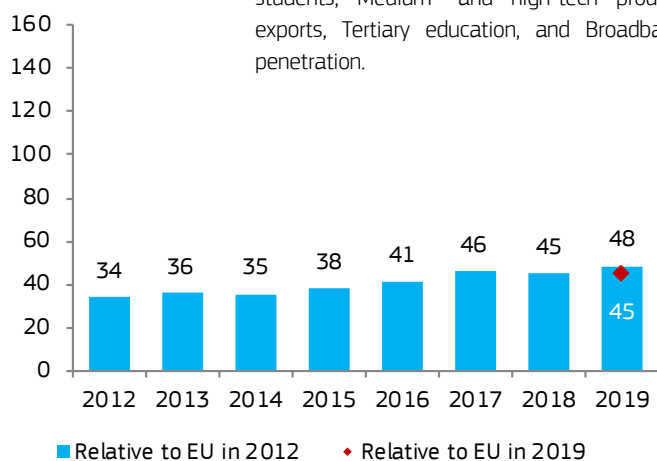




North Macedonia is a Modest Innovator.

Over time, performance has increased relative to that of the EU in 2012, most notably due to improved performance in Foreign doctorate students, Medium- and high-tech product exports, Tertiary education, and Broadband penetration.



Attractive research systems, Innovators and Firm investments, are the strongest innovation dimensions. North Macedonia scores particularly well on Foreign doctorate students, Medium and high-tech product exports, Non-R&D innovation expenditures, and Population with tertiary education. *Employment impacts, Finance and support and Intellectual assets* are the weakest innovation dimensions. Overall, North Macedonia's lowest indicator scores include Public-private co-publications, Private co-funding of public R&D expenditures, Design applications, and Sales of new-to-market and new-to-firm product innovations.

Structural differences with the EU are shown in the table below. North Macedonia shows the highest positive difference to the EU in FDI net inflows, Employment share in manufacturing and Turnover share SMEs, and the biggest negative difference in Top R&D spending enterprises, GDP per capita and Employment share high and medium high-tech manufacturing.

North Macedonia	Performance relative to EU		
	Relative to EU 2019 in 2019	2012	2019
SUMMARY INNOVATION INDEX	44.5	33.7	48.5
Human resources	38.2	29.2	44.0
New doctorate graduates	18.7	22.7	20.6
Population with tertiary education	74.0	35.5	94.2
Lifelong learning	15.5	30.0	16.7
Attractive research systems	81.0	19.3	92.6
International scientific co-publications	17.2	12.6	25.3
Most cited publications	44.8	10.1	44.8
Foreign doctorate students	218.9	44.7	252.3
Innovation-friendly environment §	50.8	56.3	88.4
Broadband penetration	47.8	70.0	110.0
Opportunity-driven entrepreneurship	N/A	N/A	N/A
Finance and support §	13.1	41.5	15.1
R&D expenditure in the public sector	12.3	33.1	12.0
Venture capital expenditures	N/A	N/A	N/A
Firm investments	61.8	70.9	80.3
R&D expenditure in the business sector	5.3	0.0	6.1
Non-R&D innovation expenditures	113.9	159.7	159.7
Enterprises providing ICT training	66.7	69.2	92.3
Innovators §	73.9	62.8	66.0
SMEs product/process innovations	73.6	68.6	73.3
SMEs marketing/organizational innovations	72.1	57.4	59.2
SMEs innovating in-house	N/A	N/A	N/A
Linkages	17.1	21.5	17.6
Innovative SMEs collaborating with others	61.1	71.9	60.7
Public-private co-publications	0.0	3.1	0.0
Private co-funding of public R&D exp.	0.0	0.0	0.0
Intellectual assets	14.3	2.5	13.4
PCT patent applications	28.0	0.0	26.0
Trademark applications	6.2	9.4	6.6
Design applications	1.5	0.6	1.3
Employment impacts §	6.7	18.1	7.2
Employment in knowledge-intensive activities	7.5	20.3	8.1
Employment fast-growing enterprises	N/A	N/A	N/A
Sales impacts	54.3	33.4	54.0
Medium and high-tech product exports	118.2	63.7	131.1
Knowledge-intensive services exports	23.7	31.4	24.5
Sales of new-to-market/firm innovations	4.1	3.4	3.4

The colours show normalised performance in 2019 relative to that of the EU in 2019: dark green: above 125%; light green: between 95% and 125%; yellow: between 50% and 95%; orange: below 50%. Normalised performance uses the data after a possible imputation of missing data and transformation of the data.

§ Due to missing data, the relative dimension score does not necessarily reflect that of the indicators.

	MK	EU
Performance and structure of the economy		
GDP per capita (PPS)	10,700	29,100
Average annual GDP growth (%)	1.88	1.84
Employment share manufacturing (NACE C) (%)	19.4	16.6
of which High and medium high-tech (%)	19.4	37.5
Employment share services (NACE G-N) (%)	30.8	41.4
of which Knowledge-intensive services (%)	21.0	34.3
Turnover share SMEs (%)	44.1	38.3
Turnover share large enterprises (%)	32.0	43.2
Foreign-controlled enterprises – share of value added (%)	n/a	11.1
Business and entrepreneurship		
Enterprise births (10+ employees) (%)	n/a	1.1
Total Entrepreneurial Activity (TEA) (%)	6.2	6.7
FDI net inflows (% GDP)	4.5	2.6
Top R&D spending enterprises per 10 million population	0.0	16.2
Buyer sophistication (1 to 7 best)	2.9	3.7
Governance and policy framework		
Ease of starting a business (0 to 100 best)	80.6	76.5
Basic-school entrepreneurial education and training (1 to 5 best)	2.1	1.9
Govt procurement of advanced technology products (1 to 7 best)	2.7	3.5
Rule of law (-2.5 to 2.5 best)	n/a	1.1
Demography		
Population size (millions)	2.1	446.2
Average annual population growth (%)	0.08	0.14
Population density (inhabitants/km ²)	83.3	108.6