m	m	m	m	m	m	
	Croatia	0.57	(0.12)	0.52	(0.09)	0.49	(0.09)	0.51	(0.08)	m	m	m	m
	Cyprus*	m	m	m	m	m	m	m	m	m	m	m	
	Hong Kong-China	0.46	(0.12)	0.46	(0.10)	0.42	(0.11)	0.49	(0.12)	0.51	(0.13)	0.39	(0.12)
	Macao-China	0.41	(0.10)	0.38	(0.09)	0.37	(0.09)	0.40	(0.09)	0.38	(0.09)	0.38	(0.09)
	Malaysia	m	m	m	m	m	m	m	m	m	m	m	
	Montenegro	m	m	m	m	m	m	m	m	m	m	m	
	Russian Federation	0.22	(0.05)	0.28	(0.07)	0.28	(0.06)	0.24	(0.07)	0.22	(0.06)	0.42	(0.07)
	Serbia	0.63	(0.06)	0.58	(0.05)	0.58	(0.06)	0.52	(0.06)	m	m	m	m
	Shanghai-China	0.31	(0.05)	0.13	(0.04)	0.16	(0.04)	0.12	(0.05)	0.19	(0.05)	0.30	(0.05)
	Singapore	0.25	(0.06)	0.33	(0.06)	0.36	(0.06)	0.33	(0.06)	0.30	(0.06)	0.31	(0.05)
	Chinese Taipei	0.27	(0.08)	0.22	(0.07)	0.23	(0.06)	0.22	(0.06)	0.26	(0.06)	0.36	(0.06)
	United Arab Emirates	m	m	m	m	m	m	m	m	m	m	m	
	Uruguay	0.21	(0.05)	0.27	(0.05)	0.28	(0.05)	0.23	(0.04)	m	m	m	m

Note: Values that are statistically significant are indicated in bold (see Annex A3).

1. The adjusted effects correspond to the coefficient from a regression where the PISA index of economic, social and cultural status (ESCS), ESCS squared, boy, and an immigrant (first generation) dummy are introduced as further independent variables.

* See notes at the beginning of this Annex.

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[Part 3/3]
Differences in problem-solving, mathematics, reading and science performance related to computer use
Results based on students' self-reports

Table V.4.27

	Difference in computer use effect sizes between problem solving (PS) and...							
	... Mathematics (PS - M)		... Reading (PS - R)		... Science (PS - S)		... Computer-based mathematics (PS - CBM)	
	Effect size dif.	S.E.	Effect size dif.	S.E.	Effect size dif.	S.E.	Effect size dif.	S.E.
OECD								
Australia	-0.02	(0.04)	-0.05	(0.05)	-0.02	(0.04)	-0.06	(0.05)
Austria	0.10	(0.09)	0.03	(0.09)	0.14	(0.09)	0.12	(0.12)
Belgium	0.15	(0.08)	0.08	(0.09)	0.15	(0.08)	0.05	(0.08)
Canada	m	m	m	m	m	m	m	m
Chile	0.05	(0.04)	-0.01	(0.05)	0.02	(0.04)	0.07	(0.05)
Czech Republic	0.15	(0.08)	0.05	(0.10)	0.06	(0.09)	m	m
Denmark	-0.09	(0.15)	-0.26	(0.20)	-0.13	(0.14)	-0.14	(0.18)
Estonia	-0.03	(0.10)	-0.11	(0.10)	-0.03	(0.11)	0.17	(0.10)
Finland	0.24	(0.08)	0.09	(0.11)	0.14	(0.10)	m	m
France	m	m	m	m	m	m	m	m
Germany	-0.03	(0.13)	0.01	(0.13)	-0.16	(0.13)	-0.07	(0.15)
Hungary	0.06	(0.06)	-0.07	(0.07)	-0.03	(0.07)	0.13	(0.09)
Ireland	0.06	(0.08)	0.08	(0.08)	0.09	(0.08)	0.04	(0.09)
Israel	-0.03	(0.06)	-0.08	(0.06)	-0.11	(0.06)	-0.02	(0.07)
Italy	-0.05	(0.11)	-0.12	(0.14)	0.00	(0.17)	-0.01	(0.13)
Japan	0.02	(0.04)	0.05	(0.04)	0.03	(0.04)	-0.02	(0.04)
Korea	-0.10	(0.03)	-0.09	(0.03)	-0.08	(0.03)	-0.02	(0.03)
Netherlands	-0.06	(0.14)	-0.19	(0.13)	-0.03	(0.11)	m	m
Norway	-0.05	(0.11)	-0.16	(0.12)	-0.03	(0.12)	0.07	(0.10)
Poland	0.13	(0.07)	0.09	(0.06)	0.10	(0.06)	0.03	(0.06)
Portugal	-0.07	(0.05)	-0.10	(0.06)	-0.06	(0.07)	0.06	(0.07)
Slovak Republic	0.09	(0.06)	0.05	(0.06)	0.07	(0.06)	0.10	(0.06)
Slovenia	0.10	(0.07)	-0.04	(0.07)	-0.03	(0.06)	0.06	(0.07)
Spain	0.00	(0.07)	-0.03	(0.09)	0.00	(0.07)	-0.09	(0.08)
Sweden	0.07	(0.09)	-0.11	(0.11)	-0.04	(0.09)	-0.04	(0.12)
Turkey	0.09	(0.03)	0.09	(0.03)	0.08	(0.03)	m	m
England (United Kingdom)	m	m	m	m	m	m	m	m
United States	m	m	m	m	m	m	m	m
OECD average	0.03	(0.02)	-0.03	(0.02)	0.01	(0.02)	0.02	(0.02)
Partners								
Brazil	m	m	m	m	m	m	m	m
Bulgaria	m	m	m	m	m	m	m	m
Colombia	m	m	m	m	m	m	m	m
Croatia	0.05	(0.07)	0.08	(0.07)	0.06	(0.10)	m	m
Cyprus*	m	m	m	m	m	m	m	m
Hong Kong-China	0.00	(0.10)	0.04	(0.10)	-0.04	(0.11)	-0.05	(0.10)
Macao-China	0.03	(0.07)	0.04	(0.07)	0.01	(0.07)	0.03	(0.09)
Malaysia	m	m	m	m	m	m	m	m
Montenegro	m	m	m	m	m	m	m	m
Russian Federation	-0.06	(0.07)	-0.06	(0.06)	-0.02	(0.07)	0.00	(0.05)
Serbia	0.05	(0.04)	0.05	(0.05)	0.12	(0.05)	m	m
Shanghai-China	0.18	(0.04)	0.15	(0.04)	0.19	(0.05)	0.12	(0.04)
Singapore	-0.08	(0.04)	-0.11	(0.05)	-0.08	(0.04)	-0.05	(0.04)
Chinese Taipei	0.05	(0.04)	0.04	(0.05)	0.05	(0.05)	0.01	(0.06)
United Arab Emirates	m	m	m	m	m	m	m	m
Uruguay	-0.05	(0.04)	-0.06	(0.05)	-0.01	(0.04)	m	m

Note: Values that are statistically significant are indicated in bold (see Annex A3).

1. The adjusted effects correspond to the coefficient from a regression where the PISA index of economic, social and cultural status (ESCS), ESCS squared, boy, and an immigrant (first generation) dummy are introduced as further independent variables.

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ANNEX B2

RESULTS FOR REGIONS WITHIN COUNTRIES

[Part 1/2]

Table B2.V.1 Percentage of students at each proficiency level in problem solving, by region

		Percentage of students at each level													
		Below Level 1 (below 358.49 score points)		Level 1 (from 358.49 to less than 423.42 score points)		Level 2 (from 423.42 to less than 488.35 score points)		Level 3 (from 488.35 to less than 553.28 score points)		Level 4 (from 553.28 to less than 618.21 score points)		Level 5 (from 618.21 to less than 683.14 score points)			
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.		
OECD	Australia	6.4	(1.2)	9.5	(1.2)	17.6	(1.5)	24.1	(2.2)	24.0	(2.1)	13.5	(1.8)	4.8	(1.1)
	Australian Capital Territory	5.2	(0.6)	10.3	(0.8)	18.9	(0.9)	25.6	(1.0)	22.1	(0.9)	12.7	(0.9)	5.2	(0.7)
	New South Wales	9.1	(1.5)	12.4	(2.3)	18.1	(2.5)	21.7	(3.2)	21.5	(3.0)	12.2	(3.2)	5.0	(2.7)
	Northern Territory	4.9	(0.7)	10.7	(1.0)	19.8	(1.1)	25.8	(1.1)	22.8	(0.9)	11.7	(0.9)	4.3	(0.6)
	Queensland	4.4	(0.7)	10.7	(1.0)	20.6	(1.4)	27.2	(1.3)	22.0	(1.4)	11.8	(1.2)	3.3	(0.6)
	South Australia	10.2	(1.0)	16.5	(1.9)	22.8	(1.7)	22.8	(1.5)	16.0	(1.5)	8.5	(1.1)	3.2	(0.7)
	Tasmania	4.6	(0.8)	10.5	(1.3)	19.5	(1.2)	26.3	(1.4)	22.9	(1.2)	12.4	(1.1)	3.9	(0.6)
	Victoria	4.5	(0.9)	9.3	(1.1)	18.5	(1.2)	25.9	(1.7)	24.7	(1.4)	12.8	(1.2)	4.4	(0.9)
	Western Australia	6.7	(0.7)	9.5	(0.9)	16.8	(0.9)	24.9	(1.0)	24.2	(1.0)	13.9	(1.0)	4.1	(0.5)
	Belgium	12.6	(1.1)	14.4	(0.8)	20.3	(1.2)	24.0	(1.1)	19.1	(1.1)	8.1	(0.9)	1.5	(0.4)
Canada	German-speaking Community	5.8	(0.9)	9.1	(1.1)	19.5	(1.7)	26.3	(2.1)	24.7	(1.5)	11.1	(1.2)	3.6	(0.6)
	Alberta	4.6	(0.6)	9.6	(1.0)	16.8	(1.4)	26.2	(1.6)	23.9	(1.6)	13.6	(1.2)	5.3	(0.8)
	British Columbia	3.1	(0.7)	9.4	(1.0)	18.2	(1.3)	26.1	(1.4)	24.0	(1.4)	13.8	(1.3)	5.3	(0.7)
	Manitoba	7.3	(1.0)	13.2	(1.2)	21.6	(1.1)	24.8	(1.6)	21.2	(1.4)	9.2	(1.2)	2.7	(0.5)
	New Brunswick	5.4	(0.7)	10.3	(1.2)	20.8	(1.6)	28.0	(2.4)	23.4	(1.7)	9.3	(1.2)	2.8	(0.6)
	Newfoundland and Labrador	7.6	(2.1)	11.3	(1.6)	21.6	(1.5)	26.9	(1.7)	21.0	(1.6)	9.3	(1.1)	2.3	(0.6)
	Nova Scotia	5.1	(1.4)	10.8	(1.6)	22.6	(3.2)	27.3	(2.8)	22.6	(2.4)	9.2	(1.1)	2.5	(0.8)
	Ontario	5.1	(0.7)	9.4	(1.0)	19.4	(1.1)	24.9	(1.2)	22.5	(1.3)	12.6	(1.0)	6.0	(1.0)
	Prince Edward Island	7.0	(0.7)	14.2	(1.2)	25.7	(1.5)	28.2	(2.1)	17.7	(1.2)	5.6	(0.9)	1.6	(0.5)
	Quebec	5.8	(0.8)	8.9	(0.7)	18.0	(1.0)	26.5	(1.2)	23.4	(0.9)	12.6	(1.1)	4.7	(0.8)
Italy	Saskatchewan	5.2	(0.7)	11.1	(1.0)	21.1	(1.6)	28.0	(1.6)	20.7	(1.3)	10.9	(1.1)	2.9	(0.6)
	Centre	6.2	(1.6)	9.8	(2.7)	18.3	(2.4)	30.3	(3.6)	23.9	(2.2)	9.6	(2.2)	1.9	(1.0)
	North East	4.2	(1.1)	8.1	(1.6)	19.3	(2.1)	27.5	(1.7)	25.9	(2.2)	11.9	(1.4)	3.1	(0.8)
	North West	2.5	(0.8)	6.8	(1.8)	18.8	(2.1)	29.2	(3.1)	28.3	(3.2)	12.1	(2.5)	2.3	(0.8)
	South	6.6	(1.9)	17.7	(2.8)	31.6	(2.9)	27.5	(2.2)	14.0	(2.6)	2.4	(0.8)	0.1	(0.2)
Portugal	South Islands	7.4	(2.0)	16.2	(2.5)	27.7	(2.0)	25.3	(2.3)	15.9	(2.1)	6.1	(1.6)	1.2	(0.6)
	Alentejo	6.0	(2.0)	11.2	(2.1)	23.4	(2.4)	28.1	(2.7)	21.2	(2.7)	8.4	(2.6)	1.8	(1.3)
	Spain	8.0	(0.8)	13.2	(0.8)	23.2	(0.9)	27.3	(0.9)	18.7	(1.1)	7.6	(0.6)	2.1	(0.3)
Partners	Catalonia*	11.2	(2.4)	12.4	(1.5)	24.0	(1.9)	25.3	(1.9)	18.0	(1.7)	7.3	(1.1)	1.9	(0.6)
	Madrid	6.8	(2.0)	13.5	(2.6)	19.6	(3.0)	26.0	(2.2)	21.7	(3.0)	9.8	(3.0)	2.6	(1.2)
	Brazil	16.3	(4.5)	25.3	(3.5)	29.3	(2.7)	19.6	(4.0)	7.3	(2.1)	1.8	(0.9)	0.5	(0.4)
	Northeast Region	37.8	(4.1)	25.1	(2.9)	20.0	(3.0)	10.7	(2.4)	3.9	(1.4)	1.6	(0.8)	0.8	(0.5)
Colombia	North Region	40.2	(5.6)	30.3	(3.6)	17.8	(3.5)	9.0	(2.8)	2.6	(1.2)	0.2	(0.2)	0.0	(0.0)
	Southeast Region	14.4	(1.9)	24.5	(2.1)	29.8	(2.0)	21.2	(2.3)	8.4	(1.3)	1.5	(0.4)	0.3	(0.2)
	South Region	17.5	(3.1)	27.1	(2.7)	30.4	(2.8)	17.3	(2.9)	6.1	(1.3)	1.6	(0.7)	0.1	(0.1)
	United Arab Emirates	27.1	(2.4)	28.3	(1.6)	27.2	(1.8)	13.2	(1.5)	3.4	(0.8)	0.8	(0.3)	0.1	(0.1)
Central-West Region	Cali	31.6	(4.1)	28.1	(2.0)	24.6	(2.1)	12.4	(1.7)	2.9	(0.9)	0.4	(0.2)	0.1	(0.1)
	Manizales	21.9	(2.1)	27.0	(1.7)	28.9	(2.0)	15.6	(1.7)	5.3	(0.9)	1.0	(0.4)	0.4	(0.2)
	Medellín	24.8	(2.6)	26.9	(2.8)	23.8	(2.7)	15.0	(1.7)	6.8	(1.4)	2.2	(0.9)	0.5	(0.3)
	Abu Dhabi*	37.7	(2.2)	23.0	(1.4)	20.5	(1.1)	12.2	(1.0)	4.9	(0.6)	1.5	(0.4)	0.2	(0.1)
	Ajman	42.6	(4.5)	29.1	(2.8)	19.5	(2.5)	8.1	(2.5)	0.7	(0.6)	0.0	c	0.0	c
	Dubai*	18.1	(0.6)	19.6	(1.1)	22.6	(1.3)	20.6	(0.9)	12.7	(0.7)	5.1	(0.5)	1.4	(0.2)
	Fujairah	32.4	(2.8)	32.6	(2.8)	22.4	(2.7)	9.6	(1.0)	2.6	(0.8)	0.3	(0.3)	0.0	c
	Ras al-Khaimah	40.6	(4.6)	31.4	(3.0)	18.3	(2.4)	7.3	(1.2)	1.9	(0.7)	0.5	(0.2)	0.0	c
North Region	Sharjah	24.2	(4.0)	29.4	(3.2)	26.1	(3.0)	14.8	(2.2)	4.8	(1.5)	0.6	(0.5)	0.1	(0.2)
	Umm al-Quwain	44.8	(3.5)	28.8	(3.3)	18.5	(2.4)	6.2	(1.6)	1.5	(0.7)	0.1	(0.2)	0.0	c

* PISA adjudicated region.

Notes: Italian administrative regions are grouped into larger geographical units: Centre (*Lazio, Marche, Toscana, Umbria*), North East (*Bolzano, Emilia Romagna, Friuli Venezia Giulia, Trento, Veneto*), North West (*Liguria, Lombardia, Piemonte, Valle d'Aosta*), South (*Abruzzo, Campania, Molise, Puglia*), South Islands (*Basilicata, Calabria, Sardegna, Sicilia*).Brazilian states are grouped into larger geographical units: Central-West Region (*Federal District, Goiás, Mato Grosso, Mato Grosso do Sul*), Northeast Region (*Alagoas, Bahia, Ceará, Maranhão, Paraíba, Pernambuco, Piauí, Rio Grande do Norte, Sergipe*), North Region (*Acre, Amapá, Amazonas, Pará, Rondônia, Roraima, Tocantins*), Southeast Region (*Espírito Santo, Minas Gerais, Rio de Janeiro, São Paulo*), South Region (*Paraná, Rio Grande do Sul, Santa Catarina*).

See Table V.2.1 for national data.

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[Part 2/2]

Table B2.V.1 Percentage of students at each proficiency level in problem solving, by region

		Percentage of students at or above each proficiency level											
		Level 1 or above (above 358.49 score points)		Level 2 or above (above 423.42 score points)		Level 3 or above (above 488.35 score points)		Level 4 or above (above 553.28 score points)		Level 5 or above (above 618.21 score points)			
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.		
OECD	Australia	93.6	(1.2)	84.1	(1.4)	66.5	(1.8)	42.4	(2.0)	18.4	(1.8)	4.8	(1.1)
	New South Wales	94.8	(0.6)	84.5	(1.1)	65.5	(1.4)	40.0	(1.5)	17.9	(1.3)	5.2	(0.7)
	Northern Territory	90.9	(1.5)	78.5	(2.4)	60.4	(3.0)	38.7	(4.1)	17.2	(3.9)	5.0	(2.7)
	Queensland	95.1	(0.7)	84.4	(1.3)	64.6	(1.6)	38.8	(1.4)	16.0	(1.0)	4.3	(0.6)
	South Australia	95.6	(0.7)	84.9	(1.3)	64.3	(1.8)	37.2	(2.0)	15.2	(1.5)	3.3	(0.6)
	Tasmania	89.8	(1.0)	73.2	(1.9)	50.5	(1.8)	27.7	(1.6)	11.7	(1.4)	3.2	(0.7)
	Victoria	95.4	(0.8)	85.0	(1.4)	65.4	(1.9)	39.2	(2.0)	16.3	(1.3)	3.9	(0.6)
	Western Australia	95.5	(0.9)	86.2	(1.4)	67.7	(1.7)	41.8	(2.0)	17.2	(1.5)	4.4	(0.9)
	Belgium	93.3	(0.7)	83.8	(1.2)	67.0	(1.4)	42.2	(1.5)	18.0	(1.2)	4.1	(0.5)
	French Community*	87.4	(1.1)	73.0	(1.5)	52.6	(1.9)	28.7	(1.6)	9.6	(1.0)	1.5	(0.4)
Canada	German-speaking Community	94.2	(0.9)	85.1	(1.2)	65.6	(1.8)	39.3	(1.6)	14.7	(1.2)	3.6	(0.6)
	Alberta	95.4	(0.6)	85.8	(1.3)	69.1	(2.1)	42.9	(2.4)	19.0	(1.6)	5.3	(0.8)
	British Columbia	96.9	(0.7)	87.5	(1.2)	69.3	(1.6)	43.2	(1.7)	19.1	(1.4)	5.3	(0.7)
	Manitoba	92.7	(1.0)	79.5	(1.3)	57.9	(1.6)	33.1	(1.5)	11.9	(1.2)	2.7	(0.5)
	New Brunswick	94.6	(0.7)	84.3	(1.3)	63.5	(1.7)	35.5	(2.0)	12.1	(1.3)	2.8	(0.6)
	Newfoundland and Labrador	92.4	(2.1)	81.1	(2.8)	59.5	(2.6)	32.6	(2.0)	11.6	(1.2)	2.3	(0.6)
	Nova Scotia	94.9	(1.4)	84.1	(2.1)	61.5	(3.8)	34.2	(2.8)	11.6	(1.5)	2.5	(0.8)
	Ontario	94.9	(0.7)	85.5	(1.5)	66.1	(2.1)	41.2	(2.3)	18.7	(1.7)	6.0	(1.0)
	Prince Edward Island	93.0	(0.7)	78.8	(1.4)	53.2	(1.7)	25.0	(1.4)	7.3	(0.8)	1.6	(0.5)
	Quebec	94.2	(0.8)	85.3	(1.1)	67.2	(1.6)	40.8	(1.8)	17.3	(1.5)	4.7	(0.8)
Italy	Saskatchewan	94.8	(0.7)	83.7	(1.1)	62.6	(1.6)	34.5	(1.7)	13.8	(1.1)	2.9	(0.6)
	Centre	93.8	(1.6)	84.0	(3.9)	65.8	(5.7)	35.5	(4.2)	11.6	(2.6)	1.9	(1.0)
	North East	95.8	(1.1)	87.7	(2.1)	68.4	(2.9)	40.9	(3.2)	15.0	(1.9)	3.1	(0.8)
	North West	97.5	(0.8)	90.7	(2.2)	71.9	(3.7)	42.7	(4.9)	14.4	(2.9)	2.3	(0.8)
	South	93.4	(1.9)	75.7	(4.1)	44.1	(4.2)	16.5	(3.0)	2.6	(0.8)	0.1	(0.2)
Portugal	South Islands	92.6	(2.0)	76.4	(3.5)	48.6	(3.9)	23.3	(3.0)	7.3	(2.0)	1.2	(0.6)
	Alentejo	94.0	(2.0)	82.8	(3.9)	59.5	(5.5)	31.4	(5.3)	10.3	(3.9)	1.8	(1.3)
	Spain	92.0	(0.8)	78.8	(1.3)	55.6	(1.7)	28.4	(1.5)	9.6	(0.8)	2.1	(0.3)
Partners	Catalonia*	88.8	(2.4)	76.4	(3.1)	52.4	(3.4)	27.1	(2.6)	9.2	(1.5)	1.9	(0.6)
	Madrid	93.2	(2.0)	79.7	(4.0)	60.1	(5.3)	34.1	(5.8)	12.4	(3.9)	2.6	(1.2)
	Brazil	83.7	(4.5)	58.4	(5.7)	29.1	(5.1)	9.6	(2.8)	2.3	(1.0)	0.5	(0.4)
Colombia	Central-West Region	62.2	(4.1)	37.1	(5.2)	17.0	(3.7)	6.3	(2.3)	2.4	(1.3)	0.8	(0.5)
	Northeast Region	59.8	(5.6)	29.5	(4.7)	11.8	(3.3)	2.8	(1.3)	0.2	(0.2)	0.0	(0.0)
	North Region	85.6	(1.9)	61.1	(3.2)	31.3	(3.4)	10.2	(1.6)	1.7	(0.5)	0.3	(0.2)
	Southeast Region	82.5	(3.1)	55.4	(4.3)	25.0	(3.5)	7.7	(1.4)	1.6	(0.7)	0.1	(0.1)
	Bogotá	72.9	(2.4)	44.7	(3.0)	17.5	(2.0)	4.3	(1.0)	0.9	(0.3)	0.1	(0.1)
United Arab Emirates	Cali	68.4	(4.1)	40.3	(3.6)	15.7	(2.2)	3.4	(0.9)	0.5	(0.2)	0.1	(0.1)
	Manizales	78.1	(2.1)	51.1	(2.6)	22.2	(1.9)	6.6	(1.1)	1.3	(0.4)	0.4	(0.2)
	Medellín	75.2	(2.6)	48.3	(3.9)	24.6	(3.3)	9.5	(2.2)	2.7	(1.1)	0.5	(0.3)
	Abu Dhabi*	57.4	(4.5)	28.3	(4.2)	8.8	(2.5)	0.7	(0.6)	0.0	c	0.0	c
	Ajman	81.9	(0.6)	62.3	(1.1)	39.6	(0.9)	19.1	(0.6)	6.4	(0.5)	1.4	(0.2)
Notes:	Dubai*	67.6	(2.8)	35.0	(2.7)	12.6	(1.4)	3.0	(0.9)	0.3	(0.3)	0.0	c
	Fujairah	59.4	(4.6)	28.0	(3.4)	9.6	(1.6)	2.4	(0.7)	0.5	(0.2)	0.0	c
	Ras al-Khaimah	75.8	(4.0)	46.4	(4.0)	20.3	(3.0)	5.5	(1.8)	0.7	(0.4)	0.1	(0.2)
	Sharjah	55.2	(3.5)	26.4	(2.4)	7.9	(1.6)	1.7	(0.6)	0.1	(0.2)	0.0	c
	Umm al-Quwain	62.3	(2.2)	39.3	(2.0)	18.8	(1.6)	6.6	(0.9)	1.7	(0.4)	0.2	(0.1)

* PISA adjudicated region.

Notes: Italian administrative regions are grouped into larger geographical units: Centre (Lazio, Marche, Toscana, Umbria), North East (Bolzano, Emilia Romagna, Friuli Venezia Giulia, Trento, Veneto), North West (Liguria, Lombardia, Piemonte, Valle d'Aosta), South (Abruzzo, Campania, Molise, Puglia), South Islands (Basilicata, Calabria, Sardegna, Sicilia).

Brazilian states are grouped into larger geographical units: Central-West Region (Federal District, Goiás, Mato Grosso, Mato Grosso do Sul), Northeast Region (Alagoas, Bahia, Ceará, Maranhão, Paraíba, Pernambuco, Piauí, Rio Grande do Norte, Sergipe), North Region (Acre, Amapá, Amazonas, Pará, Rondônia, Roraima, Tocantins), Southeast Region (Espírito Santo, Minas Gerais, Rio de Janeiro, São Paulo), South Region (Paraná, Rio Grande do Sul, Santa Catarina).

See Table V.2.1 for national data.

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[Part 1/2]

Table B2.V.2 Mean score and variation in student performance in problem solving, by region

	Mean score	Standard deviation	Percentiles												
			5th		10th		25th		50th (median)		75th		90th		
	Mean	S.E.	S.D.	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	
OECD	Australia														
	Australian Capital Territory	526	(3.7)	103	(3.3)	344	(13.8)	388	(10.6)	461	(6.2)	534	(4.7)	597	(5.0)
	New South Wales	525	(3.5)	99	(2.1)	356	(6.0)	394	(5.2)	459	(4.6)	527	(4.0)	593	(4.7)
	Northern Territory	513	(7.9)	112	(6.1)	313	(15.3)	364	(15.2)	438	(11.5)	524	(10.0)	593	(13.2)
	Queensland	522	(3.4)	97	(2.3)	359	(7.2)	396	(6.2)	457	(5.3)	525	(3.5)	589	(4.0)
	South Australia	520	(4.1)	93	(2.2)	364	(8.8)	400	(7.6)	458	(4.8)	522	(5.1)	584	(6.2)
	Tasmania	490	(4.0)	105	(2.6)	317	(7.5)	356	(6.9)	418	(6.7)	489	(5.7)	561	(5.5)
	Victoria	523	(4.1)	95	(2.1)	363	(9.1)	398	(6.0)	460	(5.5)	526	(4.7)	590	(4.9)
	Western Australia	528	(4.0)	96	(2.9)	363	(9.7)	402	(8.0)	465	(5.1)	533	(4.8)	595	(4.9)
Belgium	Flemish Community*	525	(3.3)	102	(2.3)	341	(7.4)	385	(6.1)	461	(5.2)	534	(4.0)	597	(3.5)
	French Community	485	(4.4)	108	(2.8)	288	(10.3)	340	(8.5)	415	(5.7)	495	(5.4)	564	(4.5)
	German-speaking Community	520	(2.6)	97	(2.4)	348	(11.9)	392	(7.5)	459	(6.9)	529	(4.4)	586	(4.3)
Canada	Alberta	531	(5.1)	98	(2.3)	362	(7.1)	400	(7.8)	467	(8.1)	536	(6.3)	600	(5.6)
	British Columbia	535	(3.5)	94	(2.3)	379	(8.3)	409	(5.7)	471	(4.8)	538	(4.3)	599	(5.1)
	Manitoba	504	(3.6)	102	(3.3)	332	(13.2)	375	(6.2)	440	(5.1)	507	(3.9)	576	(3.9)
	New Brunswick	515	(3.1)	92	(2.2)	353	(8.3)	395	(6.2)	456	(5.0)	520	(3.7)	579	(5.4)
	Newfoundland and Labrador	504	(7.3)	100	(6.2)	329	(17.9)	376	(19.2)	445	(9.2)	511	(6.5)	572	(4.5)
	Nova Scotia	512	(5.7)	92	(3.0)	359	(8.7)	392	(9.7)	452	(10.7)	515	(8.0)	575	(6.0)
	Ontario	528	(5.7)	103	(3.1)	356	(7.9)	399	(8.4)	461	(6.3)	530	(6.0)	597	(5.8)
	Prince Edward Island	493	(2.6)	90	(2.1)	342	(6.9)	376	(5.6)	435	(4.5)	495	(3.8)	553	(4.3)
	Quebec	525	(4.5)	102	(3.8)	349	(11.1)	397	(7.2)	465	(4.9)	531	(4.3)	593	(5.0)
	Saskatchewan	515	(2.8)	93	(1.9)	357	(8.2)	393	(5.9)	453	(4.2)	517	(4.0)	579	(5.2)
Italy	Centre	514	(10.8)	93	(5.5)	345	(17.4)	389	(16.3)	459	(18.0)	524	(11.2)	577	(9.1)
	North East	527	(6.4)	91	(3.7)	367	(17.3)	409	(12.9)	470	(8.7)	533	(7.9)	589	(6.7)
	North West	533	(8.6)	83	(3.4)	392	(13.0)	428	(11.4)	480	(10.3)	539	(9.3)	590	(9.1)
	South	474	(8.4)	82	(4.5)	344	(23.2)	377	(13.3)	424	(9.7)	476	(8.2)	529	(8.6)
	South Islands	486	(8.5)	90	(4.0)	339	(14.3)	374	(11.5)	428	(10.2)	485	(9.3)	548	(8.7)
Portugal	Alentejo	506	(13.4)	90	(5.2)	348	(18.3)	388	(17.9)	447	(14.9)	511	(13.0)	569	(14.8)
Spain	Basque Country*	496	(3.9)	97	(2.5)	330	(7.7)	371	(5.6)	436	(4.6)	501	(4.1)	562	(4.1)
	Catalonia*	488	(8.4)	103	(5.4)	302	(18.3)	350	(16.8)	428	(10.7)	495	(9.0)	559	(6.7)
	Madrid	507	(13.0)	97	(4.8)	345	(14.3)	378	(15.9)	439	(15.0)	513	(14.9)	575	(15.1)
Partners	Brazil														
	Central-West Region	441	(11.9)	87	(5.2)	297	(19.6)	331	(17.8)	384	(15.6)	441	(13.2)	498	(13.1)
	Northeast Region	393	(11.0)	105	(8.2)	227	(18.0)	262	(13.9)	324	(11.2)	390	(12.3)	460	(15.3)
	North Region	383	(10.9)	83	(5.0)	253	(19.6)	284	(12.5)	327	(11.1)	377	(13.2)	437	(14.9)
	Southeast Region	447	(6.3)	83	(2.4)	309	(8.1)	341	(6.7)	390	(6.9)	447	(6.9)	504	(8.4)
	South Region	435	(7.8)	82	(2.6)	301	(9.9)	330	(13.0)	379	(9.3)	435	(8.9)	488	(8.9)
Colombia	Bogotá	411	(5.7)	84	(2.6)	272	(7.4)	302	(7.0)	352	(6.5)	411	(6.5)	467	(6.3)
	Cali	398	(9.0)	90	(4.4)	245	(20.2)	278	(16.0)	339	(12.1)	402	(9.2)	460	(8.4)
	Manizales	425	(4.3)	86	(2.6)	284	(7.6)	314	(7.3)	367	(6.5)	426	(5.9)	481	(5.3)
	Medellín	424	(7.6)	95	(5.1)	274	(9.8)	305	(7.4)	359	(7.8)	419	(9.7)	487	(11.9)
United Arab Emirates	Abu Dhabi*	391	(5.3)	109	(2.8)	212	(8.1)	250	(6.8)	319	(6.8)	394	(6.0)	466	(6.1)
	Ajman	375	(8.0)	80	(3.6)	242	(11.8)	273	(8.5)	320	(9.0)	373	(10.0)	431	(10.2)
	Dubai*	457	(1.3)	108	(1.1)	274	(4.0)	316	(3.0)	383	(2.8)	458	(2.7)	533	(2.9)
	Fujairah	395	(4.0)	81	(2.6)	262	(8.1)	290	(6.2)	340	(6.5)	394	(5.6)	448	(6.6)
	Ras al-Khaimah	373	(11.9)	95	(11.3)	205	(51.0)	253	(28.4)	318	(15.5)	379	(9.3)	433	(9.9)
	Sharjah	416	(8.6)	85	(6.2)	273	(19.7)	305	(16.0)	361	(11.2)	416	(8.8)	474	(9.2)
	Umm al-Quwain	372	(3.5)	81	(2.9)	241	(11.1)	270	(9.6)	315	(5.7)	369	(6.9)	427	(7.9)

* PISA adjudicated region.

Notes: Italian administrative regions are grouped into larger geographical units: Centre (Lazio, Marche, Toscana, Umbria), North East (Bolzano, Emilia Romagna, Friuli Venezia Giulia, Trento, Veneto), North West (Liguria, Lombardia, Piemonte, Valle d'Aosta), South (Abruzzo, Campania, Molise, Puglia), South Islands (Basilicata, Calabria, Sardegna, Sicilia).

Brazilian states are grouped into larger geographical units: Central-West Region (Federal District, Goiás, Mato Grosso, Mato Grosso do Sul), Northeast Region (Alagoas, Bahia, Ceará, Maranhão, Paraíba, Pernambuco, Piauí, Rio Grande do Norte, Sergipe), North Region (Acre, Amapá, Amazonas, Pará, Rondônia, Roraima, Tocantins), Southeast Region (Espírito Santo, Minas Gerais, Rio de Janeiro, São Paulo), South Region (Paraná, Rio Grande do Sul, Santa Catarina). See Table V.2.2 for national data.

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[Part 2/2]

Table B2.V.2 Mean score and variation in student performance in problem solving, by region

		Range of performance							
		Inter-quartile range (75th minus 25th percentile)		Inter-decile range (90th minus 10th percentile)		Top range (90th minus 50th percentile)		Bottom range (50th minus 10th percentile)	
		Range	S.E.	Range	S.E.	Range	S.E.	Range	S.E.
OECD	Australia								
	Australian Capital Territory	136	(7.2)	262	(12.9)	116	(7.2)	146	(10.6)
	New South Wales	134	(4.5)	258	(6.7)	126	(4.2)	133	(4.9)
	Northern Territory	155	(12.3)	289	(26.9)	129	(21.2)	160	(16.4)
	Queensland	132	(5.8)	248	(6.6)	120	(4.5)	128	(6.0)
	South Australia	126	(5.8)	239	(8.4)	116	(4.9)	123	(6.9)
	Tasmania	143	(7.4)	272	(10.7)	139	(8.8)	133	(7.8)
	Victoria	130	(4.8)	245	(6.5)	118	(4.5)	127	(5.5)
	Western Australia	129	(5.7)	245	(8.8)	114	(5.4)	131	(7.2)
	Belgium								
	Flemish Community*	136	(5.2)	262	(6.8)	114	(3.2)	148	(5.5)
	French Community	148	(5.0)	276	(8.8)	121	(4.8)	155	(8.0)
	German-speaking Community	126	(8.9)	245	(9.6)	108	(6.7)	137	(8.5)
	Canada								
	Alberta	133	(7.2)	252	(7.6)	116	(6.4)	136	(7.0)
	British Columbia	128	(5.1)	244	(7.1)	115	(5.1)	128	(5.2)
	Manitoba	136	(4.8)	252	(8.0)	120	(5.1)	132	(6.2)
	New Brunswick	123	(7.2)	232	(8.4)	107	(6.0)	125	(6.0)
	Newfoundland and Labrador	127	(8.3)	250	(19.1)	115	(6.4)	134	(15.6)
	Nova Scotia	123	(8.9)	233	(10.6)	110	(8.9)	123	(7.5)
	Ontario	136	(4.8)	257	(8.5)	125	(5.2)	131	(6.8)
	Prince Edward Island	118	(5.3)	228	(7.1)	110	(5.3)	119	(6.6)
	Quebec	128	(4.3)	251	(8.3)	117	(4.5)	135	(6.6)
	Saskatchewan	126	(6.2)	242	(8.5)	117	(5.1)	125	(7.1)
	Italy								
	Centre	118	(14.5)	235	(17.9)	100	(10.0)	135	(12.2)
	North East	119	(7.4)	228	(14.2)	103	(7.2)	125	(12.8)
	North West	110	(7.6)	206	(10.9)	95	(6.4)	111	(8.7)
	South	106	(7.5)	197	(12.1)	98	(7.7)	99	(9.7)
	South Islands	121	(8.0)	226	(13.6)	115	(10.2)	111	(8.7)
	Portugal								
	Alentejo	122	(10.4)	231	(15.8)	108	(10.1)	123	(10.3)
	Spain								
	Basque Country*	125	(3.7)	245	(5.8)	115	(3.8)	130	(4.4)
	Catalonia*	131	(8.2)	263	(16.1)	119	(7.4)	144	(13.3)
	Madrid	136	(13.2)	249	(17.2)	114	(11.0)	135	(14.6)
Partners	Brazil								
	Central-West Region	115	(12.9)	221	(18.5)	111	(12.8)	110	(13.0)
	Northeast Region	137	(12.9)	263	(22.8)	134	(14.9)	128	(16.6)
	North Region	110	(10.6)	211	(16.7)	118	(13.9)	92	(10.9)
	Southeast Region	114	(5.9)	214	(8.0)	107	(6.3)	106	(5.7)
	South Region	108	(6.5)	211	(11.9)	107	(9.5)	105	(12.2)
	Colombia								
	Bogotá	115	(5.7)	216	(7.9)	106	(6.0)	110	(6.0)
	Cali	121	(7.4)	234	(14.6)	110	(7.2)	123	(12.2)
	Manizales	113	(6.2)	221	(8.6)	109	(6.5)	112	(6.7)
	Medellín	128	(9.8)	244	(14.8)	131	(12.8)	114	(9.0)
	United Arab Emirates								
	Abu Dhabi*	147	(5.5)	279	(7.4)	136	(5.3)	143	(5.6)
	Ajman	111	(8.7)	208	(12.4)	108	(9.0)	100	(9.5)
	Dubai*	150	(3.4)	279	(4.6)	137	(4.1)	142	(4.1)
	Fujairah	108	(7.3)	210	(9.1)	107	(8.6)	103	(7.7)
	Ras al-Khaimah	115	(12.9)	233	(27.5)	108	(8.0)	125	(24.0)
	Sharjah	113	(12.4)	220	(19.0)	110	(10.3)	110	(12.9)
	Umm al-Quwain	112	(9.0)	206	(13.6)	107	(11.1)	99	(10.6)

* PISA adjudicated region.

Notes: Italian administrative regions are grouped into larger geographical units: Centre (*Lazio, Marche, Toscana, Umbria*), North East (*Bolzano, Emilia Romagna, Friuli Venezia Giulia, Trento, Veneto*), North West (*Liguria, Lombardia, Piemonte, Valle d'Aosta*), South (*Abruzzo, Campania, Molise, Puglia*), South Islands (*Basilicata, Calabria, Sardegna, Sicilia*).Brazilian states are grouped into larger geographical units: Central-West Region (*Federal District, Goiás, Mato Grosso, Mato Grosso do Sul*), Northeast Region (*Alagoas, Bahia, Ceará, Maranhão, Paraíba, Pernambuco, Piauí, Rio Grande do Norte, Sergipe*), North Region (*Acre, Amapá, Amazonas, Pará, Rondônia, Roraima, Tocantins*), Southeast Region (*Espírito Santo, Minas Gerais, Rio de Janeiro, São Paulo*), South Region (*Paraná, Rio Grande do Sul, Santa Catarina*).

See Table V.2.2 for national data.

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[Part 1/3]

Relative performance in problem solving compared with performance in mathematics, reading and science, by region

Table B2.V.3

		Relative performance in problem solving compared with students around the world ¹ with similar scores in...									
		... Mathematics, reading and science (expected performance)				... Mathematics					
		Relative performance across all students ² (actual minus expected score)		Percentage of students who perform above their expected score ³		Relative performance across all students ⁴		Relative performance among strong and top performers in mathematics (at or above Level 4) ⁴		Relative performance among moderate and low performers in mathematics (at or below Level 3) ⁴	
		Score dif.	S.E.	%	S.E.	Score dif.	S.E.	Score dif.	S.E.	Score dif.	S.E.
OECD	Australia	-2	(2.2)	51.1	(1.7)	2	(2.2)	8	(4.6)	-3	(3.5)
	Australian Capital Territory	6	(2.6)	54.6	(2.1)	8	(2.5)	13	(2.9)	6	(3.1)
	New South Wales	40	(6.4)	75.0	(4.5)	44	(6.0)	48	(13.8)	43	(6.3)
	Northern Territory	7	(3.1)	56.5	(2.3)	9	(3.1)	13	(3.5)	7	(3.4)
	Queensland	15	(3.0)	61.9	(2.6)	18	(3.2)	20	(4.4)	18	(3.6)
	South Australia	-5	(2.2)	46.0	(2.1)	-2	(2.3)	12	(4.2)	-6	(2.8)
	Tasmania	9	(3.2)	57.9	(2.7)	12	(3.2)	19	(4.0)	10	(3.5)
	Victoria	2	(3.9)	52.5	(3.0)	5	(3.9)	7	(4.9)	4	(4.6)
Belgium	Western Australia									3	(5.3)
	Flemish Community*	-5	(2.4)	45.9	(1.9)	-9	(2.4)	-7	(2.7)	-11	(3.2)
	French Community	-16	(3.9)	39.0	(2.4)	-19	(3.9)	-15	(4.8)	-21	(4.5)
	German-speaking Community	5	(2.2)	50.0	(2.1)	1	(2.2)	0	(3.2)	2	(3.1)
	Canada									-2	(4.8)
	Alberta	2	(3.7)	51.4	(2.9)	7	(3.6)	14	(4.7)	2	(4.0)
	British Columbia	1	(3.5)	50.1	(2.9)	6	(3.6)	13	(4.6)	2	(4.0)
	Manitoba	-1	(2.6)	50.9	(1.9)	-1	(2.7)	5	(2.8)	-3	(3.4)
Italy	New Brunswick	4	(1.9)	54.8	(2.1)	2	(1.9)	10	(3.4)	-1	(2.3)
	Newfoundland and Labrador	-3	(4.9)	49.4	(3.5)	1	(4.8)	8	(3.3)	-1	(6.3)
	Nova Scotia	1	(4.1)	52.0	(3.6)	3	(3.8)	8	(6.0)	2	(4.7)
	Ontario	3	(3.9)	53.0	(2.3)	6	(4.1)	12	(4.2)	2	(4.6)
	Prince Edward Island	-1	(2.8)	48.5	(1.9)	-1	(2.8)	-45	(5.0)	12	(3.4)
	Quebec	-8	(3.7)	45.8	(2.2)	-15	(3.8)	-13	(4.3)	-16	(4.6)
	Saskatchewan	-1	(2.5)	48.5	(2.2)	-1	(2.6)	7	(3.9)	-5	(2.9)
										12	(4.0)
Portugal	Centre	11	(7.2)	57.0	(5.1)	10	(7.2)	4	(5.6)	12	(8.9)
	North East	4	(4.9)	53.3	(4.1)	3	(5.1)	-1	(7.3)	6	(6.2)
	North West	15	(8.4)	61.3	(5.5)	16	(8.5)	4	(9.7)	21	(9.0)
	South	10	(7.5)	55.8	(5.4)	7	(7.3)	-16	(10.1)	11	(7.7)
	South Islands	9	(8.2)	55.5	(5.3)	7	(8.3)	-3	(10.1)	10	(9.1)
										-12	(11.1)
	Spain										
	Basque Country*	-17	(3.0)	39.8	(1.9)	-20	(3.0)	-13	(3.2)	-23	(3.5)
Partners	Catalonia*	-15	(7.6)	43.9	(4.0)	-17	(7.8)	-16	(8.6)	-17	(8.4)
	Madrid	-3	(9.1)	48.3	(6.9)	-2	(8.9)	5	(12.8)	-5	(7.9)
										9	(9.0)
	Brazil										
	Central-West Region	20	(8.9)	68.8	(7.8)	19	(9.8)	32	(13.9)	18	(10.0)
	Northeast Region	-9	(8.0)	43.7	(6.5)	-10	(7.8)	38	(20.6)	-11	(7.6)
	North Region	-7	(11.1)	44.3	(9.4)	-7	(10.7)	-16	(29.2)	-7	(10.7)
	Southeast Region	15	(4.5)	63.1	(3.5)	15	(4.7)	17	(9.1)	15	(4.8)
Colombia	South Region	3	(6.8)	51.2	(6.1)	1	(7.3)	0	(21.4)	1	(7.3)
	Bogotá	-10	(5.7)	43.9	(4.1)	-9	(5.8)	21	(18.3)	-9	(5.8)
	Cali	-11	(7.4)	45.5	(4.2)	-9	(7.4)	16	(22.4)	-10	(7.4)
	Manizales	-6	(4.8)	45.0	(4.2)	-4	(4.8)	-15	(23.4)	-3	(4.4)
	Medellín	3	(5.2)	53.4	(4.7)	5	(5.3)	23	(5.8)	4	(5.5)
										19	(6.7)
	United Arab Emirates										
	Abu Dhabi*	-53	(3.5)	20.5	(1.7)	-52	(3.6)	-43	(7.0)	-53	(3.7)
Notes:	Ajman	-54	(5.7)	16.4	(3.4)	-54	(6.1)	-72	(15.8)	-53	(6.1)
	Dubai*	-23	(1.2)	35.1	(1.0)	-23	(1.2)	-5	(2.6)	-28	(1.4)
	Fujairah	-39	(6.5)	26.2	(4.4)	-40	(6.3)	-56	(11.7)	-39	(6.2)
	Ras al-Khaimah	-65	(8.7)	12.9	(2.4)	-67	(9.0)	-49	(11.4)	-68	(9.3)
	Sharjah	-43	(6.9)	22.0	(3.7)	-43	(7.3)	-51	(11.2)	-42	(7.9)
	Umm al-Quwain	-51	(2.8)	15.7	(2.2)	-52	(3.0)	-64	(23.5)	-52	(3.1)
										-12	(24.2)

* PISA adjudicated region.

Notes: Values that are statistically significant are indicated in bold (see Annex A3).

Italian administrative regions are grouped into larger geographical units: Centre (Lazio, Marche, Toscana, Umbria), North East (Bolzano, Emilia Romagna, Friuli Venezia Giulia, Trento, Veneto), North West (Liguria, Lombardia, Piemonte, Valle d'Aosta), South (Abruzzo, Campania, Molise, Puglia), South Islands (Basilicata, Calabria, Sardegna, Sicilia).

Brazilian states are grouped into larger geographical units: Central-West Region (Federal District, Goiás, Mato Grosso, Mato Grosso do Sul), Northeast Region (Alagoas, Bahia, Ceará, Maranhão, Paraíba, Pernambuco, Piauí, Rio Grande do Norte, Sergipe), North Region (Acre, Amapá, Amazonas, Pará, Rondônia, Roraima, Tocantins), Southeast Region (Espírito Santo, Minas Gerais, Rio de Janeiro, São Paulo), South Region (Paraná, Rio Grande do Sul, Santa Catarina). See Table V.2.6 for national data.

1. "Students around the world" refers to 15-year-old students in countries that participated in the PISA 2012 assessment of problem solving. National samples are weighted according to the size of the target population using final student weights.

2. This column reports the difference between actual performance and the fitted value from a regression using a second-degree polynomial as regression function (math, math sq., read, read sq., scie, scie sq., mathxread, mathxscie, readxscie).

3. This column reports the percentage of students for whom the difference between actual performance and the fitted value from a regression is positive. Values that are indicated in bold are significantly larger or smaller than 50%.

4. This column reports the difference between actual performance and the fitted value from a regression using a cubic polynomial as regression function.

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Table B2.V.3

[Part 2/3]
Relative performance in problem solving compared with performance in mathematics, reading and science, by region

		Relative performance in problem solving compared with students around the world ¹ with similar scores in...															
		... Reading								... Science							
		Relative performance across all students ⁴	Relative performance among strong and top performers in reading (at or above Level 4) ⁴		Relative performance among moderate and low performers in reading (at or below Level 3) ⁴		Difference in relative performance: strong and top performers minus moderate and low performers		Relative performance across all students ⁴	Relative performance among strong and top performers in science (at or above Level 4) ⁴		Relative performance among moderate and low performers in science (at or below Level 3) ⁴		Difference in relative performance: strong and top performers minus moderate and low performers			
			Score dif.	S.E.	Score dif.	S.E.	Score dif.	S.E.		Score dif.	S.E.	Score dif.	S.E.	Score dif.	S.E.		
OECD	Australia	2 (2.7)	6 (5.5)	-1 (3.0)	7 (6.6)	-4 (2.3)	-5 (4.6)	-2 (3.3)	-2 (6.4)	12 (2.8)	13 (3.3)	11 (3.4)	3 (4.0)	1 (3.4)	4 (3.3)	-3 (3.7)	
	Australian Capital Territory	34 (6.4)	32 (12.9)	34 (6.3)	-2 (12.8)	24 (6.7)	16 (13.3)	27 (6.0)	-11 (12.6)	12 (3.3)	9 (4.1)	14 (3.7)	-5 (4.0)	5 (3.1)	4 (3.7)	-2 (3.3)	
	New South Wales	16 (3.2)	18 (4.8)	15 (3.3)	2 (4.5)	8 (3.3)	1 (4.4)	11 (3.7)	-10 (4.8)	-1 (2.3)	4 (8.0)	-4 (2.8)	8 (9.5)	-12 (2.4)	-10 (5.2)	3 (5.9)	
	Northern Territory	-1 (2.3)	4 (8.0)	-4 (2.8)	8 (9.5)	-12 (2.4)	-10 (5.2)	-12 (2.7)	3 (5.9)	7 (3.6)	7 (4.7)	6 (3.8)	1 (4.3)	9 (3.9)	-4 (4.3)	2 (4.8)	
	Queensland	7 (3.6)	7 (4.7)	6 (3.8)	1 (4.3)	7 (3.5)	4 (4.3)	9 (3.9)	-4 (4.3)	10 (4.1)	8 (5.7)	7 (6.3)	-12 (2.3)	11 (3.7)	-10 (4.8)	2 (5.1)	
	South Australia	16 (3.2)	18 (4.8)	15 (3.3)	2 (4.5)	8 (3.3)	1 (4.4)	11 (3.7)	-10 (4.8)	-1 (2.3)	4 (8.0)	-4 (2.8)	8 (9.5)	-12 (2.4)	-10 (5.2)	3 (5.9)	
	Tasmania	-1 (2.3)	4 (8.0)	-4 (2.8)	8 (9.5)	-12 (2.4)	-10 (5.2)	-12 (2.7)	3 (5.9)	7 (3.6)	7 (4.7)	6 (3.8)	1 (4.3)	9 (3.9)	-4 (4.3)	2 (4.8)	
	Western Australia	10 (4.1)	8 (5.7)	11 (4.7)	-3 (6.3)	-1 (3.8)	-5 (4.2)	2 (4.8)	-7 (5.1)								
Belgium	Flemish Community*	7 (2.6)	12 (3.1)	4 (3.2)	7 (3.8)	8 (2.5)	9 (2.9)	8 (3.0)	1 (3.3)	-16 (4.1)	-23 (5.2)	-13 (4.6)	-10 (5.7)	-2 (4.8)	6 (5.5)		
	French Community	17 (2.2)	-2 (4.5)	26 (3.0)	-28 (5.9)	12 (2.3)	11 (4.6)	13 (2.9)	-2 (5.9)								
	German-speaking Community																
Canada	Alberta	8 (4.3)	10 (5.3)	6 (4.8)	4 (5.3)	-3 (4.2)	-2 (4.9)	-3 (4.9)	1 (5.2)	4 (2.6)	7 (2.9)	18 (4.1)	8 (3.0)	1 (3.3)			
	British Columbia	4 (3.9)	3 (4.4)	4 (5.0)	-1 (5.5)	-3 (3.5)	-2 (4.3)	-3 (4.2)	1 (4.8)	4 (2.6)	2 (3.4)	5 (4.1)	0 (2.8)	-1 (3.5)	2 (4.1)		
	Manitoba	4 (2.6)	7 (2.9)	2 (3.4)	5 (4.1)	0 (2.8)	1 (3.1)	-1 (3.5)	2 (4.1)	15 (2.5)	7 (4.1)	-11 (4.5)	8 (2.3)	4 (5.2)	10 (2.7)	-6 (6.2)	
	New Brunswick	-2 (5.4)	-9 (5.0)	1 (7.4)	-10 (8.6)	-10 (5.8)	-11 (3.5)	-9 (8.0)	-2 (8.2)	2 (2.6)	4 (4.1)	2 (4.4)	-3 (4.6)	-1 (7.1)	-7 (8.1)		
	Newfoundland and Labrador	2 (5.1)	-4 (5.0)	4 (6.3)	-8 (6.4)	-3 (5.5)	-8 (5.8)	-1 (7.1)	-7 (8.1)	-2 (5.4)	2 (3.4)	0 (4.9)	5 (3.7)	6 (4.8)	4 (3.9)	2 (4.1)	
	Nova Scotia	2 (4.1)	2 (5.3)	2 (4.4)	0 (4.9)	5 (3.7)	6 (4.8)	4 (4.4)	2 (4.1)	-2 (2.8)	-48 (5.4)	14 (3.4)	-62 (6.6)	-45 (5.6)	12 (3.3)	-57 (6.9)	
	Ontario	-2 (2.8)	-48 (5.4)	14 (3.4)	-62 (6.6)	-1 (2.8)	-45 (5.6)	-1 (10.4)	-1 (13.4)	6 (3.5)	10 (4.3)	-11 (5.2)	10 (3.8)	13 (4.3)	9 (4.4)	4 (4.4)	
	Prince Edward Island																
	Quebec	6 (3.5)	-1 (4.4)	10 (4.3)	-11 (5.2)	10 (3.8)	13 (4.3)	9 (4.4)	4 (4.4)	6 (3.5)	8 (2.7)	5 (4.0)	-4 (3.1)	0 (2.5)	-1 (4.2)	-2 (4.7)	
	Saskatchewan	8 (2.7)	5 (4.0)	9 (3.1)	-4 (4.8)	0 (2.5)	-1 (2.8)	0 (2.8)	-2 (4.7)								
Italy	Centre	19 (8.6)	4 (7.7)	25 (10.8)	-22 (11.3)	10 (7.6)	1 (7.3)	13 (9.4)	-12 (9.2)	15 (5.5)	-3 (5.3)	25 (6.8)	-28 (6.5)	4 (5.2)	8 (6.6)	-11 (8.0)	
	North East	25 (8.4)	6 (8.6)	34 (9.7)	-29 (8.3)	15 (8.3)	-2 (8.9)	24 (9.1)	-26 (8.1)	7 (8.3)	-31 (12.6)	13 (8.3)	-44 (13.8)	13 (7.7)	-20 (11.4)	17 (7.6)	-38 (11.4)
	North West	9 (7.6)	-5 (10.8)	12 (8.5)	-17 (12.1)	11 (8.2)	-8 (12.3)	15 (8.2)	-18 (10.9)	-2 (8.2)	1 (8.3)	-31 (12.6)	-44 (13.8)	11 (8.3)	-18 (10.8)	-23 (10.9)	
	South																
	South Islands																
Portugal	Alentejo	11 (9.4)	8 (16.8)	12 (8.7)	-5 (14.0)	10 (11.0)	9 (17.6)	10 (10.4)	-1 (13.4)								
	Spain																
	Basque Country*	-6 (3.2)	-6 (3.6)	-6 (3.6)	0 (3.8)	-11 (3.1)	-10 (3.4)	-11 (3.5)	1 (3.6)	-16 (7.8)	-25 (8.4)	-12 (8.5)	-12 (7.2)	-2 (7.0)	-8 (7.8)	7 (6.7)	
Partners	Catalonia*	0 (8.7)	2 (11.6)	-1 (8.3)	3 (7.9)	-5 (10.4)	2 (13.4)	-9 (9.9)	11 (9.2)								
	Central-West Region	6 (7.9)	9 (14.4)	6 (8.0)	3 (13.7)	15 (7.0)	38 (14.5)	14 (7.0)	24 (14.9)								
	Northeast Region	-25 (9.8)	3 (21.5)	-26 (9.9)	29 (20.6)	-18 (8.4)	24 (22.7)	-20 (8.3)	44 (21.4)								
	North Region	-29 (12.9)	-34 (21.5)	-29 (13.0)	-5 (21.7)	-18 (10.8)	-7 (20.0)	-18 (10.8)	11 (23.3)								
	Southeast Region	3 (4.6)	-10 (10.9)	4 (4.7)	-14 (11.3)	11 (4.2)	7 (9.9)	11 (4.2)	-4 (9.5)								
Colombia	Bogotá	-31 (5.3)	-18 (14.0)	-32 (5.3)	14 (13.1)	-17 (6.1)	-3 (21.4)	-18 (6.1)	15 (20.0)								
	Cali	-34 (7.1)	-33 (10.9)	-34 (7.3)	1 (12.0)	-23 (7.9)	-23 (16.5)	-23 (8.0)	0 (16.8)								
	Manizales	-25 (5.1)	-39 (11.9)	-24 (5.0)	-15 (10.8)	-17 (5.1)	-25 (17.6)	-16 (4.9)	-9 (16.5)								
	Medellín	-19 (6.1)	-1 (13.3)	-20 (6.3)	19 (13.2)	-10 (4.8)	21 (8.8)	-11 (5.0)	32 (9.2)								
United Arab Emirates	Abu Dhabi*	-58 (3.9)	-47 (7.7)	-60 (4.0)	13 (7.9)	-61 (3.4)	-53 (6.3)	-62 (3.6)	9 (6.3)	-62 (4.9)	-90 (10.5)	-60 (5.1)	-60 (4.2)	-60 (5.1)	-26 (12.2)		
	Ajman	-62 (4.9)	-90 (10.5)	-60 (5.1)	-30 (10.7)	-62 (5.2)	-86 (13.4)	-60 (5.1)	-26 (12.2)								
	Dubai*	-22 (1.4)	-9 (2.8)	-26 (1.6)	16 (3.1)	-24 (1.2)	-11 (2.8)	-27 (1.5)	-16 (3.4)	-22 (1.4)	-76 (15.4)	-42 (6.2)	-34 (17.6)	-46 (4.6)	-45 (4.7)	-8 (10.4)	
	Fujairah	-43 (6.2)	-76 (15.4)	-42 (6.2)	-34 (17.6)	-46 (4.6)	-53 (9.6)	-45 (4.7)	-8 (10.4)	-22 (1.4)	-64 (9.4)	1 (22.1)	-72 (8.9)	-59 (14.4)	-72 (9.1)	14 (15.0)	
	Ras al-Khaimah	-64 (9.2)	-63 (21.4)	-64 (9.4)	1 (22.1)	-72 (8.9)	-59 (14.4)	-72 (9.1)	14 (15.0)	-49 (5.5)	-53 (12.8)	-48 (5.6)	-5 (12.5)	-44 (7.8)	-60 (9.8)	-42 (8.0)	
	Sharjah	-49 (5.5)	-53 (12.8)	-48 (5.6)	-5 (12.5)	-44 (7.8)	-60 (9.8)	-42 (8.0)	-17 (9.6)	-54 (3.2)	-65 (15.4)	-54 (3.4)	-11 (16.1)	-60 (2.6)	-68 (15.1)	-8 (15.9)	
	Umm al-Qwain																

* PISA adjudicated region.

Notes: Values that are statistically significant are indicated in bold (see Annex A3).

Italian administrative regions are grouped into larger geographical units: Centre (Lazio, Marche, Toscana, Umbria), North East (Bolzano, Emilia Romagna, Friuli Venezia Giulia, Trento, Veneto), North West (Liguria, Lombardia, Piemonte, Valle d'Aosta), South (Abruzzo, Campania, Molise, Puglia), South Islands (Basilicata, Calabria, Sardegna, Sicilia).

Brazilian states are grouped into larger geographical units: Central-West Region (Federal District, Goiás, Mato Grosso, Mato Grosso do Sul), Northeast Region (Alagoas, Bahia, Ceará, Maranhão, Paraíba, Pernambuco, Piauí, Rio Grande do Norte, Sergipe), North Region (Acre, Amapá, Amazonas, Pará, Rondônia, Roraima, Tocantins), Southeast Region (Espírito Santo, Minas Gerais, Rio de Janeiro, São Paulo), South Region (Paraná, Rio Grande do Sul, Santa Catarina).

See Table V.2.6 for national data.

1. "Students around the world" refers to 15-year-old students in countries that participated in the PISA 2012 assessment of problem solving. National samples are weighted according to the size of the target population using final student weights.

2. This column reports the difference between actual performance and the fitted value from a regression using a second-degree polynomial as regression function (math, math \times sq, read, read \times scie, scie \times scie, math \times read, math \times scie, read \times scie).

3. This column reports the percentage of students for whom the difference between actual performance and the fitted value from a regression is positive. Values that are indicated in bold are significantly larger or smaller than 50%.

4. This column reports the difference between actual performance and the fitted value from a regression using a cubic polynomial as regression function.

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[Part 3/3]

Relative performance in problem solving compared with performance in mathematics, reading and science, by region

Table B2.V.3

		Relative performance in problem solving compared with students in countries that also assessed mathematics on computers who have similar scores in...					
		...Paper-based mathematics (A)		...Computer-based mathematics (B)		Mode effects: Score-point difference attributed to computer delivery (A - B)	
		Relative performance across all students ⁴		Relative performance across all students ⁴			
		Score dif.	S.E.	Score dif.	S.E.	Score dif.	S.E.
OECD	Australia						
	Australian Capital Territory	0	(2.3)	11	(2.4)	-11	(1.4)
	New South Wales	7	(2.6)	15	(2.8)	-8	(1.9)
	Northern Territory	43	(6.1)	34	(5.5)	9	(3.3)
	Queensland	8	(3.1)	13	(3.4)	-5	(2.5)
	South Australia	17	(3.2)	17	(3.4)	0	(3.5)
	Tasmania	-3	(2.3)	4	(2.3)	-7	(1.6)
	Victoria	11	(3.3)	9	(3.4)	2	(2.2)
Belgium	Western Australia	4	(4.0)	12	(4.1)	-8	(3.5)
	Flemish Community*	-11	(2.4)	-4	(2.7)	-7	(2.1)
	French Community	-21	(4.0)	-11	(4.0)	-10	(2.7)
	German-speaking Community	0	(2.2)	6	(2.5)	-6	(1.8)
Canada	Alberta	5	(3.7)	13	(5.0)	-8	(3.2)
	British Columbia	5	(3.6)	4	(4.2)	1	(3.0)
	Manitoba	-2	(2.7)	5	(3.1)	-7	(1.6)
	New Brunswick	1	(2.0)	14	(2.6)	-13	(1.9)
	Newfoundland and Labrador	-1	(4.8)	-10	(5.1)	10	(1.4)
	Nova Scotia	2	(3.8)	5	(3.2)	-3	(2.5)
	Ontario	4	(4.1)	-2	(3.9)	6	(3.2)
	Prince Edward Island	-3	(2.8)	-3	(3.5)	0	(2.8)
	Quebec	-16	(3.8)	0	(4.4)	-16	(2.5)
	Saskatchewan	-2	(2.7)	11	(3.1)	-13	(2.1)
	Italy						
Portugal	Centre	8	(7.2)	10	(8.3)	-2	(5.3)
	North East	2	(5.2)	12	(7.0)	-11	(5.4)
	North West	14	(8.5)	8	(7.3)	6	(5.3)
	South	6	(7.3)	-11	(7.5)	16	(7.4)
	South Islands	6	(8.3)	8	(6.5)	-3	(5.8)
Spain	Alentejo	4	(10.1)	15	(9.2)	-12	(6.2)
	Basque Country*	-21	(3.0)	0	(3.2)	-21	(2.1)
	Catalonia*	-19	(7.7)	-1	(8.3)	-17	(5.2)
Partners	Madrid	-3	(9.0)	9	(9.6)	-13	(3.5)
	Brazil						
	Central-West Region	17	(9.8)	8	(7.7)	9	(6.2)
	Northeast Region	-11	(7.7)	-22	(6.6)	11	(6.0)
	North Region	-9	(10.7)	-35	(12.5)	26	(5.7)
	Southeast Region	13	(4.6)	0	(4.9)	13	(3.9)
Colombia	South Region	-1	(7.2)	-6	(6.3)	5	(7.5)
	Bogotá	-11	(5.9)	-16	(6.2)	5	(3.4)
	Cali	-11	(7.5)	-17	(7.9)	6	(8.1)
	Manizales	-6	(4.8)	1	(5.0)	-7	(2.4)
United Arab Emirates	Medellín	3	(5.3)	-4	(4.5)	7	(4.2)
	Abu Dhabi*	-54	(3.6)	-46	(3.4)	-8	(3.0)
	Ajman	-56	(6.1)	-34	(3.3)	-22	(4.9)
	Dubai*	-25	(1.3)	-13	(1.3)	-12	(1.0)
	Fujairah	-42	(6.4)	-45	(4.4)	3	(4.9)
	Ras al-Khaimah	-69	(9.0)	-58	(10.9)	-11	(4.8)
	Sharjah	-45	(7.3)	-37	(5.3)	-8	(5.7)
	Umm al-Quwain	-54	(3.1)	-37	(3.5)	-17	(2.8)

* PISA adjudicated region.

Notes: Values that are statistically significant are indicated in bold (see Annex A3).

Italian administrative regions are grouped into larger geographical units: Centre (*Lazio, Marche, Toscana, Umbria*), North East (*Bolzano, Emilia Romagna, Friuli Venezia Giulia, Trento, Veneto*), North West (*Liguria, Lombardia, Piemonte, Valle d'Aosta*), South (*Abruzzo, Campania, Molise, Puglia*), South Islands (*Basilicata, Calabria, Sardegna, Sicilia*).Brazilian states are grouped into larger geographical units: Central-West Region (*Federal District, Goiás, Mato Grosso, Mato Grosso do Sul*), Northeast Region (*Alagoas, Bahia, Ceará, Maranhão, Paraíba, Pernambuco, Piauí, Rio Grande do Norte, Sergipe*), North Region (*Acre, Amapá, Amazonas, Pará, Rondônia, Roraima, Tocantins*), Southeast Region (*Espírito Santo, Minas Gerais, Rio de Janeiro, São Paulo*), South Region (*Paraná, Rio Grande do Sul, Santa Catarina*).

See Table V.2.6 for national data.

1. "Students around the world" refers to 15-year-old students in countries that participated in the PISA 2012 assessment of problem solving. National samples are weighted according to the size of the target population using final student weights.

2. This column reports the difference between actual performance and the fitted value from a regression using a second-degree polynomial as regression function (math, math sq., read, read sq., scie, scie sq., mathxread, mathxscie, readxscie).

3. This column reports the percentage of students for whom the difference between actual performance and the fitted value from a regression is positive. Values that are indicated in bold are significantly larger or smaller than 50%.

4. This column reports the difference between actual performance and the fitted value from a regression using a cubic polynomial as regression function.

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[Part 1/2]

Table B2.V.4 Percentage of students at each proficiency level in problem solving, by gender and by region

		Boys													
		Below Level 1 (below 358.49 score points)		Level 1 (from 358.49 to less than 423.42 score points)		Level 2 (from 423.42 to less than 488.35 score points)		Level 3 (from 488.35 to less than 553.28 score points)		Level 4 (from 553.28 to less than 618.21 score points)		Level 5 (from 618.21 to less than 683.14 score points)			
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.				
OECD	Australia	7.7	(1.7)	10.5	(2.3)	17.1	(1.9)	23.8	(2.8)	21.7	(3.4)	13.8	(2.9)	5.5	(1.3)
	Australian Capital Territory	6.0	(0.8)	10.8	(1.2)	18.6	(1.5)	24.3	(1.4)	21.2	(1.3)	12.7	(1.3)	6.5	(1.2)
	New South Wales	10.3	(2.2)	12.9	(3.3)	16.5	(3.7)	17.2	(3.8)	21.1	(4.3)	14.3	(3.8)	7.8	(4.3)
	Northern Territory	4.9	(0.8)	11.4	(1.1)	19.4	(1.4)	24.6	(1.6)	23.3	(1.4)	11.6	(1.2)	4.9	(1.0)
	Queensland	5.1	(0.9)	11.1	(1.5)	20.5	(2.2)	25.8	(2.1)	22.0	(2.1)	11.6	(1.7)	3.8	(0.8)
	South Australia	12.1	(1.6)	16.8	(2.5)	20.9	(2.9)	20.9	(2.2)	17.1	(2.2)	8.4	(1.6)	3.9	(1.1)
	Tasmania	4.6	(1.1)	10.7	(1.7)	18.9	(1.4)	26.5	(2.0)	22.4	(1.5)	12.8	(1.3)	4.1	(0.8)
	Victoria	3.8	(0.9)	8.8	(1.3)	16.8	(1.6)	24.8	(2.0)	26.3	(2.1)	14.5	(1.6)	5.0	(1.5)
	Western Australia														
	Belgium	6.3	(0.8)	9.3	(1.2)	16.0	(1.2)	24.0	(1.1)	24.2	(1.4)	15.2	(1.2)	5.0	(0.6)
Canada	Flemish Community*	13.7	(1.5)	14.6	(1.1)	18.2	(1.3)	22.2	(1.5)	19.7	(1.3)	9.4	(1.1)	2.2	(0.6)
	French Community	5.5	(1.2)	8.8	(1.6)	16.5	(2.4)	22.4	(2.7)	26.6	(2.9)	14.9	(1.9)	5.3	(1.2)
	Alberta	4.5	(0.8)	9.2	(1.3)	15.9	(1.5)	26.3	(2.0)	25.0	(2.1)	13.4	(1.5)	5.7	(1.1)
	British Columbia	2.9	(0.7)	9.1	(1.1)	17.5	(1.5)	26.3	(1.9)	23.1	(1.7)	14.7	(1.9)	6.5	(1.1)
	Manitoba	7.4	(1.4)	12.7	(1.6)	21.7	(2.4)	24.5	(2.6)	21.6	(1.9)	9.2	(1.6)	2.9	(0.7)
	New Brunswick	6.4	(1.3)	11.0	(1.6)	21.8	(2.1)	26.9	(3.3)	21.6	(1.9)	9.3	(2.1)	3.0	(0.8)
	Newfoundland and Labrador	6.5	(2.1)	10.6	(1.8)	21.0	(3.2)	27.4	(3.8)	21.7	(2.6)	10.2	(1.8)	2.6	(1.2)
	Nova Scotia	5.0	(1.1)	9.2	(1.3)	18.9	(1.7)	23.6	(1.4)	22.3	(1.6)	13.7	(1.3)	7.3	(1.3)
	Ontario	7.6	(1.2)	13.8	(1.6)	24.9	(2.5)	29.1	(3.2)	17.3	(2.2)	6.0	(1.0)	1.2	(0.5)
	Prince Edward Island	6.5	(1.2)	9.3	(1.0)	16.0	(1.4)	25.4	(1.4)	24.2	(1.3)	13.2	(1.4)	5.4	(1.0)
Italy	Saskatchewan	6.2	(1.2)	11.7	(1.6)	21.4	(2.1)	27.2	(2.2)	21.0	(1.8)	10.1	(1.2)	2.5	(0.7)
	Centre	6.9	(2.4)	9.7	(3.6)	14.3	(2.3)	30.0	(4.9)	24.8	(2.8)	11.8	(2.6)	2.6	(1.4)
	North East	5.4	(1.8)	7.2	(2.4)	13.3	(2.3)	22.1	(2.5)	29.0	(2.4)	17.7	(2.1)	5.3	(1.5)
	North West	2.9	(1.1)	6.9	(2.4)	18.1	(2.4)	25.9	(2.9)	28.2	(3.9)	14.7	(2.6)	3.2	(1.0)
	South	5.9	(2.0)	17.4	(3.9)	28.2	(3.6)	27.7	(3.2)	16.7	(3.7)	3.8	(1.2)	0.2	(0.3)
	South Islands	7.7	(2.2)	14.5	(3.4)	25.1	(3.2)	22.9	(3.5)	18.9	(2.9)	9.3	(2.9)	1.6	(1.1)
	Portugal	5.6	(2.0)	9.8	(2.4)	21.0	(3.4)	26.8	(4.0)	22.8	(3.0)	10.8	(3.3)	3.2	(2.2)
	Spain	8.3	(1.0)	13.1	(1.0)	22.2	(1.1)	26.1	(1.3)	19.5	(1.2)	8.5	(0.8)	2.4	(0.5)
	Catalonia*	13.3	(2.7)	12.2	(1.7)	21.8	(2.1)	24.0	(2.4)	17.7	(2.2)	8.4	(1.5)	2.6	(1.1)
	Madrid	6.9	(2.0)	14.1	(2.9)	18.0	(3.6)	25.4	(3.2)	22.0	(3.8)	10.3	(3.2)	3.2	(1.5)
Partners	Brazil	13.4	(5.2)	20.7	(5.5)	30.5	(5.0)	21.9	(4.6)	9.9	(3.1)	3.0	(1.4)	0.6	(0.8)
	Central-West Region	32.8	(4.8)	25.3	(3.7)	20.3	(3.2)	12.1	(3.0)	5.7	(2.1)	2.2	(1.0)	1.5	(1.0)
	North East Region	37.0	(7.4)	29.8	(4.7)	20.0	(4.8)	10.0	(4.4)	2.8	(1.5)	0.4	(0.3)	0.0	(0.0)
	North Region	12.4	(2.4)	22.5	(2.2)	28.7	(2.4)	22.7	(3.0)	11.2	(2.2)	2.1	(0.7)	0.5	(0.3)
	Southeast Region	16.6	(3.2)	23.3	(3.5)	30.6	(4.1)	19.5	(4.1)	7.8	(1.8)	2.1	(1.1)	0.1	(0.2)
	Colombia	21.1	(2.7)	26.0	(2.6)	29.5	(2.3)	16.8	(2.3)	5.2	(1.6)	1.2	(0.7)	0.2	(0.2)
	Cali	28.8	(3.6)	27.6	(2.3)	24.2	(2.3)	14.8	(2.2)	3.9	(1.5)	0.6	(0.4)	0.2	(0.2)
	Manizales	14.7	(1.8)	23.6	(2.4)	30.8	(2.3)	20.4	(2.6)	8.3	(1.6)	1.6	(0.9)	0.7	(0.5)
	Medellín	19.5	(2.9)	26.5	(3.2)	24.4	(3.2)	17.3	(2.4)	9.1	(2.2)	2.5	(1.3)	0.6	(0.5)
	United Arab Emirates	46.3	(3.1)	19.7	(1.9)	16.8	(1.5)	10.8	(1.3)	4.9	(1.0)	1.5	(0.5)	0.2	(0.2)
StatLink	Ajman	56.4	(4.5)	26.6	(4.5)	12.9	(3.4)	3.6	(1.7)	0.4	(0.6)	0.0	c	0.0	c
	Dubai*	21.7	(1.0)	18.5	(1.2)	20.8	(1.7)	19.0	(1.3)	13.3	(1.1)	5.1	(0.7)	1.5	(0.4)
	Fujairah	32.7	(3.6)	31.4	(3.4)	20.1	(3.4)	10.8	(1.7)	4.3	(1.3)	0.7	(0.7)	0.0	c
	Ras al-Khaimah	47.5	(7.1)	28.6	(4.8)	15.2	(3.1)	7.0	(1.7)	1.3	(0.7)	0.4	(0.3)	0.0	c
	Sharjah	31.8	(8.1)	29.1	(5.6)	21.4	(4.5)	12.1	(3.8)	4.6	(2.2)	0.8	(0.8)	0.2	(0.4)
	Umm al-Qwain	61.3	(5.1)	25.1	(4.4)	10.6	(3.9)	1.9	(1.9)	0.9	(0.5)	0.3	(0.4)	0.0	c

* PISA adjudicated region.

Notes: Values that are statistically significant are indicated in bold (see Annex A3).

Italian administrative regions are grouped into larger geographical units: Centre (Lazio, Marche, Toscana, Umbria), North East (Bolzano, Emilia Romagna, Friuli Venezia Giulia, Trento, Veneto), North West (Liguria, Lombardia, Piemonte, Valle d'Aosta), South (Abruzzo, Campania, Molise, Puglia), South Islands (Basilicata, Calabria, Sardegna, Sicilia).

Brazilian states are grouped into larger geographical units: Central-West Region (Federal District, Goiás, Mato Grosso, Mato Grosso do Sul), Northeast Region (Alagoas, Bahia, Ceará, Maranhão, Paraíba, Pernambuco, Piauí, Rio Grande do Norte, Sergipe), North Region (Acre, Amapá, Amazonas, Pará, Rondônia, Roraima, Tocantins), Southeast Region (Espírito Santo, Minas Gerais, Rio de Janeiro, São Paulo), South Region (Paraná, Rio Grande do Sul, Santa Catarina).

See Table V.4.6 for national data.

StatLink <http://dx.doi.org/10.1787/888933003763>

[Part 2/2]

Table B2.V.4 Percentage of students at each proficiency level in problem solving, by gender and by region

		Girls												Increased likelihood of boys scoring below Level 2 (less than 423.42 score points)	Increased likelihood of boys scoring at or above Level 5 (above 618.21 score points)				
		Below Level 1 (below 358.49 score points)		Level 1 (from 358.49 to less than 423.42 score points)		Level 2 (from 423.42 to less than 488.35 score points)		Level 3 (from 488.35 to less than 553.28 score points)		Level 4 (from 553.28 to less than 618.21 score points)		Level 5 (from 618.21 to less than 683.14 score points)		Level 6 (above 683.14 score points)					
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	Relative risk	S.E.	Relative risk	S.E.		
OECD	Australia	5.0	(1.5)	8.6	(1.6)	18.2	(2.3)	24.4	(3.1)	26.4	(3.3)	13.2	(2.2)	4.2	(1.7)	1.35	(0.31)	1.11	(0.23)
	Australian Capital Territory	4.5	(0.8)	9.8	(1.0)	19.3	(1.6)	26.9	(1.3)	22.9	(1.3)	12.6	(1.2)	4.0	(0.6)	1.18	(0.15)	1.15	(0.14)
	New South Wales	8.0	(1.8)	11.9	(3.0)	19.6	(4.2)	26.0	(5.1)	22.0	(3.6)	10.2	(4.8)	2.3	(2.1)	1.17	(0.25)	1.81	(0.89)
	Northern Territory	4.9	(0.9)	10.1	(1.3)	20.2	(2.0)	27.1	(1.8)	22.2	(1.7)	11.9	(1.4)	3.7	(0.7)	1.09	(0.10)	1.06	(0.15)
	Queensland	3.8	(0.9)	10.3	(1.4)	20.6	(2.2)	28.6	(2.1)	22.0	(2.2)	12.0	(2.0)	2.8	(0.9)	1.16	(0.18)	1.04	(0.18)
	South Australia	8.2	(1.4)	16.2	(1.9)	24.8	(2.4)	24.8	(2.8)	14.8	(2.7)	8.5	(2.2)	2.6	(0.8)	1.18	(0.12)	1.13	(0.31)
	Tasmania	4.6	(0.8)	10.2	(1.4)	20.2	(1.7)	26.0	(2.2)	23.5	(2.1)	11.9	(1.4)	3.6	(0.8)	1.04	(0.12)	1.10	(0.15)
	Victoria	5.2	(1.3)	9.9	(1.6)	20.4	(1.8)	27.0	(2.4)	22.9	(1.9)	10.9	(1.7)	3.7	(1.0)	0.83	(0.11)	1.34	(0.24)
	Western Australia																		
	Belgium	7.1	(1.1)	9.7	(1.1)	17.5	(1.2)	25.7	(1.5)	24.2	(1.3)	12.6	(1.3)	3.2	(0.5)	0.93	(0.13)	1.28	(0.12)
	Flemish Community*	11.5	(1.1)	14.2	(1.1)	22.5	(2.0)	25.8	(1.3)	18.5	(1.5)	6.7	(1.0)	0.9	(0.4)	1.10	(0.08)	1.55	(0.22)
	French Community	6.1	(1.3)	9.4	(1.7)	22.6	(3.0)	30.5	(3.8)	22.6	(2.8)	6.9	(1.6)	1.8	(0.7)	0.92	(0.17)	2.36	(0.61)
	German-speaking Community																		
Canada	Alberta	4.7	(0.8)	9.9	(1.3)	17.7	(2.0)	26.0	(2.7)	22.8	(2.3)	13.9	(1.5)	4.9	(1.0)	0.94	(0.11)	1.01	(0.11)
	British Columbia	3.4	(1.0)	9.7	(1.6)	18.9	(1.8)	25.9	(2.3)	25.0	(2.5)	12.9	(1.5)	4.2	(0.9)	0.91	(0.13)	1.24	(0.16)
	Manitoba	7.2	(1.4)	13.7	(1.8)	21.5	(1.8)	25.2	(2.3)	20.8	(2.0)	9.1	(1.1)	2.5	(0.6)	0.97	(0.13)	1.04	(0.15)
	New Brunswick	4.4	(0.9)	9.6	(1.4)	19.8	(2.1)	29.1	(2.6)	25.2	(2.5)	9.4	(1.7)	2.5	(1.0)	1.25	(0.20)	1.04	(0.25)
	Newfoundland and Labrador	5.3	(2.1)	10.4	(2.1)	23.3	(2.0)	28.3	(2.1)	20.6	(2.0)	9.7	(1.5)	2.5	(0.9)	1.41	(0.22)	0.91	(0.16)
	Nova Scotia	3.6	(1.4)	11.1	(2.7)	24.2	(4.4)	27.2	(2.4)	23.5	(4.0)	8.1	(1.3)	2.3	(1.0)	1.18	(0.23)	1.24	(0.27)
	Ontario	5.2	(0.9)	9.6	(1.3)	19.9	(1.7)	26.2	(1.7)	22.6	(1.6)	11.7	(1.3)	4.8	(0.9)	0.96	(0.10)	1.27	(0.11)
	Prince Edward Island	6.4	(1.0)	14.6	(1.7)	26.4	(1.9)	27.2	(2.5)	18.1	(1.7)	5.2	(1.4)	2.0	(0.7)	1.02	(0.11)	1.01	(0.26)
	Quebec	5.2	(0.8)	8.5	(0.9)	20.1	(1.6)	27.5	(1.5)	22.7	(1.3)	11.9	(1.2)	4.1	(0.8)	1.15	(0.12)	1.17	(0.12)
	Saskatchewan	4.1	(1.0)	10.5	(1.4)	20.8	(1.9)	29.0	(2.1)	20.5	(1.8)	11.8	(1.6)	3.3	(0.8)	1.23	(0.18)	0.83	(0.11)
Italy	Centre	5.2	(1.7)	9.9	(2.7)	23.7	(4.3)	30.7	(3.4)	22.7	(4.4)	6.7	(2.4)	1.1	(0.7)	1.10	(0.40)	1.87	(0.50)
	North East	2.8	(1.2)	9.1	(2.6)	25.8	(4.0)	33.5	(2.4)	22.6	(4.1)	5.6	(1.4)	0.6	(0.4)	1.06	(0.44)	3.75	(0.84)
	North West	2.1	(0.8)	6.7	(2.1)	19.4	(3.4)	32.7	(4.2)	28.4	(4.1)	9.3	(3.1)	1.3	(1.1)	1.13	(0.41)	1.69	(0.56)
	South	7.6	(3.0)	18.2	(3.9)	36.3	(3.5)	27.4	(3.0)	10.1	(2.4)	0.5	(0.6)	0.0	c	0.91	(0.25)	13.30	(22.50)
	South Islands	7.2	(2.3)	18.0	(2.6)	30.5	(2.9)	27.8	(2.8)	12.8	(2.4)	2.9	(1.0)	0.8	(0.3)	0.88	(0.14)	2.97	(1.09)
Portugal	Alentejo	6.4	(2.2)	12.6	(2.8)	25.8	(2.7)	29.3	(2.8)	19.5	(3.9)	6.0	(2.2)	0.5	(0.6)	0.82	(0.14)	2.18	(0.52)
	Spain	7.7	(0.9)	13.3	(1.1)	24.1	(1.3)	28.5	(1.1)	18.0	(1.3)	6.6	(0.7)	1.8	(0.4)	1.02	(0.07)	1.30	(0.14)
	Catalonia*	8.9	(2.4)	12.7	(2.1)	26.3	(3.2)	26.7	(2.2)	18.2	(2.3)	6.1	(1.3)	1.1	(0.5)	1.19	(0.16)	1.54	(0.38)
Partners	Brazil	18.8	(5.1)	29.2	(4.1)	28.3	(3.9)	17.5	(5.0)	5.0	(2.0)	0.9	(0.6)	0.3	(0.3)	0.71	(0.12)	3.27	(2.46)
	Northeast Region	42.2	(4.4)	25.0	(2.9)	19.8	(3.8)	9.5	(2.3)	2.3	(1.0)	1.0	(0.7)	0.2	(0.3)	0.87	(0.05)	3.15	(1.15)
	North Region	42.9	(6.0)	30.7	(4.5)	15.9	(3.7)	8.1	(2.9)	2.3	(1.5)	0.1	(0.2)	0.0	c	0.91	(0.09)	4.91	(10.69)
	Southeast Region	16.3	(2.1)	26.4	(2.6)	30.8	(2.3)	19.7	(2.9)	5.8	(1.0)	0.9	(0.4)	0.1	(0.1)	0.82	(0.05)	2.54	(1.35)
	South Region	18.3	(3.8)	30.8	(3.8)	30.3	(3.6)	15.1	(3.3)	4.4	(1.4)	1.1	(0.6)	0.0	c	0.81	(0.09)	2.08	(1.92)
	Colombia	32.5	(3.0)	30.3	(2.4)	25.0	(2.5)	10.0	(1.6)	1.8	(0.6)	0.3	(0.3)	0.0	c	0.75	(0.05)	4.72	(6.92)
	Cali	33.8	(5.2)	28.4	(3.3)	24.8	(2.9)	10.6	(2.0)	2.1	(0.8)	0.3	(0.2)	0.0	c	0.91	(0.05)	2.38	(2.58)
	Manizales	28.7	(3.2)	30.1	(2.3)	27.1	(3.2)	11.1	(2.1)	2.5	(0.9)	0.4	(0.3)	0.1	(0.1)	0.65	(0.05)	6.08	(8.66)
	Medellín	29.8	(3.4)	27.3	(3.1)	23.1	(3.4)	12.8	(2.1)	4.5	(1.3)	2.0	(0.8)	0.4	(0.2)	0.81	(0.07)	1.29	(0.65)
	United Arab Emirates	29.3	(2.8)	26.2	(2.0)	24.1	(1.6)	13.6	(1.5)	5.0	(0.9)	1.6	(0.6)	0.1	(0.1)	1.19	(0.07)	0.97	(0.40)
	Ajman	29.7	(6.5)	31.4	(3.2)	25.7	(3.6)	12.3	(3.7)	0.9	(0.9)	0.0	c	0.0	c	1.36	(0.14)	c	c
	Dubai*	14.4	(0.6)	20.7	(1.4)	24.6	(1.4)	22.1	(1.3)	12.0	(1.0)	5.0	(0.7)	1.2	(0.3)	1.15	(0.04)	1.08	(0.15)
	Fujairah	32.1	(4.3)	33.8	(4.2)	24.7	(4.0)	8.4	(1.8)	1.0	(0.8)	0.0	c	0.0	c	0.97	(0.08)	c	c
	Ras al-Khaimah	34.0	(5.6)	34.2	(3.1)	21.2	(3.6)	7.5	(2.1)	2.6	(1.3)	0.5	(0.5)	0.0	c	1.12	(0.10)	1.20	(3.28)
	Sharjah	18.1	(3.6)	29.6	(4.4)	29.8	(3.1)	17.0	(3.1)	4.9	(2.4)	0.5	(0.5)	0.1	(0.2)	1.28	(0.22)	2.32	(5.44)
	Umm al-Quwain	28.9	(3.9)	32.4	(4.8)	26.2	(3.5)	10.5	(2.6)	2.1	(1.2)	0.0	c	0.0	c	1.41	(0.11)	c	c

* PISA adjudicated region.

Notes: Values that are statistically significant are indicated in bold (see Annex A3).

Italian administrative regions are grouped into larger geographical units: Centre (Lazio, Marche, Toscana, Umbria), North East (Bolzano, Emilia Romagna, Friuli Venezia Giulia, Trento, Veneto), North West (Liguria, Lombardia, Piemonte, Valle d'Aosta), South (Abruzzo, Campania, Molise, Puglia), South Islands (Basilicata, Calabria, Sardegna, Sicilia).

Brazilian states are grouped into larger geographical units: Central-West Region (Federal District, Goiás, Mato Grosso, Mato Grosso do Sul), Northeast Region (Alagoas, Bahia, Ceará, Maranhão, Paraíba, Pernambuco, Piauí, Rio Grande do Norte, Sergipe), North Region (Acre, Amapá, Amazonas, Pará, Rondônia, Roraima, Tocantins), Southeast Region (Espírito Santo, Minas Gerais, Rio de Janeiro, São Paulo), South Region (Paraná, Rio Grande do Sul, Santa Catarina).

See Table V.4.6 for national data.

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[Part 1/3]

Table B2.V.5

Mean score and variation in student performance in problem solving, by gender and by region

	OECD	Mean score				Standard deviation				5th percentile									
		Boys		Girls		Difference (B - G)		Boys		Girls		Difference (B - G)		Boys		Girls		Difference (B - G)	
		Mean	S.E.	Mean	S.E.	Score dif.	S.E.	S.D.	S.E.	S.D.	S.E.	Dif.	S.E.	Score	S.E.	Score	S.E.	Score dif.	S.E.
Australia																			
Australian Capital Territory		522	(5.9)	529	(4.9)	-7	(8.0)	109	(4.6)	96	(5.0)	13.4	(7.0)	336	(15.9)	359	(21.7)	-23	(27.0)
New South Wales		525	(5.1)	525	(4.1)	0	(6.0)	104	(2.8)	95	(2.6)	9.2	(3.5)	349	(7.9)	364	(9.1)	-14	(11.2)
Northern Territory		519	(10.1)	507	(11.1)	12	(14.0)	121	(7.5)	101	(6.5)	20.2	(7.2)	304	(19.8)	323	(17.1)	-18	(26.8)
Queensland		523	(4.1)	521	(4.2)	1	(4.7)	99	(3.0)	95	(2.8)	4.3	(3.5)	359	(9.0)	359	(10.2)	0	(11.6)
South Australia		519	(4.7)	521	(4.8)	-2	(5.0)	96	(2.9)	90	(2.9)	5.9	(3.8)	358	(9.2)	376	(12.1)	-18	(13.6)
Tasmania		489	(5.4)	491	(5.5)	-3	(7.5)	110	(3.6)	100	(3.4)	10.5	(4.8)	311	(14.5)	326	(16.3)	-14	(23.9)
Victoria		524	(4.9)	522	(4.5)	2	(4.6)	95	(2.4)	94	(3.0)	1.3	(3.4)	362	(9.9)	365	(11.4)	-3	(11.4)
Western Australia		537	(5.5)	519	(5.6)	17	(7.6)	96	(3.5)	95	(3.5)	1.2	(4.1)	373	(10.7)	356	(11.0)	17	(13.4)
Belgium																			
Flemish Community*		530	(4.0)	519	(4.6)	11	(5.5)	103	(2.7)	100	(3.4)	3.1	(3.9)	342	(9.7)	338	(9.9)	4	(12.9)
French Community		487	(5.2)	483	(4.9)	4	(4.8)	114	(3.8)	101	(2.6)	13.1	(3.3)	282	(11.4)	296	(13.9)	-14	(15.1)
German-speaking Community		533	(4.3)	507	(3.8)	26	(6.2)	101	(3.6)	89	(3.8)	11.9	(5.7)	352	(20.8)	345	(14.4)	6	(23.9)
Canada																			
Alberta		533	(5.1)	529	(5.6)	5	(3.7)	99	(3.3)	97	(2.5)	2.2	(3.7)	363	(10.1)	361	(8.1)	2	(11.6)
British Columbia		540	(4.0)	530	(5.1)	9	(5.9)	96	(2.8)	92	(2.9)	3.9	(3.3)	381	(8.3)	378	(11.3)	3	(10.9)
Manitoba		504	(4.5)	503	(5.1)	1	(6.3)	103	(3.9)	100	(4.6)	3.1	(5.4)	325	(21.2)	336	(16.0)	-11	(27.4)
New Brunswick		511	(4.7)	520	(4.0)	-9	(6.1)	94	(3.1)	89	(3.3)	4.9	(4.7)	344	(12.8)	366	(12.6)	-22	(17.7)
Newfoundland and Labrador		496	(10.6)	512	(5.4)	-16	(8.3)	109	(9.3)	90	(3.7)	19.4	(8.2)	290	(35.3)	355	(19.1)	-66	(36.9)
Nova Scotia		512	(5.5)	512	(8.0)	-1	(7.4)	96	(3.9)	88	(3.8)	8.7	(4.9)	348	(18.0)	371	(14.7)	-23	(23.9)
Ontario		533	(6.8)	523	(5.2)	9	(4.1)	107	(5.1)	98	(2.5)	9.2	(5.1)	358	(10.9)	355	(11.3)	2	(14.3)
Prince Edward Island		492	(3.3)	494	(3.5)	-2	(4.5)	90	(3.0)	90	(3.0)	0.7	(4.2)	337	(8.9)	347	(7.8)	-9	(11.0)
Quebec		526	(5.5)	523	(4.7)	4	(4.8)	107	(5.6)	97	(3.0)	9.7	(4.6)	340	(15.4)	357	(9.7)	-16	(15.4)
Saskatchewan		510	(3.7)	520	(3.9)	-10	(5.1)	94	(2.9)	91	(2.6)	3.4	(3.9)	347	(10.0)	369	(10.0)	-22	(15.0)
Italy																			
Centre		520	(13.2)	506	(11.4)	14	(13.2)	99	(8.5)	84	(5.4)	15.0	(9.0)	332	(35.5)	354	(20.8)	-22	(42.1)
North East		543	(10.2)	509	(8.7)	35	(13.5)	100	(6.0)	75	(3.8)	25.3	(7.3)	350	(32.0)	383	(18.2)	-32	(39.5)
North West		537	(9.1)	528	(11.8)	9	(12.1)	87	(4.7)	78	(4.1)	9.8	(5.4)	387	(18.3)	397	(14.7)	-10	(20.8)
South		481	(10.3)	464	(9.2)	17	(10.8)	87	(5.8)	73	(4.7)	14.5	(6.0)	346	(27.4)	339	(28.1)	7	(33.8)
South Islands		496	(10.8)	476	(7.5)	20	(8.5)	96	(4.6)	81	(4.5)	14.8	(4.8)	337	(12.8)	342	(19.2)	-5	(18.5)
Portugal																			
Alentejo		518	(15.4)	495	(12.3)	23	(8.2)	95	(6.8)	84	(4.6)	10.6	(5.0)	351	(23.4)	347	(16.3)	4	(16.5)
Spain																			
Basque Country*		498	(4.4)	494	(4.1)	4	(3.6)	100	(3.4)	94	(2.4)	6.0	(3.1)	326	(9.5)	334	(8.1)	-7	(8.1)
Catalonia*		487	(9.7)	489	(8.2)	-2	(6.5)	110	(5.8)	94	(6.4)	16.2	(5.6)	284	(20.7)	321	(23.5)	-37	(18.0)
Madrid		509	(13.5)	506	(13.9)	4	(8.3)	99	(5.3)	94	(6.4)	5.4	(6.5)	346	(20.0)	346	(16.3)	0	(21.3)
Brazil																			
Central-West Region		457	(12.3)	429	(12.3)	28	(8.2)	89	(6.8)	83	(5.5)	6.0	(6.3)	305	(28.6)	291	(18.6)	14	(31.1)
Northeast Region		407	(13.2)	380	(10.0)	27	(7.6)	111	(10.2)	97	(6.7)	14.2	(5.4)	231	(24.7)	225	(16.5)	6	(19.5)
North Region		387	(15.5)	380	(10.8)	6	(14.8)	89	(7.5)	78	(6.3)	11.4	(9.6)	233	(51.2)	268	(16.0)	-35	(53.6)
Southeast Region		457	(7.2)	437	(6.0)	20	(4.2)	85	(3.3)	79	(2.6)	5.5	(3.5)	316	(10.3)	303	(9.0)	13	(11.1)
South Region		444	(9.1)	426	(8.2)	18	(6.9)	85	(3.2)	77	(4.0)	7.8	(4.8)	303	(13.1)	299	(12.8)	4	(15.0)
Colombia																			
Bogotá		428	(7.1)	395	(5.7)	33	(6.0)	85	(3.8)	81	(2.2)	4.3	(3.9)	290	(10.3)	261	(9.4)	29	(11.5)
Cali		407	(8.2)	391	(10.4)	16	(6.3)	90	(4.5)	89	(5.0)	1.1	(4.0)	255	(16.7)	235	(30.5)	19	(24.5)
Manizales		447	(5.6)	404	(5.5)	43	(6.5)	85	(3.9)	81	(2.5)	4.8	(4.4)	305	(9.1)	268	(10.9)	37	(12.8)
Medellín		438	(9.6)	410	(8.6)	28	(9.9)	93	(6.2)	94	(5.5)	-1.4	(6.3)	293	(10.9)	262	(10.0)	31	(13.2)
United Arab Emirates																			
Abu Dhabi*		374	(7.7)	408	(6.4)	-35	(9.6)	116	(4.2)	98	(3.5)	18.3	(5.6)	192	(11.2)	243	(11.2)	-51	(15.5)
Ajman		348	(8.1)	399	(11.2)	-50	(13.8)	77	(5.6)	75	(4.3)	1.9	(6.9)	225	(19.3)	271	(22.1)	-46	(28.6)
Dubai*		450	(2.2)	463	(1.8)	-13	(3.2)	116	(1.6)	99	(1.5)	16.8	(2.1)	254	(4.4)	302	(5.1)	-48	(6.6)
Fujairah		398	(4.5)	391	(6.7)	8	(7.5)	86	(4.8)	76	(2.7)	10.0	(5.6)	263	(13.8)	260	(13.2)	3	(17.5)
Ras al-Khaimah		356	(19.9)	388	(12.5)	-32	(22.4)	103	(17.5)	84	(7.0)	19.0	(18.4)	165	(92.3)	244	(26.4)	-80	(96.5)
Sharjah		400	(18.2)	430	(9.2)	-30	(20.9)	94	(10.7)	75	(4.9)	19.4	(12.1)	239	(29.2)	312	(10.3)	-72	(30.6)
Umm al-Qwain		340	(5.8)	402	(4.9)	-62	(8.1)	78	(4.8)	72	(3.9)	5.0	(6.4)	212	(15.7)	283	(10.6)	-70	(19.0)

* PISA adjudicated region.

Notes: Values that are statistically significant are indicated in bold (see Annex A3).

Italian administrative regions are grouped into larger geographical units: Centre (Lazio, Marche, Toscana, Umbria), North East (Bolzano, Emilia Romagna, Friuli Venezia Giulia, Trento, Veneto), North West (Liguria, Lombardia, Piemonte, Valle d'Aosta), South (Abruzzo, Campania, Molise, Puglia), South Islands (Basilicata, Calabria, Sardegna, Sicilia).

Brazilian states are grouped into larger geographical units: Central-West Region (Federal District, Goiás, Mato Grosso, Mato Grosso do Sul), Northeast Region (Alagoas, Bahia, Ceará, Maranhão, Paraíba, Pernambuco, Piauí, Rio Grande do Norte, Sergipe), North Region (Acre, Amapá, Amazonas, Pará, Rondônia, Roraima, Tocantins), Southeast Region (Espírito Santo, Minas Gerais, Rio de Janeiro, São Paulo), South Region (Paraná, Rio Grande do Sul, Santa Catarina).

See Table V.4.7 for national data.

StatLink <http://dx.doi.org/10.1787/888933003763>



[Part 2/3]

Table B2.V.5 Mean score and variation in student performance in problem solving, by gender and by region

	10th percentile						25th percentile						50th percentile (median)					
	Boys		Girls		Difference (B - G)		Boys		Girls		Difference (B - G)		Boys		Girls		Difference (B - G)	
	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.
Australia																		
Australian Capital Territory	376 (14.6)	403 (13.4)	-27 (22.0)	451 (10.7)	468 (7.1)	-17 (13.3)	530 (9.2)	536 (7.1)	-6 (12.9)									
New South Wales	388 (7.0)	402 (6.7)	-15 (9.2)	456 (6.5)	463 (5.2)	-7 (7.4)	527 (5.5)	527 (5.1)	1 (7.0)									
Northern Territory	357 (20.0)	372 (14.1)	-16 (21.8)	432 (15.7)	443 (14.8)	-11 (20.0)	532 (15.6)	519 (13.8)	13 (20.2)									
Queensland	394 (6.8)	399 (8.1)	-5 (7.9)	455 (7.0)	460 (5.5)	-5 (6.9)	526 (5.3)	524 (4.4)	2 (6.8)									
South Australia	391 (9.6)	408 (7.1)	-17 (10.8)	454 (6.3)	462 (6.0)	-8 (6.9)	522 (6.0)	523 (6.4)	-1 (7.7)									
Tasmania	344 (10.6)	371 (9.2)	-26 (14.9)	410 (8.8)	425 (7.5)	-15 (9.7)	488 (8.5)	490 (8.1)	-2 (12.5)									
Victoria	397 (6.9)	401 (7.6)	-5 (7.7)	461 (6.5)	460 (6.2)	1 (7.2)	526 (5.9)	525 (4.9)	1 (5.6)									
Western Australia	410 (9.2)	396 (9.6)	14 (11.2)	474 (7.2)	458 (6.8)	16 (8.7)	542 (6.2)	522 (6.4)	20 (8.7)									
Belgium																		
Flemish Community*	390 (8.5)	382 (8.7)	8 (11.9)	465 (7.4)	458 (6.4)	7 (8.9)	539 (4.5)	528 (5.5)	11 (6.3)									
French Community	332 (10.5)	347 (7.0)	-15 (9.5)	411 (7.1)	421 (6.3)	-9 (7.2)	498 (5.7)	493 (6.3)	5 (6.2)									
German-speaking Community	391 (14.4)	392 (12.3)	-2 (20.5)	469 (9.9)	453 (7.0)	16 (11.7)	546 (6.3)	512 (5.2)	34 (8.4)									
Canada																		
Alberta	400 (9.7)	400 (9.4)	0 (10.2)	472 (9.0)	461 (8.0)	11 (7.7)	540 (6.2)	532 (6.7)	8 (5.9)									
British Columbia	412 (5.5)	407 (8.2)	5 (8.1)	474 (5.7)	468 (6.7)	6 (7.7)	540 (5.2)	535 (6.4)	5 (7.3)									
Manitoba	376 (8.5)	375 (9.1)	1 (11.6)	441 (5.9)	439 (7.9)	2 (9.5)	507 (5.3)	506 (5.9)	1 (7.6)									
New Brunswick	386 (10.6)	406 (7.3)	-19 (14.6)	452 (6.6)	460 (5.7)	-9 (8.2)	512 (6.9)	527 (5.5)	-14 (8.2)									
Newfoundland and Labrador	358 (29.1)	394 (17.0)	-36 (25.5)	434 (15.3)	453 (9.1)	-18 (13.5)	508 (9.2)	513 (6.9)	-5 (9.4)									
Nova Scotia	381 (17.5)	401 (11.7)	-20 (17.4)	451 (9.0)	453 (14.8)	-1 (14.8)	518 (7.7)	514 (11.1)	4 (12.2)									
Ontario	400 (9.0)	399 (10.4)	2 (10.3)	464 (7.2)	459 (7.3)	5 (7.2)	535 (7.6)	526 (5.9)	9 (5.5)									
Prince Edward Island	373 (8.8)	378 (6.9)	-5 (10.9)	435 (7.0)	435 (6.0)	0 (8.8)	496 (6.3)	493 (4.7)	3 (7.4)									
Quebec	392 (11.0)	401 (7.6)	-9 (10.8)	465 (6.6)	465 (5.0)	0 (6.4)	536 (5.5)	527 (4.9)	9 (5.7)									
Saskatchewan	385 (10.4)	402 (8.8)	-17 (13.0)	446 (6.5)	459 (6.1)	-13 (9.0)	514 (5.2)	521 (5.1)	-6 (6.6)									
Italy																		
Centre	385 (21.5)	398 (18.9)	-13 (27.2)	466 (31.3)	454 (13.8)	12 (31.4)	533 (9.2)	510 (13.3)	23 (12.6)									
North East	402 (24.4)	414 (13.1)	-12 (29.3)	484 (19.9)	463 (11.5)	21 (24.5)	558 (9.6)	513 (12.0)	45 (14.8)									
North West	425 (16.0)	430 (13.4)	-5 (18.7)	478 (13.5)	481 (12.2)	-2 (15.6)	545 (11.8)	534 (11.7)	11 (14.7)									
South	381 (14.9)	373 (18.8)	8 (20.5)	427 (15.0)	422 (9.9)	5 (16.0)	484 (12.0)	467 (8.5)	17 (13.1)									
South Islands	376 (15.9)	373 (11.2)	2 (14.9)	432 (12.5)	423 (10.2)	8 (11.1)	495 (14.7)	477 (8.5)	18 (12.4)									
Portugal																		
Alentejo	393 (17.5)	381 (22.6)	12 (15.5)	459 (18.3)	439 (13.0)	20 (15.3)	524 (13.3)	500 (12.8)	24 (10.6)									
Spain																		
Basque Country*	370 (6.1)	374 (7.0)	-4 (7.0)	435 (5.2)	437 (5.3)	-1 (5.3)	503 (5.1)	498 (4.4)	5 (4.9)									
Catalonia*	337 (19.7)	367 (18.9)	-30 (15.1)	421 (14.9)	434 (9.9)	-13 (12.1)	495 (10.3)	494 (10.1)	2 (9.8)									
Madrid	377 (14.4)	384 (20.3)	-7 (20.1)	436 (16.7)	440 (15.7)	-4 (13.7)	516 (16.0)	510 (15.5)	6 (12.9)									
Partners																		
Brazil																		
Central-West Region	343 (24.9)	323 (20.6)	20 (25.9)	398 (16.3)	374 (14.2)	24 (14.4)	455 (13.2)	428 (15.3)	27 (14.0)									
Northeast Region	268 (21.2)	257 (11.0)	11 (15.8)	337 (13.3)	314 (11.0)	23 (12.5)	404 (12.7)	379 (13.0)	25 (11.6)									
North Region	274 (26.2)	288 (11.3)	-14 (27.1)	329 (23.2)	326 (9.6)	3 (21.7)	388 (18.1)	371 (13.1)	17 (17.8)									
Southeast Region	349 (9.1)	334 (7.4)	14 (8.9)	396 (8.2)	383 (7.5)	14 (6.8)	457 (9.6)	438 (6.6)	19 (6.8)									
South Region	333 (13.5)	327 (16.8)	6 (12.5)	385 (10.8)	374 (11.1)	11 (8.9)	444 (11.5)	426 (10.4)	18 (10.0)									
Colombia																		
Bogotá	314 (12.3)	287 (11.4)	27 (13.7)	369 (8.6)	341 (7.3)	28 (8.6)	429 (7.2)	396 (8.3)	33 (8.0)									
Cali	286 (20.3)	274 (16.3)	12 (17.1)	346 (9.9)	331 (14.7)	15 (10.3)	408 (9.5)	397 (11.5)	11 (8.2)									
Manizales	338 (10.0)	299 (6.5)	39 (9.9)	392 (6.6)	349 (7.7)	43 (8.9)	446 (6.0)	406 (7.7)	41 (8.3)									
Medellín	324 (10.8)	292 (11.3)	32 (13.3)	373 (8.3)	346 (8.9)	27 (9.3)	433 (11.7)	407 (10.0)	27 (11.6)									
United Arab Emirates																		
Abu Dhabi*	229 (9.1)	282 (10.1)	-53 (13.7)	294 (8.9)	346 (8.4)	-52 (12.5)	369 (9.8)	410 (6.0)	-41 (11.4)									
Ajman	255 (14.9)	304 (15.0)	-49 (22.3)	296 (10.9)	348 (14.0)	-52 (17.8)	346 (8.5)	399 (14.6)	-53 (17.0)									
Dubai*	296 (5.0)	337 (4.0)	41 (7.2)	372 (4.3)	394 (3.3)	-22 (5.7)	452 (3.7)	464 (3.6)	-12 (5.5)									
Fujairah	292 (10.8)	289 (8.7)	3 (14.3)	340 (10.3)	340 (9.7)	0 (15.4)	393 (7.3)	394 (9.4)	-2 (12.4)									
Ras al-Khaimah	228 (65.1)	282 (27.6)	-54 (67.5)	298 (25.5)	337 (13.9)	-39 (27.7)	363 (16.2)	390 (11.8)	-27 (18.9)									
Sharjah	275 (27.9)	336 (10.9)	-61 (28.9)	339 (27.9)	376 (9.3)	-37 (28.7)	400 (16.5)	428 (11.0)	-27 (19.8)									
Umm al-Quwain	244 (12.3)	308 (14.4)	-64 (20.3)	290 (7.8)	351 (7.1)	-61 (11.0)	336 (10.4)	398 (8.7)	-62 (14.2)									

* PISA adjudicated region.

Notes: Values that are statistically significant are indicated in bold (see Annex A3). Italian administrative regions are grouped into larger geographical units: Centre (Lazio, Marche, Toscana, Umbria), North East (Bolzano, Emilia Romagna, Friuli Venezia Giulia, Trento, Veneto), North West (Liguria, Lombardia, Piemonte, Valle d'Aosta), South (Abruzzo, Campania, Molise, Puglia), South Islands (Basilicata, Calabria, Sardegna, Sicilia). Brazilian states are grouped into larger geographical units: Central-West Region (Federal District, Goiás, Mato Grosso, Mato Grosso do Sul), Northeast Region (Alagoas, Bahia, Ceará, Maranhão, Pará, Pernambuco, Piauí, Rio Grande do Norte, Sergipe), North Region (Acre, Amapá, Amazonas, Pará, Rondônia, Roraima, Tocantins), Southeast Region (Espírito Santo, Minas Gerais, Rio de Janeiro, São Paulo), South Region (Paraná, Rio Grande do Sul, Santa Catarina).

See Table V.4.7 for national data.

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[Part 3/3]

Table B2.V.5

Mean score and variation in student performance in problem solving, by gender and by region

	OECD	75th percentile				90th percentile				95th percentile									
		Boys		Girls		Difference (B - G)		Boys		Girls		Difference (B - G)		Boys		Girls		Difference (B - G)	
		Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.
Australia																			
Australian Capital Territory		599	(8.9)	596	(5.5)	2	(10.3)	657	(8.9)	644	(8.1)	13	(11.6)	687	(12.5)	677	(15.6)	10	(20.2)
New South Wales		597	(7.3)	591	(5.2)	6	(8.4)	659	(8.8)	646	(5.3)	14	(9.8)	693	(8.6)	675	(5.8)	18	(10.0)
Northern Territory		608	(15.8)	578	(17.7)	30	(22.6)	667	(23.1)	629	(20.6)	38	(26.0)	699	(37.6)	660	(34.1)	39	(43.9)
Queensland		591	(5.4)	587	(5.7)	4	(7.8)	647	(6.7)	641	(5.6)	6	(8.4)	682	(8.7)	672	(6.7)	10	(11.7)
South Australia		586	(7.8)	583	(8.4)	3	(10.6)	641	(8.8)	636	(7.6)	5	(10.0)	673	(8.7)	666	(7.8)	7	(11.3)
Tasmania		565	(8.8)	555	(8.6)	10	(12.3)	630	(11.4)	624	(11.4)	6	(15.2)	671	(14.1)	659	(13.4)	12	(19.9)
Victoria		592	(6.5)	589	(5.7)	3	(7.6)	645	(6.0)	640	(7.2)	5	(7.7)	677	(6.5)	669	(7.2)	8	(9.6)
Western Australia		605	(7.0)	584	(7.5)	20	(10.4)	654	(9.3)	636	(9.6)	18	(14.9)	683	(12.7)	669	(11.2)	14	(16.7)
Belgium																			
Flemish Community*		604	(4.5)	590	(4.6)	14	(5.0)	655	(4.1)	641	(4.8)	14	(5.3)	684	(4.9)	669	(4.4)	15	(5.3)
French Community		572	(6.3)	556	(6.3)	16	(6.9)	624	(5.9)	605	(5.8)	19	(5.3)	653	(6.8)	633	(7.6)	20	(8.4)
German-speaking Community		602	(6.8)	567	(6.8)	36	(9.7)	655	(8.2)	612	(8.6)	43	(12.5)	684	(10.4)	642	(12.1)	42	(17.5)
Canada																			
Alberta		601	(5.9)	598	(6.9)	3	(6.9)	655	(8.0)	651	(8.1)	4	(9.4)	686	(7.6)	681	(8.7)	5	(11.2)
British Columbia		605	(6.3)	594	(5.9)	10	(8.2)	661	(6.6)	644	(8.0)	17	(10.5)	695	(12.1)	673	(10.4)	22	(16.1)
Manitoba		578	(5.6)	573	(5.1)	5	(7.7)	627	(9.2)	627	(6.3)	0	(10.2)	662	(8.5)	658	(6.8)	5	(11.7)
New Brunswick		576	(7.9)	581	(6.5)	-5	(9.9)	628	(9.2)	626	(8.5)	1	(12.8)	661	(12.1)	654	(14.1)	7	(19.1)
Newfoundland and Labrador		572	(6.3)	573	(5.2)	-1	(7.0)	622	(8.1)	629	(8.0)	-6	(11.4)	651	(9.5)	660	(8.8)	-10	(11.5)
Nova Scotia		577	(7.6)	573	(7.7)	4	(9.5)	630	(10.9)	620	(7.1)	9	(13.4)	659	(10.7)	653	(13.6)	5	(14.9)
Ontario		605	(7.7)	590	(5.8)	16	(6.3)	664	(8.2)	645	(7.5)	19	(7.6)	701	(10.0)	681	(10.2)	20	(11.5)
Prince Edward Island		553	(5.5)	554	(6.2)	-1	(8.1)	604	(8.4)	605	(5.8)	-1	(10.3)	635	(6.0)	638	(12.6)	-3	(14.2)
Quebec		598	(5.9)	588	(6.3)	10	(6.3)	653	(7.3)	644	(6.4)	8	(7.4)	686	(7.8)	673	(8.2)	13	(9.0)
Saskatchewan		576	(6.5)	583	(7.0)	-6	(8.6)	629	(8.5)	640	(6.8)	-11	(10.8)	661	(8.4)	669	(8.2)	-8	(12.1)
Italy																			
Centre		587	(10.0)	564	(11.1)	23	(9.4)	634	(12.5)	607	(13.5)	27	(12.1)	660	(17.2)	638	(15.1)	22	(14.9)
North East		614	(7.8)	560	(8.1)	54	(10.9)	657	(8.9)	599	(7.7)	58	(10.9)	686	(11.7)	624	(6.8)	62	(11.7)
North West		600	(10.0)	581	(12.9)	20	(13.6)	644	(7.7)	619	(13.2)	24	(12.8)	667	(7.5)	646	(20.0)	22	(19.4)
South		541	(11.4)	514	(11.4)	27	(12.8)	589	(12.0)	553	(9.2)	35	(12.6)	613	(10.7)	574	(10.8)	39	(14.8)
South Islands		565	(11.7)	531	(7.8)	35	(11.2)	621	(13.5)	576	(9.6)	45	(13.8)	647	(15.8)	606	(12.9)	41	(16.3)
Portugal																			
Alentejo		583	(18.0)	557	(16.8)	26	(14.9)	635	(24.5)	602	(14.6)	33	(17.0)	663	(25.7)	625	(14.9)	38	(19.2)
Spain																			
Basque Country*		567	(4.9)	556	(4.1)	11	(4.3)	622	(4.9)	609	(5.6)	13	(5.4)	654	(5.0)	641	(4.7)	12	(5.9)
Catalonia*		564	(8.7)	554	(7.7)	10	(8.5)	624	(11.1)	601	(9.4)	23	(13.6)	655	(14.4)	631	(10.1)	24	(17.9)
Madrid		579	(18.7)	572	(14.5)	7	(15.1)	633	(18.4)	622	(17.8)	11	(16.8)	665	(18.1)	654	(24.6)	10	(23.8)
Partners																			
Brazil																			
Central-West Region		515	(16.5)	485	(13.4)	31	(16.8)	568	(15.3)	533	(12.2)	34	(13.2)	604	(24.3)	561	(18.6)	43	(21.0)
Northeast Region		476	(18.0)	445	(16.8)	31	(11.6)	549	(26.7)	505	(16.0)	44	(21.2)	599	(32.3)	537	(16.1)	61	(26.2)
North Region		447	(18.7)	428	(20.3)	18	(24.4)	498	(14.0)	490	(23.7)	9	(22.4)	529	(19.3)	528	(21.2)	1	(20.9)
Southeast Region		518	(9.3)	491	(7.8)	26	(8.5)	565	(6.9)	539	(6.9)	26	(7.5)	588	(7.6)	565	(7.2)	23	(8.2)
South Region		500	(11.4)	477	(10.7)	23	(12.8)	552	(10.2)	526	(12.0)	26	(13.1)	588	(15.8)	557	(13.2)	31	(20.3)
Colombia																			
Bogotá		484	(8.2)	452	(6.2)	33	(7.8)	538	(11.4)	496	(8.1)	42	(12.8)	566	(16.3)	524	(8.9)	42	(17.8)
Cali		471	(9.5)	451	(9.3)	20	(10.0)	522	(7.3)	501	(10.3)	20	(10.7)	550	(13.4)	529	(9.8)	21	(13.3)
Manizales		504	(9.1)	457	(6.6)	47	(10.3)	556	(9.4)	505	(9.5)	52	(13.5)	582	(12.0)	538	(9.7)	45	(16.9)
Medellín		501	(12.5)	470	(10.6)	31	(13.3)	562	(15.4)	532	(16.8)	30	(18.2)	600	(19.3)	573	(21.5)	26	(22.9)
United Arab Emirates																			
Abu Dhabi*		455	(10.1)	474	(7.0)	-19	(11.8)	527	(8.7)	532	(7.5)	-4	(11.0)	568	(12.8)	568	(7.8)	0	(14.6)
Ajman		398	(11.7)	451	(11.9)	-53	(15.6)	450	(16.8)	498	(12.6)	-48	(20.2)	480	(14.1)	520	(12.4)	-40	(19.1)
Dubai*		534	(3.8)	531	(4.6)	3	(6.3)	598	(4.7)	590	(5.7)	8	(7.6)	631	(6.5)	627	(6.6)	4	(10.0)
Fujairah		455	(8.8)	442	(10.0)	13	(13.1)	512	(10.3)	485	(9.1)	28	(12.6)	553	(16.8)	515	(11.6)	38	(18.8)
Ras al-Khaimah		419	(11.3)	441	(13.0)	-22	(17.0)	481	(10.4)	490	(13.7)	-9	(17.1)	508	(10.4)	529	(21.4)	-22	(24.1)
Sharjah		462	(22.8)	482	(12.9)	-20	(28.2)	521	(24.0)	528	(14.8)	-6	(30.7)	559	(27.2)	556	(14.6)	2	(31.8)
Umm al-Qwain		388	(10.2)	452	(12.2)	-64	(16.8)	436	(14.2)	497	(9.7)	-61	(16.8)	470	(25.3)	519	(10.7)	-49	(27.3)

* PISA adjudicated region.

Notes: Values that are statistically significant are indicated in bold (see Annex A3).

Italian administrative regions are grouped into larger geographical units: Centre (Lazio, Marche, Toscana, Umbria), North East (Bolzano, Emilia Romagna, Friuli Venezia Giulia, Trento, Veneto), North West (Liguria, Lombardia, Piemonte, Valle d'Aosta), South (Abruzzo, Campania, Molise, Puglia), South Islands (Basilicata, Calabria, Sardegna, Sicilia).

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See Table V.4.7 for national data.

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[Part 1/2]

Performance in problem solving, by socio-economic status and by region

Table B2.V.6

Results based on students' self-reports

		PISA index of economic, social and cultural status (ESCS)									
		All students		Bottom quarter		Second quarter		Third quarter		Top quarter	
		Mean index	S.E.	Mean index	S.E.	Mean index	S.E.	Mean index	S.E.	Mean index	S.E.
OECD	Australia	Australian Capital Territory	0.62 (0.02)	-0.23 (0.05)	0.49 (0.02)	0.87 (0.02)	1.33 (0.03)				
	New South Wales	New South Wales	0.25 (0.02)	-0.86 (0.03)	0.04 (0.03)	0.62 (0.02)	1.19 (0.02)				
	Northern Territory	Northern Territory	0.14 (0.06)	-0.95 (0.09)	-0.04 (0.07)	0.51 (0.06)	1.06 (0.07)				
	Queensland	Queensland	0.20 (0.02)	-0.86 (0.03)	-0.02 (0.04)	0.53 (0.03)	1.14 (0.02)				
	South Australia	South Australia	0.19 (0.02)	-0.90 (0.05)	0.00 (0.03)	0.54 (0.02)	1.11 (0.03)				
	Tasmania	Tasmania	0.02 (0.03)	-1.05 (0.03)	-0.25 (0.04)	0.35 (0.04)	1.05 (0.03)				
	Victoria	Victoria	0.30 (0.02)	-0.76 (0.03)	0.11 (0.04)	0.66 (0.03)	1.20 (0.02)				
	Western Australia	Western Australia	0.26 (0.03)	-0.82 (0.04)	0.04 (0.04)	0.62 (0.03)	1.19 (0.03)				
	Belgium	Flemish Community*	0.16 (0.02)	-1.04 (0.04)	-0.18 (0.03)	0.58 (0.03)	1.28 (0.02)				
	French Community	French Community	0.12 (0.03)	-1.05 (0.04)	-0.21 (0.04)	0.51 (0.04)	1.25 (0.03)				
Canada	German-speaking Community	German-speaking Community	0.29 (0.03)	-0.81 (0.04)	-0.05 (0.04)	0.66 (0.04)	1.35 (0.03)				
	Alberta	Alberta	0.51 (0.03)	-0.58 (0.04)	0.27 (0.04)	0.87 (0.04)	1.51 (0.02)				
	British Columbia	British Columbia	0.46 (0.04)	-0.67 (0.04)	0.19 (0.05)	0.84 (0.04)	1.48 (0.03)				
	Manitoba	Manitoba	0.26 (0.03)	-0.94 (0.05)	0.00 (0.04)	0.66 (0.03)	1.34 (0.03)				
	New Brunswick	New Brunswick	0.37 (0.02)	-0.72 (0.03)	0.10 (0.04)	0.73 (0.03)	1.37 (0.03)				
	Newfoundland and Labrador	Newfoundland and Labrador	0.28 (0.04)	-0.89 (0.06)	-0.04 (0.05)	0.65 (0.05)	1.41 (0.04)				
	Nova Scotia	Nova Scotia	0.31 (0.03)	-0.78 (0.03)	0.04 (0.04)	0.63 (0.05)	1.33 (0.03)				
	Ontario	Ontario	0.44 (0.04)	-0.76 (0.05)	0.20 (0.05)	0.83 (0.04)	1.49 (0.03)				
	Prince Edward Island	Prince Edward Island	0.33 (0.02)	-0.77 (0.04)	0.09 (0.03)	0.72 (0.03)	1.31 (0.02)				
	Quebec	Quebec	0.34 (0.03)	-0.80 (0.03)	0.09 (0.04)	0.73 (0.03)	1.34 (0.02)				
Italy	Saskatchewan	Saskatchewan	0.40 (0.02)	-0.65 (0.03)	0.09 (0.03)	0.72 (0.03)	1.45 (0.03)				
	Centre	Centre	0.17 (0.06)	-1.00 (0.06)	-0.15 (0.06)	0.47 (0.09)	1.35 (0.06)				
	North East	North East	0.00 (0.05)	-1.16 (0.04)	-0.32 (0.03)	0.24 (0.06)	1.24 (0.10)				
	North West	North West	0.00 (0.06)	-1.16 (0.07)	-0.32 (0.07)	0.28 (0.06)	1.20 (0.07)				
	South	South	-0.10 (0.07)	-1.36 (0.05)	-0.53 (0.08)	0.21 (0.09)	1.29 (0.09)				
Portugal	South Islands	South Islands	-0.20 (0.07)	-1.44 (0.05)	-0.60 (0.08)	0.09 (0.09)	1.15 (0.08)				
	Alentejo	Alentejo	-0.35 (0.14)	-1.72 (0.07)	-0.87 (0.15)	-0.05 (0.19)	1.25 (0.16)				
	Spain										
Basque Country*	Basque Country*	Basque Country*	0.03 (0.03)	-1.21 (0.03)	-0.30 (0.03)	0.46 (0.04)	1.18 (0.02)				
	Catalonia*	Catalonia*	-0.14 (0.08)	-1.45 (0.07)	-0.53 (0.09)	0.27 (0.12)	1.15 (0.06)				
	Madrid	Madrid	0.03 (0.15)	-1.28 (0.10)	-0.36 (0.16)	0.43 (0.21)	1.36 (0.15)				
Partners	Brazil										
	Central-West Region	Central-West Region	-1.03 (0.11)	-2.46 (0.13)	-1.47 (0.11)	-0.73 (0.14)	0.58 (0.17)				
	Northeast Region	Northeast Region	-1.26 (0.11)	-2.84 (0.13)	-1.75 (0.14)	-0.86 (0.12)	0.40 (0.12)				
	North Region	North Region	-0.91 (0.10)	-2.28 (0.12)	-1.26 (0.12)	-0.58 (0.10)	0.48 (0.07)				
	Southeast Region	Southeast Region	-1.01 (0.06)	-2.49 (0.04)	-1.46 (0.05)	-0.64 (0.09)	0.54 (0.09)				
Colombia	South Region	South Region	-1.32 (0.09)	-2.70 (0.07)	-1.76 (0.10)	-1.01 (0.11)	0.22 (0.16)				
	Bogotá	Bogotá	-1.09 (0.05)	-2.34 (0.04)	-1.42 (0.06)	-0.75 (0.06)	0.14 (0.07)				
	Cali	Cali	-0.81 (0.08)	-2.09 (0.07)	-1.12 (0.09)	-0.49 (0.08)	0.46 (0.10)				
	Manizales	Manizales	-0.77 (0.07)	-2.25 (0.09)	-1.03 (0.10)	-0.36 (0.07)	0.57 (0.05)				
United Arab Emirates	Medellín	Medellín	-0.94 (0.10)	-2.43 (0.10)	-1.31 (0.09)	-0.57 (0.11)	0.56 (0.15)				
	Abu Dhabi*	Abu Dhabi*	0.29 (0.03)	-0.91 (0.06)	0.14 (0.04)	0.65 (0.03)	1.28 (0.02)				
	Ajman	Ajman	-0.09 (0.06)	-1.30 (0.12)	-0.26 (0.06)	0.25 (0.06)	0.96 (0.06)				
Notes:	Dubai*	Dubai*	0.50 (0.01)	-0.46 (0.02)	0.37 (0.01)	0.77 (0.01)	1.32 (0.01)				
	Fujairah	Fujairah	0.01 (0.03)	-1.17 (0.06)	-0.19 (0.04)	0.36 (0.04)	1.03 (0.03)				
	Ras al-Khaimah	Ras al-Khaimah	0.06 (0.08)	-1.19 (0.14)	-0.12 (0.09)	0.43 (0.07)	1.11 (0.06)				
	Sharjah	Sharjah	0.44 (0.04)	-0.59 (0.09)	0.34 (0.05)	0.76 (0.03)	1.25 (0.03)				
	Umm al-Quwain	Umm al-Quwain	-0.10 (0.04)	-1.33 (0.09)	-0.25 (0.05)	0.27 (0.05)	0.93 (0.05)				

* PISA adjudicated region.

Notes: Values that are statistically significant are indicated in bold (see Annex A3).

Italian administrative regions are grouped into larger geographical units: Centre (Lazio, Marche, Toscana, Umbria), North East (Bolzano, Emilia Romagna, Friuli Venezia Giulia, Trento, Veneto), North West (Liguria, Lombardia, Piemonte, Valle d'Aosta), South (Abruzzo, Campania, Molise, Puglia), South Islands (Basilicata, Calabria, Sardegna, Sicilia).

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See Table V.4.12 for national data.

1. Single-level bivariate regression of performance on ESCS. The slope of the gradient is the regression coefficient for ESCS; the strength of the relationship is the R-squared.

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[Part 2/2]

Performance in problem solving, by socio-economic status and by region

Results based on students' self-reports

Table B2.V.6

	Performance in problem solving, by national quarters of this index								Increased likelihood of students in the bottom quarter of the ESCS index scoring in the bottom quarter of the problem-solving performance distribution	Slope of the socio-economic gradient ¹	Strength of the relationship between student performance and ESCS ¹			
	Bottom quarter		Second quarter		Third quarter		Top quarter							
	Mean score	S.E.	Mean score	S.E.	Mean score	S.E.	Mean score	S.E.						
OECD	Australia													
	Australian Capital Territory	482 (8.5)	523 (8.8)	554 (7.4)	554 (8.1)	2.19 (0.45)	46 (6.6)	8.4 (2.5)						
	New South Wales	487 (5.4)	515 (4.5)	537 (5.3)	569 (5.0)	1.92 (0.16)	38 (2.8)	10.0 (1.4)						
	Northern Territory	469 (16.5)	512 (14.9)	530 (15.3)	554 (17.8)	1.90 (0.43)	48 (9.0)	11.6 (4.0)						
	Queensland	485 (5.7)	507 (4.3)	534 (5.8)	563 (5.1)	1.90 (0.18)	39 (3.1)	10.0 (1.5)						
	South Australia	487 (7.8)	514 (7.4)	529 (5.9)	551 (6.7)	1.79 (0.25)	28 (4.2)	5.9 (1.7)						
	Tasmania	447 (7.7)	478 (7.0)	504 (7.9)	536 (8.7)	2.13 (0.37)	43 (4.4)	10.9 (2.1)						
	Victoria	493 (5.9)	508 (6.1)	544 (5.9)	552 (5.4)	1.73 (0.15)	31 (2.5)	6.6 (1.0)						
	Western Australia	498 (6.2)	519 (7.2)	541 (6.9)	559 (5.8)	1.66 (0.18)	30 (3.3)	6.2 (1.2)						
Belgium														
	Flemish Community*	473 (5.6)	511 (5.7)	548 (4.5)	574 (4.6)	2.42 (0.19)	44 (2.8)	16.1 (2.1)						
	French Community	437 (6.7)	474 (6.8)	506 (6.3)	531 (6.1)	2.25 (0.21)	41 (3.6)	12.2 (1.9)						
	German-speaking Community	495 (7.7)	514 (8.5)	530 (7.2)	541 (8.3)	1.57 (0.25)	21 (4.7)	3.4 (1.5)						
Canada														
	Alberta	503 (6.2)	521 (8.1)	535 (7.1)	566 (6.7)	1.60 (0.20)	30 (3.1)	6.0 (1.2)						
	British Columbia	507 (5.6)	521 (5.5)	547 (5.9)	567 (6.0)	1.74 (0.22)	27 (2.9)	6.2 (1.3)						
	Manitoba	477 (6.6)	499 (6.4)	511 (6.0)	535 (6.0)	1.57 (0.18)	25 (3.4)	5.1 (1.2)						
	New Brunswick	491 (6.7)	516 (5.2)	521 (6.6)	536 (7.2)	1.55 (0.20)	19 (4.7)	3.0 (1.5)						
	Newfoundland and Labrador	461 (21.1)	477 (7.5)	520 (7.8)	557 (5.3)	2.02 (0.47)	41 (9.0)	13.1 (4.8)						
	Nova Scotia	497 (7.0)	500 (13.2)	522 (6.4)	538 (6.4)	1.23 (0.23)	19 (3.5)	2.9 (1.0)						
	Ontario	510 (7.5)	521 (6.7)	536 (7.8)	554 (7.2)	1.43 (0.14)	19 (3.1)	2.8 (0.9)						
	Prince Edward Island	463 (6.4)	483 (5.2)	493 (5.9)	529 (4.8)	1.66 (0.24)	31 (3.7)	7.8 (1.8)						
	Quebec	500 (5.8)	522 (6.0)	536 (5.5)	551 (6.1)	1.56 (0.14)	23 (3.2)	3.6 (0.9)						
	Saskatchewan	493 (5.7)	506 (5.4)	519 (6.0)	544 (4.8)	1.45 (0.19)	25 (2.8)	4.9 (1.1)						
Italy														
	Centre	488 (14.4)	508 (13.9)	534 (11.9)	527 (17.9)	1.52 (0.29)	20 (4.9)	3.8 (2.0)						
	North East	489 (10.2)	520 (7.3)	546 (7.6)	555 (13.3)	1.93 (0.37)	30 (6.2)	9.3 (3.4)						
	North West	518 (11.3)	518 (10.6)	544 (11.3)	551 (7.7)	1.32 (0.22)	14 (4.8)	2.5 (1.6)						
	South	453 (12.0)	461 (12.0)	481 (13.2)	503 (8.6)	1.57 (0.45)	21 (3.6)	6.7 (2.2)						
	South Islands	460 (13.4)	476 (10.7)	492 (10.1)	517 (12.3)	1.75 (0.39)	24 (4.9)	7.0 (2.7)						
Portugal														
	Alentejo	459 (15.8)	492 (17.9)	520 (11.6)	554 (18.0)	2.45 (0.53)	31 (4.9)	15.2 (3.8)						
Spain														
	Basque Country*	464 (6.5)	491 (5.2)	505 (5.0)	527 (4.5)	1.67 (0.14)	26 (2.9)	6.1 (1.2)						
	Catalonia*	459 (10.8)	474 (11.8)	497 (10.5)	522 (11.8)	1.54 (0.23)	24 (5.0)	5.7 (2.2)						
	Madrid	468 (16.9)	500 (9.0)	511 (17.3)	553 (26.9)	1.97 (0.56)	31 (10.1)	10.9 (6.9)						
Partners	Brazil													
	Central-West Region	391 (16.2)	427 (19.0)	451 (15.7)	503 (17.3)	2.88 (1.09)	37 (4.4)	25.3 (6.0)						
	Northeast Region	340 (10.6)	369 (15.6)	400 (15.9)	465 (21.4)	2.28 (0.50)	39 (7.1)	21.3 (5.3)						
	North Region	350 (11.6)	386 (15.9)	383 (13.4)	416 (16.9)	1.76 (0.59)	23 (5.7)	8.7 (4.1)						
	Southeast Region	415 (7.2)	439 (10.3)	455 (8.8)	482 (8.8)	1.83 (0.21)	23 (3.3)	10.5 (3.2)						
	South Region	394 (8.7)	418 (13.4)	450 (9.4)	477 (11.0)	2.17 (0.39)	30 (3.5)	16.7 (4.4)						
Colombia														
	Bogotá	390 (6.6)	405 (6.8)	415 (7.1)	434 (9.8)	1.56 (0.20)	19 (4.0)	4.9 (2.0)						
	Cali	360 (12.7)	386 (11.3)	404 (10.3)	441 (10.2)	1.90 (0.34)	30 (4.7)	10.9 (2.9)						
	Manizales	383 (9.9)	419 (6.5)	436 (9.4)	454 (9.2)	2.11 (0.40)	26 (4.2)	11.6 (3.4)						
	Medellín	381 (7.2)	401 (9.4)	422 (8.9)	495 (21.7)	1.86 (0.37)	39 (5.2)	22.0 (5.3)						
United Arab Emirates														
	Abu Dhabi*	355 (6.4)	381 (6.7)	412 (7.4)	424 (8.2)	1.65 (0.16)	28 (3.6)	5.5 (1.3)						
	Ajman	353 (11.2)	366 (8.6)	383 (13.2)	397 (9.8)	1.64 (0.36)	19 (4.2)	4.5 (2.1)						
	Dubai*	406 (3.5)	447 (3.5)	480 (3.7)	495 (3.1)	2.10 (0.14)	48 (2.3)	10.5 (0.9)						
	Fujairah	371 (5.4)	384 (6.8)	403 (6.3)	420 (10.0)	1.56 (0.25)	23 (4.3)	6.5 (2.4)						
	Ras al-Khaimah	350 (11.0)	346 (19.2)	389 (14.0)	405 (10.2)	1.31 (0.31)	25 (3.0)	6.1 (2.4)						
	Sharjah	389 (12.1)	415 (7.6)	440 (13.1)	421 (12.5)	1.48 (0.29)	18 (5.4)	2.7 (1.4)						
	Umm al-Qwain	349 (9.3)	377 (10.2)	370 (9.8)	395 (9.5)	1.81 (0.45)	22 (4.3)	5.9 (2.4)						

* PISA adjudicated region.

Notes: Values that are statistically significant are indicated in bold (see Annex A3).

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See Table V.4.12 for national data.

1. Single-level bivariate regression of performance on ESCS. The slope of the gradient is the regression coefficient for ESCS; the strength of the relationship is the R-squared.

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[Part 1/3]

Strength of the relationship between socio-economic status and performance in problem solving, mathematics, reading and science, by region

Table B2.V.7

Results based on students' self-reports

		Slope of the socio-economic gradient: ¹ Score-point difference associated with a one-unit increase in ESCS										
		Problem solving		Mathematics		Reading		Science		Computer-based mathematics		
		Score dif.	S.E.	Score dif.	S.E.	Score dif.	S.E.	Score dif.	S.E.	Score dif.	S.E.	
OECD												
Australia												
Australian Capital Territory	46	(6.6)	52	(5.3)	54	(6.0)	53	(5.4)	48	(5.0)	50	(5.5)
New South Wales	38	(2.8)	44	(3.0)	45	(2.5)	46	(2.9)	37	(2.9)	41	(2.8)
Northern Territory	48	(9.0)	62	(7.8)	66	(8.7)	70	(6.6)	56	(5.5)	71	(8.6)
Queensland	39	(3.1)	46	(2.7)	45	(3.2)	45	(2.8)	38	(2.9)	39	(3.6)
South Australia	28	(4.2)	38	(3.7)	35	(3.8)	41	(3.7)	33	(4.6)	35	(4.5)
Tasmania	43	(4.4)	46	(3.9)	44	(4.1)	51	(4.5)	44	(3.9)	49	(4.5)
Victoria	31	(2.5)	35	(2.5)	34	(2.7)	36	(2.6)	28	(3.0)	31	(2.7)
Western Australia	30	(3.3)	43	(3.1)	41	(3.0)	43	(3.0)	39	(3.9)	41	(3.7)
Belgium												
Flemish Community*	44	(2.8)	50	(2.3)	44	(2.1)	48	(2.1)	44	(2.3)	42	(2.5)
French Community	41	(3.6)	48	(2.6)	50	(3.4)	47	(2.9)	41	(2.7)	39	(3.3)
German-speaking Community	21	(4.7)	22	(4.0)	24	(4.3)	26	(4.0)	9	(3.6)	9	(4.9)
Canada												
Alberta	30	(3.1)	33	(2.4)	32	(2.8)	32	(3.0)	32	(4.1)	28	(3.1)
British Columbia	27	(2.9)	26	(2.6)	24	(3.2)	24	(3.0)	23	(3.0)	25	(2.5)
Manitoba	25	(3.4)	37	(3.0)	35	(3.1)	34	(3.1)	29	(3.1)	25	(3.0)
New Brunswick	19	(4.7)	26	(4.2)	24	(4.1)	23	(4.6)	23	(4.3)	26	(3.8)
Newfoundland and Labrador	41	(9.0)	40	(4.6)	36	(4.3)	36	(3.8)	37	(4.3)	37	(5.2)
Nova Scotia	19	(3.5)	29	(2.9)	23	(3.8)	22	(3.2)	29	(2.6)	20	(5.0)
Ontario	19	(3.1)	30	(2.4)	28	(2.4)	28	(2.5)	24	(3.0)	23	(3.3)
Prince Edward Island	31	(3.7)	29	(3.0)	28	(3.4)	29	(3.3)	15	(3.7)	39	(4.1)
Quebec	23	(3.2)	36	(2.7)	33	(2.7)	29	(2.5)	26	(2.7)	23	(2.7)
Saskatchewan	25	(2.8)	25	(2.2)	24	(3.0)	26	(2.6)	27	(2.6)	21	(2.7)
Italy												
Centre	20	(4.9)	25	(4.1)	30	(5.5)	27	(4.6)	19	(4.9)	24	(5.9)
North East	30	(6.2)	37	(5.5)	40	(5.1)	35	(4.9)	29	(6.9)	27	(6.7)
North West	14	(4.8)	21	(4.5)	20	(4.7)	22	(4.9)	19	(4.6)	16	(4.7)
South	21	(3.6)	27	(3.8)	31	(4.3)	29	(4.1)	19	(5.1)	20	(4.9)
South Islands	24	(4.9)	30	(6.3)	31	(6.5)	30	(5.9)	27	(4.7)	23	(4.5)
Portugal												
Alentejo	31	(4.9)	33	(3.6)	27	(4.1)	27	(3.1)	28	(4.2)	27	(5.1)
Spain												
Basque Country*	26	(2.9)	28	(1.8)	28	(2.2)	26	(2.0)	25	(2.2)	27	(2.6)
Catalonia*	24	(5.0)	35	(3.1)	31	(3.0)	31	(2.9)	24	(3.5)	31	(4.7)
Madrid	31	(10.1)	35	(7.5)	28	(7.7)	27	(6.3)	26	(6.0)	31	(7.3)
Partners												
Brazil												
Central-West Region	37	(4.4)	38	(6.2)	33	(5.5)	36	(5.5)	38	(7.1)	40	(8.5)
Northeast Region	39	(7.1)	32	(4.8)	28	(5.6)	29	(4.9)	31	(4.4)	32	(5.6)
North Region	23	(5.7)	23	(4.7)	21	(6.4)	16	(5.0)	25	(5.5)	26	(6.8)
Southeast Region	23	(3.3)	23	(4.5)	19	(3.7)	21	(3.8)	28	(4.3)	23	(3.9)
South Region	30	(3.5)	25	(7.4)	25	(6.6)	24	(6.8)	28	(6.9)	27	(5.6)
Colombia												
Bogotá	19	(4.0)	19	(3.6)	18	(2.9)	18	(3.6)	17	(4.4)	24	(4.3)
Cali	30	(4.7)	27	(3.5)	29	(4.1)	28	(3.3)	19	(3.6)	32	(5.5)
Manizales	24	(3.7)	28	(3.2)	26	(2.8)	23	(3.5)	15	(3.1)	29	(2.6)
Medellín	39	(5.2)	35	(5.3)	32	(4.9)	31	(4.8)	30	(5.1)	31	(4.4)
United Arab Emirates												
Abu Dhabi*	28	(3.6)	29	(3.2)	24	(3.5)	29	(3.5)	28	(3.8)	38	(4.7)
Ajman	19	(4.2)	21	(3.8)	22	(4.9)	23	(3.8)	13	(3.4)	24	(6.5)
Dubai*	48	(2.3)	43	(2.0)	43	(2.2)	47	(2.1)	43	(1.9)	57	(2.3)
Fujairah	23	(4.3)	20	(7.2)	15	(8.0)	15	(6.0)	12	(5.2)	23	(7.1)
Ras al-Khaimah	25	(3.0)	22	(3.5)	17	(5.0)	19	(4.0)	13	(3.4)	23	(4.3)
Sharjah	18	(5.4)	28	(6.6)	22	(6.6)	27	(7.8)	16	(3.4)	34	(7.3)
Umm al-Quwain	22	(4.3)	22	(5.3)	20	(5.0)	21	(4.6)	17	(4.0)	23	(8.0)

* PISA adjudicated region.

Notes: Values that are statistically significant are indicated in bold (see Annex A3).

Italian administrative regions are grouped into larger geographical units: Centre (*Lazio, Marche, Toscana, Umbria*), North East (*Bolzano, Emilia Romagna, Friuli Venezia Giulia, Trento, Veneto*), North West (*Liguria, Lombardia, Piemonte, Valle d'Aosta*), South (*Abruzzo, Campania, Molise, Puglia*), South Islands (*Basilicata, Calabria, Sardegna, Sicilia*).Brazilian states are grouped into larger geographical units: Central-West Region (*Federal District, Goiás, Mato Grosso, Mato Grosso do Sul*), Northeast Region (*Alagoas, Bahia, Ceará, Maranhão, Paraíba, Pernambuco, Piauí, Rio Grande do Norte, Sergipe*), North Region (*Acre, Amapá, Amazonas, Pará, Rondônia, Roraima, Tocantins*), Southeast Region (*Espírito Santo, Minas Gerais, Rio de Janeiro, São Paulo*), South Region (*Paraná, Rio Grande do Sul, Santa Catarina*).

See Table V.4.13 for national data.

1. Single-level bivariate regression of performance on the *PISA index of economic, social and cultural status* (ESCS), the slope is the regression coefficient for ESCS.2. R-squared from the regression coefficient of performance on the *PISA index of economic, social and cultural status* (ESCS).StatLink <http://dx.doi.org/10.1787/888933003763>



[Part 2/3]

Strength of the relationship between socio-economic status and performance in problem solving, mathematics, reading and science, by region
Table B2.V.7

Results based on students' self-reports

	Strength of the relationship between performance and ESCS: ² Percentage of explained variation in performance							
	Problem solving		Mathematics		Reading		Science	
	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD								
Australia								
Australian Capital Territory	8.4	(2.5)	12.5	(2.7)	12.7	(2.9)	11.5	(2.3)
New South Wales	10.0	(1.4)	12.8	(1.6)	13.5	(1.5)	12.8	(1.5)
Northern Territory	11.6	(4.0)	20.7	(5.0)	18.9	(4.7)	20.6	(4.5)
Queensland	10.0	(1.5)	14.9	(1.6)	13.5	(1.7)	13.6	(1.6)
South Australia	5.9	(1.7)	11.1	(2.0)	9.4	(1.8)	11.3	(2.0)
Tasmania	10.9	(2.1)	16.0	(2.4)	14.1	(2.3)	15.8	(2.5)
Victoria	6.6	(1.0)	9.0	(1.1)	8.4	(1.2)	8.8	(1.1)
Western Australia	6.2	(1.2)	13.4	(1.7)	12.0	(1.7)	11.9	(1.6)
Belgium								
Flemish Community*	16.1	(2.1)	19.9	(1.9)	17.6	(1.8)	19.5	(1.8)
French Community	12.2	(1.9)	20.6	(2.0)	19.4	(2.2)	19.6	(2.0)
German-speaking Community	3.4	(1.5)	4.4	(1.6)	4.5	(1.7)	5.9	(1.8)
Canada								
Alberta	6.0	(1.2)	8.9	(1.3)	8.8	(1.5)	8.5	(1.5)
British Columbia	6.2	(1.3)	7.1	(1.3)	5.7	(1.5)	5.7	(1.3)
Manitoba	5.1	(1.2)	14.1	(2.2)	11.6	(1.8)	10.9	(1.8)
New Brunswick	3.0	(1.5)	6.7	(2.0)	4.9	(1.6)	4.9	(1.8)
Newfoundland and Labrador	13.1	(4.8)	17.6	(4.0)	11.5	(2.9)	12.7	(3.0)
Nova Scotia	2.9	(1.0)	8.9	(1.7)	4.5	(1.4)	4.6	(1.3)
Ontario	2.8	(0.9)	9.6	(1.3)	7.9	(1.3)	7.2	(1.2)
Prince Edward Island	7.8	(1.8)	8.3	(1.6)	6.2	(1.5)	7.1	(1.5)
Quebec	3.6	(0.9)	11.6	(1.5)	9.2	(1.3)	8.7	(1.4)
Saskatchewan	4.9	(1.1)	6.2	(1.0)	5.1	(1.2)	6.3	(1.1)
Italy								
Centre	3.8	(2.0)	6.3	(1.9)	8.7	(3.0)	7.5	(2.5)
North East	9.3	(3.4)	14.3	(3.2)	15.5	(3.0)	13.1	(2.9)
North West	2.5	(1.6)	5.4	(2.1)	3.6	(1.7)	5.1	(2.2)
South	6.7	(2.2)	10.2	(2.6)	11.2	(2.5)	10.2	(3.0)
South Islands	7.0	(2.7)	10.7	(3.7)	9.6	(3.4)	10.2	(3.6)
Portugal								
Alentejo	15.2	(3.8)	17.9	(3.3)	12.9	(2.9)	14.9	(2.9)
Spain								
Basque Country*	6.1	(1.2)	10.4	(1.2)	10.2	(1.5)	9.2	(1.3)
Catalonia*	5.7	(2.2)	17.9	(2.9)	12.5	(2.2)	15.1	(2.6)
Madrid	10.9	(6.9)	17.0	(6.7)	11.5	(5.9)	11.2	(5.1)
Brazil								
Central-West Region	25.3	(6.0)	28.5	(6.7)	22.4	(6.3)	25.7	(5.3)
Northeast Region	21.3	(5.3)	22.6	(4.6)	15.0	(4.7)	18.4	(4.6)
North Region	8.7	(4.1)	11.9	(4.1)	6.9	(3.3)	6.1	(3.5)
Southeast Region	10.5	(3.2)	12.2	(4.3)	7.3	(2.7)	10.3	(3.5)
South Region	16.7	(4.4)	13.9	(8.0)	10.6	(5.6)	12.7	(7.0)
Colombia								
Bogotá	4.9	(2.0)	7.9	(2.8)	5.5	(1.8)	6.6	(2.5)
Cali	10.9	(2.9)	14.4	(3.3)	12.6	(3.3)	13.7	(3.1)
Manizales	8.9	(2.6)	16.8	(2.9)	14.1	(2.5)	12.2	(3.1)
Medellín	22.0	(5.3)	24.2	(5.8)	19.3	(5.5)	20.4	(5.6)
United Arab Emirates								
Abu Dhabi*	5.5	(1.3)	8.4	(1.6)	5.1	(1.4)	7.2	(1.6)
Ajman	4.5	(2.1)	6.6	(2.2)	5.3	(2.2)	6.2	(2.0)
Dubai*	10.5	(0.9)	11.1	(1.0)	9.8	(0.9)	12.3	(1.0)
Fujairah	6.5	(2.4)	4.8	(3.4)	2.2	(2.6)	2.6	(2.3)
Ras al-Khaimah	6.1	(2.4)	7.6	(2.4)	3.6	(2.2)	5.3	(2.3)
Sharjah	2.7	(1.4)	6.6	(2.6)	4.3	(2.3)	5.9	(3.2)
Umm al-Quwain	5.9	(2.4)	6.9	(3.1)	4.2	(2.1)	5.3	(2.3)

* PISA adjudicated region.

Notes: Values that are statistically significant are indicated in bold (see Annex A3).

Italian administrative regions are grouped into larger geographical units: Centre (*Lazio, Marche, Toscana, Umbria*), North East (*Bolzano, Emilia Romagna, Friuli Venezia Giulia, Trento, Veneto*), North West (*Liguria, Lombardia, Piemonte, Valle d'Aosta*), South (*Abruzzo, Campania, Molise, Puglia*), South Islands (*Basilicata, Calabria, Sardegna, Sicilia*).Brazilian states are grouped into larger geographical units: Central-West Region (*Federal District, Goiás, Mato Grosso, Mato Grosso do Sul*), Northeast Region (*Alagoas, Bahia, Ceará, Maranhão, Paraíba, Pernambuco, Piauí, Rio Grande do Norte, Sergipe*), North Region (*Acre, Amazonas, Pará, Rondônia, Roraima, Tocantins*), Southeast Region (*Espírito Santo, Minas Gerais, Rio de Janeiro, São Paulo*), South Region (*Paraná, Rio Grande do Sul, Santa Catarina*).

See Table V.4.13 for national data.

1. Single-level bivariate regression of performance on the *PISA index of economic, social and cultural status* (ESCS), the slope is the regression coefficient for ESCS.2. R-squared from the regression coefficient of performance on the *PISA index of economic, social and cultural status* (ESCS).StatLink <http://dx.doi.org/10.1787/888933003763>

[Part 3/3]

Strength of the relationship between socio-economic status and performance in problem solving, mathematics, reading and science, by region

Table B2.V.7

Results based on students' self-reports

	Strength of the relationship between performance in problem solving (PS) and ESCS, ² compared to...							
	... Mathematics (PS - M)		... Reading (PS - R)		... Science (PS - S)		... Computer-based mathematics (PS - CBM)	
	% dif.	S.E.	% dif.	S.E.	% dif.	S.E.	% dif.	S.E.
Australia								
Australian Capital Territory	-4.1	(1.7)	-4.3	(1.8)	-3.1	(1.8)	-3.3	(1.5)
New South Wales	-2.8	(1.1)	-3.5	(1.1)	-2.8	(1.0)	0.1	(1.2)
Northern Territory	-9.1	(4.3)	-7.4	(4.3)	-9.0	(3.9)	-6.7	(3.0)
Queensland	-4.9	(1.1)	-3.5	(1.3)	-3.7	(1.1)	-1.4	(1.2)
South Australia	-5.2	(1.1)	-3.5	(1.3)	-5.3	(1.4)	-2.7	(1.3)
Tasmania	-5.1	(1.6)	-3.1	(1.6)	-4.9	(1.7)	-2.9	(1.2)
Victoria	-2.4	(1.0)	-1.8	(1.1)	-2.2	(1.0)	0.2	(1.1)
Western Australia	-7.2	(1.5)	-5.8	(1.5)	-5.7	(1.4)	-4.5	(1.6)
Belgium								
Flemish Community*	-3.8	(0.9)	-1.5	(1.1)	-3.5	(1.0)	0.0	(1.0)
French Community	-8.4	(1.6)	-7.2	(1.9)	-7.4	(1.7)	-4.5	(1.7)
German-speaking Community	-1.0	(1.0)	-1.2	(1.3)	-2.5	(1.3)	2.6	(1.3)
Canada								
Alberta	-2.9	(0.9)	-2.8	(1.1)	-2.5	(1.0)	-1.1	(1.2)
British Columbia	-0.9	(0.9)	0.4	(1.0)	0.5	(1.0)	1.3	(1.1)
Manitoba	-9.0	(1.7)	-6.6	(1.3)	-5.8	(1.2)	-3.5	(1.4)
New Brunswick	-3.7	(1.1)	-1.9	(1.1)	-1.9	(1.0)	-1.9	(1.2)
Newfoundland and Labrador	-4.5	(2.0)	1.6	(2.8)	0.4	(2.7)	-2.7	(1.8)
Nova Scotia	-6.0	(1.5)	-1.6	(1.5)	-1.7	(1.1)	-4.9	(1.5)
Ontario	-6.8	(1.0)	-5.1	(1.0)	-4.4	(0.8)	-2.9	(1.0)
Prince Edward Island	-0.5	(1.7)	1.6	(1.8)	0.7	(1.6)	6.0	(1.9)
Quebec	-8.0	(1.2)	-5.6	(1.0)	-5.2	(1.1)	-2.3	(1.0)
Saskatchewan	-1.3	(0.7)	-0.1	(0.8)	-1.4	(0.8)	-0.9	(1.0)
Italy								
Centre	-2.6	(1.2)	-4.9	(1.9)	-3.7	(1.6)	-1.0	(3.0)
North East	-5.1	(1.9)	-6.2	(2.3)	-3.8	(2.1)	-0.5	(3.0)
North West	-2.9	(1.4)	-1.0	(1.3)	-2.5	(1.5)	-2.4	(1.4)
South	-3.5	(2.3)	-4.6	(2.6)	-3.5	(2.6)	-0.9	(4.1)
South Islands	-3.7	(2.7)	-2.6	(2.4)	-3.2	(2.7)	-4.4	(2.8)
Portugal								
Alentejo	-2.7	(3.1)	2.2	(3.8)	0.3	(2.5)	1.2	(3.7)
Spain								
Basque Country*	-4.3	(0.9)	-4.1	(1.2)	-3.1	(0.9)	-2.1	(0.9)
Catalonia*	-12.2	(2.1)	-6.8	(1.9)	-9.4	(1.7)	-3.9	(1.8)
Madrid	-6.1	(3.8)	-0.7	(3.8)	-0.4	(3.6)	-1.8	(3.9)
Brazil								
Central-West Region	-3.2	(3.2)	2.9	(3.4)	-0.4	(3.5)	-3.0	(4.8)
Northeast Region	-1.3	(3.2)	6.3	(3.5)	2.8	(4.2)	1.9	(3.1)
North Region	-3.2	(2.8)	1.8	(3.5)	2.6	(2.6)	-6.6	(4.2)
Southeast Region	-1.8	(1.8)	3.2	(1.6)	0.2	(1.5)	-5.3	(2.4)
South Region	2.8	(4.4)	6.1	(2.1)	4.0	(3.8)	0.7	(3.4)
Colombia								
Bogotá	-2.9	(1.5)	-0.5	(1.4)	-1.6	(1.2)	-0.3	(1.2)
Cali	-3.5	(2.5)	-1.7	(2.3)	-2.8	(2.1)	5.3	(2.2)
Manizales	-7.8	(3.0)	-5.2	(2.9)	-3.2	(3.5)	3.0	(2.7)
Medellín	-2.2	(2.2)	2.8	(3.2)	1.6	(2.3)	4.0	(2.2)
United Arab Emirates								
Abu Dhabi*	-2.9	(1.1)	0.4	(1.0)	-1.7	(1.0)	-3.0	(1.3)
Ajman	-2.0	(2.0)	-0.8	(2.0)	-1.7	(1.6)	1.6	(1.5)
Dubai*	-0.5	(0.6)	0.7	(0.7)	-1.8	(0.6)	-1.6	(0.6)
Fujairah	1.7	(2.2)	4.3	(2.0)	3.8	(1.6)	4.6	(2.0)
Ras al-Khaimah	-1.5	(2.1)	2.5	(2.0)	0.9	(1.9)	3.5	(2.1)
Sharjah	-3.9	(2.1)	-1.6	(1.5)	-3.2	(2.5)	-0.6	(0.9)
Umm al-Quwain	-1.0	(2.5)	1.7	(2.1)	0.7	(2.1)	1.2	(2.6)

* PISA adjudicated region.

Notes: Values that are statistically significant are indicated in bold (see Annex A3).

Italian administrative regions are grouped into larger geographical units: Centre (*Lazio, Marche, Toscana, Umbria*), North East (*Bolzano, Emilia Romagna, Friuli Venezia Giulia, Trento, Veneto*), North West (*Liguria, Lombardia, Piemonte, Valle d'Aosta*), South (*Abruzzo, Campania, Molise, Puglia*), South Islands (*Basilicata, Calabria, Sardegna, Sicilia*).Brazilian states are grouped into larger geographical units: Central-West Region (*Federal District, Goiás, Mato Grosso, Mato Grosso do Sul*), Northeast Region (*Alagoas, Bahia, Ceará, Maranhão, Paraíba, Pernambuco, Piauí, Rio Grande do Norte, Sergipe*), North Region (*Acre, Amapá, Amazonas, Pará, Rondônia, Roraima, Tocantins*), Southeast Region (*Espírito Santo, Minas Gerais, Rio de Janeiro, São Paulo*), South Region (*Paraná, Rio Grande do Sul, Santa Catarina*).

See Table V.4.13 for national data.

1. Single-level bivariate regression of performance on the *PISA index of economic, social and cultural status* (ESCS), the slope is the regression coefficient for ESCS.2. R-squared from the regression coefficient of performance on the *PISA index of economic, social and cultural status* (ESCS).StatLink <http://dx.doi.org/10.1787/888933003763>



[Part 1/1]

Performance in problem solving and use of a computer at home, by region

Results based on students' self-reports

Table B2.V.8

	Students who use a desktop, laptop or tablet computer at home																
	Percentage of students												Difference in problem-solving performance				
	All students		Boys		Girls		Gender difference (B - G)		Parents' highest occupation: Skilled (ISCO 1 to 3)		Parents' highest occupation: Semi-skilled or elementary (ISCO 4 to 9)		Difference related to parents' highest occupation: Skilled - semi-skilled or elementary	Observed	Score dif.	S.E.	After accounting for socio-demographic characteristics of students ¹
	%	S.E.	%	S.E.	%	S.E.	% dif.	S.E.	%	S.E.	%	S.E.	% dif.	S.E.	Score dif.	S.E.	After accounting for socio-demographic characteristics of students ¹
Australia																	
Australian Capital Territory	99.0	(0.2)	98.7	(0.3)	99.3	(0.3)	-0.6	(0.5)	99.7	(0.2)	95.7	(0.8)	3.9	(0.8)	c	c	c c
New South Wales	96.8	(0.2)	96.6	(0.2)	97.1	(0.2)	-0.6	(0.3)	98.3	(0.1)	94.6	(0.4)	3.7	(0.4)	77	(7.7)	48 (7.6)
Northern Territory	92.8	(0.9)	91.2	(1.6)	94.3	(0.6)	-3.2	(1.7)	95.5	(1.1)	91.1	(1.4)	4.4	(1.8)	104 (33.1)	70	(30.7)
Queensland	95.9	(0.2)	95.1	(0.4)	96.7	(0.2)	-1.6	(0.5)	97.2	(0.2)	93.6	(0.5)	3.7	(0.4)	79	(13.1)	55 (14.9)
South Australia	97.9	(0.2)	97.8	(0.3)	98.0	(0.4)	-0.2	(0.5)	98.5	(0.2)	96.9	(0.4)	1.6	(0.4)	46	(18.2)	35 (18.0)
Tasmania	93.5	(0.4)	92.9	(0.6)	94.2	(0.5)	-1.3	(0.8)	95.3	(0.5)	93.8	(0.6)	1.5	(0.7)	68	(16.3)	24 (14.6)
Victoria	98.8	(0.1)	98.6	(0.2)	99.0	(0.1)	-0.4	(0.3)	99.2	(0.1)	98.6	(0.2)	0.6	(0.2)	77	(17.5)	m m
Western Australia	96.6	(0.3)	95.8	(0.4)	97.6	(0.5)	-1.8	(0.7)	97.6	(0.3)	95.5	(0.5)	2.2	(0.5)	61	(14.7)	33 (14.2)
Belgium																	
Flemish Community*	98.9	(0.1)	98.8	(0.2)	99.0	(0.1)	-0.3	(0.2)	99.3	(0.1)	98.4	(0.2)	1.0	(0.2)	96 (12.6)	69 (14.7)	
French Community	97.3	(0.2)	97.1	(0.2)	97.5	(0.2)	-0.4	(0.3)	98.2	(0.1)	96.7	(0.3)	1.5	(0.3)	65 (15.3)	42 (13.5)	
German-speaking Community	98.4	(0.2)	97.3	(0.3)	99.5	(0.2)	-2.2	(0.4)	99.2	(0.2)	98.0	(0.5)	1.2	(0.6)	c c	c c	
Canada																	
Alberta	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m m		
British Columbia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m m		
Manitoba	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m m		
New Brunswick	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m m		
Newfoundland and Labrador	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m m		
Nova Scotia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m m		
Ontario	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m m		
Prince Edward Island	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m m		
Quebec	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m m		
Saskatchewan	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m m		
Italy																	
Centre	96.5	(0.7)	94.9	(1.1)	98.5	(0.3)	-3.6	(1.1)	98.9	(0.2)	94.4	(1.2)	4.5	(1.3)	c c	c c	c c
North East	97.3	(0.3)	96.7	(0.5)	98.0	(0.4)	-1.3	(0.7)	98.6	(0.3)	96.9	(0.3)	1.7	(0.3)	69 (28.8)	20	(25.8)
North West	97.8	(0.3)	97.4	(0.4)	98.2	(0.3)	-0.9	(0.4)	97.7	(0.4)	98.2	(0.5)	-0.5	(0.7)	c c	c c	c c
South	97.4	(0.3)	97.5	(0.4)	97.3	(0.4)	0.2	(0.6)	98.3	(0.5)	96.8	(0.5)	1.5	(0.8)	c c	c c	c c
South Islands	98.0	(0.3)	98.0	(0.4)	98.0	(0.6)	0.0	(0.8)	99.8	(0.1)	97.4	(0.4)	2.4	(0.4)	c c	c c	c c
Portugal																	
Alentejo	97.8	(0.3)	97.8	(0.5)	97.9	(0.4)	-0.1	(0.6)	99.5	(0.2)	97.4	(0.4)	2.1	(0.4)	c c	c c	c c
Spain																	
Basque Country*	96.3	(0.2)	95.6	(0.3)	96.9	(0.2)	-1.3	(0.4)	97.2	(0.2)	95.7	(0.3)	1.6	(0.3)	58 (17.5)	46 (13.5)	
Catalonia*	98.7	(0.2)	98.9	(0.2)	98.5	(0.4)	0.4	(0.4)	99.2	(0.2)	98.5	(0.2)	0.7	(0.2)	c c	c c	c c
Madrid	98.2	(0.7)	97.7	(0.8)	98.6	(0.6)	-0.9	(0.7)	98.8	(0.4)	97.5	(0.9)	1.3	(0.7)	c c	c c	c c
Partners																	
Brazil																	
Central-West Region	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m m		
Northeast Region	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m m		
North Region	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m m		
Southeast Region	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m m		
South Region	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m m		
Colombia																	
Bogotá	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m m		
Cali	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m m		
Manizales	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m m		
Medellín	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m m		
United Arab Emirates																	
Abu Dhabi*	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m m		
Ajman	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m m		
Dubai*	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m m		
Fujairah	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m m		
Ras al-Khaimah	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m m		
Sharjah	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m m		
Umm al-Quwain	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m m		

* PISA adjudicated region.

Notes: Values that are statistically significant are indicated in bold (see Annex A3).

Italian administrative regions are grouped into larger geographical units: Centre (Lazio, Marche, Toscana, Umbria), North East (Bolzano, Emilia Romagna, Friuli Venezia Giulia, Trento, Veneto), North West (Liguria, Lombardia, Piemonte, Valle d'Aosta), South (Abruzzo, Campania, Molise, Puglia), South Islands (Basilicata, Calabria, Sardegna, Sicilia).

Brazilian states are grouped into larger geographical units: Central-West Region (Federal District, Goiás, Mato Grosso, Mato Grosso do Sul), Northeast Region (Alagoas, Bahia, Ceará, Maranhão, Paraíba, Pernambuco, Piauí, Rio Grande do Norte, Sergipe), North Region (Acre, Amazonas, Pará, Rondônia, Roraima, Tocantins), Southeast Region (Espírito Santo, Minas Gerais, Rio de Janeiro, São Paulo), South Region (Paraná, Rio Grande do Sul, Santa Catarina). See Table V.4.25 for national data.

1. The adjusted result corresponds to the coefficient from a regression where the PISA index of economic, social and cultural status (ESCS), ESCS squared, boy, and an immigrant (first generation) dummy are introduced as further independent variables.

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[Part 1/1]

Performance in problem solving and use of computers at school, by region

Table B2.V.9

Results based on students' self-reports

	Students who use a desktop, laptop or tablet computer at school													
	Percentage of students												Difference in problem-solving performance	
	All students		Boys		Girls		Gender difference (B - G)	Parents' highest occupation: Skilled (ISCO 1 to 3)	Parents' highest occupation: Semi-skilled or elementary (ISCO 4 to 9)	Difference related to parents' highest occupation: Skilled - semi-skilled or elementary				
	%	S.E.	%	S.E.	%	S.E.				Observed	Score dif.	After accounting for socio-demographic characteristics of students ¹		
							% dif.	S.E.	%	S.E.	% dif.	S.E.	Score dif.	S.E.
OECD	Australia													
	Australian Capital Territory	93.5 (0.4)	93.1 (0.6)	93.9 (0.7)	-0.8 (0.9)	94.2 (0.5)	93.7 (1.1)	0.5 (1.2)	40 (17.3)	32 (16.3)				
	New South Wales	89.8 (0.3)	89.8 (0.4)	89.7 (0.4)	0.1 (0.5)	90.9 (0.4)	88.6 (0.5)	2.3 (0.5)	35 (6.1)	23 (6.3)				
	Northern Territory	89.3 (1.5)	92.9 (1.5)	86.1 (1.8)	6.8 (1.6)	87.6 (2.1)	93.2 (1.1)	-5.6 (2.1)	4 (29.2)	-4 (22.2)				
	Queensland	94.4 (0.2)	92.6 (0.5)	96.2 (0.3)	-3.6 (0.6)	95.5 (0.3)	93.0 (0.5)	2.4 (0.5)	69 (11.1)	59 (11.0)				
	South Australia	97.5 (0.3)	97.9 (0.5)	97.2 (0.3)	0.7 (0.6)	97.9 (0.3)	97.1 (0.5)	0.8 (0.5)	56 (18.8)	45 (16.8)				
	Tasmania	97.4 (0.3)	96.4 (0.5)	98.4 (0.3)	-2.0 (0.6)	97.7 (0.4)	97.0 (0.5)	0.7 (0.7)	51 (26.6)	28 (20.6)				
	Victoria	96.5 (0.2)	96.5 (0.3)	96.4 (0.3)	0.1 (0.5)	96.8 (0.2)	95.7 (0.4)	1.1 (0.4)	25 (11.6)	20 (10.9)				
	Western Australia	94.2 (0.3)	95.1 (0.4)	93.2 (0.6)	1.9 (0.8)	95.0 (0.4)	92.9 (0.6)	2.1 (0.7)	0 (12.7)	-8 (11.5)				
Belgium														
	Flemish Community*	86.2 (0.4)	84.9 (0.5)	87.5 (0.5)	-2.6 (0.5)	86.6 (0.5)	85.8 (0.8)	0.8 (1.0)	16 (5.7)	12 (4.5)				
	French Community	37.2 (0.7)	39.0 (0.9)	35.4 (0.8)	3.6 (1.0)	35.6 (0.9)	39.1 (1.1)	-3.5 (1.4)	-27 (5.3)	-25 (4.9)				
	German-speaking Community	60.6 (0.6)	60.3 (0.9)	61.0 (1.0)	-0.7 (1.5)	58.7 (1.0)	62.8 (1.4)	-4.0 (1.9)	-7 (7.1)	-6 (7.1)				
Canada														
	Alberta	m	m	m	m	m	m	m	m	m	m	m	m	m
	British Columbia	m	m	m	m	m	m	m	m	m	m	m	m	m
	Manitoba	m	m	m	m	m	m	m	m	m	m	m	m	m
	New Brunswick	m	m	m	m	m	m	m	m	m	m	m	m	m
	Newfoundland and Labrador	m	m	m	m	m	m	m	m	m	m	m	m	m
	Nova Scotia	m	m	m	m	m	m	m	m	m	m	m	m	m
	Ontario	m	m	m	m	m	m	m	m	m	m	m	m	m
	Prince Edward Island	m	m	m	m	m	m	m	m	m	m	m	m	m
	Quebec	m	m	m	m	m	m	m	m	m	m	m	m	m
	Saskatchewan	m	m	m	m	m	m	m	m	m	m	m	m	m
Italy														
	Centre	61.4 (1.5)	67.9 (2.4)	53.5 (2.1)	14.4 (3.4)	56.6 (1.7)	65.6 (2.0)	-9.0 (2.2)	-1 (12.6)	1 (11.6)				
	North East	74.6 (1.2)	74.7 (1.6)	74.5 (1.2)	0.1 (1.6)	70.7 (1.5)	77.5 (1.3)	-6.8 (1.6)	-5 (9.2)	-2 (9.3)				
	North West	64.7 (1.3)	69.1 (1.6)	59.9 (1.8)	9.2 (1.9)	57.7 (1.7)	70.1 (1.2)	-12.4 (0.9)	-16 (6.8)	-12 (6.4)				
	South	68.4 (1.8)	70.6 (2.3)	65.6 (2.8)	5.0 (3.5)	62.2 (2.8)	71.4 (2.0)	-9.1 (2.4)	-3 (11.7)	2 (10.3)				
	South Islands	63.8 (1.5)	71.1 (1.9)	56.3 (2.4)	14.8 (3.1)	57.1 (1.9)	66.5 (1.5)	-9.4 (1.5)	-24 (11.7)	-22 (10.6)				
Portugal														
	Alentejo	76.5 (0.9)	74.7 (1.1)	78.2 (1.0)	-3.5 (1.0)	76.9 (2.0)	76.8 (1.0)	0.2 (2.2)	-20 (8.1)	-15 (9.7)				
Spain														
	Basque Country*	74.6 (0.8)	74.1 (0.9)	75.1 (0.8)	-1.1 (0.6)	71.9 (0.9)	77.8 (0.8)	-5.9 (0.6)	-2 (4.2)	1 (3.8)				
	Catalonia*	85.3 (1.2)	85.0 (1.2)	85.6 (1.4)	-0.6 (1.1)	84.5 (1.7)	86.3 (0.9)	-1.9 (1.5)	26 (11.2)	26 (10.1)				
	Madrid	77.0 (1.3)	79.5 (1.4)	74.6 (1.7)	4.9 (1.5)	75.8 (2.2)	78.2 (1.5)	-2.4 (2.5)	11 (19.8)	4 (15.4)				
Partners	Brazil													
	Central-West Region	m	m	m	m	m	m	m	m	m	m	m	m	m
	Northeast Region	m	m	m	m	m	m	m	m	m	m	m	m	m
	North Region	m	m	m	m	m	m	m	m	m	m	m	m	m
	Southeast Region	m	m	m	m	m	m	m	m	m	m	m	m	m
	South Region	m	m	m	m	m	m	m	m	m	m	m	m	m
Colombia														
	Bogotá	m	m	m	m	m	m	m	m	m	m	m	m	m
	Cali	m	m	m	m	m	m	m	m	m	m	m	m	m
	Manizales	m	m	m	m	m	m	m	m	m	m	m	m	m
	Medellín	m	m	m	m	m	m	m	m	m	m	m	m	m
United Arab Emirates														
	Abu Dhabi*	m	m	m	m	m	m	m	m	m	m	m	m	m
	Ajman	m	m	m	m	m	m	m	m	m	m	m	m	m
	Dubai*	m	m	m	m	m	m	m	m	m	m	m	m	m
	Fujairah	m	m	m	m	m	m	m	m	m	m	m	m	m
	Ras al-Khaimah	m	m	m	m	m	m	m	m	m	m	m	m	m
	Sharjah	m	m	m	m	m	m	m	m	m	m	m	m	m
	Umm al-Quwain	m	m	m	m	m	m	m	m	m	m	m	m	m

* PISA adjudicated region.

Notes: Values that are statistically significant are indicated in bold (see Annex A3).

Italian administrative regions are grouped into larger geographical units: Centre (*Lazio, Marche, Toscana, Umbria*), North East (*Bolzano, Emilia Romagna, Friuli Venezia Giulia, Trento, Veneto*), North West (*Liguria, Lombardia, Piemonte, Valle d'Aosta*), South (*Abruzzo, Campania, Molise, Puglia*), South Islands (*Basilicata, Calabria, Sardegna, Sicilia*).Brazilian states are grouped into larger geographical units: Central-West Region (*Federal District, Goiás, Mato Grosso, Mato Grosso do Sul*), Northeast Region (*Alagoas, Bahia, Ceará, Maranhão, Paraíba, Pernambuco, Piauí, Rio Grande do Norte, Sergipe*), North Region (*Acre, Amapá, Amazonas, Pará, Rondônia, Roraima, Tocantins*), Southeast Region (*Espírito Santo, Minas Gerais, Rio de Janeiro, São Paulo*), South Region (*Paraná, Rio Grande do Sul, Santa Catarina*).

See Table V.4.26 for national data.

1. The adjusted result corresponds to the coefficient from a regression where the PISA index of economic, social and cultural status (ESCS), ESCS squared, boy, and an immigrant (first-generation) dummy are introduced as further independent variables.

StatLink <http://dx.doi.org/10.1787/888933003763>



ANNEX B3

LIST OF TABLES AVAILABLE ON LINE

The following tables are available in electronic form only.

Chapter 4 How problem-solving performance varies within countries

<http://dx.doi.org/10.1787/888933003706>

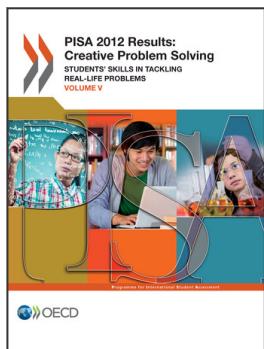
WEB	Table V.4.5 Differences in problem-solving, mathematics, reading and science performance related to education tracks
WEB	Table V.4.11c Performance on problem-solving tasks, by technology setting and by gender
WEB	Table V.4.11d Performance on problem-solving tasks, by social focus and by gender
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WEB	Table V.4.18c Performance on problem-solving tasks, by technology setting and by parents' occupational status
WEB	Table V.4.18d Performance on problem-solving tasks, by social focus and by parents' occupational status
WEB	Table V.4.18e Performance on problem-solving tasks, by response format and by parents' occupational status
WEB	Table V.4.22c Performance on problem-solving tasks, by technology setting and by immigrant background
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Annex B2 Results for regions within countries

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WEB	Table B2.V.10 Performance in problem solving, by nature of the problem situation and by region
WEB	Table B2.V.11 Performance in problem solving, by process and by region
WEB	Table B2.V.12 Relative performance on knowledge-acquisition and knowledge-utilisation tasks, by region

These tables, as well as additional material, may be found at: www.pisa.oecd.org.



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