

Appendix III

Sources and Definitions

Sources and Definitions

This appendix complements the data tables by providing, for each of the 84 indicators included in the Global Innovation Index (GII), a title, a description, a definition, and the source. For each indicator for each country/economy, the most recent value within the period 2001–11 was used. The single year given next to the description corresponds to the most frequent year for which data were available; when more than one year is considered, the period is indicated at the end of the indicator's source in parenthesis.

Some indicators received special treatment in the computation. A few variables required scaling by some other indicator to be comparable across countries, through division by gross domestic product (GDP) in current US dollars, purchasing power parity GDP in international dollars (PPP\$ GDP), population, total exports, etc. Details are provided in this appendix. The scaling factor was in each case the value corresponding to the same year of the particular indicator, or, if not available, the most recent available value. In addition, 22 indicators that were assigned half weight are singled out with an 'a'. Finally, indicators for which higher scores indicate worse outcomes, commonly known as 'bads', are differentiated with a 'b' (details on the computation can be found in Appendix IV Technical Notes).

A total of 59 variables are hard data; 16 are composite indicators from international agencies, distinguished with an asterisk (*), including five indices based on percent ranks for which an 'r' was added; and 6 are survey questions from the World Economic Forum's Executive Opinion Survey (EOS), singled out with a dagger (†). The EOS has been conducted for over 30 years. The 2011 edition of the EOS included 126 questions; 13,395 surveys were retained for tabulation, completed by business executives from 142 economies between January and June 2011.

1 Institutions

1.1 Political environment

1.1.1 Political stability and absence of violence/terrorism

Political stability and absence of violence/terrorism index* | 2010

Index that captures perceptions of the likelihood that the government will be destabilized or overthrown by unconstitutional or violent means, including politically motivated violence and terrorism. Scores are standardized.

Source: World Bank, *World Governance Indicators 2010*. (<http://info.worldbank.org/governance/wgi/index.asp>)

1.1.2 Government effectiveness

Government effectiveness index* | 2010

Index that captures perceptions of the quality of public and civil services and the degree of their independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies. Scores are standardized.

Source: World Bank, *World Governance Indicators 2010*. (<http://info.worldbank.org/governance/wgi/index.asp>)

1.1.3 Press freedom

Press freedom index* | 2011

Index that captures perceptions on violations of press freedom in the world. It reflects the degree of freedom that journalists and news organisations enjoy in each country, and the efforts made by the authorities to respect and ensure respect for this freedom. It is based on events between 1 December 2010 and 30 November 2011.

Source: *Reporters Without Borders, Press Freedom Index 2011–2012*. (<http://en.rsf.org/press-freedom-index-2011-2012,1043.html>)

1.2 Regulatory environment

1.2.1 Regulatory quality

Regulatory quality index**^a | 2010

Index that captures perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private-sector development. Scores are standardized.

Source: World Bank, *World Governance Indicators 2010*. (<http://info.worldbank.org/governance/wgi/index.asp>)

1.2.2 Rule of law

Rule of law index**^a | 2010

Index that captures perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence. Scores are standardized.

Source: World Bank, *World Governance Indicators 2010*. (<http://info.worldbank.org/governance/wgi/index.asp>)

1.2.3 Cost of redundancy dismissal

Sum of notice period and severance pay for redundancy dismissal (in salary weeks, averages for workers with 1, 5, and 10 years of tenure, with a minimum threshold of 8 weeks) | 2011

Doing Business, in its indicators on employing workers, measures flexibility in the regulation on redundancy in a manner consistent with relevant ILO conventions to strike a better balance between labour market flexibility and social protection (including unemployment protection). The redundancy cost indicator is the sum of the cost of advance notice requirements added to severance payments due when terminating a redundant worker, expressed in weeks of salary. The average value of notice requirements and severance payments applicable to a worker with 1 year of tenure, a worker with 5 years of tenure, and a worker with 10 years of tenure is used to assign the score. If the redundancy cost adds up to 8 or fewer weeks of salary, a value of 8 is assigned but the actual number of weeks is published. If the cost adds up to more than 8 weeks of salary, the score is the number of weeks. One month is recorded as 4 and 1/3 weeks. Assumptions about the worker: the worker is a full-time, male, nonexecutive employee; he earns a salary plus benefits equal to the economy's average wage during the entire period of his employment; he has a pay period that is the most common for workers in the economy; he is a lawful citizen who belongs to the same race and religion as the majority of the economy's population; he resides in the economy's largest business city; he is not a member of a labour union, unless membership is mandatory. Assumptions about the business: the business is a limited liability company; it operates in the economy's largest business city; it is 100% domestically owned; it operates in the manufacturing sector; it has 60 employees; it is subject to collective bargaining agreements in economies where such agreements cover more than half the manufacturing sector and apply even to firms not party to them; and it abides by every law and regulation but does not grant workers more benefits than mandated by law, regulation, or (if applicable) collective bargaining agreement.

Source: World Bank, *Doing Business 2012, Employing Workers*. (<http://www.doingbusiness.org/data/exploretopics/employing-workers>)

1.3 Business environment

1.3.1 Ease of starting a business

Ease of starting a business, percent rank index^{MF} | 2011

The ranking is the simple average of the percentile rankings on the component indicators for starting a business: procedures (number); time (days); and cost (% of income per capita). *Doing Business* records all procedures that are officially required for an entrepreneur to start up and formally operate an industrial or commercial business. These include obtaining all necessary licenses and permits and completing any required notifications, verifications, or inscriptions for the company and employees with relevant authorities. To make the data comparable across economies, several assumptions about the business and the procedures are used.

Source: World Bank, *Ease of Doing Business Index 2012, Doing Business 2012*. (<http://www.doingbusiness.org/>)

1.3.2 Ease of resolving insolvency

Ease of resolving insolvency, percent rank index^{MF} | 2011

The ranking on the ease of resolving insolvency is based on the recovery rate (cents on the dollar). To make the data comparable across economies, several assumptions about the business and the case are used: the recovery rate is recorded as cents on the dollar recouped by creditors through reorganization, liquidation, or debt enforcement (foreclosure) proceedings. The calculation takes into account the outcome: whether the business emerges from the proceedings as a going concern or the assets are sold piecemeal. Then the costs of the proceedings are deducted (1 cent for each percentage point of the value of the debtor's estate). Finally, the value lost as a result of the time the money remains tied up in insolvency proceedings is taken into account, including the loss of value due to depreciation of the hotel furniture. Consistent with international accounting practice, the annual depreciation rate for furniture is taken to be 20%. The furniture is assumed to account for a quarter of the total value of assets. The recovery rate is the present value of the remaining proceeds, based on end-2010 lending rates from the International Monetary Fund's *International Financial Statistics*, supplemented with data from central banks and the Economist Intelligence Unit. Indicators resolving insolvency—time (in years) and cost (% of estate), while also computed by *Doing Business*, are not taken into account for the ranking on the ease of resolving insolvency.

Source: World Bank, *Ease of Doing Business Index 2012, Doing Business 2012*. (<http://www.doingbusiness.org/>)

1.3.3 Ease of paying taxes

Ease of paying taxes, percent rank index^{MF} | 2011

The ranking on the ease of paying taxes is the simple average of the percentile rankings on the component indicators for paying taxes: payments (number per year); time (hours per year); profit tax (%); labour tax and contributions (%); other taxes (%); and total tax rate (% profit). As of the 2012 edition of *Doing Business*, a threshold—equivalent to the highest total tax rate among the top 30% of economies in the ranking on the total tax rate—is applied to the total tax rate. It will be calculated and adjusted on a yearly basis. The threshold in 2011 is 32.5%. For all economies with a total tax rate below this threshold, the total tax rate is set at 32.5% this year. The threshold is not based on any underlying theory, but is intended to mitigate the effect of very low tax rates on the ranking of the ease of paying taxes. To make the data comparable across economies, several assumptions about the business and the taxes and contributions are used. The methodology benefited from discussion with members of the International Tax Dialogue and other stakeholders, which led to a refinement of the survey questions on the time to pay taxes, the collection of additional data on the labour tax wedge for further research, and the introduction of a threshold applied to the total tax rate for the purpose of calculating the rankings on the ease of paying taxes.

Source: World Bank, *Ease of Doing Business Index 2012, Doing Business 2012*. (<http://www.doingbusiness.org/>)

2.1 Education

2.1.1 Expenditure on education

Current expenditure on education (% of GNI) | 2009

Current operating expenditures in education, including wages and salaries and excluding capital investments in buildings and equipment, as a percentage of gross national income (GNI). UNESCO series supplemented by World Bank estimates based on UN and UNESCO data (same year).

Source: UNESCO Institute for Statistics, *UIS online database*; United Nations database *UNdata*; World Bank *World Development Indicators database (2008–11)*. (<http://stats.uis.unesco.org>; <http://data.un.org>; <http://data.worldbank.org/>)

2 Human capital and research

2.1.2 Public expenditure on education per pupil

Public expenditure per pupil, all levels (% of GDP per capita) | 2008

Public current spending on education divided by the total number of students by level, as a percentage of GDP per capita. Public expenditure (current and capital) includes government spending on educational institutions (both public and private), education administration, and subsidies for private entities (students/households and other private entities).

Source: UNESCO Institute for Statistics, UIS online database (2001–10). (<http://stats.uis.unesco.org>)

2.1.3 School life expectancy

School life expectancy, primary to tertiary education (years) | 2009

Total number of years of schooling that a child of a certain age can expect to receive in the future, assuming that the probability of his or her being enrolled in school at any particular age is equal to the current enrolment ratio for that age.

Source: UNESCO Institute for Statistics, UIS online database (2002–11). (<http://stats.uis.unesco.org>)

2.1.4 Assessment in reading, mathematics, and science

PISA average scales in reading, mathematics, and science^a | 2009

The OECD Programme for International Student Assessment (PISA) develops three-yearly surveys that examine 15-year-old students' performance in reading, mathematics, and science. The scores are calculated in each year so that the mean is 500 and the standard deviation 100. The scores for China come from Shanghai; those for India from Himachal Pradesh and Tamil Nadu (average); those for the United Arab Emirates from Dubai; and those for Venezuela from Miranda.

Source: OECD Programme for International Student Assessment (PISA) 2009 and 2010 (2009–10). (www.pisa.oecd.org/)

2.1.5 Pupil-teacher ratio, secondary

Pupil-teacher ratio, secondary | 2009

The number of pupils enrolled in secondary school divided by the number of secondary school teachers (regardless of their teaching assignment). Where the data are missing for some countries, the ratios for upper-secondary are reported; if these are also missing, the ratios for lower-secondary are reported instead. UNESCO data supplemented by World Bank data.

Source: UNESCO Institute for Statistics, UIS online database, and World Bank World Development Indicators database (2001–11). (<http://stats.uis.unesco.org>; <http://data.worldbank.org/>)

2.2 Tertiary education

2.2.1 Tertiary enrolment

School enrolment, tertiary (% gross)^a | 2009

The ratio of total tertiary enrolment, regardless of age, to the population of the age group that officially corresponds to the tertiary level of education. Tertiary education, whether or not to an advanced research qualification, normally requires, as a minimum condition of admission, the successful completion of education at the secondary level. UNESCO data supplemented by World Bank data.

Source: UNESCO Institute for Statistics, UIS online database; World Bank World Development Indicators database (2003–11). (<http://stats.uis.unesco.org>; <http://data.worldbank.org/>)

2.2.2 Graduates in science and engineering

Tertiary graduates in engineering, manufacturing, and construction (% of total tertiary graduates) | 2009

The share of all tertiary graduates in manufacturing, engineering, and construction over all tertiary graduates.

Source: UNESCO Institute for Statistics, UIS online database (2001–11). (<http://stats.uis.unesco.org>)

2.2.3 Tertiary inbound mobility

Tertiary inbound mobility ratio (%^a) | 2009

The number of students from abroad studying in a given country, as a percentage of the total tertiary enrolment in that country.

Source: UNESCO Institute for Statistics, UIS online database (2001–11). (<http://stats.uis.unesco.org>)

2.2.4 Gross tertiary outbound enrolment

Gross tertiary outbound enrolment ratio (%^a) | 2009

Mobile students coming from a country/region as a percentage of the population of tertiary student age in their home country. UNESCO data supplemented by United Nations data.

Source: UNESCO Institute for Statistics, UIS online database; United Nations database UNdata (2008–10). (<http://stats.uis.unesco.org>; <http://data.un.org/>)

2.3 Research and development (R&D)

2.3.1 Researchers

Researchers, headcounts (per million population) | 2008

Researchers per million population, head counts. 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 (ISCED97 level 6) engaged in R&D are included. The series with full-time equivalents (FTE) also exists, but has a lower country coverage. UNESCO series supplemented by World Bank data.

Source: UNESCO Institute for Statistics, UIS online database; World Bank World Development Indicators database (2002–10). (<http://stats.uis.unesco.org>; <http://data.worldbank.org/>)

2.3.2 Gross expenditure on R&D (GERD)

GERD: Gross expenditure on R&D (% of GDP) | 2009

Total domestic intramural expenditure on R&D during a given period as a percentage of GDP. Intramural R&D expenditure is all expenditure for R&D performed within a statistical unit or sector of the economy during a specific period, whatever the source of funds. UNESCO data supplemented with World Bank data.

Source: UNESCO Institute for Statistics, UIS online database; World Bank World Development Indicators database (2002–10). (<http://stats.uis.unesco.org>; <http://data.worldbank.org/>)

2.3.3 Quality of scientific research institutions

Average answer to the question: How would you assess the quality of scientific research institutions in your country? 1 = very poor; 7 = the best in their field internationally | 2011

Source: World Economic Forum, Executive Opinion Survey 2010–2011. (<https://wefsurvey.org>)

3.1 Information and communication technologies (ICT)

3.1.1 ICT access

ICT access index* | 2010

The ICT access index is a composite index that weights five ICT indicators (20% each): (1) Fixed telephone lines per 100 inhabitants; (2) Mobile cellular telephone subscriptions per 100 inhabitants; (3) International Internet bandwidth (bit/s) per Internet user; (4) Proportion of households with a computer; and (5) Proportion of households with Internet access at home. It is the first subindex in ITU's ICT Development Index (IDI).

Source: International Telecommunication Union, *Measuring the Information Society 2011, ICT Development Index 2011 (2008–10)*. (<http://www.itu.int/ITU-D/ict/publications/idi/>)

3.1.2 ICT use

ICT use index* | 2010

The ICT use index is a composite index that weights three ICT indicators (33% each): (1) Internet users per 100 inhabitants; (2) Fixed broadband Internet subscribers per 100 inhabitants; (3) Mobile broadband subscriptions per 100 inhabitants. It is the second subindex in ITU's ICT Development Index (IDI).

Source: International Telecommunication Union, *Measuring the Information Society 2011, ICT Development Index 2011 (2008–10)*. (<http://www.itu.int/ITU-D/ict/publications/idi/>)

3.1.3 Government's online service

Government's online service index* | 2011

Research teams assessed each country's national website as well as the websites of the ministries of education, labour, social services, health, and finance, as well as associated portals and subsidiary websites. Websites were tested for a minimal level of content accessibility. The survey covers four stages of government's online service development with points assigned for (1) emerging information services; (2) enhanced information services; (3) transaction services; and (4) a connected approach. A citizen-centric approach was followed. It is the first of three components of the E-Government Development Index (EGDI) of the United Nations Public Administration Network (UNPAN), together with components on telecommunications infrastructure and human capital.

Source: United Nations Public Administration Network, *e-Government Survey 2012 (2010–11)*. (<http://www2.unpan.org/egovkb/>)

3.1.4 Online e-participation

E-participation index* | 2011

The United Nations E-Participation Index is based on the survey used for the UN Online Service Index. The survey was expanded with questions emphasizing quality in the connected presence stage of e-government. These questions focus on the use of the Internet to facilitate the provision of information by governments to citizens ('e-information sharing'), interaction with stakeholders ('e-consultation'), and engagement in decision-making processes ('e-decision making'). A country's E-Participation Index value reflects how useful these features are and the extent to which they have been deployed by the government compared with all other countries. The purpose of this measure is to offer insight into how different countries are using online tools to promote interaction between citizen and government, as well as among citizens, for the benefit of all. The index ranges from 0 to 1, with 1 showing greater e-participation.

Source: United Nations Public Administration Network, *e-Government Survey 2012*. (<http://www2.unpan.org/egovkb/>)

3.2 General infrastructure

3.2.1 Electricity output

Electricity output (kWh per capita)^a | 2009

Electricity production, measured at the terminals of all alternator sets in a station. In addition to hydropower, coal, oil, gas, and nuclear power generation, this indicator 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 that are designed to produce electricity only as well as that of combined heat and power plants. Electricity output in kWh is scaled by population.

Source: International Energy Agency, *World Energy Balances online data service (2009–10)*. (<http://www.iea.org/stats/>)

3.2.2 Electricity consumption

Electricity consumption (kWh per capita)^a | 2009

Electric power consumption, measured by the production of power plants and combined heat and power plants less transmission, distribution, and transformation losses and own use by heat and power plants. The total value in kWh is scaled by population.

Source: International Energy Agency, *World Energy Balances online data service (2009–10)*. (<http://www.iea.org/stats/>)

3 Infrastructure (continued)

3.2.3 Trade and transport-related infrastructure

Logistics Performance Index: Quality of trade and transport-related infrastructure (1 = low to 5 = high)* | 2009

Logistics Performance Index surveys conducted by the World Bank in partnership with academic and international institutions and private companies and individuals engaged in international logistics. The 2009 round of surveys covered more than 5,000 country assessments by nearly 1,000 international freight forwarders. Respondents evaluate eight markets on six core dimensions on a scale from 1 (worst) to 5 (best). The markets are chosen based on the most important export and import markets of the respondent's country, random selection, and, for landlocked countries, neighbouring countries that connect them with international markets. Details of the survey methodology are in Arvis et al.'s *Connecting to Compete 2010: Trade Logistics in the Global Economy* (2010). Respondents evaluated the quality of trade and transport related infrastructure (e.g., ports, railroads, roads, information technology), on a rating ranging from 1 (very low) to 5 (very high). Scores are averaged across all respondents.

Source: World Bank and Turku School of Economics, *Logistics Performance Index 2010* (2006–09). (<http://go.worldbank.org/88X6PU5GV0>)

3.2.4 Gross capital formation

Gross capital formation (% of GDP) | 2010

Gross capital formation (formerly 'gross domestic investment') consists of outlays on additions to the fixed assets of the economy plus net changes in the level of inventories. Fixed assets include land improvements (fences, ditches, drains, and so on); plant, machinery, and equipment purchases; and the construction of roads, railways, and the like, including schools, offices, hospitals, private residential dwellings, and commercial and industrial buildings. Inventories are stocks of goods held by firms to meet temporary or unexpected fluctuations in production or sales, and 'work in progress'. Net acquisitions of valuables are also considered capital formation.

Source: World Bank and OECD, *World Bank World Development Indicators database* (2003–10). (<http://data.worldbank.org/>)

3.3 Ecological sustainability

3.3.1 GDP per unit of energy use

GDP per unit of energy use (2000 PPP\$ per kg of oil equivalent) | 2009

Purchasing power parity gross domestic product (PPP\$ GDP) per kilogram of oil equivalent of energy use. Energy use or total primary energy supply (TPES) is calculated as production of fuels + inputs from other sources + imports – exports – international marine bunkers +/- stock changes. It includes coal, crude oil, natural gas liquids, refinery feedstocks, additives, petroleum products, gases, combustible renewables and waste, electricity, and heat. Domestic supply (also called 'energy apparent consumption') differs from final consumption in that it does not take account of distribution losses. The supply (or use) of energy commodities is converted to kilograms or tons of oil equivalent (koe, toe) using standard coefficients for each energy source.

Source: International Energy Agency, *World Energy Balances online data service* (2009–10). (<http://www.iea.org/stats/>)

3.3.2 Environmental performance

Environmental Performance Index* | 2010

This index ranks countries on 22 performance indicators tracked across policy categories that cover both environmental public health and ecosystem vitality. These indicators gauge how close countries are to established environmental policy goals. The index ranges from 0 to 100, 100 indicating best performance.

Source: Yale University and Columbia University *Environmental Performance Index 2012*. (<http://epi.yale.edu/>)

3.3.3 ISO 14001 environmental certificates

ISO 14001 Environmental management systems—Requirements with guidance for use: Number of certificates issued (per billion GDP in PPP\$) | 2010

Number of certificates of conformity to 'ISO 14001:2004 Environmental management systems: Requirements with guidance for use' issued, based on the ISO survey. Single-site and multiple-site certificates are not distinguished. The ISO survey is published on an annual basis by the International Organization for Standardization (ISO). The 2010 edition of the ISO survey was carried out by the market research firm the Nielsen Company. Only certification bodies accredited by national members of the International Accreditation Forum (www.iaf.nu) were used as sources (except for certificates in the Russian Federation, which were accredited locally). Certification of conformity with standards is not a requirement and the standards can be implemented without certification, but certification is perceived as adding value and trust. ISO is a network of the national standards institutes of 163 countries, and it is the world's largest developer of voluntary International Standards for business, government, and society, with a portfolio of more than 18,800 standards in almost every sector of economic activity and technology. ISO itself does not perform certification to its standards, does not issue certificates, and does not control certification performed independently of ISO by other organizations. The data are reported per billion PPP\$ GDP.

Source: International Organization for Standardization (ISO), *The ISO Survey of Certifications 2010 CD-Rom* (2008–10). (www.iso.org)

4.1 Credit

4.1.1 Ease of getting credit

Ease of getting credit, percent rank index^{xf} | 2011

The ranking is based on the percentile rankings on the component indicators for the getting credit index: strength of legal rights index (range 0–10, weighted at 62.5%); and depth of credit information index (range 0–6, weighted at 37.5%). *Doing Business* measures the legal rights of borrowers and lenders with respect to secured transactions through one set of indicators and the sharing of credit information through another. The first set of indicators describes how well collateral and bankruptcy laws facilitate lending. The second set measures the coverage, scope and accessibility of credit information available through public credit registries and private credit bureaus. Although *Doing Business* compiles data on getting credit for public registry coverage (% of adults) and for private bureau coverage (% of adults), these indicators are not included in the ranking.

Source: World Bank, *Ease of Doing Business Index 2012, Doing Business 2012*. (<http://www.doingbusiness.org/>)

4.1.2 Domestic credit to private sector

Domestic credit to private sector (% of GDP) | 2010

Financial resources provided to the private sector, such as through loans, purchases of nonequity securities, and trade credits and other accounts receivable, that establish a claim for repayment. For some countries, these claims include credit to public enterprises.

Source: International Monetary Fund; World Bank and OECD GDP estimates, World Bank World Development Indicators database (2005–10). (<http://data.worldbank.org/>)

4.1.3 Microfinance institutions' gross loan portfolio

Microfinance institutions: Gross loan portfolio (% of GDP) | 2010

Combined gross loan balances per microfinance institution (current US\$), divided by GDP (current US\$) and multiplied by 100.

Source: Microfinance Information Exchange, *Mix Market database*; World Bank and OECD GDP estimates, World Bank World Development Indicators database (2001–11). (<http://www.mixmarket.org/crossmarket-analysis-report/download>; <http://data.worldbank.org/>)

4.2 Investment

4.2.1 Ease of protecting investors

Ease of protecting investors, percent rank index^{xf} | 2011

The ranking is the simple average of the percentile rankings on the component indicators for protecting investors: the extent of disclosure index (0–10); the extent of director liability index (0–10); the ease of shareholder suits index (0–10); and the strength of investor protection index (0–10). *Doing Business* measures the strength of minority shareholder protections against directors' misuse of corporate assets for personal gain. The indicators distinguish three dimensions of investor protections: transparency of related-party transactions (extent of disclosure index), liability for self-dealing (extent of director liability index), and shareholders' ability to sue officers and directors for misconduct (ease of shareholder suits index). The data come from a survey of corporate and securities lawyers and are based on securities regulations, company laws, civil procedure codes, and court rules of evidence.

Source: World Bank, *Ease of Doing Business Index 2012, Doing Business 2012*. (<http://www.doingbusiness.org/>)

4.2.2 Market capitalization

Market capitalization of listed companies (% of GDP) | 2010

Market capitalization (also known as 'market value') is the share price times the number of shares outstanding. Listed domestic companies are the domestically incorporated companies listed on the country's stock exchanges at the end of the year. Listed companies do not include investment companies, mutual funds, or other collective investment vehicles.

Source: Standard and Poor's and World Bank and OECD GDP estimates, World Bank World Development Indicators database (2006–10). (<http://data.worldbank.org/>)

4.2.3 Total value of stocks traded

Stocks traded, total value (% of GDP) | 2010

Total value of shares traded during the period. This indicator complements the market capitalization ratio by showing whether market size is matched by trading.

Source: Standard and Poor's and World Bank and OECD GDP estimates, World Bank World Development Indicators database (2006–10). (<http://data.worldbank.org/>)

4.2.4 Venture capital deals

Venture capital per investment location: Number of deals (per trillion PPP\$ GDP) | 2011

Thomson Reuters data on private equity deals, per deal, with details on, among others, the location of investment, investment company, investor firms, and funds. The series corresponds to a query on venture capital deals from 1 January 2011 to 31 December 2011, with the data collected by investment location, for a total of 6,306 deals in 71 countries in 2011. The data are reported per trillion PPP\$ GDP.

Source: Thomson Reuters, *Thomson One Banker Private Equity database*; World Bank and OECD GDP estimates, World Bank World Development Indicators database. (<http://banker.thomsonib.com>; <http://data.worldbank.org/>)

4.3 Trade and competition

4.3.1 Applied tariff rate, weighted mean

Tariff rate, applied, weighted mean, all products (%) | 2010

The average of effectively applied rates weighted by the product import shares corresponding to each partner country. Data are classified using the Harmonized System of trade at the six- or eight-digit level. Tariff line data were matched to Standard International Trade Classification (SITC) revision 3 codes to define commodity groups and import weights. To the extent possible, specific rates have been converted to their ad valorem equivalent rates and have been included in the calculation of weighted mean tariffs. Effectively applied tariff rates at the six- and eight-digit product level are averaged for products in each commodity group. When the effectively applied rate is unavailable, the most favoured nation rate is used instead. World Bank estimates using the World Integrated Trade Solution (WITS) system, based on tariff data from the UNCTAD Trade Analysis and Information System (TRAINS) database and import weights calculated using the UN Comtrade database.

Source: World Bank, based on WITS, UNCTAD TRAINS, and UN COMTRADE, World Bank World Development Indicators database (2003–10). (<http://data.worldbank.org/>)

4 Market sophistication

4.3.2 Market access for non-agricultural exports

Non-agricultural market access: Five major export markets weighted actual applied tariff (%) | 2009

Part B of Section II Country Tables of the World Tariff Profiles (WTP) covers, among others, the market access conditions in the five major export markets for each country, broken down into agricultural (AG) and non-agricultural products (NAMA), following the classification included in Annex 1 of the WTO Agreement on Agriculture (by Harmonized System codes). The weighted actual applied tariff in each export market (c) is calculated as the difference between (a) the trade-weighted average most-favoured nation (MFN) duty and (b) the preference margin, defined as the trade-weighted average difference between the MFN duty and the lowest preferential duty. Statistics (a) and (b) for AG and NAMA are published in the World Tariff Profiles and are used to calculate (c). To get a single value by country, the actual applied tariffs for each of the five export markets were weighted by total imports for non-agricultural exports. For EU countries, the extra-EU data are included for the entire bloc. These statistics are calculated from the imports data reported by the importing country (mirror exports data) and the tariff applied when these imports come into the country; that is, MFN, preferential or general (for non-WTO members). In each WTP issue, the list of major markets depends on the availability of imports data; to increase data coverage, the latest available data for two reference years are used. The reference years for each partner can be consulted in the WTP (if the same year is used in different WTP editions, data will differ if revisions were made). Applied tariffs and imports are sourced from submissions made to the WTO Integrated Data Base (IDB). Preferences are sourced from the IDB and supplemented by ITC data. The ITC also calculates all non-available ad-valorem equivalents (AVEs) for MFN and non-MFN non-ad valorem duties (base years for imports change every issue). When information on preferential tariff regimes is missing, MFN treatment is assumed (it is also assumed that a country avails itself of preferential tariffs, even if the exporter chooses not to for whatever reason—such as the more onerous prerequisites attached to the preferential tariff).

Source: World Trade Organization (WTO), International Trade Centre (ITC), and United Nations Conference on Trade and Development (UNCTAD), World Tariff Profiles 2011 and 2008 (2008–09).

(<http://stat.wto.org/TariffProfile/WSDBTariffPFHome.aspx?Language=E>)

4.3.3 Imports of goods and services

Imports of goods and services (% of GDP)^a | 2010

The value of all goods and other market services imported from the rest of the world. Imports includes the value of merchandise, freight, insurance, transport, travel, royalties, license fees, and other services, such as communication, construction, financial, information, business, personal, and government services. It excludes exclude compensation of employees and investment income (formerly called 'factor services') and transfer payments.

Source: World Bank and OECD, World Bank World Development Indicators database (2003–10). (<http://data.worldbank.org/>)

4.3.4 Exports of goods and services

Exports of goods and services (% of GDP)^a | 2010

The value of all goods and other market services provided to the rest of the world. Exports include the value of merchandise, freight, insurance, transport, travel, royalties, license fees, and other services, such as communication, construction, financial, information, business, personal, and government services. They exclude compensation of employees and investment income (formerly called 'factor services') and transfer payments.

Source: World Bank and OECD, World Bank World Development Indicators database (2003–10). (<http://data.worldbank.org/>)

4.3.5 Intensity of local competition

Average answer to the question: How would you assess the intensity of competition in the local markets in your country? 1 = limited in most industries; 7 = intense in most industries† | 2011

Source: World Economic Forum, Executive Opinion Survey 2010–2011. (<https://wefsurvey.org>)

5.1 Knowledge workers

5.1.1 Employment in knowledge-intensive services

Employment in knowledge-intensive services (% of workforce) | 2008

Sum of people in categories 0 to 3 as a percentage of total people employed, according to ISCO-1968, ISCO-88, and NSCO (excluding 0 Armed forces in ISCO-88). Categories included: ISCO-1968: 0/1 Professional, technical and related workers, 2 Administrative and managerial workers, 3 Clerical and related workers. ISCO-88: 1 Legislators, senior officials and managers, 2 Professionals, 3 Technicians and associate professionals.

Source: International Labour Organization, LABORSTA Database of Labour Statistics (2001–08). (<http://laborsta.ilo.org/>)

5.1.2 Firms offering formal training

Firms offering formal training (% of firms) | 2009

The percentage of firms offering formal training programmes for their permanent, full-time employees.

Source: International Finance Corporation and World Bank, Enterprise Surveys, World Bank World Development Indicators database (2002–10). (<http://www.enterprisesurveys.org/>; <http://data.worldbank.org/>)

5.1.3 GERD performed by business enterprise

GERD: Performed by business enterprise (% of total) ^a | 2009

Percentage of gross expenditure on R&D performed by business enterprise.

Source: UNESCO Institute for Statistics, UIS online database (2002–10). (<http://stats.uis.unesco.org>)

5.1.4 GERD financed by business enterprise

GERD: Financed by business enterprise (% of total) ^a | 2009

Percentage of gross expenditure on R&D financed by business enterprise.

Source: UNESCO Institute for Statistics, UIS online database (2001–10). (<http://stats.uis.unesco.org>)

5.1.5 GMAT mean score

Weighted mean score at the Graduate Management Admission Test (GMAT) by residency and by citizenship (weighted by the total numbers of test takers)^a | 2011

Mean scores at the Graduate Management Admission Test (GMAT) by residency and by citizenship, weighted by total number of residents and citizens taking the test, respectively. The GMAT is a standardized test aimed at measuring aptitude to succeed academically in graduate business studies. It is an important part of the admissions process for nearly 5,300 graduate management programs in approximately 2,000 business schools worldwide. The GMAT exam consists of three sections: Verbal, Quantitative, and Analytical Writing. GMAT total scores are calculated based on performance in the Verbal and Quantitative sections of the exam only. Scores are reported in increments of 10, on a scale ranging from 200 to 800. Mean score data for groups with fewer than 5 GMAT exams taken are not released and therefore not considered.

Source: Graduate Management Admission Council (GMAC). (www.gmac.com/research)

5.1.6 GMAT test takers

Number of test takers of the Graduate Management Admission Test (GMAT) by citizenship (scaled by million population 20–34 years old)^a | 2011

Total number of test takers of the Graduate Management Admission Test (GMAT) by citizenship, scaled by population 20–34 years old (if for a given country/economy the data for citizens do not exist, the data for residents are given instead). Refer to indicator 5.1.5 for details.

Source: Graduate Management Admission Council (GMAC). (www.gmac.com/research)

5.2 Innovation linkages

5.2.1 University/industry research collaboration

Average answer to the survey question: To what extent do business and universities collaborate on research and development (R&D) in your country? 1 = do not collaborate at all; 7 = collaborate extensively[†] | 2011

Source: World Economic Forum, Executive Opinion Survey 2010–2011. (<https://wefsurvey.org>)

5.2.2 State of cluster development

Mean of the average responses to three survey questions on the role of clusters in the economy. 'Clusters' are defined as geographic concentrations of firms, suppliers, producers of related products and services, and specialized institutions in a particular field (e.g., financial services in New York, leather and footwear in Italy, consumer electronics in Japan). The questions are: (1) In your country's economy, how prevalent are well-developed and deep clusters? 1 = nonexistent; 7 = widespread in many fields. (2) In your country, how extensive is collaboration among firms, suppliers, partners, and associated institutions within clusters? 1 = collaboration is nonexistent; 7 = collaboration is extensive. (3) In your country, what is the state of formal policies supporting cluster development? 1 = nonexistent; 7 = extensive and covers many clusters and regions[†] | 2011

Source: World Economic Forum, Executive Opinion Survey 2010–2011. (<https://wefsurvey.org>)

5.2.3 GERD financed by abroad

GERD: Financed by abroad (% of total) | 2009

Percentage of gross expenditure on R&D financed by abroad, i.e., with foreign financing.

Source: UNESCO Institute for Statistics, UIS online database (2002–10). (<http://stats.uis.unesco.org>)

5.2.4 Joint venture / strategic alliance deals

Joint ventures / strategic alliances: Number of deals, fractional counting (per trillion PPP\$ GDP)^a | 2011

Thomson Reuters data on joint ventures / strategic alliances deals, per deal, with details on, among others, the country of origin of partner firms. The series corresponds to a query on joint ventures / strategic alliances deals from 1 January 2011 to 31 December 2011, for a total of 3,007 deals announced. Each participating nation of each company in a deal (n countries per deal) gets, per deal, a score equivalent to $1/n$ (with the effect that all country scores add up to 3,007). The data are reported per trillion PPP\$ GDP.

Source: Thomson Reuters, Thomson One Banker Private Equity, SDC Platinum database; World Bank and OECD GDP estimates; World Bank World Development Indicators database. (<http://banker.thomsonib.com>; <http://data.worldbank.org/>)

5 Business sophistication (continued)

5.2.5 Share of patents with foreign inventor

Percentage of published Patent Cooperation Treaty (PCT) applications with at least one foreign inventor^a | 2011

Percentage of PCT applications having at least one foreign inventor (i.e., one inventor's country of residence is different from the first-named applicant's country of residence). The statistic is given for PCT Contracting Parties only. Where there were no published PCT applications, a zero is assigned. Counts are based on the year of publication. A patent confers a set of exclusive rights to applicants by law for inventions that meet standards of novelty, non-obviousness, and industrial applicability. It is valid for a limited period of time (generally 20 years), during which patent holders can commercially exploit their inventions on an exclusive basis. In return, applicants are obliged to disclose their inventions to the public so that others, skilled in the art, may replicate the invention. The patent system is designed to encourage innovation by providing innovators with time-limited exclusive legal rights, thus enabling innovators to appropriate the returns of their innovative activities.

Source: World Intellectual Property Organization, WIPO Statistics Database (2001–11). (<http://www.wipo.int/ipstats/>)

5.3 Knowledge absorption

5.3.1 Royalty and license fees payments

Royalty and license fees, payments (per thousand GDP) | 2010

Payments between residents and nonresidents for the authorized use of intangible, nonproduced, nonfinancial assets and proprietary rights (such as patents, copyrights, trademarks, industrial processes, and franchises) and for the use, through licensing agreements, of produced originals of prototypes (such as films and manuscripts). The data in current US\$ were divided by GDP in current US\$.

Source: International Monetary Fund; World Bank and OECD GDP estimates, World Bank World Development Indicators database (2005–10). (<http://data.worldbank.org/>)

5.3.2 High-tech imports

High-tech net imports (% of total net imports) | 2010

High-technology imports minus re-imports over total imports minus re-imports. The list of commodities contains technical products with a high intensity of R&D, based on the Eurostat classification, itself based on SITC Rev.4 and the OECD definition. Commodities belong to the following sectors: aerospace; computers & office machines; electronics, telecommunications; pharmacy; scientific instruments; electrical machinery; chemistry; non-electrical machinery; and armament.

Source: United Nations, COMTRADE database; Eurostat 'High-technology' aggregations based on SITC Rev. 4, April 2009 (2007–11). (<http://comtrade.un.org/>; http://epp.eurostat.ec.europa.eu/cache/ITY_SDDS/Annexes/htec_esms_an5.pdf)

5.3.3 Computer and communications service imports

Computer, communications, and other services (% of commercial service imports) | 2009

Computer, communications, and other services (% of commercial service imports) include such activities as international telecommunications, and postal 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.

Source: International Monetary Fund; World Bank and OECD GDP estimates, World Bank World Development Indicators database (2004–10). (<http://data.worldbank.org/>)

5.3.4 Foreign direct investment net inflows

Foreign direct investment (FDI), net inflows (% of GDP) | 2010

Net inflows of investment to acquire a lasting management interest (10% or more of voting stock) in an enterprise operating in an economy other than that of the investor. It is the sum of equity capital, reinvestment of earnings, other long-term capital, and short-term capital as shown in the balance of payments. This series shows net inflows (new investment inflows less disinvestment) in the reporting economy from foreign investors, and is divided by GDP.

Source: International Monetary Fund; World Bank and OECD GDP estimates, World Bank World Development Indicators database (2009–10). (<http://data.worldbank.org/>)

6.1 Knowledge creation

6.1.1 National office patent applications

Number of resident patent applications at the national patent office (per billion PPP\$ GDP) | 2010

Number of patent applications filed by residents at the national patent office. *Patent* is defined in the description of indicator 5.2.5. Patent applications by resident data are based on 'equivalent count', by which applications at regional offices are multiplied by the corresponding number of member states. This concerns the Eurasian Patent Organization (EAPO) and the African Intellectual Property Organization (OAPI). For the European Patent Office (EPO) and the African Regional Intellectual Property Organization (ARIPO), each application is counted as one application abroad if the applicant does not reside in a member state; or as one resident and one application abroad if the applicant resides in a member state. Data reported per billion PPP\$ GDP.

Source: World Intellectual Property Organization, WIPO Statistics Database; World Bank and OECD GDP estimates, World Bank World Development Indicators database (2001–10). (<http://www.wipo.int/ipstats/>; <http://data.worldbank.org/>)

6.1.2 Patent Cooperation Treaty applications

Number of resident international patent applications at the Patent Cooperation Treaty (per billion PPP\$ GDP) | 2011

Number of patent applications filed by residents under the WIPO-administered Patent Cooperation Treaty (PCT). The statistic is given for PCT Contracting Parties only. PCT applications are assigned to a particular country of origin according to the country of residence of the first-named applicant. The PCT system simplifies the process of multiple national patent filings by reducing the requirement to file a separate application in each jurisdiction. *Patent* is defined in the description of indicator 5.2.5. Data reported per billion PPP\$ GDP.

Source: World Intellectual Property Organization, WIPO Statistics Database; World Bank and OECD GDP estimates, World Bank World Development Indicators database (2003–11). (<http://www.wipo.int/ipstats/>; <http://data.worldbank.org/>)

6.1.3 National office utility model applications

Number of resident utility model applications at the national patent office (per billion PPP\$ GDP) | 2010

Number of utility model applications filed by residents at their national patent office. Like a patent, a utility model (UM) confers a set of rights for an invention for a limited period of time, during which UM holders can commercially exploit their inventions on an exclusive basis. The terms and conditions for granting UMs are different from those for 'traditional' patents. For example, UMs are issued for a shorter duration (7 to 10 years) and, at most offices, UM applications are granted without substantive examination. Data reported per billion PPP\$ GDP.

Source: World Intellectual Property Organization, WIPO Statistics Database; World Bank and OECD GDP estimates, World Bank World Development Indicators database (2003–10). (<http://www.wipo.int/ipstats/>; <http://data.worldbank.org/>)

6.1.4 Scientific and technical journal articles

Number of scientific and technical journal articles (per billion PPP\$ GDP) | 2009

The number of scientific and engineering articles published in the following fields: physics, biology, chemistry, mathematics, clinical medicine, biomedical research, engineering and technology, and earth and space sciences. The NSF considers article counts from a set of journals covered by Science Citation Index (SCI) and Social Sciences Citation Index (SSCI). Articles are classified by year of publication and assigned to region/country/economy on basis of institutional address(es) listed on the article. Articles are counted on a fractional-count basis—that is, for articles with collaborating institutions from multiple countries/economies, each country/economy receives fractional credit on basis of proportion of its participating institutions. Details may not add to total because of rounding. The data are reported per billion PPP\$ GDP.

Source: National Science Foundation, National Center for Science and Engineering Statistics, and The Patent Board™, special tabulations (2011) from Thomson Reuters, SCI and SSCI; World Bank and OECD GDP estimates, World Bank World Development Indicators database. (<http://www.nsf.gov/statistics/seind12/append/c5/at05-27.xls>; http://thomsonreuters.com/products_services/science/; <http://data.worldbank.org/>)

6.2 Knowledge impact

6.2.1 Growth rate of GDP per person engaged

Growth rate of GDP per person engaged (constant 1990 US\$ at PPP, 2009 to 2010) | 2010

Growth of GDP per person engaged provides a measure of labour productivity (defined as output per unit of labour input). GDP per person employed is gross domestic product (GDP) divided by total employment in the economy. PPP\$ GDP is converted to 1990 constant international dollars using PPP rates. An international dollar has the same purchasing power over GDP that a US dollar has in the United States of America.

Source: International Labour Organization, LABORSTA Database of Labour Statistics. (<http://laborsta.ilo.org/>)

6.2.2 New business density

New business density (new registrations per thousand population 15–64 years old)^a | 2009

Number of new firms, defined as firms registered in the current year of reporting, per thousand population aged 15–64 years old.

Source: International Finance Corporation, World Bank World Development Indicators database (2007–09). (<http://econ.worldbank.org/research/entrepreneurship>; <http://data.worldbank.org/>)

6.2.3 Total computer software spending

Total computer software spending (% of GDP)^a | 2011

Computer software spending includes the total value of purchased or leased packaged software such as operating systems, database systems, programming tools, utilities, and applications. It excludes expenditures for internal software development and outsourced custom software development. WITSA figures for 2011 are estimates calculated in 2010 (http://www.witsa.org/v2/media_center/pdf/DP2010_ExecSumm_Final_LoRes.pdf). Data reported as a percentage of GDP.

Source: World Information Technology and Services Alliance (WITSA); World Bank and OECD GDP estimates, World Bank World Development Indicators database. (www.witsa.org/; <http://data.worldbank.org/>)

6 Knowledge and technology outputs *(continued)*

6.2.4 ISO 9001 quality certificates

ISO 9001 Quality management systems—
Requirements: Number of certificates issued (per billion
PPP\$ GDP)^a | 2010

Number of certificates of conformity with standard 'ISO 9001:2008 Quality management systems – Requirements' issued, based on the ISO Survey. Single-site and multiple-site certificates are not distinguished. The data are reported per billion PPP\$ GDP. Refer to indicator 3.3.5 for details.

Source: International Organization for Standardization (ISO), *The ISO Survey of Certifications 2010 CD-Rom (2002–10)*. (www.iso.org)

6.3 Knowledge diffusion

6.3.1 Royalty and license fees receipts

Royalty and license fees, receipts (per thousand GDP)
| 2010

Receipts between residents and non-residents for the authorized use of intangible, nonproduced, nonfinancial assets and proprietary rights (such as patents, copyrights, trademarks, industrial processes, and franchises) and for the use, through licensing agreements, of produced originals of prototypes (such as films and manuscripts).

Source: International Monetary Fund; World Bank and OECD GDP estimates, World Bank World Development Indicators database (2003–10). (<http://data.worldbank.org/>)

6.3.2 High-tech exports

High-tech net exports (% of total net exports) | 2010

High-technology exports minus re-exports over total exports minus re-exports. See indicator 5.3.2 for details.

Source: United Nations, COMTRADE database; Eurostat 'High-technology' aggregations based on SITC Rev. 4, April 2009 (2007–11). (<http://comtrade.un.org/>; http://epp.eurostat.ec.europa.eu/cache/ITY_SDDS/Annexes/htec_esms_an5.pdf)

6.3.3 Computer and communications service exports

Computer, communications, and other services (% of commercial service exports) | 2009

Computer, communications, and other services (% of commercial service exports) include such activities as international telecommunications, and postal 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.

Source: International Monetary Fund; World Bank and OECD GDP estimates, World Bank World Development Indicators database (2004–10). (<http://data.worldbank.org/>)

6.3.4 Foreign direct investment net outflows

Foreign direct investment, net outflows (% of GDP)
| 2010

Net outflows of investment to acquire a lasting management interest (10% or more of voting stock) in an enterprise operating in an economy other than that of the investor. It is the sum of equity capital, reinvestment of earnings, other long-term capital, and short-term capital as shown in the balance of payments. This series shows net outflows of investment from the reporting economy to the rest of the world and is divided by GDP.

Source: International Monetary Fund; World Bank and OECD GDP estimates, World Bank World Development Indicators database (2005–10). (<http://data.worldbank.org/>)

7.1 Creative intangibles

7.1.1 National office trademark registrations

Number of trademark registrations issued to residents by the national office (per billion PPP\$ GDP) | 2010

A trademark is a distinctive sign that distinguishes certain goods or services of one undertaking from those produced or provided by other undertakings. The holder of a registered trademark has the legal right to the exclusive use of the mark in relation to the products or services for which it is registered. Trademark registration can potentially be maintained indefinitely as long as the trademark holder pays the renewal fees and actually uses the trademark. Trademark registrations by resident data are based on 'equivalent class counts'. For each trademark application, one or more classes may be specified, depending on whether the national office has a single- or multi-class filing system. For example, the offices of Japan, the Republic of Korea, and the United States, as well as many European offices, have multi-class filing systems. The offices of Brazil, China, and Mexico follow a single-class filing system, requiring a separate application for each class in which applicants seek trademark protection. This can result in much higher numbers of applications at the latter. To improve international comparability between offices, WIPO has analysed the number of classes specified in trademark applications and registrations with time series going back to 2004, while taking into account whether an office has a single- or multi-class filing system. Statistics concerning "Class" refer to the 45 classes of the International Classification of Goods and Services for the Purposes of the Registration of Marks, under the Nice Agreement (www.wipo.int/classifications/en/). The first 34 of the 45 classes indicate goods and the remaining 11 refer to services. Data reported per billion PPP\$ GDP.

Source: World Intellectual Property Organization, WIPO Statistics Database; World Bank and OECD GDP estimates, World Bank World Development Indicators database (2004–10). (<http://www.wipo.int/ipstats/>; <http://data.worldbank.org/>)

7.1.2 Madrid Agreement trademark registrations

Number of international trademark registrations issued to residents through the Madrid system (per billion PPP\$ GDP) | 2010

The statistics are for Contracting Parties to the Madrid system only. The Madrid system makes it possible for an applicant to apply for a trademark registration in a large number of contracting parties by filing a single application at a national or regional intellectual property (IP) office party to the system. The Madrid system simplifies the process of multinational trademark registration by reducing the requirement to file a separate application with each IP office. An international registration under the Madrid system produces the same effect as an application for registration of the mark in each of the contracting parties designated by the applicant. If protection is not refused by the office of a designated contracting party, the status of the mark is the same as if it had been registered by that office. The definition of *trademark* is under the description for indicator 7.1.1. Data reported per billion PPP\$ GDP.

Source: World Intellectual Property Organization, WIPO Statistics Database; World Bank and OECD GDP estimates, World Bank World Development Indicators database (2003–10). (<http://www.wipo.int/ipstats/>; <http://data.worldbank.org/>)

7.1.3 ICT and business model creation

Average answer to the question: To what extent are information and communication technologies creating new business models, services and products in your country? 1 = not at all; 7 = significantly† | 2011

Source: World Economic Forum, Executive Opinion Survey 2010–2011. (<https://wefsurvey.org>)

7.1.4 ICT and organisational models creation

Average answer to the question: To what extent are information and communication technologies creating new organizational models (virtual teams, remote working, tele-commuting, etc.) within businesses in your country? 1 = not at all; 7 = significantly† | 2011

Source: World Economic Forum, Executive Opinion Survey 2010–2011. (<https://wefsurvey.org>)

7.2 Creative goods and services

7.2.1 Recreation and culture consumption

Recreation and culture (% total individual consumption) | 2011

Expenditure on category (9) recreation and culture as a percentage of individual consumption expenditure of households, nonprofit institutions serving households, and general government (current prices, national currency). Individual consumption categories are defined according to the System of National Accounts' classifications of 1993 (SNA 93) and 1968 (SNA 68). Categories under SNA 93 are: (1) Food and non-alcoholic beverages; (2) Alcoholic beverages, tobacco and narcotics; (3) Clothing and footwear; (4) Housing, water, electricity, gas and other fuels; (5) Furnishings, household equipment and routine maintenance of the house; (6) Health; (7) Transport; (8) Communication; (9) Recreation and culture; (10) Education; (11) Restaurants and hotels; and (12) Miscellaneous goods and services. UN data are complemented by Euromonitor (expenditure on leisure and recreation).

Source: United Nations Statistics Division, National Accounts Official Country Data, United Nations database UNdata; Euromonitor Passport GMID (Global Market Information Database) (2005–11). (<http://data.un.org/>)

7.2.2 National feature films produced

Number of national feature films produced (per million population 15–69 years old)^a | 2009

Films produced for commercial exhibition in cinemas (films produced solely for television broadcasting are as a general rule excluded). The minimum length of films classified as long (or feature) films ranges from less than 1,000 metres to more than 3,000 metres depending on the country; with a mode of around 1,600 metres. UNESCO data are supplemented by Euromonitor. Data reported per million population 15–69 years old.

Source: UNESCO Institute for Statistics, UIS online database; complemented by United Nations database UNdata and Euromonitor Passport GMID (Global Market Information Database); World Bank and OECD GDP estimates, World Bank World Development Indicators database (2005–11). (<http://stats.uis.unesco.org>; <http://data.un.org/>; www.euromonitor.com/passport-gmid; <http://data.worldbank.org/>)

7 Creative outputs (continued)

7.2.3 Daily newspapers circulation

Paid-for dailies average circulation (per thousand population 15–69 years old)^a | 2009

Paid-for dailies total average circulation. Daily newspapers are periodic publications mainly reporting events that have occurred in the 24-hour period before going to press (issued at least four times a week). Periodic publications are intended for the general public and mainly designed to be a primary source of written information on current events connected with public affairs, international questions, politics, etc. They may also include articles on literary or other subjects as well as illustrations and advertising. The average daily circulation includes the number of copies distributed both inside the country and abroad and either: (a) sold directly; (b) sold by subscription; or (c) mainly distributed free of charge'. Data reported per thousand population 15–69 years old.

Source: World Association of Newspapers and News Publishers, *World Press Trends 2010*. (www.wan-ifra.org)

7.2.4 Creative goods exports

Creative goods exports (% of total exports) | 2010

Total export values of creative goods (current US\$) over total goods exports (current US\$).

Source: UNCTAD, *Creative Economy Report, UNCTADStat (2004–10)*. (<http://unctadstat.unctad.org/>)

7.2.5 Creative services exports

Creative services: Exports (% of total services exports) | 2010

Total exports of creative services (current US\$) over total services exports (current US\$). UNCTAD reports that 'the value of total exports . . . of creative services is inevitably underestimated, as all the statistical detail necessary is rarely systematically reported'. Creative services includes the following categories of services: (1) advertising, market research, and public opinion polling services; (2) architectural, engineering, and other technical; (3) research and development services; (4) personal, cultural, and recreational services (including 4.a. audiovisual and related services); and (5) other personal, cultural, and recreational services. UNCTAD does not report totals for services; the series 1 to 5 were added up to get the total.

Source: UNCTAD, *Creative Economy Report, UNCTADStat, (2005–10)*. (<http://unctadstat.unctad.org/>)

7.3 Online creativity

7.3.1 Generic top-level domains (gTLDs)

Generic top-level domains gTLDs (per thousand population 15–69 years old) | 2011

A generic top-level domain (gTLD) is one of the categories of top-level domains (TLDs) maintained by the Internet Assigned Numbers Authority (IANA) for use in the Internet. Generic TLDs can be unrestricted (com, info, net, and org) or restricted—that is, used on the basis of fulfilling eligibility criteria (biz, name, and pro). Of these, the statistic covers the five generic domains biz, info, org, net, and com. Generic domains .name and .pro, and sponsored domains (arpa, aero, asia, cat, coop, edu, gov, int, jobs, mil, museum, tel, travel, and xxx) are not included. Neither are country-code top-level domains (refer to indicator 7.3.2). The statistic represents the total number of registered domains (i.e., net totals by December 2011, existing domains + new registrations – expired domains). Data are collected on the basis of a 4% random sample of the total population of domains drawn from the root zone files (a complete listing of active domains) for each TLD. The geographic location of a domain is determined by the registration address for the domain name registrant that is returned from a whois query. These registration data are parsed by country and postal code and then aggregated to any number of geographic levels such as county, city, MSA, or country/economy. The original hard data were scaled by thousand population 15–69 years old. For confidentiality reasons, only normalized values are reported; while relative positions are preserved, magnitudes are not.

Source: ZookNIC. (<http://www.zooknic.com>)

7.3.2 Country-code top-level domains (ccTLDs)

Country-code top-level domains ccTLDs (per thousand population 15–69 years old) | 2011

A country-code top-level domain (ccTLD) is one of the categories of top-level domains (TLDs) maintained by the Internet Assigned Numbers Authority (IANA) for use in the Internet. Country-code TLDs are two-letter domains especially designated for a particular economy, country, or autonomous territory (there are 324 ccTLDs, in various alphabets/characters). The statistic represents the total number of registered domains (i.e., net totals by December 2011, existing domains + new registrations – expired domains). Data are collected from the registry responsible for each ccTLD and represent the total number of domain registrations in the ccTLD. Each ccTLD is assigned to the country with which it is associated rather than based on the registration address of the registrant. ZookNIC reports that for the ccTLDs it covers, 85–100% of domains are registered in the same country; the only exceptions are the ccTLDs that have been licensed for commercial worldwide use. Of this year's GII sample of countries, this is the case for the ccTLDs of the following economies: Armenia am, Austria at, Belgium be, Belarus by, Canada ca, Switzerland ch, Colombia co, Denmark dk, Spain es, Finland fi, India in, Iran, Islamic Rep. ir, Iceland is, Italy it, Lao PDR la, Latvia lv, Moldova md, Montenegro me, Mongolia mn, Mauritius mu, Nicaragua ni, Serbia rs, Slovenia si (list based on from www.wikipedia.org). Data reported by thousand population 15–69 years old. For confidentiality reasons, only normalized values are reported; while relative positions are preserved, magnitudes are not.

Source: ZookNIC. (2003–11). (<http://www.zooknic.com>)

7.3.3 Wikipedia monthly edits

Wikipedia monthly page edits per adult (per population 15–69) | 2011

Data extracted from Wikimedia Traffic Analysis Report, Wikipedia Page Edits per Country, Overview on the portal www.wikipedia.org. The count of monthly page edits data is based on a 1:1,000 sampled server log (squids), for the period January to December 2011. Wikimedia Foundation (WMF) traffic logging service suffered from server capacity problems in Aug/Sep/Oct 2011. Data loss occurred only during peak hours. It therefore may have had a somewhat different impact for traffic from different parts of the world. Countries are included only if the number of page edits in the period exceeds 100,000 (100 matching records in 1:1,000 sampled log). Page edits by bots are not included. Also all IP addresses that occur more than once on a given day are discarded for that day. A few false negatives are taken for granted. Generated on Friday, 20 January 2012 at 16:25. Data reported per million population 15–69 years old.

Source: Wikimedia Foundation. (http://stats.wikimedia.org/archive/squid_reports/2011-12/SquidReportPageEditsPerCountryOverview.htm)

7.3.4 Video uploads on YouTube

Number of video uploads on YouTube (scaled by population 15–69 years old) | 2011

Total number of video uploads on YouTube, per country, scaled by population 15–69 years old. The raw data are survey based: the country of affiliation is chosen by each user on the basis of a multi-choice selection. This metric counts all video upload events by users. For confidentiality reasons, only normalized values are reported, while relative positions are preserved, magnitudes are not.

Source: Google, parent company of YouTube. (www.youtube.com)