Research Paper Economics

Labour Productivity Analyses in Central and East European and Baltic Countries

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ABSTRACT

The objective of this article is to analyse the, labour productivity or working efficiency, Central and Eastern Europe (CEE-7) and Baltic countries or of new European Union (EU) states, before and after the economic crisis and to compare them on the EU level.

Labour market problems in Central and Eastern European countries have become more and more important. When the EU labour markets opened, some EU countries were forced to face the problem of partial workforce drain to richer countries with higher wages. In addition, on the one hand, CEE-7 countries have quite high unemployment rates, and on the other, many vacant jobs – there is a lack of qualified workforce. Low salaries, among other reasons, force many people to go to work in rich countries, where wages are several times higher.

How did new European Union companies survive the economic crisis?

What are the lessons learned?

Keywords : new EU states, workforce, labour productivity, value added

1. Introduction

Working efficiency in ten CEE-7 and Baltic countries (Bulgaria, the Czech Republic, Estonia, Latvia, Lithuania, Hungary, Poland, Romania, Slovenia and Slovakia) has been analysed. Former post-communist countries were selected for observation; new EU member states, Malta, Cyprus and Croatia (is EU from 1 July 2013), have been excluded.

The situations before the crisis, during the crisis and after the crisis will be viewed.

The growth of the entire economy, measured using gross domestic product (GDP), will be viewed as background. The main emphasis is still on the three Baltic States.

2. Methodology

The techniques and labour market survey definitions used by the authors have been specified in OECD [1] and Eurostat [2,3,4,5].

The theoretical basis of workforce productivity measurement in more detail are given of the authors' earliest publications. [6,7,8,9,10,11,12]

3. Analysis

Table 1. Real GDP growth rate. Percentage change on previous year [13]

	2003	2005	2006	2007	2008	2009	2010	2011	2012
Bulgaria	5.5	6.4	6.5	6.4	6.2	-5.5	0.4	1.8	0.8
Czech	3.8	6.8	7.0	5.7	3.1	-4.5	2.5	1.9	-1.3
Croatia	5.4	4.3	4.9	5.1	2.1	-6.9	-2.3	0.0	-2.0
Hungary	3.9	4.0	3.9	0.1	0.9	-6.8	1.3	1.6	-1.7
Poland	3.9	3.6	6.2	6.8	5.1	1.6	3.9	4.5	1.9
Romania	5.2	4.2	7.9	6.3	7.3	-6.6	-1.1	2.2	0.7
Slovenia	2.9	4.0	5.8	7.0	3.4	-7.8	1.2	0.6	-2.3
Slovakia	4.8	6.7	8.3	10.5	5.8	-4.9	4.4	3.2	2.0

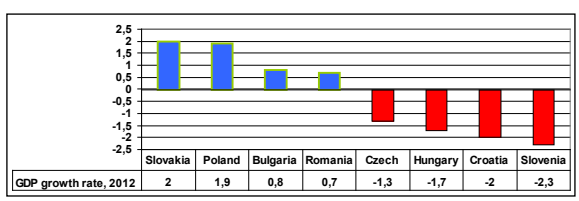

Figure 1. Real GDP growth rate – volume. Percentage change on previous year [13]
Source: the authors` illustration

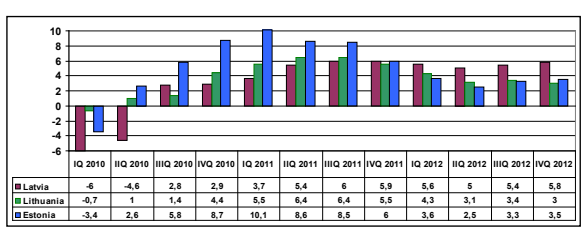

Figure 2. GDP growth rate at market prices in the Baltic States. Percentage change during the previous year [14]
Source: the authors` illustration

In 2011th was Estonia and in 2012th Latvian economy (GDP) fastest development in the Baltic countries as well as among all EU-27 countries.

The trend line shows the cyclical development of the Baltic countries economy (GDP). In addition to the economic decline during the years 2008 – 2009, there was also a decline in 1999 (Estonia and Lithuania). In 2009, real GDP fell by 14.8% in Lithuania, by 17.7% in Latvia and 14.1% in Estonia.

If an annual real GDP increment of more than 10% can be considered excellent, then the result in 2003 - 2007 was GDP growth rate were one of the largest in the world.

The development of the Baltic countries economy before and after the crisis was one of the fastest in the EU. Yet, the crisis led to a very deep recession, which was one of the greatest in the world, as well as in the EU. A larger or smaller recession took place in 2009, which is called the crisis year. In the following years economy grew.

Thus, the country covered two extremes. On the other hand, it also shows that the reforms carried out in the past were successful and established a base that enabled exiting the crisis successfully. In particular, this meant creating favourable conditions for business. Again, GDP growth in 2011 and also 2012 are highest in the EU.

GDP per capita (PPP) is an important indicator of a state's standard of living, which takes into account price level differences. The figure shows that the economy was the highest during the years 2007 - 2008. A larger or smaller recession took place in 2009, which is called the crisis year. In the following years economy grew. In 2011 Latvia and Lithuania reached a record level per capita. Estonia were short of the 2007 - 2008 level.

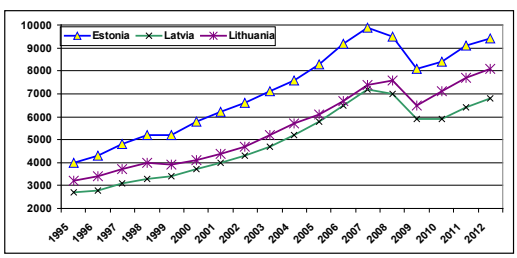

Figure 3. Real GDP per capita, EUR per inhabitant, 1995 – 2012 [5]
Source: the authors` illustration

Between 1995 and 2007, GDP per capita in constant prices in Estonia increased by 2.48 times, by 2.31 times in Lithuania and 2.67 in Latvia. The economic crisis significantly brought down the levels and in 2011, Lithuania was the only country that managed to exceed pre-crisis levels, in fact, Estonia and Latvia were also short of the level of the year 2006.

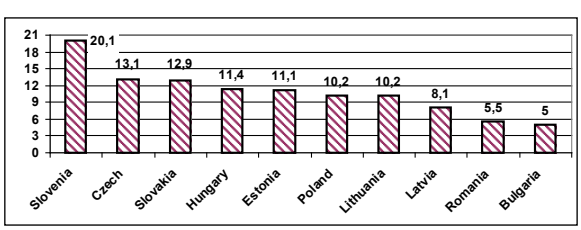

Figure 4. States with lower productivity, Euro per hour worked, < EL=100, 2012 [3]
Source: the authors` illustration

Post-socialist countries have lower productivity. EU post-socialist states Slovenia, Slovakia, Hungary and the Czech Republic have even higher productivity. Estonia is exceeded by Croatia.

Table 2. Labour productivity. Euro per hour worked. [3]

	2000	2002	2004	2006	2007	2008	2009	2010	2011	2012
Bulgaria	3.4	3.6	3.9	4.1	4.3	4.4	4.3	4.5	4.8	5.0
Czech Rep	9.3	10.1	11.1	12.4	13.0	13.0	12.8	13.0	13.1	13.3
Estonia	7.0	7.7	8.7	9.7	10.3	10.0	10.3	10.9	10.8	11.1
Latvia	4.2	4.7	5.5	6.3	6.7	6.7	6.6	6.9	7.8	8.1
Lithuania	5.6	6.5	7.5	8.2	8.7	8.8	8.3	8.7	9.2	10.2
Hungary	8.4	9.2	10.2	11.1	11.1	11.3	11.0	11.1	11.2	11.4
Poland	6.9	7.5	8.2	8.6	8.8	8.9	9.1	9.5	9.8	10.4
Romania	3.0	3.8	4.4	4.9	5.2	5.6	5.3	5.3	5.5	5.7
Slovenia	15.4	16.0	17.0	19.3	20.1	20.1	18.9	19.5	20.2	20.1
Slovakia	8.2	9.2	10.1	11.0	11.8	12.1	11.8	12.3	12.6	12.9

Compared to 2005, labour productivity per hour in all 11 of the new post-socialist EU countries has increased at a more rapid pace than the EU average. Ireland had the greatest increase of the old EU member states (117.3) and Latvia among the new members (133.6). Hungary had the smallest growth (104.6) among new members, which was even lower than the EU 27 average. The level of Estonia among the new member states was average.

Table 3. Labour productivity per hour worked. Index, 2005=100 [15]

	2006	2008	2009	2010	2011	2012
EU (27 countries)	102.1	103.1	101.7	103.9	105.3	106.1
Bulgaria	103.4	110.2	107.0	112.8	119.9	125.4
Czech Republic	106.7	111.8	110.1	111.9	112.5	113.8
Estonia	105.0	108.9	111.7	118.2	116.9	120.1
Latvia	106.9	114.7	111.9	117.3	133.6	138.7
Lithuania	106.7	115.0	107.5	113.9	119.8	133.2
Hungary	103.7	106.2	102.8	104.2	104.6	106.3
Poland	102.9	106.8	109.1	113.1	117.3	124.0
Romania	106.2	120.2	114.1	114.6	117.5	122.3
Slovenia	106.1	110.5	103.7	106.9	111.1	110.5
Slovakia	105.8	116.1	113.4	118.4	121.1	124.0

Compared to 2005, labour productivity per hour in all of the new post-socialist EU countries has increased at a more rapid pace than the EU-27 average. Ireland had the greatest increase of the old EU member states (117.3) and Latvia among the new members (133.6). Hungary had the smallest growth (104.6) among new members, which was even lower than the EU-27 average. The level of Estonia among the new member states was average.

Labour productivity grew for all countries until 2008. In 2008 some countries, including Estonia, experienced a decline. In 2009, all countries, except Estonia and Poland were experiencing a decline. In 2011 hourly labour productivity only decreased in Estonia compared to the previous year.

Taking into account this publication and the previous work of the authors [5,7,8,9,10,11,12] have made the following suggestions and conclusions.

To increase labour productivity the following should be taken into account:

1. By the employee.
1.1 Objective factors (different innate abilities, talents, working and living conditions), 1.2 Subjective factors (self-realization, motivation, commitment, a desire to work better, ambition, education, qualification, a variety of mental and physical abilities, laziness, negligence, drunks, the courage to set high goals and the desire to strive for them).

2. By the employer (the company).
2.1 Objective factors [better organization of work, using more efficient machinery and equipment, innovation, improving working conditions (lighting, noise, humidity, temperature, air composition, etc.), natural conditions, material possibilities], 2.2 Subjective factors [moral (cheering, encouragement, etc.) and material incentives (salary, bonuses, bonus payments, etc.), creating conditions for up-skilling and re-training, the work environment (working collective, i.e. co-workers, etc.), not overly demanding, behaviour with the staff (guaranteeing human integrity, name-calling, etc.), taking internal tensions to the minimum, a desire to develop the company and increase its fame, the educational level and experiences (information capital) of the management leadership, the ambition of the company's management].

3. Several of the factors for raising mental and physical work productivity are different. Typically, an increase in the company's productivity depends more on the employees that do mental work (engineers, economists, etc.). It is important to

establish an optimal relationship between the groups. The excellent drawings for a machine designed by an engineer will still usually be finished in metal by workers.

4. Each company, sector of the economy and region has its peculiarities, and taking these into account would increase labour efficiency.

Conclusions

1. Companies came out of the economic crisis by a surge of hiring professionals, engineers and customer service staff.
2. Companies were brought out of the economic crisis by the growth of labour productivity.
3. The importance of large companies, especially those with 250 and more employees, was decisive.

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