

Problème pratique de statistique n° pps072

# Les indicateurs de santé dans les états membres de l'O.M.S.

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## 1 Introduction

A l'occasion du passage à l'an 2000, l'assemblée des Nations Unies s'est fixée les *Objectifs du Millénaire* dont le but final est d'aider tous les gouvernements du monde entier à éléver l'espérance de vie saine de leurs populations. A cette fin, il faut décrire l'état actuel des systèmes de santé afin de déterminer pour chaque pays les actions prioritaires à mener. J'ai choisi un certain d'indicateurs du niveau de santé et des conditions de vie dans les états membres de l'Organisation Mondiale de la Santé (O.M.S.). Je me propose de comparer les systèmes de santé. Dans cette étude, nous confirmerons s'il y a un lien les conditions de vie et les maux s'abattant sur les populations vivant dans certaines régions du globe. Nous essaierons également de voir si la présence importante d'une maladie au sein de la population entraîne nécessairement la présence des autres maladies. Par ailleurs, nous verrons s'il existe des disparités parmi les pays d'un continent. Nous déterminerons comment peuvent être groupés les états dont les systèmes de santé sont similaires.

## 2 Préparation des données

Les données de cette étude proviennent de la section Statistiques du site de l'O.M.S.

<http://www.who.int/fr/>

L'URL de la page sélectionnée est :

urlhttp ://www.who.int/entity/whr/2004/annex/topic/annex7.xls

C'est une page Excel dont le titre est *Millenium Development Goals : selected health indicators in all WHO Member States, 2000 (unless specified)*. Ces données sont une sélection d'indicateurs de santé d'états membres de l'O.M.S. en 2000. L'O.M.S. est un organisme réputé, fiable, présent dans le monde entier. Nous pouvons faire confiance aux chiffres. D'ailleurs, lorsque des chiffres ne sont pas disponibles, cela est signalé. Les variables que j'ai choisies sont :

1. **MalNut** (*Children under five years of age underweight for age %*) le pourcentage d'enfants de moins de cinq ans de poids inférieur à la normale, au seuil de deux écarts-types :

http:

//www.who.int/healthinfo/statistics/indchildrenstunted/en/

2. **MortAv5** (*Under-five mortality rate per 1000 live births*) Mortalité infantile avant 5 ans, effectif pour 1000 naissances d'enfants vivants ;
3. **MortInf** (*Infant mortality rate per 1000 live births*) le taux de mortalité infantile, effectif pour 1000 naissances d'enfants vivants ;
4. **MortMat** (*Maternal mortality ratio per 100 000 live births*) le taux de mortalité maternelle, effectif pour 100 000 naissances d'enfants vivants ;
5. **NaisEnc** (*Births attended by skilled health personnel*) le pourcentage de naissances encadrées par du personnel de santé compétent ;
6. **HIV** (*prevalence among 15-49-year-olds*) la prévalence du SIDA chez les [15,50] ans. Les valeurs notées < 0.1 ont été codées 0 ;
7. **MortMal** (*Malaria-related mortality rates per 100 000*) le taux de mortalité due à la malaria (effectif pour 100 000 habitants) ;
8. **Tuber** (*Tuberculosis prevalence per 100 000*) la prévalence de la tuberculose, effectif pour 100 000 habitants ;
9. **MortTub** (*Tuberculosis mortality rate per 100 000*) le taux de mortalité due à la tuberculose (effectif pour 100 000 habitants) ;
10. **SolFuel** (*Population using solid fuels*) le pourcentage de la population utilisant des combustibles solides (bois, charbon). Les valeurs notées < 5 sont codées 2. Les valeurs codées >95 sont codées 98 ;
11. **WatUrb** (*Population with sustainable access to an improved water source urban %*) le pourcentage de la population urbaine accédant à de l'eau potable ;
12. **WatRur** (*Population with sustainable access to an improved water source rural %*) le pourcentage de la population rurale accédant à de l'eau potable ;
13. **SanUrb** (*Population with access to improved sanitation urban %*) le pourcentage de la population urbaine ayant accès à un système d'assainissement ;
14. **SanRur** (*Population with access to improved sanitation rural %*) le pourcentage de la population rurale ayant accès à un système d'assainissement ;

### 3 Conservation des données

Les noms des lignes du tableau sont obtenues avec la fonction de **R abbreviate**. Les noms originaux sont conservés dans un vecteur. Le tout est placé dans un objet et rendu disponible dans :

http://pbil.univ-lyon1.fr/R/donnees/pps072.rda

Pour s'en servir :

```
load(url("http://pbil.univ-lyon1.fr/R/donnees/pps072.rda"))
names(pps072)
[1] "shi"  "whos"
```

La composante shi (*Selected Health Indicators*) est un data frame à 192 lignes et 14 colonnes et la composante whos (*World Health Organisation States*) est le vecteur des noms à 192 composantes. On pourra réfléchir à la question des données manquantes :

```
apply(is.na(pps072$shi),2,sum)
MalNut MortAv5 MortInf MortMat NaisEnc      HIV MortMal   Tuber MortTub SolFuel
  55         0       0     24     49        0       0       0       0       0
WatUrb  WatRur SanUrb  SanRur
  41       43     47     50
```

Les 192 états sont listés ci-après.

```
library(xtable)
noms <- iconv(pps072$whos, "latin1", "UTF-8")
code <- row.names(pps072$shi)
provi <- cbind.data.frame(code,noms)
xtable(provi[1:48,])
xtable(provi[49:96,])
xtable(provi[97:145,])
xtable(provi[146:192,])
provi <- pps072$shi
names(provi) <- LETTERS[1:14]
f1 <- c(1,0,0,0,1,1,0,0,0,0,0,0,0,0)
xtable(provi[1:48],dig=f1)
xtable(provi[49:96],dig=f1)
xtable(provi[97:145],dig=f1)
xtable(provi[146:192],dig=f1)
```

|    | code  | noms                             |
|----|-------|----------------------------------|
| 1  | Afgh  | Afghanistan                      |
| 2  | Albn  | Albania                          |
| 3  | Algr  | Algeria                          |
| 4  | Andr  | Andorra                          |
| 5  | Angl  | Angola                           |
| 6  | AnaB  | Antigua and Barbuda              |
| 7  | Argn  | Argentina                        |
| 8  | Armn  | Armenia                          |
| 9  | Astrl | Australia                        |
| 10 | Austr | Austria                          |
| 11 | Azrb  | Azerbaijan                       |
| 12 | Bhms  | Bahamas                          |
| 13 | Bhrn  | Bahrain                          |
| 14 | Bngl  | Bangladesh                       |
| 15 | Brbd  | Barbados                         |
| 16 | Blrs  | Belarus                          |
| 17 | Blgm  | Belgium                          |
| 18 | Belz  | Belize                           |
| 19 | Benn  | Benin                            |
| 20 | Bhtn  | Bhutan                           |
| 21 | Bolv  | Bolivia                          |
| 22 | BsaH  | Bosnia and Herzegovina           |
| 23 | Btsw  | Botswana                         |
| 24 | Brzl  | Brazil                           |
| 25 | BrnD  | Brunei Darussalam                |
| 26 | Blgr  | Bulgaria                         |
| 27 | BrkF  | Burkina Faso                     |
| 28 | Brnd  | Burundi                          |
| 29 | Cmbd  | Cambodia                         |
| 30 | Cmrn  | Cameroon                         |
| 31 | Cand  | Canada                           |
| 32 | CpVr  | Cape Verde                       |
| 33 | CnAR  | Central African Republic         |
| 34 | Chad  | Chad                             |
| 35 | Chil  | Chile                            |
| 36 | Chin  | China                            |
| 37 | Clmb  | Colombia                         |
| 38 | Cmrs  | Comoros                          |
| 39 | Cong  | Congo                            |
| 40 | CkIs  | Cook Islands                     |
| 41 | CstR  | Costa Rica                       |
| 42 | CodI  | Côte d'Ivoire                    |
| 43 | Crot  | Croatia                          |
| 44 | Cuba  | Cuba                             |
| 45 | Cypr  | Cyprus                           |
| 46 | CzcR  | Czech Republic                   |
| 47 | DPRoK | Dem. People's Republic of Korea  |
| 48 | DRotC | Democratic Republic of the Congo |

|    | code | noms                             |
|----|------|----------------------------------|
| 49 | Dnmr | Denmark                          |
| 50 | Djbt | Djibouti                         |
| 51 | Dmnc | Dominica                         |
| 52 | DmnR | Dominican Republic               |
| 53 | Ecdr | Ecuador                          |
| 54 | Egyp | Egypt                            |
| 55 | ElSl | El Salvador                      |
| 56 | EqtG | Equatorial Guinea                |
| 57 | Ertr | Eritrea                          |
| 58 | Estn | Estonia                          |
| 59 | Ethp | Ethiopia                         |
| 60 | Fiji | Fiji                             |
| 61 | Fnlm | Finland                          |
| 62 | Frnc | France                           |
| 63 | Gabn | Gabon                            |
| 64 | Gamb | Gambia                           |
| 65 | Gerg | Georgia                          |
| 66 | Grmn | Germany                          |
| 67 | Ghan | Ghana                            |
| 68 | Grec | Greece                           |
| 69 | Grnd | Grenada                          |
| 70 | Gtml | Guatemala                        |
| 71 | Guin | Guinea                           |
| 72 | Gn-B | Guinea-Bissau                    |
| 73 | Guyn | Guyana                           |
| 74 | Hait | Haiti                            |
| 75 | Hndr | Honduras                         |
| 76 | Hngr | Hungary                          |
| 77 | Icln | Iceland                          |
| 78 | Indi | India                            |
| 79 | Indn | Indonesia                        |
| 80 | IIRo | Iran, Islamic Republic of        |
| 81 | Iraq | Iraq                             |
| 82 | Irln | Ireland                          |
| 83 | Isrl | Israel                           |
| 84 | Itly | Italy                            |
| 85 | Jamc | Jamaica                          |
| 86 | Japn | Japan                            |
| 87 | Jrdn | Jordan                           |
| 88 | Kzkh | Kazakhstan                       |
| 89 | Keny | Kenya                            |
| 90 | Krbt | Kiribati                         |
| 91 | Kuwt | Kuwait                           |
| 92 | Kyrg | Kyrgyzstan                       |
| 93 | LPDR | Lao People's Democratic Republic |
| 94 | Latv | Latvia                           |
| 95 | Lbnn | Lebanon                          |
| 96 | Lsth | Lesotho                          |

|     | code   | noms                             |
|-----|--------|----------------------------------|
| 97  | Libr   | Liberia                          |
| 98  | LbAJ   | Libyan Arab Jamahiriya           |
| 99  | Lthn   | Lithuania                        |
| 100 | Lxmb   | Luxembourg                       |
| 101 | Mdgs   | Madagascar                       |
| 102 | Malw   | Malawi                           |
| 103 | Mlys   | Malaysia                         |
| 104 | Mldv   | Maldives                         |
| 105 | Mali   | Mali                             |
| 106 | Malt   | Malta                            |
| 107 | MrsI   | Marshall Islands                 |
| 108 | Mrtn   | Mauritania                       |
| 109 | Mrts   | Mauritius                        |
| 110 | Mexc   | Mexico                           |
| 111 | MFSO   | Micronesia, Federated States of  |
| 112 | Monc   | Monaco                           |
| 113 | Mngl   | Mongolia                         |
| 114 | Mrcc   | Morocco                          |
| 115 | Mzmb   | Mozambique                       |
| 116 | Mynm   | Myanmar                          |
| 117 | Namb   | Namibia                          |
| 118 | Naur   | Nauru                            |
| 119 | Nepl   | Nepal                            |
| 120 | Nthr   | Netherlands                      |
| 121 | NwZl   | New Zealand                      |
| 122 | Ncrg   | Nicaragua                        |
| 123 | Niger  | Niger                            |
| 124 | Nigeri | Nigeria                          |
| 125 | Niue   | Niue                             |
| 126 | Nrwy   | Norway                           |
| 127 | Oman   | Oman                             |
| 128 | Pkst   | Pakistan                         |
| 129 | Pala   | Palau                            |
| 130 | Panm   | Panama                           |
| 131 | PpNG   | Papua New Guinea                 |
| 132 | Prgy   | Paraguay                         |
| 133 | Peru   | Peru                             |
| 134 | Phlp   | Philippines                      |
| 135 | Plnd   | Poland                           |
| 136 | Prtg   | Portugal                         |
| 137 | Qatr   | Qatar                            |
| 138 | RpoK   | Republic of Korea                |
| 139 | RpoM   | Republic of Moldova              |
| 140 | Romn   | Romania                          |
| 141 | Rssf   | Russian Federation               |
| 142 | Rwnd   | Rwanda                           |
| 143 | SKaN   | Saint Kitts and Nevis            |
| 144 | SntL   | Saint Lucia                      |
| 145 | SVatG  | Saint Vincent and the Grenadines |

|     | code   | noms                                      |
|-----|--------|---|
| 146 | Samo   | Samoa                                     |
| 147 | SnMr   | San Marino                                |
| 148 | STaP   | Sao Tome and Principe                     |
| 149 | SdAr   | Saudi Arabia                              |
| 150 | Sngl   | Senegal                                   |
| 151 | SraM   | Serbia and Montenegro                     |
| 152 | Sych   | Seychelles                                |
| 153 | SrrL   | Sierra Leone                              |
| 154 | Sngp   | Singapore                                 |
| 155 | Slvk   | Slovakia                                  |
| 156 | Slvn   | Slovenia                                  |
| 157 | SlmI   | Solomon Islands                           |
| 158 | Soml   | Somalia                                   |
| 159 | SthA   | South Africa                              |
| 160 | Span   | Spain                                     |
| 161 | SrLn   | Sri Lanka                                 |
| 162 | Sudn   | Sudan                                     |
| 163 | Srnm   | Suriname                                  |
| 164 | Swzl   | Swaziland                                 |
| 165 | Swdn   | Sweden                                    |
| 166 | Swtz   | Switzerland                               |
| 167 | SyAR   | Syrian Arab Republic                      |
| 168 | Tjks   | Tajikistan                                |
| 169 | Thln   | Thailand                                  |
| 170 | TfYRoM | The former Yugoslav Republic of Macedonia |
| 171 | Tm-L   | Timor-Leste                               |
| 172 | Togo   | Togo                                      |
| 173 | Tong   | Tonga                                     |
| 174 | TraT   | Trinidad and Tobago                       |
| 175 | Tuns   | Tunisia                                   |
| 176 | Trky   | Turkey                                    |
| 177 | Trkm   | Turkmenistan                              |
| 178 | Tuvl   | Tuvalu                                    |
| 179 | Ugnd   | Uganda                                    |
| 180 | Ukrn   | Ukraine                                   |
| 181 | UnAE   | United Arab Emirates                      |
| 182 | UntK   | United Kingdom                            |
| 183 | URoT   | United Republic of Tanzania               |
| 184 | USoA   | United States of America                  |
| 185 | Urgy   | Uruguay                                   |
| 186 | Uzbk   | Uzbekistan                                |
| 187 | Vant   | Vanuatu                                   |
| 188 | VBRo   | Venezuela, Bolivarian Republic of         |
| 189 | VtNm   | Viet Nam                                  |
| 190 | Yemn   | Yemen                                     |
| 191 | Zamb   | Zambia                                    |
| 192 | Zmbb   | Zimbabwe                                  |

|       | A  | B   | C   | D      | E     | F  | G   | H   | I  | J  | K   | L   | M   | N   |
|-------|----|-----|-----|--------|-------|----|-----|-----|----|----|-----|-----|-----|-----|
| Afgh  | 49 | 257 | 189 | 1900.0 |       | 0  | 10  | 708 | 96 | 99 | 19  | 11  | 25  | 8   |
| Albn  | 14 | 27  | 23  | 55.0   | 99.1  | 0  | 0   | 30  | 3  | 76 | 99  | 95  | 99  | 85  |
| Algr  | 6  | 51  | 42  | 140.0  | 92.0  | 0  | 23  | 48  | 2  | 2  | 94  | 82  | 99  | 81  |
| Andr  |    | 5   | 4   |        |       | 1  | 0   | 20  | 1  | 2  | 100 | 100 | 100 | 100 |
| Angl  | 30 | 262 | 153 | 1700.0 | 22.5  | 2  | 383 | 577 | 64 | 98 | 34  | 40  | 70  | 30  |
| AnaB  |    | 20  | 16  |        | 100.0 | 1  | 0   | 9   | 1  | 2  | 95  | 89  | 98  | 94  |
| Argn  | 5  | 19  | 17  | 70.0   | 97.5  | 1  | 0   | 68  | 2  | 2  | 85  | 30  | 89  | 48  |
| Armn  | 3  | 37  | 31  | 55.0   | 96.9  | 0  | 0   | 94  | 6  | 66 |     |     |     |     |
| Astrl | 0  | 6   | 5   | 6.0    | 100.0 | 0  | 0   | 6   | 0  | 2  | 100 | 100 | 100 | 100 |
| Austr |    | 6   | 5   | 5.0    |       | 0  | 0   | 9   | 1  | 2  | 100 | 100 | 100 | 100 |
| Azrb  | 17 | 75  | 61  | 94.0   | 87.5  | 0  | 0   | 112 | 10 | 37 | 93  | 58  | 90  | 70  |
| Bhms  |    | 18  | 15  | 60.0   | 99.0  | 4  | 0   | 50  | 3  | 2  | 98  | 86  | 100 | 100 |
| Bhrn  | 9  | 13  | 10  | 33.0   | 98.4  | 0  | 0   | 38  | 2  | 2  | 100 |     | 100 |     |
| Bngl  | 48 | 82  | 63  | 380.0  | 12.1  | 0  | 9   | 479 | 55 | 99 | 99  | 97  | 71  | 41  |
| Brbd  | 6  | 19  | 17  | 95.0   | 91.0  | 1  | 0   | 20  | 0  | 57 | 100 | 100 | 100 | 100 |
| Blrs  |    | 14  | 10  | 36.0   |       | 0  | 0   | 114 | 8  | 11 | 100 | 100 |     |     |
| Blgm  |    | 6   | 5   | 10.0   |       | 0  | 0   | 15  | 1  | 2  |     |     |     |     |
| Belz  | 6  | 41  | 33  | 140.0  | 76.9  | 2  | 0   | 72  | 14 | 2  | 100 | 82  | 71  | 25  |
| Benn  | 23 | 161 | 96  | 850.0  | 59.8  | 2  | 190 | 122 | 10 | 89 | 74  | 55  | 46  | 6   |
| Bhtn  | 19 | 98  | 75  | 420.0  | 15.0  | 0  | 12  | 223 | 19 | 2  | 86  | 60  | 65  | 70  |
| Bolv  | 10 | 80  | 63  | 420.0  | 59.3  | 0  | 0   | 322 | 36 | 61 | 95  | 64  | 86  | 42  |
| BsaH  | 4  | 18  | 15  | 31.0   | 99.5  | 0  | 0   | 76  | 6  | 74 |     |     |     |     |
| Btsw  | 12 | 93  | 60  | 100.0  | 98.5  | 38 | 8   | 288 | 28 | 65 | 100 | 90  | 88  | 43  |
| Brzl  | 6  | 41  | 37  | 260.0  | 87.6  | 1  | 0   | 103 | 8  | 27 | 95  | 53  | 84  | 43  |
| BrnD  |    | 14  | 11  | 37.0   | 99.0  | 0  | 0   | 39  | 3  | 70 |     |     |     |     |
| Blgr  |    | 16  | 14  | 32.0   |       | 0  | 0   | 67  | 4  | 31 | 100 | 100 | 100 | 100 |
| BrkF  | 34 | 225 | 117 | 1000.0 | 31.0  | 4  | 223 | 269 | 30 | 99 | 66  | 37  | 39  | 27  |
| Brnd  | 45 | 190 | 116 | 1000.0 | 24.9  | 6  | 149 | 445 | 50 | 98 | 91  | 77  | 68  | 90  |
| Cmbd  | 45 | 134 | 106 | 450.0  | 31.8  | 3  | 24  | 743 | 91 | 98 | 54  | 26  | 56  | 10  |
| Cmrn  | 22 | 155 | 91  | 730.0  | 56.1  | 7  | 116 | 232 | 25 | 77 | 78  | 39  | 92  | 66  |
| Cand  |    | 6   | 5   | 5.0    | 98.0  | 0  | 0   | 5   | 1  | 2  | 100 | 99  | 100 | 99  |
| CpVr  | 14 | 40  | 32  | 150.0  | 53.2  | 0  | 20  | 402 | 44 | 2  | 64  | 89  | 95  | 32  |
| CnAR  | 24 | 179 | 120 | 1100.0 | 44.0  | 13 | 132 | 461 | 51 | 99 | 89  | 57  | 38  | 16  |
| Chad  | 28 | 193 | 112 | 1100.0 | 16.2  | 5  | 232 | 370 | 41 | 95 | 31  | 26  | 81  | 13  |
| Chil  | 1  | 16  | 14  | 30.0   | 100.0 | 0  | 0   | 23  | 4  | 15 | 99  | 58  | 96  | 97  |
| Chin  | 10 | 37  | 31  | 56.0   | 89.3  | 0  | 0   | 250 | 21 | 80 | 94  | 66  | 68  | 26  |
| Clmb  | 7  | 24  | 22  | 130.0  | 86.4  | 0  | 1   | 62  | 6  | 36 | 99  | 70  | 96  | 56  |
| Cmrs  | 25 | 82  | 65  | 480.0  | 61.8  | 0  | 65  | 125 | 9  | 2  | 98  | 95  | 98  | 98  |
| Cong  | 24 | 106 | 68  | 510.0  |       | 6  | 54  | 322 | 36 | 67 | 71  | 17  | 14  |     |
| CkIs  |    | 23  | 18  |        | 100.0 | 0  | 0   | 56  | 6  | 2  | 100 | 100 | 100 | 100 |
| CstR  | 5  | 11  | 10  | 25.0   | 98.2  | 1  | 0   | 16  | 2  | 58 | 99  | 92  | 89  | 97  |
| CodII | 21 | 167 | 112 | 690.0  | 46.9  | 10 | 118 | 520 | 57 | 93 | 92  | 72  | 71  | 35  |
| Crot  | 1  | 8   | 7   | 10.0   |       | 0  | 0   | 73  | 4  | 16 |     |     |     |     |
| Cuba  | 4  | 9   | 7   | 33.0   | 100.0 | 0  | 0   | 16  | 1  | 42 | 95  | 77  | 99  | 95  |
| Cypr  |    | 8   | 7   | 47.0   |       | 0  | 0   | 8   | 1  | 24 | 100 | 100 | 100 | 100 |
| CzcR  | 1  | 5   | 4   | 9.0    |       | 0  | 0   | 13  | 1  | 2  |     |     |     |     |
| DPRoK | 28 | 55  | 43  | 67.0   |       | 0  | 0   | 346 | 31 | 68 | 100 | 100 | 99  | 100 |
| DRotC | 31 | 212 | 127 | 990.0  | 69.7  | 4  | 452 | 511 | 57 | 98 | 89  | 26  | 54  | 6   |

|      | A  | B   | C   | D      | E     | F  | G   | H   | I  | J  | K   | L   | M   | N   |
|------|----|-----|-----|--------|-------|----|-----|-----|----|----|-----|-----|-----|-----|
| Dnmr |    | 6   | 5   | 7.0    |       | 0  | 0   | 12  | 1  | 2  | 100 | 100 |     |     |
| Djbt | 18 | 150 | 94  | 730.0  |       | 5  | 114 | 534 | 61 | 6  | 100 | 100 | 99  | 50  |
| Dmnc |    | 14  | 11  |        | 100.0 | 0  | 0   | 26  | 5  | 2  | 100 | 90  | 86  | 75  |
| DmnR | 5  | 37  | 31  | 150.0  | 95.5  | 2  | 0   | 149 | 19 | 48 | 90  | 78  | 70  | 60  |
| Ecdr | 14 | 36  | 26  | 130.0  | 68.7  | 0  | 1   | 239 | 32 | 28 | 90  | 75  | 92  | 74  |
| Egyp | 11 | 45  | 38  | 84.0   | 60.9  | 0  | 8   | 42  | 4  | 23 | 99  | 96  | 100 | 96  |
| ElSl | 10 | 37  | 28  | 150.0  | 58.0  | 1  | 0   | 91  | 10 | 65 | 91  | 64  | 89  | 76  |
| EqtG |    | 156 | 97  | 880.0  |       | 9  | 165 | 350 | 40 | 83 | 45  | 42  | 60  | 46  |
| Ertr | 44 | 112 | 65  | 630.0  | 20.6  | 3  | 68  | 361 | 44 | 99 | 63  | 42  | 66  | 1   |
| Estn |    | 11  | 9   | 38.0   |       | 1  | 0   | 61  | 8  | 34 |     |     | 93  |     |
| Ethp | 47 | 179 | 114 | 850.0  | 9.7   | 5  | 80  | 440 | 52 | 99 | 81  | 12  | 33  | 7   |
| Fiji | 8  | 28  | 22  | 75.0   |       | 0  | 0   | 49  | 6  | 2  | 43  | 51  | 75  | 12  |
| Fnlm |    | 4   | 4   | 5.0    |       | 0  | 0   | 16  | 3  | 2  | 100 | 100 | 100 | 100 |
| Frnc |    | 6   | 5   | 17.0   |       | 0  | 0   | 16  | 2  | 2  |     |     |     |     |
| Gabn | 12 | 91  | 64  | 420.0  | 85.5  | 5  | 74  | 444 | 49 | 34 | 95  | 47  | 55  | 43  |
| Gamb | 17 | 128 | 81  | 540.0  | 51.0  | 1  | 58  | 499 | 55 | 99 | 80  | 53  | 41  | 35  |
| Gerg | 3  | 23  | 21  | 32.0   | 96.4  | 0  | 0   | 93  | 13 | 71 | 90  | 61  | 100 | 99  |
| Grmn |    | 5   | 4   | 9.0    |       | 0  | 0   | 10  | 1  | 2  |     |     |     |     |
| Ghan | 25 | 105 | 62  | 540.0  | 44.3  | 3  | 66  | 381 | 42 | 95 | 91  | 62  | 74  | 70  |
| Grec |    | 7   | 6   | 10.0   |       | 0  | 0   | 24  | 1  | 2  |     |     |     |     |
| Grnd |    | 23  | 17  |        | 100.0 | 1  | 0   | 8   | 0  | 2  | 97  | 93  | 96  | 97  |
| Gtml | 24 | 56  | 45  | 240.0  | 40.6  | 1  | 1   | 113 | 13 | 73 | 98  | 88  | 83  | 79  |
| Guin | 23 | 163 | 94  | 740.0  | 34.8  | 2  | 206 | 344 | 38 | 99 | 72  | 36  | 94  | 41  |
| Gn-B | 25 | 215 | 128 | 1100.0 | 34.7  | 3  | 139 | 281 | 33 | 95 | 79  | 49  | 95  | 44  |
| Guyn | 14 | 58  | 45  | 170.0  | 95.0  | 3  | 5   | 141 | 7  | 2  | 98  | 91  | 97  | 81  |
| Hait | 17 | 136 | 92  | 680.0  | 24.2  | 6  | 2   | 444 | 58 | 82 | 49  | 45  | 50  | 16  |
| Hndr | 17 | 44  | 35  | 110.0  | 62.0  | 1  | 2   | 120 | 11 | 66 | 95  | 81  | 93  | 55  |
| Hngr | 2  | 11  | 9   | 11.0   |       | 0  | 0   | 33  | 4  | 26 | 100 | 98  | 100 | 98  |
| Icln |    | 3   | 3   | 0.0    |       | 0  | 0   | 4   | 1  | 2  |     |     |     |     |
| Indi | 47 | 96  | 77  | 540.0  | 42.3  | 1  | 3   | 431 | 41 | 81 | 95  | 79  | 61  | 15  |
| Indn | 27 | 50  | 39  | 230.0  | 55.8  | 0  | 4   | 742 | 67 | 50 | 90  | 69  | 69  | 46  |
| IIRo | 11 | 45  | 36  | 76.0   |       | 0  | 1   | 39  | 4  | 1  | 98  | 83  | 86  | 79  |
| Iraq | 16 | 118 | 93  | 250.0  |       | 0  | 11  | 216 | 30 | 1  | 96  | 48  | 93  | 31  |
| Irln |    | 7   | 6   | 4.0    |       | 0  | 0   | 15  | 1  | 2  |     |     |     |     |
| Isrl |    | 7   | 5   | 13.0   |       | 0  | 0   | 10  | 2  | 2  |     |     |     |     |
| Itly | 2  | 6   | 5   | 5.0    |       | 0  | 0   | 7   | 1  | 2  |     |     |     |     |
| Jamc | 4  | 16  | 13  | 87.0   | 94.6  | 1  | 0   | 9   | 1  | 47 | 98  | 85  | 99  | 99  |
| Japn | 4  | 5   | 3   | 10.0   | 100.0 | 0  | 0   | 46  | 4  | 2  |     |     |     |     |
| Jrdn | 5  | 28  | 25  | 41.0   | 96.7  | 0  | 0   | 7   | 1  | 10 | 100 | 84  | 100 | 98  |
| Kzkh | 4  | 36  | 33  | 210.0  | 99.1  | 0  | 0   | 153 | 21 | 51 | 98  | 82  | 100 | 98  |
| Keny | 21 | 113 | 79  | 1000.0 | 44.3  | 12 | 67  | 462 | 49 | 85 | 88  | 42  | 96  | 82  |
| Krbt | 13 | 77  | 54  |        | 85.0  | 0  | 1   | 90  | 7  | 2  | 82  | 25  | 54  | 44  |
| Kuwt | 10 | 11  | 9   | 12.0   | 98.2  | 0  | 0   | 28  | 1  | 2  |     |     |     |     |
| Kyrg | 11 | 63  | 52  | 110.0  | 98.1  | 0  | 0   | 156 | 20 | 99 | 98  | 66  | 100 | 100 |
| LPDR | 40 | 143 | 107 | 650.0  | 21.4  | 0  | 22  | 373 | 29 | 95 | 61  | 29  | 67  | 19  |
| Latv |    | 14  | 12  | 61.0   | 100.0 | 0  | 0   | 85  | 13 | 19 |     |     |     |     |
| Lbnn | 3  | 34  | 27  | 150.0  | 88.0  | 0  | 0   | 17  | 2  | 2  | 100 | 100 | 100 | 87  |
| Lsth | 18 | 149 | 94  | 550.0  | 59.7  | 30 | 65  | 310 | 36 | 85 | 88  | 74  | 72  | 40  |

|        | A  | B   | C    | D      | E     | F  | G   | H   | I   | J  | K   | L   | M   | N   |
|--------|----|-----|------|--------|-------|----|-----|-----|-----|----|-----|-----|-----|-----|
| Libr   | 26 | 232 | 136  | 760.0  |       | 5  | 164 | 485 | 55  | 83 |     |     |     |     |
| LbAJ   | 5  | 20  | 16   | 97.0   | 94.4  | 0  | 0   | 22  | 2   | 1  | 72  | 68  | 97  | 96  |
| Lthn   | 11 | 9   | 19.0 |        |       | 0  | 0   | 107 | 11  | 42 |     |     |     |     |
| Lxmb   | 5  | 4   | 28.0 |        |       | 0  | 0   | 12  | 1   | 2  |     |     |     |     |
| Mdgs   | 40 | 139 | 89   | 550.0  | 47.3  | 0  | 137 | 471 | 54  | 99 | 85  | 31  | 70  | 30  |
| Malw   | 25 | 197 | 117  | 1800.0 | 55.6  | 16 | 212 | 439 | 49  | 99 | 95  | 44  | 96  | 70  |
| Mlys   | 20 | 10  | 8    | 41.0   | 96.2  | 0  | 0   | 128 | 15  | 29 |     | 94  |     | 98  |
| Mldv   | 45 | 50  | 37   | 110.0  |       |    | 0   | 5   | 68  | 5  | 2   | 100 | 100 | 41  |
| Mali   | 33 | 233 | 131  | 1200.0 | 23.7  | 2  | 260 | 661 | 73  | 98 | 74  | 61  | 93  | 58  |
| Malt   | 7  | 6   |      |        |       | 0  | 0   | 7   | 1   | 2  | 100 | 100 | 100 | 100 |
| MrsI   | 44 | 32  |      |        | 94.9  | 0  | 2   | 113 | 13  | 2  |     |     |     |     |
| Mrtn   | 32 | 173 | 105  | 1000.0 | 40.0  | 0  | 103 | 498 | 55  | 69 | 34  | 40  | 44  | 19  |
| Mrts   | 15 | 18  | 16   | 24.0   |       |    | 0   | 0   | 135 | 1  | 75  | 100 | 100 | 99  |
| Mexc   | 8  | 29  | 25   | 83.0   | 85.7  | 0  | 0   | 49  | 4   | 22 | 95  | 69  | 88  | 34  |
| MFSO   | 60 | 47  |      |        | 92.8  | 0  | 1   | 116 | 13  | 2  |     |     |     |     |
| Monc   | 5  | 4   |      |        |       | 0  | 0   | 3   | 0   | 2  | 100 | 100 | 100 | 100 |
| Mngl   | 13 | 79  | 57   | 110.0  | 96.6  | 0  | 0   | 305 | 38  | 67 | 77  | 30  | 46  | 2   |
| Mrcc   | 10 | 46  | 38   | 220.0  | 39.6  | 0  | 2   | 104 | 11  | 11 | 98  | 56  | 86  | 44  |
| Mzmb   | 26 | 206 | 146  | 1000.0 | 44.2  | 12 | 263 | 473 | 52  | 87 | 81  | 41  | 68  | 26  |
| Mynm   | 35 | 108 | 83   | 360.0  | 56.4  | 1  | 15  | 255 | 33  | 98 | 89  | 66  | 84  | 57  |
| Namb   | 24 | 85  | 56   | 300.0  | 75.7  | 21 | 39  | 411 | 45  | 83 | 100 | 67  | 96  | 17  |
| Naur   | 16 | 11  |      |        |       | 0  | 0   | 52  | 4   | 2  |     |     |     |     |
| Nepl   | 48 | 95  | 72   | 740.0  | 11.9  | 0  | 20  | 299 | 27  | 99 | 94  | 87  | 73  | 22  |
| Nthr   | 1  | 6   | 5    | 16.0   | 99.9  | 0  | 0   | 7   | 1   | 2  | 100 | 100 | 100 | 100 |
| NwZl   | 8  | 6   | 7.0  | 100.0  |       | 0  | 0   | 8   | 1   | 2  | 100 |     |     |     |
| Ncrg   | 10 | 38  | 32   | 230.0  | 64.6  | 0  | 1   | 96  | 10  | 72 | 91  | 59  | 95  | 72  |
| Niger  | 40 | 255 | 122  | 1600.0 | 15.7  | 2  | 329 | 330 | 37  | 99 | 70  | 56  | 79  | 5   |
| Nigeri | 31 | 183 | 103  | 800.0  | 41.6  | 6  | 209 | 491 | 54  | 67 | 78  | 49  | 66  | 45  |
| Niue   | 28 | 22  |      |        | 100.0 | 0  | 0   | 67  | 7   | 2  | 100 | 100 | 100 | 100 |
| Nrwy   | 5  | 4   | 10.0 |        |       | 0  | 0   | 8   | 1   | 2  | 100 | 100 |     |     |
| Oman   | 18 | 18  | 15   | 87.0   | 91.0  | 0  | 1   | 13  | 1   | 2  | 41  | 30  | 98  | 61  |
| Pkst   | 37 | 110 | 86   | 500.0  | 20.0  | 0  | 9   | 415 | 48  | 76 | 95  | 87  | 95  | 43  |
| Pala   | 24 | 20  |      |        | 100.0 | 0  | 0   | 180 | 13  | 2  | 100 | 20  | 100 | 100 |
| Panm   | 8  | 25  | 19   | 160.0  | 90.0  | 1  | 0   | 65  | 6   | 37 | 99  | 79  | 99  | 83  |
| PpNG   | 30 | 99  | 75   | 300.0  | 53.2  | 0  | 17  | 648 | 57  | 99 | 88  | 32  | 92  | 80  |
| Prgy   | 4  | 33  | 26   | 170.0  | 58.1  | 0  | 0   | 112 | 13  | 64 | 93  | 59  | 94  | 93  |
| Peru   | 7  | 42  | 32   | 410.0  | 56.4  | 0  | 0   | 275 | 26  | 40 | 87  | 62  | 79  | 49  |
| Phlp   | 32 | 40  | 28   | 200.0  | 56.4  | 0  | 1   | 582 | 61  | 85 | 91  | 79  | 93  | 69  |
| Plnd   | 9  | 8   | 10.0 |        |       | 0  | 0   | 55  | 3   | 37 |     |     |     |     |
| Prtg   | 7  | 6   | 8.0  | 99.7   |       | 0  | 0   | 41  | 4   | 2  |     |     |     |     |
| Qatr   | 6  | 15  | 14   | 7.0    |       | 0  | 0   | 69  | 6   | 2  |     |     |     |     |
| RpoK   | 7  | 5   | 20.0 | 100.0  | 0     | 0  | 140 | 10  | 2   | 97 | 71  | 76  | 4   |     |
| RpoM   | 29 | 24  | 36.0 | 99.1   | 0     | 0  | 213 | 17  | 72  | 97 | 88  | 100 | 98  |     |
| Romn   | 6  | 22  | 19   | 58.0   | 97.9  | 0  | 0   | 189 | 10  | 45 | 91  | 16  | 86  | 10  |
| RssF   | 19 | 16  | 65.0 |        |       | 1  | 0   | 170 | 21  | 7  | 100 | 96  |     |     |
| Rwnd   | 24 | 182 | 111  | 1400.0 | 30.8  | 7  | 186 | 500 | 55  | 98 | 60  | 40  | 12  | 8   |
| SKaN   | 22 | 18  |      |        | 100.0 | 0  | 0   | 23  | 4   | 2  |     |     |     |     |
| SntL   | 14 | 14  | 12   |        | 100.0 | 0  | 0   | 30  | 4   | 2  |     |     |     |     |
| SVatG  | 23 | 19  |      |        | 100.0 | 2  | 0   | 42  | 1   | 2  |     |     |     |     |

|        | A  | B   | C    | D      | E     | F  | G   | H   | I   | J   | K   | L   | M   | N   |
|--------|----|-----|------|--------|-------|----|-----|-----|-----|-----|-----|-----|-----|-----|
| Samo   | 26 | 20  |      | 100.0  | 0     | 1  | 42  | 5   | 2   | 95  | 100 | 95  | 100 |     |
| SnMr   | 5  | 5   |      |        | 0     | 0  | 7   | 0   | 2   |     |     |     |     |     |
| STaP   | 13 | 90  | 59   |        | 86.0  | 0  | 57  | 299 | 33  | 2   |     |     |     |     |
| SdAr   | 29 | 24  | 23.0 | 91.4   | 0     | 4  | 61  | 5   | 2   | 100 | 64  | 100 | 100 |     |
| Sngl   | 23 | 138 | 73   | 690.0  | 50.5  | 1  | 71  | 416 | 46  | 79  | 92  | 65  | 94  | 48  |
| SraM   |    | 15  | 13   | 9.0    |       | 0  | 0   | 65  | 4   | 70  | 99  | 97  | 100 | 99  |
| Sych   | 6  | 14  | 11   |        |       | 0  | 3   | 60  | 1   | 2   |     |     |     |     |
| SrrL   | 27 | 316 | 181  | 2000.0 | 41.7  | 2  | 321 | 573 | 63  | 92  | 75  | 46  | 88  | 53  |
| Sngp   | 3  | 4   | 3    | 15.0   | 100.0 | 0  | 0   | 28  | 3   | 2   | 100 |     | 100 |     |
| Slvk   | 10 | 8   | 10.0 |        | 0     | 0  | 34  | 1   | 24  | 100 | 100 | 100 | 100 |     |
| Slvn   | 6  | 5   | 17.0 |        | 0     | 0  | 23  | 1   | 2   | 100 | 100 |     |     |     |
| SlmI   | 21 | 81  | 65   | 130.0  | 85.0  | 0  | 1   | 111 | 13  | 2   | 94  | 65  | 98  | 18  |
| Soml   | 26 | 219 | 130  | 1100.0 | 34.2  | 1  | 82  | 747 | 115 | 2   |     |     |     |     |
| SthA   | 9  | 71  | 49   | 230.0  | 84.4  | 20 | 0   | 483 | 46  | 28  | 99  | 73  | 93  | 80  |
| Span   |    | 6   | 4    | 5.0    |       | 0  | 0   | 33  | 1   | 2   |     |     |     |     |
| SrLn   | 33 | 20  | 16   | 92.0   | 94.1  | 0  | 6   | 97  | 9   | 89  | 98  | 70  | 97  | 93  |
| Sudn   | 41 | 110 | 71   | 590.0  | 86.3  | 3  | 70  | 363 | 53  | 2   | 86  | 69  | 87  | 48  |
| Srnm   | 13 | 31  | 24   | 110.0  | 84.5  | 1  | 2   | 111 | 13  | 69  | 93  | 50  | 99  | 75  |
| Swzl   | 10 | 135 | 86   | 370.0  | 55.4  | 31 | 0   | 856 | 92  | 88  |     |     |     |     |
| Swdn   |    | 4   | 3    | 8.0    |       | 0  | 0   | 5   | 1   | 2   | 100 | 100 | 100 | 100 |
| Swtz   |    | 6   | 5    | 7.0    |       | 0  | 0   | 9   | 1   | 2   | 100 | 100 | 100 | 100 |
| SyAR   | 7  | 27  | 24   | 160.0  | 76.0  | 0  | 0   | 60  | 5   | 19  | 94  | 64  | 98  | 81  |
| Tjks   |    | 63  | 51   | 100.0  | 76.8  | 0  | 1   | 163 | 19  | 98  | 93  | 47  | 97  | 88  |
| Thln   | 18 | 31  | 27   | 44.0   | 85.0  | 2  | 7   | 225 | 18  | 72  | 95  | 81  | 96  | 96  |
| TfYRoM | 6  | 19  | 16   | 13.0   |       | 0  | 0   | 68  | 5   | 58  |     |     |     |     |
| Tm-L   | 43 | 126 | 88   |        |       | 0  | 4   | 798 | 101 | 99  |     |     |     |     |
| Togo   | 25 | 141 | 83   | 570.0  | 50.5  | 5  | 46  | 661 | 63  | 99  | 85  | 38  | 69  | 17  |
| Tong   |    | 21  | 17   |        | 92.1  | 0  | 1   | 43  | 4   | 2   | 100 | 100 |     |     |
| TraT   | 6  | 21  | 18   | 110.0  | 99.0  | 3  | 0   | 26  | 3   | 2   |     |     |     |     |
| Tuns   | 4  | 30  | 24   | 120.0  | 89.9  | 0  | 0   | 28  | 2   | 29  | 92  | 58  | 96  | 62  |
| Trky   | 8  | 44  | 36   | 70.0   | 80.6  | 0  | 0   | 55  | 6   | 11  | 81  | 86  | 97  | 70  |
| Trkm   | 12 | 59  | 51   | 31.0   | 97.2  | 0  | 0   | 169 | 13  | 50  |     |     |     |     |
| Tuvl   |    | 65  | 49   |        | 99.0  | 0  | 0   | 67  | 6   | 2   | 100 | 100 | 100 | 100 |
| Ugnd   | 23 | 147 | 89   | 880.0  | 37.8  | 6  | 151 | 544 | 61  | 99  | 80  | 47  | 93  | 77  |
| Ukrn   | 3  | 21  | 16   | 38.0   | 99.0  | 1  | 0   | 118 | 10  | 56  | 100 | 94  | 100 | 98  |
| UnAE   |    | 10  | 8    | 54.0   | 99.2  | 0  | 0   | 28  | 2   | 2   |     |     |     |     |
| UntK   | 1  | 7   | 6    | 11.0   | 99.0  | 0  | 0   | 12  | 1   | 2   | 100 | 100 | 100 | 100 |
| URoT   | 29 | 156 | 109  | 1500.0 | 35.8  | 7  | 181 | 439 | 47  | 99  | 90  | 57  | 99  | 86  |
| USoA   | 1  | 9   | 7    | 14.0   | 99.0  | 1  | 0   | 4   | 0   | 2   | 100 | 100 | 100 | 100 |
| Urgy   | 4  | 16  | 14   | 20.0   | 99.0  | 0  | 0   | 30  | 2   | 2   | 98  | 93  | 95  | 85  |
| Uzbk   | 19 | 36  | 30   | 24.0   | 96.0  | 0  | 0   | 140 | 13  | 79  | 94  | 79  | 97  | 85  |
| Vant   | 20 | 44  | 35   |        | 89.1  | 0  | 2   | 126 | 14  | 2   | 63  | 94  | 100 | 100 |
| VBRo   | 4  | 23  | 19   | 78.0   | 95.0  | 0  | 0   | 40  | 3   | 2   | 85  | 70  | 71  | 48  |
| VtNm   | 34 | 39  | 31   | 130.0  | 69.6  | 0  | 6   | 264 | 25  | 99  | 95  | 72  | 82  | 38  |
| Yemn   | 46 | 110 | 86   | 570.0  | 22.0  | 0  | 8   | 178 | 13  | 66  | 74  | 68  | 89  | 21  |
| Zamb   | 25 | 185 | 111  | 750.0  | 46.5  | 17 | 158 | 852 | 89  | 87  | 88  | 48  | 99  | 64  |
| Zmbb   | 13 | 108 | 71   | 1100.0 | 72.5  | 25 | 1   | 412 | 50  | 67  | 100 | 73  | 71  | 57  |