AI Preparedness Index (AIPI)

Compiler:	International Monetary Fund (IMF)
Stated purpose of indicator:	Assess the level of AI preparedness as of 2023 across 174 countries, based on a rich set of macro-structural indicators that cover the countries' digital infrastructure, human capital and labor market policies, innovation and economic integration, and regulation and ethics.
Funding source:	IMF
Current usage:	The index is used by policymakers, journalists, academia, think tanks, international organizations, and consulting firms.
Where to find it:	Data available upon request
Type of source data:	Official data, survey of hard data and survey of perceptions, compiled by 8 institutions: • Fraser Institute • International Labor Organization • International Telecommunication Union • United Nations • United Nations Conference on Trade and Development • Universal Postal Union • World Bank • World Economic Forum
Coverage:	174 countries as of 2023
Time coverage:	Annual index as of 2023
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Methodology:	As described in the methodology section of this note and the published paper, the AIPI is derived as the simple average of the four key dimensions: digital infrastructure, human capital, technological innovation, and legal frameworks. These dimensions are likely relevant for smooth AI adoption. Each dimension is then computed averaging a rich set of sub-indicators compiled by 8 institutions, including, but not limited to, sustained human capital investment, inclusive STEM expertise, labor and capital mobility within and across countries, a vibrant R&D ecosystem, and the adaptability of legal frameworks to digital business models.
Format of results:	On a scale from 0 to 1, with higher values representing more favorable AI preparedness.
How to use it:	• Be aware that the index incorporates several perceptions-based indicators, reflecting individuals' subjective assessments and experiences. Therefore, the index should be seen as an indicative measure, guiding stakeholders in identifying areas for improvement rather than being used for ranking purposes. • Note that the focus is on AI adoption preparedness (rather than on invention leadership), which allows for comparability of the level of preparedness across all economies. • Recognize that measuring AI preparedness is challenging because the institutional requirements for economy-wide integration of AI are still uncertain.

	• Note that the country coverage could be extended as more data become available. • Use the following citation "Cazzaniga and others. 2024. "Gen-AI: Artificial Intelligence and the Future of Work." IMF Staff Discussion Note SDN2024/001, International Monetary Fund, Washington, DC.".
Research on the indicator	• Cazzaniga and others (2024), Gen-AI: Artificial Intelligence and the Future of Work
DQAF assessment:	• Assurances of integrity. The compiler provided broad details regarding the construction of the index in the document that was published. • Methodological soundness. There is no internationally accepted statistical standard for this index. The compilation of the index is well-documented but is unlikely to capture all relevant aspects. • Accuracy and reliability. The compiler made efforts to validate the source data and utilized different methods (e.g., principal component analysis) for index construction as a robustness check. • Accessibility. Data available upon request.
Overall assessment:	The AIPI, aggregated from four key determinants relevant to AI adoption, covers 174 countries as of 2023. It is compiled and published by staff from the IMF. The methodology of the index is publicly available, and users should be aware of how to use this index.

Methodology

The AIPI is derived as the simple average of the four key dimensions: digital infrastructure, human capital, technological innovation, and legal frameworks. Each dimension is in turn computed by averaging a rich set of sub-indicators. The full set of indicators is summarized in the table at the end of the documentation note.

For each of the four dimensions, the sub-indicators (x) — for the latest year with available data — are normalized on a 0-1 scale according to the formula $(x - x_{min})/(x_{max} - x_{min})$, using data from the full sample of countries, and each dimension is the simple average of its normalized sub-indicators. The AIPI is then computed as the simple average of the four dimensions. As a robustness check, Principal Component Analysis (PCA) is employed to aggregate the data. Within each dimension, the first principal component (PC) of the sub-indicators is identified, scaled to a range between 0 and 1, and the index is subsequently calculated by summing these scaled PCs. The outcomes derived from utilizing PCA are equivalent to those obtained through simple averaging.

Data sources

Dimension	Indicator	Tyes of indicator
1. FOUNDATIONAL AI PREPAREDNESS		
I. Digital Infrastructure		
Accessible, affordable, and secured internet access	- Estimated internet users per 100 inhabitants [UN]	Survey of hard data
	- Number of main fixed telephone lines per 100 inhabitants [UN]	Survey of hard data
	- Number of mobile subscribers per 100 inhabitants [UN]	Survey of hard data
	- Number of fixed broadband subscriptions per 100 inhabitants [UN]	Survey of hard data

	- Number of wireless broadband subscriptions per 100 inhabitants [UN]	Survey of hard data
	- Cost of internet access (percent of monthly GNI per capita) [ITU]	Survey of hard data
	- Secure internet servers per 1 million people [WB]	Survey of hard data
Mature e-commerce infrastructure	- Private sector's e-commerce business environment	
	o Postal reliability index [UPU]	Survey of perceptions
	o Use of mobile phone for online transactions (% of population ages 15+) [WB]	Survey of hard data
	- Public sector's online services infrastructure [UN]	Survey of perceptions
II. Human Capital and Labor Market Policies		
Education and digital skills	- Human capital index (i.e., mean years of schooling, expected years of schooling, gross enrolment ratio, adult literacy) [UN]	Survey of hard data
	- Public education expenditure (10-year average; %GDP) [WB]	Official data
	- Skillset of graduates (proxy for equality of education) [WEF]	Survey of perceptions
	- Digital skills among active population (e.g., computer skills, basic coding, etc.) [UN]	Survey of hard data
	- Number of STEM graduates (10-year average; % of total graduates) [WB]	Official data
	- Number of female STEM graduates (10-year average; % of STEM graduates) [WB]	Official data
Labor market flexibility and policies	- Flexibility of wage determination (centralized vs individual firm level) [WEF]	Survey of perceptions
	- Pay and productivity (i.e., extent to which wages are market determined) [WEF]	Survey of perceptions
	- Internal labor market mobility [WEF]	Survey of perceptions
	- Active labor market policies (e.g., skills matching, retraining) [WEF]	Survey of perceptions
	- Social protection (% of population covered by social protection schemes) [ILO]	Survey of hard data
2. SECOND-GENERATION AI PREPAREDNESS		
III. Innovation and Economic Integration		
Innovation	- R&D spending per unit of GDP [WB]	Survey of hard data
	- Frontier technology readiness (i.e., AI related R&D activity: number of scientific publications, number of patents on frontier technologies) [UNCTAD]	Survey of hard data
	- Domestic credit to private sector (%GDP) [WB]	Official data
Economic integration	- Mean tariff rate [FI]	Official data
	- Non-tariff barriers [FI]	Survey of perceptions

	- Free movement of capital and people (average of three indicators: financial openness, capital controls, freedom of foreigners to visit) [FI]	Expert judgement
IV. Regulation and Ethics		
Strong legal frameworks and enforcement mechanisms	- Legal framework's adaptability to digital business models [WEF]	Survey of perceptions
	- Government effectiveness, and voice and accountability [WB & UN]	Survey of perceptions
Note: Data source for each indicator is shown in square bracket. FI = Fraser Institute; GDP = Gross Domestic Product; GNI = Gross National Income; ILO = International Labor Organization; ITU = International Telecommunication Union; STEM = Science, Technology, Engineering, and Mathematics; UN = United Nations; UNCTAD = United Nations Conference on Trade and Development; UPU = Universal Postal Union; WB = World Bank; WEF = World Economic Forum		