

Table 1 presents performance data collected for evaluated countries for 2020.

Country	Symbol	C ₁	C ₂	C ₃	C ₄	C ₅	C ₆	C ₇	C ₈	C ₉
Belgium	BE	70.0	3.5	82.7	9.9	43.9	33.3	74.3	8.1	47.8
Bulgaria	BG	73.1	0.9	57.2	21.6	17.2	9.5	27.1	12.8	33.3
Czechia	CZ	79.7	2.0	64.8	16.2	37.5	24.5	67.8	7.6	35.0
Denmark	DK	77.8	3.0	70.7	37.2	15.3	13.2	32.5	9.3	49.8
Germany	DE	80.0	3.1	70.4	17.4	262.5	201.7	439.7	10.1	36.3
Estonia	EE	78.8	1.8	50.0	31.9	4.3	2.8	6.5	7.5	44.3
Ireland	IE	73.4	1.2	113.6	12.0	13.4	11.2	44.6	5.0	58.1
Greece	EL	61.1	1.5	90.8	19.7	19.7	14.3	44.3	3.8	43.9
Spain	ES	65.7	1.4	119.7	18.4	105.0	73.8	200.9	16.0	44.8
France	FR	72.1	2.4	83.1	17.2	208.4	130.2	341.1	8.0	48.8
Croatia	HR	66.9	1.3	75.2	28.5	7.8	6.5	16.8	2.2	34.7
Italy	IT	62.6	1.5	84.4	18.2	132.3	102.7	272.3	13.1	27.8
Cyprus	CY	74.9	0.9	153.8	13.8	2.2	1.6	4.3	11.5	59.8
Latvia	LV	76.9	0.7	46.0	41.0	4.3	3.9	9.0	7.2	49.2
Lithuania	LT	76.7	1.2	42.6	25.5	6.2	5.3	14.4	5.6	59.6
Luxembourg	LU	72.1	1.1	94.2	7.0	3.9	3.8	9.2	8.2	62.2
Hungary	HU	77.5	1.6	67.8	12.6	23.9	18.0	43.5	12.1	33.2
Malta	MT	77.3	0.7	96.1	8.5	0.7	0.5	1.4	12.6	39.8
Netherlands	NL	80.0	2.3	88.6	8.8	58.4	45.5	100.2	7.0	54.0
Austria	AT	74.8	3.2	102.7	33.6	29.7	26.1	50.7	8.1	41.6
Poland	PL	73.6	1.4	87.4	12.2	96.5	71.0	206.9	5.4	47.0
Portugal	PT	74.2	1.6	118.9	30.6	19.5	15.0	41.6	8.9	39.6
Romania	RO	70.8	0.5	46.8	24.3	30.9	23.5	75.5	15.6	26.4
Slovenia	SI	75.6	2.2	94.4	22.0	6.1	4.4	10.8	4.1	46.9
Slovakia	SK	72.5	0.9	59.2	16.9	15.2	10.3	21.8	7.6	39.7
Finland	FI	76.5	2.9	81.4	43.1	29.8	23.3	29.3	8.2	49.6
Sweden	SE	80.8	3.5	75.3	56.4	41.8	30.9	30.5	7.7	52.2
type		1	1	-1	1	-1	-1	-1	-1	1

Table 1. Decision matrix with performance data collected for 2020.

Table 2 includes target data for considered countries in accordance with the Europe 2020 strategy.

Country	Symbol	C ₁	C ₂	C ₃	C ₄	C ₅	C ₆	C ₇	C ₈	C ₉
Belgium	BE	73.2	3.0	80	13	43.7	32.5	68.3	9.5	47
Bulgaria	BG	76	1.5	80	16	16.9	8.6	26.5	11	36
Czechia	CZ	75	1.0	80	13	39.6	25.3	67.2	5.5	32
Denmark	DK	80	3.0	80	30	17.4	14.4	32.1	10	40
Germany	DE	77	3.0	80	18	276.6	194.3	410.9	10	42
Estonia	EE	76	3.0	80	25	6.5	2.8	6.0	9.5	40
Ireland	IE	69	2.0	80	16	13.9	11.7	37.7	8	60
Greece	EL	70	1.2	80	18	24.7	18.4	60.1	10	32
Spain	ES	74	2.0	80	20	119.8	80.1	212.4	15	44
France	FR	75	3.0	80	23	219.9	131.4	342.5	9.5	50
Croatia	HR	62.9	1.4	80	20	11.2	7	19.3	4	35
Italy	IT	67	1.5	80	17	158.0	124	291.0	16	26
Cyprus	CY	75	0.5	80	13	2.2	1.8	4.0	10	46
Latvia	LV	73	1.5	80	40	5.4	4.5	10.0	10	34
Lithuania	LT	72.8	1.9	80	23	6.5	4.3	15.2	9	48.7
Luxembourg	LU	73	2.3	80	11	4.5	4.2	8.1	10	66
Hungary	HU	75	1.8	80	13	24.1	14.4	52.8	10	34
Malta	MT	70	2.0	80	10	0.7	0.5	1.2	10	33
Netherlands	NL	80	2.5	80	14	60.7	52.2	107.4	8	40
Austria	AT	77	3.8	80	34	31.5	25.1	47.8	9.5	38
Poland	PL	71	1.7	80	15	96.4	71.6	205.2	4.5	45
Portugal	PT	75	2.7	80	31	22.5	17.4	49.1	10	40
Romania	RO	70	2.0	80	24	43.0	30.3	89.8	11.3	26.7
Slovenia	SI	75	3.0	80	25	7.3	5.1	12.3	5	40
Slovakia	SK	72	1.2	80	14	16.4	9	26.0	6	40
Finland	FI	78	4.0	80	38	35.9	26.7	28.5	8	42
Sweden	SE	80	4.0	80	49	43.4	30.3	36.1	7	45

Table 2. Matrix with target data for considered countries.

Table 3 provides preference values achieved by evaluated countries employing MT-TOPSIS and benchmarking MCDA methods based on reference solutions: TOPSIS, SPOTIS and VIKOR.

Symbol	MT-TOPSIS	TOPSIS	SPOTIS	VIKOR	Symbol	MT-TOPSIS	TOPSIS	SPOTIS	VIKOR
BE	0.9076	0.5794	0.3757	0.5947	LT	0.9153	0.6797	0.2405	0.3178
BG	0.8550	0.4920	0.4713	0.6416	LU	0.8349	0.5660	0.3797	0.6396
CZ	0.9224	0.5718	0.3772	0.5189	HU	0.9110	0.5086	0.4514	0.6256
DK	0.9475	0.7179	0.2409	0.1609	MT	0.7916	0.4852	0.4837	0.7138
DE	0.8973	0.4631	0.5796	0.6755	NL	0.9293	0.6077	0.3515	0.5892
EE	0.8605	0.6696	0.2664	0.2164	AT	0.8729	0.6321	0.3284	0.3314
IE	0.8352	0.5766	0.3761	0.5655	PL	0.9173	0.5157	0.4752	0.6534
EL	0.7818	0.5158	0.4475	0.6929	PT	0.7838	0.5414	0.4238	0.4618
ES	0.6469	0.3613	0.6452	0.8654	RO	0.7463	0.4379	0.5551	0.8676
FR	0.8362	0.4800	0.5375	0.6378	SI	0.8778	0.6417	0.3046	0.3570
HR	0.9803	0.5535	0.3896	0.5367	SK	0.9251	0.5385	0.4148	0.5314
IT	0.8010	0.3117	0.7002	0.9697	FI	0.8704	0.7247	0.2479	0.1122
CY	0.7394	0.5168	0.4517	0.6339	SE	0.9416	0.7995	0.1524	0.0000
LV	0.9049	0.6541	0.2728	0.4499					

Table 3. Comparison of preference values provided by MT-TOPSIS and benchmarking methods.

Table 4 provides rankings achieved by evaluated countries employing MT-TOPSIS and benchmarking MCDA methods based on reference solutions: TOPSIS, SPOTIS and VIKOR.

Symbol	MT-TOPSIS	TOPSIS	SPOTIS	VIKOR	Symbol	MT-TOPSIS	TOPSIS	SPOTIS	VIKOR
BE	10	10	10	15	LT	8	4	2	5
BG	17	21	20	20	LU	20	13	13	19
CZ	6	12	12	10	HU	9	20	18	16
DK	2	3	3	3	MT	22	22	22	24
DE	12	24	25	22	NL	4	9	9	14
EE	16	5	5	4	AT	14	8	8	6
IE	19	11	11	13	PL	7	19	21	21
EL	24	18	17	23	PT	23	15	16	9
ES	27	26	26	25	RO	25	25	24	26
FR	18	23	23	18	SI	13	7	7	7
HR	1	14	14	12	SK	5	16	15	11
IT	21	27	27	27	FI	15	2	4	2
CY	26	17	19	17	SE	3	1	1	1
LV	11	6	6	8					

Table 4. Comparison of rankings provided by MT-TOPSIS and benchmarking methods.