

# Technical Notes and Sources

This section complements the Data Tables by providing additional information for all indicators used in the computation of the Networked Readiness Index 2016. In the case of indicators derived from the Executive Opinion Survey (the Survey), the full question and associated answers are provided. For more details on Survey indicators, refer to Chapter 1.3 of *The Global Competitiveness Report 2015–2016*.

For indicators sourced from other organizations, because of space limitations it is not possible to reproduce in this *Report* all the additional information associated with specific data points. Readers and users are urged to refer to the original source for any additional information and exceptions for certain economies or/and data points.

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Furthermore, the data used in the computation of the Networked Readiness Index 2016 represent the most recent or/and best data available at the time when they were collected. It is possible that data were updated or revised subsequently.

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## 1st pillar: Political and regulatory environment

### 1.01 Effectiveness of law-making bodies

[How effective is the legislative process in your country? \[1 = not effective at all—it is deadlocked; 7 = extremely effective\] | 2014–15 weighted average](#)

Source: World Economic Forum, Executive Opinion Survey, 2014 and 2015 editions

### 1.02 Laws relating to ICTs

[How developed are your country's laws relating to the use of ICTs \(e.g., e-commerce, digital signatures, consumer protection\)? \[1 = not developed at all; 7 = extremely well developed\] | 2014–15 weighted average](#)

Source: World Economic Forum, Executive Opinion Survey, 2014 and 2015 editions

### 1.03 Judicial independence

[In your country, how independent is the judicial system from influences of the government, individuals, or companies? \[1 = not independent at all; 7 = entirely independent\] | 2014–15 weighted average](#)

Source: World Economic Forum, Executive Opinion Survey, 2014 and 2015 editions

### 1.04 Efficiency of legal framework in settling disputes

[In your country, how efficient are the legal and judicial systems for companies in settling disputes? \[1 = extremely inefficient; 7 = extremely efficient\] | 2014–15 weighted average](#)

Source: World Economic Forum, Executive Opinion Survey, 2014 and 2015 editions

### 1.05 Efficiency of legal framework in challenging regulations

[In your country, to what extent can individuals, institutions \(civil society\), and businesses obtain justice through the judicial system against arbitrary government decisions? \[1 = not at all; 7 = to a great extent\] | 2014–15 weighted average](#)

Source: World Economic Forum, Executive Opinion Survey, 2014 and 2015 editions

### 1.06 Intellectual property protection

[In your country, to what extent is intellectual property protected? \[1 = not at all; 7 = to a great extent\] | 2014–15 weighted average](#)

Source: World Economic Forum, Executive Opinion Survey, 2014 and 2015 editions

### 1.07 Software piracy rate

[Unlicensed software units as a percentage of total software units installed | 2013](#)

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, personal finance, and reference software. The study does not include software that runs on servers or mainframes, or software loaded onto tablets or smart phones.

For more information about the methodology, refer to the study available at <http://globalstudy.bsa.org/2013/index.html>.

Source: The Software Alliance (BSA), *The Compliance Gap: BSA Global Software Survey* (June 2014); [http://globalstudy.bsa.org/2013/downloads/studies/2013GlobalSurvey\\_Study\\_en.pdf](http://globalstudy.bsa.org/2013/downloads/studies/2013GlobalSurvey_Study_en.pdf)

**1.08 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 | 2014](#)

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. Other procedural steps, internal to the court or between the parties and their counsel, may be counted as well. This indicator includes steps to file and serve the case, steps to assign the case to a judge, steps for trial and judgment, and steps necessary to enforce the judgment. To indicate overall efficiency, one procedure is subtracted from the total number for economies that have specialized commercial courts or divisions, and one procedure for economies that allow electronic filing of the initial complaint. Some procedural steps that are part of others are not counted in the total number of procedures.

The World Bank discontinued the publication of this indicator within its *Doing Business* report series. Hence the NRI includes data published in the 2015 edition of the report.

Source: World Bank/International Finance Corporation, *Doing Business 2015: Going Beyond Efficiency*; <http://www.doingbusiness.org>

**1.09 Time required 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 | 2015](#)

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/methodology/enforcing-contracts>.

Source: World Bank/International Finance Corporation, *Doing Business 2016: Measuring Regulatory Quality and Efficiency*; <http://www.doingbusiness.org>

**2nd pillar: Business and innovation environment****2.01 Availability of latest technologies**

[In your country, to what extent are the latest technologies available? \[1 = not at all; 7 = to a great extent\] | 2014–15 weighted average](#)

Source: World Economic Forum, Executive Opinion Survey, 2014 and 2015 editions

**2.02 Venture capital availability**

[In your country, how easy is it for start-up entrepreneurs with innovative but risky projects to obtain equity funding? \[1 = extremely difficult; 7 = extremely easy\] | 2014–15 weighted average](#)

Source: World Economic Forum, Executive Opinion Survey, 2014 and 2015 editions

**2.03 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 | 2014](#)

The total tax rate measures the amount of taxes and mandatory contributions borne by the business in the second year of operation, expressed as a share of commercial profit. *Paying Taxes 2016* reports the total tax rate for calendar year 2014. The total amount of taxes borne is the sum of all the different taxes and contributions payable after accounting for allowable deductions and exemptions. The taxes withheld (such as personal income tax) or collected by the company and remitted to the tax authorities (such as value-added tax, sales tax, or goods and service tax) but not borne by the company are excluded. The taxes included can be divided into five categories: profit or corporate income taxes; social contributions and labor taxes paid by the employer (in respect of which all mandatory contributions are included, even if paid to a private entity such as a required pension fund); property taxes; turnover taxes; and other taxes (such as municipal fees and vehicle taxes).

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

Source: World Bank/PwC, *Paying Taxes 2016: The Global Picture*; <http://www.doingbusiness.org>

**2.04 Time required to start a business**

[Number of days required to start a business | 2015](#)

Time is recorded in calendar days. The measure captures the median duration that incorporation lawyers indicate is necessary in practice 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/methodology/starting-a-business>.

Source: World Bank/International Finance Corporation, *Doing Business 2016: Measuring Regulatory Quality and Efficiency*; <http://www.doingbusiness.org>

**2.05 Number of procedures required to start a business**

[Number of procedures required to start a business | 2015](#)

A *procedure* is defined as any interaction of the company founders with external parties (e.g., government agencies, lawyers, auditors, or notaries).

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

Source: World Bank/International Finance Corporation, *Doing Business 2016: Measuring Regulatory Quality and Efficiency*; <http://www.doingbusiness.org>

**2.06 Intensity of local competition**

[In your country, how intense is competition in the local markets? \[1 = not intense at all; 7 = extremely intense\] | 2014–15 weighted average](#)

Source: World Economic Forum, Executive Opinion Survey, 2014 and 2015 editions

**2.07 Tertiary education enrollment rate****Tertiary education gross enrollment rate (%) | 2013 or most recent year available**

*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: United Nations Education, Science and Culture Organization (UNESCO), UNESCO Institute for Statistics Data Centre (retrieved December 15, 2015), <http://data.uis.unesco.org/>; Authors' calculations based on Organisation for Economic Co-operation and Development (OECD), OECD.stat (retrieved February 4, 2016), <http://stats.oecd.org/>; national sources

**2.08 Quality of management schools****In your country, how do you assess the quality of business schools? [1 = extremely poor—among the worst in the world; 7 = excellent—among the best in the world] | 2014–15 weighted average**

Source: World Economic Forum, Executive Opinion Survey, 2014 and 2015 editions

**2.09 Government procurement of advanced technology products****In your country, to what extent do government purchasing decisions foster innovation? [1 = not at all; 7 = to a great extent] | 2014–15 weighted average**

Source: World Economic Forum, Executive Opinion Survey, 2014 and 2015 editions

**3rd pillar: Infrastructure****3.01 Electricity production****Electricity production (kWh) per capita | 2013 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. Total electricity production is then divided by total population. Population figures are from the World Bank's *World Development Indicators* (retrieved January 4, 2016).

Sources: Authors' calculations based on International Energy Agency (IEA), *World Energy Statistics and Balances 2015*, [www.iea.org/statistics/](http://www.iea.org/statistics/); World Bank, *World Development Indicators* (retrieved January 4, 2016), <http://data.worldbank.org/>; US Central Intelligence Agency (CIA), *The World Factbook* (retrieved January 5, 2016), <https://www.cia.gov/library/publications/the-world-factbook/>

**3.02 Mobile network coverage rate****Percentage of total population covered by a mobile network signal | 2014 or most recent year available**

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 (ITU), *ITU World Telecommunication/ICT Indicators Database 2015* (December 2015 edition), <http://www.itu.int/en/ITU-D/Statistics/Pages/publications/wtid.aspx>

**3.03 International Internet bandwidth****International Internet bandwidth (kb/s) per Internet user | 2014 or most recent year available**

*International Internet bandwidth* is the sum of the capacity of all Internet exchanges offering international bandwidth measured in kilobits per second (kb/s).

Source: International Telecommunication Union (ITU), *ITU World Telecommunication/ICT Indicators Database 2015* (December 2015 edition), <http://www.itu.int/en/ITU-D/Statistics/Pages/publications/wtid.aspx>

**3.04 Secure Internet servers****Secure Internet servers per million population | 2014**

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

Source: The World Bank, *World Development Indicators* (retrieved January 4, 2016), <http://data.worldbank.org/>; national sources

**4th pillar: Affordability****4.01 Prepaid mobile cellular tariffs****Average per-minute cost of different types of mobile cellular calls (PPP \$) | 2014 or most recent year available**

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.

In order to account for differences in costs of living, we convert the dollar amounts into international dollars by applying the purchasing power parity (PPP) conversion factor sourced from the World Bank's *World Development Indicators* (retrieved January 4, 2016).

There are limitations associated with using PPP estimates. First, finding comparable baskets of goods with which to compare purchasing power across countries is an arduous task because there are inherent differences across countries in the quality of goods and consumption patterns. Second, price levels in one particular sector or industry, or for a particular product (or service), do not always reflect the general level of prices; this is a result of specific market conditions (competition, maturity, offering, and so on). Tariff rates expressed in PPP terms must therefore be interpreted with caution.

Sources: Authors' calculations based on International Telecommunication Union (ITU), *ITU World Telecommunication/ICT Indicators Database 2015* (December 2015 edition), <http://www.itu.int/en/ITU-D/Statistics/Pages/publications/wtid.aspx>; World Bank, *World Development Indicators* (retrieved January 4, 2016), <http://data.worldbank.org/>; national sources

#### 4.02 Fixed broadband Internet tariffs

##### Monthly subscription charge for fixed (wired) broadband Internet service (PPP \$) | 2014 or most recent year available

Fixed (wired) broadband is considered any dedicated connection to the Internet at downstream speeds equal to, or greater than, 256 kilobits per second. In order to account for differences in costs of living, we convert the dollar amounts into international dollars by applying the purchasing power parity (PPP) conversion factor sourced from the World Bank's *World Development Indicators* (retrieved January 4, 2016).

There are limitations associated with using PPP estimates. First, finding comparable baskets of goods with which to compare purchasing power across countries is an arduous task because there are inherent differences across countries in the quality of goods and consumption patterns. Second, price levels in one particular sector or industry, or for a particular product (or service), do not always reflect the general level of prices; this is a result of specific market conditions (competition, maturity, offering, and so on). Tariff rates expressed in PPP terms must therefore be interpreted with caution.

Sources: Authors' calculations based on International Telecommunication Union (ITU), *ITU World Telecommunication/ICT Indicators Database 2015* (December 2015 edition), <http://www.itu.int/en/ITU-D/Statistics/Pages/publications/wtid.aspx>; World Bank, *World Development Indicators* (retrieved January 4, 2016), <http://data.worldbank.org>; national sources

#### 4.03 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-2 (best) scale | 2014 or most recent year available

This indicator measures the degree of liberalization in 17 categories of ICT services, including 3G/4G telephony, international long distance calls, and international gateways. For each economy, the level of competition in each of the categories is assessed as follows: monopoly, partial competition, and full competition. The results reflect the situation as of 2014 for the majority of countries (for others, data are available as of 2013 or earlier years). The index is calculated as the average of points obtained in each of the 17 categories for which data are available. Full liberalization across all categories yields a score of 2, the best possible score.

For more information, consult <http://www.itu.int/ITU-D/ICTEYE/Reports.aspx>.

Source: Authors' calculations based on International Telecommunication Union (ITU), *ITU World Telecommunication Regulatory Database* (retrieved January 5, 2016), <http://www.itu.int/en/ITU-D/Statistics/Pages/publications/wtid.aspx>

### 5th pillar: Skills

#### 5.01 Quality of the education system

##### In your country, how well does the education system meet the needs of a competitive economy? [1 = not well at all; 7 = extremely well] | 2014–15 weighted average

Source: World Economic Forum, Executive Opinion Survey, 2014 and 2015 editions

#### 5.02 Quality of math and science education

##### In your country, how do you assess the quality of math and science education [1 = extremely poor—among the worst in the world; 7 = excellent—among the best in the world] | 2014–15 weighted average

Source: World Economic Forum, Executive Opinion Survey, 2014 and 2015 editions

#### 5.03 Secondary education enrolment rate

##### Secondary education gross enrollment rate (%) | 2013 or most recent year available

The reported value corresponds to the ratio of total secondary enrollment, regardless of age, to the population of the age group that officially corresponds to the secondary education level. Secondary education (ISCED levels 2 and 3) completes the provision of basic education that began at the primary level, and aims to lay the foundations for lifelong learning and human development, by offering more subject- or skills-oriented instruction using more specialized teachers.

Sources: United Nations Education, Science and Culture Organization (UNESCO), UNESCO Institute for Statistics Data Centre (retrieved December 15, 2015), <http://data.uis.unesco.org/>; and *Education for All Global Monitoring Monitor 2013*; United Nations Children's Fund (UNICEF), Education Statistics; SITEAL - Sistema de Información de tendencias Educativas de América Latina; national sources

#### 5.04 Adult literacy rate

##### Adult literacy rate (%) | 2015 or most recent year available

*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. For OECD member countries, when data are missing we apply a value of 99 percent for the purposes of calculating the NRI. This is in line with the approach adopted by the United Nations Development Programme (UNDP) in calculating the 2009 edition of the Human Development Index. We also assume a rate of 99 percent for Hong Kong SAR. In the corresponding table, those countries are identified by an asterisk.

Sources: United Nations Education, Science and Culture Organization (UNESCO), UNESCO Institute for Statistics Data Centre (retrieved December 15, 2015), <http://data.uis.unesco.org/>; national sources

### 6th pillar: Individual usage

#### 6.01 Mobile telephone subscriptions

##### Mobile telephone subscriptions (post-paid and pre-paid) per 100 population | 2014

A *mobile telephone subscription* refers to a subscription to a public mobile telephone service that provides access to the Public Switched Telephone Network using cellular technology, including prepaid SIM cards active during the past three months. This includes both analog and digital cellular systems (IMT-2000, Third Generation, 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 (ITU), *ITU World Telecommunication/ICT Indicators Database 2015* (December 2015 edition), <http://www.itu.int/en/ITU-D/Statistics/Pages/publications/wtid.aspx>

#### 6.02 Internet users

##### Percentage of individuals using the Internet | 2014

*Internet users* refers to the proportion of individuals who used the Internet in the last 12 months. Data are based on surveys generally carried out by national statistical offices or estimated based on the number of Internet subscriptions.

Source: International Telecommunication Union (ITU), *ITU World Telecommunication/ICT Indicators Database 2015* (December 2015 edition), <http://www.itu.int/en/ITU-D/Statistics/Pages/publications/wtid.aspx>

**6.03 Households with a personal computer****Percentage of households equipped with a personal computer | 2014 or most recent year available**

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.

Source: International Telecommunication Union (ITU), *ITU World Telecommunication/ICT Indicators Database 2015* (December 2015 edition), <http://www.itu.int/en/ITU-D/Statistics/Pages/publications/wtid.aspx>

**6.04 Households with Internet access****Percentage of households with Internet access at home | 2014 or most recent year available**

The share of households with Internet access at home is calculated by dividing the number of in-scope households (where at least one household member is aged 15–74) with Internet access by the total number of in-scope households.

Source: International Telecommunication Union (ITU), *ITU World Telecommunication/ICT Indicators Database 2015* (December 2015 edition), <http://www.itu.int/en/ITU-D/Statistics/Pages/publications/wtid.aspx>

**6.05 Fixed broadband Internet subscriptions****Fixed broadband Internet subscriptions per 100 population | 2014**

This refers to total fixed (wired) broadband Internet subscriptions (that is, subscriptions to high-speed access to the public Internet—a TCP/IP connection—at downstream speeds equal to, or greater than, 256 kb/s). This includes cable modem, DSL, fiber-to-the-home/building, and other fixed (wired)-broadband subscriptions. This total is measured irrespective of the method of payment. It excludes subscriptions that have access to data communications (including the Internet) via mobile-cellular networks and wireless-broadband technologies.

Source: International Telecommunication Union (ITU), *ITU World Telecommunication/ICT Indicators Database 2015* (December 2015 edition), <http://www.itu.int/en/ITU-D/Statistics/Pages/publications/wtid.aspx>

**6.06 Mobile broadband Internet subscriptions****Mobile broadband Internet subscriptions per 100 population | 2014 or most recent year available**

*Mobile broadband subscriptions* refers to the sum of standard mobile broadband and dedicated mobile broadband subscriptions to the public Internet. It covers actual subscribers, not potential subscribers, even though the latter may have broadband-enabled handsets.

Source: International Telecommunication Union (ITU), *ITU World Telecommunication/ICT Indicators Database 2015* (December 2015 edition), <http://www.itu.int/en/ITU-D/Statistics/Pages/publications/wtid.aspx>

**6.07 Use of virtual social networks****In your country, how widely are virtual social networks used (e.g., Facebook, Twitter, LinkedIn)? [1 = not at all used; 7 = used extensively] | 2014–15 weighted average**

Source: World Economic Forum, Executive Opinion Survey, 2014 and 2015 editions

**7th pillar: Business usage****7.01 Firm-level technology absorption****In your country, to what extent do businesses adopt new technology? [1 = not at all; 7 = adopt extensively] | 2013–14 weighted average**

Source: World Economic Forum, Executive Opinion Survey, 2013 and 2014 editions

**7.02 Capacity for innovation****In your country, to what extent do companies have the capacity to innovate? [1 = not at all; 7 = to a great extent] | 2014–15 weighted average**

Source: World Economic Forum, Executive Opinion Survey, 2014 and 2015 editions

**7.03 PCT patents applications****Number of applications filed under the Patent Cooperation Treaty (PCT) per million population | 2012–2013 average**

This measures the total count of applications filed under the Patent Cooperation Treaty (PCT), by priority date and inventor nationality, using fractional count if an application is filed by multiple inventors.

In the absence of reliable data on PCT applications for Taiwan, China and Hong Kong SAR, two advanced economies that are not signatories of the Treaty, the number of applications is estimated as follows: first, we compute the average number of all utility patent applications filed with the United States Patents and Trademarks Office (USPTO) for 2012 and 2013. We then divide this value by the average number of PCT applications for 2012 and 2013, before computing the average of these ratios (1.70) across all countries. In doing this, only economies with a two-year average number of at least 100 USPTO applications and 50 PCT applications are considered. Taiwan, China and Hong Kong SAR are excluded in both cases. We then divide the 2012–2013 average number of USPTO applications filed by residents of Taiwan, China (20,766) and Hong Kong SAR (1,118), respectively, by the ratio above in order to produce estimates for PCT applications. As a final step, we compute the estimates per million population—that is, 522.6 for Taiwan, China and 91.5 for Hong Kong SAR. The estimates are used in the computation of the respective business usage pillar scores of the two economies.

For more information, consult <http://www.oecd.org/sti/innovationinsciencetechnologyandindustry/oecdpatentdatabases.htm>. The average count of applications filed in 2012 and 2013 is divided by population, using figures from the World Bank's *World Development Indicators* (retrieved December 15, 2015).

Sources: World Intellectual Property Organization (WIPO) PCT Data, sourced from Organisation for Economic Co-operation and Development (OECD), *Patent Database*, January 2016, <http://www.oecd.org/sti/inno/oecdpatentdatabases.htm>; World Bank, *World Development Indicators* (retrieved December 15, 2015), <http://data.worldbank.org>; World Economic Forum's calculations

**7.04 ICT use for business-to-business transactions****In your country, to what extent do businesses use ICTs for transactions with other businesses? [1 = not at all; 7 = to a great extent] | 2014–15 weighted average**

Source: World Economic Forum, Executive Opinion Survey, 2014 and 2015 editions

**7.05 Business-to-consumer Internet use**

In your country, to what extent do businesses use the Internet for selling their goods and services to consumers? [1 = not at all; 7 = to a great extent] | 2014–15 weighted average

Source: World Economic Forum, Executive Opinion Survey, 2014 and 2015 editions

**7.06 Extent of staff training**

In your country, to what extent do companies invest in training and employee development? [1 = not at all; 7 = to a great extent] | 2014–15 weighted average

Source: World Economic Forum, Executive Opinion Survey, 2014 and 2015 editions

**8th pillar: Government usage****8.01 Importance of ICTs to government vision of the future**

To what extent does the government have a clear implementation plan for utilizing ICTs to improve your country's overall competitiveness? [1 = not at all—there is no plan; 7 = to a great extent—there is a clear plan] | 2014–15 weighted average

Source: World Economic Forum, Executive Opinion Survey, 2014 and 2015 editions

**8.02 Government Online Service Index**

The Government Online Service Index assesses the quality of government's delivery of online services on a 0-to-1 (best) scale | 2013

According to the United Nations' Public Administration Network, the Government Online Service 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 information about the methodology, consult <http://unpan3.un.org/egovkb/en-us/>.

Source: United Nations Department of Economic and Social Affairs (UNDESA), *UN E-Government Development Database* (retrieved November 27, 2014), <http://unpan3.un.org/egovkb/en-us/>

**8.03 Government success in ICT promotion**

In your country, how successful is the government in promoting the use of ICTs? [1 = not successful at all; 7 = extremely successful] | 2014–15 weighted average

Source: World Economic Forum, Executive Opinion Survey, 2014 and 2015 editions

**9th pillar: Economic impacts****9.01 Impact of ICTs on business models**

In your country, to what extent do ICTs enable new business models? [1 = not at all; 7 = to a great extent] | 2014–15 weighted average

Source: World Economic Forum, Executive Opinion Survey, 2014 and 2015 editions

**9.02 PCT ICT patent applications**

Number of applications for information and communication technology-related patents filed under the Patent Cooperation Treaty (PCT) per million population | 2012–2013 average

This measures the count of applications filed under the Patent Cooperation Treaty (PCT) in the technology domain of information and communication technologies by priority date and inventor nationality, using fractional count if an application is filed by multiple inventors.

For more information, consult <http://www.oecd.org/sti/innovationinsciencetechnologyandindustry/oecdpatentdatabases.htm>. The average count of applications filed in 2012 and 2013 is divided by population, using figures from the World Bank's *World Development Indicators* (retrieved December 15, 2015).

Sources: World Intellectual Property Organization (WIPO) PCT Data, sourced from Organisation for Economic Co-operation and Development (OECD), *Patent Database*, January 2016, <http://www.oecd.org/sti/inno/oecdpatentdatabases.htm>; World Bank, *World Development Indicators* (retrieved December 15, 2015), <http://data.worldbank.org>

**9.03 Impact of ICTs on new organizational models**

In your country, to what extent do ICTs enable new organizational models (e.g., virtual teams, remote working, telecommuting) within companies? [1 = not at all; 7 = to a great extent] | 2014–15 weighted average

Source: World Economic Forum, Executive Opinion Survey, 2014 and 2015 editions

**9.04 Share of workforce employed in knowledge-intensive activities (%)**

Share of workforce employed in knowledge-intensive activities (%) | 2014 or most recent year available

Knowledge-intensive jobs correspond to the International Labour Organization (ILO) aggregate category "Managers, professionals, and technicians," as provided in the ILOSTAT Database. For a few countries, when aggregate data were not available, authors have manually calculated the share of knowledge-intensive jobs (as a percentage of total employment) summing the following ISCO-08 categories: (1) Managers; (2) Professionals; and (3) Technicians and associate professionals.

Source: International Labour Organization (ILO), ILOSTAT Database (retrieved January 5, 2016), <http://www.ilo.org/ilostat>

**10th pillar: Social impacts****10.01 Impact of ICTs on access to basic services**

In your country, to what extent do information and communication technologies (ICTs) enable access for all individuals to basic services (e.g., health, education, financial services, etc.)? [1 = not at all; 7 = to a great extent] | 2014–15 weighted average

Source: World Economic Forum, Executive Opinion Survey, 2014 and 2015 editions

**10.02 Internet access in schools**

In your country, to what extent is the Internet used in schools for learning purposes? [1 = not at all; 7 = to a great extent] | 2014–15 weighted average

Source: World Economic Forum, Executive Opinion Survey, 2014 and 2015 editions

### 10.03 ICT use and government efficiency

In your country, to what extent does the use of ICTs by the government improve the quality of government services to the population? [1 = not at all; 7 = to a great extent] | 2014–15 weighted average

Source: World Economic Forum, Executive Opinion Survey, 2014 and 2015 editions

### 10.04 E-Participation Index

The E-Participation Index assesses, on a 0-to-1 (best) scale, the quality, relevance, and usefulness of government websites in providing online information and participatory tools and services to their citizens | 2013

According to the United Nations, the *E-Participation Index* assesses the quality and usefulness of information and services provided by a country for the purpose of engaging its citizens in public policymaking through the use of e-government programs. Within the *E-Participation Index*, countries are benchmarked in three areas: *e-information*, *e-consultation*, and *e-decision-making*. As such, the index indicates both the capacity and the willingness of the state in encouraging the citizen in promoting deliberative, participatory decision-making in public policy and of the reach of its own socially inclusive governance program.

For more information about the methodology, consult <http://unpan3.un.org/egovkb/en-us/>.

Source: United Nations Department of Economic and Social Affairs (UNDESA), *UN E-Government Development Database* (retrieved November 27, 2014), <http://unpan3.un.org/egovkb/en-us/>

