COUNTRY RANK, SCORE AND KEY INDICATORS

The first section presents each country’s overall Human Capital Index 2016 rank out of the 130 reviewed countries; its score out of the “ideal” score of 100; as well as the values of a number of key indicators. The “—” symbol indicates where data was unavailable or only partially available.

Key Indicators

- **Total population (thousands of inhabitants):** People of all ages living in the country as of July 2016, regardless of residency status or citizenship. Source: United Nations, Department of Economic and Social Affairs, Population Division, *World Population Prospects: The 2015 Revision* (accessed May 2016).


• **Own-account workers (%)**: Share of own-account workers who don’t hire paid employees on a continuous basis but may have assistance from contributing family workers (unpaid employed who usually live in same household and are related to family members) as a percentage of all persons employed. Source: International Labour Organization, Trends Econometric Models, October 2014 (accessed May 2016).

• **Labour force participation rate (%)**: The proportion of the country’s working-age population that engages actively in the labour market, either by working or looking for work. Source: ILO, Key Indicators of the Labour Market (KILM), Ninth Edition, 2015 (accessed May 2016).

• **Employment-to-population ratio (%)**: The proportion of the country’s working age population that is currently employed as a percentage of the total population. Source: ILO, Key Indicators of the Labour Market (KILM), Ninth Edition, 2015 (accessed May 2016).

• **Unemployment rate (%)**: The number of unemployed persons as a percentage of the total number of employed and unemployed persons (i.e. the labour force). Source: ILOSTAT, Annual Indicators, Unemployment by sex and age, data from 2015 or latest available (accessed May 2016).

The Labour force participation rate and Employment-to-population ratio indicators reflect the fact that employment and unemployment rates, by themselves, are an incomplete measure of the degree to which a country utilizes the human capital potential embodied in the skills and learning of its people, unless expressed as a share of the total population who could be “active” and contributing to economic activity. There are a variety of reasons why individuals of all ages might fall into the “economically inactive” category. They may be sick or infirm, or may be occupied in caring for family members for whom this is the case. Another important subgroup comprises those known as “discouraged workers”, defined as persons no longer looking for work because they think they will not find any. In some situations, a higher inactivity rate for certain groups of the population should not necessarily be viewed as bad; they may be retired, for example, or may be only temporarily leaving the labour force to attend to family responsibilities such as childcare. Nevertheless, the conceptual foundation and scoring of the Human Capital Index rests on the conviction that those who wish to be “active” should be enabled to do so, for their own benefit and that of the economy as a whole.

### AGE GROUP SCORE, RANK AND INDICATORS

The second section of each Country Profile provides a full overview of the country’s Human Capital Index 2016 performance. For each of the five age groups, every indicator’s value (the original data for the indicator), score (on a 0–100 scale), and rank (out of 130 countries) are listed in detail. The left-hand column of each of the five Age Group pillars refers to the Learning dimension of the Index. The right-hand column refers to the Employment dimension. Values have been rounded to two decimals for reporting purposes. Exact values have been used for calculating scores. The “—” symbol indicates where data was not available.

Every indicator’s score is a function of the country’s “distance from the ideal” for the specific dimension measured. Because the values for many of the concepts measured by the Human Capital Index are expressed as percentage rates for the corresponding age group, the “distance from the ideal” can be clearly defined and frequently takes on intuitive minimum and maximum values. For example, a primary school enrolment rate of 100% represents the ideal—and several countries have nearly been able to achieve this goal. Sometimes the scale is reversed. For example, a 0% unemployment rate or 0% incidence of child labour constitutes the ideal state.

There are three special cases. First, indicators taken from the World Economic Forum’s Executive Opinion Survey, normally ranked on a 1–7 scale, have been re-scaled to conform to the 0–100 scale for scoring purposes. Second, the raw value for the Economic complexity indicator (included in the 25–54 Age Group pillar), a proxy for the country’s level of specialist knowledge and skills as embodied in the sophistication of its export products, is stated as a z-score. To stay true to the “distance from the ideal” approach, values for this indicator are scored assuming minimum and maximum values of +/- 3 standard deviations. Third, there is no obvious maximum value for the Healthy life expectancy indicator, which appears in both the 55–64 and 65 and Over Age Group pillars. For the 55–64 Age Group, Health life expectancy is a measure of whether individuals in this age group can reasonably expect to live through these years in continued good health. Accordingly, every country passing the threshold of achieving 65 years of healthy life expectancy at birth for its people is deemed to have reached the ideal. For the 65 and Over Age Group pillar, the highest-ranked country in the sample, Singapore, with 11 years of additional healthy life expectancy beyond the age of 65, is allocated the maximum score of 100, with other countries scored on the distance to this score.

Note that for the 15–24 Age Group, it is conceptually impossible to achieve simultaneous maximum scores for the Tertiary enrolment rate, Vocational enrolment rate and Labour force participation rate indicators, reflecting the complexity of choices faced by individuals at that age. The Human Capital Index recognizes this by rewarding countries for maximizing their score across these three measures without prejudice towards one or the other. Finally, the overall score for each age group pillar is derived from the simple average of all non-missing indicators measured for that age group.
Enrolment in education

- **Primary enrolment rate**: Net adjusted enrolment rate, which refers to the percentage of children in the official primary school age range who are enrolled in either primary or secondary education. Source: UNESCO, Institute for Statistics, data from 2014 or latest available (accessed May 2016).


- **Basic education survival rate**: Percentage of a cohort of students enrolled in the first grade of lower secondary (ISCED 2) education in a given school year who are expected to reach the last grade of lower secondary education, regardless of repetition. Lower secondary programmes are defined by the International Standard Classification of Education (ISCED-97), as normally designed to complete the provision of compulsory basic education, resulting in the full acquisition of basic skills. In most countries, the educational aim is to lay the foundation for lifelong learning. Source: UNESCO, Institute for Statistics, data from 2013 or latest available (accessed May 2016).

- **Secondary enrolment gender gap**: Ratio of female enrolment rate in lower secondary education over male value, expressed as a percentage, capped at parity. A value equal to 100 indicates gender parity; a value less than 100 indicates a disparity in favour of boys. Source: UNESCO, Institute for Statistics, data from 2014 or latest available (accessed May 2016).

Quality of education


- **Youth literacy rate**: Percentage of people age 15–24 who can both read and write and understand a short simple statement on their everyday life. Generally, literacy also encompasses numeracy, the ability to make simple arithmetic calculations. A high youth literacy rate among 15–24 year-olds suggests a high level of participation and retention in basic education, and its effectiveness in imparting the basic skills of reading and writing. Source: UNESCO, Institute for Statistics, data from 2015 or latest available (accessed May 2016).

Educational attainment

- **Primary education attainment rate**: Percentage of the population age 15–24, both sexes, with at least a primary education (ISCED 1). This data is cumulative, which means that those with secondary education and above are counted in the primary education figures. Therefore, total figures across more than one category may add up to more than 100%. Source: Lutz et al., IIASA/VID Educational Attainment Model, GET Projection, 2015, Wittgenstein Centre for Demography and Global Human Capital (accessed May 2016); Barro and Lee, “A New Data Set of Educational Attainment in the World, 1950–2010”, Journal of Development Economics, 2010, http://www.barrolee.com (accessed May 2016).
• Secondary education attainment rate: Percentage of the population age 15–24, both sexes, with at least a secondary education (ISCED 2–4). This data is cumulative, which means that those with tertiary education are counted in the secondary education figures. Therefore, total figures across more than one category may add up to more than 100%. Source: Lutz et al., 2015 and Barro-Lee, 2010, op. cit. (accessed May 2016).

Economic participation

• Labour force participation rate: Percentage of the population age 15–24, both sexes, that engages actively in the labour market, either by working or looking for work. Source: ILO, Key Indicators of the Labour Market (KILM), Ninth Edition, 2015 (accessed May 2016).

• Unemployment rate: Number of unemployed people age 15–24, both sexes, as a percentage of the total number of employed and unemployed (i.e. the labour force). Source: ILOSTAT, Annual Indicators, Unemployment by sex and age, data from 2015 or latest available (accessed May 2016).

• Underemployment rate: People age 15-24, both sexes, in time-related underemployment (also known as involuntary part-time employment) who are willing and available to work additional hours as a percentage of the total number of persons in employment. Source: ILOSTAT, Annual Indicators, Time-related underemployment rate by sex and age, data from 2014 or latest available (accessed May 2016).

• Not in employment, education or training rate: Proportion of people age 15–24 not in employment and not in education or training. Source: ILOSTAT, Youth, Share of youth not in employment and not in education, data from 2014 or latest available (accessed May 2016).

• Long-term unemployment rate: Number of people age 15–24, both sexes, unemployed for more than 12 months as a percentage of total unemployed persons. Source: ILO, Key Indicators of the Labour Market (KILM), Ninth Edition, 2015 (accessed May 2016).

Skills

• Incidence of overeducation (people age 15–29): A measure of the degree of skills mismatch between the educational attainment of a country’s population and the actual types of jobs held by persons in the country, as defined by ISCO-08 and ISCED-97. Workers in a particular group who have the assigned level of education are considered well matched. Those who have a higher level of education are considered overeducated. Source: ILO, Key Indicators of the Labour Market (KILM), Eighth Edition, data from 2011 or latest available (accessed May 2016).

• Incidence of undereducation (people age 15–29): A measure of the degree of skills mismatch between the educational attainment of a country’s population and the actual types of jobs held by persons in the country, as defined by ISCO-08 and ISCED-97. Workers in a particular group who have the assigned level of education are considered well matched. Those who have a lower level of education are considered undereducated. Source: ILO, Key Indicators of the Labour Market (KILM), Eight Edition, data from 2011 or latest available (accessed May 2016).

• Skill diversity: Calculated as a Herfindahl-Hirschman Index (HHI) of concentration of recent graduates among the nine broad fields of study recognized by UNESCO’s International Standard Classification of Education (ISCED-97). A perfectly equal distribution of graduates among disciplines would result in a normalized HHI value of 0.111, while a complete concentration of graduates in just one discipline would result in an HHI value of one. For further details see, for example, http://www.wikipedia.org/wiki/Herfindahl_ index (accessed May 2016).

The Incidence of overeducation and Incidence of undereducation indicators have been included as core measures in the Human Capital Index for the 15–24 age group to reflect the critical importance of possessing in-demand skills for first-time labour markets entrants (but not for the other age groups, due to the impossibility of further disaggregating this information by age and data coverage limitations). Similarly, the Skill diversity indicator provides a measure of the diversity, or lack thereof, of tertiary skills available in the country, without prejudice towards one particular set of skills or another.

25–54 Age Group

Educational attainment

• Primary education attainment rate: Percentage of the population age 25–54, both sexes, with at least a primary education (ISCED 1). This data is cumulative, which means that those with secondary education and above are counted in the primary education figures. Therefore, total figures across more than one category may add up to more than 100%. Source: Lutz et al., 2015 and Barro-Lee, 2010, op. cit. (accessed May 2016).

• Secondary education attainment rate: Percentage of the population age 25–54, both sexes, with at least a secondary education (ISCED 2–4). This data is cumulative, which means that those with tertiary education are counted in the secondary education figures. Therefore, total figures across more than
one category may add up to more than 100%.

• **Tertiary education attainment rate:** Percentage of the population age 25–54, both sexes, with at least a tertiary education (ISCED 5 and 6). Source: Lutz et al., 2015 and Barro-Lee, 2010, op. cit. (accessed May 2016).

**Workplace learning**

• **Staff training:** Response to the survey question, “To what extent do companies in your country invest in training and employee development? (1 = hardly at all, 7 = to a great extent)”. Source: World Economic Forum, Executive Opinion Survey, 2015–2016.

• **Economic complexity:** Derived from the Atlas of Economic Complexity, which attempts to measure the amount of productive knowledge and skills a country holds, as embodied in the sophistication of its export products. As stated by the Atlas, ‘Modern societies can amass large amounts of productive knowledge because they distribute bits and pieces of it among its many members. … Thus, individual specialization begets diversity at the national and global level. Our most prosperous modern societies are wiser, not because their citizens are individually brilliant, but because these societies hold a diversity of know-how and because they are able to recombine it to create a larger variety of smarter and better products’. Source: Hausmann, R., Hidalgo, C., et al., The Atlas of Economic Complexity, http://atlas.cid.harvard.edu/ rankings, data from 2014 (accessed May 2016).

**Economic participation**

• **Labour force participation rate:** Percentage of the population age 25–54, both sexes, that engages actively in the labour market, either by working or looking for work. Source: ILO, Key Indicators of the Labour Market (KILM), Ninth Edition, 2015 (accessed May 2016).

• **Unemployment rate:** Number of people unemployed age 25–54, both sexes, as a percentage of the total number of employed and unemployed (i.e. the labour force). Source: ILOSTAT, Annual Indicators, Unemployment by sex and age, data from 2015 or latest available (accessed May 2015).

• **Underemployment rate:** People age 25–54, both sexes, in time-related underemployment (also known as involuntary part-time employment) who are willing and available to work additional hours as a percentage of the total number of persons in employment. Source: ILOSTAT, Annual Indicators, Time-related underemployment rate by sex and age, data from 2014 or latest available (accessed May 2016).

• **Employment gender gap:** Ratio of female employment-to-population ratio over male value, people age 25–54, expressed as a percentage, capped at parity. A value equal to 100 indicates gender parity; a value less than 100 indicates a disparity in favour of men. Source: ILOSTAT, Annual Indicators, Employment-to-population ratio by sex and age, data from 2014 or latest available (accessed May 2016).

**Skills**

• **High-skilled employment share:** Number of persons, both sexes, employed in occupations with tertiary (ISCED 5–6) education requirements as a percentage of the total number of employed people. Source: International Labour Organization, Trends Econometric Models, October 2014 (accessed May 2016).

• **Medium-skilled employment share:** Number of persons, both sexes, employed in occupations with at least secondary (ISCED 2–6) education requirements as a percentage of the total number of employed persons. This data is cumulative, which means that persons employed in occupations with tertiary education requirements (ISCED 5–6) are also counted in the medium-skilled employment figures. Source: International Labour Organization, Trends Econometric Models, October 2014 (accessed May 2016).

• **Ease of finding skilled employees:** Response to the survey question, “In your country, how easy is it for companies to find employees with the required skills for their business needs? (1 = extremely difficult, 7 = extremely easy)”. Source: World Economic Forum, Executive Opinion Survey, 2015–2016.

The Human Capital Index uses the proportion of a country’s population in “high-skilled employment” and “medium-skilled employment” as core measures for the 25–54 age group, indicating the degree to which the country is actually leveraging its core working-age population’s skills and learning in its economic activity.

The Index’s methodology follows that of the ILO, which has aligned each of the major occupational groupings of the International Standard Classification of Occupations (ISCO-08) to one of four skill levels, ‘defined as a function of the complexity and range of tasks and duties to be performed in an occupation’. Each skill level has, in turn, been aligned to the level of formal education of the International Standard Classification of Education (ISCED-97) typically required for competent performance in the occupation. For the purposes of inclusion in the Country Profiles, we have grouped together skill levels 3 and 4, resulting in the following classification scheme:
Skills levels 3 & 4 = Tertiary education requirements (ISCED levels 5 – 6)
- Managers, professionals and technicians

Skills level 2 = Secondary education requirements (ISCED levels 2 – 4)
- Clerical, service and sales workers
- Skilled agricultural and trades workers
- Plant and machine operators and assemblers

Skills level 1 = Primary education requirements (ISCED level 1)
- Elementary occupations

ISCO defines skill as “the ability to carry out the tasks and duties of a given job” while cautioning that “the use of ISCED categories to assist in defining … skill levels does not imply that the skills necessary to perform the tasks and duties of a given job can be acquired only through formal education. The skills may be, and often are, acquired through [informal on-the-job training or previous experience in a related occupation]. … Formal education and training requirements are thus only one component of the measurement of skill level and should be seen as indicative.” (Source: “Conceptual framework, design, structure and content of ISCO-08”, in: International Standard Classification of Occupations, ISCO-08 [accessed May 2016]). For a broader measure of a country’s skills base the index therefore also includes the Ease of finding skilled employees indicator as reported on the World Economic Forum’s Executive Opinion Survey.

### 55–64 Age Group

**Educational attainment**

- **Primary education attainment rate**: Percentage of the population age 55–64, both sexes, with at least a primary education (ISCED 1). This data is cumulative, which means that those with secondary education and above are counted in the primary education figures. Therefore, total figures across more than one category may add up to more than 100%. Source: Lutz et al., 2015 and Barro-Lee, 2010, op. cit. (accessed May 2016).

- **Secondary education attainment rate**: Percentage of the population age 55–64, both sexes, with at least a secondary education (ISCED 2-4). This data is cumulative, which means that those with tertiary education are counted in the secondary education figures. Therefore, total figures across more than one category may add up to more than 100%. Source: Lutz et al., 2015 and Barro-Lee, 2010, op. cit. (accessed May 2016).

- **Tertiary education attainment rate**: Percentage of the population age 55–64, both sexes, with at least a tertiary education (ISCED 5 and 6). Source: Lutz et al., 2015 and Barro-Lee, 2010, op. cit. (accessed May 2016).

**Economic participation**

- **Labour force participation rate**: Percentage of the country’s population age 55–64, both sexes, that engages actively in the labour market, either by working or looking for work. Source: ILO, Key Indicators of the Labour Market (KILM), Ninth Edition, 2015 (accessed May 2016).

- **Unemployment rate**: Number of people age 55–64, both sexes, unemployed as a percentage of the total number of employed and unemployed persons (i.e. the labour force). Source: ILOSTAT, Annual Indicators, Unemployment by sex and age, data from 2015 or latest available (accessed May 2016).

- **Underemployment rate**: Persons age 55–64, both sexes, in time-related underemployment (also known as involuntary part-time employment) who are willing and available to work additional hours as a percentage of the total number of persons in employment. Source: ILOSTAT, Annual Indicators, Time-related underemployment rate by sex and age, data from 2014 or latest available (accessed May 2016).

- **Healthy life expectancy at birth**: Health-adjusted life expectancy (HALE) is a measurement developed by the World Health Organization that attempts to capture a more complete estimate of health than standard life expectancy rates. It applies weightings to compute the equivalent number of years expected to be lived in full health, providing a measure of quality of life and an individual’s potential to remain active and productive into older age. Score capped at a value of 65. Source: WHO Global Health Observatory, World Health Statistics, 2013 (accessed May 2016).

### 65+ Age Group

**Educational attainment**

- **Primary education attainment rate**: Percentage of the population age 65 and over, both sexes, with at least a primary education (ISCED 1). This data is cumulative, which means that those with secondary education and above are counted in the primary education figures. Therefore, total figures across more than one category may add up to more than 100%. Source: Lutz et al., 2015 and Barro-Lee, 2010, op. cit. (accessed May 2016).
• **Secondary education attainment rate:** Percentage of the population age 65 and over, both sexes, with at least a secondary education (ISCED 2–4). This data is cumulative, which means that those with tertiary education are counted in the secondary education figures. Therefore, total figures across more than one category may add up to more than 100%. Source: Lutz et al., 2015 and Barro-Lee, 2010, op. cit. (accessed May 2016).

• **Tertiary education attainment rate:** Percentage of the population age 65 and over, both sexes, with at least a tertiary education (ISCED 5 and 6). Source: Lutz et al., 2015 and Barro-Lee, 2010, op. cit. (accessed May 2016).

**Economic participation**

• **Labour force participation rate:** Percentage of the population age 65 and over, both sexes, that engages actively in the labour market, either by working or looking for work. Source: ILO, Key Indicators of the Labour Market (KILM), Ninth Edition, 2015 (accessed May 2016).

• **Unemployment rate:** Number of unemployed people age 65 and over, both sexes, as a percentage of the total number of employed and unemployed persons (i.e. the labour force). Source: ILOSTAT, Annual Indicators, Unemployment by sex and age, data from 2015 or latest available (accessed May 2016).

• **Underemployment rate:** Persons age 65 and over, both sexes, in time-related underemployment (also known as involuntary part-time employment) who are willing and available to work additional hours as a percentage of the total number of persons in employment. Source: ILOSTAT, Annual Indicators, Time-related underemployment rate by sex and age, data from 2014 or latest available (accessed May 2016).

• **Healthy life years beyond age 65:** The number of years by which the country’s health-adjusted life expectancy (HALE) exceeds the value of 65 years, if any. HALE is a measurement developed by the World Health Organization that attempts to capture a more complete estimate of health than standard life expectancy rates. It applies weightings to compute the equivalent number of years expected to be lived in full health, providing a measure of quality of life and an individual’s potential to remain active and productive into older age. Score calculated as distance from best-ranked country. Source: WHO Global Health Observatory, World Health Statistics, 2013 (accessed May 2016).

**PERFORMANCE CHART**

The chart at the top right-hand side of each Country Profile gives an overview of the country’s scores for each of the five Age Group pillars, in relation to the ideal score and the global average score of all countries in the Index. The centre of the chart corresponds to the lowest possible score (0), while the outermost corners of the chart correspond to the highest possible score (100). The black line represents the position of the global average across the 130 countries covered by this year’s edition of the Index. The light blue area indicates the country’s distance from the ideal score, as well as its position relative to other countries in the Index. The closer the light blue area approaches the corners of the chart, the closer the country has come to maximizing the human capital potential embodied in the skills, learning and employment of its people. Note that the distance from the ideal measure is not a relative scoring method. That is to say, it is perfectly possible (and indeed desirable) for several countries to simultaneously close in on the ideal state and the only relative ranking that occurs is in relation to how far short of this ideal state individual countries are falling.

**NOTE**

1 Unless otherwise indicated by a superscripted note, “value” refers to percentage rates for the corresponding age group. The following exceptions apply:

1 Survey response on a 1–7 scale (1 = worst score, 7 = best score); applicable to the Quality of primary schools, Quality of education system, Staff training, and Ease of finding skilled employees indicators.

2 Data on a normalized 0.111- to 1.000-scale (0.111 = best score, 1.000 = worst score); applicable to the indicator Skill diversity indicator.

3 Data from −2.132 (worst score) to 2.209 (best score); applicable to the Economic complexity indicator.
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