

The concept of productivity

Labour productivity can be calculated as the ratio of annual value added at current prices to hours worked in a given country. In order to avoid the impact of price changes on labour productivity, real labour productivity is calculated as the ratio of annual value added at constant prices to hours worked in the country, the evolution of which in the EU Member States is reviewed in this

assessment. Figure 2 shows labour productivity per person where Lithuania ranks higher compared with labour productivity per hour worked. The data show that in 2021 labour productivity was the highest in WE countries. These were followed by the CEE countries, including Lithuania. Greece and Bulgaria showed the lowest results (see p.8 for WE and CEE country groups).

Fig. 1 Labour productivity per hour worked (%)

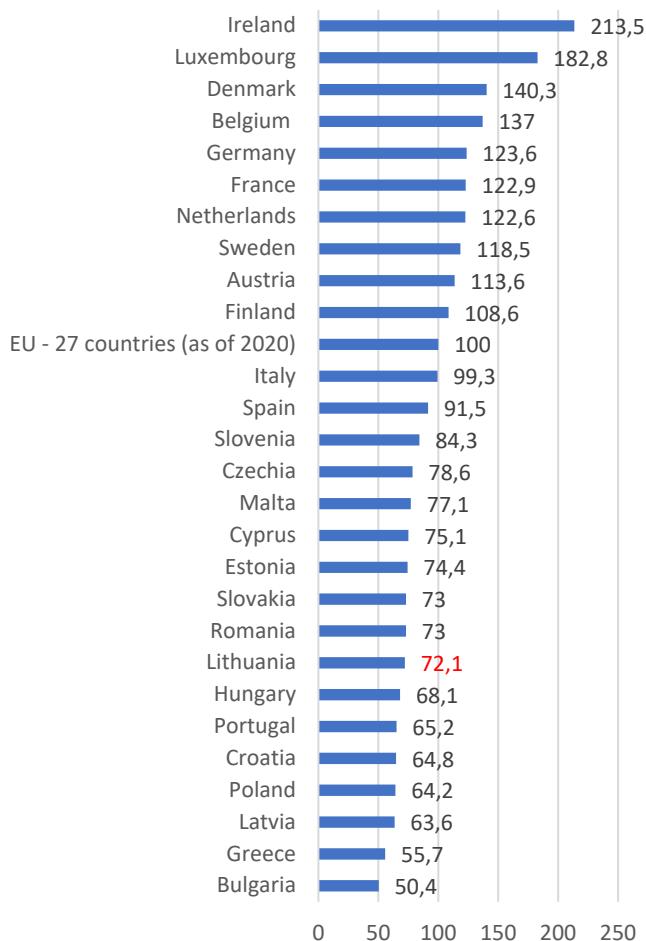
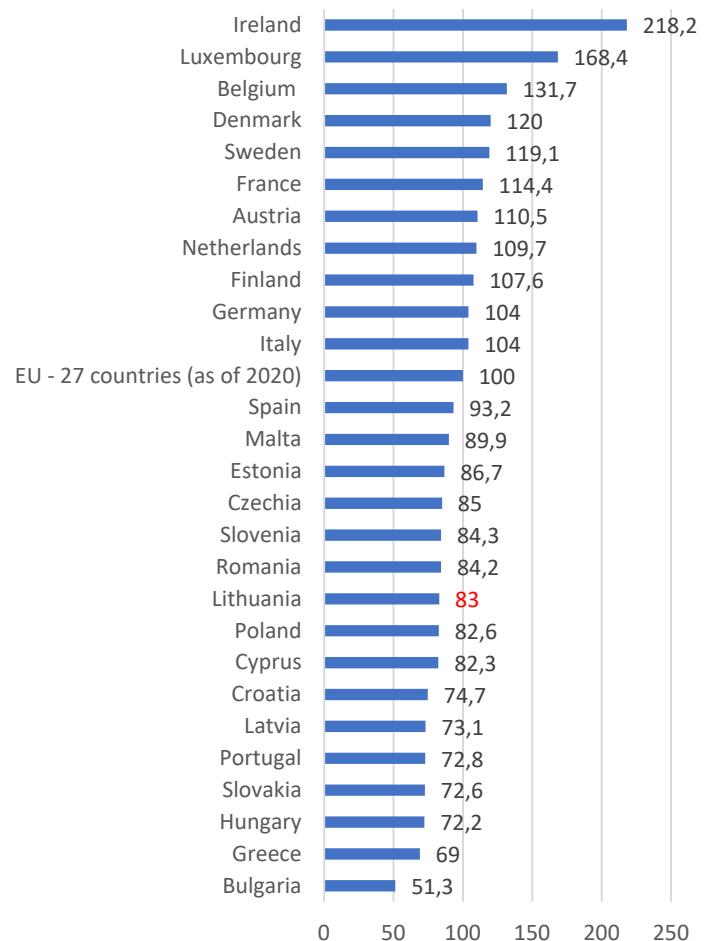


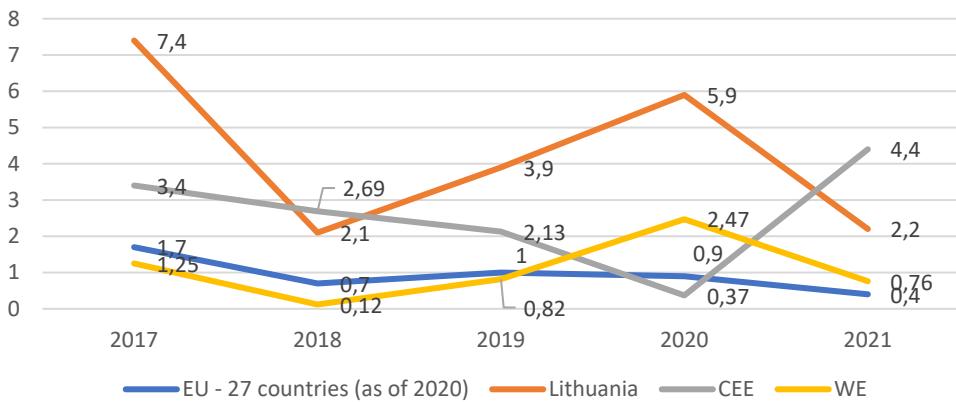
Fig.2 Labour productivity per employee (%)



Source: Eurostat;

Source: Eurostat;

Fig. 3 Change in labour productivity per hour worked (%)



Source: Eurostat; EIM calculations

The leaders in terms of labour productivity in 2021 per hour worked and per employee were Ireland, Luxembourg, Belgium and Denmark. Figure 3 shows that Lithuania's labour productivity growth remains above the WE and EU average. The data show that Lithuania did not lose its 2017-2021 position, but nor did it substantially improve, with the exception of 2020 when labour productivity change per hour worked reached 5.9% and outdid all groups of countries analysed. In 2020-2021 Lithuania ranked 20th in terms of labour productivity per hour worked (see Table 2).

In 2020, labour productivity growth in the EU was driven by a sharper fall in working hours rather than a contraction in real value added. There was a widening gap in labour productivity between groups of EU Member States with higher labour

productivity levels, in particular for the leading countries in terms of labour productivity growth and groups of Member States with lower labour productivity. This was mainly due to the negative impact of the COVID-19 pandemic, including the ability of countries to adapt and operate in a COVID-19 environment (e.g. volume of aid, ability to work in a manner not involving close contact).

In 2021, Lithuania's labour productivity change was 2.2%, exceeding both the average of the EU27 average (0.4%) and of the WE country group (0.76%), but it was still lower than in the leading CEE countries in terms of labour productivity.



Progress in increasing labour productivity is limited, with no loss of position in the EU, but no substantial improvement either. In 2017-2019, Lithuania ranked 21st in terms of labour productivity and it reached the 20th position in 2020-2021 (see Table 1).

Lithuania's labour productivity growth needs to accelerate significantly in order to achieve sustainable growth convergence with the old EU Member States.

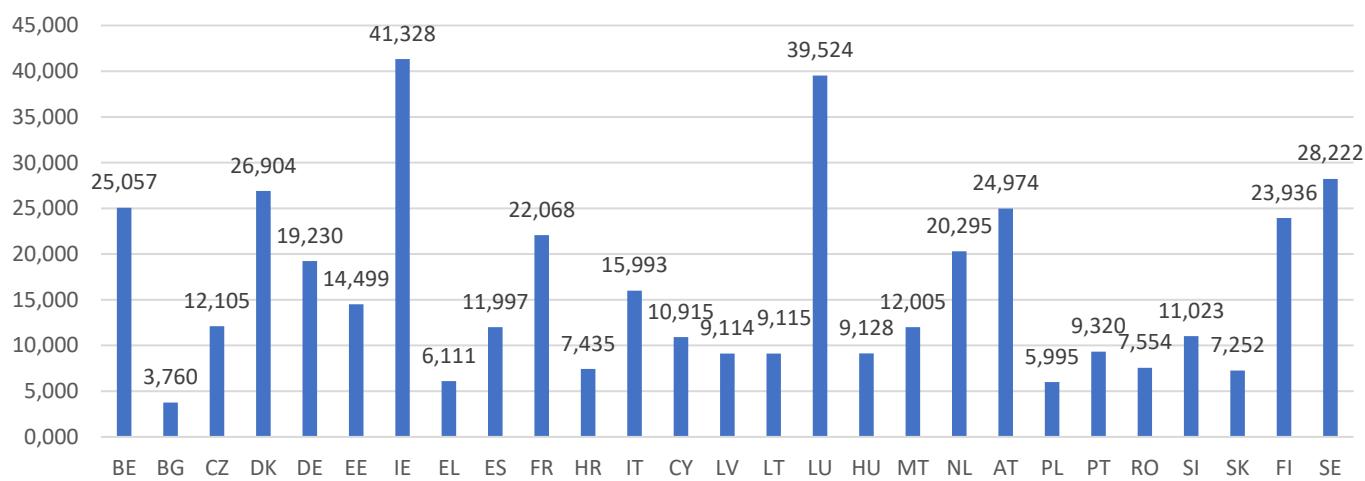
Labour productivity and investment

Assessment of the labour productivity developments in Lithuania and the EU

Investment has a positive impact on labour productivity. Labour productivity is higher in those groups of Member States where investment per employee is higher. The largest investment per employee was in EU Member States that are labour productivity leaders, with Ireland investing the most per employee at EUR 41 328 in 2021. In 2021, investment in Lithuania per employee amounted to EUR 9 115. This placed it 20th out of the 27 EU Member States (see Table 3). Interestingly, Lithuania gained two positions in 2021 compared with 2020.

COVID-19 contributed to the low growth of investment in almost all EU27 countries in 2021 compared with 2020 (see Table 1). When considered from a longer-term perspective, average five-yearly growth in investment per employee in the EU Member States that are leaders in terms of labour productivity (see table 3) remains strong, so there will be no significant convergence with them in the near future.

Fig. 4 Data on investment per employee in 2021 (EUR thousand)



Source: Eurostat;

Table 1: Changes in investment in 2021 compared with 2020 (%).

Change	EU27	Change	EU27
0.092	BE	0.132	LT
-0.011	BG	0.119	LU
0.080	CZ	0.144	HU
0.095	DK	0.207	MT
0.065	DE	0.068	NL
0.060	EE	0.128	AT
-0.372	IE	0.017	PL
0.219	EL	0.132	PT
0.048	ES	0.116	RO
0.144	FR	0.197	SI
0.077	HR	0.024	SK
0.194	IT	0.038	FI
0.002	CY	0.140	SE
0.071	LV		

Source: Eurostat

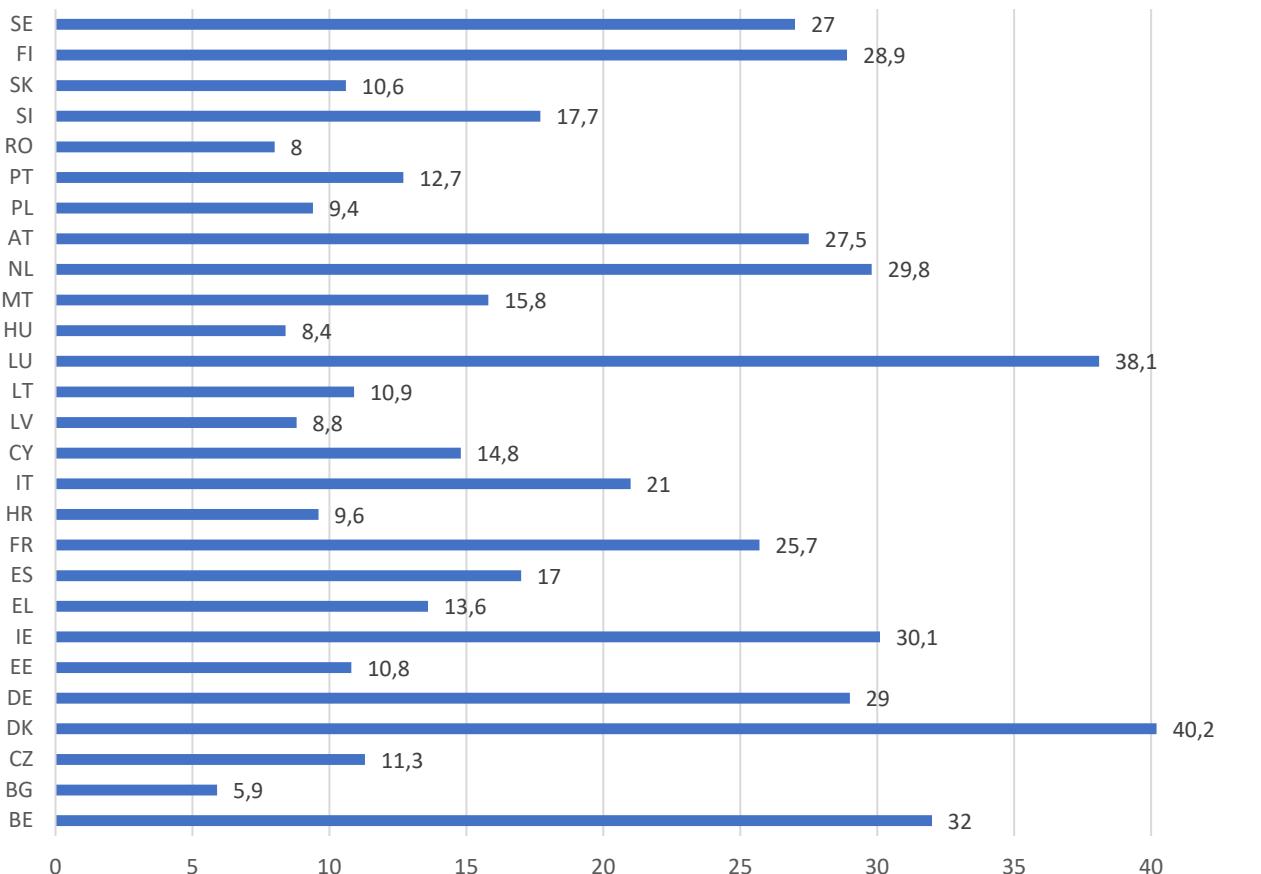
Assessment of the labour productivity developments in Lithuania and the EU

Labour productivity and remuneration

Higher remuneration is associated with higher labour productivity. This is reflected in correlation calculations. The five leading countries in terms of remuneration are Denmark, Luxembourg, Belgium, Ireland and the Netherlands. Lithuania ranks 19th. Estonia, Poland and Latvia ranked 17th, 24th and 25th respectively in 2021 in terms of labour productivity, and

20th, 23rd and 24th respectively in terms of remuneration. Estonian workers earn more than Latvian workers, but less than Lithuanian workers (19th), and Lithuanian workers earn more than Polish workers (see Table 5). There is a clear trend towards higher nominal remuneration in countries with higher labour productivity. Bulgaria has the lowest labour productivity and remuneration, while Luxembourg and Denmark have the highest labour productivity and remuneration.

Fig. 5 Nominal remuneration per hour worked in EU27 in 2021 (EUR)



Source: Eurostat; The country abbreviations used in this assessment are explained on page 8.

Assessment of the labour productivity developments in Lithuania and the EU

Annex

Table 2: EU-27* ranking in terms of labour productivity per hour worked, 2000-2021

Year/ Ranking	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	
1	LU	IE	IE																				
2	DK	IE	IE	IE	IE	IE	IE	LU	LU														
3	BE	BE	BE	BE	BE	SE	SE	BE	IE	IE	DK	IE	IE	IE	DK	DK							
4	NL	NL	IE	IE	SE	SE	BE	BE	SE	BE	BE	SE	BE										
5	IE	IE	NL	SE	IE	IE	NL	IE	IE	SE	SE	BE	DE										
6	SE	FR	FR	NL	NL	NL	IE	NL	FR	FR													
7	FR	SE	SE	FR	FR	FR	FI	FI	FR	FI	FR	NL	NL										
8	FI	FR	FR	FI	FR	FI	FI	FI	DE	DE	FI	FI	FI	FI	FI	DE	SE						
9	DE	AT	DE	DE	DE	DE	FI	FI	DE	DE	DE	DE	DE	FI	AT								
10	AT	DE	AT	FI																			
11	IT	IT																					
12	ES	ES																					
13	CY	SI																					
14	EL	EL	EL	EL	EL	EL	SI	SI	SI	EL	SI	SI	SI	SI	SI	MT	MT	MT	MT	MT	SI	SI	CZ
15	MT	SI	SI	MT	MT	SI	EL	EL	SI	EL	MT	MT	MT	SI	MT	MT	MT						
16	SI	MT	MT	SI	SI	MT	MT	MT	MT	MT	EL	PT	PT	PT	PT	SK	SK	SK	SK	SK	SK	CY	
17	PT	EL	EL	SK	SK	PT	PT	PT	EE	EE	EE	EE	EE										
18	CZ	SK	SK	SK	SK	SK	SK	EL	EL	EL	CZ	EE	PT	PT	SK	PT	SK						
19	SK	CZ	EL	CZ	CZ	CZ	CZ	CZ	CZ	RO													
20	HR	HR	HR	EE	EL	EL	LT	LT															
21	EE	EE	EE	HR	HR	HR	HR	HU	HU	HU	HU	LT	LT	LT	HR	LT	LT	LT	LT	LT	EL	HR	
22	HU	HR	HR	LT	LT	HU	HR	HU	HR	LT	LV	LV	LV	LV	PT								
23	PL	LT	PL	LT	LT	LT	LT	LT	LT	LV	HR	HR	HR	HU	HR	LV	LV	HR	HR	PL	HU	HR	
24	LT	PL	LT	PL	PL	LV	LV	LV	LV	LT	LV	LV	LV	LV	HU	HU	HU	HU	HU	HU	PL	PL	
25	LV	LV	LV	LV	LV	PL	HR	LV															
26	BG	BG	RO	EL																			
27	RO	RO	BG																				

The country abbreviations used in this assessment are explained on page 8.

Assessment of the labour productivity developments in Lithuania and the EU

Table 3: EU27* countries with the most investment per employee, 2000-2021

Ranking	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
1	LU	LU	LU	LU	IE	IE	LU	IE														
2	AT	AT	IE	IE	IE	LU	LU	IE	SE	IE	SE	SE	SE	SE	IE	LU	LU	SE	SE	SE	SE	LU
3	IE	IE	AT	AT	AT	BE	SE	SE	IE	SE	BE	BE	IE	BE	SE	SE	SE	LU	BE	LU	DK	SE
4	FI	FI	FI	FI	FI	SE	DK	BE	BE	BE	FI	FI	BE	IE	BE	BE	BE	BE	DK	BE	LU	DK
5	BE	BE	BE	SE	BE	FI	BE	FI	FI	FI	FR	AT	FI	AT	DK	DK	DK	DK	LU	DK	BE	BE
6	DK	SE	SE	BE	SE	AT	FI	DK	DK	AT	AT	FR	AT	DK	AT	AT	FI	FI	FI	AT	FI	AT
7	SE	DK	DK	DK	DK	AT	AT	AT	DK	IE	IE	DK	FI	FI	FI	AT	AT	AT	FI	AT	FI	FI
8	FR	DK	DK	FR	FR	FR	NL	FR	FR	FR	FR	FR	FR									
9	NL	NL	IT	IT	IT	NL	DE	FR	NL	NL	NL	NL	NL	NL								
10	IT	IT	NL	NL	NL	IT	IT	IT	IT	IT	DE	DE	DE	NL	DE							
11	DE	DE	DE	DE	ES	ES	DE	DE	DE	DE	IT	IT	IT	IT	MT	MT	IT	IT	IT	EE	IT	
12	ES	ES	ES	ES	DE	DE	ES	IT	IT	MT	ES	ES	IT	EE								
13	CY	EL	CY	EL	SI	CY	CY	CY	CY	CY	EE	EE	EE	ES	ES	ES	MT	MT	ES	CZ		
14	PT	SI	EL	CY	SI	CY	SI	EL	SI	SI	MT	CZ	CZ	SI	CZ	CZ	CY	EE	CZ	MT	MT	
15	SI	PT	SI	SI	CY	MT	EL	SI	EL	EL	SI	SI	MT	CZ	SI	SK	EE	CZ	EE	CZ	ES	
16	EL	CY	PT	PT	MT	EL	EE	EE	EE	CZ	CZ	EE	CY	MT	MT	EE	CZ	CZ	CY	CY	CY	SI
17	MT	MT	CZ	MT	PT	EE	MT	MT	CZ	MT	EL	MT	SI	SK	SI	SK	SI	SI	SI	SI	SI	CY
18	CZ	CZ	MT	CZ	CZ	PT	CZ	CZ	MT	PT	PT	SK	LV	CY	CY	CY	SI	SK	SK	SK	LV	PT
19	SK	SK	EE	EE	CZ	PT	LV	PT	EE	SK	PT	SK	LV	LV	PT	PT	PT	PT	HU	SK	HU	
20	HU	EE	SK	HR	HR	SK	SK	PT	SK	HR	EE	EL	PT	PT	PT	LV	HR	LV	LV	LV	PT	LT
21	EE	HU	HU	SK	SK	LV	LV	SK	LV	SK	HR	LV	HR	HR	HU	LV	HR	HU	PT	HU	LV	
22	HR	HR	HR	HU	HU	HR	HR	HR	HR	HU	HU	HR	HU	HU	HR	HR	LT	LT	LT	LT	LT	RO
23	PL	LV	LV	LV	LV	HU	HU	LT	HU	LV	LV	HU	EL	LT	LT	LT	HU	HU	HR	HR	HR	HR
24	LV	PL	PL	LT	LT	LT	LT	HU	LT	PL	PL	LT	PL	RO	SK							
25	LT	LT	LT	PL	PL	PL	PL	RO	RO	RO	LT	PL	LT	EL	RO	RO	RO	RO	RO	RO	PL	EL
26	RO	PL	PL	LT	RO	RO	RO	RO	EL	EL	EL	EL	EL	EL	PL							
27	BG																					

The country abbreviations used in this assessment are explained on page 8.

Assessment of the labour productivity developments in Lithuania and the EU

Table 5: EU-27* ranking in terms of remuneration per hour worked, 2000-2021

Year / Ranking	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	
1	LU	DK																					
2	DK	LU																					
3	BE																						
4	DE	FR	FR	NL	NL	FR	FR	FR	NL	NL	FR	FR	SE	SE	SE	FR	FR	FR	FR	FR	DE	DE	
5	NL	NL	NL	FR	FR	NL	NL	NL	FR	FR	NL	NL	FR	FR	SE	SE	SE	DE	FR	FR	FR	NL	
6	FR	DE	DE	DE	DE	DE	SE	SE	SE	FI	SE	SE	NL	NL	NL	NL	DE	DE	NL	NL	NL	DE	
7	SE	SE	SE	SE	SE	SE	DE	FI	FI	DE	FI	FI	FI	FI	DE	DE	NL	NL	SE	SE	SE	FI	
8	FI	DE	DE	IE	DE	DE	DE	DE	FI	AT													
9	AT	AT	AT	AT	IE	IE	IE	IE	SE	IE	IE	IE	AT	FI	SE								
10	IE	IE	IE	IE	AT	IE	FR																
11	ES	IT	IT	IT	IT	ES	IT																
12	IT	ES	ES	ES	ES	ES	IT																
13	CY	SI	CY	CY	CY	CY	SI	SI	CY	CY	CY	CY	CY	CY	SI	ES							
14	SI	CY	SI	SI	SI	SI	SI	CY	CY	SI	SI	SI	SI	SI	CY	MT							
15	PT	MT	EE	MT	CY																		
16	MT	MT	MT	MT	MT	EL	EL	EL	EL	EL	EL	MT	PT	EE	MT	EE	EL						
17	EL	EL	EL	EL	EL	MT	MT	MT	MT	MT	EL	CZ	EE	EE	EE	EE	EE	PT	CZ	PT	PT	PT	
18	HR	HR	HR	HR	HR	HR	HU	CZ	CZ	CZ	EL	CZ	SK	CZ	CZ	CZ	CZ	PT	CZ	CZ	CZ	CZ	
19	HU	HU	HU	HU	HU	HU	CZ	HR	HU	EE	HR	HR	EE	HR	CZ	SK	SK	SK	SK	SK	SK	LT	
20	CZ	CZ	CZ	CZ	CZ	HU	CZ	HR	HR	EE	EE	HR	SK	HR	HR	HR	HR	LV	LT	EE			
21	PL	PL	PL	SK	EE	EE	EE	EE	SK	SK	SK	SK	EL	EL	EL	EL	LV	LV	LV	LT	LV	SK	
22	SK	EE	EE	EE	SK	SK	SK	SK	HU	HU	HU	HU	HU	HU	LV	EL	LT	LT	LT	HR	HR	HR	
23	EE	SK	SK	PL	LT	LT	LT	LV	LV	LV	LT	LT	LT	LT	LV	HU	LT	EL	HU	HU	HU	PL	
24	LT	LT	LT	LT	PL	PL	LV	LT	LT	LT	LV	LV	LV	LV	LT	LT	HU	HU	EL	EL	EL	LV	
25	LV	LV	LV	LV	LV	LV	PL	HU															
26	BG	BG	BG	BG	RO																		
27	RO	RO	RO	RO	BG																		

Source: EIM calculations.

*- The country abbreviations used in this assessment are as follows:

Ireland – IE, Austria – AT, Belgium – BE, Bulgaria – BG, Czechia – CZ, Denmark – DK, Estonia – EE, Greece – EL, Spain – ES, Italy – IT, Cyprus – CY, Croatia – HR, Latvia – LV, Poland – PL, Lithuania – LT, Luxembourg – LU, Malta – MT, Netherlands – NL, Portugal – PT, France – FR, Romania – RO, Slovakia – SK, Slovenia – SI, Finland – FI, Sweden – SE, Hungary – HU, Germany – DE.

Central and Eastern European countries (Bulgaria, Croatia, Cyprus, Czechia, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Romania, Slovenia, and Slovakia) or ‘CEE’.

Western European countries (Belgium, Denmark, Germany, Ireland, Greece, Spain, France, Italy, Luxembourg, the Netherlands, Austria, Portugal, Finland, Sweden, and the United Kingdom) or WE.

The labour productivity assessment was prepared by the Economic Development Department of the Ministry of the Economy and Innovation (Osvaldas Šmitas, Director, phone: 8 69919945, e-mail: Osvaldas.Smitas@eimin.lt), the Economic Policy Division (Raimundas Velička, Head of Division, phone: 867420859, e-mail: Raimundas.Velicka@eimin.lt), and Lina Dumčiūtė, Senior Specialist (phone: 8 65905763, e-mail: Lina.Dumciute@eimin.lt).