

Exhibit E.3: Percentages of Students with Mathematics Achievement Too Low for Estimation

Country	Percentage of Students with Achievement Too Low for Estimation*	Percentage of Students with Zero Score Points**	Average Percent Correct Across Items	Average Percent Missing Across Items
Australia	4 (0.4)	1 (0.2)	47 (0.8)	5 (0.2)
Austria	1 (0.3)	0 (0.1)	47 (0.6)	6 (0.3)
Azerbaijan	6 (0.5)	2 (0.2)	42 (0.8)	14 (0.5)
Bahrain	10 (0.5)	3 (0.3)	29 (0.4)	5 (0.2)
Ψ Brazil	18 (0.5)	5 (0.2)	21 (0.5)	10 (0.3)
Chile	11 (0.6)	3 (0.4)	28 (0.5)	13 (0.5)
Chinese Taipei	1 (0.2)	0 (0.1)	66 (0.7)	1 (0.1)
⌘ Cote d'Ivoire	63 (1.5)	13 (0.7)	12 (0.6)	33 (0.9)
Cyprus	5 (0.3)	1 (0.2)	44 (0.7)	7 (0.3)
Czech Republic	2 (0.2)	0 (0.1)	49 (0.5)	7 (0.2)
England	3 (0.4)	1 (0.2)	51 (1.1)	7 (0.4)
Finland	4 (0.4)	1 (0.2)	45 (0.6)	6 (0.3)
France	4 (0.4)	1 (0.1)	40 (0.7)	9 (0.4)
Georgia	6 (0.5)	2 (0.2)	38 (0.7)	12 (0.5)
Hong Kong SAR	2 (0.4)	1 (0.2)	63 (1.1)	3 (0.3)
Hungary	3 (0.4)	1 (0.1)	46 (0.8)	4 (0.2)
Ψ Iran, Islamic Rep. of	16 (0.8)	1 (0.2)	29 (0.6)	18 (0.5)
Ireland	2 (0.3)	1 (0.1)	50 (0.7)	5 (0.2)
Israel	5 (0.4)	1 (0.2)	43 (0.9)	9 (0.3)
Italy	3 (0.4)	1 (0.2)	45 (0.7)	8 (0.3)
Japan	1 (0.1)	0 (0.1)	66 (0.7)	4 (0.2)
Jordan	13 (0.7)	3 (0.3)	24 (0.5)	4 (0.2)
Kazakhstan	6 (0.4)	2 (0.2)	34 (0.7)	8 (0.3)
Korea, Rep. of	1 (0.2)	0 (0.1)	65 (0.7)	3 (0.2)
Ψ Kuwait	20 (0.9)	1 (0.2)	24 (1.0)	11 (0.6)
Lithuania	3 (0.3)	1 (0.1)	48 (0.7)	6 (0.2)
Malaysia	12 (0.6)	3 (0.2)	24 (0.6)	2 (0.1)
Malta	4 (0.3)	1 (0.2)	44 (0.4)	5 (0.2)
Morocco	14 (0.7)	3 (0.3)	22 (0.5)	10 (0.4)
New Zealand	5 (0.4)	2 (0.3)	41 (1.0)	5 (0.3)
Norway (9)	4 (0.3)	1 (0.1)	46 (0.5)	11 (0.3)
Oman	10 (0.4)	2 (0.2)	28 (0.5)	4 (0.2)
Ψ Palestinian Nat'l Auth.	17 (0.6)	5 (0.3)	23 (0.5)	4 (0.2)
Portugal	4 (0.4)	1 (0.1)	39 (0.6)	7 (0.3)
Qatar	9 (0.7)	3 (0.4)	34 (0.9)	5 (0.3)
Romania	5 (0.7)	1 (0.3)	44 (1.1)	7 (0.5)
Saudi Arabia	13 (0.6)	3 (0.2)	24 (0.6)	3 (0.1)
Singapore	1 (0.3)	0 (0.2)	67 (1.5)	1 (0.1)
Ψ South Africa (9)	20 (0.8)	1 (0.1)	20 (0.6)	5 (0.2)
Sweden	3 (0.3)	1 (0.2)	49 (0.6)	9 (0.3)
Türkiye	5 (0.4)	1 (0.2)	47 (1.0)	6 (0.3)
United Arab Emirates	5 (0.2)	1 (0.1)	43 (0.4)	5 (0.1)
United States	5 (0.4)	1 (0.1)	42 (1.0)	4 (0.3)
Uzbekistan	10 (0.7)	3 (0.3)	27 (0.9)	8 (0.4)
Benchmarking Participants				
Abu Dhabi, UAE	6 (0.4)	1 (0.1)	37 (0.6)	4 (0.1)
Dubai, UAE	2 (0.3)	1 (0.1)	56 (0.7)	5 (0.3)
Sharjah, UAE	4 (0.4)	1 (0.1)	43 (1.3)	5 (0.2)

* Students were considered to have achievement too low for estimation if their performance on the assessment was no better than could be achieved by simply guessing on the multiple-choice assessment items. However, such students were assigned scale scores (plausible values) by the achievement scaling procedure, despite concerns about their reliability.

** Students who received zero score points did not answer any assessment items correctly and have achievement too low for estimation.

Ψ Reservations about reliability because the percentage of students with achievement too low for estimation exceeds 15% but does not exceed 25%.

⌘ Average achievement not reliably measured because the percentage of students with achievement too low for estimation exceeds 25%.

() Standard errors appear in parentheses. Because of rounding some results may appear inconsistent.