The data in this Report represent the best-available estimates from various national authorities, international agencies and private sources at the time the Report was prepared. It is possible that some data will have been revised or updated by them after publication. The following notes provide sources for all the indicators listed in the Country Profiles. Throughout the Report, “n/a” denotes that the value is not available, or that the available data are unreasonably outdated or do not come from a reliable source. For each indicator, the title appears on the first line, preceded by its number to allow for quick reference. The numbering is the same as the one used in the Appendix B.

A description of each indicator follows, or, in the case of Executive Opinion Survey (EOS) data, the full question and associated answers. If necessary, additional information is provided underneath the respective description or question/associated answers.

Pillar 1: Enterprise environment

1.01 Intensity of local competition
   In your country, how intense is competition in the local markets? (1 = not intense at all; 7 = extremely intense) | 2012-2013 weighted average

1.02 Effectiveness of antitrust policy
   In your country, to what extent does anti-monopoly policy promote competition? (1 = does not promote competition; 7 = effectively promotes competition) | 2012-2013 weighted average

1.03 Extent of market dominance
   In your country, how would you characterize corporate activity? (1 = dominated by a few business groups; 7 = spread among many firms) | 2012-2013 weighted average

1.04 Agricultural policy costs
   In your country, how would you assess the agricultural policy? (1 = excessively burdensome for the economy; 7 = balances well the interests of taxpayers, consumers and producers) | 2012-2013 weighted average

1.05 Impact of rules on FDI
   In your country, to what extent do rules and regulations encourage or discourage foreign direct investment (FDI)? (1 = strongly discourage FDI; 7 = strongly encourage FDI) | 2012-2013 weighted average

1.06 Distortive effect on competition of taxes and subsidies
   In your country, to what extent do government subsidies and/or tax breaks distort competition? (1 = significantly distort competition; 7 = do not distort competition) | 2012-2013 weighted average

1.07 Burden of government regulation
   In your country, how burdensome is it for businesses to comply with governmental administrative requirements (e.g. permits, regulations, reporting)? (1 = extremely burdensome; 7 = not burdensome at all) | 2012-2013 weighted average

1.08 State of cluster development
   In your country, how widespread are well-developed and deep clusters (geographic concentrations of firms, suppliers, producers of related products and services, and specialized institutions in a particular field)? (1 = non-existent; 7 = widespread in many fields) | 2012-2013 weighted average

1.09 Value chain breadth
   In your country, do companies have a narrow or broad presence in the value chain? (1 = narrow, primarily involved in individual steps of the value chain [e.g. resource extraction or production]; 7 = broad, present across the entire value chain [e.g. production and marketing, distribution, design]) | 2012-2013 weighted average

1.10 Number of procedures required to start a business
   Number of procedures required to start a business | 2013
   A procedure is defined as any interaction of the company founders with external parties (e.g. government agencies, lawyers, auditors, notaries). For details about the methodology employed and the assumptions made to compute this indicator, visit: http://www.doingbusiness.org/methodologysurveys/.
1.11 Time required to start a business
Number of days required to start a business | 2013
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/surveys/.

1.12 Extent and effect of taxation on incentives to invest
In your country, to what extent do taxes reduce the incentive to invest? (1 = significantly reduce the incentive to invest; 7 = do not reduce the incentive to invest at all) | 2012-2013 weighted average

1.13 Attitudes towards entrepreneurial failure
In your country, how is a failed entrepreneurial project regarded? (1 = as an embarrassment; 7 = as a valuable learning experience) | 2012-2013 weighted average

1.14 Ease of access to loans
In your country, how easy is it to obtain a bank loan with only a good business plan and no collateral? (1 = extremely difficult; 7 = extremely easy) | 2012-2013 weighted average

1.15 Venture capital availability
In your country, how easy is it for entrepreneurs with innovative but risky projects to find venture capital? (1 = extremely difficult; 7 = extremely easy) | 2012-2013 weighted average

1.16 Local equity market access
In your country, how easy is it for companies to raise money by issuing shares on the stock market? (1 = extremely difficult; 7 = extremely easy) | 2012-2013 weighted average

Pillar 2: Digital agenda

2.01 Government strategy for ICT
To what extent does the government have a clear implementation plan for utilizing ICTs to improve your country’s overall competitiveness? (1 = no plan; 7 = clear plan) | 2012-2013 weighted average

2.02 Mobile phone subscriptions
Mobile telephone subscriptions (post-paid and pre-paid) per 100 population | 2012
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 the number of pre-paid Subscriber Identity Module (SIM) cards active during the past three months. This includes both analogue and digital cellular systems (MT-2000, Third Generation [3G] and 4G subscriptions, but excludes mobile broadband subscriptions via data cards or Universal Serial Bus (USB) modems. Subscriptions to public mobile data services, private trunked mobile radio, teleport or radio paging, and telemetry services are also excluded. It includes all mobile cellular subscriptions that offer voice communications.
Source: International Telecommunication Union (ITU), December 2013. ITU World Telecommunication/ICT Indicators Database 2013

2.03 International internet bandwidth per internet user
International internet bandwidth (kb/s) per internet user | 2012
International internet bandwidth is the sum of capacity of all internet exchanges offering international bandwidth measured in kb/s.

2.04 Fixed broadband internet subscriptions
Fixed broadband internet subscriptions per 100 population | 2012
This refers to total fixed (wired) broadband internet subscriptions (i.e. subscriptions to high-speed access to the public internet—a Transition Control Protocol/Internet Protocol connection—at downstream speeds equal to or greater than 256 kb/s).

2.05 Mobile broadband subscriptions
Mobile broadband subscriptions per 100 population | 2012
Mobile broadband subscriptions refer to active SIM cards or, on code division multiple access networks, connections accessing the internet at consistent broadband speeds of over 512 kb/s, including cellular technologies such as High Speed Packet Access, evolution-data optimized and above. This includes connections being used in any type of device able to access mobile broadband networks, including smartphones, USB modems, mobile hotspots and other mobile-broadband-connected devices.

2.06 Laws related to ICT
How developed are your country’s laws related to the use of ICTs (e.g. electronic commerce, digital signatures, consumer protection)? (1 = not developed at all; 7 = extremely well developed) | 2012-2013 weighted average
2.07 Government Online Service Index

The Government Online Service Index assesses the quality of government's delivery of online services on a 0-1 (best) scale | 2012

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 government's performance 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: www2.unpan.org/egovkb/datacenter/CountryView.aspx.


2.08 Internet users

Percentage of individuals using the internet | 2012

Internet users are people with access to the worldwide network.


2.09 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) | 2012-2013 weighted average


2.10 Internet use for business-to-consumer transactions

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) | 2012-2013 weighted average


2.11 ICT and access to basic services

In your country, to what extent do ICTs enable access for all citizens to basic services (e.g. health, education, financial services)? (1 = not at all; 7 = to a great extent) | 2012-2013 weighted average


2.12 ICT and business model creations

In your country, to what extent do ICTs enable new business models? (1 = not at all; 7 = to a great extent) | 2012-2013 weighted average


2.13 E-participation Index

The e-participation index assesses, on a 0-to-1 (best) scale, the quality, relevance, usefulness and willingness of government websites for providing online information and participatory tools and services to their citizens. | 2012

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 policy-making through the use of e-government programmes. As such, it is indicative of both the capacity and the willingness of the state to encourage citizens in promoting deliberative, participatory decision-making in public policy, and of the reach of its own socially inclusive governance programme. For more information about the methodology, consult: www2.unpan.org/egovkb/datacenter/CountryView.aspx.


2.14 Patent Cooperation Treaty (PCT) ICT patent applications

Number of applications for ICT-related patents filed under the PCT, per million population | 2010-2011 average

This measure the count of applications filed under the PCT in the technology domain of ICTs by priority date and inventor nationality, using fractional count if an application is filed by multiple inventors. For more information, consult: www.oecd.org/sti/innovation/scienceandtechnologyandindustry/oecdpatentdatabases.htm. The average count of applications filed in 2010 and 2011 is counted by population, using figures from the World Bank's World Development Indicators Online (retrieved 20 December 2013).


Pillar 3: Innovative Europe

3.01 R&D expenditure

R&D expenditure, % of GDP | 2011 or most recent year available

Expenditures for R&D are current and capital expenditures (both public and private sectors) on creative work undertaken systematically to increase knowledge, including knowledge of humanity, culture and society, and the use of knowledge for new applications. R&D covers basic research, applied research and experimental development.

Source: The World Bank, World Development Indicators Online (retrieved 14 February 2014)

3.02 Researchers in R&D

Researchers in R&D, per million people | 2010 or most recent year available

Researchers in R&D are professionals engaged in the conception or creation of new knowledge, products, processes, methods or systems, and in the management of the projects concerned. Postgraduate PhD students [ISCED-97 level 6] engaged in R&D are included.

Source: The World Bank, World Development Indicators Online (retrieved 14 February 2014)

3.03 Availability of scientists and engineers

In your country, to what extent are scientists and engineers available? (1 = not at all; 7 = widely available) | 2012-2013 weighted average


3.04 Highly cited scientific articles

Scientific publications within the 10% most cited scientific publications worldwide, as % of total scientific publications of the country | 2009

Number of scientific publications with at least one co-author based abroad (where abroad is non-EU for the EU28) divided by the total number of scientific publications. The indicator is a proxy for the efficiency of the research system, as highly cited publications are assumed to be of higher quality. There could be a bias towards small or English-speaking countries given the coverage of Scopus' publication data. Countries such as France and Germany, where researchers publish relatively more in their own language, are more likely to underperform on this indicator compared to their real academic excellence. For more information, see: http://ec.europa.eu/enterprise/policies/innovation/policy/innovation-scoreboard/index_en.htm.

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3.05 PCT patent applications
Number of applications for patents filed under the PCT per million population | 2010-2011 average
This measures the total count of applications filed under the PCT, by priority date and inventor nationality, using fractional count if an application is filed by multiple inventors. The average count of applications filed in 2010 and 2011 is divided by population, using figures from the World Bank’s World Development Indicators Online (retrieved 28 November 2012).
Source: OECD, January 2014. Patent Database; World Bank, World Development Indicators Online (retrieved 20 December 2013)

3.06 Firm-level technology absorption
In your country, to what extent do businesses adopt new technology? (1 = not at all; 7 = adopt extensively) | 2012-2013 weighted average

3.07 University-industry collaboration in R&D
In your country, to what extent do business and universities collaborate on R&D? (1 = do not collaborate at all; 7 = collaborate extensively) | 2012-2013 weighted average

3.08 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) | 2012-2013 weighted average

3.09 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) | 2012-2013 weighted average

3.10 Availability of latest technologies
In your country, to what extent are the latest technologies available? (1 = not available at all; 7 = widely available) | 2012-2013 weighted average

3.11 Extent of marketing
In your country, to what extent do companies use sophisticated marketing tools and techniques? (1 = not at all; 7 = to a great extent) | 2012-2013 weighted average

3.12 Willingness to delegate authority
In your country, how do you assess the willingness to delegate authority to subordinates? (1 = not willing at all—senior management takes all important decisions; 7 = very willing—authority is mostly delegated to business unit heads and other lower-level managers) | 2012-2013 weighted average

3.13 Industrial design counts in applications
Industrial design counts in applications per million population | 2012
This measures the total industrial design counts in applications by residents at domestic and foreign offices, while taking into account the multiplying effect for regional offices; for example, the EU’s Office for Harmonization in the Internal Market (OHIM) and the Benelux Office for Intellectual Property. Applications received by these offices are multiplied by their respective numbers of Member States. For example, an application filed by a US resident at OHIM is multiplied by 28 to take into account that the application is equivalent to filing for protection in all 28 EU Member States. The industrial design counts are divided by population, using figures from the World Bank’s World Development Indicators Online (retrieved 20 December 2013).

3.14 Nature of competitive advantage
What is the competitive advantage of your country’s companies in international markets based upon? (1 = low-cost labour or natural resources; 7 = unique products and processes) | 2012-2013 weighted average

Pillar 4: Education and training

4.01 Quality of the educational system
How well does the educational system in your country meet the needs of a competitive economy? (1 = not well at all; 7 = extremely well) | 2012-2013 weighted average

4.02 PISA scores on education quality
Average performance for combined reading, mathematics and scientific literacy performance | 2012
The reported value corresponds to the average performance of pupils (aged 15) in the key competencies of reading, mathematics and science. PISA scores on education quality are scaled such that the a posteriori distribution of student competencies, with equal weight given to all OECD countries, has mean 500 and standard deviation 100.
Source: OECD, 2012 and 2013. PISA; World Bank, World Development Indicators Online (retrieved 20 December 2013)

4.03 Tertiary education enrolment rate
Gross tertiary education enrolment rate | 2012 or most recent year available
Tertiary enrolment rate is the ratio of total enrolment, regardless of age, to the population of the age group that officially corresponds to the tertiary education level. Tertiary education, whether leading to an advanced research qualification or not, normally requires, as a minimum condition of admission, the successful completion of education at the secondary level.

4.04 Secondary education enrolment rate
Gross secondary education enrolment rate | 2012 or most recent year available
The reported value corresponds to the ratio of total secondary enrolment, 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.
Source: UNESCO. UNESCO Institute for Statistics Data Centre (accessed 17 February 2014)
Pillar 5: Labour market and employment

5.01 Hiring and firing practices
In your country, how would you characterize the hiring and firing of workers? (1 = heavily impeded by regulations; 7 = extremely flexible) | 2012-2013 weighted average

5.02 Cooperation in labour-employer relations
In your country, how would you characterize labour-employer relations? (1 = generally confrontational; 7 = generally cooperative) | 2012-2013 weighted average

5.03 Pay and productivity
In your country, to what extent is pay related to worker productivity? (1 = not related to worker productivity; 7 = strongly related to worker productivity) | 2012-2013 weighted average

5.04 Extent and effect of taxation on incentives to work
In your country, to what extent do taxes reduce the incentive to work? (1 = significantly reduce the incentive to work; 7 = do not reduce the incentive to work at all) | 2012-2013 weighted average

5.05 Labour participation activity rate
Ratio of the population aged 15 and older to the working-age population (aged 15+) | 2012
This measure refers to the proportion of the population aged 15 and older that is economically active, i.e. all people who supply labour for the production of goods and services during a specified period. The labour force participation rate is a measure of the proportion of a country's working-age population that engages actively in the labour market, either by working or looking for work. It provides an indication of the relative size of the supply of labour available to engage in the production of goods and services.
Source: International Labour Organization (ILO), Key Indicators of the Labour Market | Retrieved 18 February 2014

5.06 Female participation in labour force
Ratio of female participation in the labour force (%) to male participation in the labour force (%) | 2012
This measure is the percentage of women aged 15-64 participating in the labour force divided by the percentage of men aged 15-64 participating in the labour force.
Source: ILO. Key Indicators of the Labour Market Net (retrieved 18 February 2014)

5.07 Private-sector employment of women
In your country, to what extent do businesses provide women the same opportunities as men to rise to positions of leadership? (1 = not at all; 7 = women have equal opportunities to rise to positions of leadership) | 2012-2013 weighted average

5.08 Youth unemployment
Youth unemployment (% of total labour force aged 15-24) | 2013 or most recent year available
Youth unemployment refers to the share of the labour force aged 15-24 without work, but available for and seeking employment. Definitions of labour force and unemployment differ by country.
Source: ILO. Key Indicators of the Labour Market Net, national estimates (retrieved 18 February 2014); Eurostat, see: http://epp.eurostat.ec.europa.eu/portal/page/portal/eurostat/home/ (retrieved 18 February 2014)
Appendix C

6.05 Social mobility

In your country, to what extent do individuals have the opportunity to improve their economic situation through their personal efforts regardless of the socio-economic status of their parents? (1 = little opportunity exists to improve one’s economic situation; 7 = significant opportunity exists to improve one’s economic situation) | 2012-2013 weighted average


Pillar 7: Environmental sustainability

7.01 Share of renewable energy production

Share of electricity produced from renewable sources (% of kilowatt hours [KWh]) | 2012 or most recent year available

This indicator is the ratio of total electricity production from renewable sources (hydropower, geothermal, solar, tides, wind, biomass and biofuels) to the total electricity production from all sources (KWh). Electricity production is measured at the terminals of all alternator sets in a station. Production includes the output of electricity plants that are designed to produce electricity only as well as that of combined heat and power plants.

Source: Authors’ calculation based on The World Bank, World Development Indicators Online (retrieved 17 February 2014)

7.02 Terrestrial biome protection

The degree to which a country achieves the target of protecting 17% of each terrestrial biome within its borders | 2012 or most recent year available

This indicator is calculated by Columbia University’s Center for International Earth Science Information Network (CIESIN) by overlaying the protected area mask on terrestrial biome data developed for each country by World Wildlife Fund's Terrestrial Ecoregions of the World. A biome is defined as a major regional or global biotic community, such as a grassland or desert, characterized chiefly by the dominant forms of plant life and the prevailing climate. Scores are capped at 17% per biome, such that higher levels of protection of some biomes cannot be used to offset lower levels of protection of other biomes; hence, the maximum level of protection a country can achieve is 17%. CIESIN uses time series of the World Database on Protected Areas developed by the United Nations Environment Programme World Conservation Monitoring Centre (UNEP-WCMC) in 2011, which provides a spatial time series of protected area coverage from 1990 to 2010. The WCMC considers all nationally designated protected areas whose location and extent are known. Boundaries were defined by polygons where available and, where they were not available, protected area centroids were buffered to create a circle in accordance with the protected area size. The WCMC removed all overlaps between different protected areas by dissolving the boundaries to create a protected areas mask.


7.03 Environmental treaty ratification

Total number of ratified environmental treaties | 2012


Source: IUCN Environmental Law Centre ELIS Treaty Database

7.04 Enforcement of environmental regulations

In your country, how would you assess the enforcement of environmental regulations? (1 = very lax, among the worst in the world; 7 = among the world’s most rigorous) | 2012-2013 weighted average


7.05 Quality of natural environment

In your country, how would you assess the quality of the natural environment? (1 = extremely poor, among the worst in the world; 7 = among the world’s most pristine) | 2012-2013 weighted average

7.06 CO₂ intensity

Kilogram (kg) of CO₂ per kg of oil-equivalent energy use | 2012 or most recent year available

Carbon dioxide emissions from solid fuel consumption refer mainly to emissions from the use of coal as an energy source.


7.07 Particulate matter (2.5) concentration

Population-weighted exposure to PM2.5 (micrograms per cubic metre) | 2012

PM2.5, also known as fine particulate matter, refers to particles or droplets in the air that are 2.5 microns or less in width. Although invisible to the naked human eye as individual particles, PM2.5 can reduce visibility and cause the air to appear hazy when PM2.5 levels are elevated. This indicator is based on a model that was parameterized by data on aerosol optical depth (AOD) from NASA's Moderate Resolution Imaging Spectroradiometer (MODIS), Sea-viewing Wide Field-of-view Sensor (SeaWiFS), and Multi-angle Imaging SpectroRadiometer (MISR) satellite instruments, and the Goddard Earth Observing System (GEOS)-Chem chemical transport model. The model covered all areas south of 70 degrees north latitude and north of 70 degrees south latitude. Van Donkelaar et al. estimated annual global surface PM2.5 concentrations at a 10x10 kilometre spatial resolution, and then created moving three-year averages from 2000 to 2012. Population-weighted average exposure values were calculated using population data from the Global Rural Urban Mapping Project (2011) database. For additional details, see van Donkelaar, A., January 2015 (embargoed) and http://epi.yale.edu/files/2014_epi_metadata.pdf.