# **Appendix C**

Coverage of TIMSS 2003 Target Populations and Participation Rates

### **Exhibit C.1: Coverage of TIMSS 2003 Target Populations**



| Countries                 |          | International Desired Population                             | National Desired Population |                             |                       |
|---------------------------|----------|--|-----------------------------|-----------------------------|-----------------------|
| Countries                 | Coverage | Notes on Coverage  | School-Level<br>Exclusions  | Within-Sample<br>Exclusions | Overall<br>Exclusions |
| Armenia                   | 100%     |  | 2.9%                        | 0.0%                        | 2.9%                  |
| Australia                 | 100%     |  | 0.4%                        | 0.9%                        | 1.3%                  |
| Bahrain                   | 100%     |  | 0.0%                        | 0.0%                        | 0.0%                  |
| Belgium (Flemish)         | 100%     |  | 3.1%                        | 0.1%                        | 3.2%                  |
| Botswana                  | 100%     |  | 0.8%                        | 2.2%                        | 3.0%                  |
| Bulgaria                  | 100%     |  | 0.5%                        | 0.0%                        | 0.5%                  |
| Chile                     | 100%     |  | 1.6%                        | 0.7%                        | 2.2%                  |
| Chinese Taipei            | 100%     |  | 0.2%                        | 4.6%                        | 4.8%                  |
| Cyprus                    | 100%     |  | 1.1%                        | 1.5%                        | 2.5%                  |
| Egypt                     | 100%     |  | 3.4%                        | 0.0%                        | 3.4%                  |
| England                   | 100%     |  | 2.1%                        | 0.0%                        | 2.1%                  |
| Estonia                   | 100%     |  | 2.6%                        | 0.8%                        | 3.4%                  |
| Ghana                     |          |  | 0.9%                        | 0.0%                        | 0.9%                  |
|                           | 100%     |  |                             |                             |                       |
| Hong Kong, SAR            | 100%     |  | 3.3%                        | 0.1%                        | 3.4%                  |
| Hungary                   | 100%     | Man Islanda adeada   | 5.5%                        | 3.2%                        | 8.5%                  |
| Indonesia                 | 80%      | Non-Islamic schools  | 0.1%                        | 0.3%                        | 0.4%                  |
| Iran, Islamic Rep. of     | 100%     |  | 5.5%                        | 1.1%                        | 6.5%                  |
| Israel                    | 100%     |  | 15.2%                       | 8.6%                        | 22.5%                 |
| Italy                     | 100%     |  | 0.0%                        | 3.6%                        | 3.6%                  |
| Japan                     | 100%     |  | 0.5%                        | 0.1%                        | 0.6%                  |
| Jordan                    | 100%     |  | 0.5%                        | 0.8%                        | 1.3%                  |
| Korea, Rep. of            | 100%     |  | 1.5%                        | 3.4%                        | 4.9%                  |
| Latvia                    | 100%     |  | 3.6%                        | 0.1%                        | 3.7%                  |
| Lebanon                   | 100%     |  | 1.4%                        | 0.0%                        | 1.4%                  |
| Lithuania                 | 89%      | Students taught in Lithuanian                                | 1.4%                        | 1.2%                        | 2.6%                  |
| Macedonia, Rep. of        | 100%     |  | 12.5%                       | 0.0%                        | 12.5%                 |
| Malaysia                  | 100%     |  | 4.0%                        | 0.0%                        | 4.0%                  |
| Moldova, Rep. of          | 100%     |  | 0.7%                        | 0.5%                        | 1.2%                  |
| Morocco                   | 69%      | All students but Souss Massa Draa, Casablanca, Gharb-Chrarda | 1.5%                        | 0.0%                        | 1.5%                  |
| Netherlands               | 100%     |  | 3.0%                        | 0.0%                        | 3.0%                  |
| New Zealand               | 100%     |  | 1.7%                        | 2.7%                        | 4.4%                  |
| Norway                    | 100%     |  | 0.9%                        | 1.5%                        | 2.3%                  |
| Palestinian Nat'l Auth.   | 100%     |  | 0.2%                        | 0.3%                        | 0.5%                  |
| Philippines               | 100%     |  | 1.5%                        | 0.0%                        | 1.5%                  |
| Romania                   | 100%     |  | 0.4%                        | 0.1%                        | 0.5%                  |
| Russian Federation        | 100%     |  | 1.7%                        | 3.9%                        | 5.5%                  |
| Saudi Arabia              | 100%     |  | 0.3%                        | 0.2%                        | 0.5%                  |
| Scotland                  | 100%     |  | 0.0%                        | 0.0%                        | 0.0%                  |
| Serbia                    | 81%      | Serbia without Kosovo  | 2.4%                        | 0.6%                        | 2.9%                  |
| Singapore                 | 100%     |  | 0.0%                        | 0.0%                        | 0.0%                  |
| Slovak Republic           | 100%     |  | 5.0%                        | 0.0%                        | 5.0%                  |
| Slovenia                  | 100%     |  | 1.3%                        | 0.1%                        | 1.4%                  |
| South Africa              | 100%     |  | 0.6%                        | 0.0%                        | 0.6%                  |
| Sweden                    | 100%     |  | 0.3%                        | 2.5%                        | 2.8%                  |
| Syrian Arab Republic      | 100%     |  | 18.7%                       | 0.0%                        | 18.8%                 |
| Tunisia                   | 100%     |  | 1.8%                        | 0.0%                        | 1.8%                  |
| United States             | 100%     |  | 0.0%                        | 4.9%                        | 4.9%                  |
| Benchmarking Participants |          |  |                             |                             |                       |
| Basque Region, Spain      | 100%     |  | 2.1%                        | 3.8%                        | 5.8%                  |
| Indiana State, US         | 100%     |  | 0.0%                        | 7.8%                        | 7.8%                  |
| Ontario Province, Can.    | 100%     |  | 1.0%                        | 5.0%                        | 6.0%                  |
| Quebec Province, Can.     | 100%     |  | 1.4%                        | 3.5%                        | 4.8%                  |

### **Exhibit C.1:** Coverage of TIMSS 2003 Target Populations

MATHEMATICS Grade (

| Countries              |          | International Desired Population | Natio                      | National Desired Population |                       |  |
|------------------------|----------|----------------------------------|----------------------------|-----------------------------|-----------------------|--|
|                        | Coverage | Notes on Coverage                | School-Level<br>Exclusions | Within-Sample<br>Exclusions | Overall<br>Exclusions |  |
| Armenia                | 100%     |                                  | 2.9%                       | 0.0%                        | 2.9%                  |  |
| Australia              | 100%     |                                  | 1.2%                       | 1.6%                        | 2.7%                  |  |
| Belgium (Flemish)      | 100%     |                                  | 5.9%                       | 0.4%                        | 6.3%                  |  |
| Chinese Taipei         | 100%     |                                  | 0.3%                       | 2.8%                        | 3.1%                  |  |
| Cyprus                 | 100%     |                                  | 1.5%                       | 1.4%                        | 2.9%                  |  |
| England                | 100%     |                                  | 1.9%                       | 0.0%                        | 1.9%                  |  |
| Hong Kong, SAR         | 100%     |                                  | 3.7%                       | 0.1%                        | 3.8%                  |  |
| Hungary                | 100%     |                                  | 4.4%                       | 3.9%                        | 8.1%                  |  |
| Iran, Islamic Rep. of  | 100%     |                                  | 3.6%                       | 2.1%                        | 5.7%                  |  |
| Italy                  | 100%     |                                  | 0.1%                       | 4.1%                        | 4.2%                  |  |
| Japan                  | 100%     |                                  | 0.4%                       | 0.3%                        | 0.8%                  |  |
| Latvia                 | 100%     |                                  | 4.3%                       | 0.1%                        | 4.4%                  |  |
| Lithuania              | 92%      | Students taught in Lithuanian    | 2.1%                       | 2.6%                        | 4.6%                  |  |
| Moldova, Rep. of       | 100%     |                                  | 2.0%                       | 1.6%                        | 3.6%                  |  |
| Morocco                | 100%     |                                  | 2.2%                       | 0.0%                        | 2.2%                  |  |
| Netherlands            | 100%     |                                  | 4.1%                       | 1.1%                        | 5.2%                  |  |
| New Zealand            | 100%     |                                  | 1.5%                       | 2.5%                        | 4.0%                  |  |
| Norway                 | 100%     |                                  | 1.7%                       | 2.7%                        | 4.4%                  |  |
| Philippines            | 100%     |                                  | 3.8%                       | 0.7%                        | 4.5%                  |  |
| Russian Federation     | 100%     |                                  | 2.2%                       | 4.7%                        | 6.8%                  |  |
| Scotland               | 100%     |                                  | 1.5%                       | 0.0%                        | 1.5%                  |  |
| Singapore              | 100%     |                                  | 0.0%                       | 0.0%                        | 0.0%                  |  |
| Slovenia               | 100%     |                                  | 0.8%                       | 0.5%                        | 1.3%                  |  |
| Tunisia                | 100%     |                                  | 0.9%                       | 0.0%                        | 0.9%                  |  |
| United States          | 100%     |                                  | 0.0%                       | 5.1%                        | 5.1%                  |  |
| Yemen                  | 100%     |                                  | 0.6%                       | 8.9%                        | 9.5%                  |  |
| chmarking Participants |          |                                  |                            |                             |                       |  |
| Indiana State, US      | 100%     |                                  | 0.0%                       | 7.2%                        | 7.2%                  |  |
| Ontario Province, Can. | 100%     |                                  | 1.3%                       | 3.5%                        | 4.8%                  |  |
| Quebec Province, Can.  | 100%     |                                  | 2.7%                       | 0.9%                        | 3.6%                  |  |

### **Exhibit C.2: Participation Rates (Weighted)**



| Countries                | School Participation  |                      | Class         | Student       | Overall Participation |                      |
|--------------------------|-----------------------|----------------------|---------------|---------------|-----------------------|----------------------|
|                          | Before<br>Replacement | After<br>Replacement | Participation | Participation | Before<br>Replacement | After<br>Replacement |
| Armenia                  | 99%                   | 99%                  | 99%           | 90%           | 89%                   | 89%                  |
| Australia                | 81%                   | 90%                  | 100%          | 93%           | 75%                   | 83%                  |
| Bahrain                  | 100%                  | 100%                 | 100%          | 98%           | 98%                   | 98%                  |
| Belgium (Flemish)        | 82%                   | 99%                  | 98%           | 97%           | 77%                   | 94%                  |
| Botswana                 | 98%                   | 98%                  | 100%          | 98%           | 96%                   | 96%                  |
| Bulgaria                 | 97%                   | 97%                  | 99%           | 96%           | 92%                   | 92%                  |
| Chile                    | 98%                   | 100%                 | 100%          | 99%           | 97%                   | 99%                  |
| Chinese Taipei           | 100%                  | 100%                 | 100%          | 99%           | 99%                   | 99%                  |
| Cyprus                   | 100%                  | 100%                 | 100%          | 96%           | 96%                   | 96%                  |
| Egypt                    | 99%                   | 100%                 | 100%          | 97%           | 97%                   | 97%                  |
| England                  | 40%                   | 54%                  | 99%           | 86%           | 34%                   | 46%                  |
| Estonia                  | 99%                   | 99%                  | 100%          | 96%           | 95%                   | 95%                  |
| Ghana                    | 100%                  | 100%                 | 100%          | 93%           | 93%                   | 93%                  |
| Hong Kong, SAR           | 74%                   | 83%                  | 99%           | 97%           | 72%                   | 80%                  |
| Hungary                  | 98%                   | 99%                  | 100%          | 95%           | 94%                   | 94%                  |
| Indonesia                | 98%                   | 100%                 | 100%          | 99%           | 97%                   | 99%                  |
| Iran, Islamic Rep. of    | 100%                  | 100%                 | 100%          | 98%           | 98%                   | 98%                  |
| Israel                   | 98%                   | 99%                  | 100%          | 95%           | 93%                   | 94%                  |
| Italy                    | 96%                   | 100%                 | 100%          | 97%           | 93%                   | 97%                  |
| -                        | 97%                   | 97%                  | 100%          | 96%           | 93%                   | 93%                  |
| Japan                    | 100%                  |                      | 100%          | 96%           | 96%                   | 96%                  |
| Jordan                   |                       | 100%                 |               |               |                       |                      |
| Korea, Rep. of           | 99%                   | 99%                  | 100%          | 99%           | 98%                   | 98%                  |
| Latvia                   | 92%                   | 94%                  | 100%          | 89%           | 81%                   | 83%                  |
| Lebanon                  | 93%                   | 95%                  | 100%          | 96%           | 89%                   | 91%                  |
| Lithuania                | 92%                   | 95%                  | 100%          | 89%           | 81%                   | 84%                  |
| Macedonia, Rep. of       | 94%                   | 99%                  | 100%          | 97%           | 91%                   | 96%                  |
| Malaysia                 | 100%                  | 100%                 | 100%          | 98%           | 98%                   | 98%                  |
| Moldova, Rep. of         | 99%                   | 100%                 | 100%          | 96%           | 95%                   | 96%                  |
| Morocco                  | 79%                   | 79%                  | 100%          | 91%           | 71%                   | 71%                  |
| Netherlands              | 79%                   | 87%                  | 100%          | 94%           | 74%                   | 81%                  |
| New Zealand              | 86%                   | 97%                  | 100%          | 93%           | 80%                   | 90%                  |
| Norway                   | 92%                   | 92%                  | 100%          | 92%           | 85%                   | 85%                  |
| Palestinian Nat'l Auth.  | 100%                  | 100%                 | 100%          | 99%           | 99%                   | 99%                  |
| Philippines              | 81%                   | 86%                  | 100%          | 96%           | 78%                   | 82%                  |
| Romania                  | 99%                   | 99%                  | 100%          | 98%           | 98%                   | 98%                  |
| Russian Federation       | 99%                   | 99%                  | 100%          | 97%           | 96%                   | 96%                  |
| Saudi Arabia             | 95%                   | 97%                  | 100%          | 97%           | 93%                   | 94%                  |
| Scotland                 | 76%                   | 85%                  | 100%          | 89%           | 68%                   | 76%                  |
| Serbia                   | 99%                   | 99%                  | 100%          | 96%           | 96%                   | 96%                  |
| Singapore                | 100%                  | 100%                 | 100%          | 97%           | 97%                   | 97%                  |
| Slovak Republic          | 96%                   | 100%                 | 100%          | 95%           | 91%                   | 95%                  |
| Slovenia                 | 94%                   | 99%                  | 100%          | 93%           | 87%                   | 91%                  |
| South Africa             | 89%                   | 96%                  | 100%          | 92%           | 82%                   | 88%                  |
| Sweden                   | 97%                   | 99%                  | 99%           | 89%           | 85%                   | 87%                  |
| Syrian Arab Republic     | 81%                   | 89%                  | 100%          | 98%           | 79%                   | 87%                  |
| Tunisia                  | 100%                  | 100%                 | 100%          | 98%           | 98%                   | 98%                  |
| United States            | 71%                   | 78%                  | 99%           | 94%           | 66%                   | 73%                  |
| enchmarking Participants |                       |                      |               |               |                       |                      |
| Basque Region, Spain     | 100%                  | 100%                 | 100%          | 98%           | 97%                   | 98%                  |
| Indiana State, US        | 97%                   | 97%                  | 100%          | 97%           | 94%                   | 94%                  |
| Ontario Province, Can.   | 84%                   | 93%                  | 100%          | 95%           | 80%                   | 89%                  |
| Quebec Province, Can.    | 91%                   | 93%                  | 100%          | 92%           | 84%                   | 85%                  |

## **Exhibit C.2: Participation Rates (Weighted)**

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|                          | School Participation  |                      | Class         | Student       | Overall Participation |                      |
|--------------------------|-----------------------|----------------------|---------------|---------------|-----------------------|----------------------|
| Countries                | Before<br>Replacement | After<br>Replacement | Participation | Participation | Before<br>Replacement | After<br>Replacement |
| Armenia                  | 99%                   | 99%                  | 100%          | 91%           | 90%                   | 90%                  |
| Australia                | 78%                   | 90%                  | 100%          | 94%           | 73%                   | 85%                  |
| Belgium (Flemish)        | 89%                   | 99%                  | 100%          | 98%           | 87%                   | 97%                  |
| Chinese Taipei           | 100%                  | 100%                 | 100%          | 99%           | 99%                   | 99%                  |
| Cyprus                   | 100%                  | 100%                 | 100%          | 97%           | 97%                   | 97%                  |
| England                  | 54%                   | 82%                  | 100%          | 93%           | 50%                   | 76%                  |
| Hong Kong, SAR           | 77%                   | 88%                  | 99%           | 95%           | 73%                   | 83%                  |
| Hungary                  | 98%                   | 99%                  | 100%          | 94%           | 92%                   | 93%                  |
| Iran, Islamic Rep. of    | 100%                  | 100%                 | 100%          | 98%           | 98%                   | 98%                  |
| Italy                    | 97%                   | 100%                 | 100%          | 97%           | 93%                   | 97%                  |
| Japan                    | 100%                  | 100%                 | 100%          | 97%           | 97%                   | 97%                  |
| Latvia                   | 91%                   | 94%                  | 100%          | 94%           | 85%                   | 88%                  |
| Lithuania                | 92%                   | 96%                  | 99%           | 92%           | 84%                   | 87%                  |
| Moldova, Rep. of         | 97%                   | 100%                 | 100%          | 97%           | 94%                   | 97%                  |
| Morocco                  | 87%                   | 87%                  | 100%          | 93%           | 81%                   | 81%                  |
| Netherlands              | 52%                   | 87%                  | 100%          | 96%           | 50%                   | 84%                  |
| New Zealand              | 87%                   | 98%                  | 100%          | 95%           | 82%                   | 93%                  |
| Norway                   | 89%                   | 93%                  | 100%          | 95%           | 85%                   | 88%                  |
| Philippines              | 78%                   | 85%                  | 100%          | 95%           | 75%                   | 81%                  |
| Russian Federation       | 99%                   | 100%                 | 100%          | 97%           | 96%                   | 97%                  |
| Scotland                 | 64%                   | 83%                  | 100%          | 92%           | 59%                   | 77%                  |
| Singapore                | 100%                  | 100%                 | 100%          | 98%           | 98%                   | 98%                  |
| Slovenia                 | 95%                   | 99%                  | 100%          | 92%           | 87%                   | 91%                  |
| Tunisia                  | 100%                  | 100%                 | 100%          | 99%           | 99%                   | 99%                  |
| United States            | 70%                   | 82%                  | 99%           | 95%           | 66%                   | 78%                  |
| Yemen                    | 100%                  | 100%                 | 100%          | 93%           | 93%                   | 93%                  |
| enchmarking Participants |                       |                      |               |               |                       |                      |
| Indiana State, US        | 100%                  | 100%                 | 100%          | 98%           | 98%                   | 98%                  |
| Ontario Province, Can.   | 89%                   | 94%                  | 100%          | 96%           | 85%                   | 90%                  |
| Quebec Province, Can.    | 99%                   | 100%                 | 100%          | 91%           | 90%                   | 91%                  |