

Technical Notes and Sources

The present section complements the Data Tables by providing additional information for those indicators that enter the composition of the Networked Readiness Index 2010–2011 and that are not derived from the World Economic Forum’s Executive Opinion Survey.

The number next to the variable corresponds to the number of the Data Table that shows ranks and scores for all countries/economies on this particular indicator.

For variables 3.04, 3.05, 8.04, and 8.05, we have divided the raw values by the population figures relative to the year of each corresponding data point. For variables 4.04, 4.05, 4.06, 4.07, 4.08, 5.06, and 5.07, we have divided the raw values by the PPP conversion factor to market exchange rate ratio figures relative to the year of each corresponding data point.

The source of population figures is The World Bank, *World Development Indicators Online* (accessed in January 2011). The sources of the *PPP conversion factor to market exchange rate ratio* figures are The World Bank, *World Development Indicators Online* (accessed in January 2011) and the International Monetary Fund, *World Economic Outlook* (October 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 took place. It is possible that some data have been updated or revised since then.

Pillar 1: Market environment

1.07 Total tax rate

[Sum of profit tax, labor tax and social contributions, property taxes, turnover taxes, and other taxes, as a share \(%\) of commercial profits | 2010](#)

The total tax rate measures the amount of taxes and mandatory contributions payable by the business in its 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, visit <http://www.doingbusiness.org/methodologysurveys/>.

Source: The World Bank, *Doing Business 2011*

1.08 Time required to start a business

[Number of days required to start a business | 2010](#)

For details about the methodology employed and the assumptions made to compute this indicator, visit <http://www.doingbusiness.org/methodologysurveys/>.

Source: The World Bank, *Doing Business 2011*

1.09 Number of procedures required to start a business

[Number of procedures required to start a business | 2010](#)

Time is recorded in calendar days. The measure captures the median duration that incorporation lawyers indicate is necessary to complete a procedure with minimum follow-up with government agencies and no extra payments. For more details about the methodology employed and the assumptions made to compute this indicator, visit <http://www.doingbusiness.org/methodologysurveys/>.

Source: The World Bank, *Doing Business 2011*

Pillar 2: Political and regulatory environment

2.08 Software piracy rate

[Unlicensed software units as a percentage of total software units installed | 2009](#)

This measure covers piracy of all packaged software that runs on personal computers (PCs), including desktops, laptops and ultra-portables, including netbooks. This includes operating systems, systems software such as databases and security packages, business applications and consumer applications such as games, and personal finance and reference software. The study does not include software that runs on servers or mainframes. For more information about the methodology, refer to the study available at <http://www.bsa.com/globalstudy>.

Source: Business Software Alliance/International Data Corporation, *Global Software Piracy Study 2009* (May 2010)

2.09 Number of procedures to enforce a contract

[Number of procedures to resolve a dispute, counted from the moment the plaintiff files a lawsuit in court until payment | 2010](#)

The list of procedural steps compiled for each economy traces the chronology of a commercial dispute before the relevant court. A *procedure* is defined as any interaction, required by law or commonly used in practice, between the parties or between them and the judge or court officer. This includes steps to file and serve the case, steps for trial and judgment, and steps necessary to enforce the judgment. For more details about the methodology employed and the assumptions made to compute this indicator, visit <http://www.doingbusiness.org/methodologysurveys/>.

Source: The World Bank, *Doing Business 2011*

2.10 Time to enforce a contract

Number of days to resolve a dispute, counted from the moment the plaintiff decides to file the lawsuit in court until payment | 2010

Time is recorded in calendar days, counted from the moment the plaintiff decides to file the lawsuit in court until payment. This includes both the days when actions take place and the waiting periods between. For more details about the methodology employed and the assumptions made to compute this indicator, visit <http://www.doingbusiness.org/methodologysurveys/>.

Source: The World Bank, *Doing Business 2011*

2.11 Internet and telephony sectors competition index

Level of competition index for Internet services, international long distance services, and mobile telephone services on a 0 to 6 (best) scale | 2004–2008

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, *Information and Communications for Development Online Database* (accessed in December 2010)

Pillar 3: Infrastructure environment

3.01 Telephone lines

Number of main telephone lines per 100 population | 2009

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, *The World Telecommunication/ICT Indicators Database 2010* (accessed in December 2010)

3.02 Mobile network coverage rate

Percentage of total population covered by a mobile network signal | 2009

This indicator measures the percentage of inhabitants who are within range of a mobile cellular signal, irrespective of whether or not they are subscribers. This is calculated by dividing the number of inhabitants within range of a mobile cellular signal by the total population. Note that this is not the same as the mobile subscription density or penetration.

Source: International Telecommunication Union, *The World Telecommunication/ICT Indicators Database 2010* (accessed in December 2010)

3.03 Secure Internet servers

Secure Internet servers per million population | 2009

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

Sources: The World Bank, *World Development Indicators Online* (accessed in January 2011); national sources

3.04 International Internet bandwidth

International Internet bandwidth (Mb/s) per 10,000 population | 2009

International Internet bandwidth is the sum of capacity of all Internet exchanges offering international bandwidth measured in megabits per second.

Source: International Telecommunication Union, *The World Telecommunication/ICT Indicators Database 2010* (accessed in December 2010)

3.05 Electricity production per capita

Electricity production (kWh) per capita | 2007

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.

Sources: The World Bank, *World Development Indicators Online* (accessed in January 2011); US Central Intelligence Agency (CIA), *The World Factbook* (accessed in January 2011)

3.06 Tertiary education enrollment rate

Gross tertiary education enrollment rate (%) | 2008

Tertiary enrollment rate is 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.

Sources: The World Bank, *World Development Indicators Online* (accessed in January 2011); national sources

Pillar 4: Individual readiness

4.03 Adult literacy rate

Adult literacy rate (%) | 2008

Adult literacy is defined as the percentage of the population aged 15 years and over who can both read and write with understanding a short, simple statement on his/her everyday life. Whenever data come from economies classified by the World Bank as *high income*, we assume a rate of 99 percent, in accordance with the approach adopted by the United Nations Development Programme (UNDP) in calculating the 2009 edition of the Human Development Index.

Sources: World Bank, *Ed Stats Database* (accessed in January 2011); national sources

4.04 Residential telephone installation fee

One-time residential telephone installation fee (PPP \$) | 2009

This measure refers to the one-time charge involved in applying for residential basic telephone service. Taxes should be included. If not included, it should be specified in a note including the applicable tax rate. The amount is adjusted for purchasing power parity (PPP) and expressed in international dollars.

Sources: International Telecommunication Union, *The World Telecommunication/ICT Indicators Database 2010* (accessed in December 2010); national sources

4.05 Residential monthly telephone subscription

Monthly subscription for residential telephone service (PPP \$) | 2009

Monthly subscription refers to the recurring fixed charge for subscribing 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 adjusted for purchasing power parity (PPP) and expressed in international dollars.

Sources: International Telecommunication Union, *The World Telecommunication/ICT Indicators Database 2010* (accessed in December 2010); national sources

4.06 Fixed telephone tariffs

Fixed telephone tariffs for a 3-minute local call during peak hours (PPP \$) | 2009

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). The amount is adjusted for purchasing power parity (PPP) and expressed in international dollars.

Sources: International Telecommunication Union, *The World Telecommunication/ICT Indicators Database 2010* (accessed in December 2010); national sources

4.07 Mobile cellular tariffs

Average per-minute cost of different types of mobile cellular calls (PPP \$) | 2009

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. The amount is adjusted for purchasing power parity (PPP) and expressed in international dollars.

Source: Authors' calculations; International Telecommunication Union, *The World Telecommunication/ICT Indicators Database 2010* (accessed in December 2010)

4.08 Fixed broadband Internet tariffs

Monthly subscription charge for fixed (wired) broadband Internet service (PPP \$) | 2009

Fixed (wired) broadband is considered any dedicated connection to the Internet at downstream speeds equal to, or greater than, 256 kilobits per second, using DSL. The amount is adjusted for purchasing power parity (PPP) and expressed in international dollars.

Sources: International Telecommunication Union, *The World Telecommunication/ICT Indicators Database 2010* (accessed in December 2010); national sources

Pillar 5: Business readiness

5.05 Business telephone installation fee

One-time business telephone installation fee (PPP \$) | 2009

Installation (or connection) refers to the one-time charge involved in applying for basic business telephone service. The amount is adjusted for purchasing power parity (PPP) and expressed in international dollars.

Sources: International Telecommunication Union, *The World Telecommunication/ICT Indicators Database 2010* (accessed in December 2010); national sources

5.06 Business monthly telephone subscription

Monthly subscription for business telephone service (PPP \$) | 2009

Monthly subscription refers to the recurring fixed charge for subscribing 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 adjusted for purchasing power parity (PPP) and expressed in international dollars.

Sources: International Telecommunication Union, *The World Telecommunication/ICT Indicators Database 2010* (accessed in December 2010); national sources

5.08 Computer, communications, and other services imports

Computer, communications, and other services as a percentage of total commercial services imports | 2009

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* (accessed in January 2011)

Pillar 7: Individual usage

7.01 Mobile telephone subscriptions

Mobile telephone subscriptions (post-paid and pre-paid) per 100 population | 2009

Mobile telephone subscriptions refers to subscriptions to a public mobile telephone service that provides access to the public switched telephone network using cellular technology, including number of pre-paid SIM cards active during the past three months. This includes both analogue and digital cellular systems (IMT-2000, Third Generation, and 3G and 4G) subscriptions, but excludes mobile broadband subscriptions via data cards or USB modems. Subscriptions to public mobile data services, private trunked mobile radio, telepoint or radio paging, and telemetry services are also excluded. It includes all mobile cellular subscriptions that offer voice communications.

Source: International Telecommunication Union, *The World Telecommunication/ICT Indicators Database 2010* (accessed in December 2010)

7.02 Cellular subscriptions with data access

Percentage of cellular subscriptions with data access at broadband speed | 2009

Cellular subscriptions are subscriptions to mobile cellular networks with access to data communications (e.g., the Internet) at broadband downstream speeds (here defined as greater than or equal to 256 kilobits per second). Note that this corresponds to *potential* mobile broadband subscriptions and not active subscriptions. The denominator corresponds to the total number of post-paid and pre-paid subscriptions. Subscribers to fixed wireless, public mobile data services, or radio paging services are not included.

Sources: Authors' calculations; International Telecommunication Union, *The World Telecommunication/ICT Indicators Database 2010* (accessed in December 2010); national sources

7.03 Households with a personal computer

Percentage of households equipped with a personal computer | 2009

The proportion of households with a computer is calculated by dividing the number of households with a computer by the total number of households. A *computer* refers to a desktop or a laptop computer. It does not include equipment with some embedded computing abilities such as mobile cellular phones, personal digital assistants (PDAs), or TV sets.

Sources: International Telecommunication Union, *The World Telecommunication/ICT Indicators Database 2010* (accessed in December 2010); national sources

7.04 Broadband Internet subscribers**Broadband Internet subscribers per 100 population | 2009**

A *broadband* Internet connection is 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, *The World Telecommunication/ICT Indicators Database 2010* (accessed in December 2010)

7.05 Internet users**Internet users per 100 population | 2009**

Internet users are people with access to the worldwide network.

Source: International Telecommunication Union, *The World Telecommunication/ICT Indicators Database 2010* (accessed in December 2010)

Pillar 8: Business usage**8.04 Local office patent applications****Number of patent applications filed by residents at the national patent office per million population | 2009**

Patent application counts are based on the filing date and the country of residence (or nationality, in the absence of a valid residence) of the first-named applicant. For more information about this indicator, refer to Box 3 in Chapter 1.1.

Sources: World Intellectual Property Organization (WIPO); national sources

8.05 Patent Cooperation Treaty applications**Number of international applications filed through the Patent Cooperation Treaty per million population | 2010**

Application counts are based on the international filing date and country of residence of the first-named applicant. Data for Hong Kong SAR, Puerto Rico, and Taiwan are not available as these economies are not members of the United Nations. For more information about this indicator, refer to Box 3 in Chapter 1.1.

Source: World Intellectual Property Organization (WIPO)

8.06 High-tech exports**High-technology products as a percentage of total goods exports | 2009**

The value of high-technology exports is expressed as a percentage of the value of the country's total goods exports (excluding re-exports). According to the World Bank, *high-technology exports* are products with high R&D intensity, as in aerospace, computers, pharmaceuticals, and scientific instruments. The classification of high-technology comes from the United Nations Industrial Development Organization (UNIDO) and corresponds to product groups 5, 6, 7, and 8 (excluding categories 667 and 68) in the SITC revision 3 product classification.

Sources: Authors' calculation; United Nations COMTRADE database (accessed in December 2010)

Pillar 9: Government usage**9.03 Government Online Service Index****The Government Online Service Index assesses the quality of government's delivery of online services | 2010**

This 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*). Every online service is assigned to a particular stage according to its degree of sophistication. 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, visit the UN's Global E-Government Survey 2010's 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*

9.04 E-Participation Index**The E-Participation Index assesses the quality, relevance, usefulness, and willingness of government websites for providing online information and participatory tools and services to the people | 2010**

This Index captures the extent to which governments create an environment in which citizens can be more active and support their governments. The index 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, visit the UN's Global E-Government Survey 2010's 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*