JAPAN

GII 2019 rank

15

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$	GDP per capita, PPP$	GII 2018 rank
17	**14**	**High**	**SEAO**	**127.2**	**5,632.5**	**44,227.2**	**13**

		Score/Value	Rank	
INSTITUTIONS		**89.9**	**10**	
1.1	**Political environment**	**88.2**	**12**	
1.1.1	Political and operational stability*	93.0	7	
1.1.2	Government effectiveness*	85.7	13	
1.2	**Regulatory environment**	**91.7**	**15**	
1.2.1	Regulatory quality*	78.8	20	
1.2.2	Rule of law*	87.8	18	
1.2.3	Cost of redundancy dismissal, salary weeks	8.0	1	●
1.3	**Business environment**	**89.8**	**5**	●
1.3.1	Ease of starting a business*	86.1	74	○ ◇
1.3.2	Ease of resolving insolvency*	93.5	1	● ◆
HUMAN CAPITAL & RESEARCH		**49.1**	**21**	
2.1	**Education**	**57.3**	**37**	
2.1.1	Expenditure on education, % GDP	3.5	95	○ ◇
2.1.2	Government funding/pupil, secondary, % GDP/cap	n/a	n/a	
2.1.3	School life expectancy, years	15.2	47	◇
2.1.4	PISA scales in reading, maths, & science	528.9	3	● ◆
2.1.5	Pupil-teacher ratio, secondary 🕘	11.2	40	
2.2	**Tertiary education**	**13.6**	**[103]**	
2.2.1	Tertiary enrolment, % gross	n/a	n/a	
2.2.2	Graduates in science & engineering, %	n/a	n/a	
2.2.3	Tertiary inbound mobility, %	3.7	57	◇
2.3	**Research & development (R&D)**	**76.3**	**5**	●
2.3.1	Researchers, FTE/mn pop	5,304.9	10	
2.3.2	Gross expenditure on R&D, % GDP	3.2	5	
2.3.3	Global R&D companies, avg. exp. top 3, mn US$	92.0	5	●
2.3.4	QS university ranking, average score top 3*	79.2	8	
INFRASTRUCTURE		**64.0**	**9**	
3.1	**Information & communication technologies(ICTs)**	**90.3**	**7**	
3.1.1	ICT access*	86.3	11	
3.1.2	ICT use*	81.3	12	
3.1.3	Government's online service*	95.1	9	
3.1.4	E-participation*	98.3	5	
3.2	**General infrastructure**	**50.7**	**15**	
3.2.1	Electricity output, kWh/mn pop	8,500.2	19	
3.2.2	Logistics performance*	91.8	5	
3.2.3	Gross capital formation, % GDP	24.5	48	
3.3	**Ecological sustainability**	**50.9**	**27**	
3.3.1	GDP/unit of energy use	11.2	39	
3.3.2	Environmental performance*	74.7	20	
3.3.3	ISO 14001 environmental certificates/bn PPP$ GDP	4.4	26	
MARKET SOPHISTICATION		**65.8**	**10**	
4.1	**Credit**	**68.5**	**12**	
4.1.1	Ease of getting credit*	55.0	77	○
4.1.2	Domestic credit to private sector, % GDP	168.2	5	● ◆
4.1.3	Microfinance gross loans, % GDP	n/a	n/a	
4.2	**Investment**	**42.9**	**63**	◇
4.2.1	Ease of protecting minority investors*	60.0	61	○
4.2.2	Market capitalization, % GDP	113.1	8	
4.2.3	Venture capital deals/bn PPP$ GDP	0.0	51	○ ◇
4.3	**Trade, competition, & market scale**	**85.9**	**3**	● ◆
4.3.1	Applied tariff rate, weighted avg., %	2.5	59	
4.3.2	Intensity of local competition†	87.2	1	● ◆
4.3.3	Domestic market scale, bn PPP$	5,632.5	4	● ◆

		Score/Value	Rank	
BUSINESS SOPHISTICATION		**56.5**	**11**	
5.1	**Knowledge workers**	**63.1**	**21**	
5.1.1	Knowledge-intensive employment, %	25.2	56	◇
5.1.2	Firms offering formal training, % firms	n/a	n/a	
5.1.3	GERD performed by business, % GDP	2.5	3	● ◆
5.1.4	GERD financed by business, %	78.3	1	● ◆
5.1.5	Females employed w/advanced degrees, % 🕘	21.0	22	
5.2	**Innovation linkages**	**50.2**	**12**	
5.2.1	University/industry research collaboration†	64.5	18	
5.2.2	State of cluster development†	72.3	7	
5.2.3	GERD financed by abroad, %	0.6	94	○ ◇
5.2.4	JV-strategic alliance deals/bn PPP$ GDP	0.0	36	◇
5.2.5	Patent families 2+ offices/bn PPP$ GDP	13.2	4	◆
5.3	**Knowledge absorption**	**56.2**	**10**	
5.3.1	Intellectual property payments, % total trade	2.4	9	
5.3.2	High-tech imports, % total trade	13.8	14	
5.3.3	ICT services imports, % total trade	1.7	34	
5.3.4	FDI net inflows, % GDP	0.4	121	○
5.3.5	Research talent, % in business enterprise	73.7	3	● ◆
KNOWLEDGE & TECHNOLOGY OUTPUTS		**50.8**	**12**	
6.1	**Knowledge creation**	**56.1**	**11**	
6.1.1	Patents by origin/bn PPP$ GDP	47.8	1	● ◆
6.1.2	PCT patents by origin/bn PPP$ GDP	8.8	1	● ◆
6.1.3	Utility models by origin/bn PPP$ GDP	0.8	28	
6.1.4	Scientific & technical articles/bn PPP$ GDP	9.2	53	◇
6.1.5	Citable documents H-index	71.0	6	
6.2	**Knowledge impact**	**39.7**	**50**	◇
6.2.1	Growth rate of PPP$ GDP/worker, %	0.0	89	○
6.2.2	New businesses/th pop. 15-64 🕘	0.2	95	○ ◇
6.2.3	Computer software spending, % GDP	0.3	47	
6.2.4	ISO 9001 quality certificates/bn PPP$ GDP	8.9	35	
6.2.5	High- & medium-high-tech manufactures, % 🕘	0.5	9	
6.3	**Knowledge diffusion**	**56.4**	**9**	
6.3.1	Intellectual property receipts, % total trade	4.8	1	● ◆
6.3.2	High-tech net exports, % total trade	12.1	12	
6.3.3	ICT services exports, % total trade	0.6	98	○
6.3.4	FDI net outflows, % GDP	3.4	20	
CREATIVE OUTPUTS		**37.9**	**35**	◇
7.1	**Intangible assets**	**54.5**	**22**	
7.1.1	Trademarks by origin/bn PPP$ GDP	91.1	21	
7.1.2	Industrial designs by origin/bn PPP$ GDP	4.5	29	
7.1.3	ICTs & business model creation†	73.2	25	
7.1.4	ICTs & organizational model creation†	67.8	22	◇
7.2	**Creative goods & services**	**30.9**	**26**	
7.2.1	Cultural & creative services exports, % total trade	0.4	55	
7.2.2	National feature films/mn pop. 15-69	7.0	30	
7.2.3	Entertainment & Media market/th pop. 15-69	67.1	6	
7.2.4	Printing & other media, % manufacturing 🕘	1.7	26	
7.2.5	Creative goods exports, % total trade	2.0	27	
7.3	**Online creativity**	**11.6**	**49**	◇
7.3.1	Generic top-level domains (TLDs)/th pop. 15-69	15.4	31	◇
7.3.2	Country-code TLDs/th pop. 15-69	5.1	48	◇
7.3.3	Wikipedia edits/mn pop. 15-69	18.6	50	◇
7.3.4	Mobile app creation/bn PPP$ GDP	13.2	35	

NOTES: ● indicates a strength; ○ a weakness; ◆ a strength relative to the other top 25-ranked GII economies; ◇ a weakness relative to the other top 25-ranked GII economies; * an index; † a survey question. 🕘 indicates that the economy's data are older than the base year; see Appendix II for details, including the year of the data, at http://globalinnovationindex.org. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level.