

Exhibit 12.3: Sample Sizes for PIRLS 2016 Achievement Scales

Country	Concurrent Calibration		Proficiency Estimation	
	2016	2011	2016	2011
Australia	6,341	6,126	6,341	6,126
Austria	4,360	4,670	4,360	4,670
Azerbaijan	4,990	4,881	5,994	4,881
Bahrain	—	—	5,480	—
Belgium (Flemish)	—	—	5,198	—
Belgium (French)	4,623	3,727	4,623	3,727
Bulgaria	4,281	5,261	4,281	5,261
Canada	18,245	23,206	18,245	23,206
Chile	—	—	4,294	—
Chinese Taipei	4,326	4,293	4,326	4,293
Czech Republic	5,537	4,556	5,537	4,556
Denmark	3,508	4,594	3,508	4,594
England	5,095	3,927	5,095	3,927
Finland	4,896	4,640	4,896	4,640
France	4,767	4,438	4,767	4,438
Georgia	5,741	4,796	5,741	4,796
Germany	3,959	4,000	3,959	4,000
Hong Kong SAR	3,349	3,875	3,349	3,875
Hungary	4,623	5,204	4,623	5,204
Iran, Islamic Rep. of	4,385	5,758	4,385	5,758
Ireland	4,607	4,524	4,607	4,524
Israel	4,041	4,186	4,041	4,186
Italy	3,940	4,189	3,940	4,189
Kazakhstan	—	—	4,925	—
Latvia	—	—	4,157	—
Lithuania	2,947	4,661	4,317	4,661
Macao SAR	—	—	4,059	—
Malta	3,647	3,548	3,647	3,548
Morocco	5,489	7,805	5,489	7,805
Netherlands	4,206	3,995	4,206	3,995
New Zealand	5,646	5,644	5,646	5,644
Northern Ireland	3,693	3,586	3,693	3,586
Norway (5)	—	—	4,232	—
Oman	9,234	10,394	9,234	10,394

Exhibit 12.3: Sample Sizes for PIRLS 2016 Achievement Scales (Continued)

Country	Concurrent Calibration		Proficiency Estimation	
	2016	2011	2016	2011
Poland	—	—	4,413	—
Portugal	4,642	4,085	4,642	4,085
Qatar	9,077	4,120	9,077	4,120
Russian Federation	4,577	4,461	4,577	4,461
Saudi Arabia	4,741	4,507	4,741	4,507
Singapore	6,488	6,367	6,488	6,367
Slovak Republic	5,451	5,630	5,451	5,630
Slovenia	4,499	4,512	4,499	4,512
Spain	14,595	8,580	14,595	8,580
Sweden	4,525	4,622	4,525	4,622
Trinidad and Tobago	4,177	3,948	4,177	3,948
United Arab Emirates	16,471	14,618	16,471	14,618
United States	4,425	12,726	4,425	12,726
Benchmarking Participants				
Buenos Aires, Argentina	—	—	4,382	—
Ontario, Canada	—	—	4,270	4,561
Quebec, Canada	—	—	3,179	4,244
Norway (4)	4,354	3,190	4,354	3,190
Moscow City, Russian Fed.	—	—	4,289	—
Eng/Afr/Zulu - RSA (5)	—	—	5,282	—
Andalusia, Spain	—	—	4,169	4,333
Madrid, Spain	—	—	3,794	—
Abu Dhabi, UAE	—	—	4,188	4,146
Dubai, UAE	—	—	7,859	6,061
Total	228,498	231,850	309,042	255,195