



GKI RANK 72 /141

GKI SCORE

46.6

WORLD AVERAGE

47.8

COUNTRY PERFORMANCE SUMMARY

Kazakhstan is a moderate performer in terms of its knowledge infrastructure. It ranks 72nd out of 141 countries in the Global Knowledge Index 2024 and 58th out of the 59 countries with very high human development.

KAZAKHSTAN

KEY INDICATORS

GDP (US\$ billions): 705.52

Population: 20,330,104

HDI: 0.802

AREAS OF STRENGTH

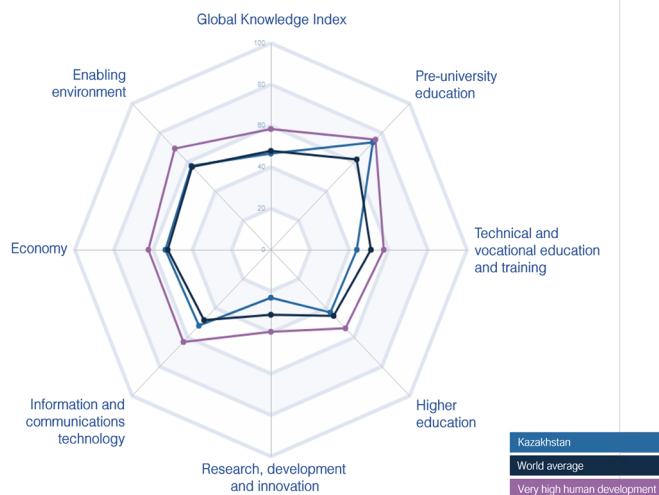
- + Net enrolment rate in upper secondary education
- + Completion rate in upper secondary education
- + Pupil-trained teacher ratio in pre-primary education
- + Poverty headcount ratio (% population)
- + Government online services

AREAS OF IMPROVEMENT

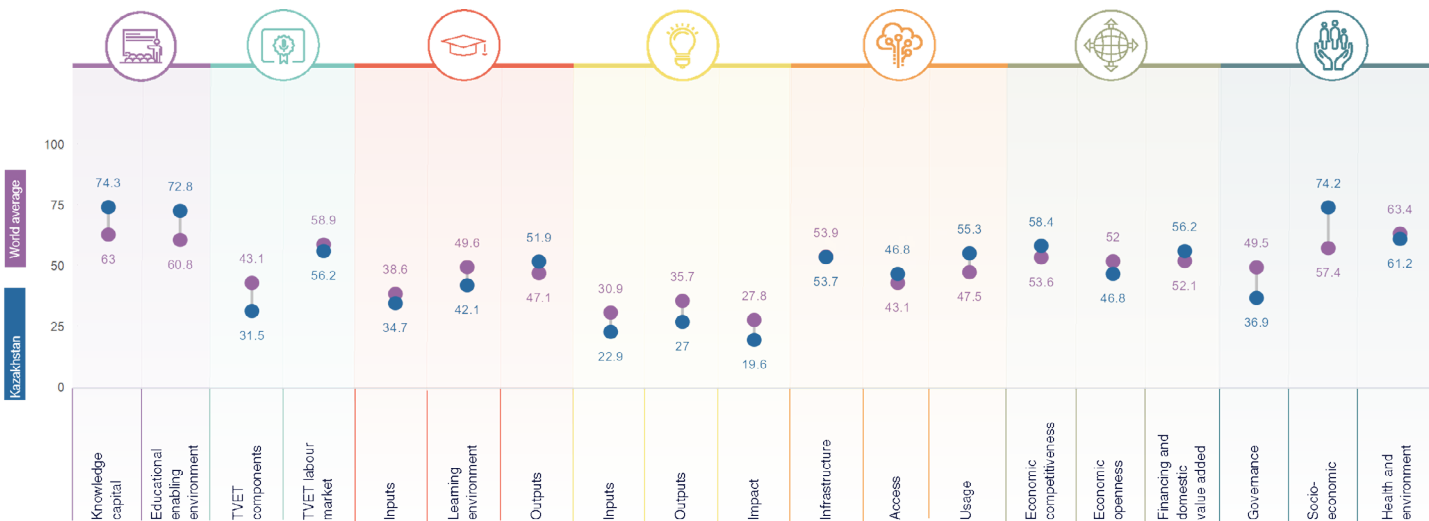
- Government expenditure on primary education (% GDP)
- Government funding per primary student (% GDP per capita)
- Government expenditure on vocational education (%)
- Investment in telecommunication services (% GDP)
- Educational attainment rate, master's or equivalent

SECTORAL INDICES

	RANK	VALUE
PRE-UNIVERSITY EDUCATION	42	73.5
TECHNICAL AND VOCATIONAL EDUCATION AND TRAINING	105	43.8
HIGHER EDUCATION	82	42.9
RESEARCH, DEVELOPMENT AND INNOVATION	108	23.2
INFORMATION AND COMMUNICATIONS TECHNOLOGY	62	51.9
ECONOMY	60	53.8
ENABLING ENVIRONMENT	62	57.4



GKI PILLARS





KAZAKHSTAN

	Rank	Value
PRE-UNIVERSITY EDUCATION	42	73.5
Knowledge capital	50	74.3
Enrolment	26	96.3
Net enrolment rate in primary education	83	91.2
Net enrolment rate in lower secondary education	51	97.6
Net enrolment rate in upper secondary education	1	100
Completion	33	78.7
Years of compulsory education in primary and secondary	68	69.2
Completion rate in upper secondary education	2	100
Gross intake ratio to the last grade of lower secondary education	43	66.9
Outcomes	59	48
Assessment of 15-year-old students in math, science and reading	52	30.7
Learning-adjusted years of schooling	52	65.3
Educational enabling environment	39	72.8
Expenditure	111	19.8
Government expenditure on primary education (% GDP)	122	0
Government expenditure on secondary education (% GDP)	38	39
Government funding per primary student (% GDP per capita)	116	0
Government funding per secondary student (% GDP per capita)	45	40.2
Resources	19	98.4
Pupil-trained teacher ratio in primary education	15	96.2
Pupil-trained teacher ratio in secondary education	11	97.2
Schools with access to computers in primary education (%)	1	100
Schools with access to computers in secondary education (%)	1	100
Early learning	24	77.5
Gross enrolment ratio in early childhood education	68	44.2
Proportion of children who are developmentally on track	12	79.8
Proportion of children with stimulating home learning environments	8	87.1
Pupil-trained teacher ratio in pre-primary education	3	98.8
Equity and inclusiveness	18	95.5
Completion rate in upper secondary education, gender parity	17	97.8
Completion rate in upper secondary education, wealth parity	6	89.7
Completion rate in upper secondary education, location parity	18	98.9
TECHNICAL AND VOCATIONAL EDUCATION AND TRAINING	105	43.8
TVET components	125	31.5
Continuous training and skilling	122	23.8
Firms offering formal training (%)	85	23.8
Labour force participation rate with short-cycle tertiary education	n/a	n/a
Participation rate in formal and non-formal education and training	n/a	n/a
TVET structure	83	38.6
Government expenditure on vocational education (%)	80	0
Share of students enrolled in secondary vocational programmes	66	15.7
Share of students enrolled in post-secondary vocational programmes	1	100
TVET quality and qualifications	132	32
Extent of staff training	114	45.7
Quality of vocational training	121	37.9
Ratio of high-skill TVET occupations earnings to average wage	120	9.2
Ratio of medium-skill TVET occupations earnings to average wage	36	35.4
TVET labour market	91	56.2
Efficiency of the labour market	129	50.1
Firms constrained with inadequately educated workforce (%)	105	47.4
Employment educational mismatch (%)	n/a	n/a
Proportion of skilled production workers	88	52.8
Unemployment rate with vocational education	n/a	n/a
Post-TVET employment	96	36.6
Share of TVET occupations	80	52.7
Manufacturing employment (%)	105	20.5
Equity and inclusiveness	41	81.7
Enrolment in vocational education, gender parity	22	89.6
Vulnerable employment rate	63	73.9

	Rank	Value
HIGHER EDUCATION	82	42.9
Inputs	94	34.7
Expenditure	104	5.3
Government expenditure per tertiary student	78	5.3
Teaching staff compensation (% tertiary expenditure)	n/a	n/a
Enrolment	61	22.7
Enrolment in bachelor's or equivalent level (%)	28	35.3
Enrolment in master's, doctoral or equivalent (%)	76	10
Resources	28	76
Pupil-teacher ratio in tertiary education	64	76
Researchers in higher education (%)	n/a	n/a
Learning environment	99	42.1
Diversity and academic freedom	125	23.3
Teachers in tertiary education, gender parity	108	12.2
Inbound mobility rate	51	13.6
Academic freedom	102	44.1
Equity and inclusiveness	12	61
Gross attendance ratio for tertiary education, gender parity	9	94.9
Gross attendance ratio for tertiary education, wealth parity	6	38.3
Gross attendance ratio for tertiary education, location parity	17	49.6
Outputs	52	51.9
Attainment	52	30.9
Educational attainment rate, bachelor's or equivalent	10	61.6
Educational attainment rate, master's or equivalent	127	0.2
Educational attainment rate, doctoral or equivalent	n/a	n/a
Employment	7	90.1
Labour force participation rate with advanced education	n/a	n/a
Unemployment rate with advanced education	40	90.1
Impact	81	34.8
University-industry collaboration in R&D	112	34.8
Citable documents per R&D personnel in higher education	n/a	n/a
RESEARCH, DEVELOPMENT AND INNOVATION	108	23.2
Inputs	97	22.9
Inputs of R&D institutions	101	19.1
GERD (% GDP)	103	2
GERD per researcher	89	8.3
Researchers per thousand labour force	68	7.6
Tertiary graduates from STEM programmes (%)	49	58.5
Inputs of RDI in business enterprises	73	21.9
GERD performed by business enterprises (%)	71	1.1
GERD financed by business enterprises (%)	31	58.7
Researchers in business enterprises (%)	n/a	n/a
Firms that spend on R&D (%)	107	5.9
Inputs of societal innovation	74	31.4
High-skilled employment (%)	47	44.2
Intellectual property payments (% total trade)	69	11.4
State of cluster development	115	38.7
Outputs	111	27
Outputs of R&D institutions	89	32.3
Average documents per researcher	68	17
Citations per document	102	24.4
Resident patent applications (per 100 billion GDP)	56	55.5
Outputs of RDI in business enterprises	115	17.2
Intellectual property receipts (% total trade)	80	9
Industrial design applications (per 100 billion GDP)	107	34.9
PCT applications (per 100 billion GDP)	94	0.8
Firms producing new products and services (%)	79	24.1
Outputs of societal innovation	108	26.2
Trademark applications (per 100 billion GDP)	63	14.8
Cultural goods exports (% exports)	78	60.4
Printing and publishing output (% manufactured output)	100	3.6
Impact	106	19.6
Quality	111	13.4
Research institutions prominence	64	9.1
Growth of innovative companies	116	40.5
ISO 9001 quality certificates (per billion GDP)	119	1.6
ISO 14001 environmental certificates (per billion GDP)	107	2.2
Linkages	126	2.7
GERD financed from abroad (%)	78	5.1
Joint ventures per strategic alliance deals (per billion GDP)	101	2
Computer software spending (% GDP)	123	1
Business development	49	42.7
New business density per thousand population	46	14.3
Firms with products and services new to the market (%)	34	71.2



KAZAKHSTAN

	Rank Value	
INFORMATION AND COMMUNICATIONS TECHNOLOGY	62	51.9
Infrastructure	73	53.7
Coverage	97	52.1
3G/4G mobile network coverage (% population)	99	88.3
Secure Internet servers per 1 million population	54	64
Investment in telecommunication services (% GDP)	131	3.9
Quality	76	20.9
Mobile upload and download speeds	58	16.3
Fixed-broadband upload and download speeds	67	22.9
Fixed-broadband subscriptions by speed per hundred people	80	23.4
Affordability	46	88.1
Fixed broadband basket (% GNI per capita)	35	77.5
Mobile broadband basket (% GNI per capita)	67	94.1
Internet and telephony competition	89	92.9
Access	62	46.8
Subscriptions	42	68.5
Active mobile-broadband subscriptions per hundred inhabitants	59	49.1
International Internet bandwidth per user	51	59.7
Households with Internet access at home (%)	14	96.8
Skills and employment	70	25.1
Individuals with standard ICT skills (%)	48	30.4
Tertiary graduates from ICT programmes (%)	94	19.8
ICT employment (%)	n/a	n/a
Usage	48	55.3
Services	26	66.2
Government online services	9	93.9
Fixed broadband Internet traffic per subscription	58	27.4
Mobile broadband Internet traffic per subscription	11	51.4
Internet users (%)	29	92.1
Outcomes	68	44.4
ICT PCT patent applications (per 100 billion GDP)	84	35.5
E-participation	25	84.9
Internet activities by individuals (%)	70	25.4
Trade in digitally deliverable services (% total trade)	75	31.9
ECONOMY	60	53.8
Economic competitiveness	51	58.4
Infrastructure investment	51	54.7
Gross fixed capital formation (% GDP)	82	37.3
Logistics performance	79	42.5
Transport productive capacity	41	52.4
Building quality control	24	86.7
Business agility	52	62.1
Ease of starting a business	19	94.4
Insolvency recovery rate	62	43.3
Entrepreneurial employee activity rate	37	24.8
Extent of corporate transparency	12	85.7
Economic openness	84	46.8
Trade and diversification	94	46.4
Trade (% GDP)	88	14.4
High-technology trade (% total trade)	32	29.8
Product concentration	127	48.6
Market concentration	42	92.7
Financial openness	78	47.3
Chinn-Ito financial openness	87	22.3
Foreign direct investment, net inflows (% GDP)	81	39.6
Debt dynamics	36	80
Financing and domestic value added	55	56.2
Financing and taxes	64	60.2
Domestic credit to private sector (% GDP)	105	10.5
MSME financing gap (% GDP)	79	70
Tax and contribution rate (% profit)	34	73.2
Bank non-performing loans (%)	56	87
Domestic value added	50	52.3
Medium- and high-tech activities value added	83	18.7
Industry and services value added (% GDP)	39	77.8
Labour underutilization rate	20	87.1
Output per worker	48	25.5

	Rank Value	
ENABLING ENVIRONMENT	62	57.4
Governance	90	36.9
Political environment	110	26.2
Peace and stability	91	32.5
Voice and accountability	119	19.8
Quality of institutions	70	47.6
Rule of law	93	35.8
Control of corruption	68	48.6
Government effectiveness	59	58.5
Socio-economic	19	74.2
Gender equity	73	68.8
Female-to-male ratio in parliament	104	24.1
Female-to-male labour force participation	43	84.7
Female-to-male ratio in Internet usage	72	97.5
Social inclusion	13	94.7
Social protection coverage (% population)	27	94.2
Adult literacy rate	11	99.7
Youth not in employment, education or training (%)	16	90.2
Standard of living	16	59.1
Poverty headcount ratio (% population)	6	92
GDP per capita	47	26.3
Health and environment	94	61.2
Health	64	77.3
Universal health coverage	38	80.3
Healthy life expectancy (years)	87	58.3
Under-five mortality rate	60	93.2
Environmental performance	121	45.1
Renewable energy consumption (%)	130	2.1
Ecological footprint per capita	87	73.2
Natural hazard exposure	79	60

* All values are normalized to a scale from 0 (worst) to 100 (best).