

# GKI RANK 68 /133

**GKI SCORE** 46.5

**WORLD AVERAGE** 47.5

## COUNTRY PERFORMANCE SUMMARY

Ukraine is a moderate performer in terms of its knowledge infrastructure. It ranks 68th out of 133 countries in the Global Knowledge Index 2023 and 10th out of the 28 countries with high human development.

# UKRAINE

## KEY INDICATORS

**GDP (US\$ billions): 379.893**

**Population: 43,531,422**

**HDI: 0.773**

## AREAS OF STRENGTH

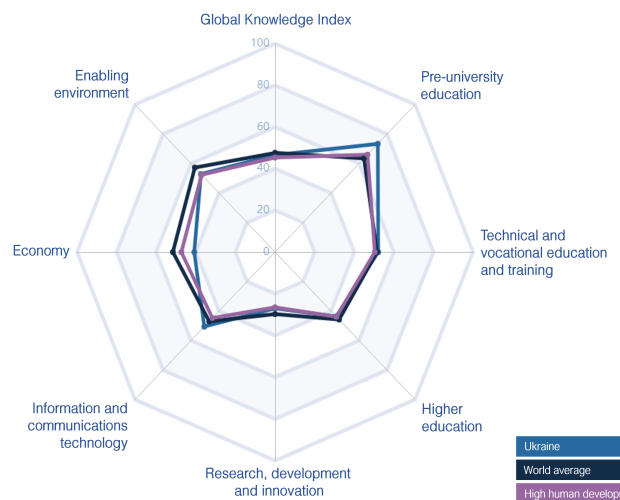
- + Poverty headcount ratio (% population)
- + Adult literacy rate
- + Computer software spending (% GDP)
- + Market concentration
- + Government funding per primary student (% GDP per capita)

## AREAS OF IMPROVEMENT

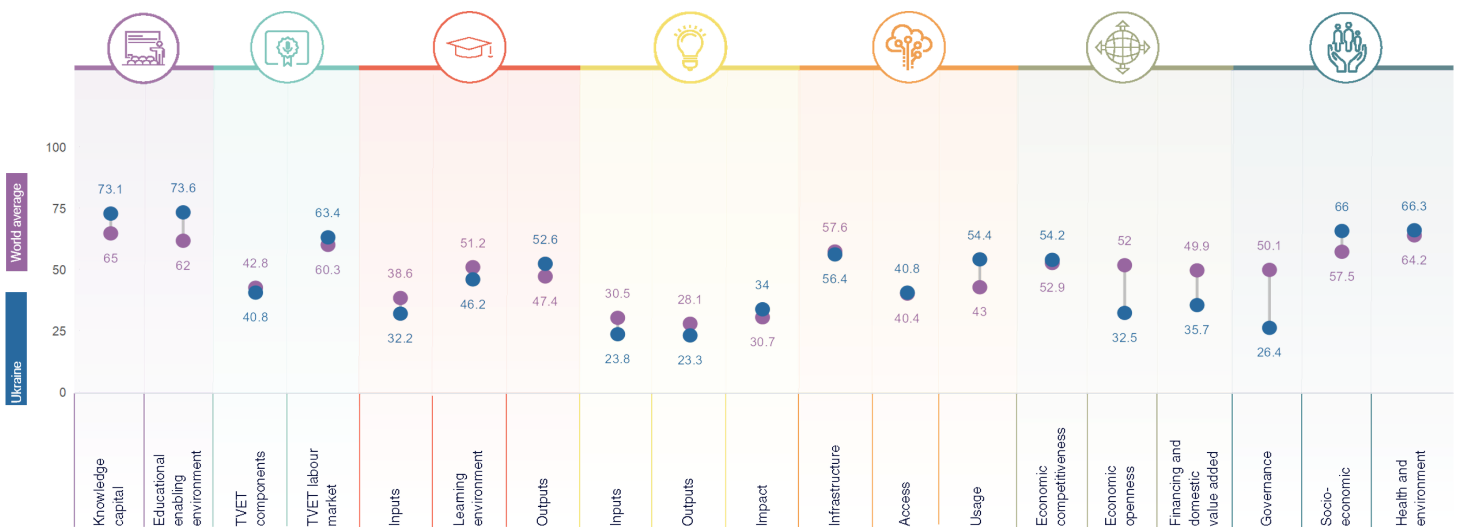
- Gross fixed capital formation (% GDP)
- Chinn-Ito financial openness
- Debt dynamics
- Bank non-performing loans (%)
- Citations per document

## SECTORAL INDICES

	RANK	VALUE
PRE-UNIVERSITY EDUCATION	47	73.4
TECHNICAL AND VOCATIONAL EDUCATION AND TRAINING	66	52.1
HIGHER EDUCATION	75	43.7
RESEARCH, DEVELOPMENT AND INNOVATION	67	27
INFORMATION AND COMMUNICATIONS TECHNOLOGY	60	50.5
ECONOMY	110	40.8
ENABLING ENVIRONMENT	76	52.9



## GKI PILLARS



# UKRAINE

Rank Value

Rank Value

## PRE-UNIVERSITY EDUCATION 47 73.4

<b>Knowledge capital</b>	57	73.1
<b>Enrolment</b>	97	74.4
Net enrolment rate in primary education	115	63.7
Net enrolment rate in lower secondary education	89	84.2
Net enrolment rate in upper secondary education	76	75.3
<b>Completion</b>	26	80.4
Years of compulsory education in primary and secondary	30	84.6
Completion rate in upper secondary education	7	96.7
Gross intake ratio to the last grade of lower secondary education	78	59.9
<b>Outcomes</b>	42	64.6
Assessment of 15-year-old students in math, science and reading	38	57.8
Learning-adjusted years of schooling	39	71.3
<b>Educational enabling environment</b>	39	73.6
<b>Expenditure</b>	23	47
Government expenditure on primary education (% GDP)	71	29.1
Government expenditure on secondary education (% GDP)	51	33.6
Government funding per primary student (% GDP per capita)	6	74.6
Government funding per secondary student (% GDP per capita)	15	50.5
<b>Resources</b>	33	96.7
Pupil-trained teacher ratio in primary education	27	89.5
Pupil-trained teacher ratio in secondary education	5	98.4
Schools with access to computers in primary education (%)	36	98.9
Schools with access to computers in secondary education (%)	44	99.9
<b>Early learning</b>	74	58.9
Gross enrolment ratio in early childhood education	48	58.9
Proportion of children who are developmentally on track	n/a	n/a
Proportion of children with stimulating home learning environments	n/a	n/a
Pupil-trained teacher ratio in pre-primary education	n/a	n/a
<b>Equity and inclusiveness</b>	33	91.8
Completion rate in upper secondary education, gender parity	24	97.2
Completion rate in upper secondary education, wealth parity	9	85.4
Completion rate in upper secondary education, location parity	28	93

## TECHNICAL AND VOCATIONAL EDUCATION AND TRAINING 66 52.1

<b>TVET components</b>	69	40.8
<b>Continuous training and skilling</b>	98	29.2
Firms offering formal training (%)	68	29.2
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
<b>TVET structure</b>	38	55
Government expenditure on vocational education (%)	n/a	n/a
Share of students enrolled in secondary vocational programmes	82	10
Share of students enrolled in post-secondary vocational programmes	1	100
<b>TVET quality and qualifications</b>	101	38.3
Extent of staff training	61	59
Quality of vocational training	45	58.8
Ratio of high-skill TVET occupations earnings to average wage	104	8.3
Ratio of medium-skill TVET occupations earnings to average wage	70	27.2
<b>TVET labour market</b>	66	63.4
<b>Efficiency of the labour market</b>	103	60.3
Firms constrained with inadequately educated workforce (%)	94	24.2
Employment educational mismatch (%)	n/a	n/a
Proportion of skilled production workers	10	83
Unemployment rate with vocational education	93	73.8
<b>Post-TVET employment</b>	43	54.6
Share of TVET occupations	53	60.4
Manufacturing employment (%)	43	48.8
<b>Equity and inclusiveness</b>	62	75.3
Enrolment in vocational education, gender parity	84	65.4
Vulnerable employment rate	50	85.3

## HIGHER EDUCATION 75 43.7

<b>Inputs</b>	96	32.2
<b>Expenditure</b>	92	9.8
Government expenditure per tertiary student	56	9.8
Teaching staff compensation (% tertiary expenditure)	n/a	n/a
<b>Enrolment</b>	47	31.8
Enrolment in bachelor's or equivalent level (%)	56	27.7
Enrolment in master's, doctoral or equivalent (%)	45	35.9
<b>Resources</b>	87	55
Pupil-teacher ratio in tertiary education	12	91.2
Researchers in higher education (%)	96	18.9
<b>Learning environment</b>	80	46.2
<b>Diversity and academic freedom</b>	111	31.9
Teachers in tertiary education, gender parity	92	38.8
Inbound mobility rate	48	17.2
Academic freedom	101	39.6
<b>Equity and inclusiveness</b>	13	60.6
Gross attendance ratio for tertiary education, gender parity	15	91.7
Gross attendance ratio for tertiary education, wealth parity	7	35.1
Gross attendance ratio for tertiary education, location parity	13	55.1
<b>Outputs</b>	52	52.6
<b>Attainment</b>	n/a	n/a
Educational attainment rate, bachelor's or equivalent	n/a	n/a
Educational attainment rate, master's or equivalent	n/a	n/a
Educational attainment rate, doctoral or equivalent	n/a	n/a
<b>Employment</b>	112	63.9
Labour force participation rate with advanced education	116	57.7
Unemployment rate with advanced education	98	70.1
<b>Impact</b>	53	41.2
University-industry collaboration in R&D	66	46.5
Citable documents per R&D personnel in higher education	18	36

## RESEARCH, DEVELOPMENT AND INNOVATION 67 27

<b>Inputs</b>	84	23.8
<b>Inputs of R&amp;D institutions</b>	83	21.6
GERD (% GDP)	76	5.3
GERD per researcher	90	6
Researchers per thousand labour force	55	11.4
Tertiary graduates from STEM programmes (%)	39	63.8
<b>Inputs of RDI in business enterprises</b>	66	23.5
GERD performed by business enterprises (%)	47	6.3
GERD financed by business enterprises (%)	56	37.7
Researchers in business enterprises (%)	43	33
Firms that spend on R&D (%)	71	16.9
<b>Inputs of societal innovation</b>	81	28.4
High-skilled employment (%)	n/a	n/a
Intellectual property payments (% total trade)	68	9.5
State of cluster development	70	47.4
<b>Outputs</b>	82	23.3
<b>Outputs of R&amp;D institutions</b>	100	26.6
Average documents per researcher	60	18.6
Citations per document	132	1.6
Resident patent applications (per 100 billion GDP)	31	59.6
<b>Outputs of RDI in business enterprises</b>	43	21.9
Intellectual property receipts (% total trade)	54	2.8
Industrial design applications (per 100 billion GDP)	19	36.9
PCT applications (per 100 billion GDP)	47	5.1
Firms producing new products and services (%)	58	43
<b>Outputs of societal innovation</b>	68	18.2
Trademark applications (per 100 billion GDP)	30	38.9
Cultural goods exports (% exports)	81	2.8
Printing and publishing output (% manufactured output)	67	12.9
<b>Impact</b>	48	34
<b>Quality</b>	68	31.6
Research institutions prominence	38	61.2
Growth of innovative companies	56	49.3
ISO 9001 quality certificates (per billion GDP)	68	9.7
ISO 14001 environmental certificates (per billion GDP)	78	6.2
<b>Linkages</b>	20	36.5
GERD financed from abroad (%)	19	41.3
Joint ventures per strategic alliance deals (per billion GDP)	102	2.4
Computer software spending (% GDP)	4	65.7
<b>Business development</b>	88	33.9
New business density per thousand population	66	6.8
Firms with products and services new to the market (%)	74	61.1

# UKRAINE

	Rank	Value		Rank	Value
<b>INFORMATION AND COMMUNICATIONS TECHNOLOGY</b>			<b>ENABLING ENVIRONMENT</b>		
<b>Infrastructure</b>	<b>70</b>	<b>56.4</b>	<b>Governance</b>	<b>107</b>	<b>26.4</b>
Coverage	81	58.9	Political environment	107	25.8
3G/4G mobile network coverage (% population)	92	89.6	Peace and stability	130	5.7
Secure Internet servers per 1 million population	44	72.6	Voice and accountability	71	45.9
Investment in telecommunication services (% GDP)	114	14.4	Quality of institutions	106	27
<b>Quality</b>	<b>69</b>	<b>22</b>	Rule of law	97	29.2
Mobile upload and download speeds	68	9.5	Control of corruption	97	33
Fixed-broadband upload and download speeds	44	20.4	Government effectiveness	115	18.9
Fixed-broadband subscriptions by speed per hundred people	64	36.2	<b>Socio-economic</b>	<b>43</b>	<b>66</b>
<b>Affordability</b>	<b>74</b>	<b>88.3</b>	Gender equity	82	65.1
Fixed broadband basket (% GNI per capita)	58	87.4	Female-to-male ratio in parliament	91	25.7
Mobile broadband basket (% GNI per capita)	80	90	Female-to-male labour force participation	75	76
Internet and telephony competition	95	87.5	Female-to-male ratio in Internet usage	82	93.7
<b>Access</b>	<b>67</b>	<b>40.8</b>	Social inclusion	45	78.6
<b>Subscriptions</b>	<b>78</b>	<b>54.8</b>	Social protection coverage (% population)	44	72.2
Active mobile-broadband subscriptions per hundred inhabitants	85	32.5	Adult literacy rate	1	100
International Internet bandwidth per user	71	49.4	Youth not in employment, education or training (%)	59	63.6
Households with Internet access at home (%)	69	82.5	Standard of living	29	54.4
<b>Skills and employment</b>	<b>69</b>	<b>26.8</b>	Poverty headcount ratio (% population)	1	100
Individuals with standard ICT skills (%)	67	14.9	GDP per capita	87	8.7
Tertiary graduates from ICT programmes (%)	26	42.1	<b>Health and environment</b>	<b>58</b>	<b>66.3</b>
ICT employment (%)	45	23.5	<b>Health</b>	<b>69</b>	<b>79.5</b>
<b>Usage</b>	<b>34</b>	<b>54.4</b>	Universal health coverage	57	75.5
<b>Services</b>	<b>6</b>	<b>79.7</b>	Healthy life expectancy (years)	79	68.4
Government online services	32	81.5	Under-five mortality rate	55	94.5
Fixed broadband Internet traffic per subscription	n/a	n/a	Environmental performance	64	53.1
Mobile broadband Internet traffic per subscription	n/a	n/a	Renewable energy consumption (%)	110	9.1
Internet users (%)	69	77.9	Ecological footprint per capita	66	81.2
<b>Outcomes</b>	<b>78</b>	<b>29.1</b>	Natural hazard exposure	36	69
ICT PCT patent applications (per 100 billion GDP)	45	4.5			
E-participation	55	60.2			
Internet activities by individuals (%)	62	22.6			
Trade in digitally deliverable services (% total trade)	80	29			
<b>ECONOMY</b>	<b>110</b>	<b>40.8</b>			
<b>Economic competitiveness</b>	<b>60</b>	<b>54.2</b>			
Infrastructure investment	100	41.4			
Gross fixed capital formation (% GDP)	128	0			
Logistics performance	79	42.5			
Transport productive capacity	69	43.1			
Building quality control	45	80			
Business agility	42	67			
Ease of starting a business	53	91.1			
Insolvency recovery rate	123	9.8			
Entrepreneurial employee activity rate	n/a	n/a			
Extent of corporate transparency	1	100			
<b>Economic openness</b>	<b>122</b>	<b>32.5</b>			
Trade and diversification	45	53.9			
Trade (% GDP)	65	17.3			
High-technology trade (% total trade)	68	21			
Product concentration	44	81.3			
Market concentration	5	96.1			
Financial openness	133	11.1			
Chinn-Ito financial openness	124	0			
Foreign direct investment, net inflows (% GDP)	87	33.4			
Debt dynamics	120	0			
<b>Financing and domestic value added</b>	<b>118</b>	<b>35.7</b>			
Financing and taxes	132	30.2			
Domestic credit to private sector (% GDP)	106	6.4			
MSME financing gap (% GDP)	86	52.1			
Tax and contribution rate (% profit)	95	62.2			
Bank non-performing loans (%)	108	0			
Domestic value added	64	41.2			
Medium- and high-tech activities value added	56	34.4			
Industry and services value added (% GDP)	87	41.5			
Labour underutilization rate	49	77.2			
Output per worker	84	11.6			

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