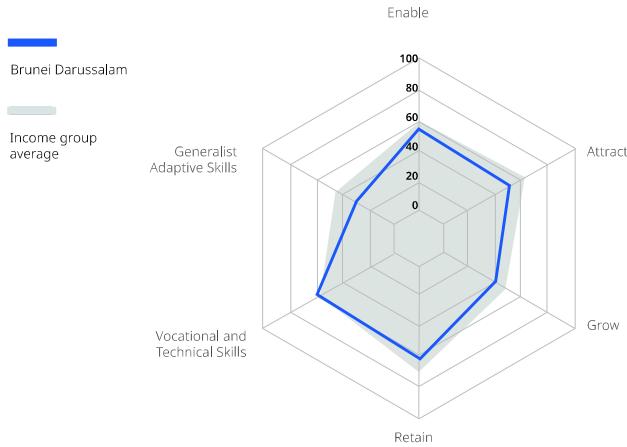


Brunei Darussalam

Key Indicators

Rank (out of 135)	43
Income group	High income
Regional group	Eastern, Southeastern Asia and Oceania
Population (millions)	0.46

GTCI 2025 country profile by pillar



1. ENABLE		SCORE	RANK
1.1 Regulatory Landscape	80.43	15	
1.1.1 Government effectiveness	80.06	17	
1.1.2 Rule of law	73.77	29	
1.1.3 Political stability	98.60	2	
1.1.4 Regulatory quality	69.28	31	
1.1.5 Corruption	n/a	n/a	
1.2 Market Landscape	45.38	82	
1.2.1 Extent of market dominance	39.42	99	
1.2.2 Domestic credit to private sector	15.42	76	
1.2.3 Cluster development	44.29	82	
1.2.4 R&D expenditure	4.29	80	
1.2.5 Population covered by at least a 3G mobile network	93.09	64	
1.2.6 Internet access in schools	n/a	n/a	
1.2.7 Urbanisation	75.76	40	
1.3 Business and Labour Landscape	43.08	93	
Labour Market			
1.3.1 Labour rights	74.20	83	
1.3.2 Labour-employer cooperation	60.53	60	
Management Practice			
1.3.3 Professional management	60.63	61	
1.3.4 Relationship of pay to productivity	46.51	71	
Technology Adoption			
1.3.5 Enterprise software	11.86	97	
1.3.6 Cloud computing	4.79	122	
1.3.7 Firms with website	n/a	n/a	
2. ATTRACT	56.08	46	
2.1 External Openness	53.04	37	
Attract Business			
2.1.1 FDI regulatory restrictiveness	54.68	77	
2.1.2 Financial globalisation	78.93	29	
Attract People			
2.1.3 Migrant stock	49.50	14	
2.1.4 International students	15.76	53	
2.1.5 Brain gain	66.32	16	
2.1.6 AI skills migration	n/a	n/a	
2.2 Internal Openness	59.12	87	
Social Inclusion			
2.2.1 Tolerance of minorities	27.66	93	
2.2.2 Tolerance of immigrants	n/a	n/a	
2.2.3 Social mobility	60.68	52	
Gender Equality			
2.2.4 Economic empowerment of women	53.12	126	
2.2.5 Gender parity in high-skilled jobs	82.62	48	
2.2.6 Leadership opportunities for women	71.54	28	

GDP per capita (PPP US\$)	86,871
GDP (US\$ billions)	15.46
GTCI score	51.48
GTCI score (income group average)	59.47

	SCORE	RANK
3. GROW	39.88	55
3.1 Formal Education	30.27	45
Enrolment		
3.1.1 Vocational enrolment	20.87	56
3.1.2 Tertiary enrolment	20.56	85
Quality		
3.1.3 Tertiary education expenditure	50.31	6
3.1.4 Reading, maths and science	42.06	43
3.1.5 University ranking	17.53	53
3.2 Lifelong Learning	31.12	87
3.2.1 Business masters education	0.00	64
3.2.2 Prevalence of training in firms	n/a	n/a
3.2.3 Employee development	62.24	57
3.3 Access to Growth Opportunities	58.24	44
Empowerment		
3.3.1 Delegation of authority	65.69	26
3.3.2 Youth inclusion	67.31	66
Collaboration		
3.3.3 Use of virtual social networks	63.50	70
3.3.4 Use of virtual professional networks	36.47	35
4. RETAIN	65.49	39
4.1 Sustainability	68.30	25
4.1.1 Pension coverage	100.00	1
4.1.2 Social protection	50.00	59
4.1.3 Brain retention	48.17	61
4.1.4 Environmental performance	48.30	55
4.1.5 Vulnerable employment	95.02	10
4.1.6 Protect against future disasters	n/a	n/a
4.1.7 Household financial resilience	n/a	n/a
4.2 Lifestyle	62.69	60
4.2.1 Personal rights	n/a	n/a
4.2.2 Personal safety	n/a	n/a
4.2.3 Physician density	27.37	77
4.2.4 Sanitation	98.00	43
4.2.5 Employee wellbeing	n/a	n/a
5. VOCATIONAL AND TECHNICAL SKILLS	62.18	33
5.1 Mid-level Skills	61.21	17
5.1.1 Workforce with secondary education	62.63	28
5.1.2 Population with secondary education	63.94	27
5.1.3 Technicians and associate professionals	57.06	36
5.1.4 Labour productivity per employee	n/a	n/a
5.2 Employability	63.14	59
5.2.1 Ease of finding skilled employees	42.88	119
5.2.2 Relevance of education system to the economy	60.78	26
5.2.3 Skills matching	65.70	59
5.2.4 Highly educated unemployment	83.21	48
6. GENERALIST ADAPTIVE SKILLS	28.98	50
6.1 High-level Skills	46.07	22
6.1.1 Workforce with tertiary education	35.56	62
6.1.2 Soft skills	57.13	60
6.1.3 Professionals	33.81	45
6.1.4 Researchers	4.82	73
6.1.5 Senior officials and managers	45.11	14
6.1.6 Digital skills	100.00	1
6.1.7 AI talent concentration	n/a	n/a
6.2 Talent Impact	11.88	106
6.2.1 ICT services exports	2.44	112
6.2.2 Mobile apps development	43.27	112
6.2.3 Intellectual property receipts	0.00	121
6.2.4 High-value exports	1.53	115
6.2.5 Software development	3.02	96
6.2.6 New business density	0.00	125
6.2.7 Scientific journal articles	32.91	37

Appendices



Appendix I: GTCI Conceptual Framework:

As made clear in previous editions of the GTCI, countries are competing globally for the talent they need, and who will contribute to competitiveness, innovation, and growth. This requires them to grow their own talent pools, attract talent from under represented and underprivileged domestic sources as well as overseas and external sources, and to develop the means to retain these essential workers. In such a context, governments, businesses, and various other stakeholders need quantitative instruments that can inform their decisions—whether as investors, employers, employees, or jobseekers—and can help them design and implement better policies in areas such as education, employment, and immigration, among others. This is the purpose of the GTCI.

Who Is Expected to Use the GTCI and Why?

Decision-making in the area of talent development, attraction, and empowerment is remarkably complex and multi-layered, covering many different issues in the fields of economics, education, human resource management and organisational behaviour, entrepreneurship, innovation, and strategy, and requiring multi-disciplinary effort. At the policy level, this complexity is compounded by emotional considerations and the international consequences of choices regarding immigration, social equity, and fiscal incentives, among others. Faced with such intricate issues, decision-makers—both public and private—need quantitative tools that will enable them to benchmark their efforts and results obtained across the different socioeconomic environments into which talent management and talent competitiveness fall. The GTCI has been designed to help address this challenge by providing a composite view of talent

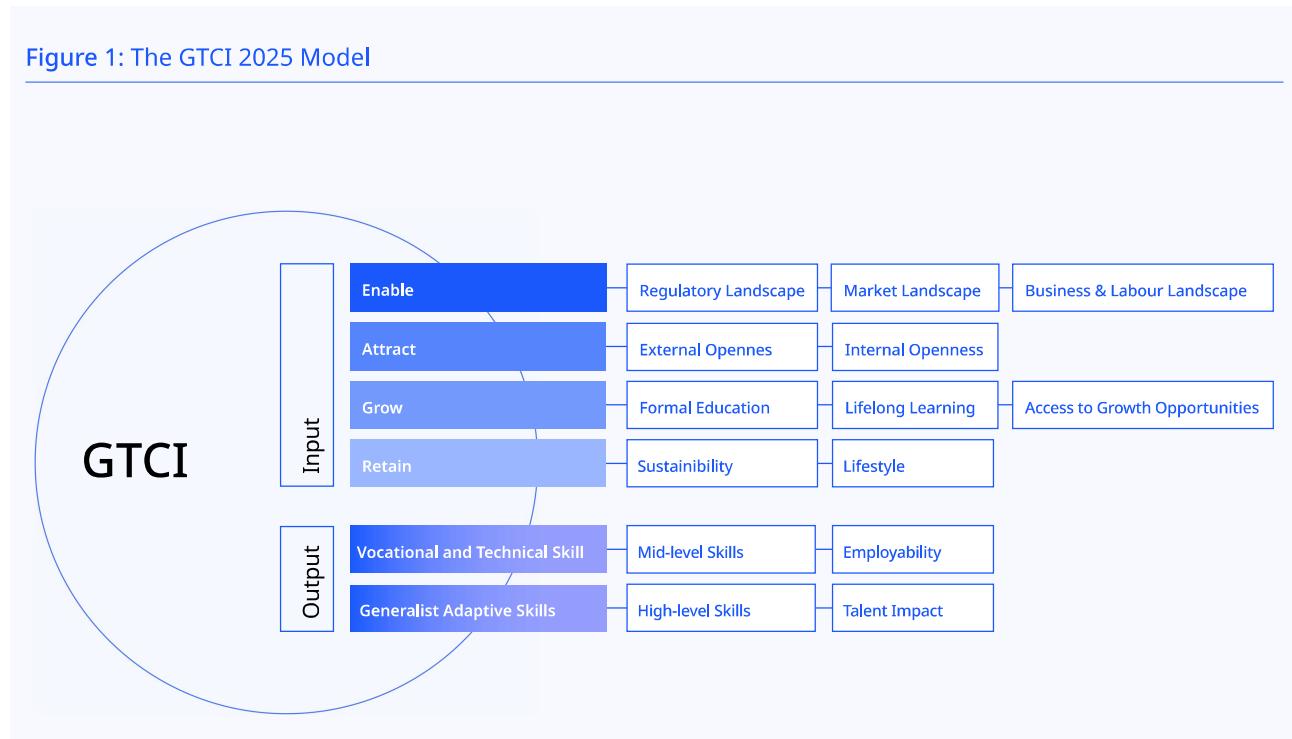
competitiveness that is applicable to a large number of countries (135 this year). Although several composite indices concerning skills, talent, and human capital have been developed in recent years, both private and public players in the field see the need for a neutral, global, and respected index that will enable them to: assess the effectiveness of talent-related policies and practices; identify priorities for action in relevant areas; and inform international and local debate in this arena.

The Structure of the GTCI Model in the context of the GTCI, talent competitiveness refers to the set of policies and practices that enable a country to develop, attract, and empower the human capital that contributes to productivity and prosperity. The GTCI is an Input-Output model (see Figure 1) that combines an assessment of what countries do to produce and acquire talent (Input) and the kind of skills that are available to them as a result (Output). Although the underlying structure of the report remains robust and unchanged, feedback on previous editions, additional research, and the availability of new data have allowed the model to be refined.

The **Input** pillars of the GTCI are inspired by the Attract-Grow-Retain framework used by corporations to steer talent management. Multinational corporations frame talent management in these terms, defining talent management as an organisation's efforts to attract, select, develop, and retain talented employees to meet their strategic needs.⁴⁹ The GTCI focuses on efforts by countries, which means the model is fed by macroeconomic and country-level indicators.

In the context of national competitiveness, **Attracting** talent is viewed from two perspectives. Firstly, as a draw towards valuable external (i.e., foreign) resources, which includes both productive businesses through foreign direct investment (FDI) and the like as well

Figure 1: The GTCI 2025 Model



as creative people through high-skilled migration. Secondly, as an internal attraction that is focused on removing barriers to entering the talent pool for groups such as those from underprivileged backgrounds, women, and non-native people.

Growing talent has traditionally meant education, but its definition should be broadened to include apprenticeships, training, and continuous education as well as experience and access to growth opportunities. However, although we may acknowledge that most skill development occurs through experience, much remains to be done to conceptualise and measure its role.

Retaining talent is necessary because the more talented the person, the wider the global opportunities he or she has. The two key components of retention are sustainability—both personal and national—and quality of life. In addition, the regulatory, market, business, and labour landscapes within a country also facilitate or impede talent attraction and growth. The GTCI classifies these elements as parts of the **Enable** pillar. Together, Enable, Attract, Grow, and Retain constitute the four Input pillars of the GTCI model.

Regarding **Output**, the GTCI differentiates between two levels of talent, which can be broadly thought of as mid-level and high-level skills. Mid-level skills, also known as **Vocational and Technical Skills** (VT Skills), describe skills that have a technical or professional base acquired through vocational or professional training and experience. The impact of VT Skills is measured by the degree of employability to which they lead. Employability is measured by indicators around skills gaps and labour market mis-matches and by the adequacy of education systems. In the 2025 edition, the former Global Knowledge Skills pillar has been

relabelled as **Generalist Adaptive Skills** (GA Skills) to better represent the broad-based and collaborative skill sets increasingly demanded by contemporary labour markets. This shift underscores the growing importance of adaptability, cognitive flexibility, and interdisciplinary problem-solving—competencies that are central to success in an era defined by digital transformation, automation, and continuous economic change. Such High-level skills, describe the creativity and problem-solving skills required by the workers in professional, managerial, or leadership roles. Their economic impact is evaluated by indicators around innovation, entrepreneurship, and the development of high-value industries. Together, VT Skills and GA Skills constitute the two Output pillars of the GTCI model.

The GTCI provides an approach to talent competitiveness issues that is comprehensive, action-oriented, analytical, and practical. As noted above, the GTCI is a composite index, which relies on a simple but robust Input-Output model, composed of six pillars, as illustrated in Figure 1. As such, the GTCI generates three main indices that form the most visible focus for analysis, namely:

1. **The Talent Competitiveness Input sub-index**, which is composed of four pillars that describe the policies, resources, and efforts a particular country can harness to foster talent competitiveness. Pillar 1, Enable, reflects the extent to which the regulatory and business environments—including issues about competition, management practices, and the functioning of labour markets—create a favourable climate for talent to develop and thrive. The other three pillars describe the three levers of talent competitiveness, which focus respectively on what countries are doing to Attract (pillar 2), Grow (pillar 3), and Retain (pillar 4) talent. The

Input sub-index is the simple arithmetic average of the scores registered on these four pillars.

- 2. The Talent Competitiveness Output sub-index,** which aims to describe and measure the quality of talent in a country resulting from the above policies, resources, and efforts. It is composed of two pillars describing the current situation of a particular country in terms of Vocational and Technical Skills (pillar 5) and Generalist Adaptive Skills (pillar 6). The Output sub-index is the simple arithmetic average of the scores obtained in these two pillars.
- 3. The Global Talent Competitiveness Index (GTCI),** which is calculated as the simple arithmetic average of the scores of each of the four Input pillars and two Output pillars outlined above.

While the GTCI model has preserved its structural integrity over time, it continues to evolve through incremental refinements aimed at enhancing analytical precision and cross-country comparability. The

2025 framework introduces several methodological updates—both in terms of indicator composition and the computation of composite scores. These refinements incorporate new dimensions that reflect the contemporary drivers of talent competitiveness, most notably artificial intelligence adoption, workforce resilience, and employee wellbeing. The methodological changes to the GTCI Model are listed in Table 1 below. Following these updates, the GTCI 2025 model comprises 77 indicators across 135 countries, collectively representing over 97% of global GDP and 93% of the world's population. Each annual iteration of the index undergoes independent statistical audit and sensitivity testing by the Joint Research Centre (JRC) of the European Commission, which has consistently validated the model's robustness, coherence, and empirical soundness. Further details of the indicator definitions and the method of calculation can be found in the Sources and Definitions and Technical Notes appendices. The GTCI model will continue to be refined, based on further discussions with academics and business and government leaders, as well as feedback from GTCI users.

Table 1: Adjustments to the Global Talent Competitiveness Index 2024

Variable Code	GTCI 2023	Adjustment	New Code	GTCI 2025
1.2.5	ICT infrastructure	Replaced	1.2.5	Population covered by at least a 3G mobile network
		New Addition	1.2.6	Internet access in schools
1.2.6	Urbanisation	Change in Code; Change in Data Source	1.2.7	Urbanisation
2.1.3	Migrant stock	Methodology Changed at Source	2.1.3	Migrant stock
2.1.5	Brain gain	Methodology Changed at Source	2.1.5	Brain gain
		New Addition	2.1.6	AI skills migration
		New Addition	4.1.3	Brain retention
4.1.3	Brain retention	Methodology Changed at Source	4.1.6	Protect Against Future Disasters
		New Addition	4.1.7	Household Financial Resilience
		New Addition	4.2.5	Employee Wellbeing
		Removed		
6.1.2	Population with tertiary education	New Addition	6.1.2	Soft Skills
		New Addition	6.1.7	AI talent concentration
		Replaced	6.2.1	ICT services exports
6.2.1	Innovation output	New Addition	6.2.2	Mobile apps development
		New Addition	6.2.3	Intellectual property receipts (% of total trade)
		Change in Code	6.2.4	High-value exports
6.2.2	High-value exports	Change in Code; Methodology Changed at Source	6.2.5	Software development
6.2.3	Software development	Change in Code; Methodology Changed at Source	6.2.6	New business density
6.2.4	New business density	Change in Code	6.2.7	Scientific journal articles

Appendix II: Technical Notes

Audit by the Joint Research Centre of the European Commission

The Joint Research Centre (JRC) of the European Commission has conducted extensive research on the development of composite indicators, most notably publishing the Handbook on Constructing Composite Indicators: Methodology and User Guide in collaboration with the Organisation for Economic Co-operation and Development (OECD). For the eleventh consecutive edition of the Global Talent Competitiveness Index (GTCI), the GTCI development team engaged the JRC to conduct an audit⁵⁰. This exercise has provided external validation and further improved the statistical analyses to ensure the consistency and rigour of the GTCI model. An audit was carried out by the JRC in October-November 2025. The results and report of the final audit can be found in Chapter 3.

Composite Indicators

The GTCI framework builds on six pillars: (1) Enable, (2) Attract, (3) Grow, (4) Retain, (5) Vocational and Technical Skills, and (6) Generalist Adaptive Skills. Each pillar consists of two to three sub-pillars. Each sub-pillar is composed of three to seven indicators. Each sub-pillar score is derived from the simple arithmetic average of its individual indicators. The successive arithmetic aggregation continues at the pillar level.

In GTCI 2025, the Global Knowledge Skills pillar was renamed Generalist Adaptive Skills to better reflect the evolving conceptual emphasis of the framework.

Overall, the GTCI includes three indices:

1. The Talent Competitiveness Input sub-index is the simple average of the first four pillars.
2. The Talent Competitiveness Output sub-index is the simple average of the last two pillars.
3. The Global Talent Competitiveness Index is the simple average of the six pillars.

Individual Indicators

The GTCI 2025 model includes 77 indicators, which fall into the following categories⁵¹:

1. Hard/quantitative data (40 indicators)
2. Index/composite indicator data (15 indicators)
3. Survey/qualitative data (22 indicators)

Hard Data

The 40 indicators based on hard data were drawn from a variety of public sources, such as the United Nations Educational, Scientific and Cultural Organization (UNESCO), the International Labour Organization (ILO), the World Bank, the OECD, and The Conference Board. Most indicators were already scaled at their source and therefore did not need to be re-scaled.

Indices

The 15 indicators measured as indices come from sources such as the World Bank (including the World Governance Indicators, and the Women, Business and the Law report series) and Transparency International. They also come from other composite indicators such as the Social Progress Index and the Environmental Performance Index (Yale University and Columbia University). There are two main concerns about using 'indices within an index': (1) doubts over its methodology to derive a single score, and (2) the risk of duplicating indicators. Despite these concerns, the GTCI team determined that the gains outweighed the downsides, as there are certain phenomena that are best captured by a multi-dimensional index. To address these concerns, only indices that transparently indicate their methodology and are widely well received were included in the GTCI. In addition, only indices with a narrow focus were selected, to avoid double-counting.

Survey Data

The 22 indicators based on survey data were mainly extracted from the World Economic Forum's Executive Opinion Survey. Qualitative information tends to provide the most current assessment of certain areas related to talent competitiveness for which hard data either do not exist or have low country coverage.

Country Coverage and Missing Data

The 135 countries covered in the GTCI 2025 were selected based on an aggregate data availability threshold of at least 70% (54 out of 77 indicators) and a sub-pillar level data availability threshold of at least 40%. The most recent data points for each country were considered in the calculation, with 2014 as the cut-off year. However, exceptions were made for indicators 5.1.3 Technicians and associate professionals, 6.1.3 Professionals, and 6.1.5 Senior officials and managers, where data from 2013 was permitted. Meanwhile, each indicator had to pass a country-based availability threshold of 50% (68 out of 135 countries). The only exceptions to this rule were indicators 2.1.6 AI Skills migration and 6.1.7 AI talent concentration, where the data coverage is 34.8% (47 out of 135 countries).

The drive behind including these indicators is due to their contextual and theoretical significance within the GTCI framework. It is pivotal as it aligns perfectly with the inherent objectives and principles of the GTCI framework, adding layers of depth and relevance to the evolving model. This augmentation is not merely numerical but is instrumental in refining the essence and effectiveness of the framework in capturing the nuanced dimensions of talent competitiveness. The incorporation of these indicators substantiates the framework's adaptability and resilience, fortifying its position as a robust tool for nuanced analysis in an ever-evolving landscape.

In order to provide transparency and replicability, there was no imputation effort to fill in missing values in the data set. Missing values were noted with 'n/a' and were not considered in the calculation of sub-pillar scores and, by extension, the index scores.

Treatment of series with outliers

Outliers in an indicator can affect ranking results with bias. It is prudent to detect and remove all outliers before the normalization of scores. An applied rule-of-thumb where an absolute value of skewness greater than 2 or a kurtosis greater than 3.5 indicates the presence of outliers⁵².

The treatment of outliers occurs mainly in two ways. First, indicators with no more than five outliers are winsorized, whereby the value affecting the distribution assigns to the next highest/lowest value method. The winsorization process continues until the reported skewness and/or kurtosis fall within the ranges specified above.

Second, indicators with at least six outliers are transformed by natural logarithms according to the following formula:

$$\ln \left[(\max \times \text{factor} - 1) \times \frac{(\text{value} - \min)}{(\max - \min)} + 1 \right]$$

Initially, a natural logarithmic transformation with base 1 is applied. If this does not correct the skewness and kurtosis, a base 10 logarithmic transformation

is attempted. If necessary, a base 100 logarithmic transformation is applied as a final step.

Third, if the logarithmic transformation is ineffective for certain indicators, the Yeo-Johnson transformation is applied using the following formula:

$$\psi(y, \lambda) = \begin{cases} \frac{(y+1)^\lambda - 1}{\lambda} & y \geq 0 \text{ and } \lambda \neq 0, \\ \log(y+1) & y \geq 0 \text{ and } \lambda = 0, \\ -\frac{(-y+1)^{2-\lambda} - 1}{2-\lambda} & y < 0 \text{ and } \lambda \neq 2, \\ -\log(-y+1) & y < 0, \lambda = 2. \end{cases}$$

For the GTCI 2025, outliers were detected in ten indicators. Seven indicators⁵³ had fewer than six outliers. Two indicators⁵⁴ had six outliers or more and were treated through logarithmic transformation. One indicator⁵⁵ had six outliers or more and was treated through Yeo-Johnson transformation.

Normalisation

To make the indicators comparable for data aggregation, they must go through a process of normalisation. The GTCI applies the Min-max normalization method to ensure all values fall into the [0, 100] range. An exception is made for certain index-based and survey-based indicators, for which the original series range of values is retained as the minimum and maximum—for example, [1, 7] for the World Economic Forum Executive Opinion Survey (EOS) questions, and [0, 100] for the Yale Environmental Performance Index (EPI) scores.

For indicators where higher values indicate higher outcomes the following normalization formula is applied:

$$100 \times \frac{(\text{value} - \min)}{(\max - \min)}$$

For indicators where higher values imply worse outcomes the following reverse normalization formula is applied⁵⁶:

$$100 \times \frac{(\max - \text{value})}{(\max - \min)}$$

Caveats on the year-to-year comparison of rankings

The GTCI compares the performance of national talent competitiveness across economies and presents the changes in economy rankings over time.

It is important to note that scores and rankings are not directly comparable between one year and another. Each ranking reflects the relative position of a particular economy based on the conceptual framework, the data coverage, and the sample of countries/economies of that specific GTCI edition. Each ranking also reflects changes in the underlying sources of indicators, as well as data availability. Many factors influence the year-on-year rankings of an economy beyond the actual performance of the economy in question, including:

1. adjustments made to the GTCI framework (changes in indicator composition and measurement revisions);
2. data updates, the treatment of outliers, and missing values; and
3. the inclusion or exclusion of economies in the sample.

Additionally, the following characteristics complicate the time-series analysis based on simple GTCI rankings or scores:

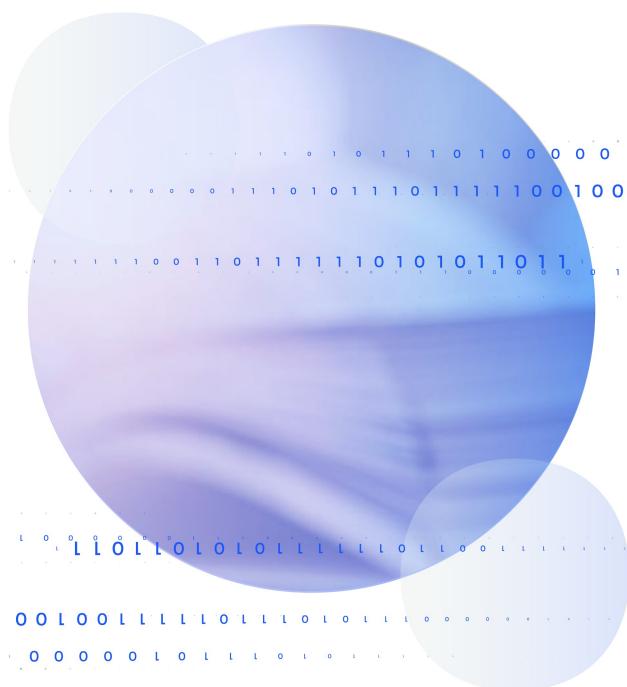
- 1. Missing values:** The GTCI produces relative index scores, which means that a missing value for one economy affects the index score of other economies. Because the number of missing values decreases every year, this problem reduces over time.
- 2. Reference year:** The data underlying the GTCI do not refer to a single year but to several years, depending on the latest available year for any given variable. In addition, the reference years for different variables are not the same for each economy, due to measures to limit the number of missing data points.
- 3. Normalization factor:** Most GTCI variables are normalized using GDP, population, or other factor with the intention of enabling cross-economy comparability. However, this implies that year-on-year changes in individual indicators may be driven either by the variable (numerator) or by its normalization factor (denominator).
- 4. Consistent data collection:** Measuring the change in year-on-year performance relies on the consistent collection of data over time. Changes in the definition of variables or in the data collection process could create movements in the rankings that are unrelated to performance.

A detailed study was performed on each country based on the GTCI database and the nation's profile over time. This, along with analytical ground work that includes that of actors and decision-makers in the realm of digital transformation, yields the best results in terms of monitoring a country/economy's network readiness as well as for identifying possible improvement channels.

References

- Groeneveld, R. A. & Meeden, G. (1984). Measuring skewness and kurtosis. *Journal of the Royal Statistical Society, Series D (The Statistician)*, 33, 391–399.
- OECD & EC JRC (2008). *Handbook on constructing composite indicators: Methodology and user guide*. Paris: OECD, available at <http://www.oecd.org/std/42495745.pdf>
- Paruolo, P., Saisana, M., & Saltelli, A. (2013). Ratings and rankings: Voodoo or science? *Journal of the Royal Statistical Society: Series A (Statistics in Society)*, 176, (3), 609–634

Appendix III: Sources and Definitions



1. Enable

1.1. Regulatory Landscape

1.1.1 Government effectiveness

Government effectiveness indicator | 2023

The government effectiveness indicator 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. Scores are standardised (2.5 = low; 2.5 = high).

Source: World Bank, The Worldwide Governance Indicators, 2024 Update (www.govindicators.org).

1.1.2 Rule of law

Rule of law indicator | 2023

The rule of law indicator reflects perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence. Scores are standardised (2.5 = low; 2.5 = high).

Source: World Bank, The Worldwide Governance Indicators, 2024 Update (www.govindicators.org).

1.1.3 Political stability

Political stability and absence of violence indicator | 2023

The political stability and absence of violence indicator measures perceptions of the likelihood of political instability and/or politically motivated violence, including terrorism. Scores are standardised (2.5 = low; 2.5 = high).

Source: World Bank, The Worldwide Governance Indicators, 2024 Update (www.govindicators.org).

1.1.4 Regulatory quality

Regulatory quality indicator | 2023

The regulatory quality indicator captures perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development. Scores are standardised (2.5 = low; 2.5 = high).

Source: World Bank, The Worldwide Governance Indicators, 2024 Update (www.govindicators.org).

1.1.5 Corruption

Corruption Perceptions Index | 2024

The Corruption Perceptions Index aggregates data from a number of different sources that provide perceptions of business people and country experts of the level of corruption in the public sector.

Source: Transparency International, The Corruption Perceptions Index 2024 (<http://www.transparency.org/research/cpi>).

1.2. Market Landscape

1.2.1 Extent of market dominance

Average answer to the question: In your country, how do you characterise corporate activity?
[1 = dominated by a few business groups; 7 = spread among many firms] | 2025

The World Economic Forum's Executive Opinion Survey (EOS) is conducted on an annual basis to gather information from business leaders on topics for which hard data sources are scarce or non-existent. It is part of the effort to supplement The Global Competitiveness Report in assessing issues that drive national competitiveness.

Source: World Economic Forum, Executive Opinion Survey 2025 (<http://reports.weforum.org>). Data Year: 2020–2025

1.2.2 Domestic credit to private sector

Domestic credit to private sector (% GDP) | 2024

This indicator refers to loans, purchases of nonequity securities, trade credits, and other financial resources that need to be repaid and that are provided to the private

sector by financial corporations. Financial corporations include monetary authorities, deposit money banks, finance and leasing companies, and money lenders, among others.

Source: International Monetary Fund (IMF) International Financial Statistics and data files, and World Bank and Organisation for Economic Co-operation and Development (OECD) GDP estimates. Downloaded from World Bank, World Development Indicators (<http://data.worldbank.org/data-catalog/world-development-indicators>). Data Year: 2015–2024

1.2.3 Cluster development

Average answer to the question: In your country, how widespread are well-developed and deep clusters (geographic concentrations of firms, suppliers, producers of related products and services, and specialised institutions in a particular field)? [1 = nonexistent; 7 = widespread in many fields] | 2025

The World Economic Forum's Executive Opinion Survey (EOS) is conducted on an annual basis to gather information from business leaders on topics for which hard data sources are scarce or non-existent. It is part of the effort to supplement The Global Competitiveness Report in assessing issues that drive national competitiveness.

Source: World Economic Forum, Executive Opinion Survey 2025 (<http://reports.weforum.org>). Data Year: 2020–2025

1.2.4 R&D expenditure

Gross expenditure on R&D (%) | 2023

Gross expenditure on R&D (GERD) is the total domestic intramural expenditure on R&D during a given period as a percentage of GDP. Intramural R&D expenditure is all expenditure for R&D performed within a statistical unit or sector of the economy during a specific period, regardless of the source of funding

Source: Global Innovation Index Database, WIPO 2025. UNESCO Institute for Statistics (UIS) online database (<http://data UIS.unesco.org>); Eurostat database (<https://ec.europa.eu/eurostat/data/database>); OECD, Main Science and Technology Indicators (MSTI) database (<https://data-explorer.oecd.org>); and Ibero-American and Inter-American Network of Science and Technology Indicators (RICYT) (www.ricyt.org/en). Data Year: 2014–2024

1.2.5 Population covered by at least a 3G mobile network

Percentage of the population covered by at least a 3G mobile network | 2024

The following indicator refers to the percentage of inhabitants within range of at least a 3G mobile-cellular signal, irrespective of whether or not they are subscribers. Values are calculated by dividing the number of inhabitants covered by at least a 3G mobile-cellular signal by the total population and multiplied by 100.

Source: International Telecommunication Union, ITU DataHub, (<https://datahub.itu.int/>). Data Year: 2022–2024

1.2.6 Internet access in schools

Proportion of primary schools with access to Internet for pedagogical purposes (%) | 2023

The Internet access in schools indicator refers to the share of primary schools with access to the Internet via fixed narrowband, fixed broadband, or mobile networks. Internet for pedagogical purposes refers to web access and communications services through various devices that enhance the teaching and learning of pupils.

Source: UNESCO Institute for Statistics, UIS.Stat (<http://data UIS.unesco.org>). Data Year: 2015–2024

1.2.7 Urbanisation

Population of urban areas (%) | 2024

Urban population refers to people living in urban areas as defined by national statistical offices. The data are collected and smoothed by United Nations Population Division.

Source: World Urbanization Prospects, United Nations (UN), (<https://population.un.org/wup/>); publisher: UN Population Division.

1.3. Business & Labour Landscape

1.3.1 Labour rights

Level of national compliance with labour rights | 2023

This indicator measures the level of national compliance with fundamental labour rights (freedom of association and collective bargaining or FACB). It has a range from 0 to 10, with 0 being the best possible score (indicating higher levels of compliance with FACB rights) and 10 the worst (indicating lower levels of compliance with FACB rights). It is based on six ILO supervisory body textual sources and on national legislation.

Source: International Labour Organization, ILOSTAT (<https://iloilo.org>).

1.3.2 Labour-employer cooperation

Average answer to the question: In your country, how do you characterise labour-employer relations? [1 = generally confrontational; 7 = generally cooperative] | 2025

The World Economic Forum's Executive Opinion Survey (EOS) is conducted on an annual basis to gather information from business leaders on topics for which hard data sources are scarce or non-existent. It is part of the effort to supplement The Global Competitiveness Report in assessing issues that drive national competitiveness.

Source: World Economic Forum, Executive Opinion Survey 2025 (<http://reports.weforum.org>). Data Year: 2020–2025

1.3.3 Professional management

Average answer to the question: In your country, who holds senior management positions in companies? [1 = usually relatives or friends without regard to merit; 7 = mostly professional managers chosen for merit and qualifications] | 2025

The World Economic Forum's Executive Opinion Survey (EOS) is conducted on an annual basis to gather information from business leaders on topics for which hard data sources are scarce or non-existent. It is part of the effort to supplement The Global Competitiveness Report in assessing issues that drive national competitiveness.

Source: World Economic Forum, Executive Opinion Survey 2025 (<http://reports.weforum.org>). Data Year: 2020–2025

1.3.4 Relationship of pay to productivity

Average answer to the question: In your country, to what extent does average pay reflect productivity? [1 = not at all; 7 = to a great extent] | 2025

The World Economic Forum's Executive Opinion Survey (EOS) is conducted on an annual basis to gather information from business leaders on topics for which hard data sources are scarce or non-existent. It is part of the effort to supplement The Global Competitiveness Report in assessing issues that drive national competitiveness.

Source: World Economic Forum, Executive Opinion Survey 2025 (<http://reports.weforum.org>). Data Year: 2020–2025

1.3.5 Enterprise software

Enterprise software market (weighted by GDP) | 2024

The Enterprise software market indicator refers to the size of the market for software that is used for essential large-scale business activities in professional business-to-business (B2B) environments, including Enterprise Resource Planning, Customer Relationship Management, Business Intelligence, and Supply Chain Management. The indicator is weighted by national GDP.

Source: Statista, Technology Market Outlook: Enterprise Software (<https://www.statista.com/outlook/tmo/software/enterprise-software/worldwide?currency=usd>); GDP data come from World Development Indicators (<http://data.worldbank.org/data-catalog/world-development-indicators>). Data Year: 2023–2024

1.3.6 Cloud computing

Cloud computing market (weighted by GDP) | 2024

The Cloud computing indicator refers to the size of the market for the three standard cloud-computing

service models: Infra structure as a Service (IaaS), Platform as a Service (PaaS), and Software as a Service (SaaS). The indicator is weighted by national GDP.

Source: Statista, Technology Market Outlook: Public Cloud (<https://www.statista.com/outlook/tmo/public-cloud/worldwide>); GDP data come from World Development Indicators (<http://data.worldbank.org/data-catalog/world-development-indicators>). Data Year: 2023–2024

1.3.7 Firms with website

Firms with website (% of total) | 2023

Firms with website refers to the share of businesses that have their own website, expressed as a percentage of all firms. The data are based on enterprise surveys conducted by the OECD and the World Bank. The former survey is used for OECD countries and accession countries or key partners, while the latter is used for all other countries.

Source: OECD, ICT Access and Use by Businesses, OECD Telecommunications and Internet Statistics (database) (<https://doi.org/10.1787/9d2cb97b-en>); World Bank, Enterprise Surveys ([www.enterprisesurveys.org](http://enterprisesurveys.org)). Data Year: 2014–2025

2. Attract

2.1. External Openness

2.1.1 FDI regulatory restrictiveness

FDI regulatory restrictiveness index score | 2023

The Foreign Direct Investment (FDI) Regulatory Restrictiveness Index measure is a composite indicator developed by the OECD that provides a measure of the openness of FDI rules and regulations towards overseas investors. Four types of statutory restrictions are considered in the computation of the index: (1) foreign equity restrictions, (2) screening and prior approval requirements, (3) rules for key personnel, and (4) other restrictions on the operation of foreign enterprises. The index is measured on a scale of 0 (no restrictions) to 1 (completely restricted).

Source: OECD, FDI Regulatory Restrictiveness Index (FDI Index) (<https://www.oecd.org/investment/fdiindex.htm>).

2.1.2 Financial globalisation

De facto financial globalisation sub-index | 2022

The Financial Globalisation (de facto) sub-index is one of the dimensions of the KOF Globalisation Index. It provides a measure of the degree of a country's integration in global financial flows. It is made up of five variables: (1) foreign direct investment, (2) portfolio

investment, (3) international debt, (4) international reserves, and (5) international income payments. The sub-index is calculated by aggregating the five (normalised) variables, where each variable has been given a specific weight based on principal components analysis (PCA).

Source: Gygli, Savina, Florian Haelg, Niklas Potrafke and Jan-Egbert Sturm (2019): The KOF Globalisation Index – Revisited, Review of International Organizations, 14(3), 543-574 external page <https://doi.org/10.1007/s11558-019-09344-2>.

2.1.3 Migrant stock

Migrant stock (%) | 2024

Migrant stock refers to the number of the migrant stock population as a percentage of the total population. In producing the 2024 edition of the International Migrant Stock dataset, the Population Division has prioritized revising the estimates for countries with new empirical information from population censuses or registers and relatively large numbers of international migrants, as well as for countries affected by ongoing or emergent refugee flows as documented by UNHCR.

Source: United Nations Population Division, Trends in International Migrant Stock: International Migrant Stock 2024 (<https://www.un.org/development/desa/pd/content/international-migrant-stock>).

2.1.4 International students

Tertiary inbound mobility rate (%) | 2023

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

Source: Global Innovation Index Database, WIPO 2025, UNESCO Institute for Statistics (UIS) online database (<http://data.uis.unesco.org>). Data Year: 2015–2024

2.1.5 Brain gain

Average answer to the question: In your country, to what extent can companies find people with the skills required to fill their vacancies by hiring foreign labour? [1 = not at all; 7 = to a great extent—attracts the best and brightest from around the world] | 2025

The World Economic Forum's Executive Opinion Survey (EOS) is conducted on an annual basis to gather information from business leaders on topics for which hard data sources are scarce or non-existent. It is part of the effort to supplement The Global Competitiveness Report in assessing issues that drive national competitiveness.

Source: World Economic Forum, Executive Opinion Survey 2025 (<http://reports.weforum.org>).

2.1.6 AI skills migration

AI skills migration | 2024

LinkedIn migration rates are derived from the self-identified locations of LinkedIn member profiles. For example, when a LinkedIn member updates his or her location from Paris to London, this is counted as a migration. Migration data is available from 2019 onwards. LinkedIn data provide insights to countries on the AI talent gained or lost due to migration trends. AI Talent migration is considered for all members with AI skills/holding AI jobs at time t for country A as the country of interest and country B as the source of inflows and destination for outflows. Thus, net AI Talent migration between country A and country B – for country A – is calculated as follows:

$$\text{Net AI Talent migration}_{a,b,t} = (\text{Net AI Talent flows}_{a,b,t} / \text{Member count}_{a,t})$$

From 2023 onwards, AI skills have been divided into AI engineering and AI literacy skills, as described above. Only the AI engineering skills are considered to compute AI talent migration indicators.

Source: OECD.AI Policy Observatory (<https://oecd.ai>).

2.2. Internal Openness

2.2.1 Tolerance of minorities

Discrimination and violence against minorities | 2023

Tolerance of minorities is based on the Group Grievance indicator included in the Fragile States Index published by The Fund for Peace. Group Grievance focuses on divisions and schisms between different groups in society—particularly divisions based on social or political characteristics—and their role in access to services or resources, and inclusion in the political process. Its dimensions include post-conflict response, equality, divisions, and communal violence. It is measured on a scale of 0 (low pressures) to 10 (very high pressures).

Source: The Fund for Peace, Fragile States Index 2024 (<https://fragilestatesindex.org/>).

2.2.2 Tolerance of immigrants

The percentage of respondents answering Good place to the question: Is the city or area where you live a good place or not a good place to live for immigrants from other countries? | 2020

The Gallup World Poll is an annual survey carried out in more than 140 countries. One of the topics included in the poll concerns social issues, where the question related to the Tolerance of immigrants indicator is one of four questions asked.

Source: The Gallup World Poll (2006–2020). Data kindly provided by Gallup, Inc. Data Year: 2014–2020

2.2.3 Social mobility

Average answer to the question: In your country, to what extent do individuals have the opportunity to improve their economic situation through their personal efforts regardless of the socioeconomic status of their parents? [1 = not at all; 7 = to a great extent] | 2025

The World Economic Forum's Executive Opinion Survey (EOS) is conducted on an annual basis to gather information from business leaders on topics for which hard data sources are scarce or non-existent. It is part of the effort to supplement The Global Competitiveness Report in assessing issues that drive national competitiveness.

Source: World Economic Forum, Executive Opinion Survey 2025 (<http://reports.weforum.org>). Data Year: 2020–2025

2.2.4 Economic empowerment of women

Women, Business, and the Law index score | 2024

The Women, Business and the Law index is a composite indicator that provides a measure of the degree of gender equality with respect to legal rights in economic participation. The index is composed of eight pillars, where each pillar represents a different aspect of a woman's life: (1) mobility, (2) workplace, (3) pay, (4) marriage, (5) parenthood, (6) entrepreneurship, (7) assets, and (8) pension. The index is measured on a scale of 0 (women have no legal economic rights equal to those of men) to 100 (women and men have equal economic opportunities).

Source: World Bank (2024). Women, Business and the Law 2024. Washington, DC: World Bank. (<https://wbl.worldbank.org/en/wbl>).

2.2.5 Gender parity in high-skilled jobs

Adjusted gender parity in high-skilled jobs | 2024

Gender parity in high-skilled jobs refers to the ratio of managers, professionals, or technicians and associate professionals who are female to those who are male. Possible values range from 0 (total inequality) to 1 (perfect equality). The parity index is adjusted following the methodology of the United Nations Education, Scientific and Cultural Organization (UNESCO). The occupations correspond to skill levels 3 and 4 (high) in the International Standard Classification of Occupations 2008 (ISCO-08).

Source: International Labour Organization, ILOSTAT (<https://ilo.org>). Data Year: 2016–2025

2.2.6 Leadership opportunities for women

Average answer to the question: In your country, to what extent do companies give equal opportunities to rise to positions of leadership to Women? [1 = Not at all; 7 = To a great extent] | 2025

The World Economic Forum's Executive Opinion Survey (EOS) is conducted on an annual basis to gather information from business leaders on topics for which hard data sources are scarce or non-existent. It is part of the effort to supplement The Global Competitiveness Report in assessing issues that drive national competitiveness.

Source: World Economic Forum, Executive Opinion Survey 2025 (<http://reports.weforum.org>). Data Year: 2020–2025

3. Grow

3.1. Formal Education

3.1.1 Vocational enrolment

Vocational enrolment (%) | 2023

Vocational enrolment refers to the 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. The secondary level is based on International Standard Classification of Education 2011 (ISCED 2011) levels 2-4.

Source: UNESCO Institute for Statistics, UIS.Stat (<http://data.uis.unesco.org/>). Data Year: 2015–2025

3.1.2 Tertiary enrolment

Tertiary enrolment (%) | 2023

The ratio of total tertiary enrolment, regardless of age, to the population of the age group that officially corresponds to the tertiary level of education. Tertiary education, whether or not at an advanced research qualification level, normally requires, as a minimum condition of admission, the successful completion of education at the secondary level. The school enrolment ratio can exceed 100 percent due to grade repetition and the inclusion of under-aged and over-aged students, who are early or late entrants.

Source: Global Innovation Index Database, WIPO 2025. UNESCO Institute for Statistics (UIS) online database (<http://data.uis.unesco.org>). Data Year: 2016–2024

3.1.3 Tertiary education expenditure

Initial government funding per tertiary student (constant PPP\$) | 2022

This indicator refers to the amount of resources invested by central, regional, and local governments per student enrolled at the tertiary level. The amount is divided by the constant PPP\$ conversion factor. Tertiary education is based on International Standard Classification of Education 2011 (ISCED 2011) levels 5-8.

Source: UNESCO Institute for Statistics, UIS.Stat (<http://data.uis.unesco.org/>). Data Year: 2014–2024

3.1.4 Reading, maths, and science

PISA average scores in reading, mathematics, and science | 2022

PISA is the OECD's (Organisation for Economic Co-operation and Development) Programme for International Student Assessment. PISA measures 15-year-olds' ability to use their reading, mathematics and science knowledge skills. Results from PISA indicate the quality and equity of learning outcomes attained around the world. The 2022 PISA survey is the eighth round of the triennial assessment. The indicator is built using the average of the reading, mathematics and science scores for each country. PISA scores are set in relation to the variation in results observed across all test participants in a country. There is, theoretically, no minimum or maximum score in PISA; rather, the results are scaled to fit approximately normal distributions, with means around 500 score points and standard deviations around 100 score points. China did not participate in the 2022 PISA Survey. As a result, China's scores correspond to their 2018 PISA results and are only based on the provinces/municipalities of Beijing, Shanghai, Jiangsu and Zhejiang. The 2022 scores for Azerbaijan correspond only to the capital Baku.

Source: Global Innovation Index Database, WIPO 2025. OECD Programme for International Student Assessment (PISA) (www.oecd.org/pisa). Data Year: 2015–2022

3.1.5 University ranking

Average score of the top three universities according to the QS world university ranking* | 2024

Average score of the top three universities per country. If fewer than three universities are listed in the QS ranking of the global top 1,000 universities, the sum of the scores of the listed universities is divided by three, thus implying a score of zero for the non-listed universities. The 2025 ranking corresponds to data published in June 2024. Note: the 2024 QS release included a large methodological enhancement, with the addition of three new metrics: Sustainability, Employment Outcomes and International Research Network

Source: Global Innovation Index Database, WIPO 2025. QS Quacquarelli Symonds Ltd, QS World University Rankings, Top Universities (<https://www.topuniversities.com/world-university-rankings/2024>).

3.2. Lifelong Learning

3.2.1 Business masters education

QS Global MBA and Business Masters Rankings scores | 2025

Business masters education is a composite indicator computed by the GTCI team based on the scores of six business masters programmes, where the Global MBA is given a weight of 50% because of its status as a business master's programme. The six pillars (weights in parentheses) refer to the following business masters: (1) Global MBA (50%); (2) Business Analytics (11.25%); (3) Finance (11.25%); (4) Management (11.25%); (5) Marketing (11.25%), and (6) Supply Chain Management (5%). The value is derived from the top university per country and per business master's programme. Countries without an institution in a business master's programme are given a value of 0 for the programme in question. Own computation based on Quacquarelli Symonds Ltd (QS).

Source: Own computation based on Quacquarelli Symonds Ltd (QS) (2025). [i]QS Higher Ed Report: Global MBA and Business Masters 2025 (<https://www.topmba.com/>).

3.2.2 Prevalence of training in firms

Proportion of firms offering formal training (%) | 2024

This indicator refers to the percentage of firms that offered formal training programmes in the most recent complete fiscal year for its permanent, full-time employees. The Enterprise Survey is a firm-level survey of a representative sample of an economy's private sector. The survey covers a broad range of business environment topics including access to finance, corruption, infrastructure, crime, competition, and performance measures. Since 2005-06, under its developed Global Methodology, the World Bank's Enterprise Analysis Unit has collected these data based on over 195,000 interviews with top managers and business owners in 155 economies.

Source: World Bank, Enterprise Surveys (www.enterprisesurveys.org). Data Year: 2014–2024

3.2.3 Employee development

Average answer to the question: In your country, to what extent do companies invest in workforce upskilling and reskilling? [1 = Not at all; 7 = To a great extent] | 2025

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in assessing issues that drive national competitiveness.

Source: World Economic Forum, Executive Opinion Survey 2025 (<http://reports.weforum.org>). Data Year: 2020–2025

3.3. Access to Growth Opportunities

3.3.1 Delegation of authority

Average answer to the question: In your country, to what extent does senior management delegate authority to subordinates? [1 = not at all; 7 = to a great extent] | 2022

The World Economic Forum's Executive Opinion Survey (EOS) is conducted on an annual basis to gather information from business leaders on topics for which hard data sources are scarce or non-existent. It is part of the effort to supplement The Global Competitiveness Report in assessing issues that drive national competitiveness.

Source: World Economic Forum, Executive Opinion Survey 2021–2022 (<http://reports.weforum.org>). Data Year: 2020–2022

3.3.2 Youth inclusion

Proportion of youth (aged 15–24 years) not in education, employment or training (%) | 2023

This indicator refers to the share of young people aged 15–24 who are not in education, employment, or training. It is known as the NEET rate and is expressed as a percentage of the population of the same age.

Source: International Labour Organization, ILOSTAT (<https://ilo.org>). Data Year: 2016–2025

3.3.3 Use of virtual social networks

Social media users (%) | 2025

This indicator refers to the share of young people aged 15–24 who are not in education, employment, or training. It is known as the NEET rate and is expressed as a percentage of the population of the same age.

Source: We Are Social and Hootsuite (2025) Digital 2025 report series (<https://wearesocial.com/digital-2025>).

3.3.4 Use of virtual professional networks

LinkedIn's potential advertising audience (%) | 2023

Use of virtual professional networks refers to the potential advertising audience that marketers can reach using advertisements on LinkedIn. The potential audience is expressed as a percentage of the population who are 18 years old or above. The data are based on LinkedIn's self-service advertising tools.

Source: We Are Social and Hootsuite (2023) Digital 2023 report series (<https://wearesocial.com/digital-2023>).

4. Retain

4.1. Sustainability

4.1.1 Pension coverage

Population above statutory pensionable age receiving a pension (%) | 2022

Pension coverage refers to the share of people above statutory retirement age who receive an old-age pension, expressed as a percentage of the population above statutory retirement age. Data are originally sourced from International Labour Organization (ILO) estimates, which are based on country data compiled through the ILO Social Security Inquiry (SSI).

Source: International Labour Organization, Social Security Inquiry (SSI). Sourced from UN Global SDG Indicators Database (<https://unstats.un.org/sdgs/indicators/database/>). Data Year: 2015–2023

4.1.2 Social protection

Average answer to the question: In your country, to what extent do all members of the population have sufficient access to safety nets and social services in terms of unemployment income, re-training and re-employment support [1 = not at all – service is difficult or expensive to access for all; 7 = to a great extent – service is easy and affordable to access for all] | 2022

The World Economic Forum's Executive Opinion Survey (EOS) is conducted on an annual basis to gather information from business leaders on topics for which hard data sources are scarce or non-existent. It is part of the effort to supplement The Global Competitiveness Report in assessing issues that drive national competitiveness.

Source: World Economic Forum, Executive Opinion Survey 2021–2022 (<http://reports.weforum.org>). Data Year: 2020–2022

4.1.3 Brain retention

Average answer to the question: To what extent does your country attract/retain talented people? [1 = Not at all; 7 = To a great extent] | 2025

The World Economic Forum's Executive Opinion Survey (EOS) is conducted on an annual basis to gather information from business leaders on topics for which hard data sources are scarce or non-existent. It is part of the effort to supplement The Global Competitiveness Report in assessing issues that drive national competitiveness.

Source: World Economic Forum, Executive Opinion Survey 2025 (<http://reports.weforum.org>).

4.1.4 Environmental performance

Environmental Performance Index score | 2024

The Environmental Performance Index (EPI) ranks

how well countries perform in two fundamental dimensions of sustainable development: environmental health and ecosystem vitality. Within these two policy objectives, the EPI scores country performance in eleven issue areas comprising a total of 32 indicators. Indicators in the EPI measure how close countries are to meeting internationally established targets or, in the absence of agreed-upon targets, how they compare relative to the best performing countries.

Source: Wolf, M. J., Emerson, J. W., Esty, D. C., de Sherbinin, A., Wendling, Z. A., et al. (2024). 2024 Environmental Performance Index. New Haven, CT: Yale Center for Environmental Law & Policy. (<https://epi.yale.edu>).

4.1.5 Vulnerable employment

Vulnerable employment (% of total employment) | 2023

This indicator refers to the number of contributing family workers and own-account workers, expressed as a percentage of total employment. Own-account workers are defined as self-employed workers without employees, whereas contributing family workers are unpaid family workers.

Source: World Development Indicators (<http://data.worldbank.org/data-catalog/world-development-indicators>) based on data obtained from International Labour Organization, ILOSTAT (<https://ilo.org/>). Data Year: 2021–2023

4.1.6 Protect Against Future Disasters

Percentage of the respondents who said yes: Could Protect Yourself or Family in a Future Disaster | 2023

Answer to the Survey questions Could protect yourself or family in a future disaster This is a part of the survey conducted by Gallup.Inc for the World Risk Poll. Respondents choose from Yes, No, It depends, Don't know, or Refused.

Source: World Risk Poll Resilience Index (<https://www.lifoundation.org.uk/wrp/world-risk-poll-data/world-risk-poll-resilience-index>).

4.1.7 Household Financial Resilience

Percentage of the respondents who can survive for four month or more incase income is lost | 2023

Answer to the Survey questions How long household could cover basic needs if income was lost? This is a part of the survey conducted by Gallup.Inc for the World Risk Poll. Respondents choose from 4 months or more, 3 months, 2 months, Around a month, Don't know, or Refused.

Source: World Risk Poll Resilience Index (<https://www.lifoundation.org.uk/wrp/world-risk-poll-data/world-risk-poll-resilience-index>).

4.2. Lifestyle

4.2.1 Personal rights

Personal rights indicator | 2025

Personal Rights are a component in the Opportunity dimension of the Social Progress Index. This component is based on six variables: Access to justice (0 = non-existent; 1 = observed), Freedom of religion (0 = no freedom; 4 = full freedom), Political rights (0 = no rights; 40 = full rights), Property rights for women (0 = no rights; 5 = full rights), Freedom of peaceful assembly (0 = no freedom; 4 = full freedom), and Freedom of discussion (0 = low; 1 = high).

Source: Social Progress Imperative, The Social Progress Index 2025 (<https://www.socialprogress.org/>).

4.2.2 Personal safety

Personal safety indicator | 2025

Personal safety is a component in the Basic Human Needs dimension of the Social Progress Index. This component is based on five variables: Interpersonal violence (Age-standardised Disability-Adjusted Life Years (DALYs)/100,000), Transportation-related fatalities (Age-standardised Disability-Adjusted Life Years (DALYs)/100,000), Political killings and torture (0 = low freedom; 1 = high freedom), Intimate partner violence (% of women aged 15+), and Money stolen (proportion of population).

Source: Social Progress Imperative, The Social Progress Index 2025 (<https://www.socialprogress.org/>).

4.2.3 Physician density

Medical doctors (per 10,000 people) | 2021

Physician density refers to the number of medical doctors (physicians), including generalist and specialist medical practitioners, per 10,000 people.

Source: World Health Organization, Global Health Observatory (<https://www.who.int/data/gho>). Data Year: 2014–2022

4.2.4 Sanitation

Population using at least basic sanitation services (%) | 2021

This indicator refers to the percentage of the population using at least basic sanitation services—that is, improved sanitation facilities that are not shared with other households. This indicator encompasses both people using basic sanitation services as well as those using safely managed sanitation services. Improved sanitation facilities include flush/pour-flush to piped sewer systems, septic tanks or pit latrines, pit latrines with slabs (including ventilated pit latrines), and composting toilets.

Source: World Health Organization, Global Health Observatory (<https://www.who.int/data/gho>). Data Year: 2015–2021

4.2.5 Employee Wellbeing

Happiness score | 2024

Happiness refers to the national average response to the following survey question included in the Gallup World Poll: Please imagine a ladder, with steps numbered from 0 at the bottom to 10 at the top. The top of the ladder represents the best possible life for you and the bottom of the ladder represents the worst possible life for you. On which step of the ladder would you say you personally feel you stand at this time? The indicator is also known as the Cantril life ladder, life ladder, or subjective well-being.

Source: The Gallup World Poll, sourced from Helliwell, J. F., Layard, R., Sachs, J. D., De Neve, J.-E., Aknin, L. B., & Wang, S. (Eds.). (2025). World Happiness Report 2025. (<https://www.gallup.com/analytics/349487/world-happiness-report.aspx>). Data Year: 2017–2024

Classification of Occupation (ISCO) Revision 2008 (data based on ISCO Rev. 1988 are used for those countries where ISCO Rev. 2008 is not available). It includes physical and engineering science associate professionals, life science and health associate professionals, teaching associate professionals, and other associate professionals (finance and sales, social work, artistic, entertainment and sports, religious associate professionals, police inspectors and detectives, administrative, customs, and tax and related government associate professionals). For those countries where ILOSTAT data are unavailable, data from the JOIN database have been used instead.

Source: International Labour Organization, ILOSTAT (<https://ilo.org/>); World Bank, Global Jobs Indicators Database (JOIN) (<https://datacatalog.worldbank.org/dataset/global-jobs-indicators-database>). Data Year: 2013–2025

5. Vocational and Technical Skills

5.1. Mid-level Skills

5.1.1 Workforce with secondary education

Labour force with secondary education (%) | 2024

Workforce with secondary education refers to the percentage of the labour force (above 15 years old) whose highest educational attainment is at the secondary level. Secondary level includes both upper secondary and post-secondary non-tertiary education based on International Standard Classification of Education 2011 (ISCED 2011) levels 3-4.

Source: International Labour Organization, ILOSTAT (<https://ilo.org/>). Data Year: 2014–2025

5.1.2 Population with secondary education

Population with secondary education (%) | 2023

Population with secondary education refers to the percentage of the population (above 25 years old) whose highest educational attainment is at the secondary level. This is based on International Standard Classification of Education 2011 (ISCED 2011) levels 3-4.

Source: UNESCO Institute for Statistics, UIS.Stat (<http://data.uis.unesco.org/>). Data Year: 2014–2025

5.1.3 Technicians and associate professionals

Technicians and associate professionals (%) | 2024

Technicians and associate professionals refers to the number of technicians and associate professionals as a share of the total workforce. The employment by occupation is based on the International Standard

5.1.4 Labour productivity per employee

Labour productivity per person employed (2022 US\$ PPP) | 2025

Labour productivity estimates are obtained by dividing the total output (GDP in 2022 US\$ PPP) by the total labour input used (labour force) to produce that output. For China and the United States, the adjusted values (which take into account drops in prices of ICT goods) have been used.

Source: The Conference Board, Total Economy Database ([www.conference-board.org/data/economydatabase](http://conference-board.org/data/economydatabase)).

5.2. Employability

5.2.1 Ease of finding skilled employees

Average answer to the question: In your country, In your country, to what extent can companies find people with the skills required to fill their vacancies in the local labour market? [1 = Not at all; 7 = To a great extent] | 2025

The World Economic Forum's Executive Opinion Survey (EOS) is conducted on an annual basis to gather information from business leaders on topics for which hard data sources are scarce or non-existent. It is part of the effort to supplement The Global Competitiveness Report in assessing issues that drive national competitiveness.

Source: World Economic Forum, Executive Opinion Survey 2025 (<http://reports.weforum.org>). Data Year: 2020–2025

5.2.2 Relevance of education system to the economy

Average answer to the question: In your country, how well does the education system meet the needs of a competitive economy? [1 = not well at all; 7 = extremely well] | 2022

The World Economic Forum's Executive Opinion Survey (EOS) is conducted on an annual basis to gather information from business leaders on topics for which hard data sources are scarce or non-existent. It is part of the effort to supplement The Global Competitiveness Report in assessing issues that drive national competitiveness.

Source: World Economic Forum, Executive Opinion Survey 2021–2022 (<http://reports.weforum.org>). Data Year: 2020–2022

5.2.3 Skills matching

Workers whose education matches their occupation (%) | 2023

Skills matching refers to the percentage of the workforce whose education matches their occupation. The data relate to the so called normative approach to measure 'educational mismatch', whereby a worker's educational match/mismatch is defined based on the correspondence of a worker's education with that person's occupation. The correspondence table used to determine the standard level of education required in each occupation has been derived from the International Standard Classification of Education 2011 (ISCED 2011) and the International Standard Classification of Occupations (ISCO). Workers who do not have the identified standard level of education are regarded as mismatched.

Source: International Labour Organization, ILOSTAT (<https://ilo.org/>). Data Year: 2014–2024

5.2.4 Highly educated unemployment

Unemployment rate with intermediate or advanced education (%) | 2023

This indicator refers to the percentage of the labour force with high education who are unemployed. High education refers to intermediate and advanced education; it comprises upper secondary and post-secondary non-tertiary education, short-cycle tertiary education, a bachelor's degree or equivalent education level, a master's degree or equivalent education level, and a doctoral degree or equivalent education level according to the International Standard Classification of Education 2011 (ISCED 2011). For those countries where ILOSTAT data are unavailable, data from the JOIN database have been used instead.

Source: International Labour Organization, ILOSTAT (<https://ilo.org/>). Data Year: 2014–2024

6. Generalist Adaptive Skills

6.1. High-level Skills

6.1.1 Workforce with tertiary education

Labour force with tertiary education (%) | 2024

Population with tertiary education refers to the percentage of the population (above 25 years old) whose highest educational attainment is at the tertiary level. The tertiary level is based on International Standard Classification of Education 2011 (ISCED 2011) levels 5–8.

Source: International Labour Organization, ILOSTAT (<https://ilo.org/>). Data Year: 2014–2025

6.1.2 Soft Skills

Average answer to the question: In your country, to what extent is the workforce proficient in the following skills? [1 = Not at all; 7 = To a great extent]: Creativity and problem-solving; Management skills; Self-efficacy; Working with others | 2024

The World Economic Forum's Executive Opinion Survey (EOS) is conducted on an annual basis to gather information from business leaders on topics for which hard data sources are scarce or non-existent. It is part of the effort to supplement The Global Competitiveness Report in assessing issues that drive national competitiveness.

Source: World Economic Forum, Executive Opinion Survey 2024 (<http://reports.weforum.org>).

6.1.3 Professionals

Professionals (%) | 2024

Professionals refers to the number of professionals as a share of the total workforce. The employment by occupation is based on the International Standard Classification of Occupation (ISCO) Revision 2008 (data based on ISCO Rev. 1988 are used for those countries where ISCO Rev. 2008 is not available). It includes physical, mathematical, and engineering science professionals; life science and health professionals; teaching professionals; and other professionals (business, legal, archivists, librarians, social science, religious professionals, and writers and creative or performing artists). For those countries where ILOSTAT data are unavailable, data from the JOIN database have been used instead.

Source: International Labour Organization, ILOSTAT (<https://ilo.org/>); World Bank, Global Jobs Indicators Database (JOIN) (<https://datacatalog.worldbank.org/dataset/global-jobs-indicators-database>). Data Year: 2013–2025

6.1.4 Researchers

Researchers, full-time equivalent (FTE) (per million population) | 2023

Researchers in R&D are professionals engaged in the conception or creation of new knowledge. They conduct research and improve or develop concepts, theories, models, techniques, instrumentation, software or operational methods.

Source: Global Innovation Index Database, WIPO 2025. UNESCO Institute for Statistics (UIS) online database (<http://data UIS.unesco.org>); Eurostat database (<https://ec.europa.eu/eurostat/data/database>); OECD, Main Science and Technology Indicators (MSTI) database (<https://data-explorer.oecd.org>); and Ibero-American and Inter-American Network of Science and Technology Indicators (RICYT) (www.ricyt.org/en). Data Year: 2014–2023

6.1.5 Senior officials and managers

Legislators, senior officials, and managers (%) | 2024

This variable measures the percentage of legislators, senior officials, and managers within total employment. The employment by occupation is based on the International Standard Classification of Occupation (ISCO) Revision 2008 (data based on ISCO Rev. 1988 are used for those countries where ISCO Rev. 2008 is not available). For those countries where ILOSTAT data are unavailable, data from the JOIN database have been used instead.

Source: International Labour Organization, ILOSTAT (<https://ilo.org/ilostat>); World Bank, Global Jobs Indicators Database (JOIN) (<https://datacatalog.worldbank.org/dataset/global-jobs-indicators-database>). Data Year: 2013–2025

6.1.6 Digital skills

Individuals with advanced ICT skills (%) | 2023

This indicator measures the prevalence of advanced digital skills in the population. More specifically, it refers to the share of youth and adults who have written a computer program using a specialised programming language in the last three months, expressed as a percentage of individuals that have undertaken computer-related activities during that period.

Source: International Telecommunication Union, ITU DataHub, (<https://datahub.itu.int/>). Data Year: 2014–2024

6.1.7 AI talent concentration

AI talent concentration | 2024

A LinkedIn member is considered AI talent if they have explicitly added AI skills to their profile and/or they are occupied in an AI job. The counts of AI talent are

used to calculate talent concentration metrics. For example, AI talent concentration at the country level is calculated using the counts of AI talent vis-a-vis the counts of LinkedIn members in that country. As such, AI talent concentration metrics may be influenced by a country's LinkedIn coverage and should be used with caution. For example, as of 2021 1 in every 10 LinkedIn members in India is classified as AI talent, which is a result of LinkedIn's biased coverage in that country. Since it also encompasses LinkedIn members with AI job titles – as opposed to only LinkedIn members with AI skills on their profiles – AI talent is considered to be a more comprehensive measure than AI skills.

Source: OECD.AI Policy Observatory (<https://oecd.ai>).

6.2. Talent Impact

6.2.1 ICT services exports

Telecommunications, computer and information services exports (% of total trade) | 2023

Telecommunications, computer and information services imports as a percentage of total trade according to the OECD's Extended Balance of Payments Services Classification EBOPS 2010, coded SI: Telecommunications, computer, and information services. Values are based on the classification of the sixth (2009) edition of the International Monetary Fund's Balance of Payments and International Investment Position Manual and Balance of Payments database.

Total trade is defined as the sum of total imports of code G goods and code SOX commercial services (excluding government goods and services not included elsewhere) plus total exports of code G goods and code SOX commercial services (excluding government goods and services not included elsewhere), divided by 2. According to the sixth edition of the International Monetary Fund's Balance of Payments and International Investment Position Manual, the item Goods covers general merchandise, net exports of goods under merchanting and non-monetary gold. The commercial services category is defined as being equal to services minus government goods and services not included elsewhere. 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 and 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).

Source: Global Innovation Index Database, WIPO 2025. World Trade Organization and United Nations Conference on Trade and Development, Trade in Commercial Services database (<https://stats.wto.org>). Data Year: 2020–2023

6.2.2 Mobile apps development

Global downloads of mobile apps (per billion PPP\$ GDP, two-year average) | 2024

Global downloads of mobile apps, by origin of the headquarters of the developer/firm, scaled by PPP\$ GDP (billions). Global downloads are compiled by data.ia, public data sources and the company's proprietary forecast model based on data from Google Play Store and iOS App Store in each country. Since data for China are not available for Google Play Store and only for iOS App Store, data from China are treated as missing and classified as n/a.

Source: Global Innovation Index Database, WIPO 2025. data.ia (a Sensor Tower Company) (www.data.ai/en); and International Monetary Fund, World Economic Outlook Database, October 2024 (www.imf.org/en/Publications/WEO/weo/database/2024/October). Data Year: 2021–2024

6.2.3 Intellectual property receipts (% of total trade)

Charges for use of intellectual property, i.e., receipts (% total trade, three-year average) | 2023

Charges for the use of intellectual property not included elsewhere, i.e. receipts (% of total trade), average of three most recent years or most recent year. Value is calculated according to the Extended Balance of Payments Services Classification EBOPS 2010, that is, code SH: Charges for the use of intellectual property not included elsewhere, as a percentage of total trade. 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 and 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). Values are based on the classification of the sixth (2009) edition of the International Monetary Fund's Balance of Payments and International Investment Position Manual and Balance of Payments database. For the definition of total trade, see indicator 6.2.1.

Source: Global Innovation Index Database, WIPO 2025. Trade in Commercial Services database (<https://stats.wto.org>); and WTO–OECD Balanced Trade in Services (BaTiS) dataset (www.wto.org/english/res_e/statis_e/gstdh_batis_e.htm). Data Year: 2015–2023

6.2.4 High-value exports

High-technology exports (% of manufactured exports) | 2023

High-value exports here refers to manufactures with high R&D intensity (e.g., computers, pharmaceuticals, scientific instruments, and electrical machinery),

expressed as a percentage of exports of all manufactured goods. The definition of high-technology is based on the importance of expenditures on research and development relative to the gross output and value added of different types of industries that produce goods for export.

Source: World Bank, World Development Indicators (<http://data.worldbank.org/data-catalog/world-development-indicators>). Sourced from United Nations, Comtrade database through the World Integrated Trade Solution (WITS) platform (<https://wits.worldbank.org/>). Data Year: 2015–2024

6.2.5 Software development

GitHub commits pushes received and sent (per million population, 15–69 years old) | 2024

GitHub is the world's largest host of source code, and a commit is the term used for a change on this platform. One or more commits can be saved (or pushed) to projects (or repositories). Thus, GitHub commit pushes received and sent refers to the sum of the number of batched changes received and sent by publicly-available projects on GitHub within a specific economy. Automated activity resulting in non-productive commits are excluded.

Source: Global Innovation Index Database, WIPO 2025. GitHub (<https://github.com>); and United Nations, Department of Economic and Social Affairs, Population Division, World Population Prospects 2024 (April 2024 update) (<https://population.un.org/wpp>).

6.2.6 New business density

New corporate registrations (per 1,000 working-age population) | 2022

New business density is defined as the number of newly registered firms with limited liability per 1,000 working-age people (between 15 and 64 years old) per calendar year. The Entrepreneurship Database contains annual data on entrepreneurial activity in more than 170 economies over the period 2006–2020.

Source: World Bank, Entrepreneurship Database (<https://www.worldbank.org/en/programs/entrepreneurship>). Data Year: 2016–2022

6.2.7 Scientific journal articles

Number of scientific and technical journal articles (per 10,000 inhabitants) | 2022

Scientific and technical journal articles refers to the number of scientific and engineering articles published in the following fields: physics, biology, chemistry, mathematics, clinical medicine, biomedical research, engineering and technology, and earth and space sciences. The data are reported per 10,000 inhabitants.

Source: World Bank, World Development Indicators based on National Science Foundation, Science and Engineering Indicators; population data come from World Bank, World Development Indicators (<http://data.worldbank.org/data-catalog/world-development-indicators>).