

Technical Notes and Sources

The present section complements the Data Tables by providing additional information for the hard data indicators that enter the composition of the Networked Readiness Index 2009–2010. The data used in this *Report* represent the most recent available figures from various international agencies and national authorities at the time when the data collection process took place. It is possible that some data have been updated or revised since then.

Pillar 1: Market environment

1.07 Total tax rate (hard data)

Sum of profit tax, labor tax and social contributions, property taxes, turnover taxes, and other taxes, as a share of commercial profits | 2008

The total tax rate measures the amount of taxes and mandatory contributions payable by the business in the second year of operation, expressed as a share of commercial profits. The total amount of taxes is the sum of five different types of taxes and contributions payable after accounting for deductions and exemptions: profit or corporate income tax, social contributions and labor taxes paid by the employer, property taxes, turnover taxes, and other small taxes. For more details about the methodology employed and the assumptions made to compute this indicator, please consult the World Bank's Doing Business project's dedicated page at <http://www.doingbusiness.org/methodologysurveys/>.

Source: The World Bank Group, *Doing Business 2010*

1.08 Time required to start a business (hard data)

Number of days required to start a business | 2009

For details about the methodology employed and the assumptions made to compute this indicator, please consult the World Bank's Doing Business project's dedicated page at <http://www.doingbusiness.org/methodologysurveys/>.

Source: The World Bank Group, *Doing Business 2010*

1.09 Number of procedures required to start a business (hard data)

Number of procedures required to start a business | 2009

For details about the methodology employed and the assumptions made to compute this indicator, please consult the World Bank's Doing Business project's dedicated page at <http://www.doingbusiness.org/methodologysurveys/>.

Source: The World Bank Group, *Doing Business 2010*

Pillar 2: Political and regulatory environment

2.08 Number of procedures to enforce a contract (hard data)

Number of procedures from the moment the plaintiff files a lawsuit in court until the moment of payment | 2009

For details about the methodology employed and the assumptions made to compute this indicator, please consult the World Bank's Doing Business project's dedicated page at <http://www.doingbusiness.org/methodologysurveys/>.

Source: The World Bank Group, *Doing Business 2010*

2.09 Time to enforce a contract (hard data)

Number of days required to resolve a dispute | 2009

For details about the methodology employed and the assumptions made to compute this indicator, please consult the World Bank's Doing Business project's dedicated page at <http://www.doingbusiness.org/methodologysurveys/>.

Source: The World Bank Group, *Doing Business 2010*

2.10 Level of competition index (hard data)

Level of competition for Internet services, international long distance services, and mobile telephone services | 2007 or most recent year available

This variable measures the level of competition for retail Internet access services, for international long distance calls, and for digital cellular mobile services. For each economy, the level of competition in each of the three categories was assessed as follows: monopoly, partial competition, and full competition. The index is calculated as the sum of points obtained in each of the three categories above (0 = monopoly; 1 = partial competition; 2 = competition), with 6 as the best possible score.

Source: The World Bank Group, *Information and Communications for Development Online Database* (retrieved October 14, 2009)

Pillar 3: Infrastructure environment

3.01 Number of telephone lines (hard data)

Main telephone lines per 100 population | 2008

A *main telephone line* is a telephone line connecting the subscriber's terminal equipment to the public switched telephone network and that has a dedicated port in the telephone exchange equipment.

Source: International Telecommunication Union, *World Telecommunication/ICT Indicators Database 2009* (retrieved January 4, 2010)

3.02 Secure Internet servers (hard data)

Secure Internet servers per million population | 2008

Secure Internet servers are servers using encryption technology in Internet transactions.

Source: The World Bank, *World Development Indicators Online* (retrieved October 14, 2009); national sources

3.03 Electricity production (hard data)

Electricity production (kWh) per capita | 2006 or most recent year available

Electricity production is measured at the terminals of all alternator sets in a station. In addition to hydropower, coal, oil, gas, and nuclear power generation, it covers generation by geothermal, solar, wind, and tide and wave energy as well as that from combustible renewables and waste. Production includes the output of electricity plants designed to produce electricity only, as well as that of combined heat and power plants. Electricity production (kWh) per capita is calculated by dividing the total electricity production (kWh) by each country's total population.

Source: The World Bank, *World Development Indicators Online* (retrieved October 14, 2009); US Central Intelligence Agency, *The World Factbook* (retrieved October 16, 2009)

3.06 Tertiary education enrollment (hard data)

Gross tertiary education enrollment rate | 2007 or most recent year available

The reported value corresponds to the ratio of total enrollment, regardless of age, to the population of the age group that officially corresponds to the tertiary education level. Tertiary education, whether or not leading to an advanced research qualification, normally requires, as a minimum condition of admission, the successful completion of education at the secondary level.

Source: UNESCO Institute for Statistics (retrieved June 1, 2009); The World Bank, *World Development Indicators Online* (retrieved June 23, 2009); national sources

3.07 Education expenditure (hard data)

Adjusted savings: Public education expenditure as percentage of GNI | 2007 or most recent year available

Education expenditure refers to the current operating expenditures in education, including wages and salaries and excluding capital investments in buildings and equipment.

Source: The World Bank, *World Development Indicators Online* (retrieved September 7, 2009); national sources

3.09 Internet bandwidth (hard data)

International Internet bandwidth (Mb/s) per 10,000 population | 2008 or most recent year available

This measure shows the total capacity of international Internet bandwidth in megabits per second.

Source: International Telecommunication Union, *World Telecommunication/ICT Indicators Database 2009* (retrieved January 4, 2010)

Pillar 4: Individual readiness

4.04 Residential telephone connection charge (hard data)

One-time residential telephone connection charge (PPP \$) | 2008 or most recent year available

This measure refers to the one-time charge involved in applying for basic telephone service for residential purposes. The amount is expressed in international dollars, adjusted for purchasing power parity (PPP).

Source: International Telecommunication Union, *World Telecommunication/ICT Indicators Database 2009* (retrieved January 4, 2010); The World Bank, *World Development Indicators Online* (retrieved October 14, 2009); International Monetary Fund, *World Economic Outlook Database* (October 2009 edition); national sources

4.05 Residential monthly telephone subscription (hard data)

Residential monthly telephone subscription (PPP \$) | 2008 or most recent year available

Residential monthly telephone subscription refers to the recurring fixed charge for a residential subscriber to the public switched telephone network. The charge should cover the rental of the line but not the rental of the terminal (for example, the telephone set) where the terminal equipment market is liberalized. In some cases, the rental charge includes an allowance for free or reduced-rate call units. If there are different charges for different exchange areas, the largest urban area is used. The amount is expressed in international dollars, adjusted for PPP.

Source: International Telecommunication Union, *World Telecommunication/ICT Indicators Database 2009* (retrieved January 4, 2010); The World Bank, *World Development Indicators Online* (retrieved October 14, 2009); International Monetary Fund, *World Economic Outlook Database* (October 2009 edition); national sources

4.06 Fixed broadband tariffs (hard data)

Fixed broadband tariffs, residential monthly fee (PPP \$) | 2008

This measure gives a broad representation of typical fixed broadband offers available in a country. Broadband is considered to be any dedicated connection to the Internet at speeds equal to, or greater than, 256 kilobits per second in one or both directions. Tariffs are expressed in international dollars, adjusted for PPP. For details about the methodology employed and the assumptions made to compute this indicator, please consult the dedicated page of ITU's *Measuring the Information Society 2009 Report* at http://www.itu.int/ITU-D/ict/publications/idi/2009/material/IDI2009_w5.pdf.

Source: International Telecommunication Union, *Measuring the Information Society 2009*

4.07 Mobile cellular tariffs (hard data)

Average per-minute cost of different types of mobile cellular calls (PPP \$) | 2008

This measure is constructed by first taking the average per-minute cost of a local call to another mobile cellular phone on the same network (*on-net*) and on another network (*off-net*). This amount is then averaged with the per-minute cost of a local call to a fixed telephone line. All the tariffs are for calls placed during peak hours and based on a basic, representative mobile cellular pre-paid subscription service. Tariffs are expressed in international dollars, adjusted for PPP. For more details about the methodology employed and the assumptions made to compute the composing variables of this indicator, please consult the dedicated page of ITU's *Measuring the Information Society 2009 Report* at http://www.itu.int/ITU-D/ict/publications/idi/2009/material/IDI2009_w5.pdf.

Source: Authors' calculations based on International Telecommunication Union, *Measuring the Information Society 2009*

4.08 Fixed telephone tariffs (hard data)

Fixed telephone tariffs for a 3-minute local call during peak hours (PPP \$) | 2008

This variable refers to the cost of a 3-minute call within the same exchange (local call) using the subscriber's equipment (i.e., not from a public telephone). Tariffs are expressed in international dollars, adjusted for PPP. For more details about the methodology employed and the assumptions made to compute this indicator, please consult the dedicated page of ITU's *Measuring the Information Society 2009 Report* at http://www.itu.int/ITU-D/ict/publications/idi/2009/material/IDI2009_w5.pdf.

Source: International Telecommunication Union, *Measuring the Information Society 2009*

Pillar 5: Business readiness

5.06 Business telephone connection charge (hard data)

[One-time business telephone connection charge \(PPP \\$\) | 2008 or most recent year available](#)

This measure refers to the one-time charge involved in applying for basic telephone service for business purposes. The amount is expressed in international dollars, adjusted for PPP.

Source: International Telecommunication Union, *World Telecommunication/ICT Indicators Database 2009* (retrieved January 4, 2010); The World Bank, *World Development Indicators Online* (retrieved October 14, 2009); International Monetary Fund, *World Economic Outlook Database* (October 2009 edition); national sources

5.07 Business monthly telephone subscription (hard data)

[Business monthly telephone subscription \(PPP \\$\) | 2008 or most recent year available](#)

This measures the recurring fixed charge for a business subscriber to the public switched telephone network. The amount is expressed in international dollars, adjusted for PPP.

Source: International Telecommunication Union, *World Telecommunication/ICT Indicators Database 2009* (retrieved January 4, 2010); The World Bank, *World Development Indicators Online* (retrieved October 14, 2009); International Monetary Fund, *World Economic Outlook Database* (October 2009 edition); national sources

5.09 Computer, communications, and other services imports (hard data)

[Computer, communications, and other services as percentage of total commercial services imports | 2008 or most recent year available](#)

Computer, communications, and other services include such activities as international telecommunications; portal and courier services; computer data; news-related service transactions between residents and nonresidents; construction services; royalties and license fees; miscellaneous business, professional, and technical services; and personal, cultural, and recreational services. The total volume of computer, communications, and other services imports is divided by the total volume of commercial service imports, defined as the total service imports minus imports of government services not included elsewhere.

Source: The World Bank, *World Development Indicators Online* (retrieved October 2009); national sources

Pillar 7: Individual usage

7.01 Mobile telephone subscriptions (hard data)

[Mobile telephone subscriptions per 100 population | 2008](#)

According to the World Bank, *mobile cellular telephone subscriptions* are subscriptions to a public mobile telephone service using cellular technology, which provides access to switched telephone technology. Postpaid and prepaid subscriptions are included. This can also include analogue and digital cellular systems but should not include non-cellular systems. Subscribers to fixed wireless, public mobile data services, or radio paging services are not included.

Source: International Telecommunication Union, *World Telecommunication/ICT Indicators Database 2009* (retrieved January 4, 2010); national sources

7.02 Personal computers (hard data)

[Personal computers per 100 population | 2008 or most recent year available](#)

Personal computers are self-contained computers designed to be used by a single individual.

Source: International Telecommunication Union, *World Telecommunication/ICT Indicators Database 2009* (retrieved January 4, 2010); national sources

7.03 Broadband Internet subscribers (hard data)

[Total broadband Internet subscribers per 100 population | 2008](#)

The International Telecommunication Union considers *broadband* to be any dedicated connection to the Internet of 256 kilobits per second or faster, in both directions. *Broadband subscribers* refers to the sum of DSL, cable modem, and other broadband (for example, fiber optic, fixed wireless, apartment LANs, satellite connections) subscribers.

Source: International Telecommunication Union, *World Telecommunication/ICT Indicators Database 2009* (retrieved January 4, 2010)

7.04 Internet users (hard data)

[Internet users per 100 population | 2008](#)

Internet users are people with access to the worldwide network.

Source: International Telecommunication Union, *World Telecommunication/ICT Indicators Database 2009* (retrieved January 4, 2010)

Pillar 8: Business usage

8.05 Creative industries exports (hard data)

[Exports of creative industries products as a share of world total in such exports | 2006 or most recent year available](#)

This variable measures the share of the world's total exports of the following creative industries products: art crafts such as carpets, celebration articles, paperware, wickerware, yarn, and other; films; architecture, fashion, glassware, jewellery; music; books, newspapers, and other; antiques, paintings, photography, sculpture, and other. Data were obtained from the Creative Industries Database using HS 96 industry classification.

Source: UNCTAD, Creative Economy and Industries Programme

8.06 Utility patents (hard data)

[Number of utility patents \(i.e., patents for invention\) granted between January 1 and December 31, 2008, per million population | 2008](#)

Utility patents are recorded such that the origin of the patent is determined by the first-named inventor at the time of the grant. Per million population figures are calculated by dividing the number of patents granted to a country in 2008 by that country's population in the same year.

Source: The United States Patent and Trademark Office (June 2009); UNFPA, *State of World Population 2008*; The Economist Intelligent Unit, *CountryData Database* (June 2009)

8.07 High-tech exports (hard data)

[High-technology exports as a percentage of total goods exports | 2007 or most recent year available](#)

The value of high-technology exports is expressed as a percentage of the value of manufactured goods exports. According to the World Bank, high-technology exports are products with high R&D intensity, as in aerospace, computers, pharmaceuticals, and scientific instruments.

Source: The World Bank, *World Development Indicators Online* (retrieved December 3, 2009); authors' estimates based on United Nations Statistics Division's COMTRADE database (retrieved December 4, 2009); national sources

Pillar 9: Government usage

9.02 Government Online Service Index (hard data)

[The Government Online Service Index assesses the quality of government's delivery of online services | 2009](#)

The Index captures a government's performance in delivering online services to the citizens. There are four stages of service delivery (Emerging, Enhanced, Transactional, and Connected). Online services are assigned to each stage according to their degree of sophistication, from the more basic to the more sophisticated. In each country, the performance of the government in each of the four stages is measured as the number of services provided as a percentage of the maximum services in the corresponding stage. Examples of services include online presence, deployment of multimedia content, governments' solicitation of citizen input, widespread data sharing, and use of social networking. For more details about the methodology employed and the assumptions made to compute this indicator, please consult the UN's *Global E-Government Survey 2010*'s dedicated page at http://www2.unpan.org/egovkb/global_reports/10report.htm.

Source: United Nations, *UN E-Government Survey 2010: Leveraging e-Government at a Time of Financial and Economic Crisis*

9.05 E-Participation Index (hard data)

[The E-Participation Index assesses the quality, relevance, and usefulness of government websites in providing online information, participatory tools, and services to citizens | 2009](#)

The E-Participation Index captures the extent to which governments create an environment in which citizens can be more active and supportive of their governments. It takes into account e-participation in all its aspects, ranging from e-information to e-consultation and e-decision making. For more details about the methodology employed and the assumptions made to compute this indicator, please consult the UN's *Global E-Government Survey 2010*'s dedicated page at http://www2.unpan.org/egovkb/global_reports/10report.htm.

Source: United Nations, *UN E-Government Survey 2010: Leveraging e-Government at a Time of Financial and Economic Crisis*