

Appendix C

Percentiles and Standard Deviations of Achievement

Exhibit C.1 Percentiles of Achievement in Advanced Mathematics and Physics

TIMSS Advanced 2008

Advanced Mathematics							
Country	5th Percentile	10th Percentile	25th Percentile	50th Percentile	75th Percentile	90th Percentile	95th Percentile
Armenia	282 (14.4)	313 (6.6)	363 (3.5)	428 (6.6)	499 (5.2)	562 (7.4)	590 (13.2)
Iran, Islamic Rep. of	345 (6.8)	376 (6.3)	426 (3.8)	491 (9.2)	564 (7.4)	629 (7.7)	666 (11.4)
Italy	287 (13.1)	321 (12.9)	384 (9.7)	453 (10.5)	515 (6.5)	568 (5.5)	599 (17.2)
Lebanon	446 (4.7)	468 (6.4)	504 (2.3)	545 (3.7)	586 (4.2)	622 (3.3)	642 (3.0)
Netherlands	477 (4.8)	494 (2.9)	522 (2.8)	552 (3.3)	582 (2.9)	610 (2.9)	628 (3.2)
Norway	290 (12.5)	324 (10.3)	383 (8.8)	444 (5.9)	499 (5.2)	546 (5.1)	574 (4.7)
Philippines	191 (7.6)	224 (5.9)	281 (5.5)	349 (6.3)	425 (8.0)	494 (8.7)	539 (8.3)
Russian Federation	412 (10.8)	445 (6.9)	499 (7.8)	561 (6.4)	621 (8.0)	677 (13.7)	711 (14.7)
Slovenia	316 (10.4)	350 (4.9)	401 (5.0)	457 (5.1)	513 (4.0)	567 (6.6)	602 (7.5)
Sweden	238 (11.7)	276 (7.9)	340 (6.4)	419 (5.9)	489 (8.3)	544 (7.9)	574 (10.0)

SOURCE: IEA TIMSS Advanced 2008 ©

Physics							
Country	5th Percentile	10th Percentile	25th Percentile	50th Percentile	75th Percentile	90th Percentile	95th Percentile
Armenia	326 (8.1)	368 (9.7)	430 (7.3)	495 (4.3)	562 (4.4)	623 (13.5)	659 (13.6)
Iran, Islamic Rep. of	278 (7.4)	314 (8.3)	377 (6.4)	454 (7.8)	540 (12.9)	616 (9.2)	656 (9.5)
Italy	252 (10.3)	291 (15.8)	351 (12.8)	422 (8.6)	493 (10.9)	556 (6.7)	593 (9.6)
Lebanon	312 (6.5)	342 (10.5)	391 (5.1)	446 (2.9)	499 (3.3)	544 (4.9)	568 (4.3)
Netherlands	492 (10.3)	512 (4.5)	547 (2.8)	584 (5.9)	619 (4.0)	650 (4.3)	669 (6.1)
Norway	398 (9.5)	434 (8.7)	486 (4.4)	538 (5.0)	586 (5.5)	629 (5.0)	657 (9.6)
Russian Federation	314 (17.3)	361 (21.4)	440 (12.1)	527 (11.6)	605 (13.7)	672 (15.0)	717 (19.7)
Slovenia	403 (7.6)	431 (5.5)	480 (5.0)	538 (3.2)	588 (4.4)	634 (5.9)	666 (6.1)
Sweden	339 (9.8)	375 (13.7)	438 (7.9)	502 (6.5)	563 (4.3)	611 (4.3)	637 (5.1)

(1) Standard errors appear in parentheses. Because results are rounded to the nearest whole number, some totals may appear inconsistent.

Exhibit C.2 Standard Deviations of Achievement in Advanced Mathematics and Physics

TIMSS Advanced 2008

Advanced Mathematics						
Country	Overall		Females		Males	
	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
Armenia	433 (3.7)	95 (2.7)	428 (4.8)	89 (3.3)	438 (6.2)	102 (4.9)
Iran, Islamic Rep. of	497 (6.4)	99 (3.2)	480 (6.7)	82 (4.5)	510 (10.0)	108 (4.0)
Italy	449 (7.1)	95 (4.1)	454 (9.3)	87 (6.0)	446 (8.3)	99 (4.4)
Lebanon	545 (2.3)	60 (1.7)	554 (3.2)	56 (2.4)	541 (2.7)	62 (2.1)
Netherlands	552 (2.6)	46 (1.1)	549 (4.2)	45 (2.2)	553 (3.0)	46 (1.1)
Norway	439 (5.0)	87 (2.6)	434 (5.4)	83 (3.9)	443 (5.7)	89 (2.9)
Philippines	355 (5.5)	106 (3.4)	337 (5.5)	98 (2.5)	386 (7.8)	111 (5.2)
Russian Federation	561 (7.2)	91 (3.6)	551 (7.7)	87 (3.8)	569 (7.4)	93 (3.8)
Slovenia	457 (4.2)	85 (2.1)	448 (5.2)	81 (2.6)	472 (4.3)	88 (3.3)
Sweden	413 (5.6)	103 (2.3)	404 (6.9)	101 (3.8)	419 (6.2)	104 (2.7)

Physics						
Country	Overall		Females		Males	
	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
Armenia	495 (5.4)	100 (3.5)	498 (6.0)	96 (4.6)	492 (6.7)	105 (3.8)
Iran, Islamic Rep. of	460 (7.2)	116 (3.8)	437 (7.3)	100 (5.1)	478 (11.5)	124 (4.4)
Italy	422 (7.6)	103 (3.8)	407 (10.6)	95 (5.1)	433 (7.7)	106 (4.4)
Lebanon	444 (3.0)	79 (1.9)	451 (4.3)	71 (2.7)	441 (3.7)	81 (2.7)
Netherlands	582 (3.7)	54 (2.4)	566 (5.1)	53 (2.9)	586 (3.6)	53 (2.5)
Norway	534 (4.2)	78 (2.5)	517 (6.0)	73 (4.3)	541 (4.3)	79 (2.4)
Russian Federation	521 (10.2)	120 (5.5)	498 (10.5)	119 (6.4)	540 (10.3)	119 (5.3)
Slovenia	535 (1.9)	80 (1.8)	535 (5.3)	81 (3.6)	535 (2.7)	80 (2.4)
Sweden	497 (5.7)	92 (3.1)	491 (6.9)	91 (4.6)	500 (6.3)	92 (3.4)

(¹) Standard errors appear in parentheses. Because results are rounded to the nearest whole number, some totals may appear inconsistent.

