



---

*Research article*

## **Decent Work and Economic Growth in the European Union. A partial order analysis of Eurostat SDG 8 data**

Lars Carlsen\*

Awareness Center, Linkøpingvej 35, Trekroner, DK-4000 Roskilde, Denmark

\* **Correspondence:** Email: [LC@AwarenessCenter.dk](mailto:LC@AwarenessCenter.dk); Tel: +4520480213.

---

### **Supplementary**

#### **Appendix 1. ISO 3166-1 Country codes.**

Country	Code	Country	Code
Belgium	BEL	Lithuania	LTU
Bulgaria	BGR	Luxembourg	LUX
Czechia	CZE	Hungary	HUN
Denmark	DNK	Malta	MLT
Germany	DEU	Netherlands	NLD
Estonia	EST	Austria	AUT
Ireland	IRL	Poland	POL
Greece	GRC	Portugal	PRT
Spain	ESP	Romania	ROU
France	FRA	Slovenia	SVN
Croatia	HRV	Slovakia	SVK
Italy	ITA	Finland	FIN
Cyprus	CYP	Sweden	SWE
Latvia	LVA	EU 27 countries	EU27

**Appendix 2.** Indicator values for the 5 main indicators for the years 2010, 2015 and 2019 respectively.

ID	2010					2015					2019				
	GDP	INV	NEET	EmpR	LtUR	GDP	INV	NEET	EmpR	LtUR	GDP	INV	NEET	EmpR	LtUR
BEL	34360	22.12	-13	67.6	-4.0	34360	22.96	-14.4	67.2	-4.4	35940	24.16	-11.8	70.5	-2.3
BGR	5790	22.21	-23.5	64.7	-4.7	5790	21.01	-22.2	67.1	-5.6	6840	18.52	-16.7	75.0	-2.4
CZE	16290	27.15	-12.9	70.4	-3.0	16290	26.54	-11.8	74.8	-2.4	18330	26.25	-9.8	80.3	-0.6
DNK	45630	18.11	-8.2	74.9	-1.4	45630	19.85	-8.5	75.4	-1.6	49720	21.95	-9.6	78.3	-0.8
DEU	34130	19.54	-10.8	75.0	-3.3	34130	20.02	-8.5	78.0	-2.0	35840	21.69	-7.6	80.6	-1.2
EST	13330	21.06	-18.1	66.8	-7.6	13330	24.32	-12.5	76.5	-2.4	15760	26.21	-9.8	80.2	-0.9
IRL	49510	17.55	-21.7	65.5	-6.9	49510	24.07	-16.5	69.9	-5.3	60170	45.6	-11.4	75.1	-1.6
GRC	16870	16.56	-18.6	63.8	-5.7	16870	10.79	-24.1	54.9	-18.2	17750	10.14	-17.7	61.2	-12.2
ESP	23080	21.79	-20	62.8	-7.3	23080	18.01	-19.4	62.0	-11.4	25200	19.87	-14.9	68.0	-5.3
FRA	31540	22.11	-14.8	68.9	-3.9	31540	21.5	-14.7	69.5	-4.6	33270	23.63	-13	71.6	-3.4
HRV	10630	21.18	-17.6	62.1	-6.6	10630	19.55	-19.9	60.6	-10.2	12450	21.02	-14.2	66.7	-2.4
ITA	25640	20.02	-22	61.0	-4.0	25640	16.94	-25.7	60.5	-6.9	26910	18.06	-22.2	63.5	-5.6
CYP	21020	22.45	-12.9	75.0	-1.3	21020	12.88	-18.5	67.9	-6.8	24530	19.41	-14.1	75.7	-2.1
LVA	10790	19.12	-20.7	64.3	-8.8	10790	21.87	-13.8	72.5	-4.5	12510	22.19	-10.3	77.4	-2.4
LTU	11620	16.86	-17	64.3	-7.4	11620	19.61	-11.8	73.3	-3.9	14010	21.37	-10.9	78.2	-1.9
LUX	81300	17.61	-6.1	70.7	-1.3	81300	18.21	-7.6	70.9	-1.9	83640	16.81	-6.5	72.8	-1.3
HUN	11210	20.11	-17.7	59.9	-5.5	11210	22.19	-15.1	68.9	-3.1	13270	27.23	-13.2	75.3	-1.1
MLT	19920	21.39	-12.2	60.1	-4.1	19920	24.82	-11.8	69.0	-2.7	21960	18.88	-7.9	76.8	-0.9
NLD	39170	19.7	-6.1	76.2	-1.3	39170	22.11	-6.7	76.4	-3.0	41870	20.99	-5.7	80.1	-1.0
AUT	36140	21.6	-9.1	73.9	-1.2	36140	22.7	-8.7	74.3	-1.7	38170	24.68	-8.3	76.8	-1.1
POL	10890	20.26	-14.8	64.3	-3.0	10890	20.07	-14.6	67.8	-3.0	13000	18.52	-12	73.0	-0.7
PRT	16620	20.57	-13.6	70.3	-5.7	16620	15.52	-13.2	69.1	-7.2	18630	18.21	-9.2	76.1	-2.8

*Continued on next page*

ID	2010					2015					2019				
	GDP	INV	NEET	EmpR	LtUR	GDP	INV	NEET	EmpR	LtUR	GDP	INV	NEET	EmpR	LtUR
ROU	7290	26.07	-18.9	64.8	-2.4	7290	24.79	-20.9	66.0	-3.0	9110	23.63	-16.8	70.9	-1.7
SVN	17990	21.08	-9.4	70.3	-3.2	17990	18.65	-12.3	69.1	-4.7	20700	19.64	-8.8	76.4	-1.9
SVK	14270	21.11	-19	64.6	-9.2	14270	23.72	-17.2	67.7	-7.6	15860	21.4	-14.5	73.4	-3.4
FIN	34460	22.3	-10.5	73.0	-2.0	34460	21.23	-12.4	72.9	-2.3	37230	23.87	-9.5	77.2	-1.2
SWE	42580	22.49	-8.3	78.1	-1.6	42580	23.75	-7.4	80.5	-1.5	43920	24.44	-6.3	82.1	-0.9
EU27	24890	21.03	-15.4	67.8	-4.0	25920	20.59	-15.2	69.1	-5.0	27970	22.45	-12.6	73.1	-1.6

---

**Appendix 3.** Investment profiles for the years 2010, 2015 and 2019 respectively.

ID	2010			2015			2019		
	INV-bus	INV-gov	INV-hh	INV-bus	INV-gov	INV-hh	INV-bus	INV-gov	INV-hh
BEL	13.88	2.24	6	15.01	2.49	5.46	15.75	2.63	5.79
BGR	16.36	4.59	1.26	13.61	6.64	0.76			
CZE	15.82	5.07	6.26	16.69	5.11	4.74	16.83	4.39	5.03
DNK	10.4	3.29	4.43	12.29	3.63	3.93	14.06	3.23	4.67
DEU	11.38	2.36	5.81	11.90	2.14	5.98	12.71	2.48	6.49
EST	12.8	4.76	3.51	14.55	5.18	4.58	15.94	4.95	5.32
IRL	10.59	3.39	3.56	20.58	1.78	1.71	41.27	2.3	2.03
GRC	6.42	3.72	6.42	5.09	3.87	1.83	5.72	2.42	2.00
ESP	10.84	4.75	6.2	12.61	2.53	2.88	14.39	2.09	3.38
FRA	11.84	4.16	6.11	12.53	3.41	5.56	13.99	3.65	5.98
HRV	13.36	3.89	3.93	12.80	3.58	3.17	13.30	4.3	3.41
ITA	9.87	3.1	7.05	9.38	2.4	5.15	10.43	2.3	5.32
CYP	8.76	4.16	9.54	6.22	2.18	4.47	7.87	2.44	9.10
LVA	11.85	4.86	2.41	13.45	4.81	3.61	13.65	5.02	3.51
LTU	8.6	4.97	3.29	11.73	3.69	4.19	13.85	3.08	4.44
LUX	9.17	4.74	3.7	9.87	3.89	4.45			
HUN	12.51	3.63	3.97	12.49	6.52	3.18	16.75	6.06	4.42
MLT									
NLD	10.22	4.17	5.3	13.64	3.56	4.9	11.27	3.37	6.36
AUT	13.05	3.25	5.3	14.69	2.98	5.03	16.22	3.03	5.43
POL	9.62	5.66	4.98	10.94	4.53	4.6	10.85	4.28	3.39
PRT	10.74	5.28	4.56	10.09	2.25	3.17	12.33	1.88	4.00
ROU	14.66	5.72	5.7	14.17	5.18	5.45	15.85	3.43	4.35
SVN	11.69	4.96	4.44	10.34	4.76	3.55	11.95	3.79	3.89
SVK	13.49	3.66	3.96	13.71	6.39	3.61	13.50	3.6	4.31
FIN	11.87	3.61	6.82	11.34	3.74	6.15	12.36	4.26	7.24
SWE	14.88	4.47	3.15	16.54	4.15	3.07	16.39	4.86	3.19
EU27	11.59	3.62	5.83	12.66	3.01	4.91	14.12	3.02	5.30

---

**Appendix 4. Total employment situation year 2010.**

ID	Total			Males			Females		
	NEET	EmpR	LtUR	NEET	EmpR	LtUR	NEET	EmpR	LtUR
BEL	-13	67.6	-4.0	-11.8	73.5	-4	-14.1	61.6	-4.1
BGR	-23.5	64.7	-4.7	-21.2	68.6	-5	-25.8	60.8	-4.4
CZE	-12.9	70.4	-3.0	-8.3	79.6	-2.6	-17.7	60.9	-3.5
DNK	-8.2	74.9	-1.4	-8.6	77.7	-1.7	-7.7	72	-1.1
DEU	-10.8	75.0	-3.3	-8.7	80.4	-3.5	-12.9	69.7	-3
EST	-18.1	66.8	-7.6	-16.5	67.8	-9.3	-19.7	65.9	-5.8
IRL	-21.7	65.5	-6.9	-23.2	69.9	-9	-20.3	61.1	-4.3
GRC	-18.6	63.8	-5.7	-14.1	76	-3.9	-23.2	51.8	-8.1
ESP	-20	62.8	-7.3	-20.3	69.2	-7.1	-19.7	56.3	-7.6
FRA	-14.8	68.9	-3.9	-13.3	73.6	-3.8	-16.2	64.3	-4.1
HRV	-17.6	62.1	-6.6	-18	67.9	-5.9	-17.3	56.4	-7.3
ITA	-22	61.0	-4.0	-19.3	72.7	-3.5	-24.7	49.5	-4.7
CYP	-12.9	75.0	-1.3	-10.8	81.7	-1.3	-14.8	68.8	-1.3
LVA	-20.7	64.3	-8.8	-20.5	64	-10.9	-21	64.5	-6.7
LTU	-17	64.3	-7.4	-19.3	63.5	-9	-14.5	65	-5.9
LUX	-6.1	70.7	-1.3	-5.1	79.2	-1.2	-7	62	-1.3
HUN	-17.7	59.9	-5.5	-14.4	65.5	-5.7	-21.2	54.6	-5.2
MLT	-12.2	60.1	-4.1	-8.4	78.2	-4.1	-16.1	41.6	-4.1
NLD	-6.1	76.2	-1.3	-5.3	82.5	-1.2	-6.9	69.8	-1.5
AUT	-9.1	73.9	-1.2	-7.7	79	-1.4	-10.6	68.8	-1
POL	-14.8	64.3	-3.0	-12.3	71.3	-2.9	-17.4	57.3	-3.2
PRT	-13.6	70.3	-5.7	-11.6	75.4	-5.1	-15.6	65.6	-6.3
ROU	-18.9	64.8	-2.4	-14.7	73.1	-2.8	-23.3	56.5	-1.9
SVN	-9.4	70.3	-3.2	-8.9	74	-3.4	-9.9	66.5	-2.9
SVK	-19	64.6	-9.2	-16.2	71.9	-9	-21.9	57.4	-9.5
FIN	-10.5	73.0	-2.0	-9.6	74.5	-2.5	-11.5	71.5	-1.4
SWE	-8.3	78.1	-1.6	-7.7	81.1	-1.7	-8.8	75	-1.3
EU27	-15.4	67.8	-4.0	-13.5	74.5	-4.0	-17.2	61.2	-4.0

**Appendix 5. Total employment situation year 2015.**

ID	Total			Males			Females		
	NEET	EmpR	LtUR	NEET	EmpR	LtUR	NEET	EmpR	LtUR
BEL	-14.4	67.2	-4.4	-13.9	71.3	-4.8	-15	63	-3.9
BGR	-22.2	67.1	-5.6	-19.8	70.4	-6.1	-24.7	63.8	-5
CZE	-11.8	74.8	-2.4	-6.6	83	-2	-17.2	66.4	-2.9
DNK	-8.5	75.4	-1.6	-8.2	79.3	-1.6	-8.9	71.5	-1.6
DEU	-8.5	78.0	-2.0	-6.6	82.3	-2.3	-10.5	73.6	-1.7
EST	-12.5	76.5	-2.4	-7.9	80.5	-2.5	-17.3	72.6	-2.2
IRL	-16.5	69.9	-5.3	-16.4	76.1	-6.4	-16.6	63.8	-4
GRC	-24.1	54.9	-18.2	-22.2	64	-15.8	-26.1	46	-21.2
ESP	-19.4	62.0	-11.4	-19.2	67.6	-10.5	-19.7	56.4	-12.4
FRA	-14.7	69.5	-4.6	-13.5	73.2	-4.8	-15.8	66	-4.3
HRV	-19.9	60.6	-10.2	-20.5	65.4	-10.1	-19.3	55.9	-10.4
ITA	-25.7	60.5	-6.9	-24.2	70.6	-6.6	-27.1	50.6	-7.4
CYP	-18.5	67.9	-6.8	-17.7	72.3	-7.4	-19.2	64	-6.2
LVA	-13.8	72.5	-4.5	-12.2	74.6	-5.4	-15.4	70.5	-3.6
LTU	-11.8	73.3	-3.9	-10.7	74.6	-4.4	-13	72.2	-3.4
LUX	-7.6	70.9	-1.9	-6.5	76.7	-1.9	-8.7	65	-1.9
HUN	-15.1	68.9	-3.1	-11.1	75.8	-3.1	-19.2	62.1	-3.1
MLT	-11.8	69.0	-2.7	-8.8	82.1	-3.2	-15	55.3	-1.9
NLD	-6.7	76.4	-3.0	-5.8	81.9	-3	-7.6	70.8	-2.9
AUT	-8.7	74.3	-1.7	-8.2	78.4	-1.9	-9.2	70.2	-1.4
POL	-14.6	67.8	-3.0	-12.6	74.7	-2.9	-16.7	60.9	-3
PRT	-13.2	69.1	-7.2	-12.1	72.6	-7.3	-14.4	65.9	-7.2
ROU	-20.9	66.0	-3.0	-16.1	74.7	-3.3	-26.1	57.2	-2.6
SVN	-12.3	69.1	-4.7	-11.7	73.3	-4.1	-13	64.7	-5.4
SVK	-17.2	67.7	-7.6	-13.2	75	-6.9	-21.4	60.3	-8.3
FIN	-12.4	72.9	-2.3	-11.6	73.9	-2.7	-13.1	71.8	-1.8
SWE	-7.4	80.5	-1.5	-7.2	82.5	-1.7	-7.6	78.3	-1.2
EU27	-15.2	69.1	-5.0	-13.6	74.9	-4.9	-16.9	63.3	-5.0

**Appendix 6. Total employment situation year 2019.**

ID	Total			Males			Females		
	NEET	EmpR	LtUR	NEET	EmpR	LtUR	NEET	EmpR	LtUR
BEL	-11.8	70.5	-2.3	-11.2	74.5	-2.6	-12.5	66.5	-2.1
BGR	-16.7	75.0	-2.4	-13.2	79.3	-2.6	-20.3	70.7	-2.2
CZE	-9.8	80.3	-0.6	-4	87.7	-0.6	-15.9	72.7	-0.7
DNK	-9.6	78.3	-0.8	-9.5	81.9	-0.8	-9.6	74.7	-0.9
DEU	-7.6	80.6	-1.2	-5.9	84.6	-1.4	-9.5	76.6	-1
EST	-9.8	80.2	-0.9	-6	84	-1	-13.8	76.3	-0.8
IRL	-11.4	75.1	-1.6	-10.5	81.4	-1.9	-12.4	69	-1.2
GRC	-17.7	61.2	-12.2	-16.4	71.3	-9.6	-19.1	51.3	-15.4
ESP	-14.9	68.0	-5.3	-14.4	74	-4.4	-15.4	62.1	-6.5
FRA	-13	71.6	-3.4	-12.2	75.3	-3.4	-13.8	68.1	-3.3
HRV	-14.2	66.7	-2.4	-12.2	72	-2.3	-16.3	61.5	-2.4
ITA	-22.2	63.5	-5.6	-20.2	73.4	-5.1	-24.3	53.8	-6.2
CYP	-14.1	75.7	-2.1	-12.2	81.7	-1.8	-15.9	70.1	-2.3
LVA	-10.3	77.4	-2.4	-10	79.3	-2.9	-10.6	75.5	-1.9
LTU	-10.9	78.2	-1.9	-10.9	79	-2	-11	77.4	-1.8
LUX	-6.5	72.8	-1.3	-7.1	77.2	-1.3	-5.9	68.1	-1.3
HUN	-13.2	75.3	-1.1	-8.7	83.1	-1.1	-17.9	67.6	-1.1
MLT	-7.9	76.8	-0.9	-6.3	86.5	-1.2	-9.6	65.8	-0.5
NLD	-5.7	80.1	-1.0	-5.6	84.8	-1	-5.8	75.5	-1
AUT	-8.3	76.8	-1.1	-6.8	81.2	-1.2	-9.8	72.4	-1
POL	-12	73.0	-0.7	-7.6	80.7	-0.7	-16.6	65.3	-0.7
PRT	-9.2	76.1	-2.8	-8.3	79.9	-2.6	-10.1	72.7	-3
ROU	-16.8	70.9	-1.7	-11.8	80.3	-1.9	-22.1	61.3	-1.4
SVN	-8.8	76.4	-1.9	-6.6	79.7	-1.8	-11.2	72.9	-2.1
SVK	-14.5	73.4	-3.4	-9.7	79.9	-3.4	-19.5	66.9	-3.3
FIN	-9.5	77.2	-1.2	-8.6	78.5	-1.4	-10.4	75.8	-1
SWE	-6.3	82.1	-0.9	-6	84.4	-1	-6.6	79.7	-0.8
EU27	-12.6	73.1	-1.6	-10.8	79.0	-2.6	-14.6	67.3	-2.9



**AIMS Press**

© 2021 the Author(s), licensee AIMS Press. This is an open access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>)