2022

GLOBAL KNOWLEDGE INDEX

DEFINITIONS

Pre-university education

1.1. Net enrolment rate in primary education

Total net enrolment rate, primary, both sexes (%)

Total number of students of the official age group for primary education who are enrolled, expressed as a percentage of the corresponding population. This variable measures the actual school participation of official school age population for primary education.

UNESCO Institute for Statistics, UIS Database

1.2. Net enrolment rate in lower secondary education

Total net enrolment rate, lower secondary, both sexes (%)

Total number of students of the official age group for lower secondary education who are enrolled, expressed as a percentage of the corresponding population. This variable measures the actual school participation of official school age population for lower secondary education.

UNESCO Institute for Statistics, UIS Database

1.3. Net enrolment rate in upper secondary education

Total net enrolment rate, upper secondary, both sexes (%)

Total number of students of the official age group for upper secondary education who are enrolled, expressed as a percentage of the corresponding population. This variable measures the actual school participation of official school age population for upper secondary education.

UNESCO Institute for Statistics, UIS Database

1.4. Years of compulsory education in primary and secondary

Number of years of compulsory primary and secondary education guaranteed in legal frameworks

The number of years of primary and secondary education to which children are legally entitled should ideally be the number of grades of primary and secondary education which young people are expected to have completed before being legally eligible to leave school. Compulsory education is the number of years or age span during which children are legally obliged to attend school.

UNESCO Institute for Statistics, UIS Database

1.5. Completion rate in upper secondary education

Completion rate, upper secondary education, both sexes (%)

Percentage of a cohort of children or young people aged 3-5 years above the intended age for the last grade of upper secondary education who have completed that grade. Individuals are assigned completion age group based on actual or assumed age at the beginning of the school year. The intended age for the last grade of upper secondary education is the age at which pupils would enter the grade if they had started school at the official primary entrance age, had studied full-time and had progressed without repeating or skipping a grade.

UNESCO Institute for Statistics, UIS Database

1.6. Gross intake ratio to the last grade of lower secondary education

Gross intake ratio, last grade of lower secondary general education, both sexes (%)

Total number of new entrants into the last grade of lower secondary general education, regardless of age, expressed as a percentage of the population at the intended entrance age to the last grade of lower secondary general education. The intended entrance age to the last grade is the age at which pupils would enter the grade if they had started school at the official primary entrance age, had studied full-time and had progressed without repeating or skipping a grade.

UNESCO Institute for Statistics, UIS Database

1.7. Assessment of 15-year-old students in math, science and reading

Assessment of 15-year-old students in mathematics, science and reading

The OECD Programme for International Student Assessment (PISA) assesses the extent to which 15-year-old students near the end of their compulsory education have acquired key knowledge and skills that are essential for full participation in modern societies. The assessment focuses on the core school subjects of science, reading and mathematics, in addition to students' proficiency in an innovative domain. PISA does not just ascertain whether students can reproduce knowledge; it also examines how well students can extrapolate knowledge from what they have learned and apply it in unfamiliar settings, both in and outside of school. The scores are calculated in each year so that the mean is 500 and the standard deviation 100. This variable is calculated by considering the average of the mean score of 15-year-old students in mathematics, science and literature literacy.

Index team calculations based on Organisation for Economic Co-operation and Development, Programme for International Student Assessment

1.8. Learning-adjusted years of schooling

Learning-adjusted years of schooling

Learning-adjusted years of school are calculated by multiplying the estimates of expected years of school by the ratio of most recent harmonized test scores to 625, where 625 corresponds to advanced attainment on the TIMSS (Trends in International Mathematics and Science Study) test, based on the methodology in Filmer et al., 2018. The objective of this index is to compare years of schooling across countries, while adjusting by the amount of learning that takes place during those years.

World Bank, Human Capital Index

1.9. Government expenditure on primary education (% GDP)

Government expenditure on primary education as a percentage of GDP (%)

Total general (local, regional and central) government expenditure on primary education (current, capital and transfers), expressed as a percentage of GDP. The variable is reported as a three-year average.

Index team calculations based on UNESCO Institute for Statistics, UIS Database

1.10. Government expenditure on secondary education (% GDP)

Government expenditure on secondary education as a percentage of GDP (%)

Total general (local, regional and central) government expenditure on secondary education (current, capital and transfers), expressed as a percentage of GDP. The variable is reported as a three-year average.

Index team calculations based on UNESCO Institute for Statistics, UIS Database

1.11. Government funding per primary student (% GDP per capita)

Initial government funding per primary student as a percentage of GDP per capita

Total initial funding from government (central, regional, local), private (households and other private) and international sources for primary education per student enrolled at that level in a given year. The results are expressed as a percentage of GDP per capita.

UNESCO Institute for Statistics, UIS Database

1.12. Government funding per secondary student (% GDP per capita)

Initial government funding per secondary student as a percentage of GDP per capita

Total initial funding from government (central, regional, local) for secondary education per student enrolled at that level in a given year. The results are expressed as a percentage of GDP per capita.

UNESCO Institute for Statistics, UIS Database

1.13. Pupil-trained teacher ratio in primary education

Initial government funding per secondary student as a percentage of GDP per capita

Total initial funding from government (central, regional, local), private (households and other private) and international sources for secondary education per student enrolled at that level in a given year. The results are expressed as a percentage of GDP per capita.

UNESCO Institute for Statistics, UIS Database

1.14. Pupil-trained teacher ratio in secondary education*

Pupil-trained teacher ratio in secondary education (headcount basis)

Average number of pupils per trained teacher in secondary education based on headcounts of both pupils and teachers in a given academic year. A trained teacher is one who has received at least the minimum organized pedagogical teacher training pre-service and in-service required for teaching at the relevant level in a given country in a given academic year.

UNESCO Institute for Statistics, UIS Database

1.15. Schools with access to computers in primary education (%)

Proportion of primary schools with access to computers for pedagogical purposes (%)

This variable measures the use of computers to support course delivery or independent teaching and learning needs in primary education. This may include activities using computers or the Internet to meet information needs for research purposes; develop presentations; perform hands-on exercises and experiments; share information; and participate in online discussion forums for educational purposes. A computer is a programmable electronic device that can store, retrieve and process data, as well as share information in a highly structured manner. It performs high-speed mathematical or logical operations according to a set of instructions or algorithms. Computers include the following types: (i) a desktop computer usually remains fixed in one place; normally the user is placed in front of it, behind the keyboard; (ii) a laptop computer is small enough to carry and usually enables the same tasks as a desktop computer; it includes notebooks and netbooks but does not include tablets and similar handheld devices; and (iii) a tablet (or similar handheld computer) is a computer that is integrated into a flat touch screen, operated by touching the screen rather than using a physical keyboard.

UNESCO Institute for Statistics, UIS Database

1.16. Schools with access to computers in secondary education (%)

Proportion of secondary schools with access to computers for pedagogical purposes (%)

This variable measures the use of computers to support course delivery or independent teaching and learning needs in secondary education. This may include activities using computers or the Internet to meet information needs for research purposes; develop presentations; perform hands-on exercises and experiments; share information; and participate in online discussion forums for educational purposes. A computer is a programmable electronic device that can store, retrieve and process data, as well as share information in a highly structured manner. It performs high-speed mathematical or logical operations according to a set of instructions or algorithms. Computers include the following types: (i) a desktop computer usually remains fixed in one place; normally the user is placed in

front of it, behind the keyboard; (ii) a laptop computer is small enough to carry and usually enables the same tasks as a desktop computer; it includes notebooks and net-books but does not include tablets and similar handheld devices; and (iii) a tablet (or similar handheld computer) is a computer that is integrated into a flat touch screen, operated by touching the screen rather than using a physical keyboard.

UNESCO Institute for Statistics, UIS Database

1.17. Gross enrolment ratio in early childhood education

Gross enrolment ratio, early childhood education, both sexes (%)

Total enrolment in early childhood education regardless of age expressed as a percentage of the population of the official age.

UNESCO Institute for Statistics, UIS Database

1.18. Proportion of children who are developmentally on track

Proportion of children aged 24-59 months who are developmentally on track in health, learning and psychosocial well-being, both sexes (%)

This variable measures the proportion of children aged 24-59 months who have achieved the minimum number of milestones expected, defined as follows: (i) health - gross motor development, fine motor development and self-care; (ii) learning expressive language - literacy, numeracy, pre-writing and executive functioning; and (iii) psychosocial well-being - emotional skills, social skills, internalizing behavior and externalizing behavior.

UNESCO Institute for Statistics, UIS Database

1.19. Proportion of children with stimulating home learning environments

Percentage of children under 5 years with positive and stimulating home learning environments, both sexes (%)

Percentage of children aged 36-59 months who live in households where their mother, father or other adult household members engage with them in the following types of activities: reading or looking at picture books; telling stories; singing songs; taking children outside the home; playing; and naming, counting and/or drawing.

The variable aims to evaluate learning environment to ensure that it promotes and does not harm children's development. This indicator provides a broad measure of the ways in which adults in the household interact with children in meaningful and stimulating ways to promote learning and school readiness.

UNESCO Institute for Statistics, UIS Database

1.20. Pupil-trained teacher ratio in pre-primary education

Pupil-trained teacher ratio in pre-primary education (headcount basis)

Average number of pupils per trained teacher in pre-primary education based on headcounts of both pupils and teachers in a given academic year. A trained teacher is one who has received at least the minimum organized pedagogical teacher training pre-service and in-service required for teaching at the relevant level in a given country in a given academic year.

UNESCO Institute for Statistics, UIS Database

1.21. Completion rate in upper secondary education, gender parity

Completion rate, upper secondary education, adjusted gender parity index (GPIA)

Percentage of a cohort of children or young people aged 3-5 years above the intended age for the last grade of upper secondary education who have completed that grade. The intended age for the last grade of upper secondary education is the age at which pupils would enter the grade if they had started school at the official primary entrance age, had studied full-time and had progressed without repeating or skipping a grade. The gender parity index represents the ratio of the variable value for one group (females) to that of the other (males). A value of exactly one indicates parity between the two groups.

UNESCO Institute for Statistics, UIS Database

1.22. Completion rate in upper secondary education, wealth parity

Completion rate, upper secondary education, adjusted wealth parity index (WPIA)

Percentage of a cohort of children or young people aged 3-5 years above the intended age for the last grade of upper secondary education who have completed that grade. The intended age for the last grade of upper secondary education is the age at which pupils would enter the grade if they had started school at the official primary entrance age, had studied full-time and had progressed without repeating or skipping a grade. Wealth parity index represents the ratio of the variable value for one group (bottom wealth quintiles) to that of the other (top wealth quintiles). Typically, the likely more disadvantaged group, bottom wealth quintiles, is the numerator. A value of exactly one indicates parity between the two groups.

UNESCO Institute for Statistics, UIS Database

1.23. Completion rate in upper secondary education, location parity

Completion rate, upper secondary education, adjusted location parity index (LPIA)

Percentage of a cohort of children or young people aged 3-5 years above the intended age for the last grade of upper secondary education who have completed that grade. The intended age for the last grade of upper secondary education is the age at which pupils would enter the grade if they had started school at the official primary entrance age, had studied full-time and had progressed without repeating or skipping a grade. Location parity index represents the ratio of the variable value (rural) for one group to that of the other (urban). Typically, the likely more disadvantaged group, rural, is the numerator. A value of exactly one indicates parity between the two groups.

UNESCO Institute for Statistics, UIS Database

Technical and vocational education and training

2.1. Firms offering formal training (%)

Percent of firms offering formal training (%)

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

World Bank, Enterprise Surveys

2.2. Labour force participation rate with short-cycle tertiary education

Labour force participation rate with short-cycle tertiary education (%)

Labour force as a percent of the working age population. It measures the labour force participation rate for persons who attained a short-cycle tertiary education level. Education levels are classified in line with the International Standard Classification of Education (ISCED).

International Labour Organization, ILOSTAT

2.3. Participation rate in formal and non-formal education and training

Participation in formal and non-formal education training in the previous 12 months, youths and adults, both sexes (%)

Percentage of youth and adults (15-24 years and 25-64 years) participating in formal or non-formal education or training in the last 12 months as a percentage of the population of the same age bracket. 'Formal education and training' is defined as education provided by the system of schools, colleges, universities and other formal educational institutions that normally constitutes a continuous 'ladder' of full-time education for children and young people, generally beginning at the age of five to seven and continuing to up to 20 or 25 years old. Non-formal education and training is defined as any organized and sustained learning activities that do not correspond exactly to the above definition of formal education. Non-formal education may therefore take place both within and outside educational institutions and cater to people of all ages. Depending on national contexts, it may cover educational programmes to impart adult literacy, life-skills, work-skills, and general culture.

UNESCO Institute for Statistics, UIS Database

2.4. Government expenditure on vocational education (%)

Government expenditure on secondary and post-secondary non-tertiary vocational education as % of total government expenditure

Government expenditure on secondary and post-secondary non-tertiary vocational education, expressed as a percentage of total government expenditure on all sectors. It includes expenditure funded by transfers from international sources to government. Expenditure on education refers to expenditure on core educational goods and services, such as teaching staff, school buildings, or schoolbooks and teaching materials and peripheral educational goods and services such as ancillary services, general administration and other activities. The variable is reported as a three-year average.

Index team calculations based on UNESCO Institute for Statistics, UIS Database

2.5. Share of students enrolled in secondary vocational programmes

Share of all students in secondary education enrolled in vocational programmes, both sexes (%)

Total number of students enrolled in vocational programmes in secondary education, expressed as a percentage of the total number of students enrolled in all programmes (vocational and general) at that level. Enrolment count should include all types of schools and education institutions, including public, private and all other institutions that provide organized educational programmes. Vocational education refers to education that is designed for learners to acquire the knowledge, skills and competencies specific to a particular occupation or trade or class of occupations or trades.

UNESCO Institute for Statistics, UIS Database

2.6. Share of students enrolled in post-secondary vocational programmes

Share of all students in post-secondary non-tertiary education enrolled in vocational programmes, both sexes (%)

Total number of students enrolled in vocational programmes in post-secondary non-tertiary education, expressed as a percentage of the total number of students enrolled in all programmes (vocational and general) at that level. See variable 2.5 for more info.

UNESCO Institute for Statistics, UIS Database

2.7. Extent of staff training

Extent of staff training

Based on response to the survey question: In your country, to what extent do companies invest in training and employee development? [1 = not at all; 7 = to a great extent].

World Economic Forum, Executive Opinion Survey

2.8. Quality of vocational training

Quality of vocational training

Based on response to the survey question: In your country, how do you assess the quality of vocational training? [1 = not at all; 7 = to a great extent].

World Economic Forum, Executive Opinion Survey

2.9. Ratio of high-skill TVET occupations earnings to average wage

Average monthly earnings for high-skill TVET occupations relative to total average wage

The earnings of employees relate to the gross remuneration in cash and in kind paid to employees, as a rule at regular intervals, for time worked or work done together with remuneration for time not worked, such as annual vacation, other type of paid leave or holidays. Earnings exclude employers' contributions in respect of their employees paid to social security and pension schemes and also the benefits received by employees under these schemes. Earnings also exclude severance and termination pay. High-skill TVET occupations comprise technicians and associate professionals according to the International Standard Classification of Occupations (ISCO 08,3).

Index team calculations based on International Labour Organization, ILOSTAT

2.10. Ratio of medium-skill TVET occupations earnings to average wage

Average monthly earnings for medium-skill TVET occupations relative to total average wage

The earnings of employees relate to the gross remuneration in cash and in kind paid to employees, as a rule at regular intervals, for time worked or work done together with remuneration for time not worked, such as annual vacation, other type of paid leave or holidays. Earnings exclude employers' contributions in respect of their employees paid to social security and pension schemes and also the benefits received by employees under these schemes. Earnings also exclude severance and termination pay. Medium-skill TVET occupations comprise clerical support workers (ISCO-08,4), craft and related trade workers (ISCO-08,7) and plant and machine operators and assemblers (ISCO08,8) according to the International Standard Classification of Occupations.

Index team calculations based on International Labour Organization, ILOSTAT

2.11. Firms constrained with inadequately educated workforce (%)

Percent of firms identifying an inadequately educated workforce as a major constraint

Percentage of firms identifying labour skill level as a major constraint. The computation of the indicator is based on the rating of the obstacle as a potential constraint to the current operations of the establishment.

World Bank, Enterprise Surveys

2.12. Employment educational mismatch (%)

Proportion of employees who are over or undereducated

This variable is based on a 'normative' way of defining workers mismatch by educational level. That is, it is based on a standard level of education required in each occupation, and all workers who do not have that standard level are considered mismatched. The variable is calculated by summing the number of workers who are under-educated with the number of workers who are over-educated. The sum is divided by the total number of workers.

Index team calculations based on International Labour Organization, ILOSTAT

2.13. Proportion of skilled production workers

Proportion of skilled workers (out of all production workers) (%)

Skilled workers comprise workers in highly skilled production jobs, professionals whose tasks require extensive theoretical and technical knowledge, and workers in semi-skilled production jobs, technicians whose tasks require some level of mechanical or technical knowledge. 'All production workers' refers to the former two categories, in addition to workers in unskilled production jobs, whose tasks involve no specialized knowledge. This variable is computed using data from manufacturing firms only.

World Bank, Enterprise Surveys

2.14. Unemployment rate with vocational education

Unemployment among individuals with upper secondary, post-secondary non-tertiary, and short-cycle tertiary education

The unemployed comprise all persons of working age who were: a) without work during the reference period, i.e. were not in paid employment or self-employment; b) currently available for work, i.e. were available for paid employment or self-employment during the reference period; and c) seeking work, i.e. had taken specific steps in a specified recent period to seek paid employment or self-employment. The labour force is the sum of all persons of working age who are employed and those who are unemployed. Data disaggregated by level of education are provided on the highest level of education completed, classified according to the International Standard Classification of Education (ISCED). Education levels considered for this variable are upper secondary education (ISCED- 11,3), post-secondary non-tertiary education (ISCED-11,4) and short cycle tertiary education (ISCED-11,5).

Index team calculations based on International Labour Organization, ILOSTAT

2.15. Share of TVET occupations

Share of TVET occupations as a percentage of total employment

This variable measures the share of workers in TVET occupations among all workers. TVET occupations are categorized according to the International Standard Classification of Occupations (ISCO). This variable comprises technicians and associate professionals (ISCO-08,3), clerical support workers (ISCO-08,4), craft and related trades workers (ISCO-08,7) and plant and machine operators and assemblers (ISCO-08,8).

Index team calculations based on International Labour Organization, ILOSTAT

2.16. Manufacturing employment (%)

Manufacturing employment as a proportion of total employment (%)

This variable conveys the share of employment in manufacturing. Employment in manufacturing is defined based on the International Standard Industrial Classification of All Economic Activities (ISIC). Employment refers to all persons of working age who, during a specified brief period, were in paid employment (whether at work or with a job but not at work) or in self-employment (whether at work or with an enterprise but not at work).

International Labour Organization, ILOSTAT

2.17. Enrolment in vocational education, gender parity

15- to 24-year-olds enrolled in vocational education, adjusted gender parity

Percentage of young people aged 15-24 years participating in technical or vocational education either in formal or non-formal (e.g. work-based or other settings) education, on a given date or during a specified period. The gender parity index represents the ratio of the variable value for one group (females) to that of the other (males). A value of exactly one indicates parity between the two groups.

UNESCO Institute for Statistics, UIS Database

2.18. Vulnerable employment rate

Vulnerable employment as a percentage of total employment (%)

The employed comprise all persons of working age who, during a specified brief period, were in one of the following categories: a) paid employment (whether at work or with a job but not at work); or b) self-employment (whether at work or with an enterprise but not at work). Data are disaggregated by status in employment according to the latest version of the International Standard Classification of Status in Employment (ICSE-93). Vulnerable employment refers to the sum of contributing family workers and own-account workers. It is computed as a percentage of total employment.

Index team calculations based on International Labour Organization, ILOSTAT

Higher education

3.1. Government expenditure per tertiary student

Government expenditure per student in tertiary education (constant PPP$)

Total general (local, regional and central) government expenditure per student in tertiary education, expressed in purchasing power parity (PPP) dollars at constant prices. Expenditure on education refers to expenditure on core educational goods and services, such as teaching staff, school buildings, or schoolbooks and teaching materials and peripheral educational goods and services such as ancillary services, general administration and other activities. This variable is calculated by dividing government expenditure on tertiary education in constant PPP$ by the number of students enrolled in all tertiary education programmes.

Index team calculations based on UNESCO Institute for Statistics, UIS Database

3.2. Teaching staff compensation (% tertiary expenditure)

Teaching staff compensation as a percentage of total expenditure in tertiary public institutions (%)

Teacher compensation expressed as a percentage of direct expenditure in public educational institutions (instructional and non-instructional) of the tertiary level of education. Financial aid to students and other transfers are excluded from direct expenditure. Staff compensation includes salaries, contributions by employers for staff retirement programmes and other allowances and benefits.

UNESCO Institute for Statistics, UIS Database

3.3. Enrolment in bachelor's or equivalent level (%)

Share of population of 18- to 24-year-olds enrolled in ISCED 6 (%)

This variable is calculated by dividing the number of individuals officially registered in tertiary education ISCED 6 programmes regardless of age by the number of individuals aged between 18-24 years. Programmes at ISCED level 6 refer to bachelor's levels or equivalent which are often designed to provide participants with intermediate academic and/or professional knowledge, skills and competencies, leading to a first degree or equivalent qualification.

Index team calculations based on UNESCO Institute for Statistics, UIS Database and United Nations Department of Economic and Social Affairs, World Population Prospects

3.4. Enrolment in master's, doctoral or equivalent (%)

Share of population of 22- to 40-year-olds enrolled in ISCED 7 and 8 (%)

This variable is calculated by dividing the number of individuals officially registered in tertiary education ISCED 7 and 8 programmes regardless of age by the number of individuals aged between 22-40 years. Programmes at ISCED 7 and 8 refer respectively to master's or equivalent levels, which are often designed to provide participants with advanced academic and/or professional knowledge, skills and competencies, leading to a second degree or equivalent qualification; and doctoral or equivalent level, designed primarily to lead to an advanced research qualification.

Index team calculations based on UNESCO Institute for Statistics, UIS Database and United Nations Department of Economic and Social Affairs, World Population Prospects

3.5. Pupil-teacher ratio in tertiary education

Pupil-teacher ratio in tertiary education

Average number of pupils per teacher in tertiary education in a given academic year

Index team calculations based on UNESCO Institute for Statistics, UIS Database

3.6. Researchers in higher education (%)

Researchers (FTE) in higher education (%)

Researchers refers to all professionals engaged in the conception or creation of new knowledge (who conduct research and improve or develop concepts, theories, models, techniques instrumentation, software or operational methods) broken down by the sectors they are employed in (business enterprise, government, higher education and private non-profit organizations). In the context of R&D statistics, the higher education sector comprises: (i) all universities, colleges of technology and other institutions providing formal tertiary education programmes (i.e. ISCED levels 5, 6, 7, or 8), whatever their source of finance or legal status; and (ii) all research institutes, centres, experimental stations and clinics that have their R&D activities under the direct control of, or are administered by, tertiary education institutions. The full-time equivalent (FTE) of R&D personnel is defined as the ratio of working hours spent on R&D during a specific reference period (usually a calendar year) divided by the total number of hours conventionally worked in the same period by an individual or by a group.

UNESCO Institute for Statistics, UIS Database

3.7. Teachers in tertiary education, gender parity

Female-to-male ratio of teachers in tertiary education

Teachers refers to all persons employed full-time or part-time in an official capacity to guide and direct the learning experience of pupils and students, irrespective of their qualifications or the delivery mechanism, i.e. face-to-face and/or at a distance. This definition excludes educational personnel who have no active teaching duties (e.g. headmasters, headmistresses or principals who do not teach) or who work occasionally or in a voluntary capacity in educational institutions. This variable measures the level of gender representation in the teaching profession rather than the effectiveness and quality of teaching.

Index team calculations based on UNESCO Institute for Statistics, UIS Database

3.8. Inbound mobility rate

Inbound mobility rate, both sexes (%)

Number of students from abroad studying in a given country, expressed as a percentage of total tertiary enrolment in that country.

UNESCO Institute for Statistics, UIS Database

3.9. Academic freedom

Academic Freedom Index

Academic freedom is understood as the right of academics, without constriction by prescribed doctrine, to freedom of teaching and discussion, freedom in carrying out research and disseminating and publishing the results thereof, freedom to express freely their opinion about the institution or system in which they work, freedom from institutional censorship and freedom to participate in professional or representative academic bodies. The Academic Freedom Index is designed to provide an aggregated measure of the following 5 dimensions: freedom to research and teach, freedom of academic exchange and dissemination, institutional autonomy, campus integrity and freedom of academic and cultural expression. The variable ranges from 0 (low) to 1 (high).

Coppedge, Michael et.al. (2021). "V-Dem Codebook v11.1" Varieties of Democracy Project

3.10. Gross attendance ratio for tertiary education, gender parity

Gross attendance ratio for tertiary education, adjusted gender parity index (GPIA)

Number of students attending a given level of education at any time during the reference academic year, regardless of age, expressed as a percentage of the official school-age population corresponding to the same level of education. For the tertiary level, the population used is the 5-year age group starting from the official secondary school graduation age. The gender parity index represents the ratio of the variable value for one group (females) to that of the other (males). A value of exactly one indicates parity between the two groups.

UNESCO Institute for Statistics, UIS Database

3.11. Gross attendance ratio for tertiary education, wealth parity

Gross attendance ratio for tertiary education, adjusted wealth parity index (WPIA)

Number of students attending a given level of education at any time during the reference academic year, regardless of age, expressed as a percentage of the official school-age population corresponding to the same level of education. For the tertiary level, the population used is the 5-year age group starting from the official secondary school graduation age. Wealth parity index represents the ratio of the variable value for one group (bottom wealth quintiles) to that of the other (top wealth quintiles). Typically, the likely more disadvantaged group, bottom wealth quintiles, is the numerator. A value of exactly one indicates parity between the two groups.

UNESCO Institute for Statistics, UIS Database

3.12. Gross attendance ratio for tertiary education, location parity

Gross attendance ratio for tertiary education, adjusted location parity index (LPIA)

Number of students attending a given level of education at any time during the reference academic year, regardless of age, expressed as a percentage of the official school-age population corresponding to the same level of education. For the tertiary level, the population used is the 5-year age group starting from the official secondary school graduation age. Location parity index represents the ratio of the variable value (rural) for one group to that of the other (urban). Typically, the likely more disadvantaged group, rural, is the numerator. A value of exactly one indicates parity between the two groups.

UNESCO Institute for Statistics, UIS Database

3.13. Educational attainment rate, bachelor's or equivalent

Educational attainment rate, completed bachelor's or equivalent, population 25+ years

Distribution of the population aged 25 years and above according to the highest level of education attained or completed. This variable is usually presented for age groups of at least 25 years and older in order to ensure that the majority of the population has completed their education. Younger age groups are often still enrolled in the education system. This variable measures the percentage of the population who have completed at least their bachelor's. Education levels are defined according to ISCED.

UNESCO Institute for Statistics, UIS Database

3.14. Educational attainment rate, master's or equivalent

Educational attainment rate, completed master's or equivalent, population 25+ years

Distribution of the population aged 25 years and above according to the highest level of education attained or completed. This variable is usually presented for age groups of at least 25 years and older in order to ensure that the majority of the population has completed their education. Younger age groups are often still enrolled in the education system. This variable measures the percentage of the population who have completed at least their master's. Education levels are defined according to ISCED.

UNESCO Institute for Statistics, UIS Database

3.15. Educational attainment rate, doctoral or equivalent

Educational attainment rate, completed doctoral or equivalent, population 25+ years

Distribution of the population aged 25 years and above according to the highest level of education attained or completed. This variable is usually presented for age groups of at least 25 years and older in order to ensure that the majority of the population has completed their education. Younger age groups are often still enrolled in the education system. This variable measures the percentage of the population who have completed at least their doctoral or equivalent. Education levels are defined according to ISCED.

UNESCO Institute for Statistics, UIS Database

3.16. Labour force participation rate with advanced education

Labour force participation rate with advanced education (% of total labour force) (15+)

The labour force participation rate with an advanced level of education (ISCED 5, 6, 7 and 8) is the labour force with an advanced level education as a percent of the working age population with an advanced level of education. The labour force comprises all persons of working age who furnish the supply of labour for the production of goods and services during a specified time-reference period. It refers to the sum of all persons of working age who are employed and those who are unemployed; while advanced education comprises short-cycle tertiary education, a bachelor's degree or equivalent education level, a master's degree or equivalent education level, or doctoral degree or equivalent education level according to ISCED.

International Labour Organization, ILOSTAT

3.17. Unemployment rate with advanced education

Unemployment rate with advanced education (% of total labour force with advanced education) (15+)

The percentage of the labour force with an advanced level of education (ISCED 5, 6, 7 and 8) who are unemployed. The unemployment rate is the number of persons who are unemployed as a percent of the total number of employed and unemployed persons (i.e., the labour force). The unemployed comprise all persons of working age who were: a) without work during the reference period, i.e. were not in paid employment or self-employment; b) currently available for work, i.e. were available for paid employment or self-employment during the reference period; and c) seeking work, i.e. had taken specific steps in a specified recent period to seek paid employment or self-employment; while advanced education comprises short-cycle tertiary education, a bachelor's degree or equivalent education level, a master's degree or equivalent education level, or doctoral degree or equivalent education level according to ISCED.

International Labour Organization, ILOSTAT

3.18. University-industry collaboration in R&D

University-industry collaboration in R&D

Based on response to the survey question:: In your country, to what extent do business and universities collaborate on research and development (R&D)? [1 =do not collaborate at all; 7 = collaborate extensively].

World Economic Forum, Executive Opinion Survey

3.19. Citable documents per R&D personnel in higher education

Citable documents normalized by total R&D personnel in higher education (FTE)

'Citable documents' refers to the number of citable documents published by a journal in the three previous years (selected year documents are excluded). Exclusively articles, reviews and conference papers are considered. Total R&D personnel (FTE) in higher education refers to all persons engaged directly in R&D, whether employed by the statistical unit or external contributors fully integrated into the statistical unit's R&D activities, as well as those providing direct services for the R&D activities (such as R&D managers, administrators, technicians and clerical staff) in higher education. In the context of R&D statistics, the higher education sector comprises: (i) all universities, colleges of technology and other institutions providing formal tertiary education programmes (i.e. ISCED levels 5, 6, 7, or 8), whatever their source of finance or legal status; and (ii) all research institutes, centres, experimental stations and clinics that have their R&D activities under the direct control of, or are administered by, tertiary education institutions.

Index team calculations based on Scimago, Scimago Journal and Country Rank and UNESCO Institute for Statistics, UIS Database

Research, development and innovation

4.1. GERD (% GDP)

GERD as a percentage of GDP

Gross domestic expenditure on R&D (GERD) as a percentage of GDP is the total intramural expenditure on R&D performed in the national territory during a specific reference period expressed as a percentage of GDP of the national territory.

UNESCO Institute for Statistics, UIS Database

4.2. GERD per researcher

GERD per researcher, FTE (in thousand PPP$ constant prices, 2011)

This variable is computed by multiplying GERD as percentage of GDP by GDP expressed in purchasing power parity (PPP$ at constant 2011 prices) and dividing the output by Researchers (FTE). For the calculation of the Researchers (FTE) variable see variable 3.6 for the definition of FTE researchers.

Index team calculations based on UNESCO Institute for Statistics, UIS Database and United Nations Department of Economic and Social Affairs, World Population Prospects, 2019 Revision

4.3. Researchers per thousand labour force

Researchers per thousand labour force (FTE)

Researchers refer to the number of professionals engaged in the conception or creation of new knowledge (who conduct research and improve or develop concepts, theories, models, techniques instrumentation, software or operational methods) during a given year expressed as a proportion of a labour force of 1,000 people. The

total number of researchers is computed by multiplying researchers per million inhabitants (FTE) by total population.

The labour force comprises all persons of working age who furnish the supply of labour for the production of goods and services during a specified time-reference period. It refers to the sum of all persons of working age who are employed and those who are unemployed. The labour force (in thousands) is calculated by multiplying labour force participation rate and the population above 15 years.

Index team calculations based on UNESCO Institute for Statistics, UIS Database, United Nations Department of Economic and Social Affairs, World Population Prospects, 2019 Revision, and International Labour Organization, ILOSTAT

4.4. Tertiary graduates from STEM programmes (%)

Percentage of graduates from science, technology, engineering and mathematics programmes in tertiary education, both sexes (%)

Refers to the percentage of students who have successfully graduated from tertiary education in information and communication technologies, natural sciences, mathematics and statistics or engineering, manufacturing and construction programmes in a given academic year. Education programmes and related qualifications are classified according to ISCED.

UNESCO Institute for Statistics, UIS Database

4.5. GERD performed by business enterprises (%)

GERD performed by business enterprises as a percentage of GDP

GERD performed by business enterprises as a percentage of GDP is the total intramural expenditure on R&D performed during a specific reference period corresponding to business enterprise, independent of the source of funds, as a percentage of GDP. In the context of R&D statistics, the business enterprise sector comprises: (i) all resident corporations, including not only legally incorporated enterprises, regardless of the residence of their shareholders. This group includes all other types of quasi corporations, i.e. units capable of generating a profit or other financial gain for their owners, recognized by law as separate legal entities from their owners, and set up for purposes of engaging in market production at prices that are economically significant; (ii) the unincorporated branches of non-resident enterprises are deemed to be resident because they are engaged in production on the economic territory on a long-term basis; and (iii) all resident non-profit institutions (NPIs) that are market producers of goods or services or serve business. This sector comprises both private and public enterprises.

UNESCO Institute for Statistics, UIS Database

4.6. GERD financed by business enterprises (%)

GERD financed by business enterprises %

Refers to the total intramural expenditure on R&D performed during a specific reference period financed by business enterprise as a percentage of total gross expenditure on R&D. See variable 4.5 for the definition of business enterprises.

UNESCO Institute for Statistics, UIS Database

4.7. Researchers in business enterprises (%)

Researchers (FTE) in business enterprises %

Researchers refers to professionals engaged in the conception or creation of new knowledge (who conduct research and improve or develop concepts, theories, models, techniques instrumentation, software or operational methods) employed by business enterprises. See variable 3.6 for the definition of FTE researchers and variable 4.6 for the definition of business enterprises.

UNESCO Institute for Statistics, UIS Database

4.8. Firms that spend on R&D (%)

Percentage of firms that spend on research and development

The percentage of firms that spent on formal research and development activities during the last fiscal year out of all firms in the manufacturing and services sectors. This corresponds to formal (registered) firms classified with ISIC codes 15-37, 45, 50-52, 55, 60-64 and 72 (ISIC Rev.3.1) companies.

World Bank, Enterprise Surveys

4.9. High-skilled employment (%)

High-skilled employment share as a percentage of the total number of employed people (%)

The employed comprise all persons of working age who, during a specified brief period, were in one of the following categories: a) paid employment (whether at work or with a job but not at work); or b) self-employment (whether at work or with an enterprise but not at work). The working-age population is defined as all persons aged 15 and older. High skill employment refers to occupation 1, Managers; and 2, Professionals based on the International Standard Classification of Occupation (ISCO-08). Total employed people refer to employment in all occupation levels.

Index team calculations based on International Labour Organization, ILOSTAT

4.10. Intellectual property payments (% total trade)

Intellectual property payments, % of total trade

Charges for the use of intellectual property (credit) are payments between non-residents and residents for the authorized use of proprietary rights (such as patents, trademarks, copyrights, industrial processes and designs including trade secrets and franchises) and for the use, through licensing agreements, of produced originals or prototypes (such as copyrights on books and manuscripts, computer software, cinematographic works and sound recordings) and related rights (such as for live performances and television, cable, or satellite broadcast). Total trade is the sum of exports and imports of goods and services excluding trade in government goods and services divided by two.

Index team calculations based on United Nations Conference on Trade and Development, UNCTADstat

4.11. State of cluster development

State of cluster development

Based on response to the survey question: 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].

World Economic Forum, Executive Opinion Survey

4.12. Average documents per researcher

Average documents per researcher (FTE)

Average published documents per researcher. See variable 3.6 for the definition of researchers (FTE) and variable 3.19 for the definition of citable documents.

Index team calculations based on UNESCO Institute for Statistics, UIS Database and United Nations Department of Economic and Social Affairs, World Population Prospects, 2019 Revision

4.13. Citations per document

Citations per document

Average number of citations per document published in a specific year.

Scimago Journal, Scimago Journal and Country Rank

4.14. Resident patent applications (per 100 billion GDP)

Patent resident applications per 100 billion US$ GDP (2017 PPP)

This variable measures the total count of resident patent applications filed under the Patent Cooperation Treaty (PCT), by priority date and inventor nationality, using fractional count if an application is filed by multiple inventors per 100 billion PPP$ GDP constant.

World Intellectual Property Organization, Intellectual Property Statistics Data Center

4.15. Intellectual property receipts (% total trade)

Intellectual property receipts, % of total trade

Charges for the use of intellectual property not included elsewhere receipts (% of total trade) according to the Extended Balance of Payments Services Classification EBOPS 2010. Receipts are between residents and non-residents for the use of proprietary rights (such as patents, trademarks, copyrights, industrial processes and designs including trade secrets, franchises), and for licenses to reproduce or distribute (or both) intellectual property embodied in produced originals or prototypes (such as copyrights on books and manuscripts, computer software, cinematographic works and sound recordings) and related rights (such as for live performances and television, cable, or satellite broadcast). Total trade is the sum of exports and imports of goods and services excluding trade in government goods and services divided by two.

Index team calculations based on United Nations Conference on Trade and Development, UNCTADstat

4.16. Industrial design applications (per 100 billion GDP)

Industrial design resident applications per 100 billion US$ GDP (2017 PPP)

Refers to the number of designs contained in industrial design applications filed at a given national or regional office per 100 billion PPP$ GDP constant. Data refer to industrial design application design counts – the number of designs contained in applications – and include designs contained in resident industrial design applications filed at both the national office and the regional office, where applicable. 'Resident design counts' refers to the number of designs contained in applications filed with the IP office of – or at an office acting on behalf of – the state or jurisdiction in which the applicant has residence. For example, an application filed with the Japan Patent Office (JPO) by a resident of Japan is considered a resident application for Japan. Similarly, an application filed with the Office for Harmonization in the Internal Market (OHIM) by an applicant who resides in any of the OHIM member states, such as Italy, is considered as a resident application for that member state (Italy).

World Intellectual Property Organization, Intellectual Property Statistics Data Center

4.17. PCT applications (per 100 billion GDP)

PCT applications per 100 billion US$ GDP (2017 PPP)

This variable measures the total count of applications filed under the Patent Cooperation Treaty (PCT), by priority date and inventor nationality, using fractional count if an application is filed by multiple inventors per 100 billion PPP$ GDP constant.

Index team calculations based on World Intellectual Property Organization, Intellectual Property Statistics Data Center and World Bank, World Development Indicators

4.18. Firms producing new products and services (%)

Percent of firms producing new products and services

Refers to the percentage of firms that introduced new or significantly improved products or services over the last three years.

World Bank, Enterprise Surveys

4.19. Trademark applications (per 100 billion GDP)

Trademark resident applications per 100 billion US$ GDP (2017 PPP)
Trademark applications filed are applications to register a trademark with a national or regional Intellectual Property (IP) offices and designations received by relevant offices through the Madrid System. A trademark is a sign which identifies certain goods or services as those produced or provided by a specific person or enterprise. It provides protection to the owner by ensuring the exclusive right to use it to identify goods or services, or to authorize another to use it in return for payment. A resident filing refers to an application filed in the country by its own resident. Trademark application class counts refers to the number of classes specified in resident trademark applications and include those filed at both the national office and the regional office, where applicable. This variable is reported per 100 billion PPP$ GDP constant.

World Intellectual Property Organization, Intellectual Property Statistics Data Center

4.20. Cultural goods exports (% exports)

Share of exports of cultural goods as a percentage of total goods exported

The value of exported cultural goods expressed as percentage of the value of all exported goods. Cultural goods refer to consumer goods that convey ideas, symbols and ways of life, i.e. books, magazines, multimedia products, software, recordings, films, videos, audio-visual programmes, crafts and fashion.

UNESCO Institute for Statistics, UIS Database

4.21. Printing and publishing output (% manufactured out-put)

Printing and publishing as a percentage of manufactured total output

Measures gross output of printing and publishing as percentage of gross output of total manufacturing industries. The printing activities include, print products, such as newspapers, books, periodicals, business forms, greeting cards, and other materials and perform support activities, such as bookbinding, plate-making services and data imaging. Publishing involves financial, technical, artistic, legal and marketing activities, among others.

Index team calculations based on United Nations Industrial Development Organization Statistics, INDSTAT 2 2021, ISIC Revision 3

4.22. Research institutions prominence

Research institutions prominence

Measures the prominence and standing of private and public research institutions. The score is computed as the sum of the inverse ranks of all research institutions in a country included in the Scimago Institutions Rankings (SIR). Research Institutions comprises private and public universities, governmental agencies, corporate entities and health institutes.

Index team calculations based on Scimago, Institutions Rankings

4.23. Growth of innovative companies

Growth of innovative companies

Based on response to the survey question: In your country, to what extent do new companies with innovative ideas grow rapidly? [1 = not at all; 7 = to a great extent].

World Economic Forum, Executive Opinion Survey

4.24. ISO 9001 quality certificates (per billion GDP)

ISO 9001 quality management certificates (per billion PPP$ GDP)

ISO 9001 is defined as the international standard that specifies requirements for a quality management system (QMS). It can be used by any organization, large or small, regardless of its field of activity. GDP data are expressed in billion 2017 US purchasing power parity (PPP) dollars.

Index team calculations based on International Organization for Standardization, ISO Survey Data and International Monetary Fund, World Economic Outlook Database

4.25. ISO 14001 environmental certificates (per billion GDP)

ISO 14001 environmental certificates (per billion PPP$ GDP)

ISO 14001 is defined as the international standard that specifies the requirements for an environmental management system that an organization can use to enhance its environmental performance. It can be used by any organization, large or small, regardless of its field of activity. GDP data are expressed in billion 2017 US purchasing power parity (PPP) dollars.

Index team calculations based on International Organization for Standardization, ISO Survey Data and International Monetary Fund, World Economic Outlook Database

4.26. GERD financed from abroad (%)

GERD financed by the rest of the world (abroad) (%)

Total intramural expenditure on R&D performed during a specific reference period, financed by 'the rest of the world' as a percentage of total gross expenditure on R&D.

UNESCO Institute for Statistics, UIS Database

4.27. Joint ventures per strategic alliance deals (per billion GDP)

Number of deals, fractional counting (per billion PPP$ GDP)

Refinitiv's data on joint ventures/strategic alliances, per deal, with details on the country of origin of partner firms, among others. The data extraction corresponds to a query on joint venture/strategic alliance deals between January 1, 2019 and December 31, 2021. The nation of each company participating in a deal (n companies per deal) is allocated, per deal, a score equivalent to 1/n (with the effect that all country scores add up to the total number of deals). The data are reported per billion PPP$ GDP.

WIPO, The Global Innovation Index datasets based on Thomson Reuters, Thomson One Banker Private Equity, SDC Platinum database and International Monetary Fund World Economic Outlook Database

4.28. Computer software spending (% GDP)

Total computer software spending (% of GDP)

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. The data are a combination of actual figures and estimates. Data are reported as a percentage of GDP.

WIPO, The Global Innovation Index datasets based on Thomson Reuters, Thomson One Banker Private Equity, SDC Platinum database and International Monetary Fund World Economic Outlook Database

4.29. New business density per thousand population

New business density per thousand population

The number of newly registered firms with limited liability per 1,000 working-age people (ages 15-64) per calendar year.

World Bank, Entrepreneurship Survey and Database

4.30. Firms with products and services new to the market (%)

Percentage of firms whose new product/service is also new to the main market

Percentage of firms that introduced new or significantly improved products or services over the last three years that were also new for the firms' main product and services market.

World Bank, Enterprise Surveys

Information and communications technology

5.1. 3G/4G mobile network coverage (% population)

Percentage of the population covered by at least 3G/4G mobile networks (%)

Percentage of the population covered by at least an LTE/ WiMAX mobile network refers to the percentage of inhabitants that live within range of LTE/LTE-Advanced; mobile WiMAX/WirelessMAN or other more advanced mobile-cellular networks; irrespective of whether or not they are subscribers. It excludes people covered only by HSPA; UMTS; EV-DO and previous 3G technologies; and also excludes fixed WiMAX coverage. Percentage of the population covered by at least a 3G mobile network refers to the percentage of inhabitants that are within range of at least a 3G mobile-cellular signal; irrespective of whether or not they are subscribers. This variable measures the equal-weighted average of the variables 'percentage of the population covered by at least an LTE/WiMAX mobile network' and 'percentage of the population covered by at least a 3G mobile network'.

Index team calculations based on International Telecommunication Union, ITU World Telecommunication/ICT Indicators Database

5.2. Secure Internet servers per 1 million population

Secure Internet servers (per 1 million people)

Secure servers are servers using encryption technology in Internet transactions. The number of secure Internet servers, from the Netcraft Secure Server Survey, indicates how many companies conduct encrypted transactions over the Internet. The survey examines the use of encrypted transactions through extensive automated exploration, tallying the number of websites using a secure socket layer (SSL). Data are divided by the mid-year population and multiplied by one million. The Internet provides access to the worldwide network. Broadband refers to technologies that provide Internet speeds of at least 256 (Kbit/s) a second of upstream and downstream capacity and includes digital subscriber lines, cable modems, satellite broadband Internet, fiber-to-home Internet access, Ethernet local access networks and wireless area networks.

World Bank, World Development Indicators

5.3. Investment in telecommunication services (% GDP)

Annual investment in telecommunication services (% of GDP)

Annual investment in telecom services refers to the investment during the financial year made by entities providing telecommunication networks and/ or services (including fixed, mobile and Internet services, as well as the transmission of TV signals) for acquiring or upgrading fixed assets (usually referred to as CAPEX), less disinvestment owing to disposals of fixed assets. Fixed assets should include tangible assets such as buildings and networks and non-tangible assets such as computer software and intellectual property. The variable is a measure of investment made by entities providing telecommunication networks and/or services in the country and includes expenditure on initial installations and additions to existing installations where the usage is expected to be over an extended period of time. It excludes expenditure on fees for operating licenses and the use of radio spectrum, scaled by GDP in current US$. This variable is reported as a three-year average.

Index team calculations based on International Telecommunication Union, ITU World Telecommunication/ ICT Indicators Database and World Bank, World Development Indicators

5.4. Mobile upload and download speeds

Average mobile upload and download speeds

This variable measures the equal-weighted average of the variables 'average mobile upload speed' and 'average mobile download speed'. The upload and download speed averages are based on Ookla's analysis of Speedtest data. A faster speed is a positive variable for better performance. The underlying data unit is Mbps. Linear transformation of data values to scale 0-100 where 100=most inclusive environment.

Index team calculations based on The Economist Intelligence Unit, The Inclusive Internet Index

5.5. Fixed-broadband upload and download speeds

Average fixed broadband upload and download speeds

This variable measures the equal-weighted average of the variables 'average fixed- broadband upload speed' and 'average fixed broadband download speed'. Averages for all years are based on Ookla's analysis of Speedtest data collected between Oct 1st – Sep 30th of each calendar year. The underlying data unit is Mbps. Linear transformation of data values to scale 0-100 where 100=most inclusive environment.

Index team calculations based on The Economist Intelligence Unit, The Inclusive Internet Index

5.6. Fixed-broadband subscriptions by speed per hundred people

Fixed broadband subscriptions (weighted by speed) per 100 people

Fixed-broadband subscriptions by speed tier captures the average speed of fixed (wired)-broadband Internet subscriptions. It is derived from data on the number of

subscriptions with a maximum speed below 2 Mbit/s ('slow' data are speed tier), between 2 and 10 Mbit/s ('medium' speed tier) and equal to or above 10 Mbit/s ('fast' speed tier). To combine both the speed (quality) and penetration (quantity) dimensions the 'fixed-broadband subscriptions (weighted by speed) per 100 population' variable refers to the weighted sum of subscriptions by speed tier (slow, medium and fast) divided by total population. It is computed as follows: $((0.1*slow + 0.35*medium + fast)/population)*100$.

Index team calculations based on International Telecommunication Union, ITU World Telecommunication/ICT Indicators Database

5.7. Fixed broadband basket (% GNI per capita)

Fixed broadband basket, 5 GB, as a percentage of GNI per capita

Fixed broadband price basket (5GB) refers to the cheapest plan providing at least 5GB of monthly high-speed data (equal to or above 256 Kbit/s) over a 30-day (or four weeks) period of time from the operator with the largest market share in each economy. The variable is reported as a percentage of GNI per capita.

International Telecommunication Union, ITU World Telecommunication/ICT Indicators Database

5.8. Mobile broadband basket (% GNI per capita)

Data-only mobile broadband basket, 2 GB, as a percentage of GNI per capita

Based on a monthly data usage of a minimum of 2 GB. For plans that limit the monthly amount of data transferred by including data volume caps below 2 GB, the cost for the additional bytes is added to the basket. The data-only mobile broadband basket is based on the most common contract modality (prepaid or postpaid) in the economy in question, i.e. if more than 50 per cent of subscriptions are prepaid, then prepaid is selected. Otherwise, a postpaid plan is selected. The variable is reported as a percentage of GNI per capita.

International Telecommunication Union, ITU World Telecommunication/ICT Indicators Database

5.9. Internet and telephony competition
Level of Internet and telephony competition

Measures the level of competition in 17 categories of ICT services, including fixed wireless broadband, Internet services, international fixed long-distance calls and international gateways. For each economy, the level of competition in each of the categories is assessed as follows: monopoly, partial competition and full competition. The index is calculated as the average of points obtained in each of the 17 categories for which data are available. A monopoly reflects that the service provided is exclusive to one operator and scores 0. Partial competition, scoring one, means that the regulatory framework limits the number of licenses and a full competition, assigned a score of two, where any company can be licensed to provide the service (categories with no data available are excluded from the computation and the total is allocated to the number of categories in the country).

Index team calculations based on International Telecommunication Union, ITU World Telecommunication/ICT Indicators Database

5.10. Active mobile-broadband subscriptions per hundred inhabitants

Active mobile broadband subscriptions per 100 inhabitants

'Active mobile-broadband subscriptions' refers to the sum of active handset-based and computer-based (USB/dongles mobile-broadband subscriptions to the public Internet. It covers actual subscribers, not potential subscribers, even though the latter may have broadband-enabled handsets. Subscriptions must include a recurring subscription fee or pass a usage requirement – users must have accessed the Internet in the last three months. The variable is reported per 100 inhabitants.

International Telecommunication Union, ITU World Telecommunication/ICT Indicators Database

5.11. International Internet bandwidth per user

International Internet bandwidth per Internet user (Kb/s)

International Internet bandwidth refers to the total used capacity of international Internet bandwidth in Kbits per second (Kbits/s). It is measured as the sum of the used capacity of all Internet exchanges (locations where Internet traffic is exchanged) offering international bandwidth. If capacity is asymmetric (i.e. with more incoming [downlink] than outgoing [uplink] capacity); then the incoming (downlink) capacity should be provided.

International Telecommunication Union, ITU World Telecommunication/ICT Indicators Database

5.12. Households with Internet access at home (%)

Estimated proportion of households with Internet access at home

This variable includes both; estimates and survey data corresponding to the proportion of households with Internet. The Internet is a world-wide public computer network. It provides access to a number of communication services including the World Wide Web and carries email; news; entertainment and data files. Access is not assumed to be only via a computer - it may also be by mobile phone; games machine; digital TV etc. The proportion of households with Internet access at home is calculated by dividing the number of in-scope households with Internet access by the total number of in-scope households, and then multiplying the result by 100.

International Telecommunication Union, ITU World Telecommunication/ICT Indicators Database

5.13. Individuals with standard ICT skills (%)

Individuals with standard ICT skills (%)

This variable refers to ICT skills, defined as having undertaken certain computer-related activities in the last three months. Standard skills refer to the average of the values among the following four computer-based activities within a country: (i) using basic arithmetic formula in a spreadsheet; (ii) connecting and installing new devices; (iii) creating electronic presentations with presentation software; and (iv) finding, downloading, installing and configuring software.

International Telecommunication Union, Digital Development Dashboard

5.14. Tertiary graduates from ICT programmes (%)

Percentage of graduates from tertiary education graduating from information and communication technologies programmes, both sexes (%)

This variable represents the number of graduates from each ISCED field of education (in this case information and communication technologies) in tertiary education, expressed as a percentage of the total number of graduates in tertiary education. A graduate is defined as a 'person who, during the reference school or academic year, has successfully completed an education programme'. The field of education refers to the branch or area of content covered by an educational programme, course or module. According to the ISCED fields of education and training; ICTs cover: computer use; database and network design and administration; and software and applications development and analysis.

UNESCO Institute for Statistics, UIS Database

5.15 ICT employment (%)

ICT employment, % of total employment

Employment refers to all persons of working age who, during a specified brief period, were in the following categories: a) paid employment (whether at work or with a job but not at work); or b) self-employment (whether at work or with an enterprise but not at work). Data are disaggregated by economic activity and occupation, according to the latest versions of the ISIC and ISCO, respectively. Economic activity corresponds to information and communication (J) and occupation corresponds to skill levels 3 and 4, technicians and associate professionals, and clerical support workers.

Index team calculations based on International Labour Organization, ILOSTAT

5.16. Government online services

Government Online Service Index

This index assesses e-government development at the national level, based on data collected from an independent survey questionnaire that assesses the national online presence of all 193 United Nations Member States. The survey questionnaire assesses a number of features related to online service delivery, including whole-of-government approaches, open government data, e-participation, multi-channel service delivery, mobile services, usage up-take, digital divide as well as innovative partnerships through the use of ICT.

United Nations Department of Economic and Social Affairs, UN E-Government Knowledgebase

5.17. Fixed broadband Internet traffic per subscription

Fixed (wired)-broadband Internet traffic per fixed broadband subscription (GB)

The fixed (wired)- broadband Internet traffic (exabytes) refers to traffic generated by fixed-broadband subscribers measured at the end-user access point. It should be measured adding up download and upload traffic. This should exclude wholesale traffic; walled garden; and IPTV and cable TV traffic. This variable reflects the average fixed-broadband Internet traffic in GB per fixed-broadband subscriber.

Index team calculations based on International Telecommunication Union, ITU World Telecommunication/ICT Indicators Database

5.18. Mobile broadband Internet traffic per subscription

Mobile broadband Internet traffic per mobile broadband subscription (GB)

Mobile-broadband Internet traffic (exabytes) refers to broadband traffic volumes originated from 3G networks or other more advanced mobile-networks; including 3G upgrades; and evolutions or equivalent standards in terms of data transmission speeds. Traffic should be collected and aggregated for all 3G or more advanced mobile networks within the country. Download and upload traffic should be added up and reported together. Traffic should be measured at the end-user access point. Wholesale and walled-garden traffic should be excluded. This variable reflects the average mobile-broadband Internet traffic in GB per active mobile-broadband subscriber.

Index team calculations based on International Telecommunication Union, ITU World Telecommunication/ICT Indicators Database

5.19. Internet users (%)

Internet users (%)

Internet users refers to the percent of total population who use the Internet. This includes those using the Internet from any device (including mobile phones) in the last 12 months. This variable can include both; estimates and survey data corresponding to the proportion of individuals using the Internet, based on results from national household surveys. The number should reflect the total population of the country; or at least individuals of five years and older. If this number is not available (i.e. target population reflects a more limited age group) an estimate for the entire population should be produced. If no survey data are available at all; an estimate is provided specifying in detail the methodology that has been applied to calculate the estimate.

International Telecommunication Union, ITU World Telecommunication/ICT Indicators Database

5.20. ICT PCT patent applications (per 100 billion GDP)**

ICT PCT patents applications per 100 billion US$ GDP (2017 PPP)

Refers to the number of applications for information and communication technology-related patents filed under the Patent Cooperation Treaty (PCT) per 100 billion PPP$ GDP constant. Information and communications technology-related patents include seven categories: audio-visual technology, basic communication processes, computer technology, digital communication, IT methods for management, semiconductors and telecommunications.

Index team calculations based on World Intellectual Property Organization, Intellectual Property Statistics Data Center and World Bank, World Development Indicators

5.21. E-participation

E-participation Index

A country's E-participation Index (EPI) reflects its e-participation mechanisms that are deployed by the government as compared to all other countries. The purpose of this measure is not to prescribe any specific practice, but

rather to offer insight into how different countries are using online tools in promoting interaction between the government and its people, as well as among the people, for the benefit of all. As the EPI is a qualitative assessment based on the availability and relevance of participatory services available on government websites, the comparative ranking of countries is for illustrative purposes and should serve only as a variable of the broad trends in promoting citizen engagement. The variable measures the use of online services to facilitate provision of information by governments to citizens (e-information), interaction with stakeholders (e-consultation) and engagement in decision-making processes (e-decision-making).

United Nations Department of Economic and Social Affairs, UN E-Government Knowledgebase

5.22. Internet activities by individuals (%)

Internet activities undertaken by individuals (%)

Refers to the proportion of individuals who undertook one or more activities using the Internet for private (defined as non-work) purposes from any location in the last three months. The variable is computed by calculating the average of the following activities: Internet banking, reading or downloading newspapers, magazines or electronic books in a digital format, getting information about goods or services, getting information from general government organizations, interacting with general government organizations, purchasing or ordering goods or services, seeking health information (on injury, disease, nutrition, etc.), using services related to travel or travel-related accommodation and doing a formal online course.

Index team calculations based on International Telecommunication Union, ITU World Telecommunication/ICT Indicators Database

5.23. Trade in digitally deliverable services (% total trade)

International trade in digitally deliverable services

Digitally deliverable services are an aggregation of insurance and pension services, financial services, charges for the use of intellectual property, telecommunications, computer and information services, other business services and audiovisual and related services. The digitally deliverable services series is based on the concept of potentially ICT-enabled services as developed by UNCTAD. Trade refers to the sum of exports and imports.

Index team calculations based on United Nations Conference on Trade and Development, UNCTADstat

Economy

6.1. Gross fixed capital formation (% GDP)

Gross fixed capital formation (% of GDP)

Gross fixed capital formation (formerly gross domestic fixed investment) includes 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. According to the 1993 SNA, net acquisitions of valuables are also considered capital formation. The variable is reported as a percentage of GDP.

World Bank, World Development Indicators

6.2. Logistics performance

Logistics Performance Index

The international Logistics Performance Index (LPI) is a summary indicator of logistics sector performance, combining data on six core performance components into a single aggregate measure. The missing values are replaced with the country mean response for each question, adjusted by the respondent's average deviation from the country mean in the answered questions. The six core components are the: (i) efficiency of customs and border clearance, rated from 'very low' to 'very high; (ii) quality of trade and transport infrastructure, rated from 'very low' to 'very high'; (iii) ease of arranging competitively priced shipments, rated from 'very difficult' to 'very easy'; (iv) competence and quality of logistics services, rated from 'very low' to 'very high'; (v) ability to track and trace consignments, rated from 'very low' to 'very high'; and (vi) frequency with which shipments reach consignees within scheduled or expected delivery times, rated from 'hardly ever' to 'nearly always'. The Index ranges from one to five, with a higher score representing better performance.

World Bank/International Bank for Reconstruction and Development, Logistics Performance Index dataset

6.3. Transport productive capacity

Transport Productive Capacity Index

The Productive Capacities Index provide a quantitative measure of the productive resources, entrepreneurial capabilities and production linkages of a given economy. These three pillars of productive capacities are further broken down into the following eight categories: information and communication technologies, structural change, natural capital, human capital, energy, transport, the private sector and institutions. Transport measures the capability of a system to take people or goods from one place to another. It is defined as the capillarity of roads and railways network, and air connectivity under five main indicators: (i) air transport, registered carrier departures worldwide per 100; (ii) air transport, freight (million ton-km); (iii) air passengers per capita; (iv) logarithm of km of roads/100km2 land; and (v) logarithm of total km of rail lines per capita. Overall, the Index summarizes the state of productive capacities in economies worldwide by computing scores that range between 0 and 100 (boundaries not included).

United Nations Conference on Trade and Development, UNCTADstat

6.4. Building quality control

Building Quality Control Index

The Building Quality Control Index is based on six indices—the quality of building regulations, quality control before, during, and after construction, liability and insurance regimes and professional certifications indices. Index scores range between 0 and 15.

World Bank, Doing Business Database

6.5. Ease of starting a business

Ease of starting a business

Measures the paid-in minimum capital requirement, number of procedures, time and cost for a small- to medium-sized limited liability company to start up and formally operate in an economy's largest business city. These procedures include the processes entrepreneurs undergo when obtaining all necessary approvals, licenses, permits and completing any required notifications, verifications or inscriptions for the company and employees with relevant authorities. The ranking of economies in terms of the ease of starting a business is determined by sorting their distance to frontier scores for starting a business. These scores are the simple average of the distance to frontier scores for each of the component indicators.

World Bank, Doing Business Database

6.6. Insolvency recovery rate

Insolvency recovery rate (cents on the dollar)

The recovery rate is recorded as cents on the dollar recovered by secured creditors through judicial reorganization, liquidation or debt enforcement (foreclosure or receivership) 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 percent. 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-2018 lending rates from the International Monetary Fund's International Financial Statistics, supplemented with data from central banks and the Economist Intelligence Unit.

World Bank, Doing Business Database

6.7. Entrepreneurial employee activity rate

Entrepreneurial employee activity rate

Rate of involvement of employees in entrepreneurial activities, such as developing or launching new goods or services, or setting up a new business unit, a new establishment or subsidiary.

Global Entrepreneurship Monitor, Entrepreneurial Behaviour and Attitudes

6.8. Extent of corporate transparency

Extent of Corporate Transparency Index

The Extent of Corporate Transparency Index measures the level of information that companies must share regarding their board members, senior executives, annual meetings and audits. This Index has seven components: (i) whether buyer must disclose direct and indirect beneficial ownership stakes representing 5 percent; (ii) whether Buyer must disclose information about board members' primary employment and directorships in other companies; (iii) whether Buyer must disclose the compensation of individual managers; (iv) whether a detailed notice of general meeting must be sent 21 calendar days before the meeting; (v) whether shareholders representing 5 percent of Buyer's share capital can put items on the general meeting agenda; (vi) whether buyer's annual financial statements must be audited by an external auditor; and (vii) whether buyer must disclose its audit reports to the public.

World Bank, Doing Business Database

6.9. Trade (% GDP)

Trade (% of GDP)

Trade is the sum of exports and imports of goods and services measured as a share of gross domestic product.

World Bank, World Development Indicators

6.10. High-technology trade (% total trade)

High technology trade (% of total trade)

High-technology exports and imports minus re-exports and re-imports expressed as a percentage of total trade. 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 Organisation for Economic Co-operation and Development (OECD) definition. Commodities belong to the following sectors: aerospace; computers and office machines; electronics, telecommunications; pharmacy; scientific instruments; electrical machinery; chemistry; non- electrical machinery; and armaments. Total trade is the sum of exports and imports of goods and services excluding trade in government goods and services.

Index team calculations based on United Nations Comtrade, International Trade Statistics Database and United Nations Conference on Trade and Development, UNCTADstat

6.11. Product concentration

Product Concentration Index

The Product Concentration Index shows to which degree exports (of goods) of individual economies are concentrated on a few products rather than being distributed in a more homogeneous manner among several products. This Index ranges from zero to one, with a larger value denoting a higher concentration of product exports.

United Nations Conference on Trade and Development, UNCTADstat

6.12. Market concentration

Market Concentration Index

Measures the dispersion of trade value across an exporter's partners. A country with exports that are concentrated in a very few markets will have an Index value close to one. Similarly, a country with a perfectly diversified trade portfolio will have an Index close to zero.

World Bank, World Integrated Trade Solution

6.13. Chinn-Ito financial openness

Chinn-Ito Financial Openness Index

The Index measures the extent of openness in capital account transactions. Capital 'openness' (KAOPEN) is based on the binary dummy variables that codify the tabulation of restrictions on cross-border financial transactions reported in the IMF's Annual Report on Exchange Arrangements and Exchange Restrictions (AREAER). This Index takes on higher values the more open the country is to cross-border capital transactions.

Chinn, Menzie D. and Hiro Ito, The Chinn-Ito Index

6.14. Foreign direct investment, net inflows (% GDP)

Foreign direct investment, net inflows (% GDP)

Foreign direct investment is the net inflow of investment to acquire a lasting management interest (10 percent 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. The variable is reported as a three-year average.

Index team calculations based on World Bank, World Development Indicators

6.15. Debt dynamics

Debt dynamics

This variable measures the change in public debt-to-GDP ratio, weighted by a country's credit rating and debt level in relation to its GDP. This variable is a category-based min-max normalization of the debt change. To transform the debt change value into a 0 to 100 score, each country was assigned to a specific category that determined the value boundaries. Categories are based on three criteria: general credit rating, government debt-to-GDP level and country classification (one if country is considered advanced, zero otherwise, according to IMF's classification). The general credit rating for each country is computed as the average of Fitch, Standard and Poor's (S&P) and Moody's credit ratings.

Index team calculation based on International Monetary Fund, World Economic Outlook and Trading Economics, Credit Rating

6.16. Domestic credit to private sector (% GDP)

Domestic credit to private sector (% GDP)

Domestic credit to private sector refers to financial resources provided to the private sector by financial corporations, 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. Financial corporations include monetary authorities and deposit banks, as well as other financial corporations where data are available (including corporations that do not accept transferable deposits but do incur such liabilities as time and savings deposits). Examples of other financial corporations are finance and leasing companies, money lenders, insurance corporations, pension funds and foreign exchange companies. Credit to the private sector may sometimes include credit to state-owned or partially state-owned enterprises.

World Bank, World Development Indicators

6.17. MSME financing gap (% GDP)

MSME financing gap (% GDP)

MSME finance gap is estimated as the difference between current supply and potential demand which can potentially be addressed by financial institutions. The MSME finance gap assumes that the firms in a developing country have the same willingness and ability to borrow as their counterparts in well- developed credit markets and operate in comparable institutional environments — and that financial institutions lend at similar intensities as their benchmarked counterparts. Micro enterprises are defined as those with less than 10 employees, small and medium enterprises are defined as those with 11-250 employees.

World Bank, International Finance Corporation SME Finance Forum

6.18. Tax and contribution rate (% profit)

Total tax and contribution rate (% of profit)

The total tax rate measures the amount of taxes and mandatory contributions borne by a business in the second year of operation, expressed as a share of commercial profit. The total amount of taxes borne is the sum of all the different taxes and contributions payable after accounting for allowable deductions and exemptions. The taxes withheld (such as personal income tax) or collected by the company and remitted to the tax authorities (such as VAT, sales tax or goods and service tax) but not borne by the company are excluded. The taxes included can be divided into five categories: profit or corporate income tax; social contributions and labour taxes paid by the employer (for which all mandatory contributions are included, even if paid to a private entity such as a requited pension fund); property taxes; turnover taxes; and other taxes (such as municipal fees and vehicle taxes). The total tax rate is designed to provide a comprehensive measure of the cost of all the taxes a business bears. It differs from the statutory tax rate, which merely provides the factor to be applied to the tax base. In computing the total tax rate, the actual tax payable is divided by commercial profit. Commercial profit is essentially net profit before all taxes borne. It differs from the conventional profit before tax reported in financial statements. In computing profit before tax, many of the taxes borne by a firm are deductible. In computing commercial profit, these taxes are not deductible. Commercial profit therefore presents a clear picture of the actual profit of a business before any of the taxes it bears in the course of the fiscal year. Commercial profit is computed as sales minus cost of goods sold, minus gross salaries, minus administrative expenses, minus other expenses, minus provisions, plus capital gains (from the sale of property) minus interest expense, plus interest income and minus commercial depreciation.

World Bank, Doing Business Database

6.19. Bank non-performing loans (%)

Bank non-performing loans to total gross loans

Nonperforming loans to total gross loans ratio is calculated by using the value of nonperforming loans (NPLs) as the numerator and the total value of the loan portfolio (including NPLs, and before the deduction of specific loan-loss provisions) as the denominator. It is often used as a proxy for asset quality and is intended to identify problems with asset quality in the loan portfolio.

International Monetary Fund, Financial Soundness Indicators Database

6.20. Medium- and high-tech activities value added

Share of medium and high-tech activities in total manufacturing value added

This variable is defined as the proportion of medium and high technology (MHT) manufacturing value added from the total value added of all manufacturing industries. The value added of an industry (industry value added) is a survey concept that refers to the given industry's net output derived from the difference of gross output and intermediate consumption. Manufacturing refers to industries belonging to the sector C defined by the International Standard Industrial Classification of All Economic Activities, Revision 4 (ISIC Rev.4), or to the sector D defined by the International Standard Industrial Classification of All Economic Activities, Revision 3.1 (ISIC Rev.3.1).

United Nations Industrial Development Organization, Competitive Industrial Performance Index

6.21. Industry and services value added (% GDP)

Industry and services value added (% GDP)

Industry (including construction) corresponds to ISIC divisions 05-43 and includes manufacturing (ISIC divisions 10-33). It comprises value added in mining, manufacturing (also reported as a separate subgroup), construction, electricity, water and gas. Industry corresponds to ISIC divisions 10-45 and includes manufacturing (ISIC divisions 15-37). It comprises value added in mining, manufacturing (also reported as a separate subgroup), construction, electricity, water and gas. Services correspond to ISIC divisions 50-99 and they include value added in wholesale and retail trade (including hotels and restaurants), transport, and government, financial, professional, and personal services such as education, health care, and real estate services. Also included are imputed bank service charges, import duties, and any statistical discrepancies noted by national compilers as well as discrepancies arising from rescaling. Value added is the net output of a sector after adding up all outputs and subtracting intermediate inputs. It is calculated without making deductions for depreciation of fabricated assets or depletion and degradation of natural resources. The origin of value added is determined by the International Standard Industrial Classification (ISIC). This variable measures the equal-weighted average of the variables 'industry value added (% GDP)' and 'services value added (% GDP)'.

Index team calculations based on World Bank, World Development Indicators

6.22. Labour underutilization rate

Composite rate of labour underutilization (%)

The composite measure of labour underutilization represents the share of the extended labour force that are in unemployment, time-related underemployment or the potential labour force. In other words, it is calculated as follows: [(unemployment + time-related underemployment + potential labour force) / extended labour force]; whereby: (i) time-related underemployment is defined as all persons in employment who, during a short reference period, wanted to work additional hours, whose working time in all jobs was less than a specified hours threshold, and who were available to work additional hours given an opportunity for more work; (ii) unemployment is defined as all those of working age who were not in employment, carried out activities to seek employment during a specified recent period and were currently available to take up employment given a job opportunity; (iii) potential labour force refers to

persons not in employment who express an interest in this form of work but for whom existing conditions limit their active job search and/or their availability; and (iv) extended labour force is defined as the sum of the labour force plus the potential labour force.

International Labour Organization, ILOSTAT

6.23. Output per worker

Output per worker (GDP constant 2017 international PPP$)

Labour productivity represents the total volume of output (measured in terms of GDP) produced per unit of labour (measured in terms of the number of employed persons) during a given time reference period. The indicator allows data users to assess GDP-to-labour input levels and growth rates over time, thus providing general information about the efficiency and quality of human capital in the production process for a given economic and social context.

International Labour Organization, ILOSTAT

Enabling environment

7.1. Peace and stability

Political stability and absence of violence/terrorism

Political Stability and Absence of Violence/Terrorism measures perceptions of the likelihood of political instability and/or politically motivated violence, including terrorism.

World Bank, Worldwide Governance Indicators

7.2. Voice and accountability

Voice and accountability

The variable captures perceptions of the extent to which a country's citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association and a free media.

World Bank, Worldwide Governance Indicators

7.3. Rule of law

Rule of law

Rule of Law 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.

World Bank, Worldwide Governance Indicators

7.4. Control of corruption

Control of corruption

Control of corruption captures perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as 'capture' of the state by elites and private interests.

World Bank, Worldwide Governance Indicators

7.5. Government effectiveness

Government effectiveness

Government effectiveness captures perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation and the credibility of the government's commitment to such policies.

World Bank, Worldwide Governance Indicators

7.6. Female-to-male ratio in parliament

Female-to-male ratio in parliament

The percentage of women in parliament is based on the number of seats held by women members in single or lower chambers of national parliaments, expressed as a percentage of all occupied seats in lower chambers. It is derived by dividing the total number of seats occupied by women by the total number of seats occupied by men in lower chambers of national parliaments. The gender parity index represents the ratio of the variable value for females to that of males. A value of exactly one indicates parity between the two groups.

Index team calculations based on Inter-Parliamentary Union, PARLINE Database

7.7. Female-to-male labour force participation

Female-to-male labour force participation, female-to-male ratio, 15+ years

This is the ratio of female labour force participation rate to that of males. 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 size of the supply of labour available to engage in the production of goods and services, relative to the working age population. The labour force comprises all persons of working age who furnish the supply of labour for the production of goods and services during a specified time-reference period. It refers to the sum of all persons of working age who are employed and those who are unemployed. The gender parity index represents the ratio of the variable value for females to that of males. A value of exactly one indicates parity between the two groups.

Index team calculations based on International Labour Organization, ILOSTAT

7.8. Female-to-male ratio in Internet usage

Female-to-male ratio in Internet usage

Internet users refers to the percent of total population who use the Internet. This includes those using the Internet from any device (including mobile phones) in the last 12 months. This indicator can include both; estimates and survey data corresponding to the proportion of individuals using the Internet, based on results from national household surveys. The number should reflect the total population of the country; or at least individuals of five years and older. If this number is not available (i.e. target population reflects a more limited age group) an estimate for the entire population should be produced. If no survey data are available at all; an estimate specifying in detail the methodology that has been applied to calculate the estimate is provided. The gender parity index represents the ratio of the variable value for females to that of males. A value of exactly one indicates parity between the two groups.

Index team calculations based on International Telecommunication Union, Digital Development Dashboard Database

7.9. Social protection coverage (% population)

Proportion of population covered by at least one social protection benefit (%)

This indicator conveys the share of the population effectively covered by a social protection system, including social protection floors. It also provides the coverage rates of the main components of social protection: child and maternity benefits, support for persons without a job, persons with disabilities, victims of work injuries and older persons. This variable covers the share of population covered by at least one social protection benefit contingency.

International Labour Organization, ILOSTAT

7.10. Adult literacy rate

Adult literacy rate, population 15+ years, both sexes (%)

The adult literacy rate is defined by the percentage of the population aged 15 years and over that can read and write, excluding persons with unknown literacy status. It is typically measured according to the ability to comprehend a short simple statement on everyday life. Generally, literacy also encompasses numeracy and measurement may incorporate a simple assessment of arithmetic ability. The literacy rate and number of literates should be distinguished from functional literacy, a more comprehensive measure of literacy assessed on a continuum in which multiple proficiency levels can be determined.

UNESCO Institute for Statistics, UIS Database

7.11. Youth not in employment, education or training (%)

Share of youth not in employment, education or training (NEET) (%)

The share of youth not in education, employment or training (also known as 'the NEET rate') refers to the proportion of youth who are not in employment and not in education or training. Youth not in education are those who were neither enrolled in school nor in a formal training program (e.g. vocational training).

International Labour Organization, ILOSTAT

7.12. Poverty headcount ratio (% population)

Poverty headcount ratio at national poverty lines (% of population)

National poverty headcount ratio is the percentage of the population living below the national poverty line(s). National estimates are based on population-weighted subgroup estimates from household surveys.

World Bank, World Development Indicators

7.13. GDP per capita

GDP per capita, PPP (constant 2017 international US$)

GDP at purchaser's prices is the sum of gross value added by all resident producers in the country plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources. Data are in constant 2017 international dollars.

World Bank, World Development Indicators

7.14. Universal health coverage

Universal Health Coverage (UHC) Service Coverage Index

Coverage of essential health services is defined as the average coverage of essential services based on tracer interventions that include reproductive, maternal, newborn and child health, infectious diseases, non-communicable diseases and service capacity and access, among the general and the most disadvantaged population. This Index is reported on a unitless scale of 0 to 100, which is computed as the geometric mean of 14 tracer indicators of health service coverage. The tracer indicators are as follows, organized by four components of service coverage: (i) reproductive, maternal, newborn and child health; (ii) infectious diseases; (iii) noncommunicable diseases; and (iv) service capacity and access.

World Health Organization, Global Health Observatory

7.15. Healthy life expectancy (years)

Healthy life expectancy at birth, both sexes (years)

Average number of years that a person can expect to live in 'full health' by taking into account years lived in less than full health due to disease and/or injury.

World Health Organization, Global Health Observatory

7.16. Under-five mortality rate
Under-five mortality rate (probability of dying by age of 5 per 1,000 live births)

The probability of a child born in a specific year or period dying before reaching the age of five, if subject to age-specific mortality rates of that period. Under-five mortality rate as defined here is strictly speaking not a rate (i.e. the number of deaths divided by the number of people at risk during a certain period of time) but a probability of death derived from a life table and expressed as rate per 1,000 live births.

World Health Organization, Global Health Observatory

7.17. Renewable energy consumption (%)

Renewable energy consumption (% of total final energy consumption)

Renewable energy consumption is the share of renewable energy in total final energy consumption. Renewable energy consumption includes consumption of energy derived from hydroelectric power, wind, wave, tidal, solar photovoltaic, geothermal aquifers, landfill gas, sewage gas, biogas from autogen, municipal solid waste, poultry litter, straw, wood, charcoal, liquid biofuels, bioethanol, biodiesel and biomass.

World Bank, World Development Indicators

7.18. Ecological footprint per capita

Ecological footprint per capita (in global hectares)

It refers to the ecological footprint of consumption and is a measure of how much area of biologically productive land and water an individual, population or activity requires to produce all the resources it consumes and to absorb the waste it generates, using prevailing technology and resource management practices. The ecological footprint of consumption is measured in global hectares.

Global Footprint Network, National Footprint Accounts dataset

7.19. Natural hazard exposure

Natural hazard exposure

It represents the load that the community has to deal with when exposed to a hazard event. In INFORM, the metric for the natural hazard risk stops at the level of the physical exposure. It is introduced in terms of: (i) exposed population refers to the expected number of people located within the hazard zone for each type of hazard for each return period per country; and (ii) average annual exposed population. The natural hazard is divided into five the hazard types: earthquake, tsunami, flood, tropical cyclone (cyclone wind and storm surge) and drought (historical impact and agricultural drought probability).

European Commission, INFORM Risk Index

A clear vision and strategy for knowledge development is essential to achieving the universal goal of sustainable human development. This necessarily requires the availability of tools with which to measure, evaluate, and respond to key indicators reflecting global progress in the realm of knowledge development, with a view to supporting relevant and effective policymaking.

The Global Knowledge Index (GKI) addresses this need, through assessing seven sub-indices, developed carefully for their correlative interactive relationships and their centrality to the process of cognitive and developmental progress. These sub-indices are: the pre-university education, technical and vocational education and training (TVET), higher education, research, development and innovation (RDI), information and communications technology (ICT), economy, and enabling environment.

The Index represents an important addition to the global repository of knowledge on development, providing updated, comprehensive, and reliable data that better enable countries and decision makers to understand and respond more clearly to the transformations and challenges related to knowledge-based development.