

GLOBAL INNOVATION INDEX 2018

Lebanon

90th Lebanon is ranked 90th in the GII 2018, dropping 9 positions from the previous year.

The GII indicators are grouped into innovation inputs and outputs. The following table reflects Lebanon's ranking over time¹.

Lebanon's ranking over time

	GII	Input	Output	Efficiency
2018	90	87	94	98
2017	81	87	78	69
2016	70	85	57	41

- Over the last three years, Lebanon has exhibited stability in innovation inputs, ranking 85th-87th.
- Lebanon's position in innovation outputs deteriorates this year, moving down 16 positions from 2017 and taking the 94th spot.
- Lebanon's rank in the Innovation Efficiency Ratio also deteriorates this year, ranking 98th, down from the 69th last year and the 41st in 2016. This fall is partly influenced by the lower rank in innovation outputs (94th) achieved this year. Relative to its overall GII position (90th), Lebanon ranks lower in the Efficiency Ratio (98th), indicating that the economy could improve its efficiency in translating innovation inputs into more outputs.

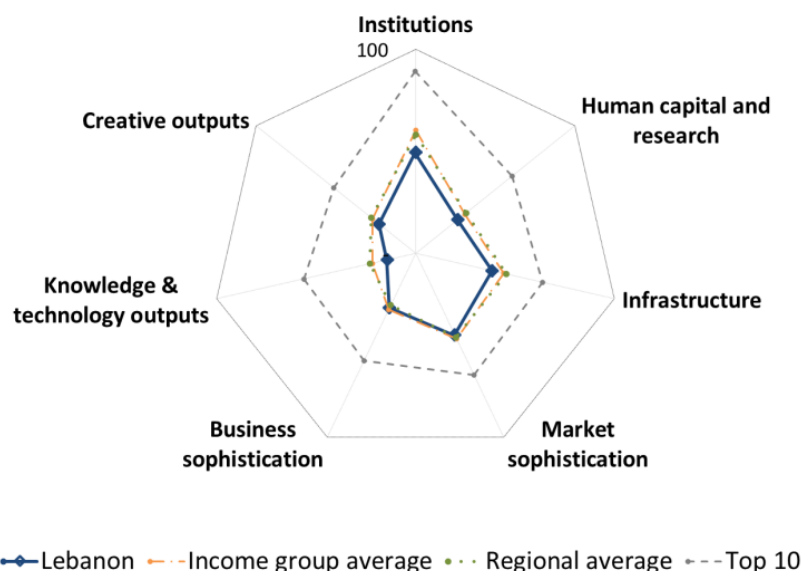
30th Lebanon is ranked 30th among the 34 upper-middle-income economies in the GII 2018.

16th Lebanon is ranked 16th among the 19 countries in Northern Africa and Western Asia.

¹ Note that year-on-year comparisons of the GII ranks are imperfect and influenced by changes in the GII model and data availability.

Benchmarking Lebanon to other upper-middle-income countries and the Northern Africa and Western Asia region

Lebanon's scores by GII area



Upper-middle-income countries

Lebanon scores below the average of the upper-middle-income group in all 7 GII areas.

Northern Africa and Western Asia region

Compared to other countries in the Northern Africa and Western Asia region, Lebanon performs above-average the GII area – **Business Sophistication**.

Lebanon's innovation profile

Strengths

- Most of Lebanon's GII strengths are shown on the **innovation input** side, among four of the five GII input areas.
- In **Institutions** (104th), the indicator *Cost of redundancy dismissal* (22nd) is a comparative strength for Lebanon.
- In **Human Capital & Research** (79th), Lebanon demonstrates strength in two indicators: *Tertiary inbound mobility* (22nd) and *Pupil-teacher ratio*, in which it is number 7 in the world.
- In **Market Sophistication** (76th), GII strengths are exhibited in three indicators – *Domestic credit to private sector* (25th), *Intensity of local competition* (16th), and *Venture capital deals*, where Lebanon positions 6th globally.
- The indicators *ICT services imports* (13th) and *FDI inflows* (30th) are strong within **Business Sophistication** (67th).
- On the **innovation output** side, the only GII strengths lie in **Creative Outputs** (85th), where Lebanon performs well in two indicators: *Cultural & creative services exports* (24th) and *Mobile app creation* (11th).

Weaknesses

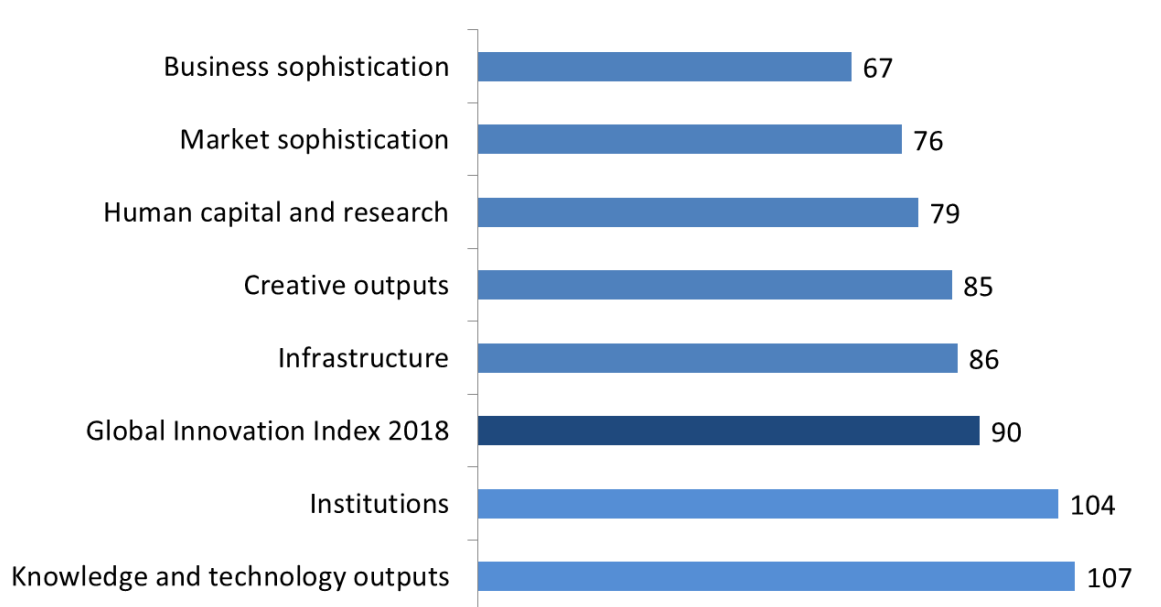
- Lebanon's relative weaknesses are mainly found among **innovation inputs**, in particular across four of the five GII input areas.
- In **Institutions** (104th), Lebanon performs relatively weakly in two of its three components, *Political environment* (115th) and *Business environment* (118th). Within these two areas, weaknesses are also shown in the indicators *Political stability & safety* (121st) and *Ease of resolving insolvency* (116th).
- In **Human Capital & Research** (79th), the area *Education* (115th) as well as the indicators *Expenditure on education* (111th), *Government funding per pupil* (92nd), *PISA results* (66th), and *Global R&D companies expenditures* (40th) are signaled as GII weaknesses.
- The area *General infrastructure* (119th) is a relative weakness within **Infrastructure** (86th).
- Relative weaknesses also appear in **Business Sophistication** (67th), where two indicators – *Joint venture–strategic alliance deals* (105th) and *High-tech imports* (118th) – present relatively weak ranks for Lebanon.
- On the **innovation output** side, Lebanon demonstrates relative weakness only in **Creative Outputs** (85th) where two relative weaknesses lie in indicators *ICTs & business model creation* (114th) and *ICTs & organizational model creation* (108th).

The following figure presents a summary of Lebanon's ranks in the 7 GII areas, as well as the overall rank in the GII 2018.

Lebanon's rank in the GII 2018 and the 7 GII areas

Rank 1 is the highest possible in each pillar

Total number of countries: 126



Missing and Outdated Data

More and better data improves the ability of a country to understand its strengths and weaknesses and give policymakers greater capacity to plan and adapt public policies accordingly. The GII 2018 covers 126 countries that complied with the minimum indicator coverage of 35 indicators in the Innovation Input Sub-Index (66%) and 18 indicators in the Innovation Output Sub-Index (66%).

The following tables show data for Lebanon that is not available or that is outdated.

Missing Data








Code	Indicator	Country Year	Model Year	Source
2.3.1	Researchers, FTE/mn pop.	n/a	2016	UNESCO Institute for Statistics
2.3.2	Gross expenditure on R&D, % GDP	n/a	2016	UNESCO Institute for Statistics
3.2.3	Gross capital formation, % GDP	n/a	2017	IMF, World Economic Outlook
5.1.1	Knowledge-intensive employment, %	n/a	2016	ILO, ILOSTAT
5.1.3	GERD performed by business, % GDP	n/a	2016	UNESCO Institute for Statistics
5.1.4	GERD financed by business, %	n/a	2015	UNESCO Institute for Statistics
5.1.5	Females employed w/advanced degrees, %	n/a	2016	ILO, ILOSTAT
5.2.3	GERD financed by abroad, %	n/a	2015	UNESCO Institute for Statistics
5.3.5	Research talent, % in business enterprise	n/a	2016	UNESCO Institute for Statistics
6.1.2	PCT patents by origin/bn PPP\$ GDP	n/a	2017	WIPO, Intellectual Property Statistics
6.1.3	Utility models by origin/bn PPP\$ GDP	n/a	2016	WIPO, Intellectual Property Statistics
6.2.1	Growth rate of PPP\$ GDP/worker, %	n/a	2016	The Conference Board, Total Economy Database
6.2.2	New businesses/th pop. 15–64	n/a	2016	World Bank, Doing Business
6.2.5	High- & medium-high-tech manufactures, %	n/a	2015	UNIDO, Industrial Statistics
7.1.2	Industrial designs by origin/bn PPP\$ GDP	n/a	2016	WIPO, Intellectual Property Statistics
7.2.4	Printing & other media, % manufacturing	n/a	2015	UNIDO, Industrial Statistics

Outdated Data

Code	Indicator	Country Year	Model Year	Source
2.1.1	Expenditure on education, % GDP	2013	2014	UNESCO Institute for Statistics
2.1.2	Government funding/pupil, secondary, % GDP/cap	2013	2014	UNESCO Institute for Statistics
2.2.2	Graduates in science & engineering, %	2011	2016	UNESCO Institute for Statistics
5.3.1	Intellectual property payments, % total trade	2015	2016	WTO, Trade in Commercial Services
5.3.2	High-tech net imports, % total trade	2014	2016	UN COMTRADE
5.3.3	ICT services imports, % total trade	2015	2016	WTO, Trade in Commercial Services
6.1.1	Patents by origin/bn PPP\$ GDP	2015	2016	WIPO, Intellectual Property Statistics
6.3.1	Intellectual property receipts, % total trade	2015	2016	WTO, Trade in Commercial Services
6.3.2	High-tech net exports, % total trade	2014	2016	UN COMTRADE
6.3.3	ICT services exports, % total trade	2015	2016	WTO, Trade in Commercial Services
7.1.1	Trademarks by origin/bn PPP\$ GDP	2015	2016	WIPO, Intellectual Property Statistics
7.2.1	Cultural & creative services exports, % total trade	2015	2016	WTO, Trade in Commercial Services
7.2.5	Creative goods exports, % total trade	2014	2016	UN COMTRADE
7.3.3	Wikipedia edits/mn pop. 15–69	2014	2017	Wikimedia Foundation



Output rank	Input rank	Income	Region	Efficiency ratio	Population (mn)	GDP, PPP\$	GDP per capita, PPP\$	GII 2017 rank
94	87	Upper-middle	NAWA	98	6.1	87.9	19,439.1	81

				Score/Value	Rank					Score/Value	Rank
	Institutions			49.4	104		Business sophistication			29.7	67
1.1	Political environment.....			30.9	115	5.1	Knowledge workers.....			30.6	[77]
1.1.1	Political stability & safety*.....			28.7	121	5.1.1	Knowledge-intensive employment, %.....			n/a	n/a
1.1.2	Government effectiveness*.....			32.0	95	5.1.2	Firms offering formal training, % firms.....			26.6	57
1.2	Regulatory environment.....			63.4	73	5.1.3	GERD performed by business, % GDP.....			n/a	n/a
1.2.1	Regulatory quality*.....			35.3	92	5.1.4	GERD financed by business, %.....			n/a	n/a
1.2.2	Rule of law*.....			20.4	114	5.1.5	Females employed w/advanced degrees, %.....			n/a	n/a
1.2.3	Cost of redundancy dismissal, salary weeks.....			8.7	22	5.2	Innovation linkages.....			27.8	68
1.3	Business environment.....			53.8	118	5.2.1	University/industry research collaboration [†]			43.7	46
1.3.1	Ease of starting a business*.....			78.2	106	5.2.2	State of cluster development [†]			46.7	58
1.3.2	Ease of resolving insolvency*.....			29.4	116	5.2.3	GERD financed by abroad, %.....			n/a	n/a
						5.2.4	JV-strategic alliance deals/bn PPP\$ GDP.....			0.0	105
						5.2.5	Patent families 2+ offices/bn PPP\$ GDP.....			0.0	75
	Human capital & research			26.6	79	5.3	Knowledge absorption.....			30.7	63
2.1	Education.....			26.7	115	5.3.1	Intellectual property payments, % total trade [Ⓔ]			0.1	93
2.1.1	Expenditure on education, % GDP [Ⓔ]			2.5	111	5.3.2	High-tech net imports, % total trade [Ⓔ]			3.7	118
2.1.2	Government funding/pupil, secondary, % GDP/cap [Ⓔ]			5.8	92	5.3.3	ICT services imports, % total trade [Ⓔ]			2.7	13
2.1.3	School life expectancy, years.....			10.8	95	5.3.4	FDI net inflows, % GDP.....			5.4	30
2.1.4	PISA scales in reading, maths & science.....			376.4	66	5.3.5	Research talent, % in business enterprise.....			n/a	n/a
2.1.5	Pupil-teacher ratio, secondary.....			7.7	7						
2.2	Tertiary education.....			38.4	42		Knowledge & technology outputs			14.3	107
2.2.1	Tertiary enrolment, % gross.....			38.2	69	6.1	Knowledge creation.....			14.2	56
2.2.2	Graduates in science & engineering, % [Ⓔ]			23.4	37	6.1.1	Patents by origin/bn PPP\$ GDP [Ⓔ]			1.3	58
2.2.3	Tertiary inbound mobility, %.....			8.9	22	6.1.2	PCT patents by origin/bn PPP\$ GDP.....			n/a	n/a
2.3	Research & development (R&D).....			14.8	47	6.1.3	Utility models by origin/bn PPP\$ GDP.....			n/a	n/a
2.3.1	Researchers, FTE/mn pop.....			n/a	n/a	6.1.4	Scientific & technical articles/bn PPP\$ GDP.....			9.9	51
2.3.2	Gross expenditure on R&D, % GDP.....			n/a	n/a	6.1.5	Citable documents H index.....			10.4	60
2.3.3	Global R&D companies, top 3, mn US\$.....			0.0	40	6.2	Knowledge impact.....			8.5	[116]
2.3.4	QS university ranking, average score top 3*.....			29.6	39	6.2.1	Growth rate of PPP\$ GDP/worker, %.....			n/a	n/a
						6.2.2	New businesses/th pop. 15-64.....			n/a	n/a
	Infrastructure			38.5	86	6.2.3	Computer software spending, % GDP.....			0.1	102
3.1	Information & communication technologies (ICTs).....			58.0	68	6.2.4	ISO 9001 quality certificates/bn PPP\$ GDP.....			5.7	57
3.1.1	ICT access*.....			69.2	57	6.2.5	High- & medium-high-tech manufactures, %.....			n/a	n/a
3.1.2	ICT use*.....			62.0	41	6.3	Knowledge diffusion.....			20.3	63
3.1.3	Government's online service*.....			51.4	80	6.3.1	Intellectual property receipts, % total trade [Ⓔ]			0.1	58
3.1.4	E-participation*.....			49.2	89	6.3.2	High-tech net exports, % total trade [Ⓔ]			0.2	101
3.2	General infrastructure.....			20.6	119	6.3.3	ICT services exports, % total trade [Ⓔ]			2.6	43
3.2.1	Electricity output, kWh/cap.....			3,144.6	61	6.3.4	FDI net outflows, % GDP.....			1.8	37
3.2.2	Logistics performance*.....			30.3	81						
3.2.3	Gross capital formation, % GDP.....			n/a	n/a		Creative outputs			23.1	85
3.3	Ecological sustainability.....			37.0	68	7.1	Intangible assets.....			30.8	102
3.3.1	GDP/unit of energy use.....			9.8	53	7.1.1	Trademarks by origin/bn PPP\$ GDP [Ⓔ]			15.1	95
3.3.2	Environmental performance*.....			61.1	60	7.1.2	Industrial designs by origin/bn PPP\$ GDP.....			n/a	n/a
3.3.3	ISO 14001 environmental certificates/bn PPP\$ GDP.....			0.4	95	7.1.3	ICTs & business model creation [†]			44.8	114
						7.1.4	ICTs & organizational model creation [†]			41.4	108
	Market sophistication			44.5	76	7.2	Creative goods & services.....			16.7	76
4.1	Credit.....			29.2	92	7.2.1	Cultural & creative services exports, % total trade [Ⓔ]			0.6	24
4.1.1	Ease of getting credit*.....			40.0	101	7.2.2	National feature films/mn pop. 15-69.....			3.6	52
4.1.2	Domestic credit to private sector, % GDP.....			107.2	25	7.2.3	Entertainment & Media market/th pop. 15-69.....			3.3	49
4.1.3	Microfinance gross loans, % GDP.....			0.1	56	7.2.4	Printing & other media, % manufacturing.....			n/a	n/a
4.2	Investment.....			41.9	57	7.2.5	Creative goods exports, % total trade [Ⓔ]			0.8	50
4.2.1	Ease of protecting minority investors*.....			41.7	107	7.3	Online creativity.....			14.0	50
4.2.2	Market capitalization, % GDP.....			23.7	59	7.3.1	Generic top-level domains (TLDs)/th pop. 15-69.....			6.6	48
4.2.3	Venture capital deals/bn PPP\$ GDP.....			0.2	6	7.3.2	Country-code TLDs/th pop. 15-69.....			0.3	103
4.3	Trade, competition, & market scale.....			62.3	59	7.3.3	Wikipedia edits/mn pop. 15-69 [Ⓔ]			7.5	68
4.3.1	Applied tariff rate, weighted mean, %.....			2.3	54	7.3.4	Mobile app creation/bn PPP\$ GDP.....			44.1	11
4.3.2	Intensity of local competition [†]			77.7	16						
4.3.3	Domestic market scale, bn PPP\$.....			87.9	79						

NOTES: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question.

Ⓔ indicates that the country'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; see page 75 of this appendix for details.